

PREVIEW - YOUFIXTHIS.COM

NO: See Circuit/harness test for rear PTO solenoid valve (Y04) in reference [245-BCU-134](#). Tractors with open operator's station: see Reference [245-BCU-163](#), Circuit Test for Rear PTO Solenoid Valve (Y04) - Open Operator's Station.

BCU 302077.31- INFORMATION FOR OPERATOR: Sit on Seat or Turn Off the Rear PTO

06

Diagnostic trouble code BCU 302077.31 is generated if the operator leaves his seat while the rear PTO is switched on. This diagnostic trouble code is not stored in the controller's error memory. It is intended only as information for the operator.

- Reference [240-26-501](#), Wiring Harnesses for Tractors with PowrQuad-Plus Transmission and TIER II Engine — Summary of References
- Reference [240-26-502](#), Wiring Harnesses for Tractors with AutoPowr / IVT Transmission and TIER II Engine — Summary of References.
- Reference [240-26-702](#), Wiring Harnesses for Tractors with PowrQuad Plus Transmission from Serial No. 12451 — Summary of References.
- Reference [240-26-703](#), Wiring Harnesses for Tractors with AutoPowr/IVT Transmission from Serial No. 12451 — Summary of References.

ECU 000655.07- Cylinder No. 5 EI Fuel Delivery Failure

17 000655.07]

Diagnostics**→NOTE:**

Take note of the processing procedures of diagnostic trouble codes before starting the diagnosis, see Reference [245-05-002](#), Accessing Addresses and Diagnostic Trouble Codes.

Diagnostics and additional references for Level 11 ECU with Denso HPCR:

See [LEVEL 11 ECU - DTC SPN 655 FMI 7 - CYLINDER NO. 5 EI FUEL DELIVERY FAILURE - DIAGNOSTIC PROCEDURE](#) in Section 04, Group 160 in CTM220.

Electrical information: Reference [210-15-001](#), General References—Summary.

For information on functional and diagnostic schematics, see:

- Reference [240-10-034](#), SE23B-Electronic Engine Control.

For component location and pin arrangement, see:

- Reference [240-26-501](#), Wiring Harnesses for Tractors with PowrQuad-Plus Transmission and TIER II Engine — Summary of References
- Reference [240-26-502](#), Wiring Harnesses for Tractors with AutoPowr / IVT Transmission and TIER II Engine — Summary of References.
- Reference [240-26-702](#), Wiring Harnesses for Tractors with PowrQuad Plus Transmission from Serial No. 12451 — Summary of References.
- Reference [240-26-703](#), Wiring Harnesses for Tractors with AutoPowr/IVT Transmission from Serial No. 12451 — Summary of References.

ECU 000656.05- Cylinder No. 6 EI Circuit Open

17 000656.05]

Diagnostics**→NOTE:**

Take note of the processing procedures of diagnostic trouble codes before starting the diagnosis, see Reference [245-05-002](#), Accessing Addresses and Diagnostic Trouble Codes.

Diagnostics and additional references for Level 11 ECU with Denso HPCR:

See [LEVEL 11 ECU - DTC SPN 656 FMI 5 - CYLINDER NO. 6 EI CIRCUIT OPEN - DIAGNOSTIC PROCEDURE](#) in Section 04, Group 160 in CTM220.

Mode of operation of the solenoid valves Y10 and Y11

Mode of operation of the solenoid valves Y10 and Y11		
Solenoid valve 1	Solenoid valve 2	Responsible for
Y10 open (activated electrically)	Y11 open (activated electrically)	Front axle moves up (hydraulic cylinders extend)
Y10 closed (not activated electrically)	Y11 open (activated electrically)	Front axle moves down (hydraulic cylinders retract)

To test solenoids Y10 and Y11, the suspended front axle must be calibrated.

Calibrate suspended front axle: See Reference [245-SFA-001](#), Calibration and Input Addresses, MFWD Axle with TLS.

IMPORTANT:

If errors occur during the calibration, the calibration is interrupted and several diagnostic trouble codes are saved. These diagnostic trouble codes take priority.

Result:

YES: • Calibration was successful: Diagnosis completed. • Type of error indicates a loose contact: [GO TO 3](#).

NO: Calibration was not successful: [GO TO 4](#).

(3) Check Circuit of Solenoid Valves (Y10 and Y11)**Action:**

Most wiring harness problems are caused by connector problems (contacts loose/bad/slid back) and/or bad ground connections.

Before a detailed circuit check is performed and in the case of occasional circuit problems (loose contacts), all components of the respective circuit must be checked.

- Circuit/harness test for cab solenoid valve 1 (Y10), reference [245-SFA-101](#).
- Circuit/harness test for cab solenoid valve 2 (Y11), reference [245-SFA-101](#).

Result:

YES: Diagnosis completed.

NO: Repair as needed and perform an operational test.

(4) Checking for mechanical defects at the valves in the control block**Action:**

Do the following checks:

- Check for mechanical defects at solenoid Y11 (stuck in closed position).
- Check for mechanical defects at the valves in the control block.

For more detailed information, see [Recondition Control Valve Block Valves](#) (Section 80, Group 20 in the Repair Manual).

Result:

YES: If there are no mechanical defects: Check the hydraulic circuit, [GO TO 5](#).

NO: Repair as required and subsequently calibrate the suspended front axle: See Reference [245-SFA-001](#), Calibration and Input Addresses, MFWD Axle with TLS.

(5) Checking the hydraulic circuit

NO:Connect the plug or stepper motor and carry out an operational check.

Action:

1.3

Check fuse F03/10 and relay K02/5.

Result:

YES:Fuse and relay are OK, GO TO 1.4.

NO:Replace fuse and/or relay and test the functionality.

Action:

1.4

Are other diagnostic trouble codes (SIC 334201.14 and/or SIC 334203.14) saved that indicate a general problem with the power supply or in the 11-bit CAN BUS connection to the stepper motors?

Result:

YES:If other diagnostic trouble codes are saved: See [11-bit CAN BUS - Check](#) (Section 213, Group 45).

NO:If no other diagnostic trouble codes are saved: [GO TO 2](#).

(2) Checking the input value

Action:

Access [SIC Address 36](#) :

Item	Measurement	Specification
SIC 36 -- Activating the E-ICV functions		
Without E-ICV:	Status	000
E-ICV no.1 function switched on:	Status	XX1
E-ICV no.2 function switched on:	Status	X1X
E-ICV no.3 function switched on:	Status	1XX

Result:

YES:If the input value in address SIC 36 is correct, [GO TO 3](#).

NO:Enter the correct input and delete diagnostic trouble code.

(3) Checking the input value at identification address SIC 40

Action:

Check identification of stepper motor 2 (ICA 2). See: Reference [245-SIC-001](#), Calibration and Input Addresses for E-SCVs and E-ICVs.

Result:

YES:If the input value in address SIC 40 is correct, [GO TO 4](#).

NO:Enter the correct stepper motor in SIC 40 (calibrate), and perform an operational check.

**CAUTION:**

Whenever performing these checks, always observe the relevant safety precautions. See [Reference 253-15-003](#), *Safety Measures when Testing the Transmission via the Output Test Mode for Components (Address TCU049)*.

IMPORTANT:

Always do ALL the pressure tests in the test result table, otherwise you may identify only a secondary problem and not the initial one.

Result:

YES: If test results are OK: [GO TO 2](#).

NO: If test results are NOT OK: [GO TO 2](#).

(2) Determining type of damage**Action:**

Precondition for identifying the type of damage (for diagnostic trouble code TCU 304079.07) is, that it is possible to reproduce the fault under the same operating conditions (no intermittent fault), and that the diagnostic trouble code TCU 304079.07 has been processed completely.

- Preliminary hydraulic system tests for diagnostic trouble code TCU 304079.07 could not rectify fault.

→NOTE: If the hydrostatic speed is not to specification in the test, see ["Procedure if hydrostatic speed values are not ok"](#).

- Checklist (list of questions) for diagnostic trouble code TCU 304079.07 has been processed completely and filled out in full
- Pressure test for transmission and other consumers (Reference [253-15-001](#), AutoPowr / IVT Transmission — Test Result Table) has been completed.
- The "Checklist (list of questions) for Diagnostic Trouble Code TCU 304079.07" has been analysed.
 - For the evaluation see Reference 253-15-001C "Determining What Type of Damage has Triggered Diagnostic Trouble Code TCU 304079.07".
- The "Pressure Test for Transmission and Other Consumers" has been analysed.
 - For the evaluation see [Reference 253-15-001A](#), Determining the Cause of an Hydraulic Malfunction that Triggers Diagnostic Trouble Code TCU 304077.07 and TCU 304079.07.

IMPORTANT:

If requested, send the "Checklist (list of questions) for Diagnostic Trouble Code TCU304079.07" and the "AutoPowr/IVT Transmission — Test Result Table" (pressure test for transmission and other consumers) to the relevant After-Sales Service station together with the service report.

Result:

YES: Diagnosis completed.

Procedure if hydrostatic speed values are not ok**(1) Pressure test for transmission and other consumers**

UIC 305054.09- Transmission Control Unit has Stopped Transmitting Data (Transmission Oil Temperature)

46

Diagnostic trouble code UIC 305054.09 is saved when there is a problem in transferring data between the transmission control unit (TCU) and the user interface controller. Reception of the CAN message regarding transmission oil temperature is intermittent or non-existent (intermittent reception could be due to a loose wire). This diagnostic trouble code triggers the alarm level: "Information".

Diagnostics

→NOTE:

The following are possible causes:

- Blown TCU fuse(s) F04/15 and/or F05/5.
- Defective 29-bit CAN BUS connection or power supply to the transmission control unit causes an intermittent problem in transferring data.
 - Other diagnostic trouble codes are saved that indicate a general problem in transferring data to/from the transmission control unit (UIC 305190.09 and/or SIC 334003.09).
- A fault in the TCU's monitoring circuit (faulty transmission oil temperature sender).
 - TCU diagnostic trouble codes take priority.
- Defective 29-bit CAN BUS connection or power supply to the user interface controller causes an intermittent problem in transferring data.
 - Other diagnostic trouble codes are saved that indicate a general problem in transferring data to/from the user interface controller (ECU 000898.09 and/or TCU 304161.09).
- A general 29-bit CAN BUS problem.
 - If other diagnostic trouble codes from other control units are saved that indicate a general problem in the 29-bit CAN BUS:
- Intermittent 29-bit CAN BUS malfunction caused by strong electromagnetic influences.
- Defective transmission control unit (TCU).

Additional references:

- Electrical information: Reference [210-15-001](#), General References - Summary.
- Reference [245-05-007](#), Electronic Control Units - Location and Allocation.
- Reference [245-20-001](#), Data BUS Systems — Summary of References.
- Reference [245-UIC-200](#), Theory of Operation (User Interface Controller).
- Reference [245-TCU-200](#), Theory of Operation (Transmission Control Unit).
- Reference [253-20-001](#), AutoPowr / IVT Transmission — Operation (Summary of References).

(1) Preliminary test

Action:

1.1

→NOTE:

Take note of the processing procedures of diagnostic trouble codes before starting the diagnosis, see Reference [245-05-002](#), Accessing Addresses and Diagnostic Trouble Codes.

1.2

TCU diagnostic trouble codes take priority.

(4) Check the connection of Basic Control Unit (BCU) (cab wiring harness W08)

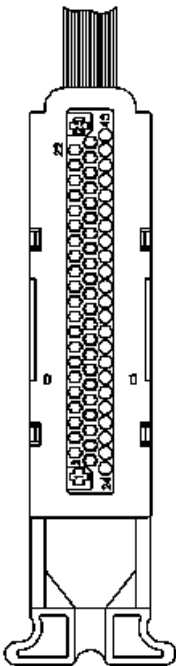
Action:

Most wiring harness problems are caused by connector problems (contacts loose/bad/slid back) and/or bad ground connections.

- Check the power supply.
- Check the 29-bit CAN BUS communication lines (934/935).
- Check the connections at the plug and control unit for loose, widened, slid-back or corroded contacts.

For component location and pin arrangement, see wiring harness W08.

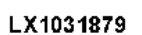
Basic control unit (BCU) with 2 connectors:
(for tractors up to serial no. 12450).



LX1025886

X483/2 45-pin plug for basic control unit (BCU)

Item	Measurement	Specification
X483/2 45-pin plug for basic control unit (BCU)		
Power supply:	Lead 571 (positive, ELX)	12 volts at pin 23
	Lead 050	Ground at pin 1



LEGEND:

LEGEND:

A40	Basic control unit (BCU) (W08)
R24	Fixed resistor
R25	Fixed resistor
R26	Fixed resistor

LEGEND:

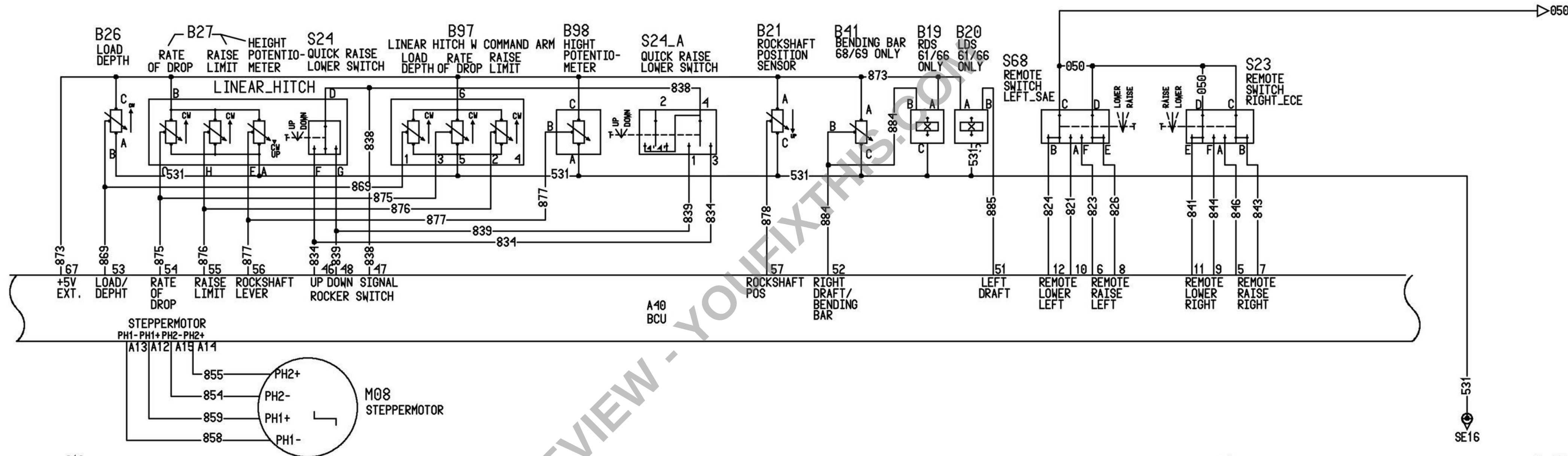
A55	Basic Control Unit (BCU) (W08)
F104	Fuse (W08)
S63	MFWD switch (W08)
X91	2-pin plug for MFWD solenoid valve (W30)
X245	3-pin plug for MFWD switch (W08)
X287	10-pin plug (connection point for harness at rear transmission; W08, W30)
X483/1	68-pin plug for Basic Control Unit (BCU) (W08)
X483/2	45-pin plug for Basic Control Unit (BCU) (W08)
X505	42-pin plug (cowl harness connection point; W08, W09)
Y03	MFWD solenoid (W30)

072

072

072

072



310

310

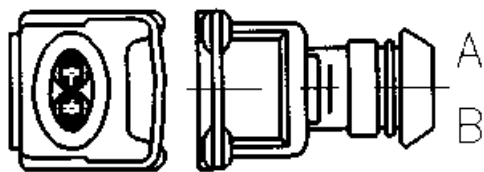
310

310

SE15 ELECTRICAL ROCKSHAFT CONTROL

LX1026764

SE15



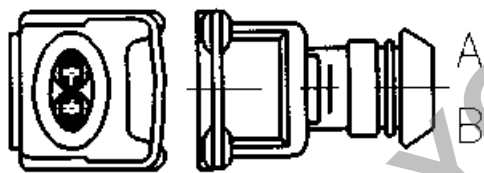
LX1019985

X214

X214 2-pin plug for fuel injection pump

X214

Terminal no.	Wire no. and cross section	Color of wire	To plug or component
A	354C-1	yellow	X450-18
B	355C-1	dark green	X450-19



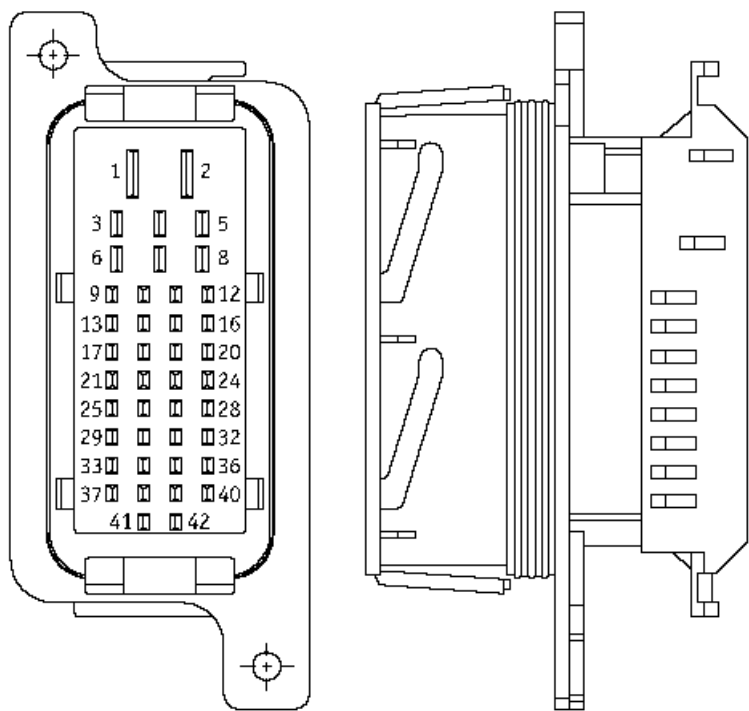
LX1019985

X261

X261 2-pin plug for coolant temperature sender

X261

Terminal no.	Wire no. and cross section	Color of wire	To plug or component
A	319C-1	white	X450-14
B	361CA-1	brown	X450-37



LX1025807

X450

X450 42-pin plug — Connection point for engine wiring harness (W02), continued

X450

Terminal no.	Wire no. and cross section	Color of wire	To plug or component
31	309A-1	white	K09/7-85
32	139AD-1	white	F07/16A, X248-12, F07/09A
33	114A-1	yellow	F07/07A
34	301A-0.5	brown	X483/1-65
35	531AD-1	brown	X430-14, X481-17, X422-10, X450-10, X483/1-1
36	322AD-1	red	X450-21, F04/11A, X481-12
37	361A-1	brown	X409-13
38	vacant		
39	050AC-1	black	XGND6
40	vacant		
41	vacant		
42	330AA-1	black	X382-1, K10/2-85, X382-2



LX1017904

X492

X492 2-pin plug for solenoid valve K3 (Y32)

X492

Terminal no.	Wire no. and cross section	Color of wire	To plug or component
A	580D-1	black	X500-25
B	310DR-1	black	X500-1, X497-B, X420-B, X496-B, X83-B, X494-B, X493-B, X86-C, X80-B, X91-B



LX1017904

X493

X493 2-pin plug for forward solenoid valve (Y33)

X493

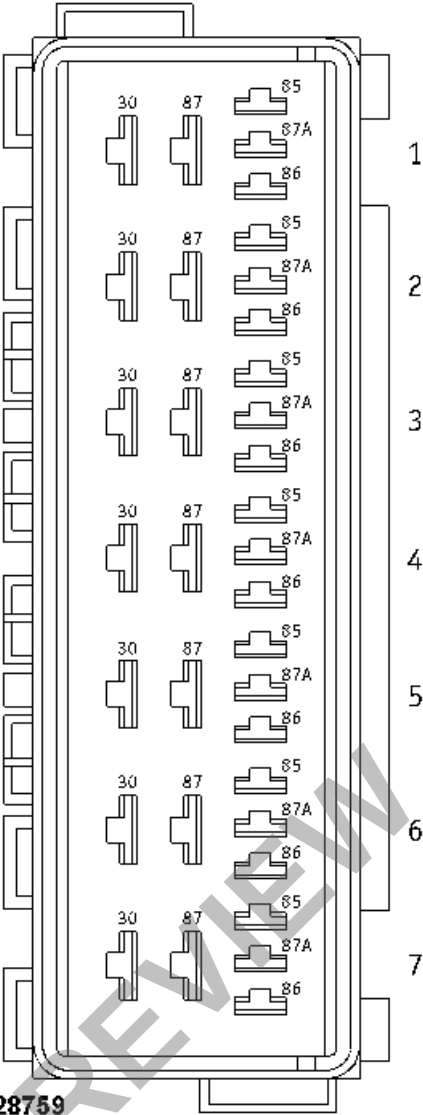
Terminal no.	Wire no. and cross section	Color of wire	To plug or component
A	579D-1	white	X500-28
B	310DQ-1	black	X500-1, X497-B, X420-B, X496-B, X83-B, X494-B, X86-C, X492-B, X80-B, X91-B

87A (4) vacant

K02/7 Relay for power supply to E-SCV 1, E-SCV 2

K02/7

30 (3)	732A-1	red	F03/12A
85 (2)	310AX-1	black	XGND44, K01/3-85, K02/5-85, K02/6-85, K01/1-85, K02/2-85
86 (1)	562AE-1	red	X423-10, F03/15A, K02/5-86, K02/6-86
87 (5)	772A-1	red	X430-39
87A (4)	vacant		



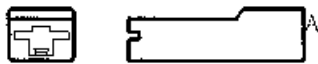
K08

K08 Relays (fuse and relay boxes)

K08

Terminal no.	Wire no. and cross section	Color of wire	To plug or component
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K08/1 Relay for high-beam head lights



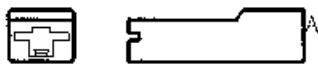
LX1017945

X120/1

X120/1 1-pin plug for pressure gauge in air brake system

X120/1

Terminal no.	Wire no. and cross section	Color of wire	To plug or component
A	138AC-1	gray	X403-27, X25-2



LX1017945

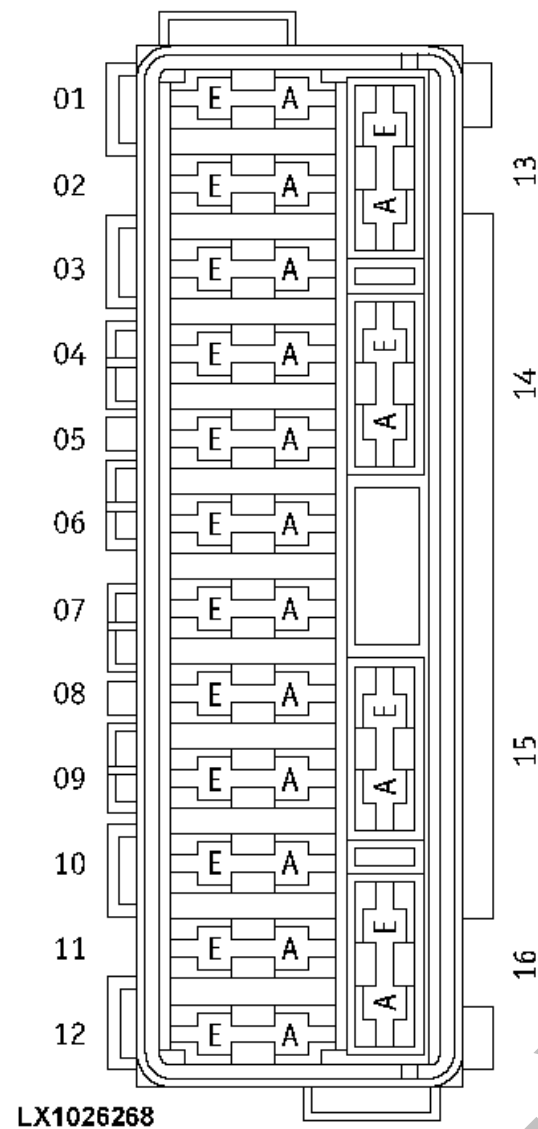
X120/2

X120/2 1-pin plug for pressure gauge in air brake system

X120/2

Terminal no.	Wire no. and cross section	Color of wire	To plug or component
A	310BX-1	black	XGND40, X25-1, X25-14

W08/1 — F05



W08/1 — F05 - Fuses (fuse and relay boxes)

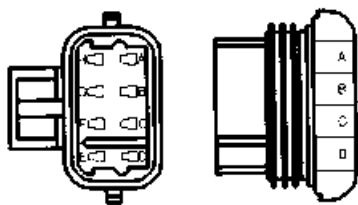
Fuses (fuse and relay boxes)

W08/1 — F05 - Fuses (fuse and relay boxes)

W08/1 — F05 - Fuses (fuse and relay boxes)

Terminal number	Wire number and cross-section	Wire color	To plug or component
F05/01A	203AA-1	orange	K10/1-86, K09/4-30, X577-C
F05/01E	202AG-1	red	K01/1-87, F05/10E, F06/06E, F05/02E, F05/09E, F05/08E, F05/07E
F05/02A	256A-1	light blue	X37-A
F05/02E	202AD-1	red	K01/1-87, F05/10E, F06/06E, F05/09E, F05/08E, F05/01E, F05/07E
F05/03A	682A-1	red	X382-45
F05/03E	072AL-1	red	K01/2-87, F04/13E, R18-B, F06/15E, F03/01E, F03/07E, F03/02E, F03/15E, F04/12E, F04/09E, F04/15E, F04/14A
F05/04A	082A-1	red	X382-23
F05/04E	012AI-1	red	X473-1, F03/14E, F04/08E, F05/15E, F03/12E, K08/7-30, K10/1-30, F05/12E, F06/13E, F05/05E, F03/10E, F03/03E, F06/16E, F05/16E, F03/11E, F07/04E, F03/13E, F03/08E, F03/04E, K08/2-30, K08/5-30, K08/6-30, K08/1-30, F04/10E
F05/05A	052AA-1.5	red	X332-23, X332-68
F05/05E	012AR-1.5	red	X473-1, F03/14E, F04/08E, F05/15E, F03/12E, K08/7-30, K10/1-30, F05/12E, F06/13E, F03/10E, F03/03E, F06/16E, F05/16E, F03/11E, F07/04E, F03/13E, F03/08E, F03/04E, K08/2-30, K08/5-30, K08/6-30, K08/1-30, F05/04E, F04/10E

W48 — X599



LX1017896

W48 — X599 - 8-pin plug — Connection point for ClimaTrak harness (cowl); W26

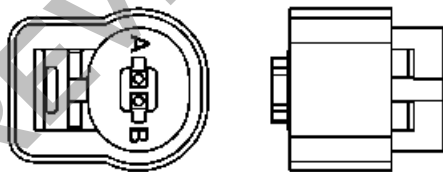
8-pin plug — Connection point for ClimaTrak harness (cowl); W26

W48 — X599 - 8-pin plug — Connection point for ClimaTrak harness (cowl); W26

W48 — X599 - 8-pin plug — Connection point for ClimaTrak harness (cowl); W26

Terminal number	Wire number and cross-section	Wire color	To plug or component
A	929B-0.5	white	X605-5
B	928B-0.5	grey	X605-6
C	947B-0.5	purple	X605-2
D	921B-0.5	brown	X605-1
E	909B-0.5	white	X601-B
F	050BA-0.5	black	X605-3, X601-A
G	vacant		
H	vacant		

W48 — X601



LX1033375

W48 — X601 - 2-pin plug for actual outlet air temperature sender

2-pin plug for actual outlet air temperature sender

Equipped with r.h. switch: Input = X1X

→NOTE:

X stands for a displayed digit.

Result:

YES: Confirm the input.

NO: Correct the input.

Action:

Access [BCU Address 39](#) .

L.h. switch

Not equipped with l.h. switch: Input = 0XX

Equipped with l.h. switch: Input = 1XX

→NOTE:

X stands for a displayed digit.

Result:

YES: Confirm the input.

NO: Correct the input.

Address BCU043 - Basic functions, number of operating hours

(1) Address BCU043

Action:

→NOTE:

Modifications can only be carried out during the first 25 hours of operation.

Access [BCU Address 43](#) .

Input XXXXX.X

→NOTE:

X stands for a displayed digit.

→NOTE:

Input with Service ADVISOR™ : Key in 5000 for 500.0 hours of operation. The last digit is always the one to the right of the decimal point.

NO:GO TO 1.2.

Action:

1.2 - Check supply voltage:

Use a JT05791A



JT05791A

Multimeter

JT05791A

Electrical circuit and component tests.

multimeter to check the supply voltage at plug X14-2 (open operator's station harness W08):

Item	Measurement	Specification
Supply voltage for sensitivity potentiometer (B26)		
between terminal C (lead 873, positive) and terminal A (lead 531, ground):	Voltage	5 volts

Result:

YES:Check signal lead 869 in open operator's station wiring harness W08 (see table for layout of leads). Recondition as required and carry out an operational test.

NO:Check supply voltage circuit (positive lead 873) (see table for layout of leads). Recondition as required and carry out an operational test.

Reference 245-EPC-120, Circuit Test for Solenoid Valve 1 (Y62)

Operational test for solenoid valve 1 circuit (Y62)

(1) Check solenoid valve 1 (Y62)

Action:

IMPORTANT:

Perform the test only while the engine is running and range-shift (gear-shift) lever is in neutral.

- Use the hand throttle to set engine speed to 1000 rpm.
- Select 4th gear.
- Access [EPC Address 14](#).

Item

Measurement

Specification

EPC014 -- Speed, transmission speed sender (B104)

Move the reverse drive lever to forward (clutch pedal not pressed):

Speed (with engine speed at 1000 rpm in 4th gear) approx. 1000 rpm

→NOTE:

The solenoid valve 1 is supplied with power by the transmission control unit (EPC) in 1st or 4th gear only. Together with the solenoid valve 2, the solenoid valve 1 is responsible for shifting to 1st gear. In 1st gear, the ratio of engine speed to transmission speed is 1:1.767. In 4th gear, the ratio of engine speed to transmission speed is 1:1.

Gear shift (voltage supply to solenoid valves)

Gear shift (voltage supply to solenoid valves)		
Gear	Solenoid valve 1	Solenoid valve 2
First gear	active	active
Second gear		active
Third gear		
Fourth gear	active	

Engine speed to transmission speed ratio (forward travel)

Engine speed to transmission speed ratio (forward travel)	
Gear	Ratio
First gear	1.767
Second gear	1.466
Third gear	1.225
Fourth gear	1.0

Result:

YES: • Diagnosis completed.

- Type of error indicates a loose contact, GO TO: [Circuit/harness test for solenoid valve 1 \(Y62\)](#) in Reference 245-EPC-120.

NO: GO TO: [Circuit/harness test for solenoid valve 1 \(Y62\)](#) in Reference 245-EPC-120.

→NOTE:**Layout of leads for oil temperature sender**

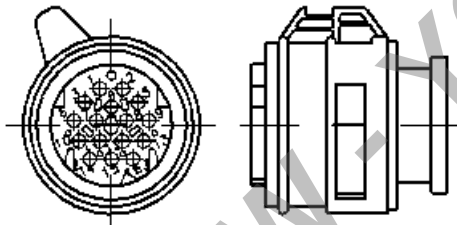
Layout of leads for oil temperature sender				
Circuit diagram SE 26	Internal transmission harness	Valve block harness W29		Cab wiring harness W08
Lead	from	via	via	to
Lead 641 (ground)	Sender	X482/1 - Pin 9 (connecting point between W29 and internal transm. harness)	X482 - Pin 17 (connecting point between W29 and W08)	X332 - Pin 46 (control unit TCU)
Lead 642 (positive)	Sender	X482/1 - Pin 8 (connecting point between W29 and internal transm. harness)	X482 - Pin 16 (connecting point between W29 and W08)	X332 - Pin 39 (control unit TCU)
None of the plugs/components of the internal transmission harness can be reached without disassembling at least one of the transmission sub-assemblies. Before checking these plugs and components, make sure that the external sub-assemblies are functioning properly.				

IMPORTANT:

When ignition is ON, disconnected plugs may cause additional diagnostic trouble codes. The fault memory must be cleared once the circuit/harness test has been completed.

(1) Checking the oil temperature sender**Action:**

- Check the oil temperature sender at the 16-pin plug of the internal transmission harness:



LX1023777

X482/1 16-pin plug for valve block

- Ignition OFF.
- Disconnect plug X482/1 (connecting plug between internal transmission harness and valve block harness W29) and connect test harness KJD10265.

Reference 253-15-019, AutoPowr / IVT Transmission — Checking Pressure at the Forward Clutch (CF)



CAUTION:

Whenever performing this check, always observe the relevant safety precautions. See Reference [253-15-003](#), *Safety Measures when Testing the Transmission via the output test mode for components (address TCU049)*.



Pressure testing on 7320

For the layout of the test ports, see the following:

Reference [253-15-005](#), AutoPowr / IVT Transmission — Test Ports (7220 and 7320).

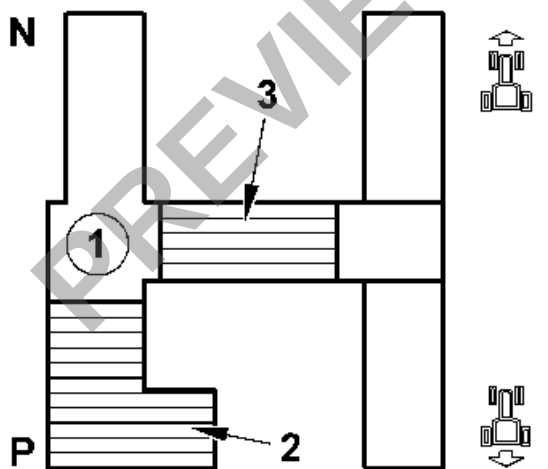
Reference [253-15-006](#), AutoPowr / IVT Transmission — Test Ports (7420 and 7520).

[1] - Transmission oil must be at a temperature of at least 20° C (68° F).

[2] - Key switch off. Put the reverse drive lever in corner park position.

LEGEND:

- 1 Reverse drive lever
- 2 Corner park position
- 3 Center park position

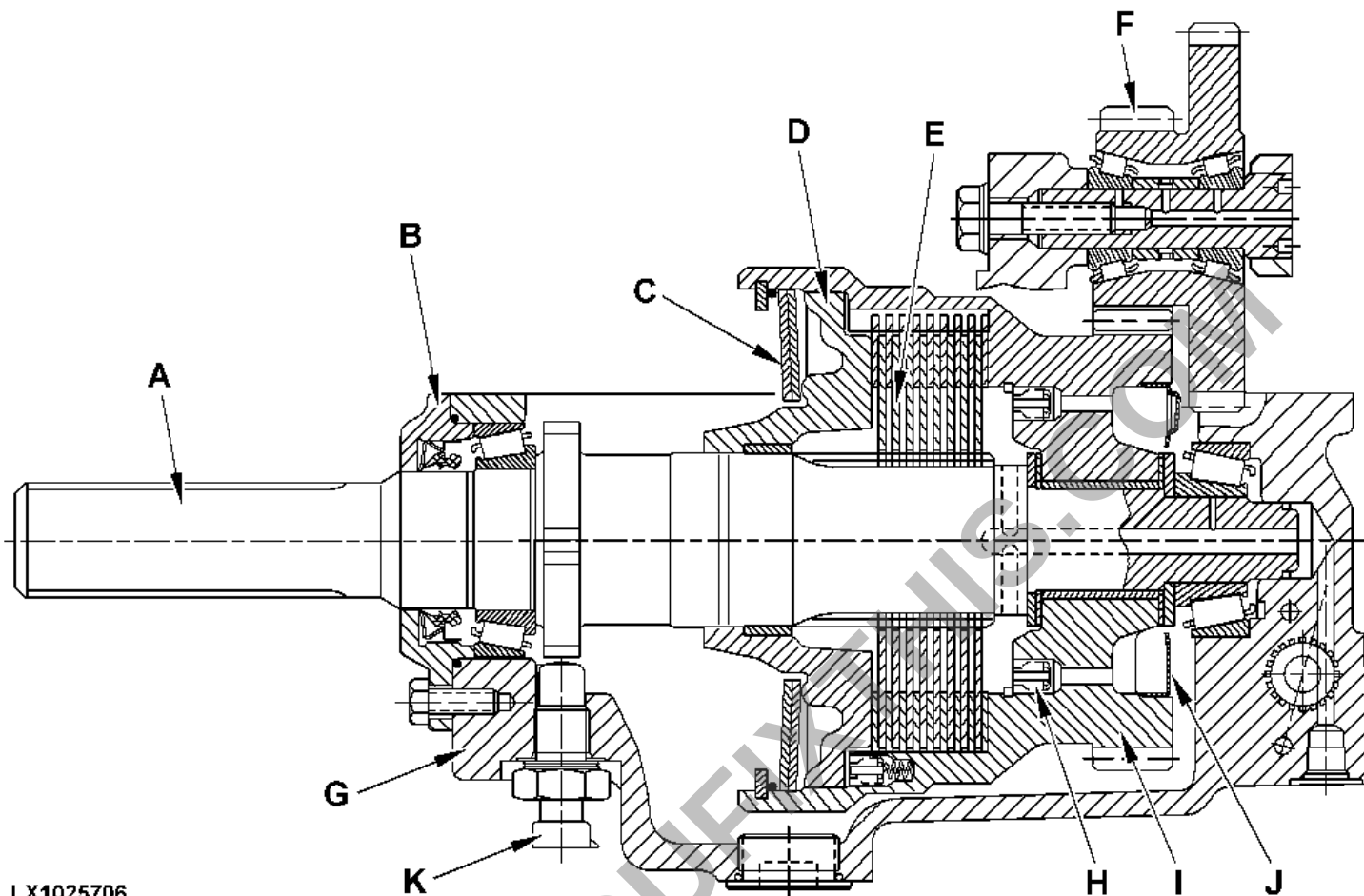


LX1034295

Reverse drive lever ranges

[3] - Connect hydraulic test kit FKM10470

Reference 256-20-100, MFWD Clutch (7220 and 7320 Tractors)—Layout



LX1025706

MFWD clutch (7220 and 7320 tractors) — layout

LEGEND:

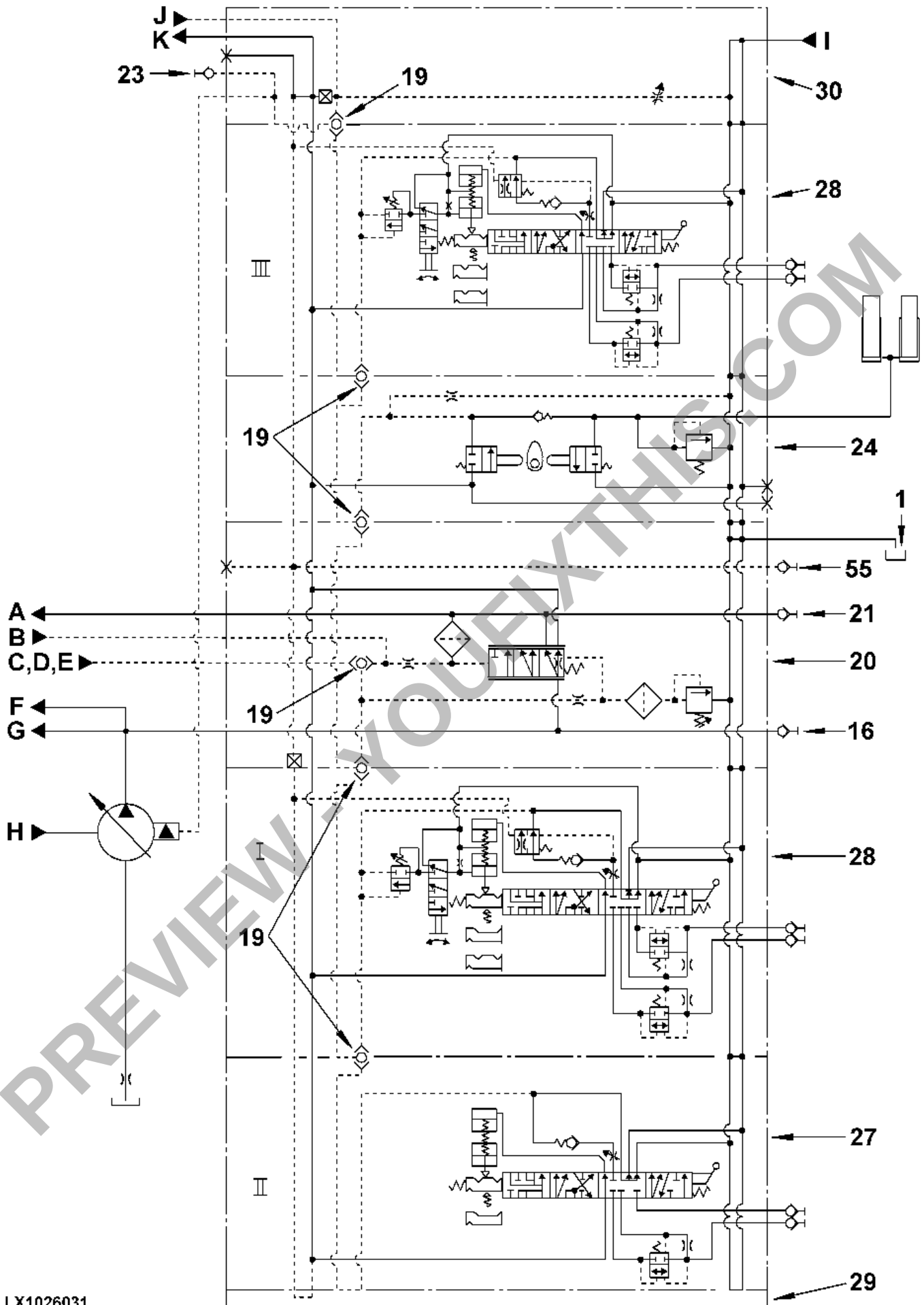
A	Clutch shaft
B	Bearing quill
C	Belleville spring (2 used)
D	Piston
E	Disk pack
F	Double gear
G	Housing
H	Check valve (3 used)
I	Clutch drum with gear
J	Oil transfer plate
K	Speed sensor

[AutoPowr / IVT Transmission only]

The MFWD clutch is attached to the bottom of the range box. When the MFWD is engaged, torque is transferred from the range box via the MFWD clutch to the universal drive shaft which directly drives the MFWD axle.

The primary components of the MFWD clutch are the clutch shaft (A), clutch drum (I), disk pack (E), Belleville springs (C) and piston (D).

The MFWD is mechanically engaged by a spring and hydraulically disengaged by oil pressure. When the MFWD is engaged a solenoid interrupts the flow of oil to the MFWD clutch.



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Hydraulic diagram showing valve block only

LEGEND:

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