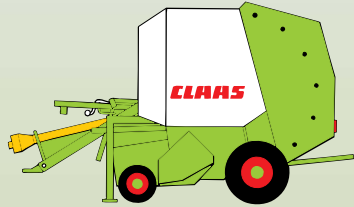


CLAAS



ROLLANT 160

Technical Systems

**Electric System/
Hydraulic System**

SERVICE & PARTS

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1 Electric System

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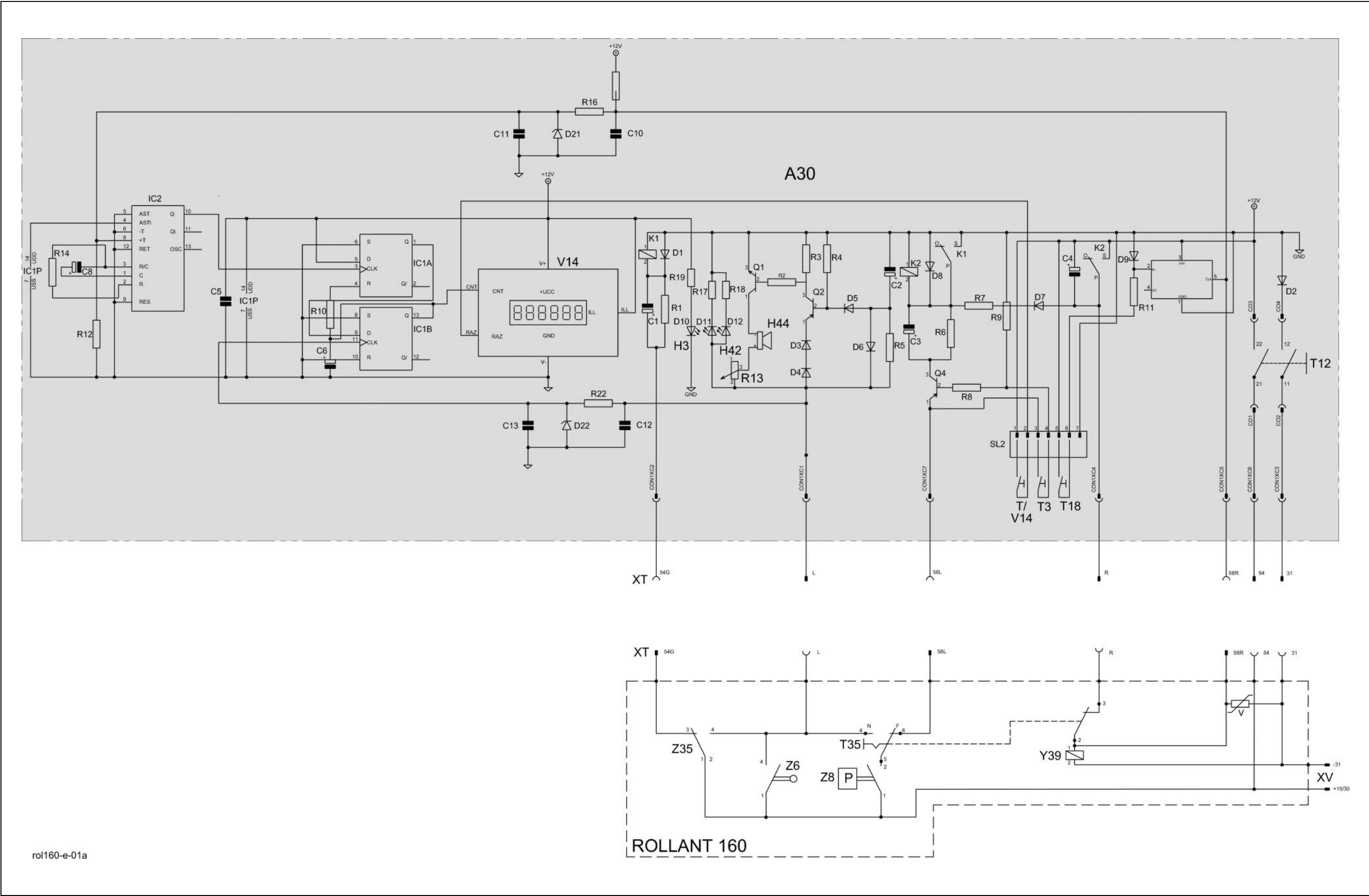
2 Hydraulic System

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1.1

Electric system overall circuit diagram

1.1 Electric system overall circuit diagram



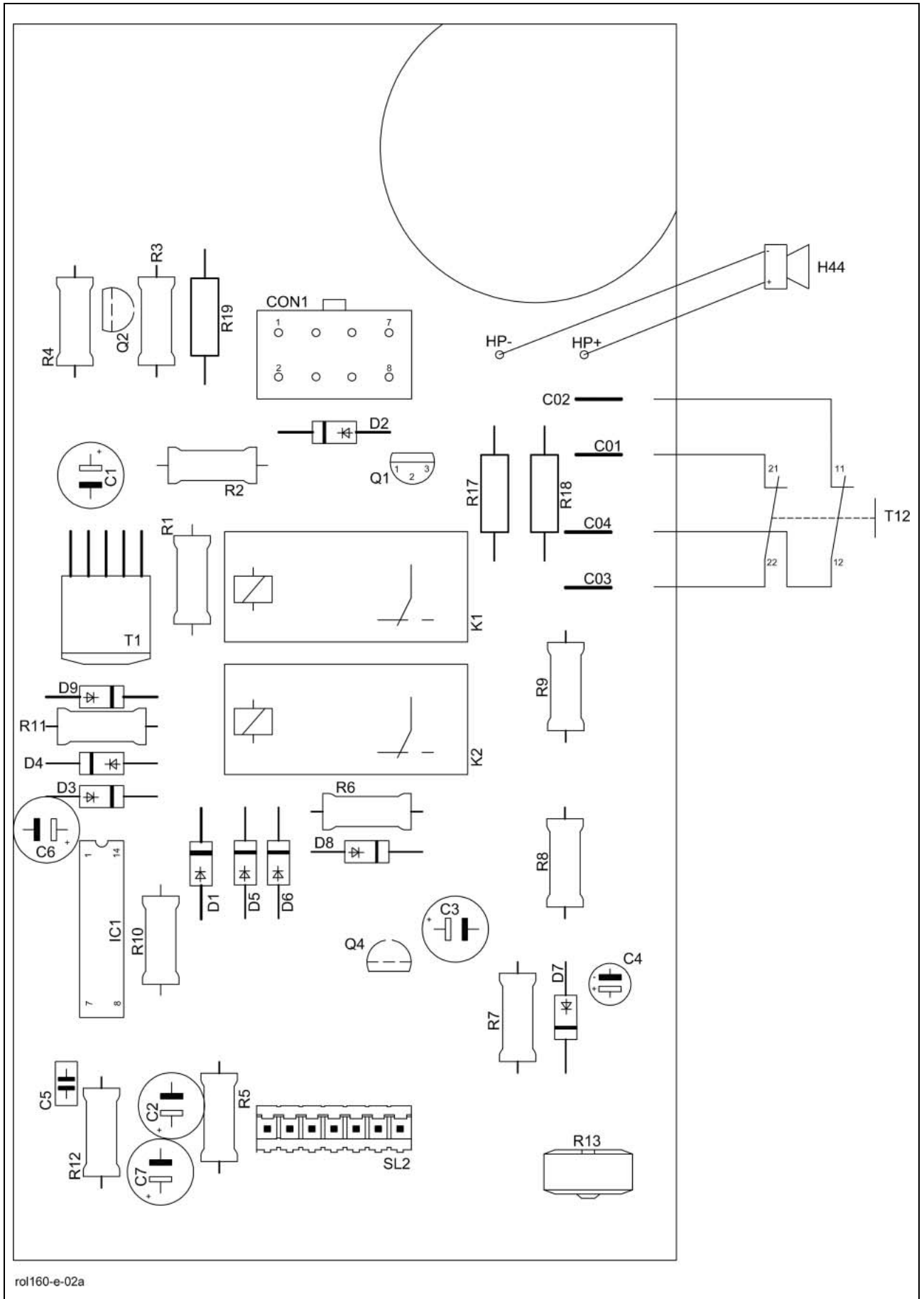
Key to diagram:

A30	Terminal
Con1	Wiring loom XT connection
H3	Operation signal light
H42	STOP signal light
H44	Buzzer
K1	Switching relay
K2	Switching relay
R13	Potentiometer / Volume (Buzzer)
SL2	Operating controls connection
T3	Delayed wrapping switch
T12	Main switch
T18	Manual wrapping start switch
T35	Wrapping type pre-selection switch
T V14	Reset bale counter switch
V	Varistor (Delete induction voltage)
V14	Bale counter
XT	Terminal connector
XV	12 Volt power supply
Y39	Twine/net coupling solenoid coil
Z6	Bale ejector switch
Z8	Wrapping start oil pressure switch (Baling pressure reached)
Z35	Cam track switch

Description of function:

Main power supply	Power supply from the tractor to the baler is by connector XV. A fuse of 25 A max. must be provided on the tractor for this power supply.
Twine wrapping:	
- Automatic function	Set the pre-selection switch T35 to twine wrapping (to position F). Oil pressure switch Z8 closes at 220 bar. The electronic unit switches relay K2 to locked-in state. Relay K2 actuates solenoid coil Y39. Wrapping starts. The wrapping mechanics actuates the cam track switch Z35. The electronic unit activates STOP signal light H42 and buzzer H44. The driver must stop. At the end of the wrapping process, the cam track switch Z35 is not actuated any more. The electronic unit terminates the locked-in state of relay K2 via relay K1. Wrapping is complete and the bale can be ejected. During bale ejection, the actual value switch Z6 is actuated and thus the STOP signal light H42 and buzzer H44. Moreover, bale counter V14 adds one bale to the total.
- Wrapping start delay	This automatic wrapping start can be delayed by pressing key T3 and keeping it pressed.
Net wrapping:	Set the wrapping type pre-selection switch T35 to the "Net wrapping – N" position. At 220 bar, oil pressure switch Z8 closes and actuates the STOP signal light H42 and buzzer H44. The manual wrapping start switch T18 actuates the twine/net coupling solenoid coil Y39. The manual wrapping start switch T18 must be pressed until the bale has firmly grasped the net. During bale ejection, the actual value switch Z6 is actuated and thus the STOP signal light H42 and buzzer H44. Moreover, bale counter V14 adds one bale to the total.
Bale counter reset	Switch TV14 resets the bale counter to zero.

1.2 Operating terminal PCB



Key to diagram:

Con1	Wiring loom XT connection
H44	Buzzer
K1	Switching relay
K2	Switching relay
R13	Potentiometer / Volume (Buzzer)
SL2	Operating push switch connection
T12	Main switch

2.1

Overall hydraulic system circuit diagram

Key to diagram:

1	Valve block
102	Pressure filter (option)
232	Chain lubrication pump
318-1	Tailgate left hydraulic cylinder
318-2	Tailgate right hydraulic cylinder
331	Pick-up hydraulic cylinder
430	Restrictor K (capillary tube)
626	Baling chamber service shut-off valve
734	Lock-up valve unit (non-return valve)
734-1	Lock-up valve unit (non-return valve) Tailgate L. H. hydraulic cylinder
734-2	Lock-up valve unit (non-return valve) Tailgate R. H. hydraulic cylinder
752	"Baling pressure reached" pressure relief valve (260 + 10 bar)
760	One-way restrictor, one-sided
801	Quick release coupling (tractor port)
912	Baling pressure gauge
Z8	Wrapping start oil pressure switch (Baling pressure 220 bar reached)

Description of function: 1/2

Closing the tailgate

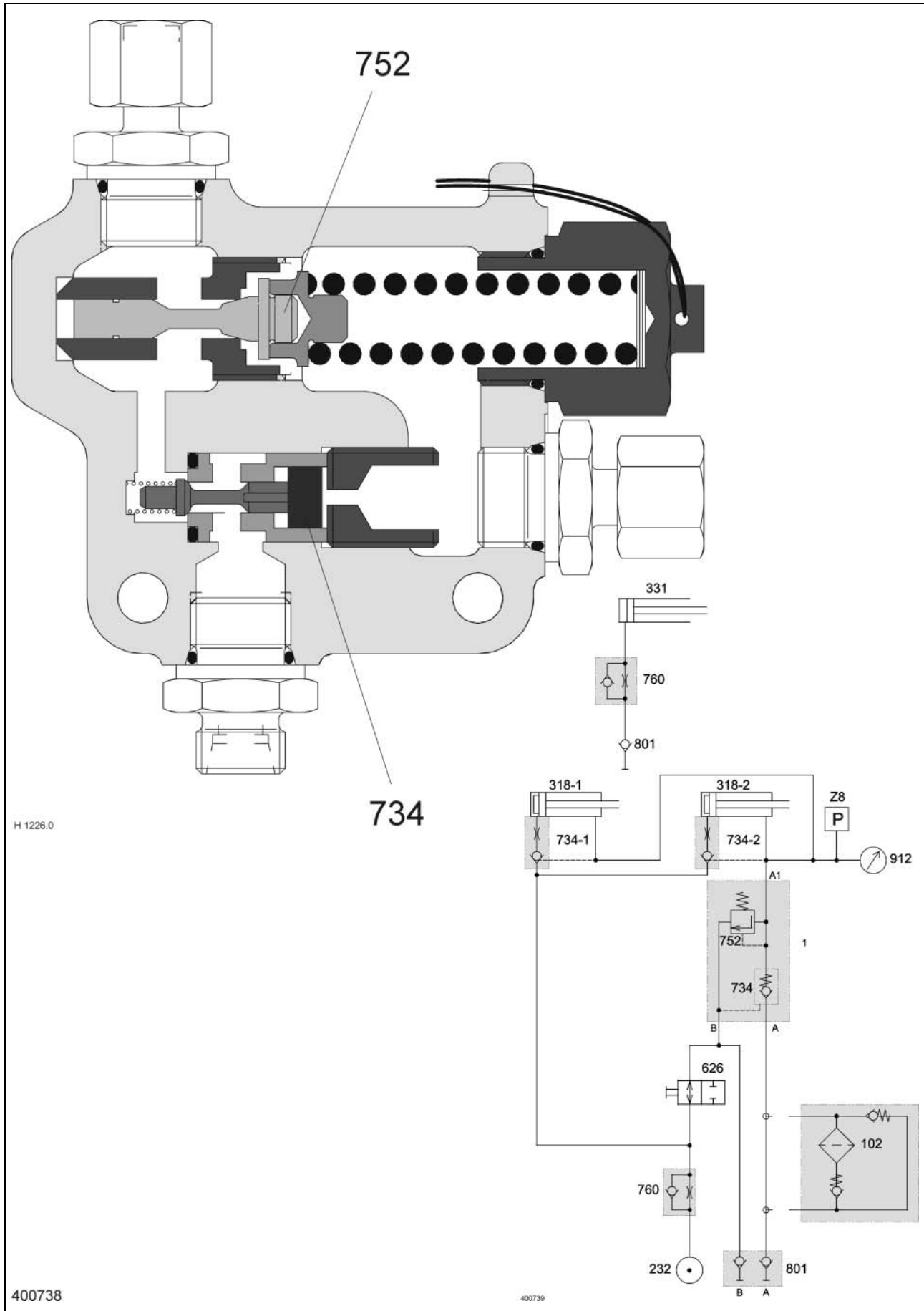
The oil is pumped from port A of quick release coupling 801 via the pilot-controlled non-return valve 734 to the tailgate cylinders 318. During this process, the rising oil pressure unblocks the lock-up valve units 734-1 and 734-2. The oil displaced by the cylinders flows back into the tank via port B of quick release coupling 801.

The baling pressure gauge 912 displays the tailgate closing pressure.

Description of function: 2/2

Baling	During baling, a pressure builds up in the hydraulic cylinders 318 (rod end) which can be read on pressure gauge 912.
- Net wrapping	At a baling pressure of 220 bar, oil pressure switch Z8 actuates the STOP signal light H42 and buzzer H44.
- Twine wrapping	At a baling pressure of 220 bar, oil pressure switch Z8 releases the automatic wrapping start.
- Overload protection	If the baling pressure rises above the pre-set value (260^{+10} bar max.), pressure relief valve 752 opens, thus allowing the oil pressure to decrease towards the ram sides of hydraulic cylinders 318 = pressure compensation. The tailgate opens slightly.
Opening the tailgate	The oil is pumped from port B of quick release coupling 801 via the pilot-controlled non-return valves 734-1 and 734-2 to the tailgate cylinders 318. The pressure in lock-up valve unit 734 which rises at the same time opens the lock-up valve unit and the oil flows via port A of the quick release coupling 801 into the tank.

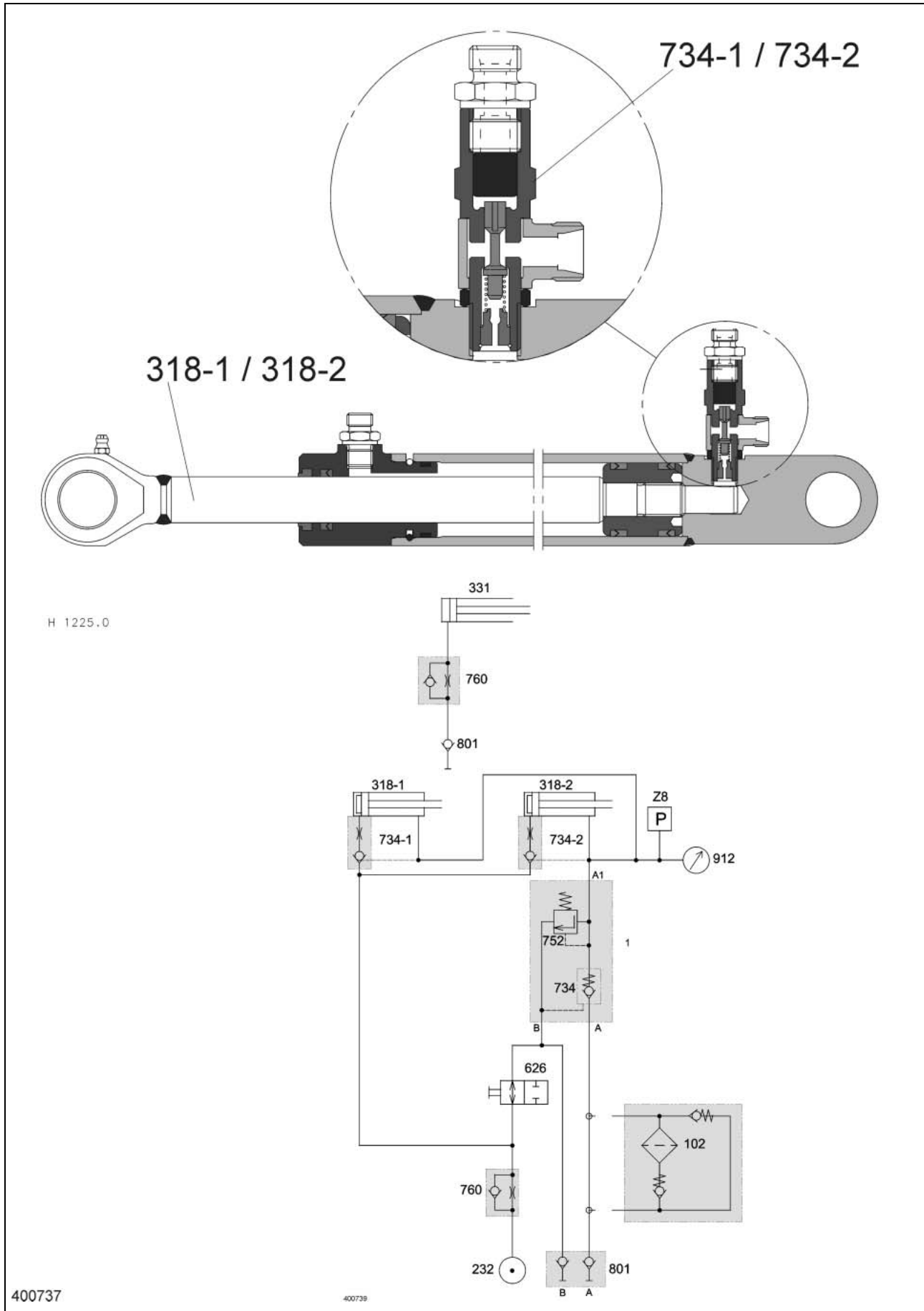
2.2 Valve block 1



Key to diagram:

1	Valve block
102	Pressure filter (option)
232	Chain lubrication pump
318-1	Tailgate left hydraulic cylinder
318-2	Tailgate right hydraulic cylinder
331	Pick-up hydraulic cylinder
430	Restrictor K (capillary tube)
626	Baling chamber service shut-off valve
734	Lock-up valve unit (non-return valve)
734-1	Lock-up valve unit (non-return valve) Tailgate L. H. hydraulic cylinder
734-2	Lock-up valve unit (non-return valve) Tailgate R. H. hydraulic cylinder
752	"Baling pressure reached" pressure relief valve (260 + 10 bar)
760	One-way restrictor, one-sided
801	Quick release coupling (tractor port)
912	Baling pressure gauge
Z8	Wrapping start oil pressure switch (Baling pressure 220 bar reached)

2.3 Tailgate hydraulic cylinder



Key to diagram:

1	Valve block
102	Pressure filter (option)
232	Chain lubrication pump
318-1	Tailgate left hydraulic cylinder
318-2	Tailgate right hydraulic cylinder
331	Pick-up hydraulic cylinder
430	Restrictor K (capillary tube)
626	Baling chamber service shut-off valve
734	Lock-up valve unit (non-return valve)
734-1	Lock-up valve unit (non-return valve) Tailgate L. H. hydraulic cylinder
734-2	Lock-up valve unit (non-return valve) Tailgate R. H. hydraulic cylinder
752	"Baling pressure reached" pressure relief valve (260 + 10 bar)
760	One-way restrictor, one-sided
801	Quick release coupling (tractor port)
912	Baling pressure gauge
Z8	Wrapping start oil pressure switch (Baling pressure 220 bar reached)

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