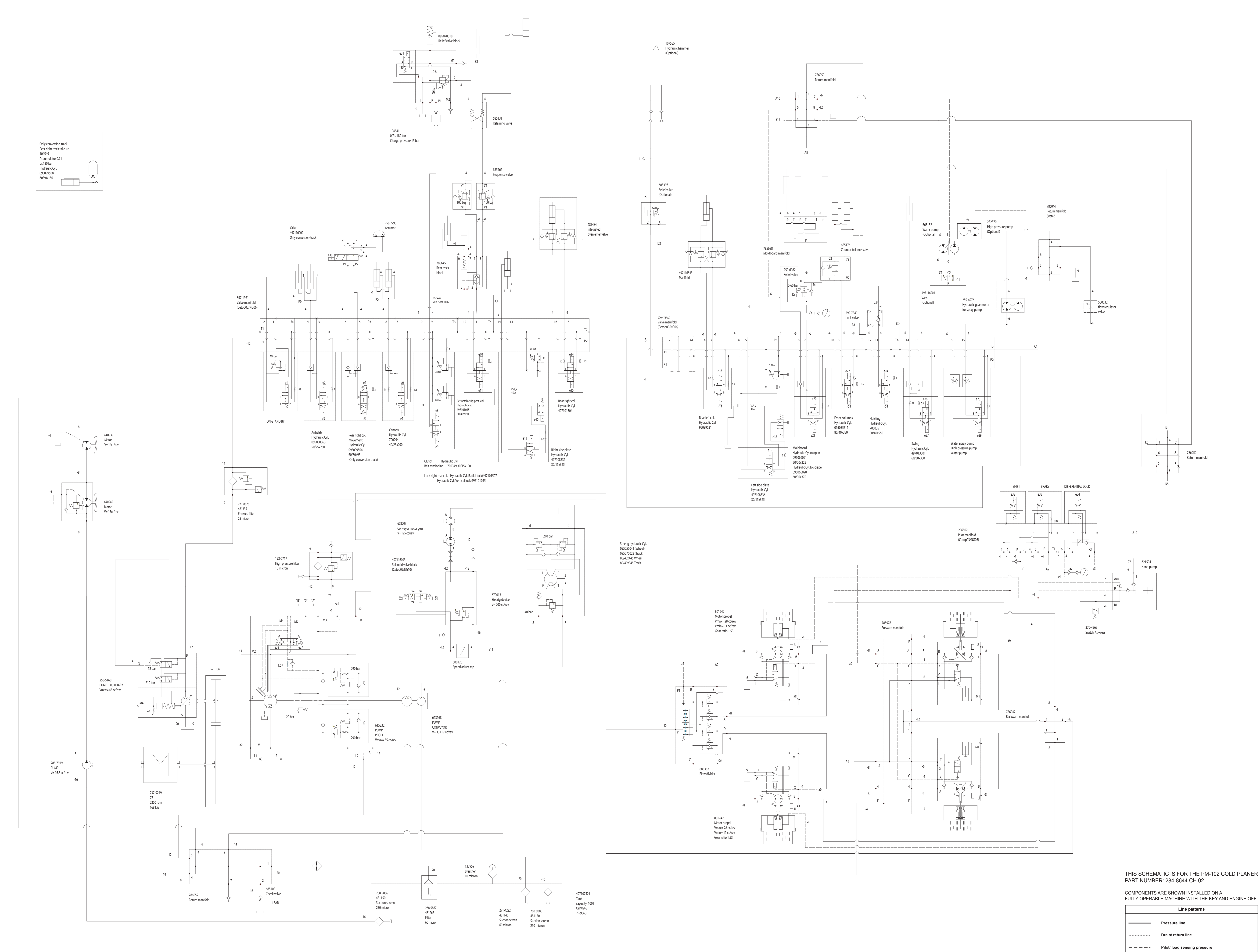


QENR2037-01

Only conversion-track  
Rear right track take-up  
105508  
Accumulator 0.71  
p11.93 bar  
Hydraulic Cyl.  
095099108  
60160X150



THIS SCHEMATIC IS FOR THE PM-102 COLD PLANER  
PART NUMBER: 284-8644 CH 02

COMPONENTS ARE SHOWN INSTALLED ON A  
FULLY OPERABLE MACHINE WITH THE KEY AND ENGINE OFF.

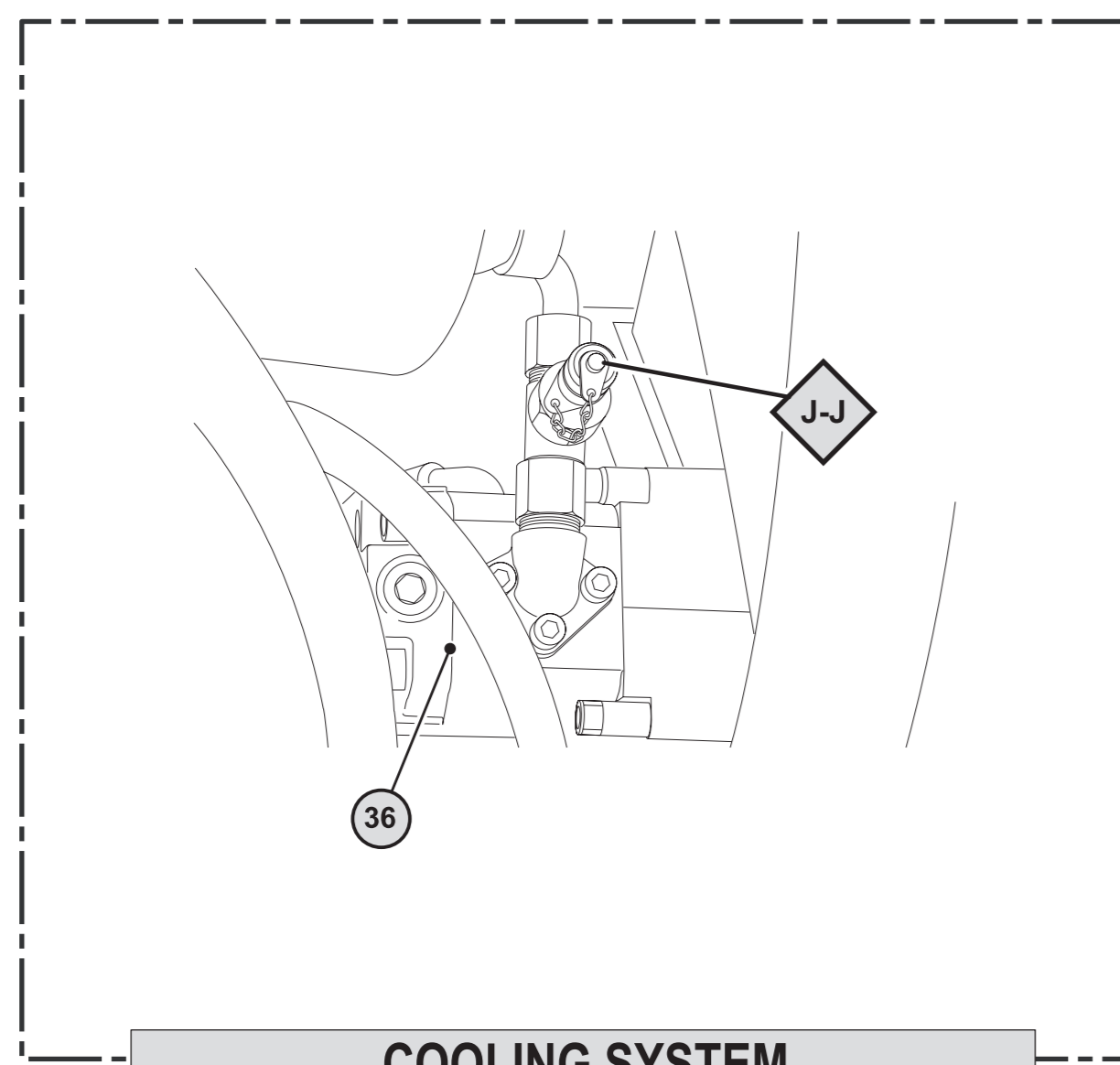
Line patterns	
	Pressure line
	Drain/return line
	Pilot/load sensing pressure
	Component group



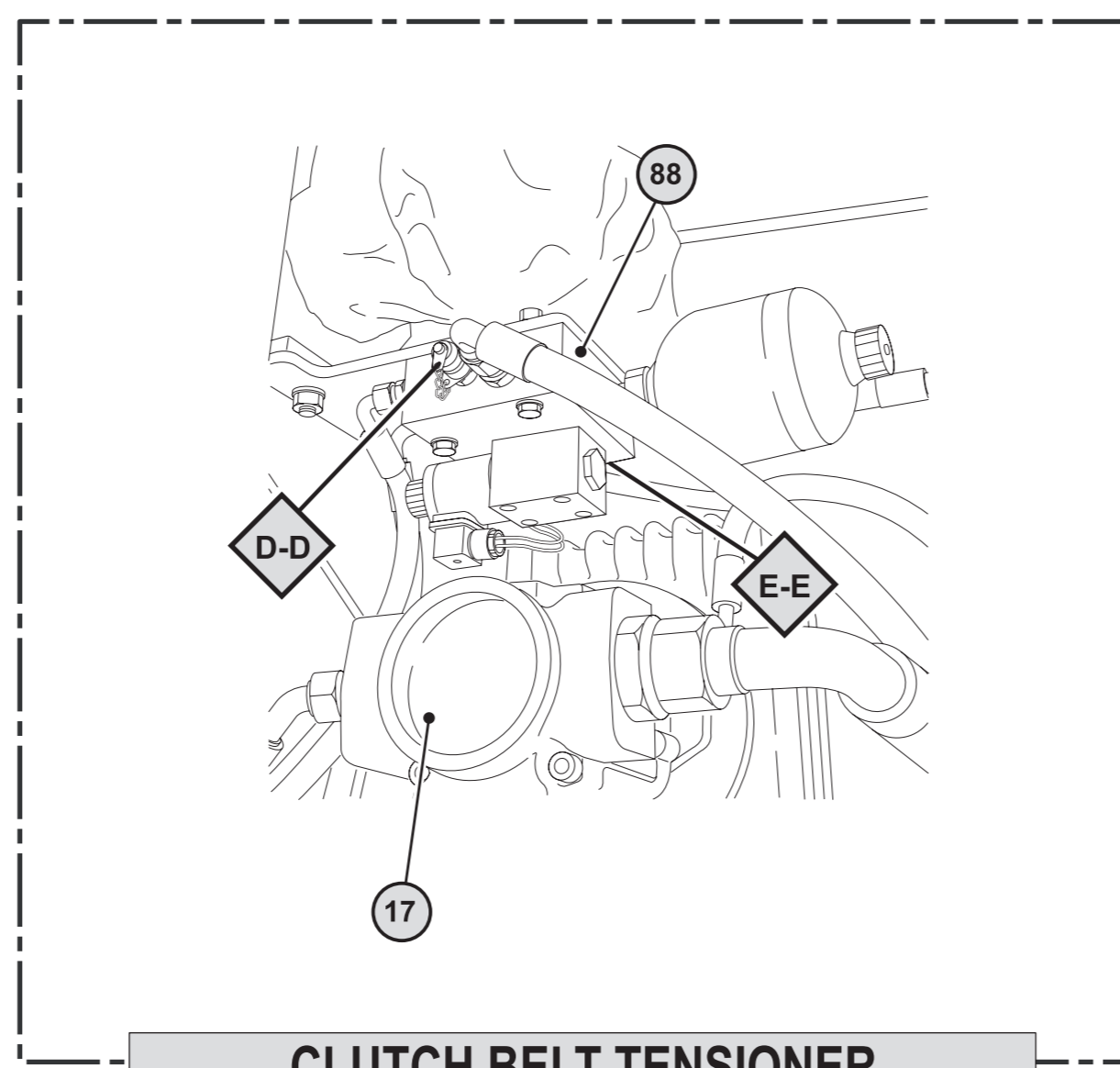
# Schematic

## PM-102 Cold Planer Hydraulic System

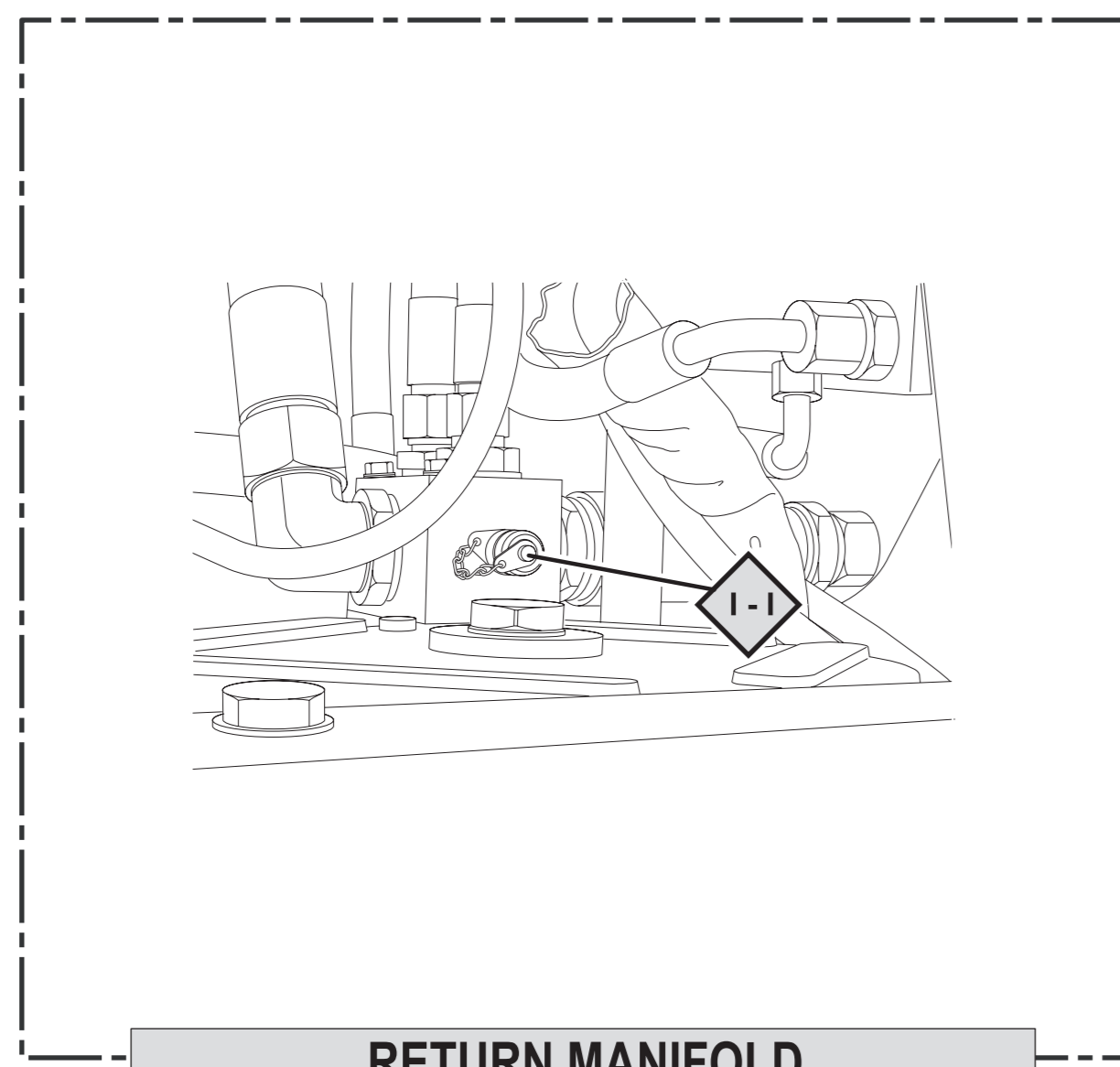
Z2X250-Up (Machine)



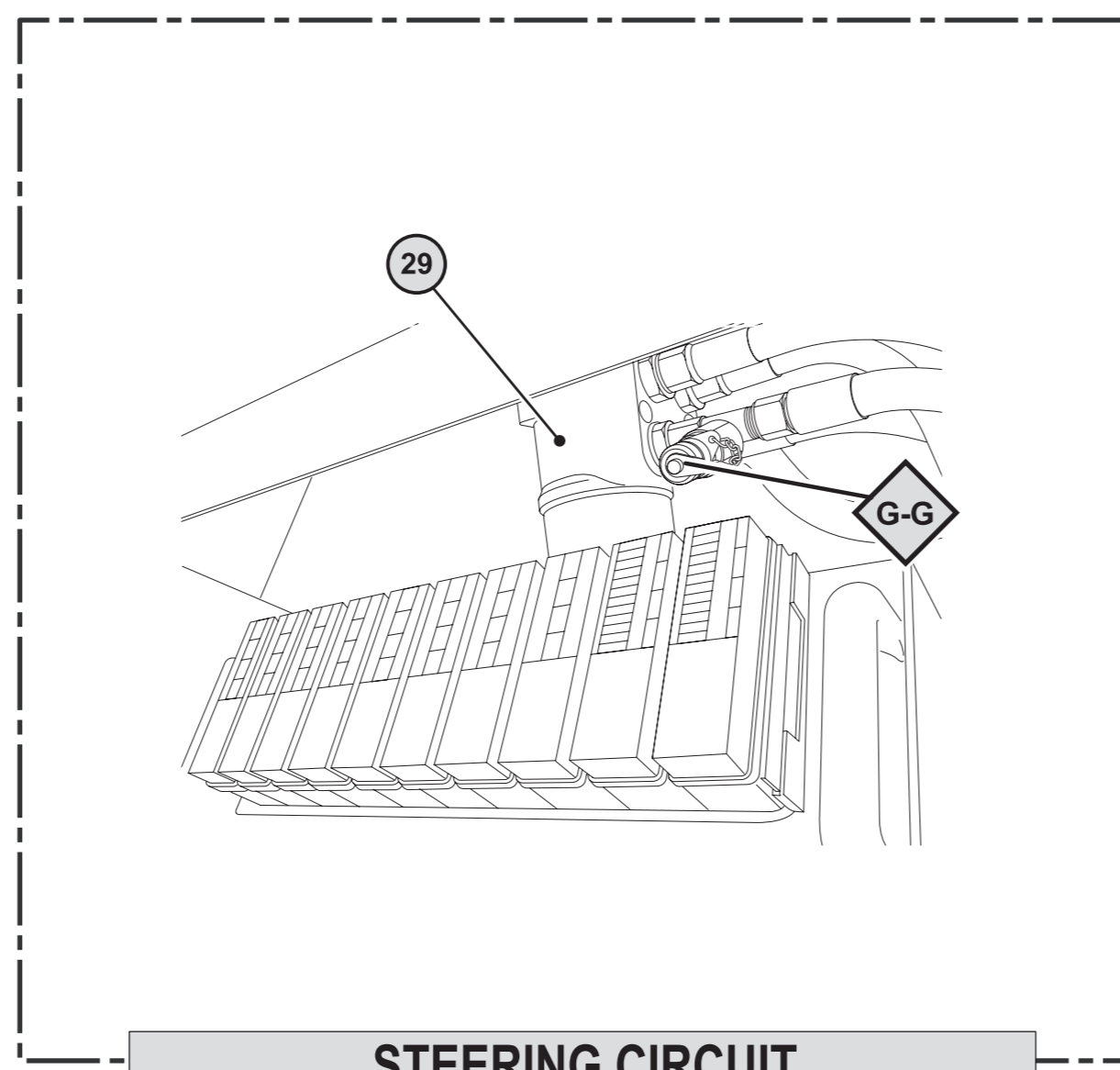
COOLING SYSTEM



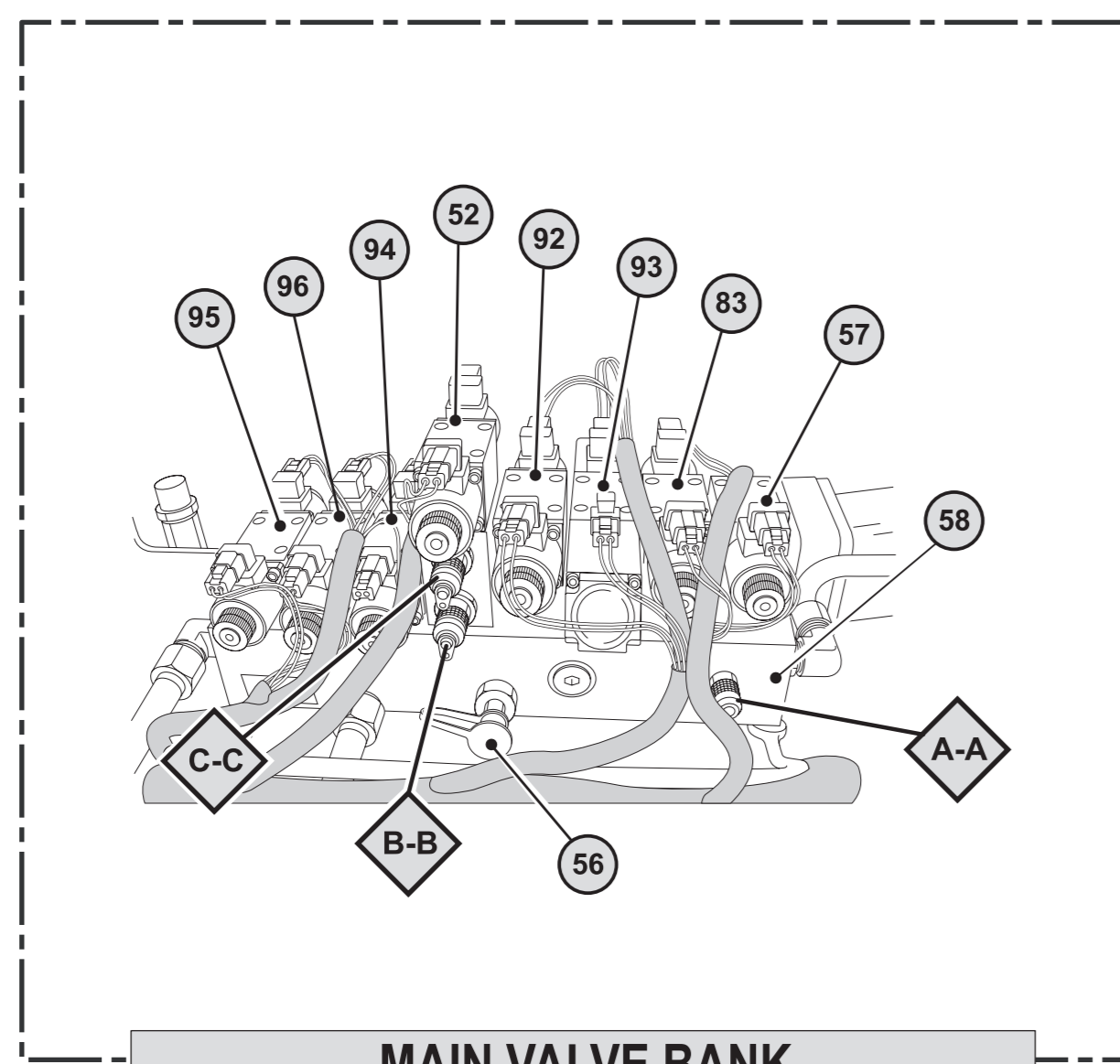
CLUTCH BELT TENSIONER



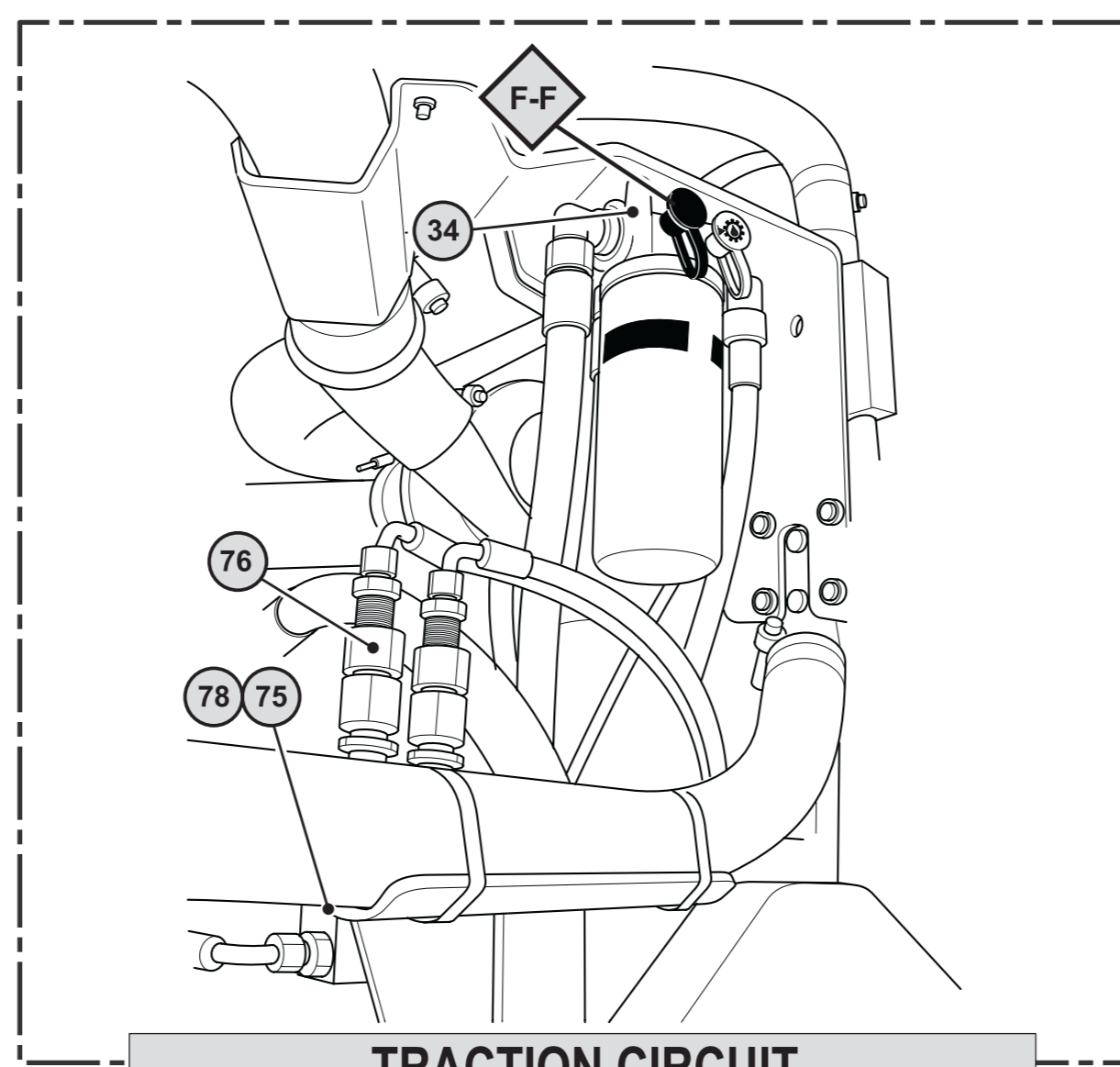
RETURN MANIFOLD



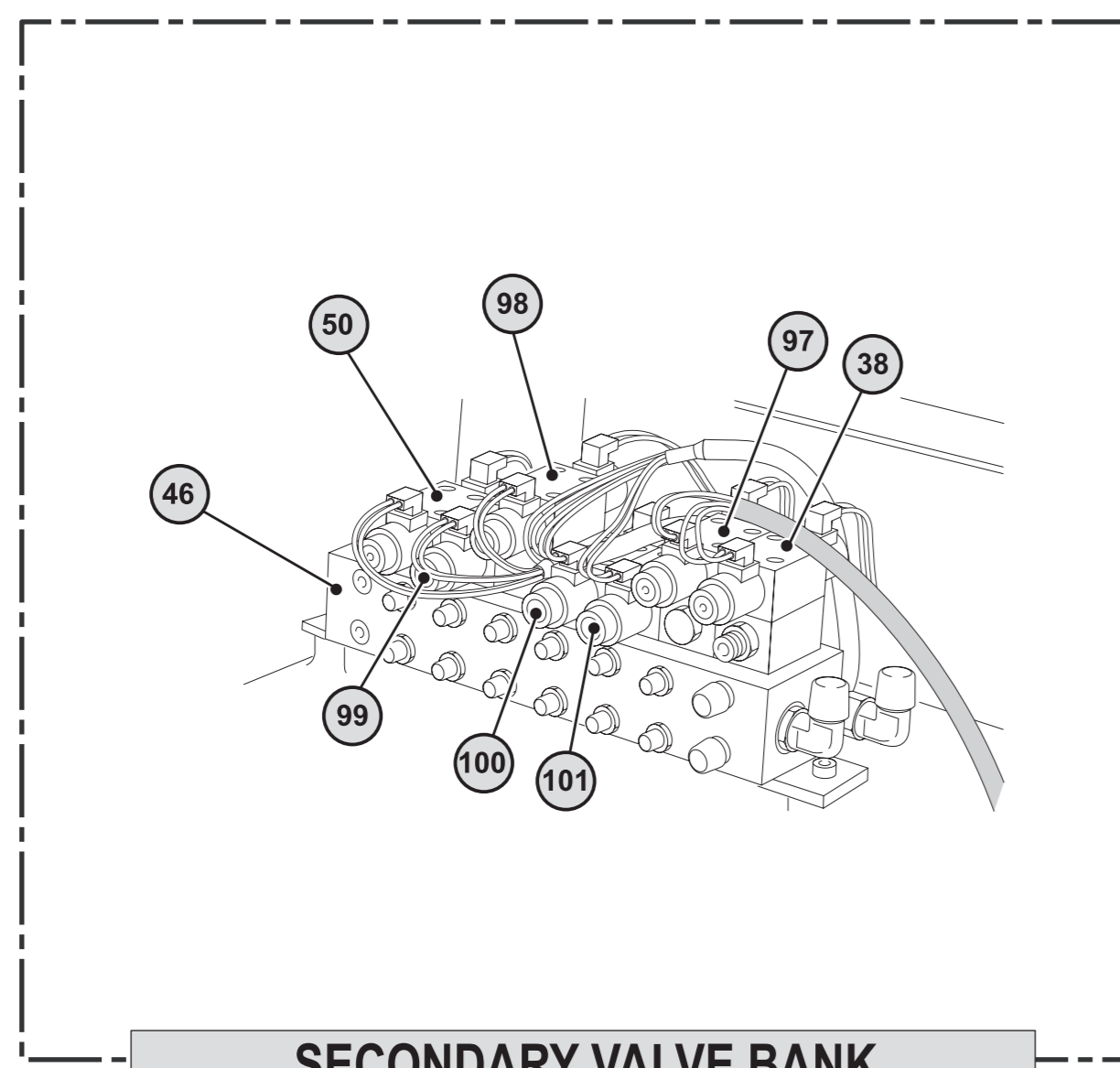
STEERING CIRCUIT



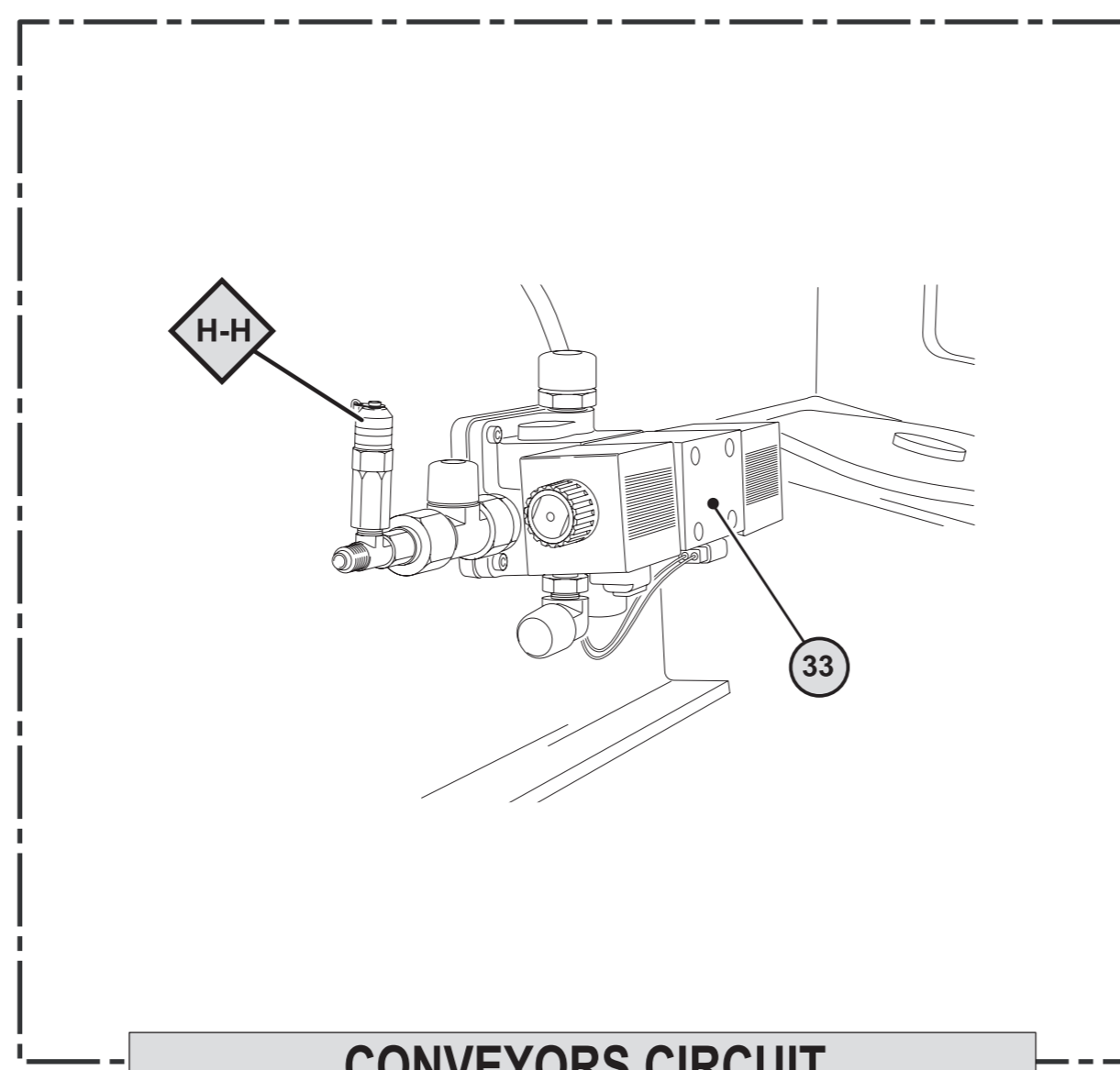
MAIN VALVE BANK



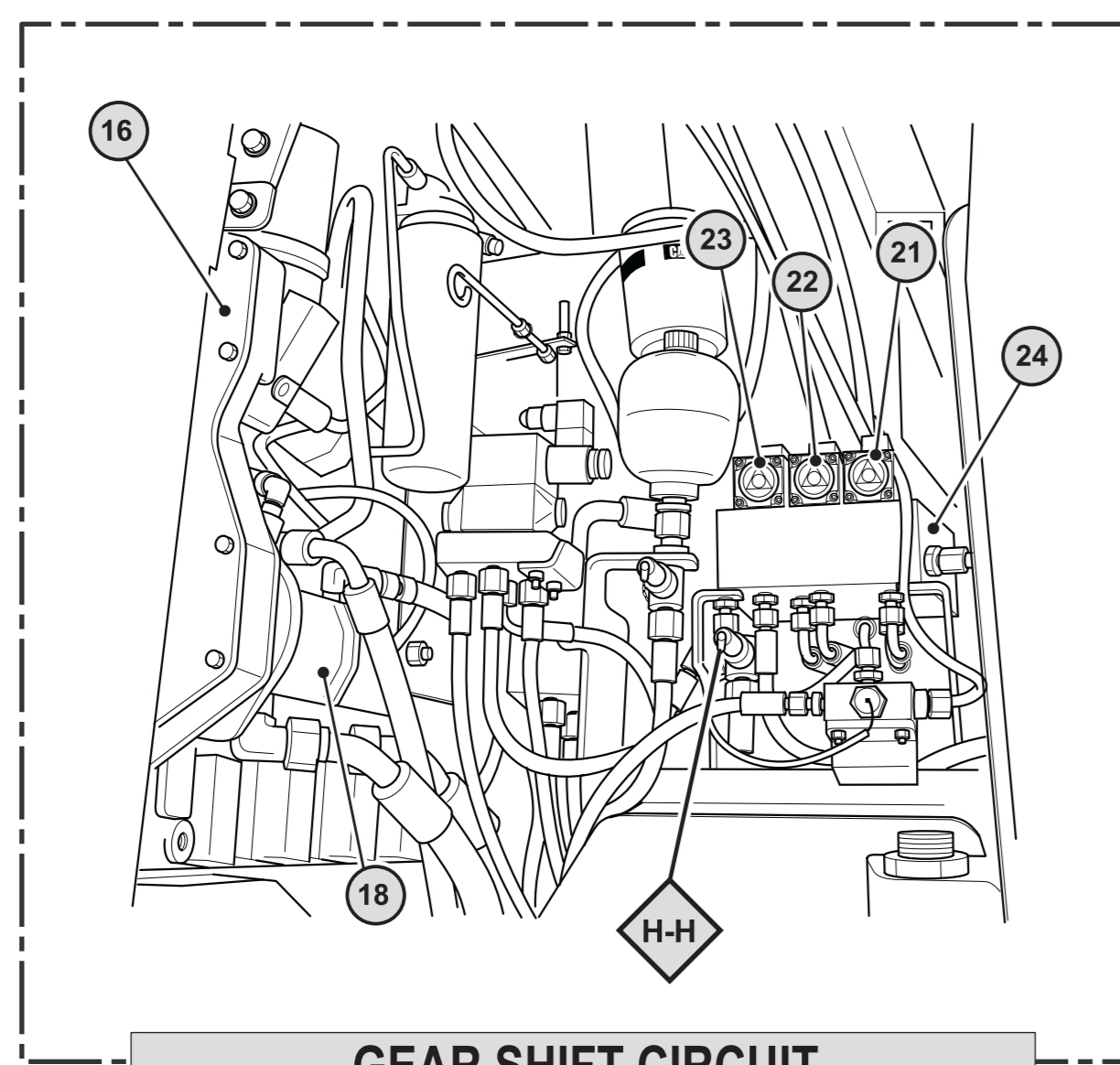
TRACTION CIRCUIT



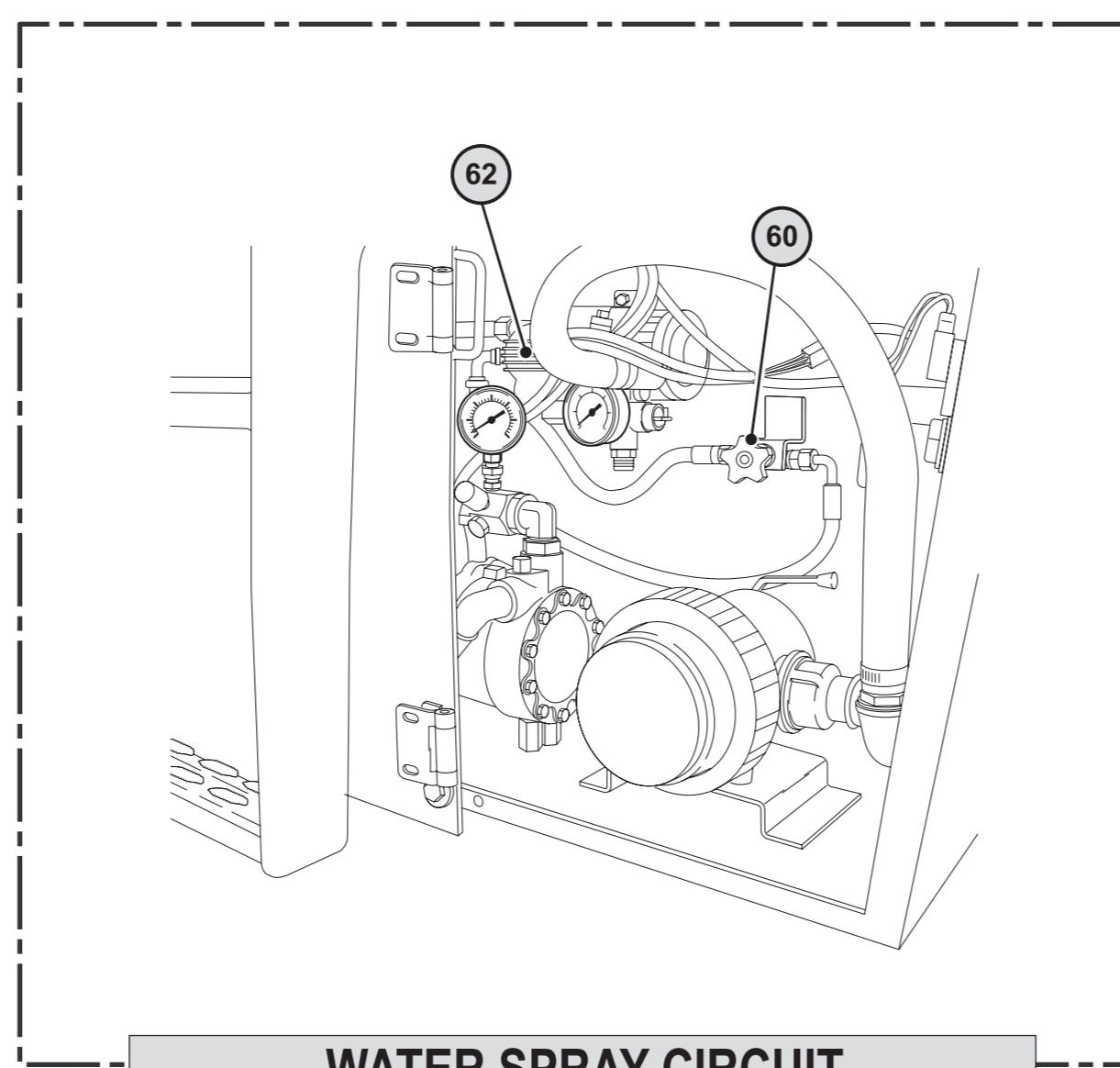
SECONDARY VALVE BANK



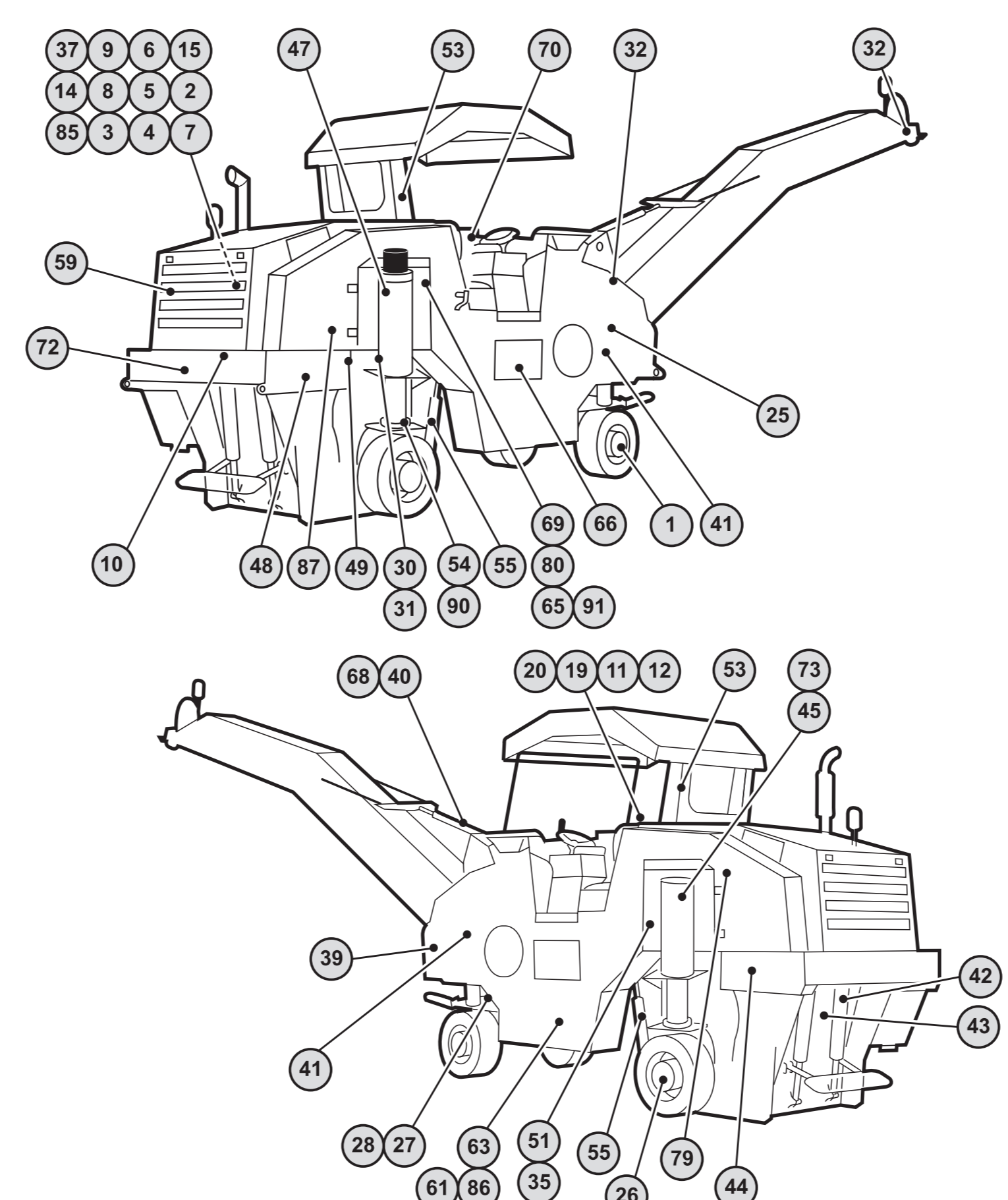
CONVEYORS CIRCUIT



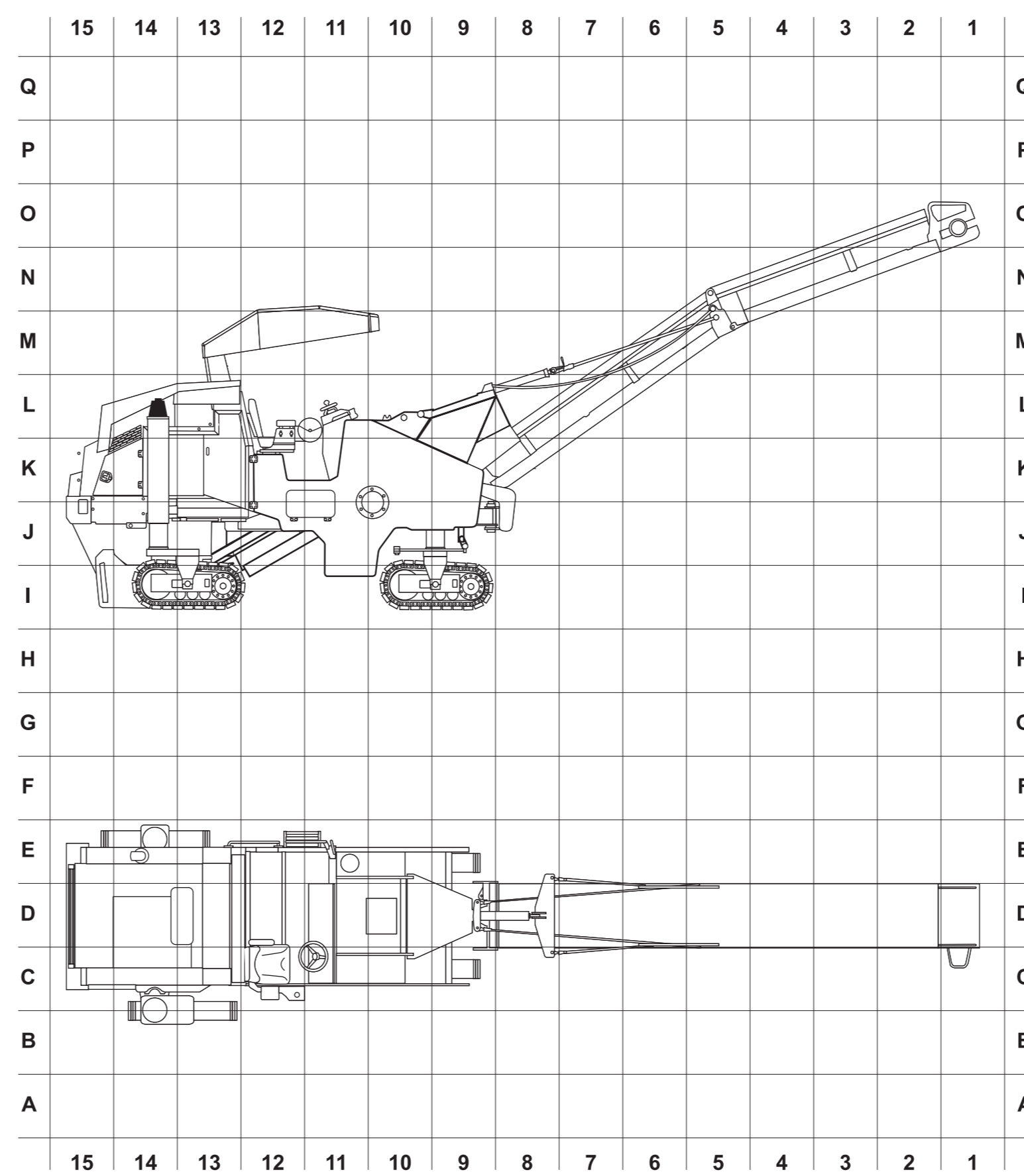
GEAR SHIFT CIRCUIT



WATER SPRAY CIRCUIT



Machine Component Location (Numbers)



Machine Component Location (Grid)

Component Locations				
Description	Part Number	Item Number	Machine Location	Schematic Location
Auxiliary pump	253-5160	17	E-14	B8
Actuator	258-7793	79	L-14, C-14	E6
Anti-lash hydraulic cylinder	390500063	55	L-13	D6
Anti-lash solenoid valve	287099	83	D-13	D7
Reverse manifold	786044	10	K-13, C-13	B2
Brake solenoid valve	286048A	22	D-13	C2
Brake system pressure switch	274-453	20	C-14	C1
Brake system release hand pump	621504	19	D-13	C1
Breather	137869	9	D-13	D6
Cartridge hydraulic cylinder	700249	53	M-13, C-13, E-13	D6
Cartridge solenoid valve	287098	92	D-13	D6
Engine	237-9249	16	K-14, D-14	B7
Check valve	685108	8	K-15, D-15	A7
Clutch belt tensioning solenoid valve	287098	92	D-13	D6
Conveyor gear motor	658007	32	G-1, D-1	C8
Conveyor pump	661168	14	D-13	B6
Cooling system hydraulic motor	649490	36	D-15, K-15	C8
Cooling system pump	285-7919	16	D-14	B8
Counter balance valve	666174	69	E-12	E3
Differential lock solenoid valve	286048A	21	K-13, C-13	C2
Flux divider (Propel)	685382	11	D-12	B4
Water spray flow regulator valve	500032	80	E-10	E1
Front column hydraulic cylinder	390500511	41	K-8, E-8	D3
Front column solenoid valve	287098	100	D-13	D3
Front manifold	786978	25	E-10	C3
Gear shift solenoid valve	286048A	23	K-13, C-13	C2
High pressure filter	192-0717	54	K-14, C-14	C7
High pressure pump (Optional)	227-2515	62	E-14	E2
Hoisting hydraulic cylinder	700035	40	D-8, M-8	D3
Hoisting solenoid valve	287098	101	D-13	D3
Clutch belt tensioning hydraulic cylinder	700349	51	E-14	D6
Hydraulic Cyl. (Track version)	390500908	90	L-13, R-13	D3
Hydraulic gear motor for spray pump	259-6976	63	E-12	E2
Hydraulic hammer (Optional)	107565	86	E-12	E4
Hydraulic oil tank	497107521	2	D-15, K-15	A5
Integrated overcenter valve	985484	75	C-14, K-14	B3
Left side plate solenoid valve	287099	99	D-13	D6
Left side plate hydraulic cylinder	700331	44	D-13	D6
Lock valve	209-7499	68	M-8, D-8	C3
Manifold	497116543	73	D-13	D6
Moldboard hydraulic cylinder (open)	390500621	42	J-15, D-15	D3
Moldboard hydraulic cylinder (scrape)	390500620	43	J-15, D-15	D3
Moldboard manifold	786688	72	J-15, D-15	E4
Moldboard solenoid valve	287098	98	D-13	D6
Cooling system hydraulic motor	649490	36	K-15, D-15	D7
GN-5 (GN-5) solenoid valve	287097	57	D-15	D7
Pilot manifold	286502	24	K-13, C-13	C2
High pressure filter	271-9876	35	E-13	C7
Propel motor	801242	1	C-15, E-15, J-15	A4
Propel pump	801242	2	C-15, E-15, J-15	A4
Propel pump	815232	15	C-14, K-14	B6
Rear left column solenoid valve	287098	90	D-13	D4
Rear left column hydraulic cylinder	390500921	45	E-14	E4
Rear right column movement hydraulic cylinder (Track version)	390500941	54	C-13, D-13	D6
Rear right column movement solenoid valve	287144	83	D-13	D6
Rear right column hydraulic cylinder	497101504	47	K-14, C-14	D5
Rear right column hydraulic cylinder (Radial lock)	497101507	30	K-13, C-13	D5
Rear right column (lock) solenoid valve	497101505	31	K-13, C-13	D5
Rear right column (lock) solenoid valve	287098	94	D-13	D5
Rear right column (raise/lower) solenoid valve	287098	95	D-13	D5
Rear right track take-up (Track version)	134540	70	D-13	D5
Rear track block	286645	78	C-19	E6
Relief valve	259-6982	70	D-13	D5
Relief valve (Optional)	685397	74	E-12	E4
Relief valve block	3905007018	88	E-14	F5
Retaining valve	660113	87	K-14, C-14	B5
Retractable right rear column hydraulic cylinder	497101015	49	K-13, C-13	D5

Component Locations				
Description	Part Number	Item Number	Machine Location	Schematic Location
Return filter	268-9887	6	D-15, K-15	A6
Return manifold	786052	9	C-15	A7
Return manifold	786050	37	C-12	D1
Return manifold	786050	85	C-12	F3
Return manifold (water)	786044	11	E-12	E2
Right side plate hydraulic cylinder	700331	48	E-13	D5
Right side plate solenoid valve	287099	96	D-13	D5
Sampling valve	6C-3446	56	D-13	D6
Sequence valve	685466	76	K-14	E8
Solenoid valve block	497116003	33	D-13	C6
Speed adjust tap	500120	12	D-12	B5
Steering device	670013	29	C-11, L-11	C5
Steering hydraulic cylinder (Track version)	390500523	28	J-9	C4
Steering hydraulic cylinder (Wheel version)	390500541	27	J-9	C4
Suction screen	268-9886	3	D-15, J-15	A5
Suction screen	271-4222	4	D-15	A5
Suction screen	268-9886	7	D-15, J-15	A5
Swing hydraulic cylinder	497113001	39	D-13	D3
Swing solenoid valve	287098	97	D-13	D3
Valve (Track version)	497116002	80	D-11	E6
Valve (Optional)	497116001	65	D-11	E2
Valve manifold	253-5166	48	D-13	D4
Valve manifold	253-5164	58	D-13	D7
Water pump (Optional)	663132	66	J-11	E3
Water system solenoid valve	287098	98	D-13	D2

ELECTRICAL SYMBOL TABLE	
	Transducer (Fluid)
	Transducer (Gas / Air)
	Generator
	Electric Motor
	Pressure Switch
	Pressure Switch (Adjustable)
	Temperature Switch
	Electrical Wire
	Pressure Symbol
	Temperature Symbol
	Level Symbol
	Flow Symbol
Wire Number Identification Codes	
	Electrical Schematic Example
	Hydraulic Schematic Example
FLUID POWER SYMBOLS	
	PUMP & MOTOR
	FLUID CONDITIONER
	SPRING
	CONTROL VALVES
	RESTRICTION
	LINE RESTRICTION (FIXED)
	3-BESSION PUMP
	PUMP COUPLER OR PRESSURE OVERWEIGHT
	VARIABLE
	PRESS ADJUSTABLE
	LINE RESTRICTION (ADJUSTABLE)
	PRESSURE COMPENSATION
	THERMAL ENERGY THRESHOLD
	LINE RESTRICTION (PRESSURE COMPENSATION)
	ATTACHMENT
VALVES	
	VALVE ENVELOPES
	TWO POSITION
	THREE POSITION
	FOUR WAY
CONTROL VALVES	
	NORMAL POSITION
	SHIFTED POSITION
	INFINITE POSITION
CHECK VALVES	
	CHECK VALVE
	SHUTTLE
	PILOT CONTROLLED
MEASUREMENT	
	PRESSURE
	TEMPERATURE
	FLOW
ROTATING SHAFTS	
	UNIDIRECTIONAL
	BIDIRECTIONAL
FLUID STORAGE RESERVOIRS	
	VENTED
	PRESSURIZED
	RETURN ABOVE FLOOD LEVEL
	RETURN BELOW FLOOD LEVEL
COMBINATION CONTROLS	
	SOLENOID
	ON LINE OF MANUAL
	RETURN AND PILOT
	SOLENOID AND PILOT
	SEDSO
	THERMAL
	DETENT
MANUAL CONTROL SYMBOLS	
	PUSH/PULL LEVER
	MANUAL SHUT/OUT
	GENERAL MANUAL
	PUSH BUTTON
	PEDAL
	SPRING
PILOT CONTROL SYMBOLS	
	RELEASED PRESSURE
	INTERNAL RETURN
	AMPLIFIED
	COMPLETE
	REMOTE SUPPLY PRESSURE
	INTERNAL SUPPLY PRESSURE
ACCUMULATORS	
	SPRING LOADED
	GAS CHARGED
CROSSING AND JOINING LINES	
	LINES CROSSING
	LINES JOINING
HYDRAULIC AND PNEUMATIC CYLINDERS	
	UNIDIRECTIONAL
	BIDIRECTIONAL
INTERNAL PASSAGEWAYS	
	TUBES
	PORTS
	PISTON
	ROCKERS

Tap Locations Pressure, Sampling, and Sensor		
Tap Number	Description	Schematic Location
A-A	AUXILIARY PUMP PRESSURE TEST PORT	D-7
B-B	CLUTCH ACTUATOR MAXIMUM PRESSURE TEST PORT	D-6
C-C	CLUTCH BELT TENSIONER MAXIMUM PRESSURE TEST PORT	D-6
D-D	CLUTCH BELT TENSIONER PRESSURE TEST PORT	F-6
E-E	CLUTCH ACTUATOR PRESSURE TEST PORT	F-6
F-F	PROPEL PUMP PRESSURE TEST PORT	C-6
G-G	STEERING PUMP PRESSURE TEST PORT	C-5
H-H	CONVEYOR PUMP PRESSURE TEST PORT	C-6
I-I	RETURN MANIFOLD PRESSURE TEST PORT	A-7
J-J	COOLING PUMP PRESSURE TEST PORT	C-8
K-K	SPEED GEAR SHIFT / BRAKE PRESSURE TEST PORT	C-2