SERVICE MANUAL

T4.55 / T4.65 / T4.75 PowerStar™

Tractor

Part number 84419869A
English
October 2011

MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual | Publication 84419869A

Order the manual at mid-west-tech.com >

CONTENTS

	Page	Date
00 - GENERAL GUIDELINES		
General instructions	1-2	06-11
Safety regulations	3-4-5	06-11
Tractor refuelling	6	06-11
10 - ENGINE		
CHAPTER 1		
Summary	1	06-11
General specifications	2-3	06-11
Engine removal-installation	4-5-6-7-8-9-10	06-11
Removal-Installation fuel tank	11-12	06-11
Coolant radiator removal-installation	13-14-15	06-11
Accelerator control cable adjustment	16	06-11
18 - CLUTCH		
Main Data	1	06-11
Torque Specifications	2	06-11
Tools	2	06-11
Sections	3	06-11
Troubleshooting	4	06-11
Removal-Installation - clutch	5	06-11
Clutch Overhaul	6-7-8-9	06-11
Checks and measurements - clutch	10-11	06-11
Adjustments - clutch disengagement levers	11	06-11
Adjustments - clutch pedal	12	06-11
Sectional view of PTO clutch servo control	13	06-11
Description and operation of PTO servo control	14-15	06-11
PTO servo control adjustment	16	06-11
PTO engaged switch adjustment	17	06-11

	Page	Date
21 - GEAR TRANSMISSION		
Chapter 1 - Mechanical transmission		
Main Data	1-2	06-11
Torque Specifications	2-3	06-11
Tools	4	06-11
Sections	5-6-7	06-11
Description and operation	8	06-11
Troubleshooting	8-9	06-11
Removal-Installation - rear transmission - gearbox casing	10-11-12-13	06-11
Disassembly-Assembly - transmission-gearbox casing	17-18	06-11
Disassembly-Assembly - clutch casing	19-20-21	06-11
Sealing compound application diagram	22	06-11
Transmission oil cooler removal-installation	23	06-11
CHAPTER 3 - Power Shuttle transmission		
Main Data	1-2	06-11
Torque Specifications	3	06-11
Tools	4	06-11
Sections	5-6-7	06-11
Description and operation	8	06-11
Troubleshooting	8	06-11
Disassembly-Assembly - clutch casing	9-10-11	06-11
Main clutch adjustments	12	06-11
23 - DRIVE LINES		
Main Data	1	06-11
Torque Specifications	2	06-11
Sections	3-4	06-11
Description and operation	5	06-11
Troubleshooting	6	06-11
Drive shafts and guard. Disassembly - Assembly	7	06-11

MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual |... Order the manual at mid-west-tech.com >

	Page	Date
Removal-Installation - drive gear casing	8	06-11

25 - FRONT AXLE MECHANICAL TRANSMISSION

CHAPTER 1 - Front mechanical transmission

Main Data	1-2	06-11
Torque Specifications	3-4	06-11
Tools	5	06-11
Sections	6	06-11
Removal-Installation - front axle	8-9-10	06-11
Front axle. Disassembly - Assembly	11-12-13-14-15-16-17-18	06-11
Replacing steering knuckle pins and bearings	19	06-11
Adjustments - steering knuckle bearings	20-21	06-11
Adjustments - bevel drive	22-23-24-25-26-27-28	06-11
Overhaul - front differential	29	06-11
LIM-SLIP self-locking differential	30-31	06-11
Checking leading wheel alignment	32	06-11
Disassembly-Assembly - front epicyclic final drive	33-34	06-11

27 - REAR MECHANICAL TRANSMISSION

Main Data	1-2	06-11
Torque Specifications	3-4	06-11
Tools	5	06-11
Sections	6-7	06-11
Description and operation	8	06-11
Troubleshooting	8	06-11
Disassembly-Assembly - transmission-gearbox casing	9-10-11-12	06-11
Adjustments - differential lock engagement sleeve position	13	06-11
Adjustments - bevel drive	14-15-16	06-11
Removal - Installation side gear casing	17-18-19-20	06-11
Disassembly-Assembly - drive wheel shaft	21-22	06-11

31 - POWER TAKE-OFF

CHAPTER 1 - Mechanical power take-off

Main Data	1-2	06-11
Torque Specifications	3-4	06-11
Sections	5-6	06-11
Description and operation	7-8	06-11
Troubleshooting	8	06-11

33 - BRAKES

Main Data	1-2	06-11
Torque Specifications	2	06-11
Sections	3	06-11
Description and operation	4	06-11
Troubleshooting	5-6	06-11
Removal-Installation - service brake	7	06-11
Removal-Installation - service brake pump	8-9	06-11
Adjustments - service brake pedals travel	10	06-11
Service brake circuit air bleeding	11-12	06-11

35 - HYDRAULIC SYSTEMS

CHAPTER 1 - Rear mechanical hydraulic lift

Main Data	2	06-11
Torque Specifications	2-3	06-11
Tools	3	06-11
Sections	4	06-11
Troubleshooting	5	06-11
Description and operation	6-7-8-9-10-11	06-11
Lift internal controls. Disassembly - Assembly	12-13-14-15	06-11

MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual |... Order the manual at mid-west-tech.com >

	Page	Date
Draft reading unit Disassembly - Assembly	16-17	06-11
Lift arms shaft. Disassembly - Assembly	18-19	06-11
Removal-Installation - lift control valve	20	06-11
Adjusting the lift	21-22-23	06-11
CHAPTER 2 - Open centre system auxiliary control valves		
Main Data	2	06-11
Tools	2	06-11
Torque Specifications	2	06-11
Sections	3-4	06-11
Description and operation	5-6-7-8	06-11
Auxiliary control valves. Disassembly - Assembly	9-10-11	06-11
CHAPTER 3 - Trailer brakes auxiliary control valves		
Sections	1	06-11
Description and operation	1-2-3-4-5-6-7	06-11
Troubleshooting	8-9-10	06-11
CHAPTER 8 - Front Loader		
Main Data	1	06-11
Sections	2	06-11
Torque Specifications	3	06-11
Troubleshooting	4-5	06-11
Parking the front loader	6	06-11
Front loader arm connection bracket Removal-Installation	7	06-11
Replacement of control struts (mod. MSL)	8	06-11
Replacement of triangular articulation levers (mod. MSL)	9	06-11
Bucket support device removal-installation	10	06-11
Position indicator disassembly-assembly	11	06-11
Bushing replacement	12-13	06-11
Loader cylinder removal-installation	14	06-11
Bucket control cylinder removal-installation	15	06-11
Replacement of pins	16	06-11
41 - STEERING		
CHAPTER 1 - Steering		
Main Data	2	06-11
Torque Specifications	2	06-11
Tools	3	06-11
Description and operation	4-5-6	06-11
View of hydrostatic steering control valve components	7	06-11
Troubleshooting	8-9	06-11
Replacement - hydrostatic steering wheel	10	06-11
Removal-Installation - hydrostatic steering control valve	11-12	06-11
Disassembly-Assembly - hydrostatic control valve	13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28	06-11
Hydrostatic steering control valve bench testing	29-30	06-11
Pressure relief valve testing	31	06-11
Steering control cylinder. Removal - Installation	32-33	06-11
Steering control cylinder. Disassembly-Assembly	34-35	06-11
50 - CAB HVAC SYSTEM		
Safety regulations	2	06-11
Main Data	3	06-11
Tools	4	06-11
Operating principles	5	06-11
Conditioning system components	6-7-8-9-10	06-11
Cab controls	11-12-13	06-11
Testing operation and cooling	14-15	06-11

MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual |... Order the manual at mid-west-tech.com >

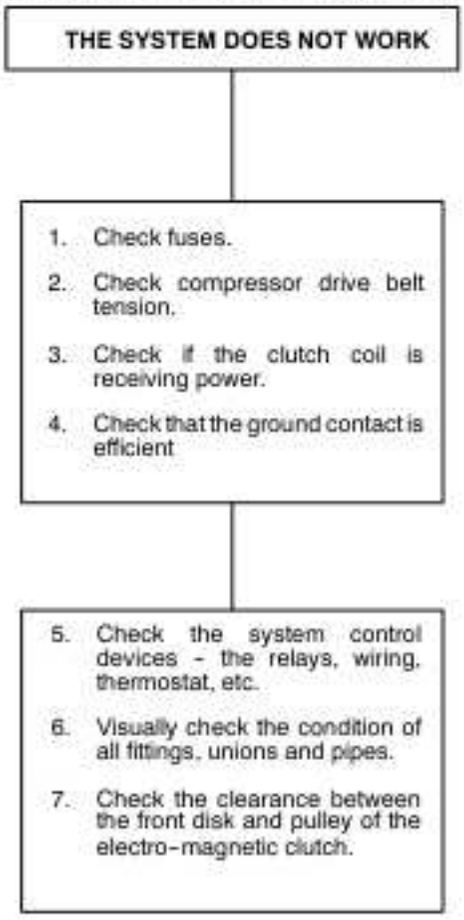
FRONT LOADER TROUBLESHOOTING

Problems	Possible causes	Solutions
Small lift and tearout capacity.	1. Low oil pressure in the circuit.	Check the hydraulic circuit.
Loader and implement move slowly or not at all.	1. Insufficient quantity of oil in the hydraulic circuit.	Top up the oil level.
	2. Hydraulic couplings connected incorrectly.	Connect the hydraulic couplings correctly.
	3. Multi Quick fast coupler failure.	Check coupler and replace if necessary.
	4. Insufficient oil flow.	Check the hydraulic circuit.
Loader and/or implement move in wrong direction relative to command given.	1. Incorrect connection of the quick couplers.	Connect the quick couplers correctly.
Slow lift speed or no loader lift.	1. Insufficient quantity of oil in the hydraulic circuit.	Top up the oil level.
	2. Engine RPM too low.	Adjust engine speed.
	3. Oil in the hydraulic circuit too cold.	Wait for the oil in the circuit to reach the operating temperature.
	4. Load above capacity.	Reduce load.
	5. Hydraulic coupling trouble.	Check coupler and replace if necessary.
	6. Hydraulic cylinder leakage.	Check cylinder and replace it if necessary.
	7. Incorrect pressure relief valve calibration.	Calibrate or replace pressure relief valve.
	8. Hydraulic distributor trouble.	Check hydraulic distributor, replace if necessary.
Lifted load lower than expected.	1. Hydraulic cylinder leakage.	Check cylinder and replace it if necessary.
	2. Load above capacity.	Reduce load.
	3. Incorrect pressure relief valve calibration.	Calibrate or replace pressure relief valve.
	4. Hydraulic distributor trouble.	Check hydraulic distributor, replace if necessary.

(continued)

MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual |... Order the manual at mid-west-tech.com >

AIR CONDITIONING SYSTEM TROUBLESHOOTING

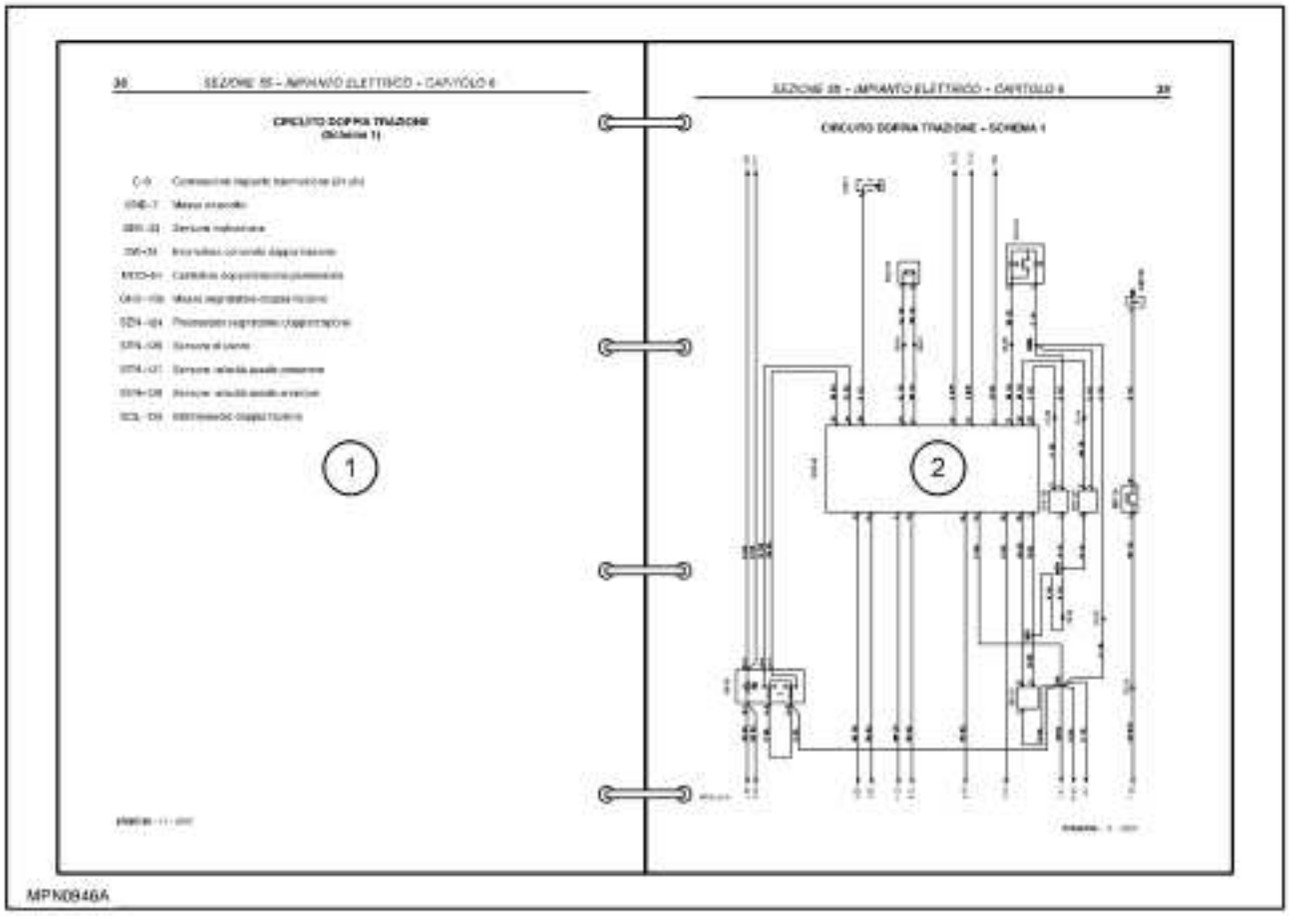


MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual |... Order the manual at mid-west-tech.com >

HOW TO USE THE WIRING DIAGRAMS

The wiring diagrams in the manual are subdivided by function; the set of all the functions forms the tractor's electric system.

There are a number of guides to help assist in reading and understanding the wiring diagrams.

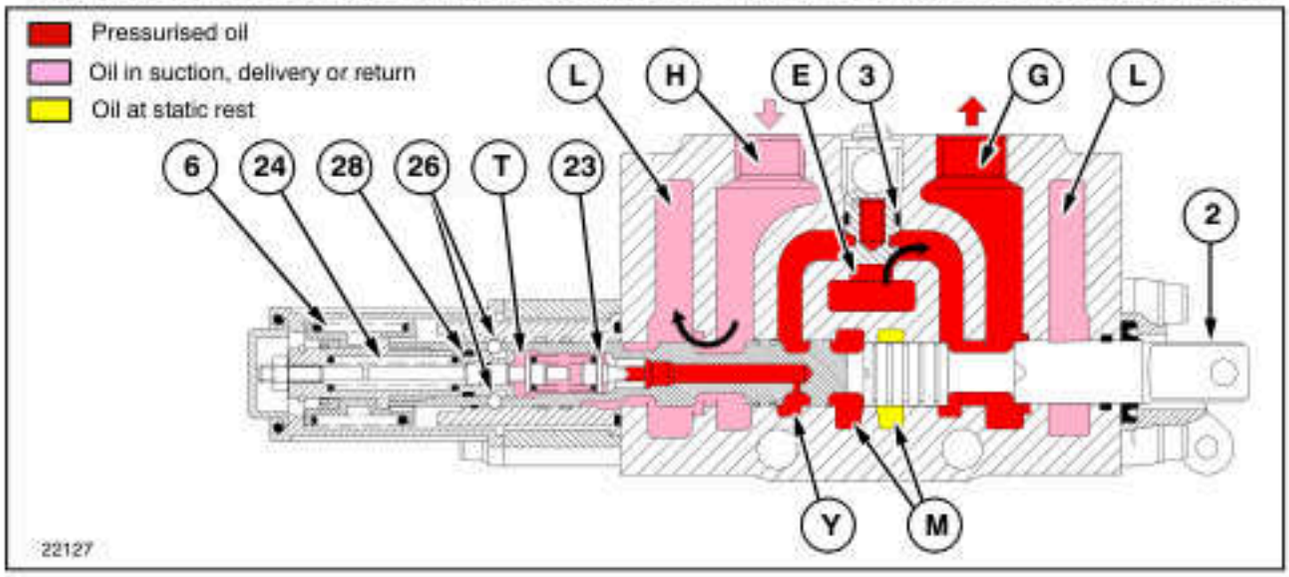


36

1. The wiring diagrams (2) are given on the pages on the right; the titles and legends (1) are given on the pages on the left.
   The title defines the function to which the diagram refers, the key indicates all the components on that specific page of the diagram.
2. The components and connectors are identified by an abbreviation composed of an alphabetical portion and a numerical portion:
   - the alphabetical portion indicates the type of component (e.g. F indicates a fuse, C indicates a connector, MOD indicates a module, SW indicates a switch, etc.),
   - the numerical portion is a progressive number.

MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual |... Order the manual at mid-west-tech.com >

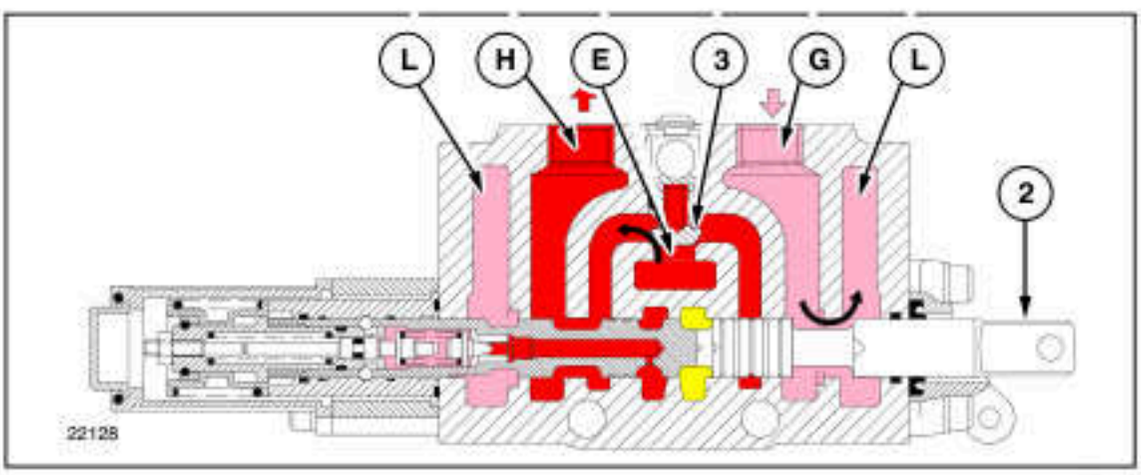
OPERATING STAGES OF AUXILIARY CONTROL VALVE FOR THE OPERATION OF A SINGLE/DOUBLE-ACTING CYLINDER WITH AUTOMATIC DETENT RELEASE AND FLOAT



8

LIFTING

On pulling back the control lever (located in the cab), the control valve stem (2) shifts and the detent balls (26) engage the left hand groove, where they are held in place by the support (28) and spring (24). The movement of the spool (2) connects: delivery line (E) with the lower chamber of the cylinder, by way of the check valve (3) and the line (G), and also the upper cylinder chamber with the exhaust line (L) by way of line (H), intercepting the supply of oil to the hydraulic lift control valve. On completion of the lifting movement, the oil pressure increases to 170 ÷ 175 bar (173 ÷ 178 kg/cm^2), acting through the port (V), it overcomes the resistance of the spring of the needle valve (23). Inside chamber (T) the oil pressure increases and, acting on the support (28), it overcomes the resistance of the spring, thus moving the support (28). In this condition the two detent balls (26) drop onto the support (28), releasing the stem (2) which, under the action of the spring (6), returns to the neutral position, and consequently the entire flow from the pump is conveyed to the lift control valve through lines (M).

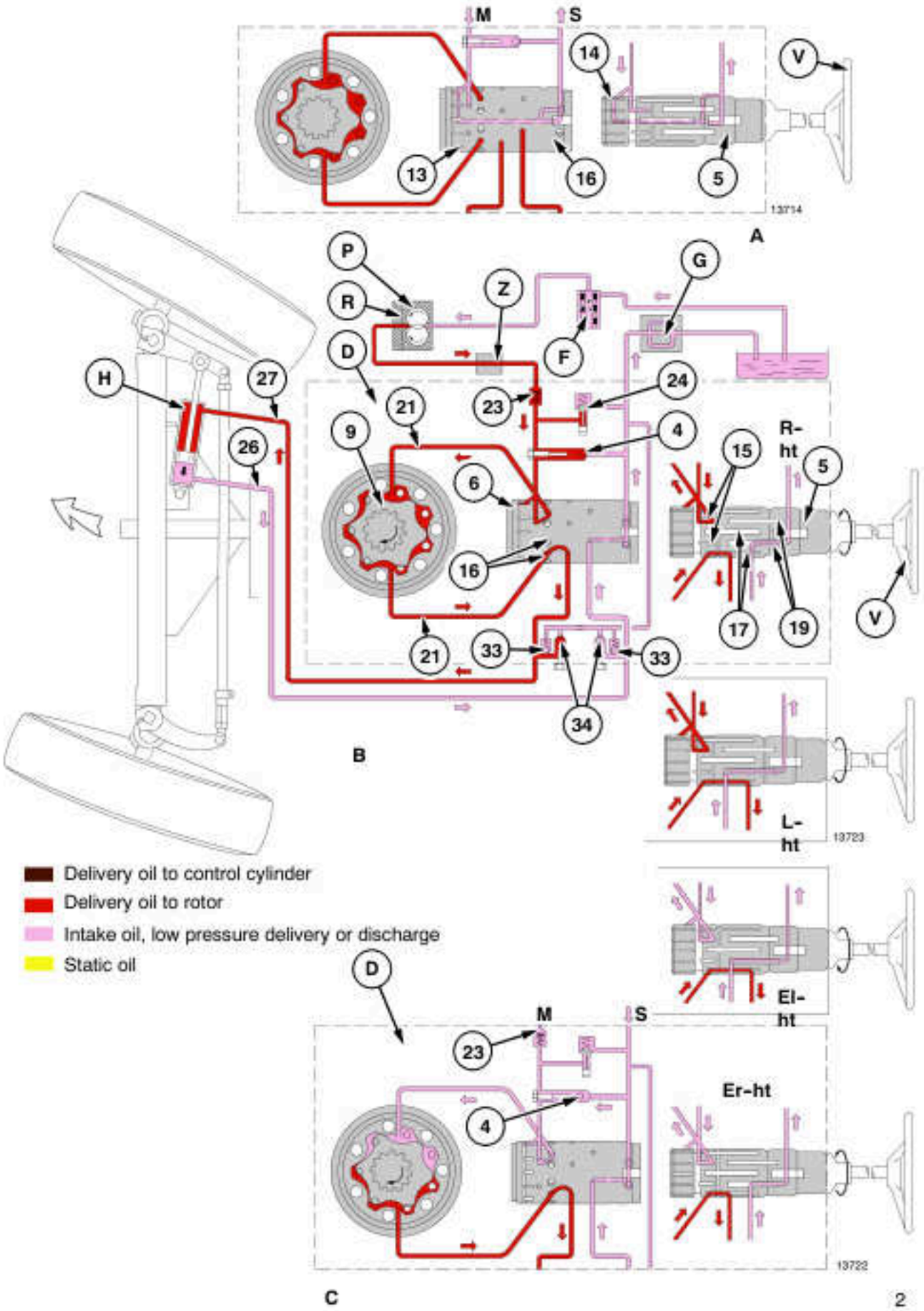


9

LOWERING

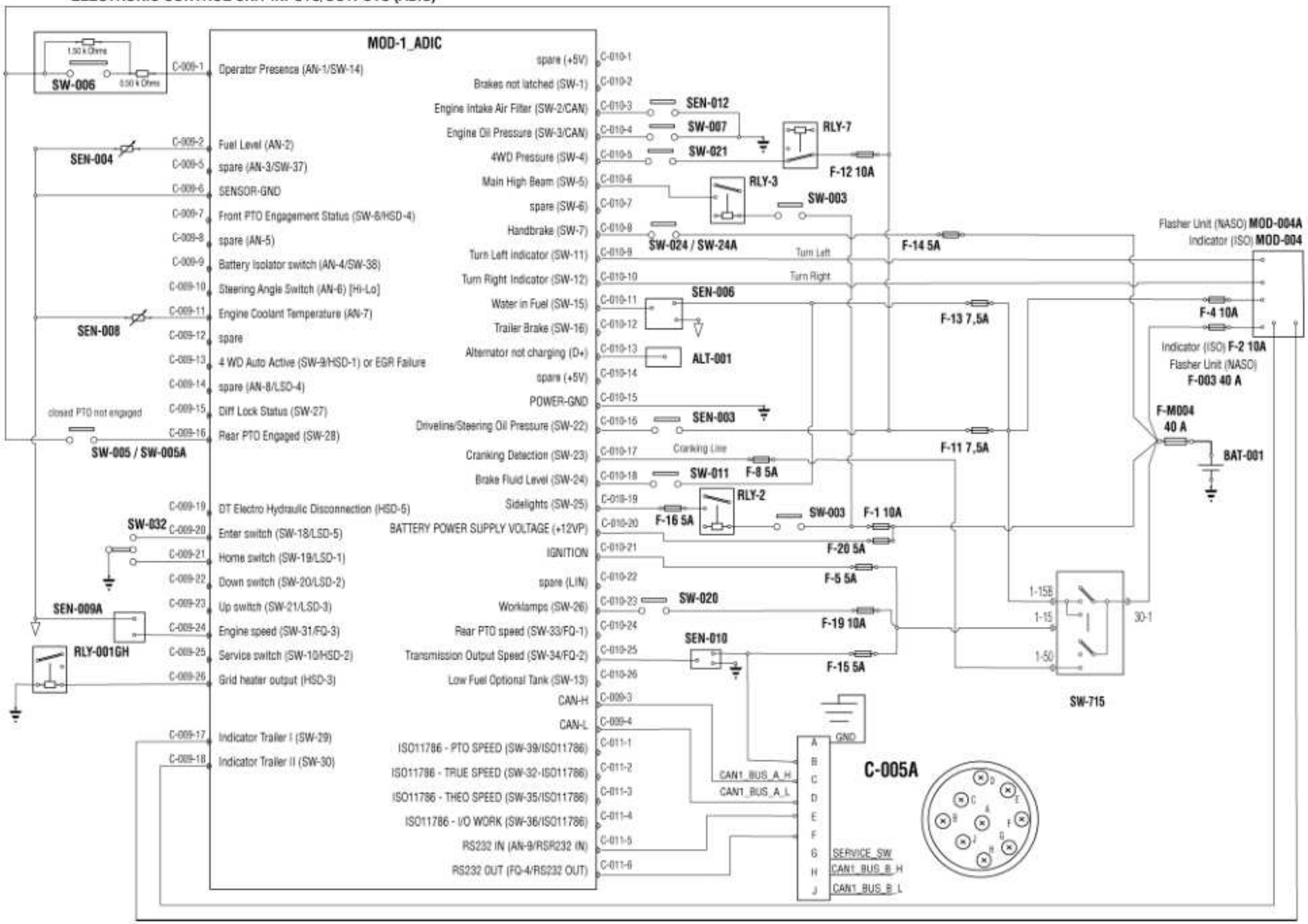
To lower the implement, push forward the control lever (in the cab). The control valve stem(2) shifts and the detent balls (26) engage in the central groove where they are held in position by the support (28) and the spring (24). In this condition the oil contained in the lower chamber of the cylinder can flow to the exhaust (L) by way of line (G), while the upper chamber is connected with the delivery (E) by way of line (H) and check valve (3). On completion of the lowering operation, the detent will be automatically released in the manner described previously.

MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual |... Order the manual at mid-west-tech.com >



MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual |... Order the manual at mid-west-tech.com >

ELECTRONIC CONTROL UNIT INPUTS/OUTPUTS (ADIC)



MidWestTech | New Holland T4.55, T4.65, T4.75 PowerStar Tractor Service Manual | Publication 84419869A
Order the manual at mid-west-tech.com >