



SPECIFICATION MANUAL

TRAVELIFT® CRANE P/N 1492R1

	<u>Model</u>	<u>Serial Number</u>
MACHINE:	MJ50	1492



Hazel Crest, IL 60429 • 708/596-5200 • FAX: 708/225-2302

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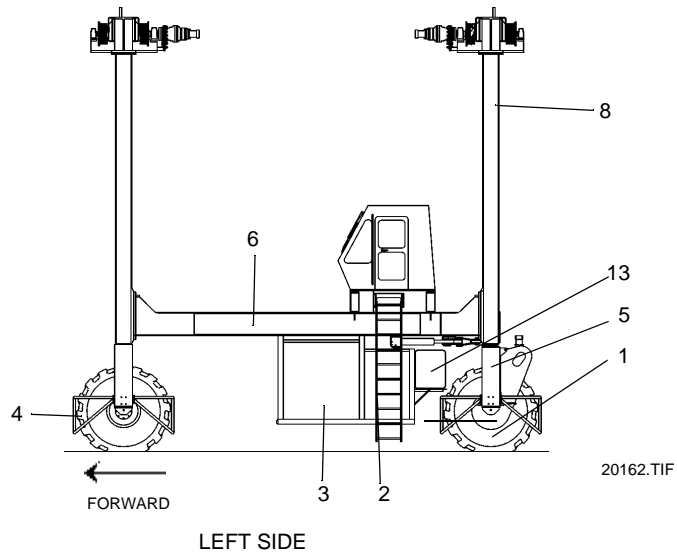
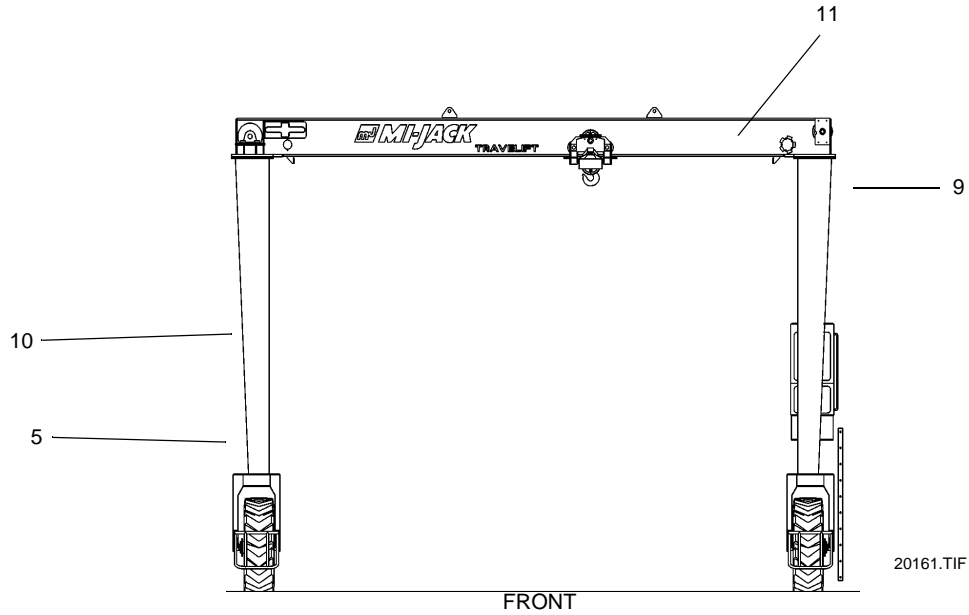
INTRODUCTION

The following specifications are specific only for the TRAVELIFT © MJ50 crane with the serial number listed on the cover. If you have any questions about the operating specifications, consult MI-JACK Technical Services personnel at Hazel Crest for assistance.

INDEX

- A. GENERAL MACHINE SPECIFICATIONS**
- B. COMPONENT LUBRICANT/FLUID CAPACITY CHART**
- C. MACHINE HYDRAULIC PRESSURE SETTINGS**
- D. CRANE FUNCTION SPEEDS**
- E. ENGINE SPEEDS**

NOMENCLATURE
TRAVELIFT® CRANE MJ50
(Typical Forward Facing Cab)



- 1. Drive Wheel
- 2. Location of Hydraulic Pumps and Filters
- 3. Diesel Engine
- 4. Wheel Guards
- 5. Wheel Yoke
- 6. Left Side Beam
- 7. Operator's Cab and Controls

- 8. Column, Left Rear
- 9. Column, Left Front
- 10. Column, Right Front
- 11. Front Top Beam
- 12. Ladders
- 13. Fuel Tank

A. GENERAL MACHINE SPECIFICATIONS

Capacity

Capacity..... 100,000 lbs
Maximum Capacity of Attachment..... 86,000 lbs
Maximum Capacity of Attachment at Center Pick Point 70,000 lbs

Engine

Type

Standard Model Detroit Diesel 40E Engine
Type..... Diesel, Six cylinder, four stroke cycle, in-line,W/TurboCharger
Horsepower (rated).....210 @ 2150 RPM

Engine Fuel System

Fuel Tank Capacity 100 gal.
Fuel Type..... (See engine manual)
Fuel Filter..... Spin-on type / with strainer

Engine Air Intake System

Type..... Dry type, with air cleaner indicator gauge

Engine Cooling System

Type..... Radiator with belt driven fan
Thermostat Refer to engine manual

Electrical Systems

Electrical System - DC

Type of System.....	24 VDC, negative ground
Batteries (2).....	12 volt connected in series (supplies power to drive lights, power unit lights and the crane's control system)
Alternator with Internal Regulator	24 VDC, 85 amp

Drive System

Type.....	Hydraulic motors with chain drive
Drive Chain Type.....	Roller
Main Pump	Variable displacement
Supercharge Pump (Integral with main pump)	Fixed displacement, gear type
Motors (2)	Fixed displacement, piston
Tires.....	21.00-25 36 PLY 109 psi

Hoist System

Type.....	Hydraulic
Actuator	Fixed displacement - one on each top beam.
Hoist Brake	Multi-disc SAHR (Spring applied, hydraulically released). Located between the hoist motor and the hoist drum.
Main Pump	Pressure/flow compensated variable displacement

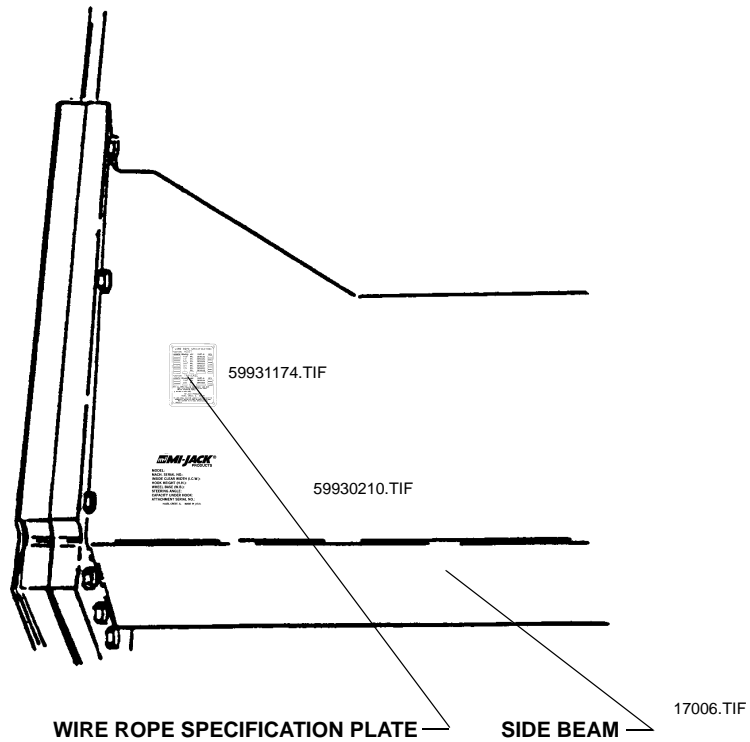
Traverse System

Type Hydraulic
Drive Hydraulic motor with chain drive.
Motor Fixed displacement.
Pump Pressure/flow compensated variable displacement
Brake Spring applied, hydraulically released (SAHR).

Park Brake System

Type (Parking - Drive wheels) Spring applied, hydraulically released (SAHR).

NOTE: Unless otherwise specified, RPM as referenced in these specifications indicate engine RPM as measured at the engine.



WIRE ROPE

PART #	LENGTH	DESCRIPTION
38900200	543'	Type: 6 Strands Classification: 6 X 37 Diameter: 5/8" Construction: 6 X 36 Warrington Seale Lay: RRL Grade: EIPS Minimum Breaking Force: 41,200 lbs. Core: WRC

B. COMPONENT LUBRICANT/FLUID CAPACITY CHART

COMPONENT	CAPACITY	LUBRICANT/FLUID
Engine Crankcase	17 quarts with filter change. (Fill to level)	See engine manufacturer's manual.
Cooling System (Including Radiator)	25 Quarts (Fill to Capacity)	See engine manufacturer's manual.
Fuel Tank	100 gallons	Diesel fuel as specified in the engine manufacturer's manual.
Hydraulic Reservoir	75 gallons (Fill to level)	Kendall Hyken Golden or equivalent.
Pump Drive Transmission	4 quarts (1¼ quarts above level plug)	E. P. 85W-140 API GL5 gear lube
Drive/Hoist Transmission	Fill to level	E.P. 80W-90 API GL5 gear lube

C. MACHINE HYDRAULIC PRESSURE SETTINGS

HOIST • Hydraulic Pressures

Counterbalance Valve 1500 psi

TRAVERSE • Hydraulic Pressures

Counterbalance Valve 2650 psi

RIGHT MAIN PUMP • Hydraulic Pressures

Stand by Pressure 350 psi

Pressure Compensator 4300 psi

Main Relief 4700 psi

LEFT MAIN PUMP • Hydraulic Pressures

Stand by Pressure 350 psi

Pressure Compensator 4300 psi

Main Relief 4700 psi

DRIVE • Hydraulic Pressures

Supercharge 450 psi

Relief Forward 4900psi

Relief Reverse 4900 psi

Pressure Override (P.O.R.) 4500 psi

Park Brake Relief Pressure 450psi

STEERING • Hydraulic Pressures

Steering Relief Valve 2100 psi

D. CRANE FUNCTION SPEEDS (EMPTY)

HOIST

Hoist Up 31 fpm

Hoist Down 31 fpm

TRAVERSE

Trolley (Both Directions) 123 fpm

DRIVE

Drive (Both Directions) 440 fpm

E. ENGINE SPEEDS

Low Engine 1000 rpm
High Engine (maximum w/ no load)..... 2150 rpm

NOTES

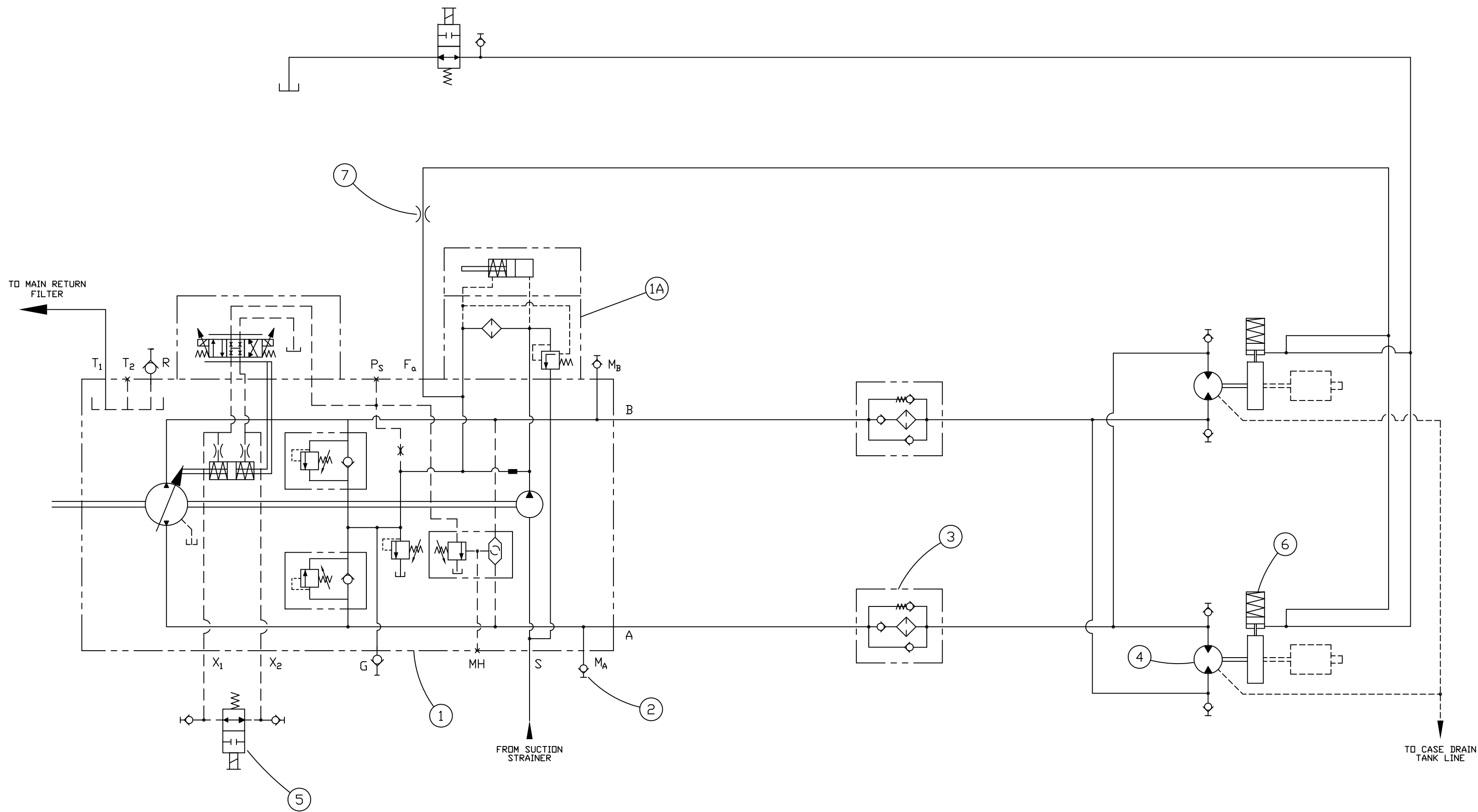
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Hydraulic

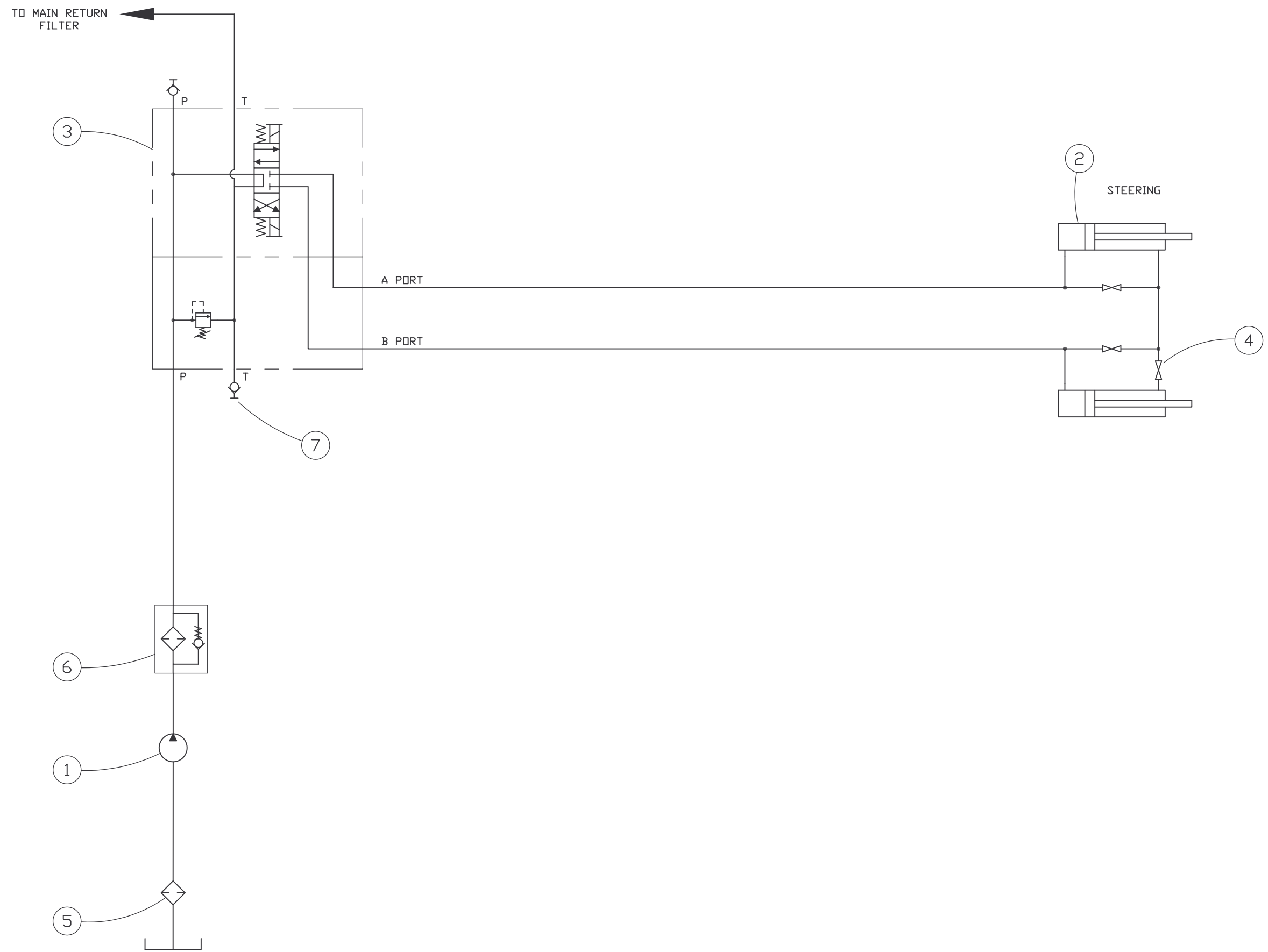
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Electrical

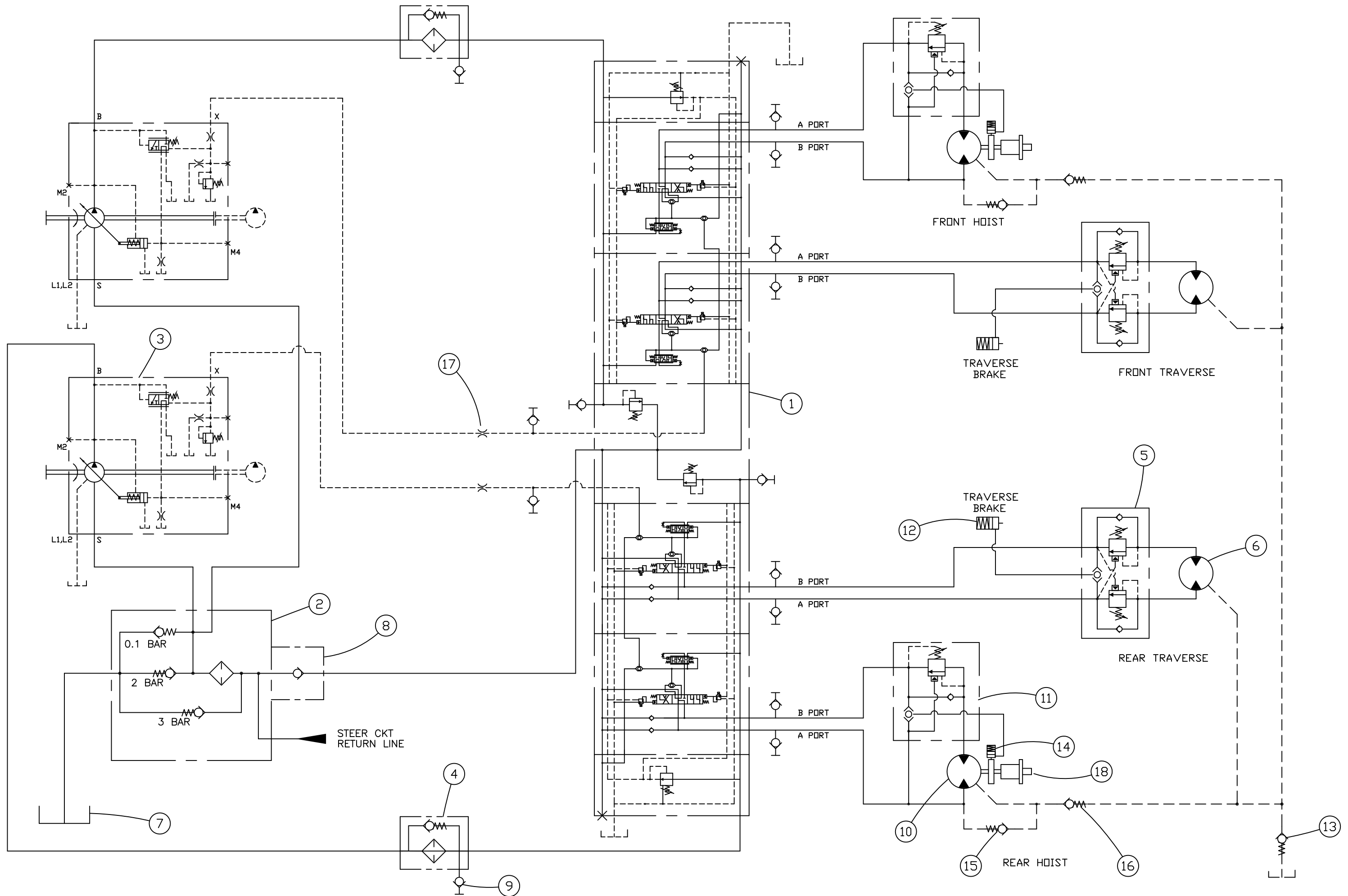
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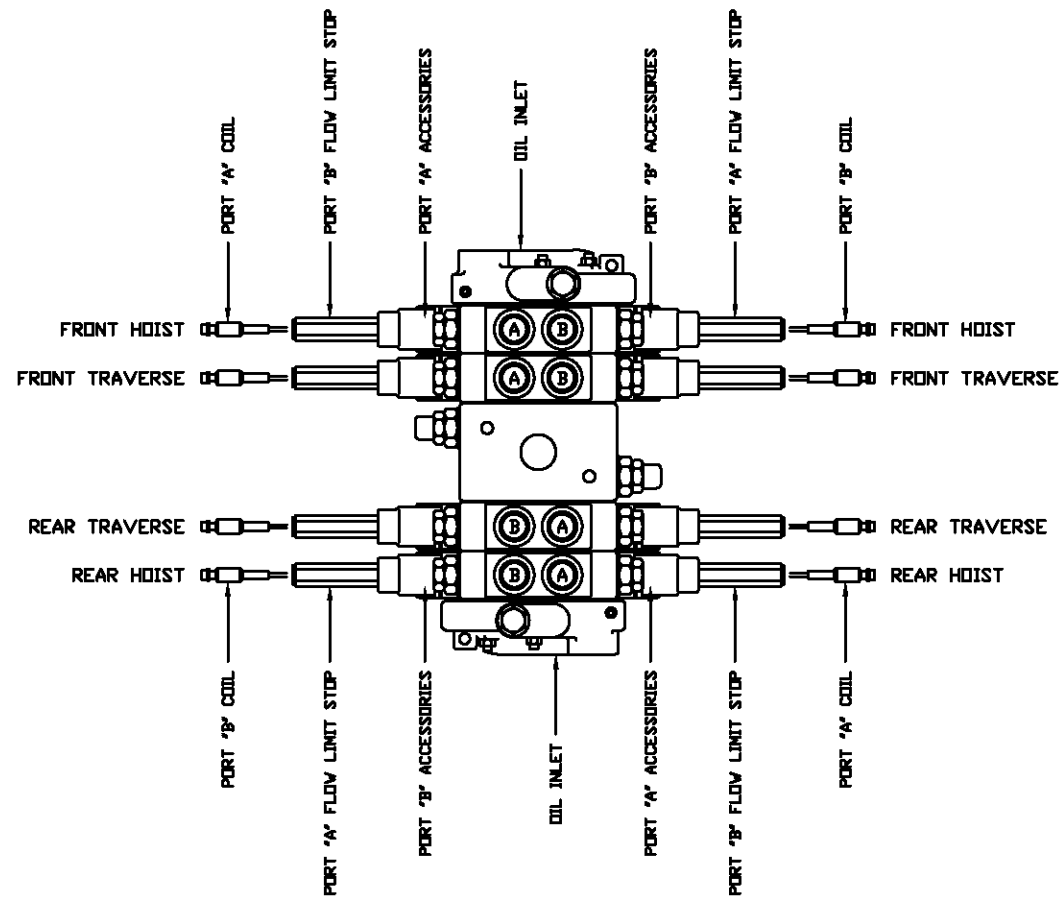


IT.	QTY.	DESCRIPTION	PART NUMBER	REF
1	1	PUMP	41080035	
1A	1	ELEMENT, FILTER	31040009	
2	REF	TEST SPUD	79830404	
3	2	FILTER	41040824	
3A	2	ELEMENT, FILTER	31050177	
4	2	MOTOR	41060018	
5	2	VALVE, VENT	31200115	
6	2	BRAKE	43020003	
7	1	ORIFICE	31680004	

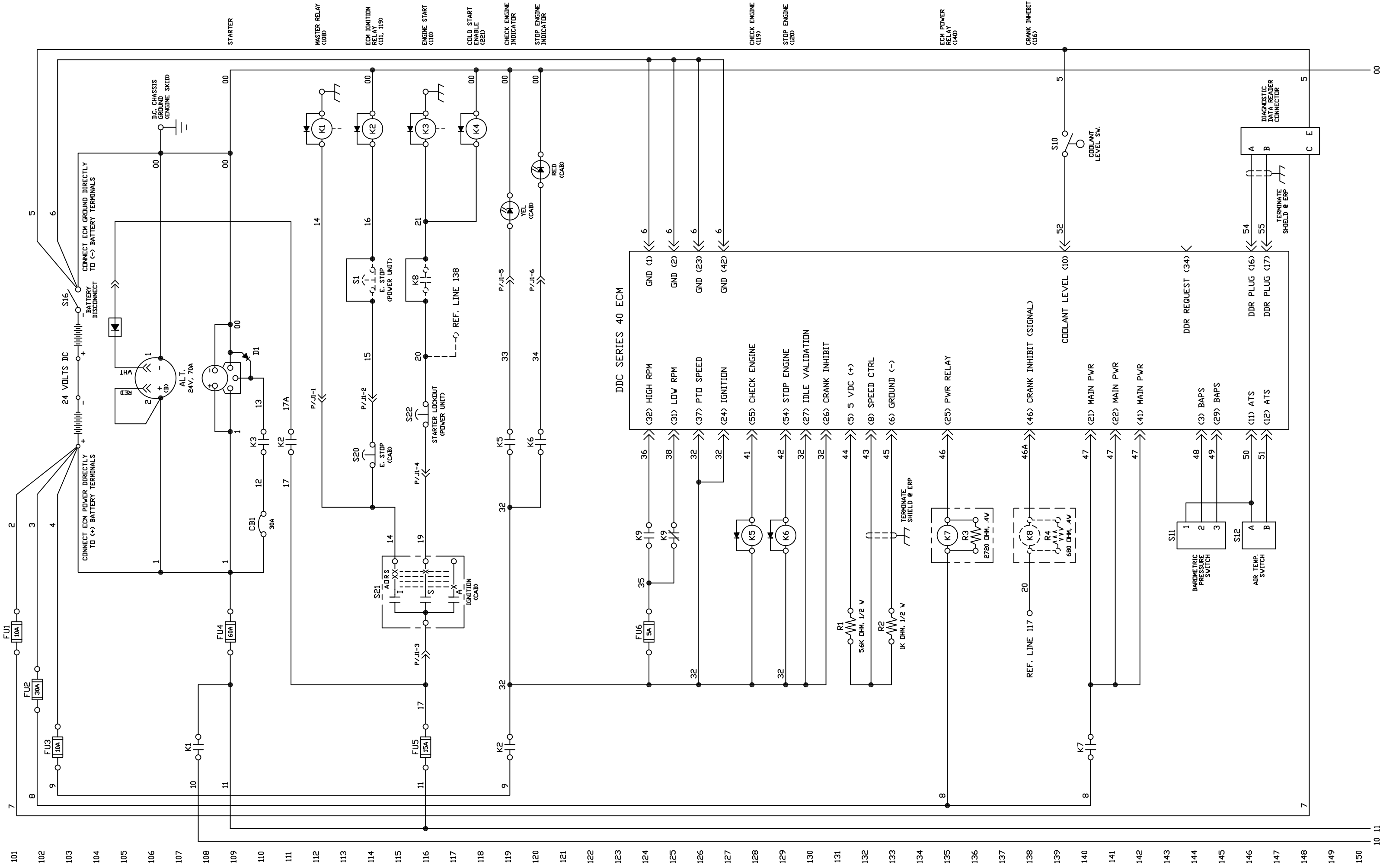


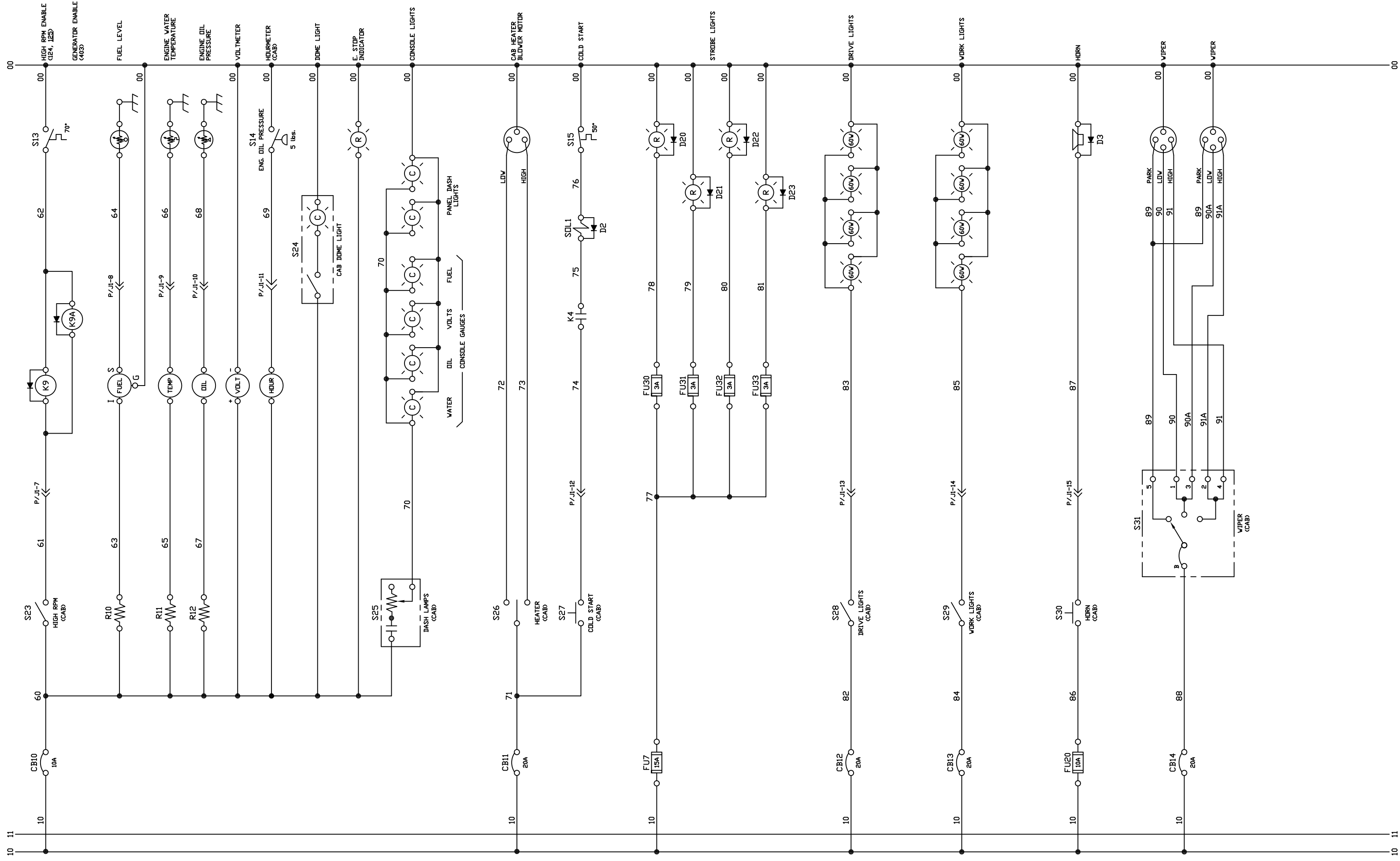
IT.	QTY.	DESCRIPTION	PART NUMBER	DWG. SIZE
1	1	PUMP	41080037	
2	2	CYLINDER	61020071	
3	1	VALVE	41200008	
3A	1	BODY	31370128	
3B	1	RELIEF CARTRIDGE	31540143	
3C	1	VALVE, DIR	31200019	
4	3	ALIGNMENT VALVE	31210125	
5	1	STRAINER	31040013	
6	1	FILTER ASSY	41040006	X
6A	2	ELEMENT, FILTER	31040011	
7	REF	TEST SPUD	79830404	

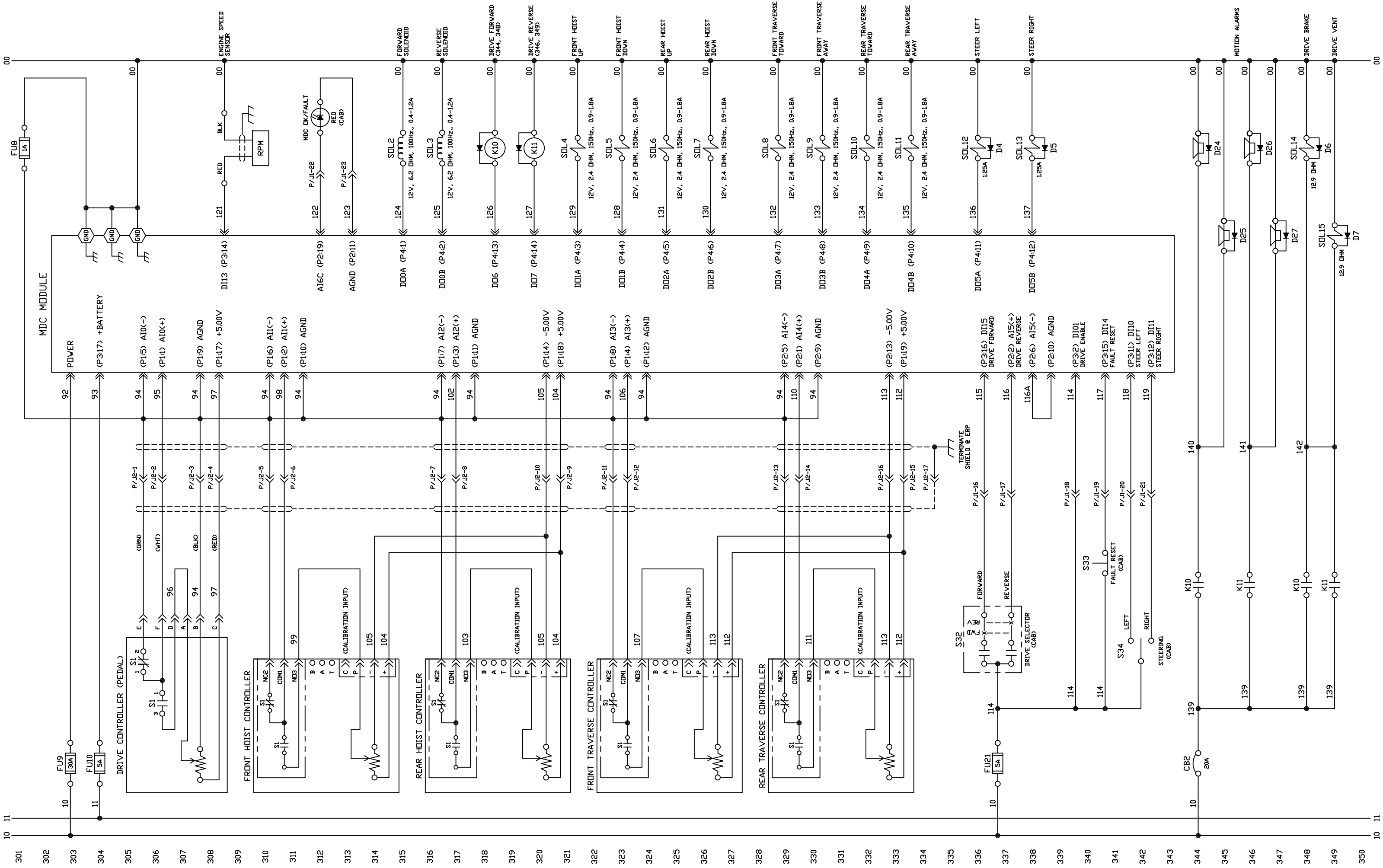




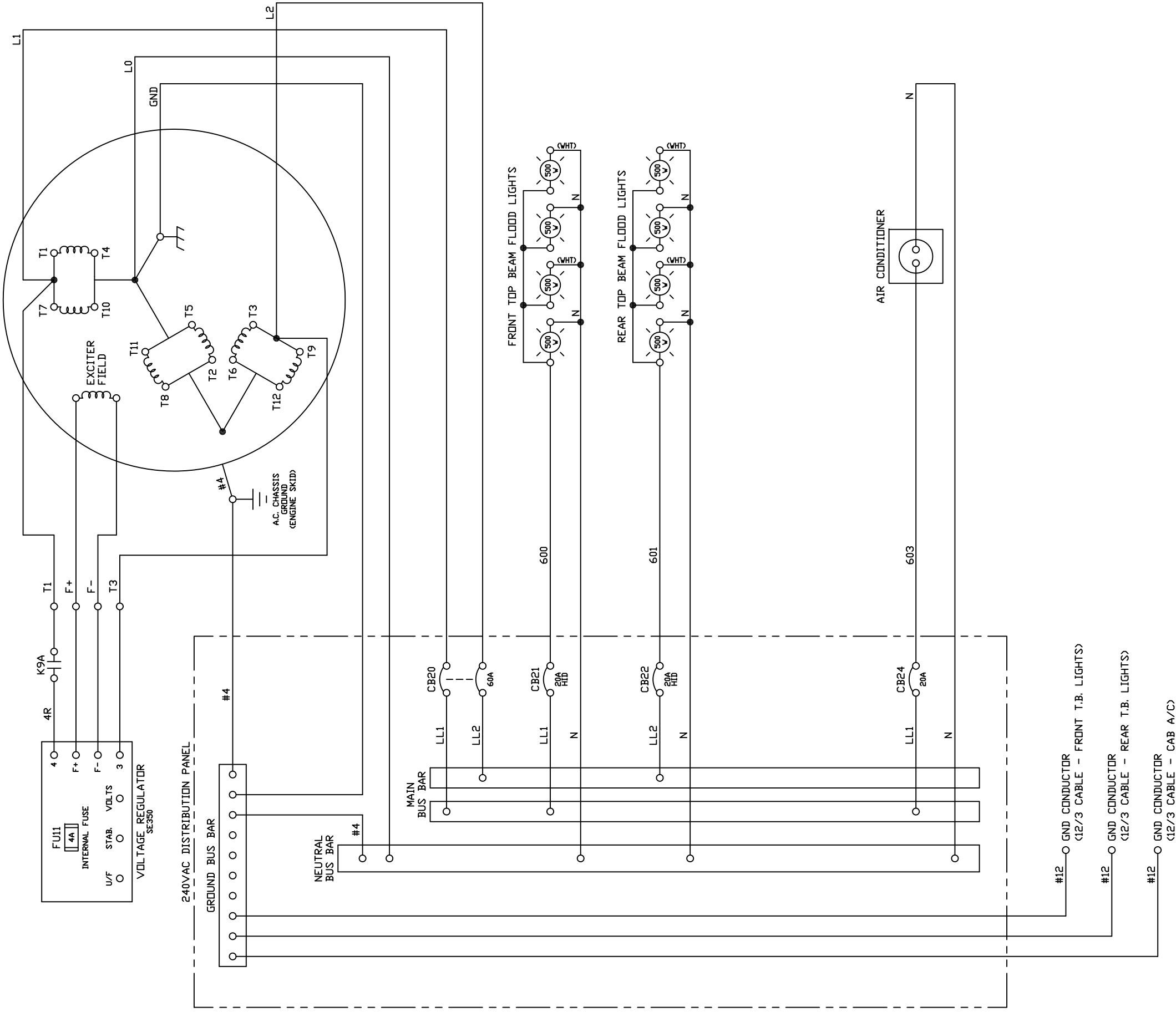
IT.	QTY.	DESCRIPTION	PART NUMBER
1	1	DIRECTIONAL CONTROL	41240047
2	1	FILTER	41040005
2A	1	ELEMENT, FILTER	31040010
3	2	PUMP	41080036
4	2	FILTER	41040823
4A	2	ELEMENT, FILTER	31050178
5	2	VALVE, DUAL C/BALANCE	41260005
5A	4	CARTRIDGE	21260010
5B	2	BODY	21520010
6	2	MOTOR	41060016
7	1	TANK	50540008
8	1	VALVE, CHECK (15 PSI)	41230002
9	REF	TEST SPUD	65020102
10	2	MOTOR	41060018
11	2	VALVE, C/BALANCE	41260014
11A	2	CARTRIDGE	21540060
11B	2	BODY	21520011
11C	2	CARTRIDGE	21230004
12	2	BRAKE	33020003
13	1	VALVE, CHECK (15 PSI)	31231010
14	2	BRAKE	31120002
15	2	VALVE, CHECK (2 PSI)	31230003
16	2	VALVE, CHECK (5 PSI)	31230631
17	2	DRIFICE	31590093
18	2	GEAR BOX	31120001







GENERATOR
12.5KV, 120/240 VAC,
1 PHASE, 60 Hz,
1.0 P.F.



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SCHEMATIC LEGEND

RELAY				CONTACT				SWITCH			
NAME	FUNCTION/CIRCUIT	J-BOX LINE#	TYPE	LINE#	FUNCTION	NAME	FUNCTION/CIRCUIT	J-BOX LINE#	NAME	FUNCTION/CIRCUIT	J-BOX LINE#
K1	MASTER RELAY	ERP 112	SPST	108	CAB POWER	S1	EMERGENCY STOP	ERP 114	S10	COOLANT LEVEL	PU 139
K2	ECM IGNITION	ERP 114	SPDT	111	ALTERNATOR	S11	BAROMETRIC PRESSURE	PU 144	S11	BAROMETRIC PRESSURE	PU 144
K3	ENGINE START	ERP 116	SPST	110	STARTER SOLENOID	S12	AIR TEMPERATURE	PU 146	S12	AIR TEMPERATURE	PU 146
K4	COLD START ENABLE	ERP 118	SPDT	221	COLD START	S13	ENGINE WATER 70°	PU 202	S13	ENGINE WATER 70°	PU 202
K5	CHECK ENGINE	ERP 128	SPDT	119	CHECK ENGINE INDICATOR	S14	ENGINE OIL PRESSURE 5 lbs.	PU 210	S14	ENGINE OIL PRESSURE 5 lbs.	PU 210
K6	STOP ENGINE	ERP 129	SPDT	120	STOP ENGINE INDICATOR	S15	ENGINE BLOCK 50°	PU 221	S15	ENGINE BLOCK 50°	PU 221
K7	ECM POWER	ERP 135	SPDT	140	ECM - MAIN POWER	S16	BATTERY DISCONNECT	PU 103	S16	BATTERY DISCONNECT	PU 103
K8	CRANK INHIBIT	ERP 138	SPDT	116	ENGINE START/COLD START	S20	EMERGENCY STOP	CAB 114	S20	EMERGENCY STOP	CAB 114
K9	HIGH RPM ENABLE	ERP 202	SPDT	124	ECM - HIGH RPM	S21	IGNITION	CAB 115	S21	IGNITION	CAB 115
				125	ECM - LOW RPM						
K9A	GENERATOR ENABLE	ERP 203	SPDT	403	VOLTAGE REGULATOR INTERLOCK	S22	STARTER LOCKOUT	CAB 116	S22	STARTER LOCKOUT	CAB 116
K10	DRIVE FORWARD	ERP 318	DPDT	344	FRONT MOTION ALARMS	S23	HIGH RPM	CAB 202	S23	HIGH RPM	CAB 202
				348	DRIVE BRAKE/VENT SOLENOID	S24	CAB DOME LIGHT	CAB 212	S24	CAB DOME LIGHT	CAB 212
				346	REAR MOTION ALARMS	S25	DASH LAMPS	CAB 215	S25	DASH LAMPS	CAB 215
K11	DRIVE REVERSE	ERP 320	DPDT	349	DRIVE BRAKE/VENT SOLENOID	S26	HEATER	CAB 219	S26	HEATER	CAB 219
						S27	COLD START	CAB 221	S27	COLD START	CAB 221
						S28	DRIVE LIGHTS	CAB 231	S28	DRIVE LIGHTS	CAB 231
						S29	WORK LIGHTS	CAB 235	S29	WORK LIGHTS	CAB 235
						S30	HORN	CAB 239	S30	HORN	CAB 239
						S31	WIPERS	CAB 243	S31	WIPERS	CAB 243
						S32	DRIVE SELECTOR	CAB 336	S32	DRIVE SELECTOR	CAB 336
						S33	FAULT RESET	CAB 341	S33	FAULT RESET	CAB 341
						S34	STEERING	CAB 342	S34	STEERING	CAB 342

CIRCUIT BREAKER				DIODE			
NAME	J-BOX LINE#	RATING	PART #	NAME	J-BOX LINE#	NAME	J-BOX LINE#
CB1	ERP 110	30A	32280015	D1	ERP 109	D1	ERP 109
CB2	ERP 344	20A	32280014	D2	ERP 221	D2	ERP 221
CB10	CRP 202	10A	32280013	D3	ERP 239	D3	ERP 239
CB11	CRP 219	20A	32280014	D4	ERP 336	D4	ERP 336
CB12	CRP 231	20A	32280014	D5	ERP 338	D5	ERP 338
CB13	CRP 235	20A	32280014	D6	ERP 348	D6	ERP 348
CB14	CRP 243	20A	32280014	D7	ERP 349	D7	ERP 349
CB20	PU 414	60A	22280006	D20	SB 224	D20	SB 224
				D21	SB 225	D21	SB 225
				D22	SB 226	D22	SB 226
CB21	PU 417	20A	32280004	D23	SB 227	D23	SB 227
CB22	PU 420	20A	32280004	D24	SB 344	D24	SB 344
CB23	PU 427	20A	32280163	D25	SB 345	D25	SB 345
				D26	SB 346	D26	SB 346
				D27	SB 347	D27	SB 347

FUSE				SOLENOID/COIL			
NAME	J-BOX LINE#	RATING	PART #	NAME	FUNCTION/CIRCUIT	LOC	LINE#
FU1	ERP 101	10A	32580111	SOL1	COLD START	PU	221
FU2	ERP 102	30A	32580343	SOL2	FORWARD PUMP	PU	315
FU3	ERP 103	10A	32580111	SOL3	REVERSE PUMP	PU	316
FU4	ERP 109	60A	32580311	SOL4	FRONT HOIST UP	PU	321
FU5	ERP 116	15A	32580300	SOL5	FRONT HOIST DOWN	PU	323
FU6	ERP 124	5A	32580110	SOL6	REAR HOIST UP	PU	325
FU7	ERP 224	15A	32580300	SOL7	REAR HOIST DOWN	PU	326
FU8	ERP 301	1A	32580180	SOL8	FRONT TRAVERSE TOWARD	PU	329
FU9	ERP 303	30A	22580031	SOL9	FRONT TRAVERSE AWAY	PU	330
FU10	ERP 304	5A	32580110	SOL10	REAR TRAVERSE TOWARD	PU	332
FU11	PU 404	4A	32580001	SOL11	REAR TRAVERSE AWAY	PU	333
FU20	CAB 239	10A	32580111	SOL12	STEER LEFT	PU	336
FU21	CAB 337	5A	32580110	SOL13	STEER RIGHT	PU	338
FU30	SB 224	3A	32580177	SOL14	DRIVE BRAKE	PU	348
FU31	SB 225	3A	32580177	SOL15	DRIVE VENT	PU	349
FU32	SB 226	3A	32580177				
FU33	SB 227	3A	32580177				

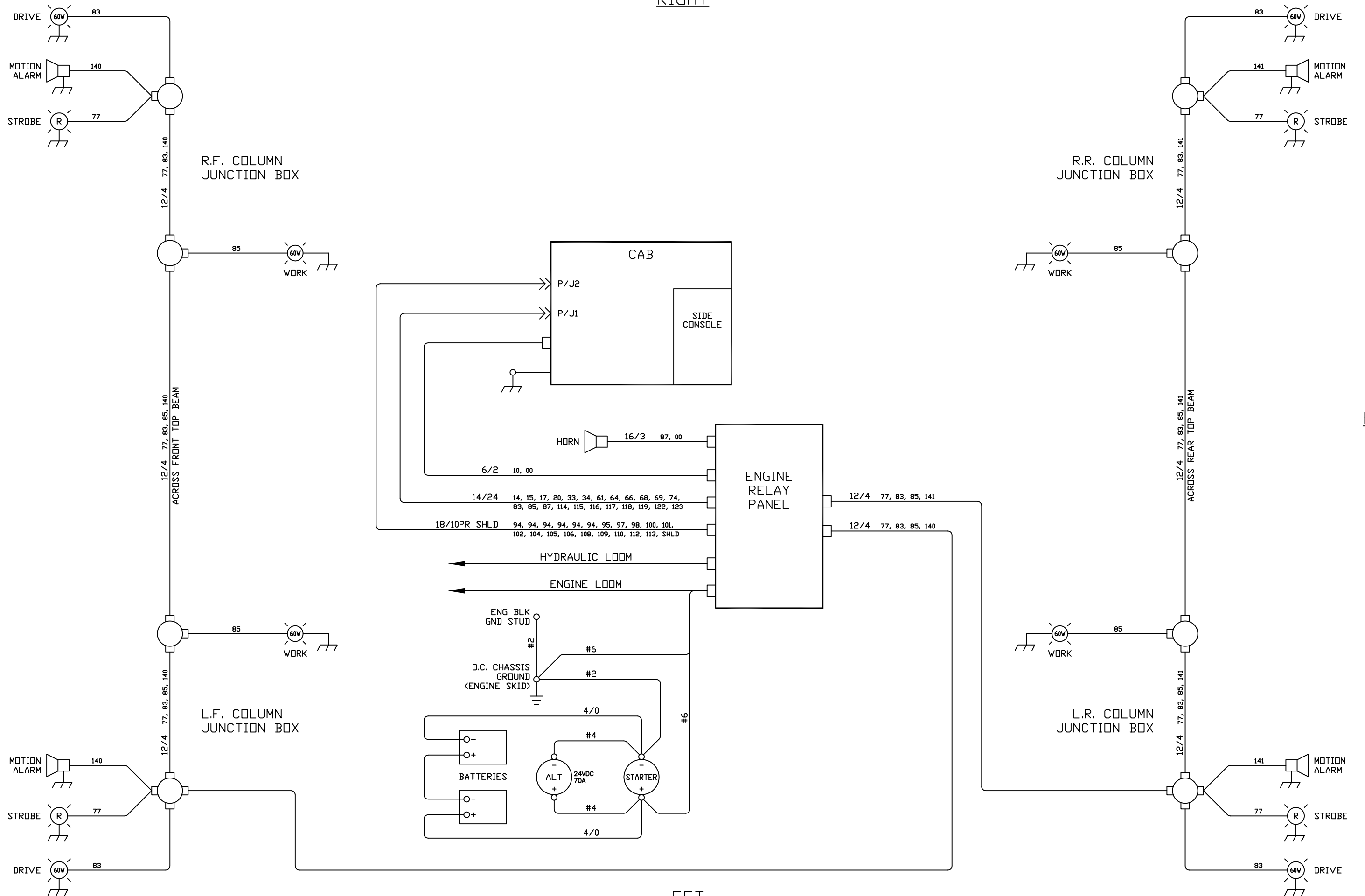
RESISTOR			
NAME	J-BOX LINE#	NAME	J-BOX LINE#
R1	ERP 131	R1	ERP 131
R2	ERP 133	R2	ERP 133
R3	ERP 136	R3	ERP 136
R4	ERP 139	R4	ERP 139
R10	CAB 205	R10	CAB 205
R11	CAB 206	R11	CAB 206
R12	CAB 208	R12	CAB 208

FRONT

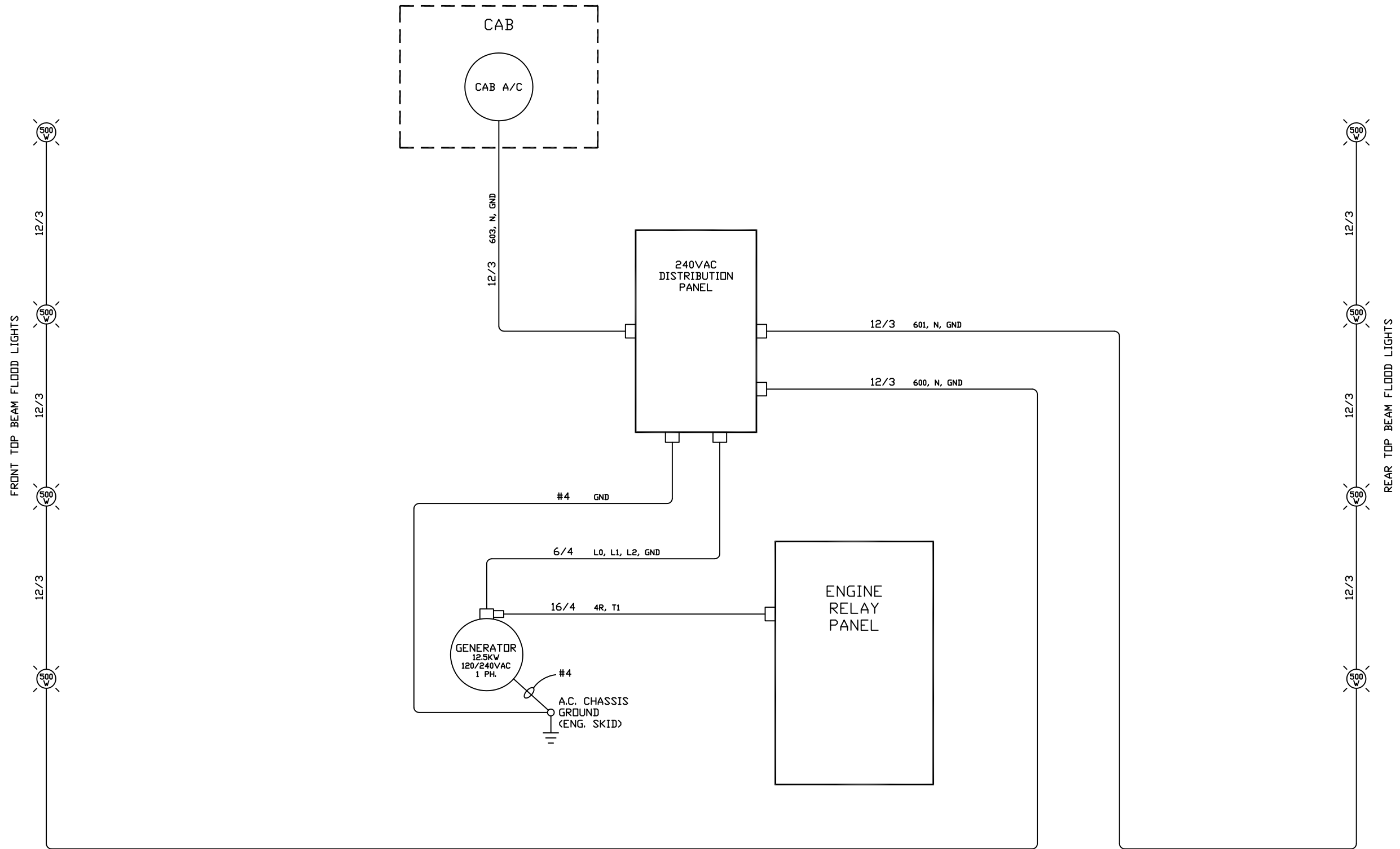
RIGHT

REAR

LEFT



RIGHT



FRONT

REAR

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