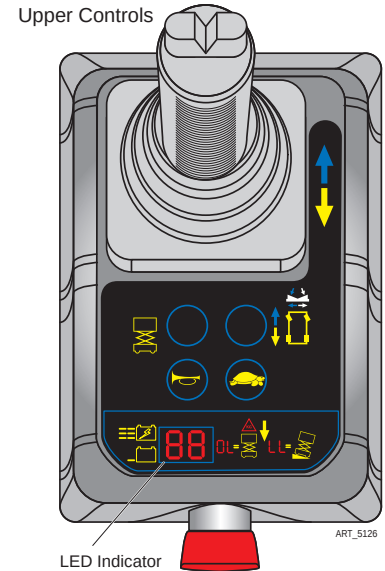


Fault Codes

Fault Codes, when present, appear on the LED Indicator at the Upper Controls station.



Fault	Description	Models	Solutions
01/10	System Initialization Fault	All Models	Check the ECU.
02/20	System Communication Fault	All Models	Check the platform control, wiring on platform connector, ECU, battery, and relay on ground control.
03	Invalid Option Setting	All Models	Reset the option code. See Service manual for instructions.
12	Chassis Up or Down Switch ON at power-up Fault	All Models	Check the wiring on toggle switch, and the toggle switch.
18	Pothole Guard Fault	All Models	Check the pothole board and switches. If stowed, check limit switch.
31	Pressure Sensor Fault	Micro19	Check option code. See Service manual for instructions.
32	Angle Sensor Fault	All Models > 2020 With Overload	Check wiring to angle sensor for normal voltage range < 2020, 1.9-3.8V, then check the option code.
42	Left turn switch ON at power-up	All Models	Check the left steer button, and the platform controller.
43	Right Turn Switch ON at power-up	All Models	Check the right steer button, and the platform controller.
46	Joystick Enable Switch ON at power-up	All Models	Wait several seconds when turning on the lift, then check the joystick dead-man switch.
47	Joystick not in neutral at power-up	All Models	Check the joystick, and the platform controller.
52	Drive Forward Coil Fault	All Models	Check the option code. See Service manual for instructions.
53	Drive Reverse Coil Fault	All Models	Check the option code. See Service manual for instructions.
54	Lift Up Coil Fault	All Models	Check the lift solenoid and wiring.
55	Lift Down Coil fault	All Models	Check the down solenoid and wiring, and the scissor harness for crushed or pinched wires.

56	Right Turn Coil Fault	All Models	Check the right steering solenoid and wiring.
57	Left Turn Coil Fault	All Models	Check the left steering solenoid and wiring.
58	General Brake Coil Fault - Brakes about 46 ohms	All Models	Check the brake module and wiring, brakes and wiring, and the battery voltage.
60	Motor Controller Fault	All Models	Replace the motor controller.
61	Motor Controller Sensor Fault	All Models	Check the drive motor and wiring, and the drive motor controller and wiring.
62	Motor Controller Hardware Failsafe Fault	All Models	Cycle power, then replace the Motor Controller.
63	Motor Controller Output Fault	All Models	Check the drive motor and wiring for shorts, and the drive motor controller and wiring.
64	Motor Controller SRO Fault	All Models	Replace motor controller
65	Motor Controller Throttle Fault	All Models	Replace motor controller
66	Motor Controller Emergency Reverse Fault	All Models	Replace motor controller
67	Motor Controller HPD Fault	All Models	Replace motor controller, check contactor, replace ECU.
68	Low Voltage Fault	All Models	Check battery voltage and charge batteries if necessary, check battery connections, connection from ECU to PCU, then the voltage to the ECU and PCU.
69	High Neutral Current Fault	All Models	Motor seized - This message comes just before other faults but should be ignored in those cases.
70	Steer Input Out of Range	All Models	Check for loose wires on motor controller, replace motor controller.
71	Motor Controller Main Contactor Fault	All Models	Check wiring to contactor, white and black wire could be off, check drive motor and wiring, and motor controller and wiring. Replace contractor.
72	Motor Controller Over Voltage Fault	All Models	Check battery voltage with battery charger off, cycle power to machine, replace motor controller.
73	Motor Controller Thermal Cutback Fault	All Models	Drive/Lift Motor may be overheating so let motor cool down, cycle power to reset Motor controller, replace motor controller.
74	Motor Controller Motor Fault	All Models	Check connections at motors "motor open", cycle power to the lift, and replace motor controller.
75	Motor Controller Pump Motor Fault	All Models	Check connections to the Pump Motor, cycle power to the lift, and replace motor controller.
76	Motor Controller Left Drive Motor Fault	All Models	Check connections to the motors, cycle power to the lift, and replace motor controller.
77	Motor Controller Right Drive Motor Fault	All Models	Check connections to the motors, cycle power to the lift, and replace motor controller.
78	Pump Motor Short Fault: 0.8-1.4 ohms	All Models	Check connections to the pump motor, cycle power to the lift, and replace motor controller.
79	Left Drive Motor Short Fault	1930SE Only	Check the left drive motor and wiring, and the ZAPI drive controller and wiring.
	(Should be 0.5-2.0 ohms)	Micro19	Swap wires on drive motors: if code changes it's in wiring or motor and if code doesn't change it's in motor controller.
80	Over 80% Load Warning	All Models	Platform is getting close to limit of weight. > 2020 with overload

81	Right Drive Motor Short	1930SE/Micro	Check the right drive motor and wiring, and motor controller and wiring.
82	Right Brake Coil - Brakes about 46 ohms	1930SE/Micro	Check battery voltage, contactor, wiring to brakes, wiring to drive motors, motor controller and wiring.
		All Models	Check battery voltage, right motor brake and wiring, brake module and wiring, and contactor.
83	Left Brake Coil - Brakes about 46 ohms	1930SE/Micro	Check battery voltage, contactor, wiring on brakes, wiring to drive motors, motor controller and wiring.
		All Models	Check battery voltage, left motor brake and wiring, brake module and wiring, and contactor.
85	Brake Release Switch Closed	1930SE/Micro	Turn brake release switch off. Replace brake release switch.
86	Raised Brake Release Fault	1930SE Only	Brake release switch engaged.
87	Brake Release Switch Fault	1930SE Only	Brake release switch open.
89	Drive Motor Field Open	All Models	Check wiring on motors and motor controller.
91	Left Drive Motor Short	All Models	Check wiring to motor and motor controller.
92	Right Drive Motor Short	All Models	Check wiring to motor and motor controller.
99	Over 99% Load Warning	All Models	Platform has reached its weight capacity.
OL	Platform Overloaded	All Models	Remove the excess load immediately. > 2020 with overload.
LL	Machine Tilted Beyond Safe Limits Fault	All Models	Check to see if machine is tilted, then check wiring to tilt sensor and the tilt sensor.
CH	NOT A FAULT CODE	All Models	Indicates that key switch is in base controls.

Option Code For Machines		
Model	Older	With Overload (Yellow Gate)
MICRO19®	To Serial #16900460 58 From Serial #16900461 62	E2
MICRO19XD®	N/A	E3
MICRO26®	N/A	27
1930SE	58	--
2632SE, 3346SE, 4046SE, 4555SE	30, 26	A7
MME20, MME25	N/A	A7

Parameter Adjustment

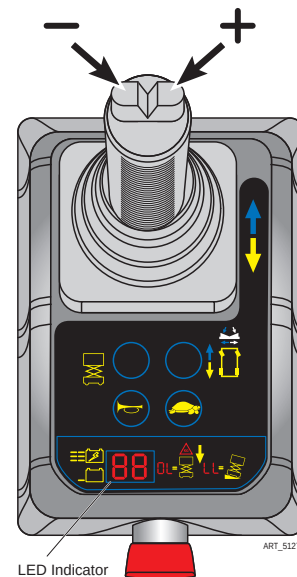


PARAMETERS SHOULD BE ADJUSTED ONLY IF THE FUNCTION IS OPERATING OUTSIDE OF MACHINE SPECIFICATIONS, OR IF WRITTEN APPROVAL IS OBTAINED FROM MEC PRIOR TO MAKING THE CHANGE.

The following adjustments are made at the Platform Controls station using the LED Indicator to display the current settings. Follow the instructions to reach the desired setting.

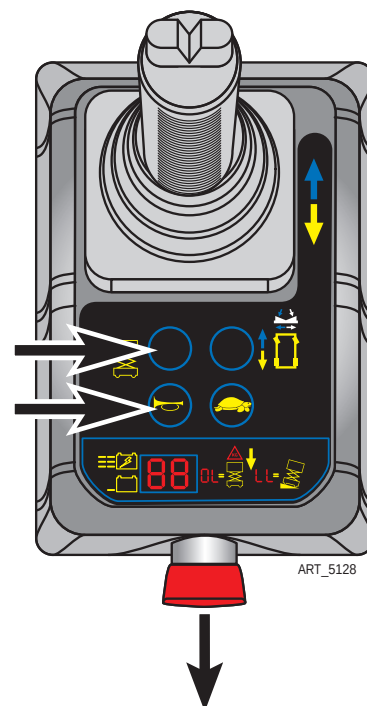
Change the setting by using the Steer Buttons on top of the control handle. The right button increases the setting. The left button decreases the setting.

Number represent a percentage. 99 means 99%. 9°9 (dot between the digits) means 100%.



Speed Adjustment State

1. Set the keyswitch at the Base Controls to PLATFORM. Twist the Base Emergency Stop Switch out to the ON position.
2. Push the Platform Controls Emergency Stop Button in to the OFF Position.
3. Press and hold the HORN and LIFT buttons, then twist the Platform Emergency Stop Switch to the ON position.



4. "PS" and the current Lift Speed setting will alternate on the LED Indicator.

Refer to the following pages for individual operating adjustments.

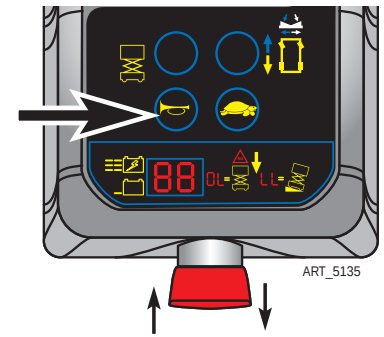


Saving New Values

New values must be saved immediately after adjustment.

To save new values, press and hold the Horn button for 3 seconds.

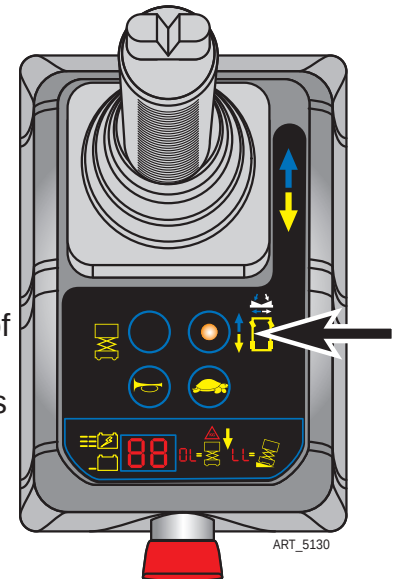
To operate the machine with new values, press the Emergency Stop button, then rotate it to return to the ON position.



High Drive Speed

This parameter controls high speed drive when the platform is in the stowed position.

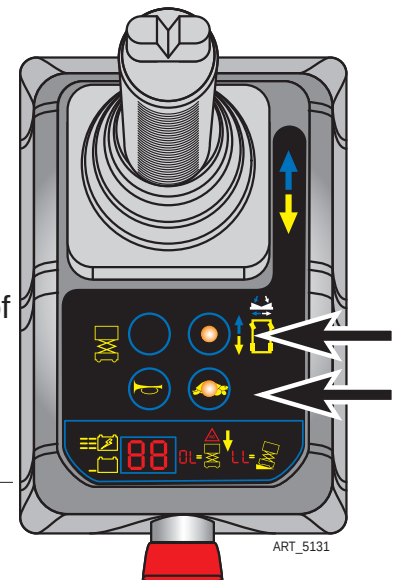
1. Press the Drive Mode Select button. The button will light up, indicating this mode is active, and the LED Indicator will show the present setting.
2. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
3. High Drive Speed may be changed from 00 to 9°9. Factory setting is 9°9.
4. Save the new setting (See top of page for “Saving New Values”).



Low Speed Drive

This parameter controls low speed drive when the platform is in the stowed position and Low Speed is selected (turtle icon).

1. Press the Drive Mode Select button. The button will light up, indicating this mode is active.
2. Press and hold the Low Speed Mode Select button (turtle icon). The button will light up, and the LED Indicator will show the present setting.
3. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
4. Low Drive Speed can be set from 00 to 9°9, but must not be set higher than 50. Factory setting is 50.



DO NOT ADJUST THE SETTING HIGHER THAN 50.

5. Save the new setting (See top of page for “Saving New Values”).

Elevated Drive Speed

This parameter controls drive speed when the platform is elevated.

1. Press the Drive Mode Select button. The button will light up, indicating this mode is active.
2. Press and hold the Low Speed Mode Select button (turtle icon). The button will light up, indicating this mode is active.
3. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
4. Elevated Drive Speed can be set from 00 to 9°9, but must not be set higher than 50. Factory setting is 50.



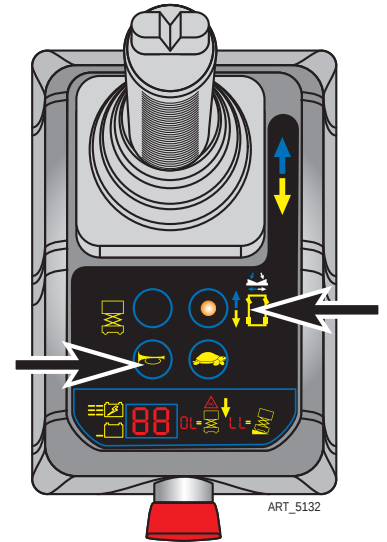
DO NOT ADJUST THE SETTING HIGHER THAN 50.

5. Save the new setting (See page 41 for “Saving New Values”).

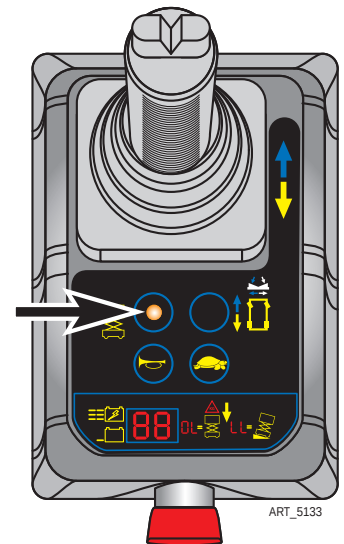
Lift Speed

This parameter controls the speed at which the platform elevates.

1. Press the Lift Mode Select button. The button will light up, indicating this mode is active.
2. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
3. Elevated Drive Speed can be set from 00 to 9°9. Factory setting is 9°9.
4. Save the new setting (See page 41 for “Saving New Values”).



ART_5132

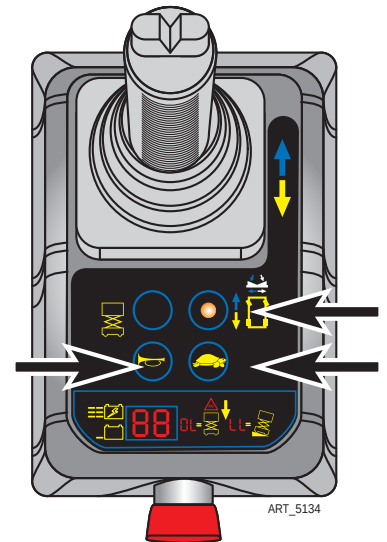


ART_5133

Steering Speed

This parameter controls speed at which the steering wheels turn.

1. Press the Drive Mode Select button. The button will light up, indicating this mode is active.
2. Press and hold the Horn button and the Low Speed Mode Select button (turtle icon).
3. Adjust the speed using the steer left and steer right buttons on top of the Control Handle.
4. Steering Speed can be set from 00 to 9°9. Factory setting is 30.
5. Save the new setting (See page 41 for “Saving New Values”).



ART_5134

Hydraulic Schematic - 1930SE

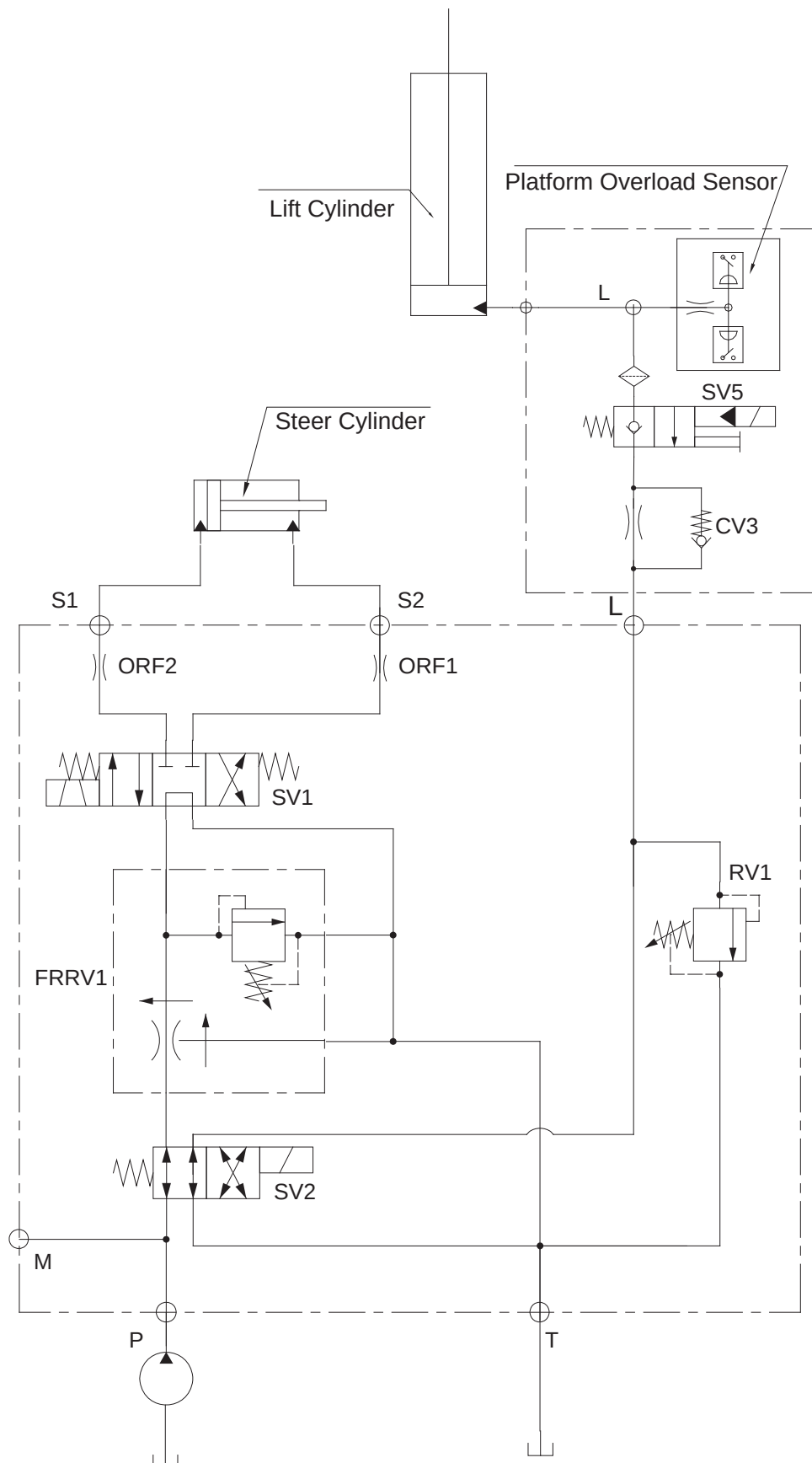


ILLUSTRATION No.
ART_5140

1930SE HYDRAULIC SCHEMATIC



Hydraulic Components - 1930SE

Functions Manifold

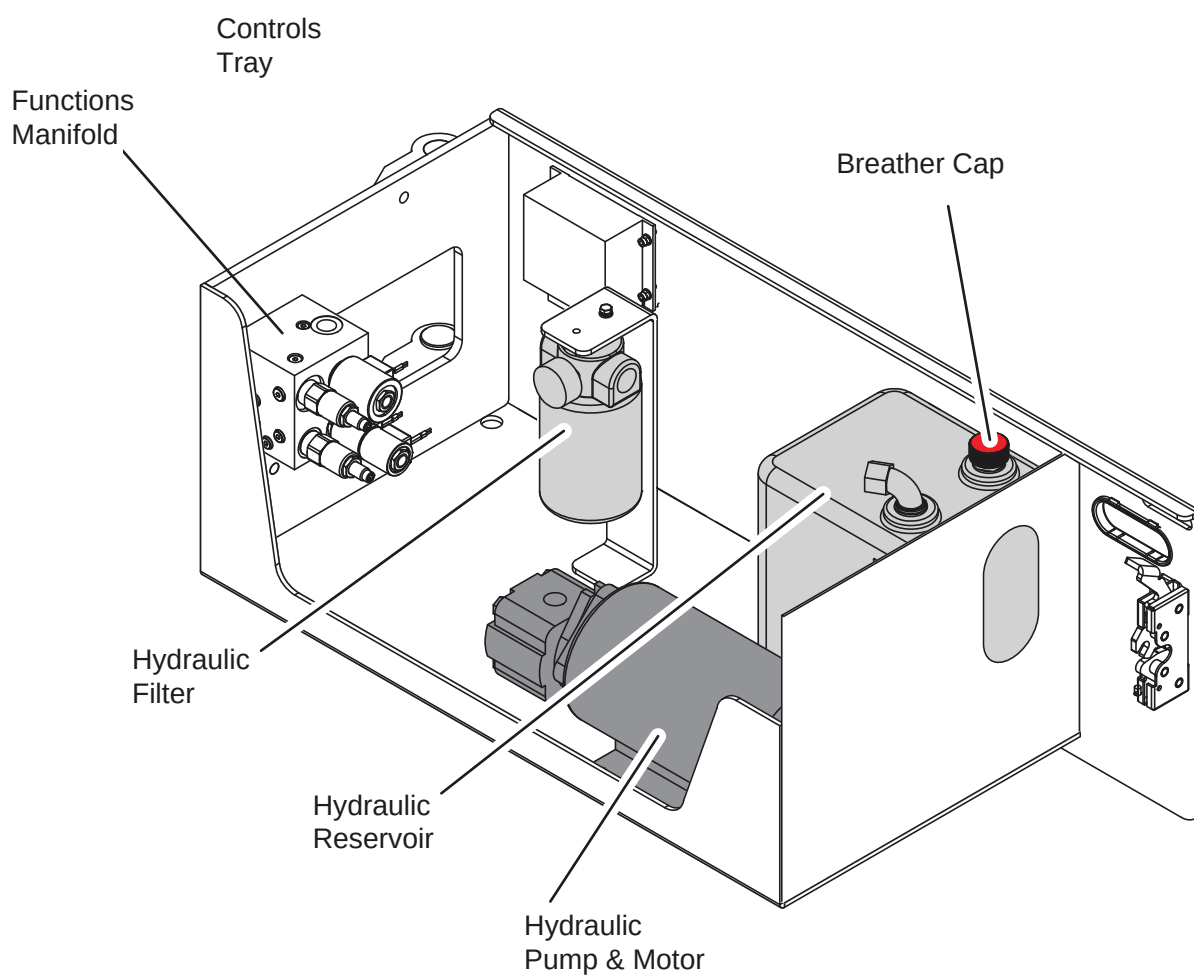
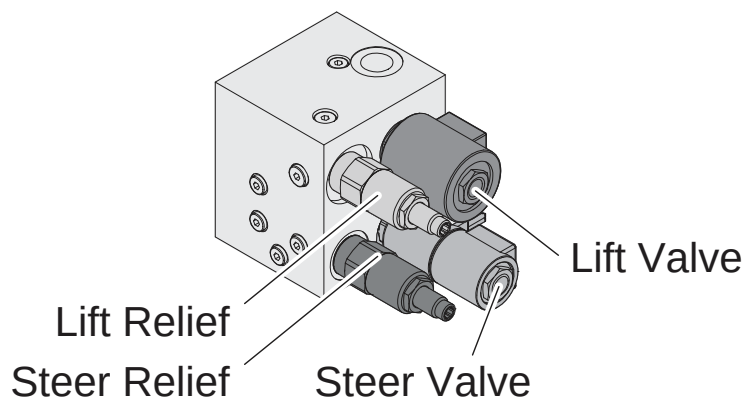


ILLUSTRATION No.
ART_5136

1930SE HYDRAULIC COMPONENTS



Hydraulic Schematic - 2632SE, 3346SE, 4046SE, 4555SE

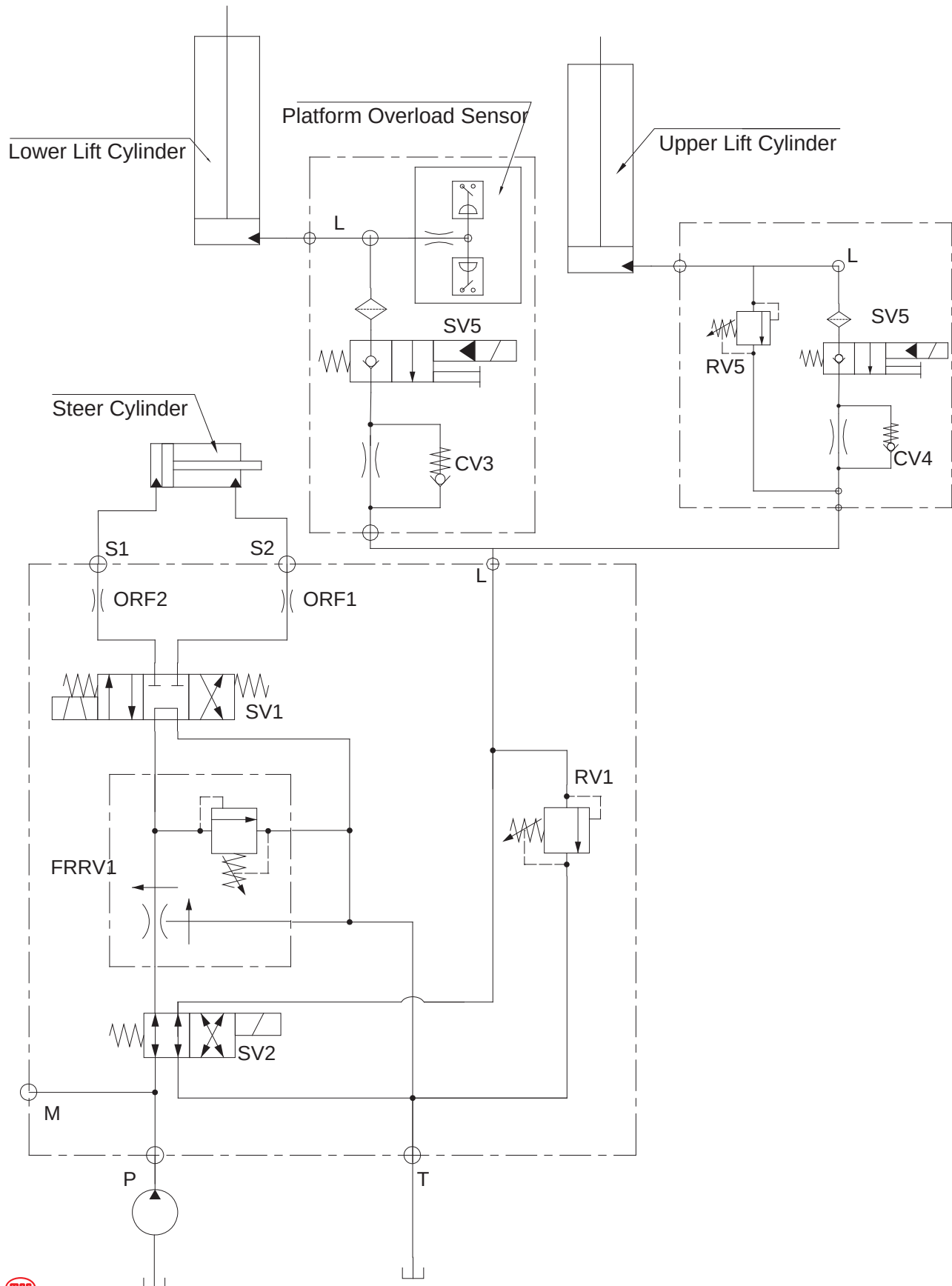


ILLUSTRATION No.
ART_5140

2632SE, 3346SE, 4046SE, 4555SE HYDRAULIC SCHEMATIC

Hydraulic Components - 2632SE, 3346SE, 4046SE, 4555SE

Functions Manifold

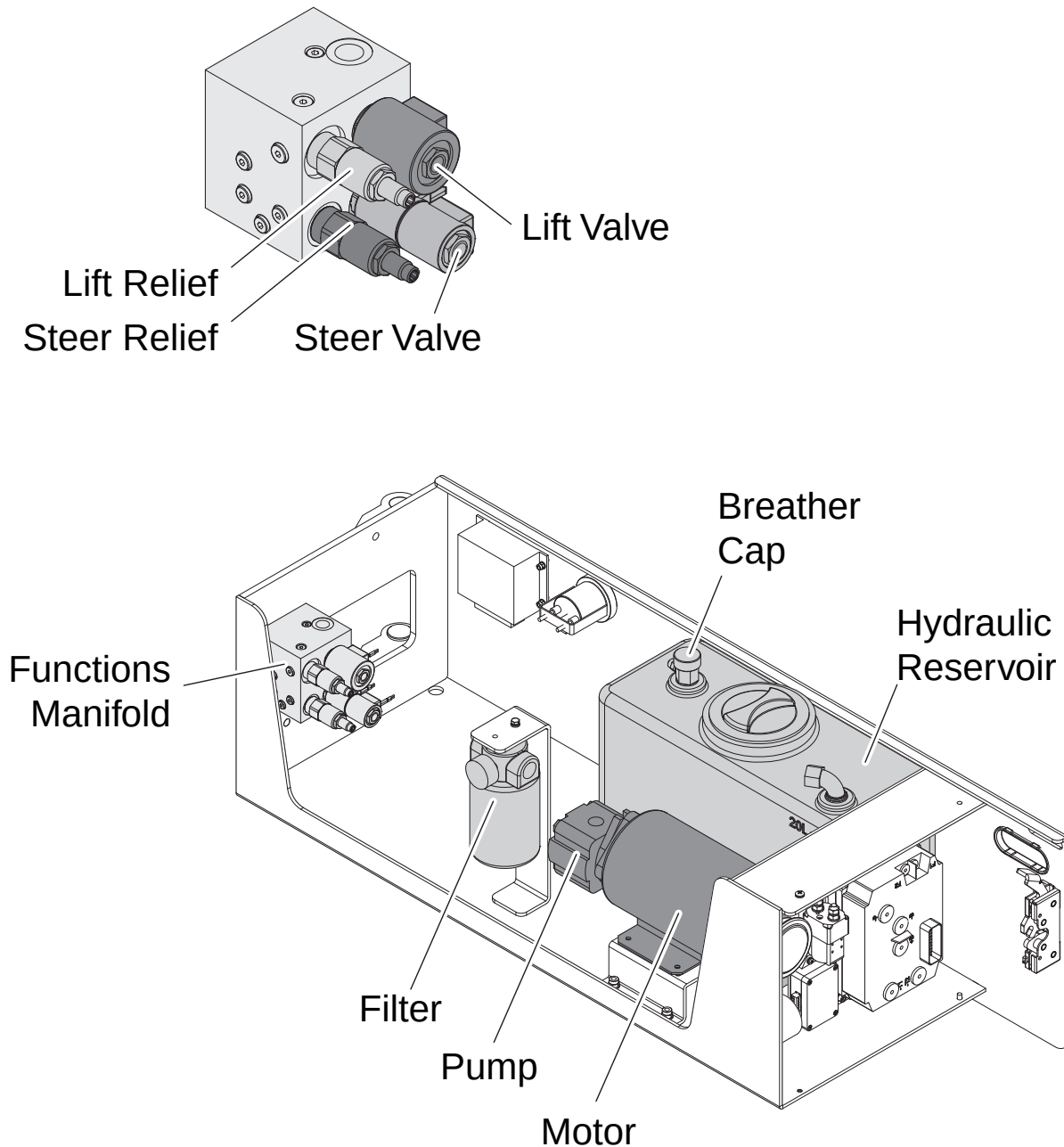
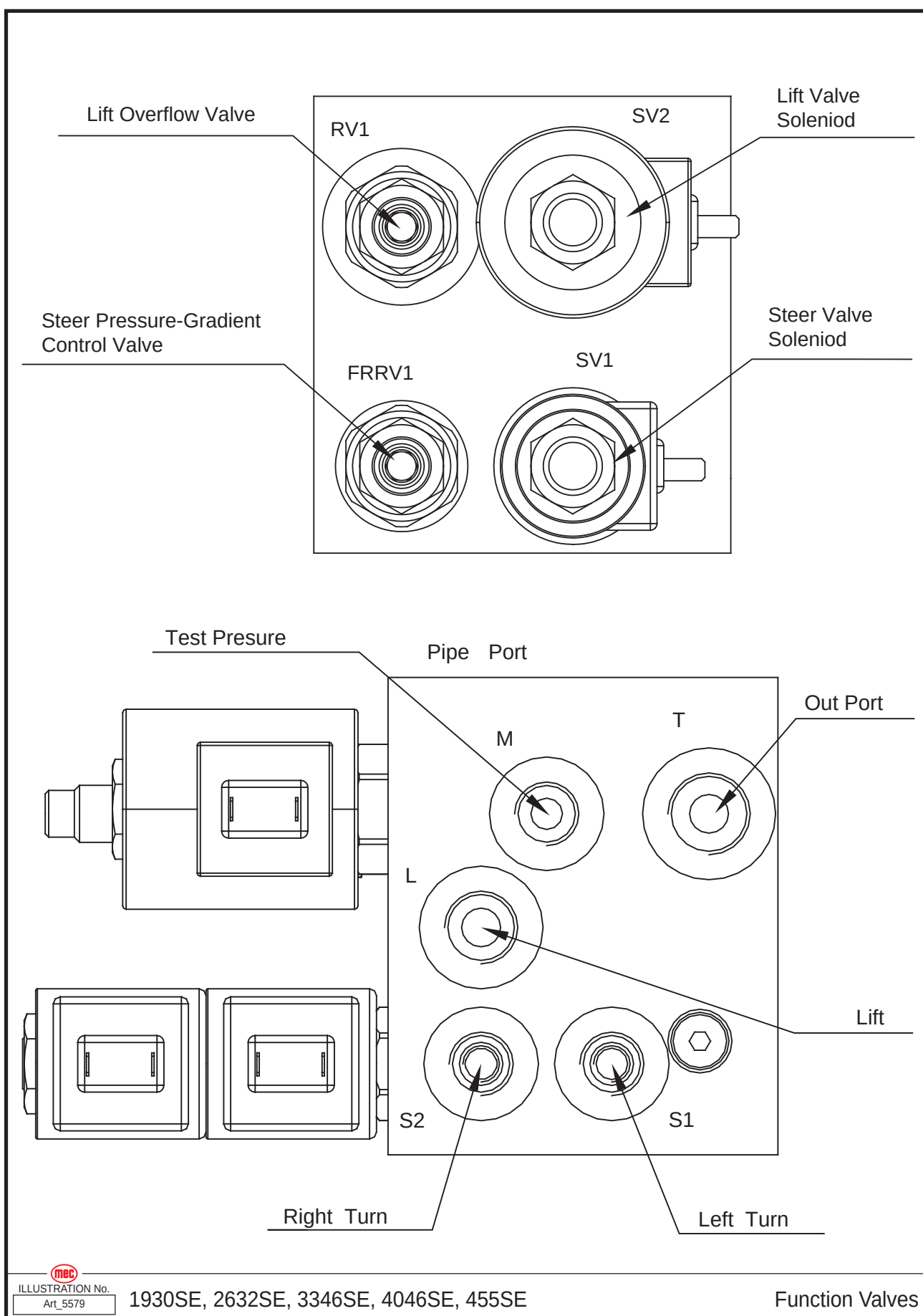


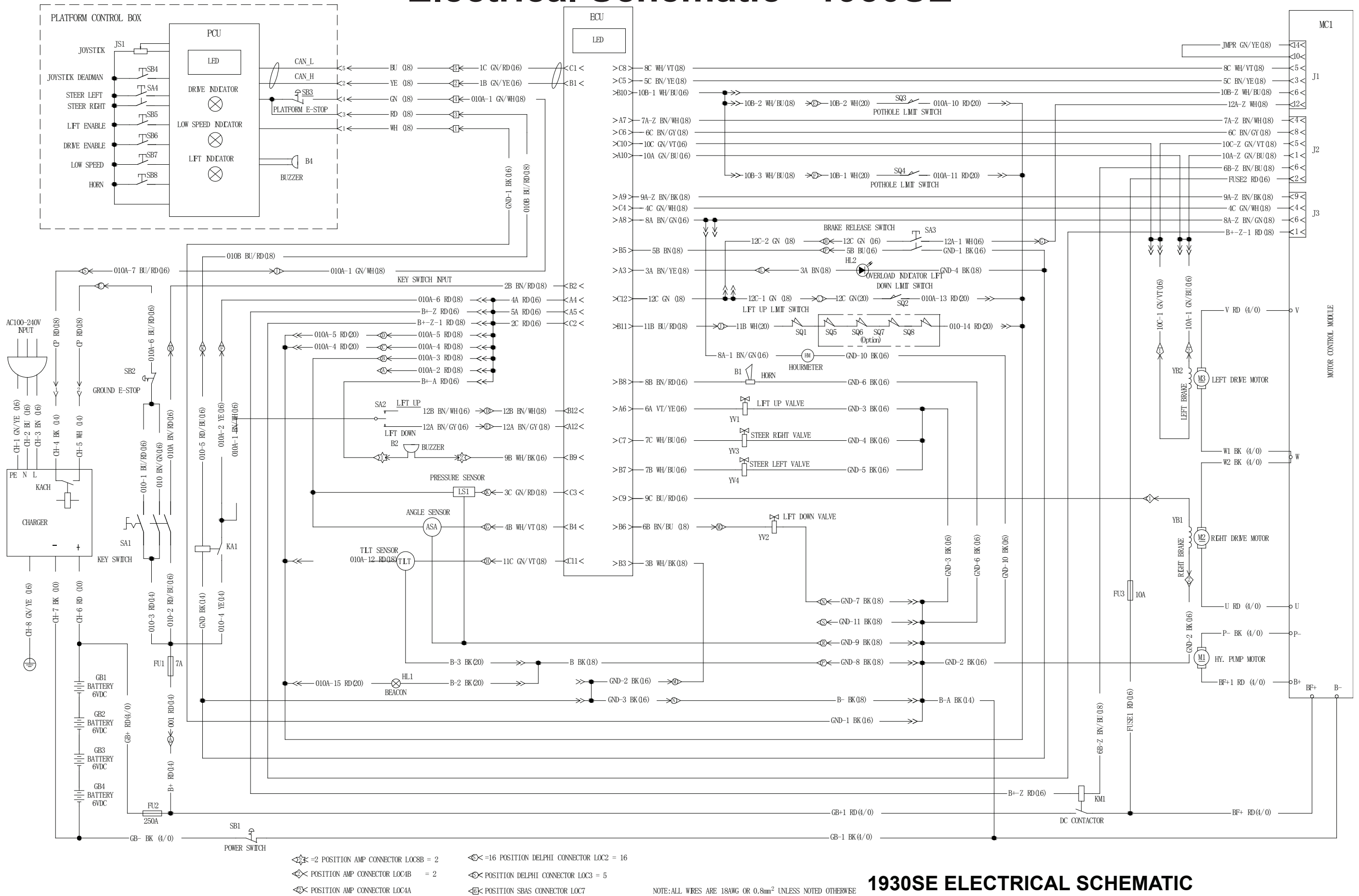
ILLUSTRATION No.
ART_5136

2632SE, 3346SE, 4046SE, 4555SE HYDRAULIC COMPONENTS

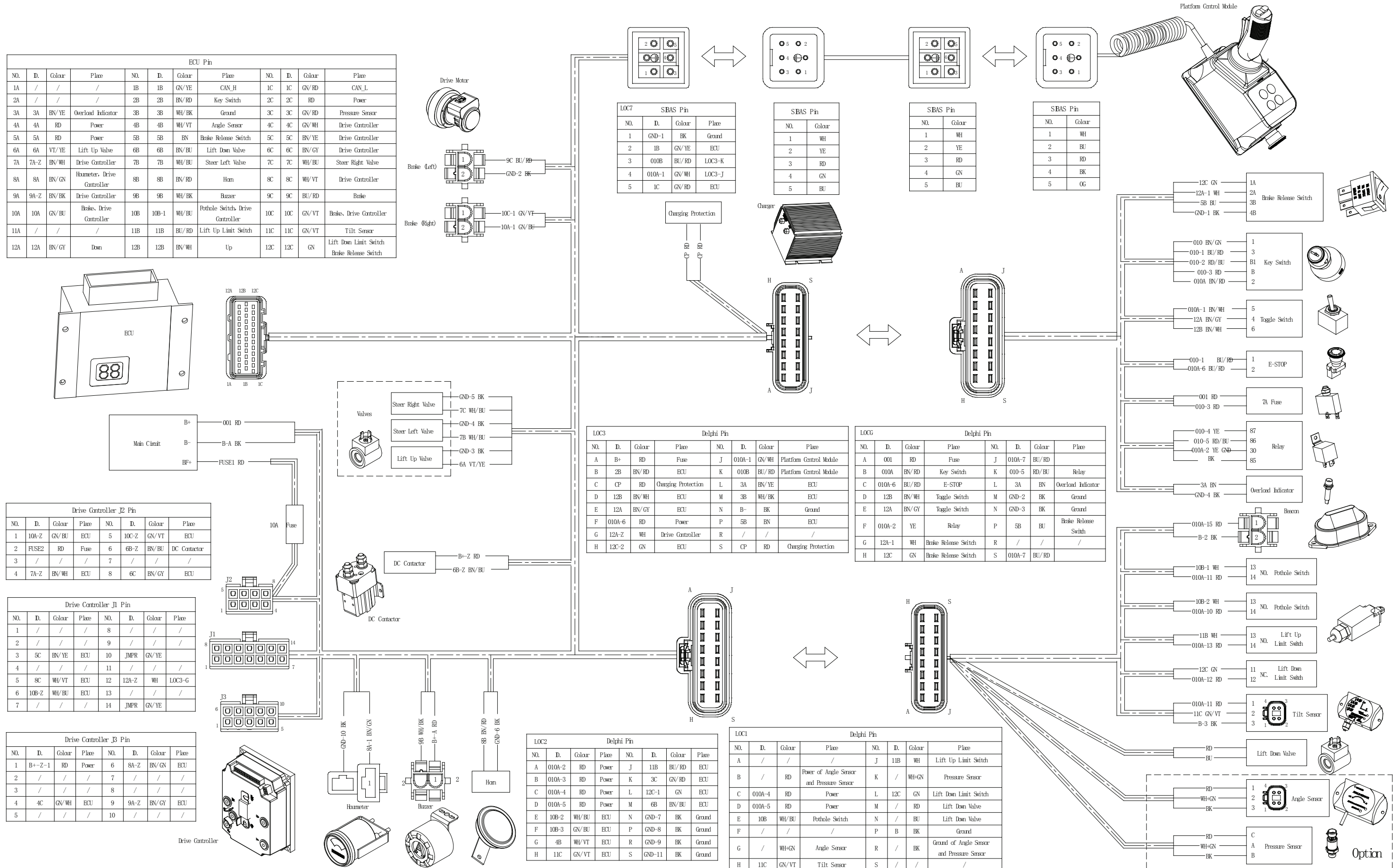
Function Valves



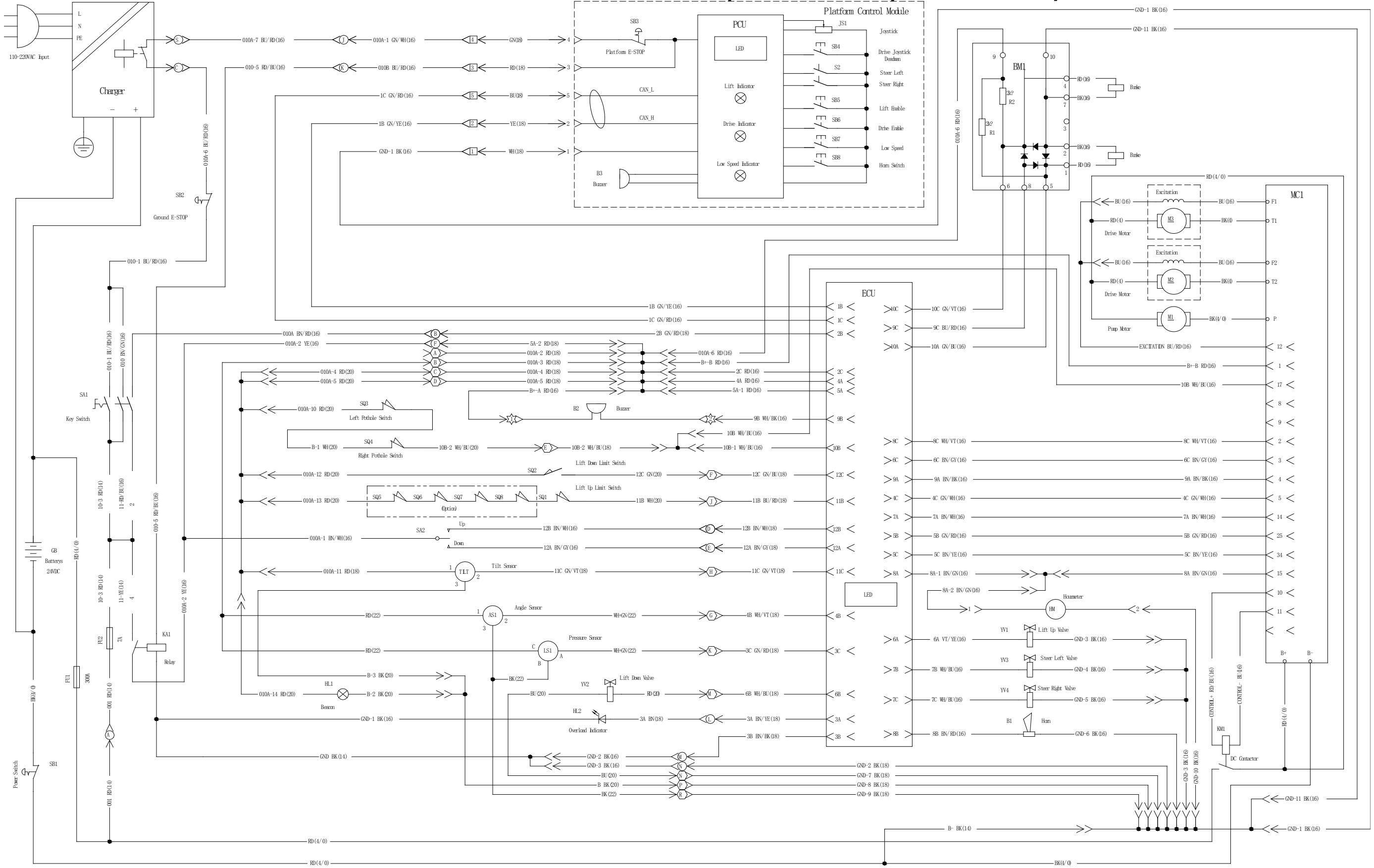
Electrical Schematic - 1930SE



Harness Control Circuit - 1930SE



Electrical Schematic - 2632SE, 3346SE, 4046SE, 4555SE



16 POSITION DELPHI CONNECTOR LOC2 = 16
2 POSITION SBAS AMP CONNECTOR LOC4 = 5
POSITION DELPHI CONNECTOR LOC3
POSITION SBAS CONNECTOR LOC7
NOTE: ALL WIRES ARE 18AWG OR 0.8mm² UNLESS NOTED OTHERWISE

2632SE, 3346SE, 4046SE, 4555SE ELECTRICAL SCHEMATIC

Harness Control Circuit - 2632SE, 3346SE, 4046SE, 4555SE

ECU Pin											
NO.	D	Colour	Place	NO.	D	Colour	Place	NO.	D	Colour	Place
1A	/	/	/	1B	1B	GN/YE	CAN_H	1C	1C	GN/RD	CAN_L
2A	/	/	/	2B	2B	GN/RD	Key Switch	2C	2C	RD	Power
3A	3A	BN/YE	Overload Indicator	3B	3B	BN/BK	Ground	3C	3C	GN/RD	Pressure Sensor
4A	4A	RD	Power	4B	4B	WH/VT	Angle Sensor	4C	4C	GN/WH	Drive Controller
5A	5A-1	RD	Power	5B	5B	GN/RD	Drive Controller	5C	5C	GN/YE	Drive Controller
6A	6A	VT/YE	Lift Up Valve	6B	6B	WH/BU	Lift Down Valve	6C	6C	GN/GY	Drive Controller
7A	7A	BN/WH	Reverse Valve	7B	7B	WH/BU	Steer Left Valve	7C	7C	WH/BU	Steer Right Valve
8A	8A-1	BN/GN	Hourmeter, Drive Controller	8B	8B	BN/BK	Ham	8C	8C	WH/VT	Drive Controller
9A	9A	BN/BK	Drive Controller	9B	9B	WH/BK	Buzzer	9C	9C	BU/RD	Brake Module
10A	10A	GN/BU	Brake Module	10B	10B-1	WH/BU	Pothole Switch, Drive Controller	10C	10C	GN/VT	Brake Module
11A	/	/	/	11B	11B	BU/RD	Lift Up Limit Switch	11C	11C	GN/VT	Tilt Sensor
12A	12A	BN/GY	Down	12B	12B	BN/WH	Up	12C	12C	GN/BU	Lift Down Limit Switch

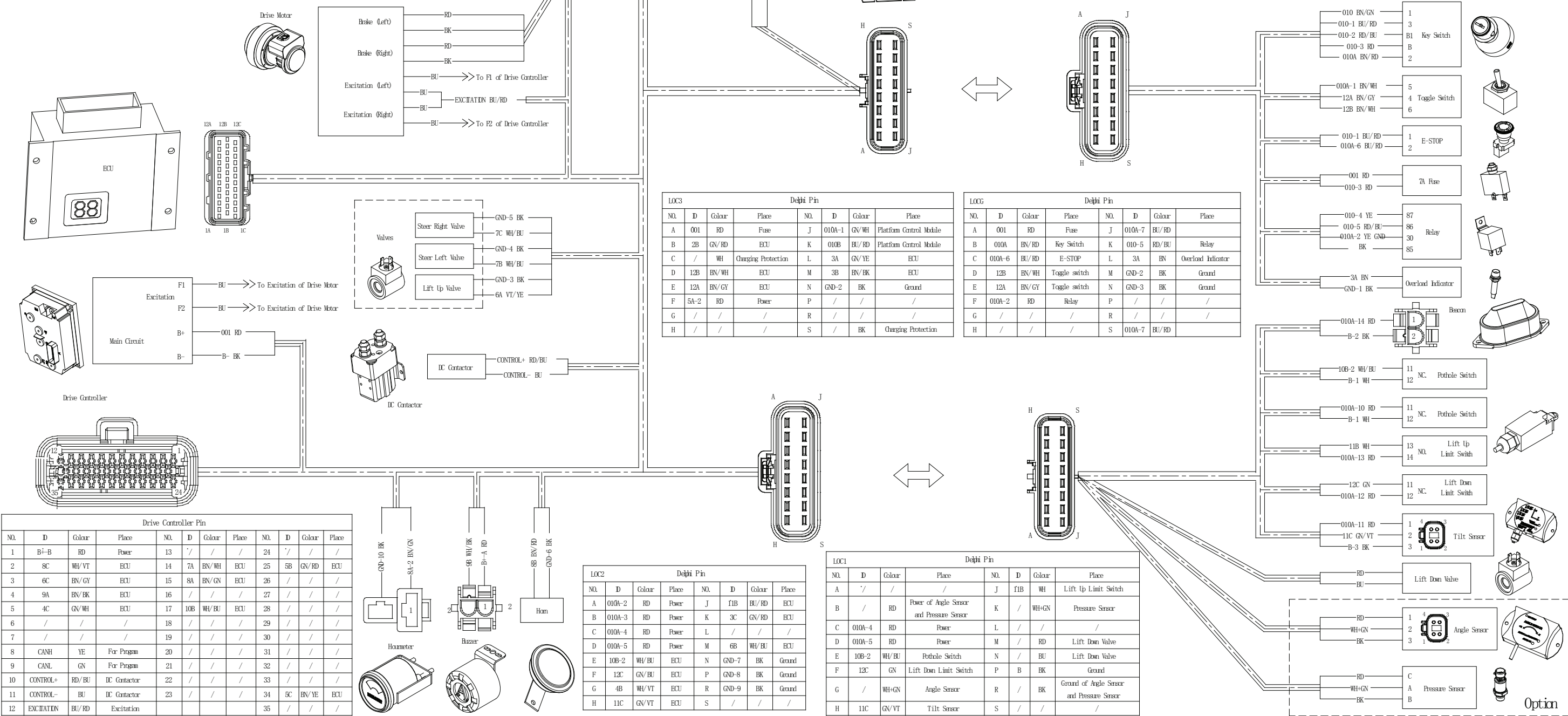
Brake Module Pin							
NO.	D	Colour	Place	NO.	D	Colour	Place
1	/	RD	Brake(Left)	6	6C	GN/VT	ECU
2	/	BK	Brake(Left)	7	/	BK	Brake(Right)
3	/	/	/	8	8C	BU/RD	ECU
4	/	RD	Brake(Right)	9	010A-6	RD	Power
5	10A	GN/BU	ECU	10	GND-11	BK	Ground

LOC7 SBAS Pin			
NO.	D	Colour	Place
1	GND-1	BK	Ground
2	1B	GN/YE	ECU
3	010B	BU/RD	LOC3-K
4	010A-1	GN/WH	LOC3-J
5	1C	GN/RD	ECU

SBAS Pin	
NO.	Colour
1	WH
2	YE
3	RD
4	GN
5	BU

SBAS Pin	
NO.	Colour
1	WH
2	YE
3	RD
4	GN
5	BU

SBAS Pin	
NO.	Colour
1	WH
2	BU
3	RD
4	BK
5	OG



Wiring Diagram

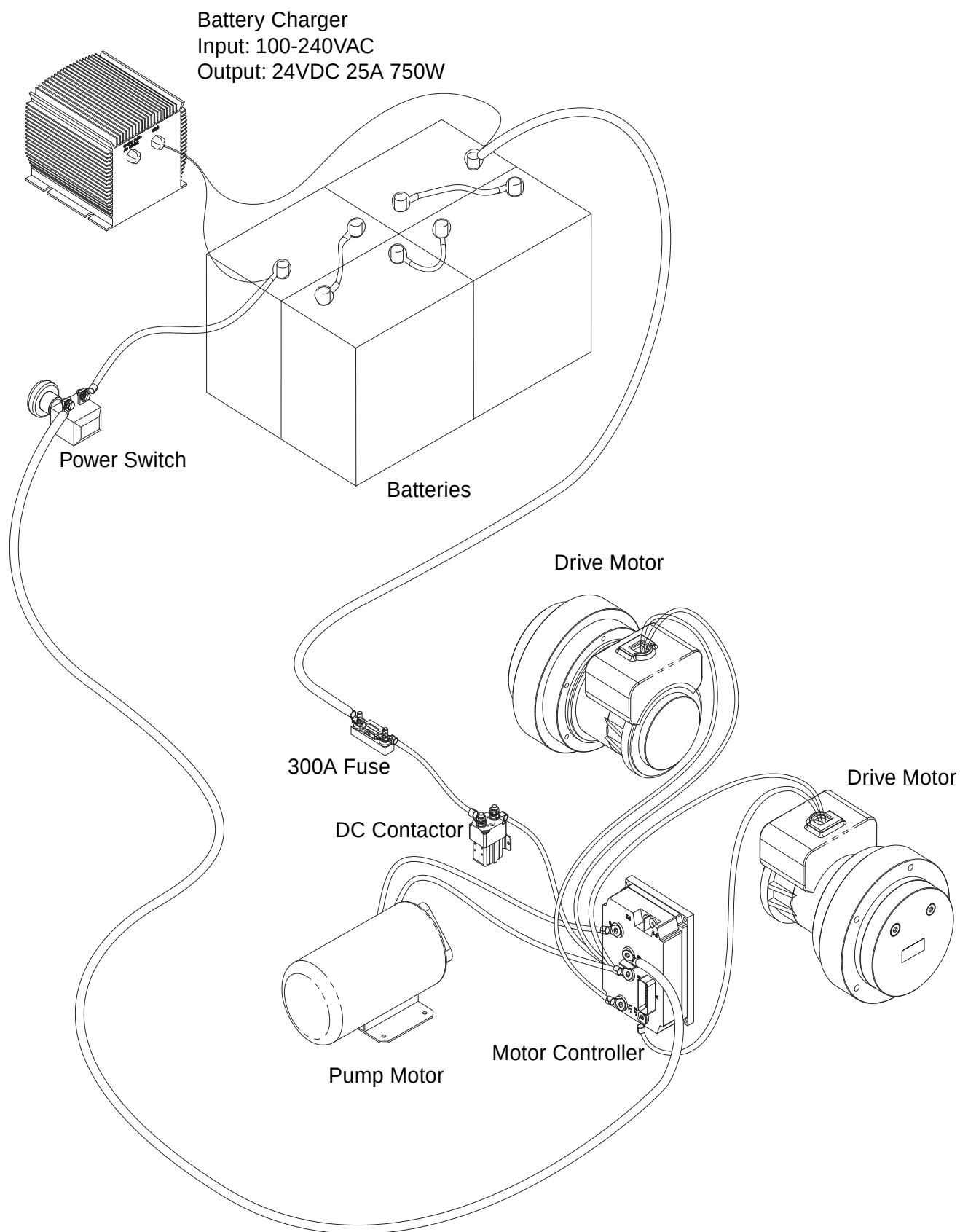


ILLUSTRATION No.
ART_5143

1930SE, 2632SE, 3346SE, 4046SE, 4555SE WIRING DIAGRAM

