Key to diagram:

Modules

A08	AUTOCONTOUR module (CAC)
A09	AUTOPILOT module
A10	Fieldwork computer module (BIF/CAB)
A12	Speed monitor module (DZW)
A16	Reel controller module (HAS)
A21	YIELD METER module (LEM)
A25	Sieve adjustment module
A26	Deflector adjustment module
A28	Uni-spreader module (VGS)
A36	Electro-hydraulic gearshift module
A45	Ground drive hydraulic motor brake restrictor module (HBM)
A50	RIO module (ground drive hydraulic motor brake restrictor)

Electronic components

DI	Warning device diode PCB
D0	Master valve diode PCB
DS	Diagnosis (63-pin) VIA

Fuses

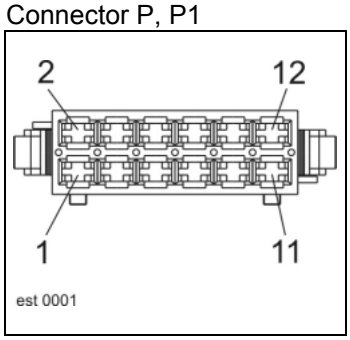
F1	Dipped headlights circuit
F2	Sieve adjustment module 12 V control unit
F3	CAN connection of performance monitor
F4	+12 V electronic unit
F5	12 V air conditioner fan
F6	##
F7	CAC module
F8	Reel module
F9	Yield meter
F10	Yield meter
F11	Inside work lights
F12	Work lights
F13	Cigarette lighter
F14	Seat socket
F15	Drum/rotor speed adjustment
F16	Concave adjustment
F17	Diagnosis LED
F18	Cutterbar
F19	Engine speed switch
F20	All-wheel drive 12 V switch
F21	Threshing mechanism relay
F22	Fan speed relay
F23	Hazard warning switch 30
F24	Hazard warning switch 15
F25	Fan speed relay
F26	Reel controller
F27	Upper/lower sieve
F28	Autopilot switch
F29	12 V / K56 pin 30
F30	Brake light switch 12 V / Sieve pan light
F31	12 V IMO
F32	12 V IMO
F33	Air conditioner relay
F34	Engine control unit 12 V power supply
F35	CAC module / VGS module

Module A35 - Montana control unit, for Montana machines (with HBM module A45)

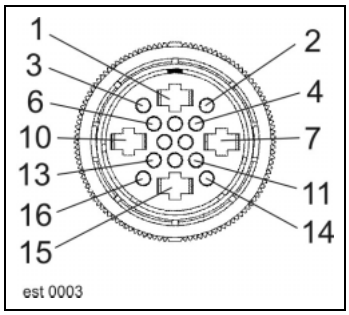
Pin	Function	Component	Measuring variable	Direction	Circuit diagram no.
1	Power supply (K69)	---	12 V	Input	41t, 4t
2	Lower axle, left-hand side	Y114	12 V	Output	41t
3	Raise axle, left-hand side	Y115	12 V	Output	41t
4	Raise axle, right-hand side	Y117	12V	Output	41t
5	Lower axle, right-hand side	Y116	12 V	Output	41t
6	Rotate front attachment to the left	Y113	12 V	Output	41t
7	Rotate front attachment to the right	Y112	12 V	Output	41t
8	Raise cutting angle	Y110	12 V	Output	41t
9	Lower cutting angle	Y111	12 V	Output	41t
10	Master valve (Montana)	Y128	12 V	Output	4t
11	Master valve (Working hydraulics)	Y77	12 V	Output	4t
12	Oil quantity increase	Y118	12 V	Output	41t
13	not used	---	---	---	---
14	Earth	---	Earth	Input	41t
15	Power supply (K69)	---	12 V	Input	41t, 4t
16	Left-hand axle angle sensor signal	B91	0.25-4.75 V	Input	41t
17	Montana cross levelling sensor signal	B94	0.25-4.75 V	Input	41t
18	not used	---	---	---	---
19	not used	---	---	---	---
20	not used	---	---	---	---
21	CAN Low (Inclinometer)	B126	-	Output	05t
22	not used	---	---	---	---
23	CAN Low (Montana)	A41	-	Output	05t
24	Earth	A41	Earth	Output	05t
25	RS 232	---	---	---	05t
26	RS 232	---	---	---	05t
27	not used	---	---	---	---
28	Earth	---	Earth	Input	41t
29	Power supply (K69)	---	12 V	Input	4t
30	Right-hand axle angle sensor signal	B92	0.25-4.75 V	Input	41t
31	Cutting angle sensor signal	B93	0.25-4.75 V	Input	41t
32	Parking brake signal	S93	12V	Input	41t
33	Earth sensors	B91, B92, B93, B94, B95, B126	Earth	Output	41t
34	not used	---	---	---	---
35	not used	---	---	---	---
36	CAN High (Inclinometer)	B126	-	Output	05t
37	Power supply (CAN)	A41	12 V	Output	05t
38	CAN High (Montana)	A41	-	Output	05t
39	RS 232 (Boot)	---	---	---	05t
40	RS 232	---	---	---	05t
41	not used	---	---	---	---
42	not used	---	---	---	---

Connector pin definition:

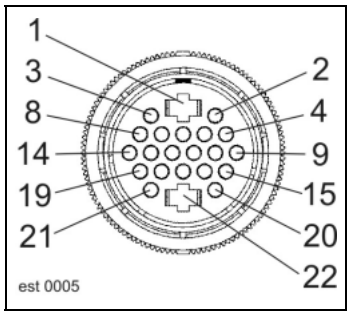
Connector P, P1



Connector G



Connector C



Interconnection list:

from	to 1	to 2	to 3	to 4	to 5	mm²	Colour
C-1	15					6	bk
C-2	G-7	C-21				1.5	bk-rd
C-3	K53-86	K56-86	K52-86			0.75	bk-ye
C-21	G-7	C-2				1.5	bk-rd
C-22	30					6	rd
G-1	K53-87	DS-43				4	bk-ye
G-7	C-2	C-21				1.5	bk-rd
G-16	C-18	K58-86	Cab-34 / Bif-11			0.75	bl
P-5	K13-30					1.5	vi-br
P-6	X-7	DI-7				1.5	vi-ye
P-12	31					2.5	br
P1-5	P-5	A36-8				1.5	vi-bl

Description of function:

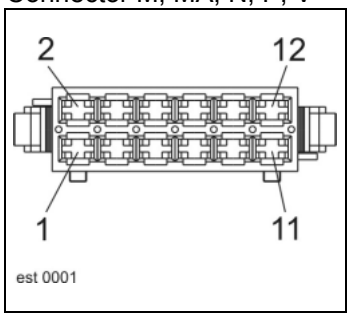
Montana machine:	On Montana machines, actuation of the working hydraulics master valve (Y77) is **always** via the gearshift control module (A36).
Activation of road travel	During road travel, the road travel switch (S52) must be locked in order to cut the power supply for all unnecessary electrical and hydraulic functions.
Working hydraulics master valve	In order to be able to build up the necessary working pressure for many hydraulic controls, the neutral hydraulic circulation must be blocked (see also the "Hydraulic system" section). In this case, the solenoid coil (Y77) is actuated in parallel with the function directly via the diode PCB (DO) and the gearshift control module (A36). A LED (D5) provided on the diode PCB indicates the activation of the circuit.
Montana axle hydraulics master valve	For the Montana functions as well, the circulation of the independent axle control system hydraulics must be blocked (see also "Hydraulic System" document). According to the actuated functions, the Montana control unit (A35) actuates the Montana master valve (Y128) and/or the working hydraulics master valve (Y77) via the gearshift control module (A36).
Montana brake pressure accumulator	The sensor/switch (B90) controls the brake system accumulator pressure and, if necessary, actuates the working hydraulics master valve (Y77) via the gearshift control module (A36) in order to recharge the brake circuit accumulator.
Increased brake effect Montana – only with module A45 (HBM)	If the diesel engine speed drops below 2300 rpm while braking, the HBM module (A45) actuates the working hydraulics master valve (Y77) via A36/pin 22 – Circuit diagram. This hydraulic load on the diesel engine increases the braking effect. In addition, a brake restrictor (Y124) is activated in the hydrostatic ground drive – circuit diagram 42t.

Description of function:

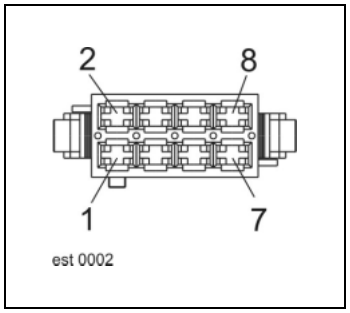
Connectors	The connectors L and ML are connected with the signal outputs to the individual machine functions. Connector A is connected with signal inputs from switches whose actuated or non-actuated states allow the terminal to identify the machine functions. The analog signals of the machine sensors are converted by the corresponding modules (A10/A12) and read by the terminal as digital signals from the CAN bus system.
Power supply / communication Montana terminal (A41)	The Montana terminal (A41) is supplied with power by the Montana control unit module (A35) – see "Pin assignment in modules". The Montana terminal (A41) performs all manual triggering of Montana functions. The Montana terminal (A41) communicates with the Montana control unit module (A35) via an own CAN bus which is independent of the CLAAS system.
Connector XD2	Connector XD2 is used for loading the software of the Montana module (A35).

Connector pin definition:

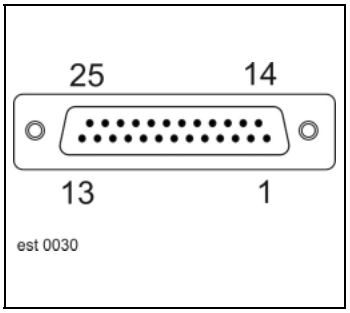
Connector M, MA, N, P, V



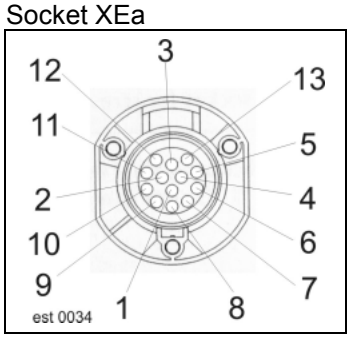
Connector MQ



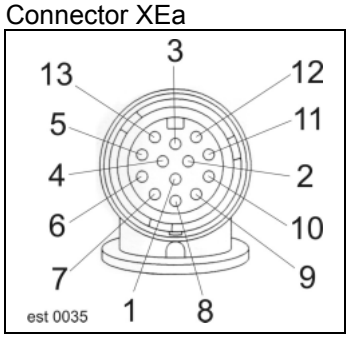
Connector X8



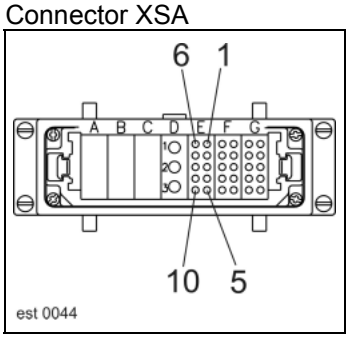
Socket XEa



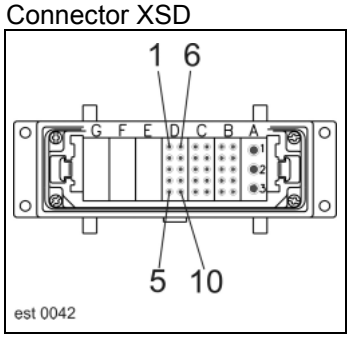
Connector XEa



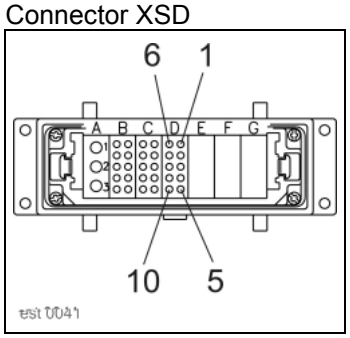
Connector XSA



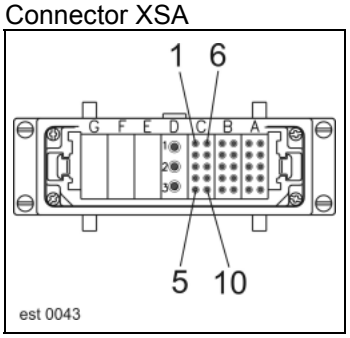
Connector XSD



Connector XSD

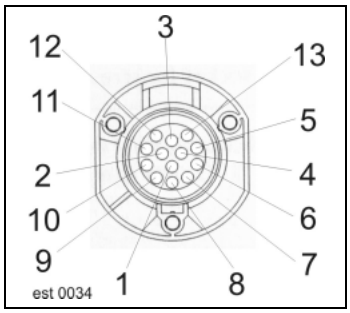


Connector XSA

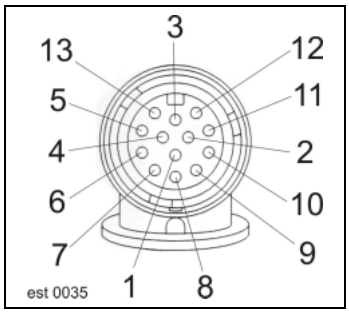


Connector pin definition:

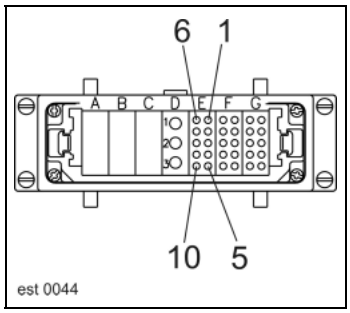
Socket XEa



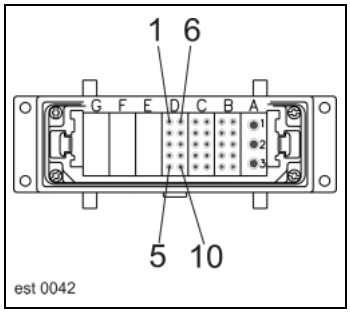
Connector XEa



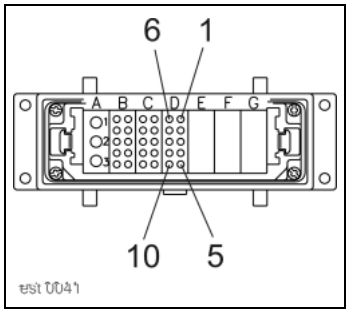
Connector XSA



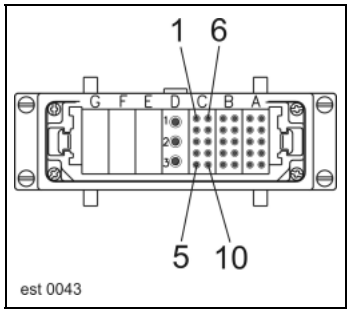
Connector XSD



Connector XSD



Connector XSA



Interconnection list:

from	to 1	to 2	to 3	to 4	to 5	mm²	Colour
XEa-1	XSD-A1					1.5	br
XEa-2						0.75	br-rd
XEa-3						0.75	vi-bl
XEa-4						0.75	gn-vi
XEa-5						0.75	br-bl
XEa-6						0.75	bl-bk
XEa-7						1.5	gr-vi
XEa-8						1.5	gr-ye
XEa-9						1.5	bl-gr
XEa-10						1.5	gr-wh
XSA-A1	XSD-B1					1.5	br
XSA-A2	XSD-B2					1.5	vi-ye
XSA-D2	XSD-A1					4	br
XSA-D3	XSD-A3					4	rd-bk
XSD-A1	XEa-1	XSA-D2				4	br
XSD-A3	XSA-D3					4	rd-bk
XSD-B1	XSA-A1					1.5	bk-rd
XSD-B5						1.5	wh-br
XSD-B6						1.5	wh-pi
XSD-B7						1.5	wh-ye
XSD-B8						1.5	wh-rd
XSD-D1	XSA-B1					1.5	gr-bk

Interconnection list:

from	to 1	to 2	to 3	to 4	to 5	mm²	Colour
P1-10	P-10					1.5	gn-rd
P-10	F20-A					1.5	gn-rd
XSA-A5	XSD-B9					1.5	bk-br
XSA-A6	XSD-C5					1.5	rd-bl
XSA-A7	XSD-C6					1.5	bk-rd
XSA-A8	XSD-C7					1.5	gn-bl
XSA-A9	XSD-C8					1.5	bk-br
XSA-A10	XSD-C10					1.5	ye-rd
XSA-B1	XSD-D1					1.5	gr-bk
XSA-B2	XSD-D2					1.5	gr-gn
XSA-B3	XSD-D3					1.5	bk-bl
XSA-B4	XSD-D4					1.5	bk-ye
XSA-B5	XSD-D5					1.5	bk
XSA-B7						1.5	
XSA-C1						1.5	gn-rd
XSA-C2						1.5	bk-vi
XSA-C3						1.5	br-wh
XSA-C4						1.5	bk
XSA-D1	XSD-A2					4	br
XSA-D2	XSD-A1					4	br
XSD-A2	XSA-D1					4	br
XSD-B9	XSA-A5					1.5	bk-br
XSD-C5	XSA-A6					1.5	rd-bl
XSD-C6	XSA-A7					1.5	bk-rd
XSD-C7	XSA-A8					1.5	gn-bl
XSD-C8	XSA-A9					1.5	bk-br
XSD-C9						1.5	gn-ye
XSD-C10	XSA-A10					1.5	gr-rd
XSD-D1	XSA-B1					1.5	gr-bk
XSD-D2	XSA-B2					1.5	gr-gn
XSD-D3	XSA-B3					1.5	bk-bl
XSD-D4	XSA-B4					1.5	bk-ye
XSD-D5	XSA-B5					1.5	bk

Key to diagram:

751	External feed valve (non-return valve)
772	Volume flow controller
780	Shuttle valve
801	Quick release coupling
901	Working hydraulics measuring point
918	Axle hydraulics measuring point
B90	Brake circuit charge pressure sensor
B94	Montana cutterbar cross levelling sensor
M1	Ground drive hydraulics high pressure forward measuring point
M2	Ground drive hydraulics high pressure backward measuring point
Y21	Threshing mechanism clutch engage solenoid valve
Y35	Grain tank unloading solenoid valve
Y67	AUTOCONTOUR cross levelling left solenoid valve
Y68	AUTOCONTOUR cross levelling right solenoid valve
Y76	Straw chopper coupling solenoid valve
Y77	Working hydraulics master valve solenoid valve
Y85	Raise front attachment solenoid valve
Y86	Reverse front attachment solenoid valve
Y87	Lower front attachment solenoid valve
Y88	Front attachment clutch solenoid valve
Y105	Differential lock solenoid valve
Y106	Parking brake solenoid valve
Y107	Gearbox shift 1st gear solenoid valve
Y108	Gearbox shift 2nd gear solenoid valve
Y110	Raise cutting angle solenoid valve
Y111	Lower cutting angle solenoid valve
Y112	Rotate front attachment to the right solenoid valve
Y113	Rotate front attachment to the left solenoid valve
Y114	Lower axle on left-hand side solenoid valve
Y115	Raise axle on right-hand side solenoid valve
Y116	Lower axle on right-hand side solenoid valve
Y117	Raise axle on right-hand side solenoid valve
Y118	Additional oil quantity increase valve solenoid valve
Y121	Shifting aid, reverse solenoid valve
Y122	Shifting aid, forward solenoid valve
Y124	Ground drive hydraulic motor brake restrictor (HBM) solenoid valve
Y125	Ground drive control pressure solenoid valve
Y128	Montana master valve solenoid valve
Y144	Ground drive variable displacement motor solenoid valve
Z20	Hydraulic oil temperature actual value switch
Z79	Left brake circuit pressure actual value switch
Z80	Right brake circuit pressure actual value switch

Note: As compared with the standard machine, the pressure cut-off valves (708) of the Montana machines are set to 470 bar.

Key to diagram:

305 AUTOCONTOUR cross levelling right hydraulic cylinder
306 AUTOCONTOUR cross levelling left hydraulic cylinder

406 Orifice plate F .....0.8 mm

502 AUTOCONTOUR / Cross levelling accumulator

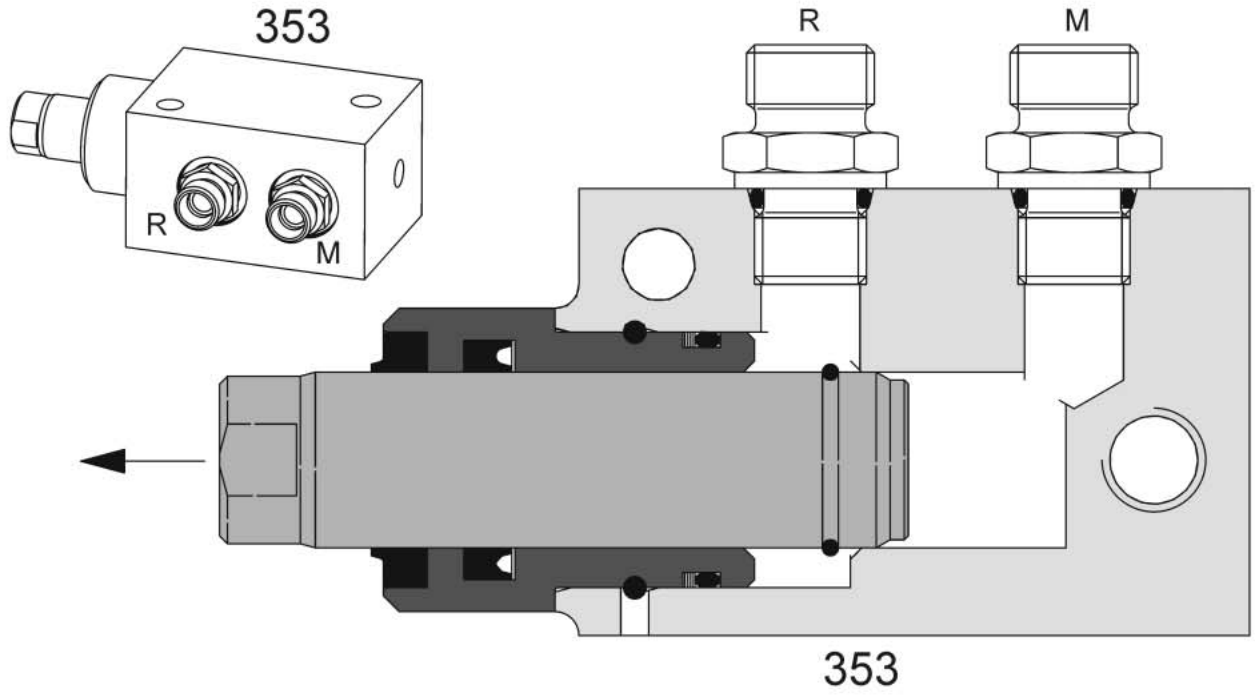
602 AUTOCONTOUR / Cross levelling shut-off valve
603 AUTOCONTOUR / Cross levelling balance screw

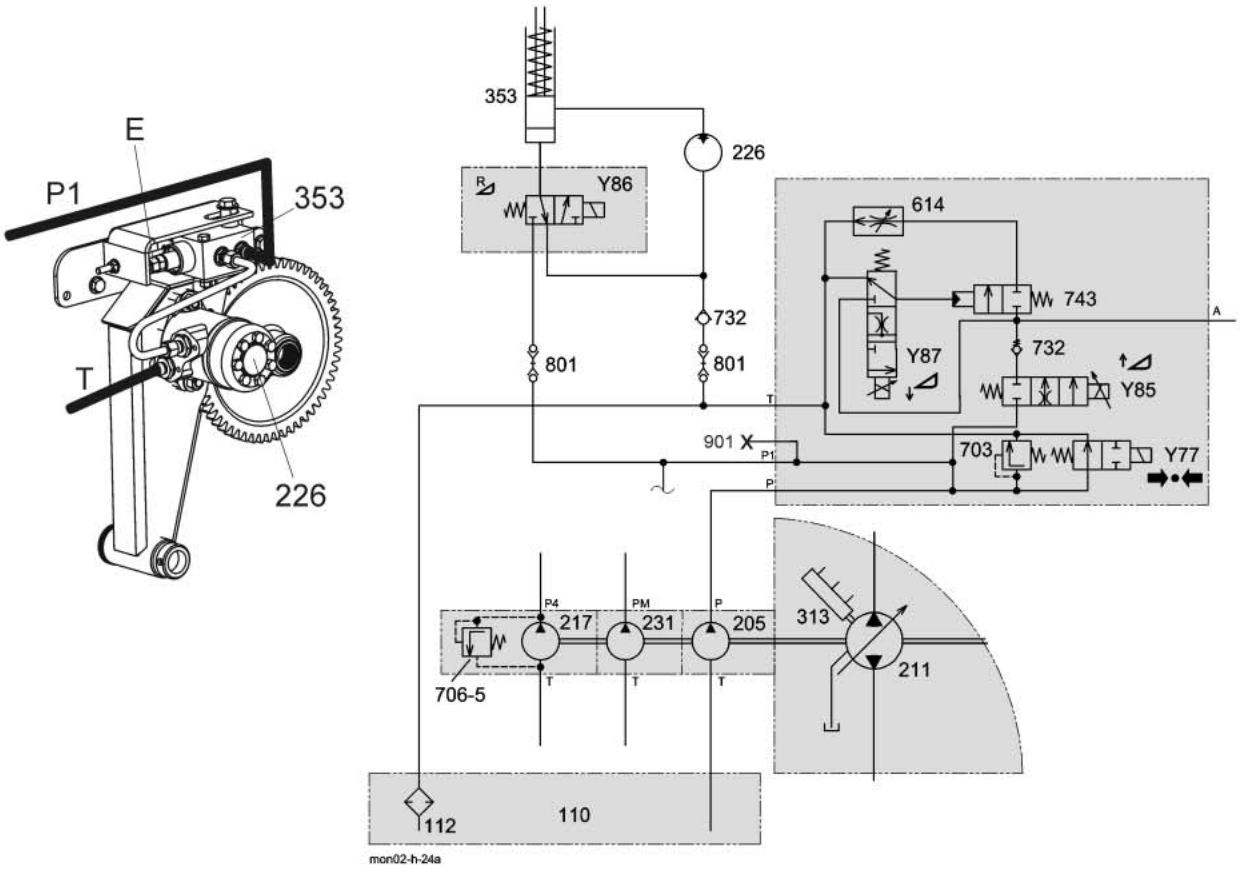
732 Non-return valve
734 Lock-up valve unit (non-return valve)
740 AUTOCONTOUR cross levelling flow control valve

Y67 AUTOCONTOUR cross levelling left solenoid valve
Y68 AUTOCONTOUR cross levelling right solenoid valve
Y110 Raise cutting angle solenoid valve
Y111 Lower cutting angle solenoid valve
Y112 Rotate front attachment to the right solenoid valve
Y113 Rotate front attachment to the left solenoid valve

Note: When dismounting items 502, 732, 740, Y67, Y68, Y110, Y111, Y112 or Y113, the accumulator must be relieved at the pressure relief bolt (603) before dismounting.

Reverse front attachment
Hydraulic cylinders





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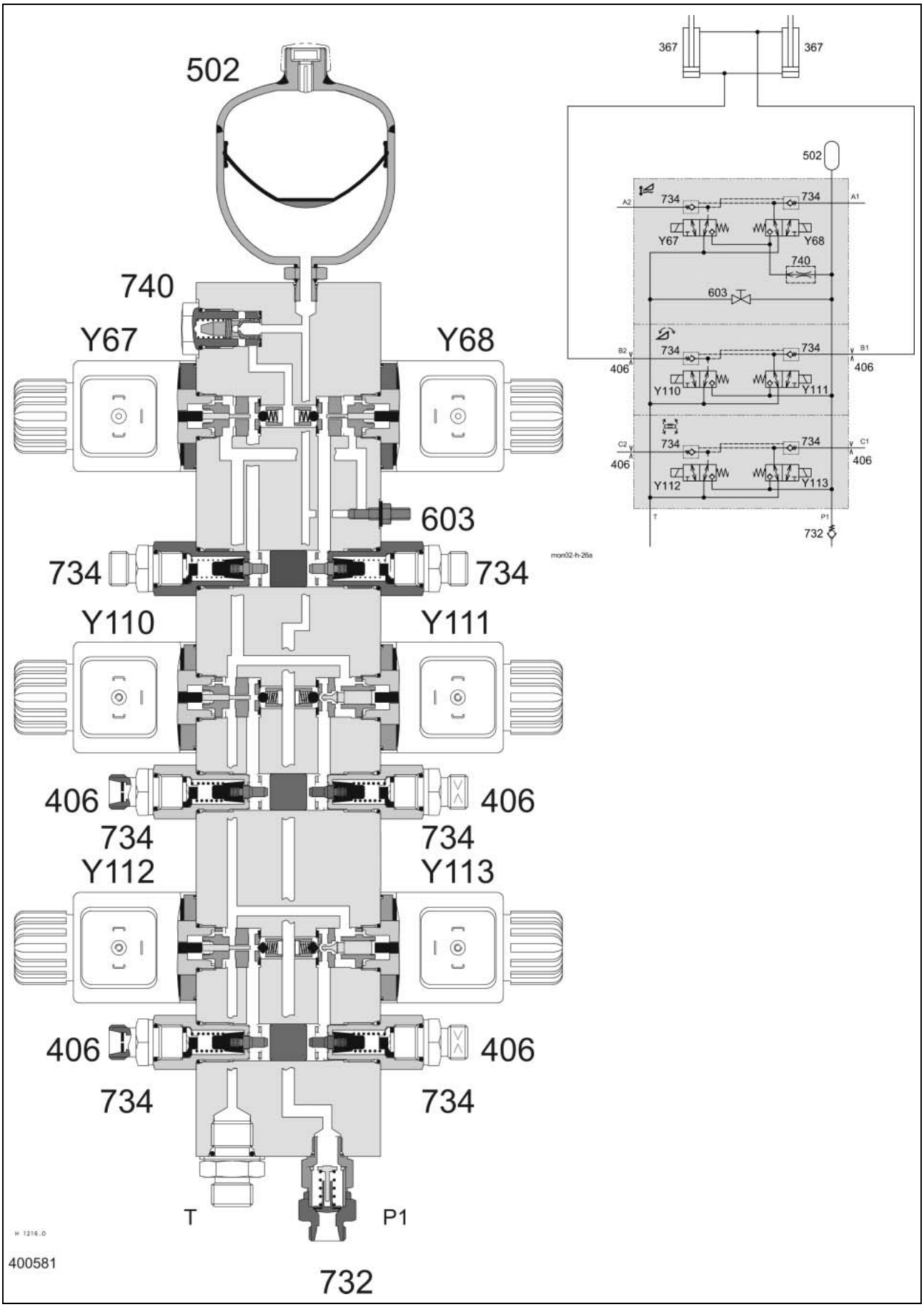
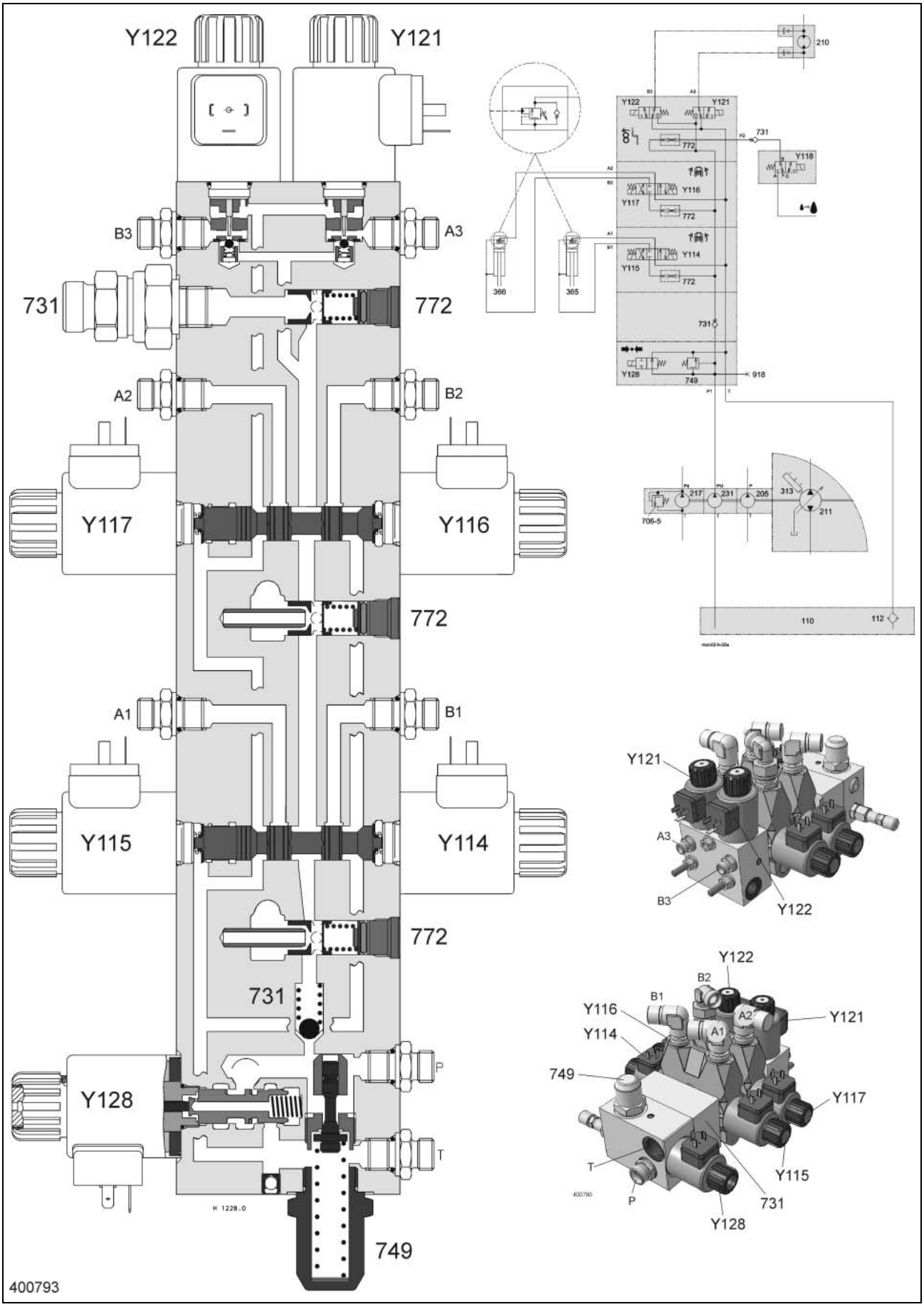
2.6 Cutting angle adjustment
4/3 way solenoid valve

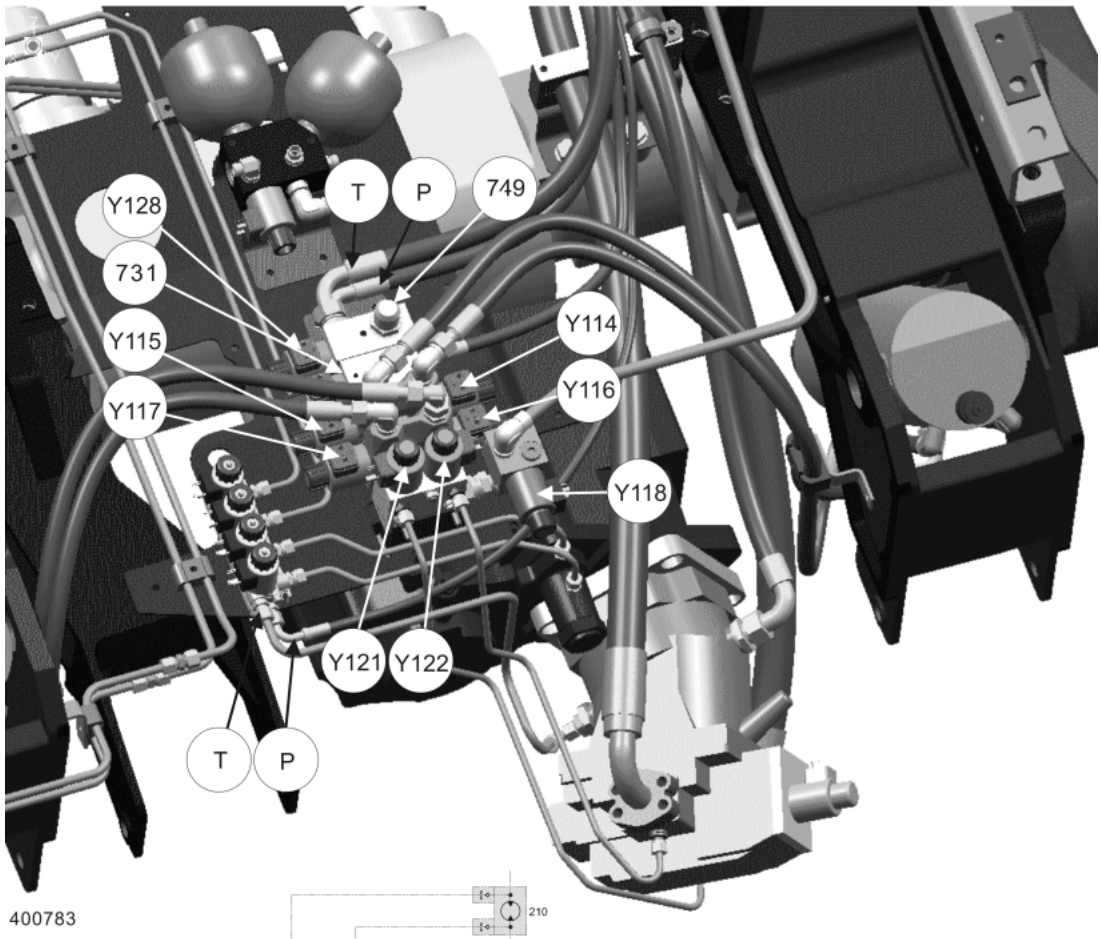


3.3 Axle control system master valve / pressure relief valve



3.8 Position of components / Axle control system

LEXION 470 from serial no. 541 00024 / LEXION 430 from serial no. 542 00048



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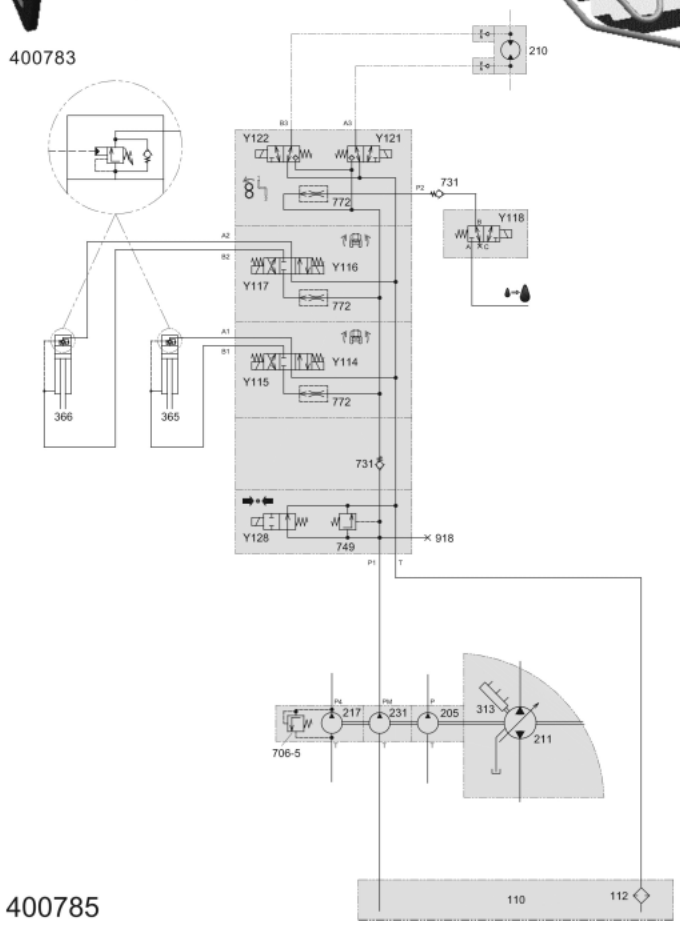

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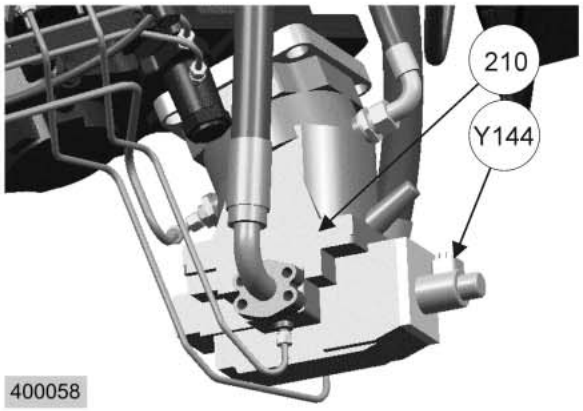
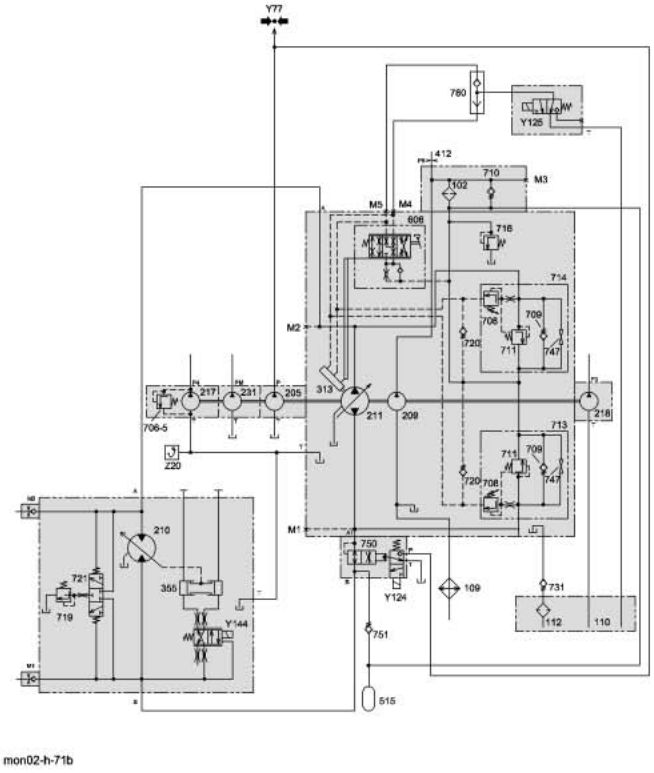
5.4 Motor unit

Variable-displacement motor



400058



400805