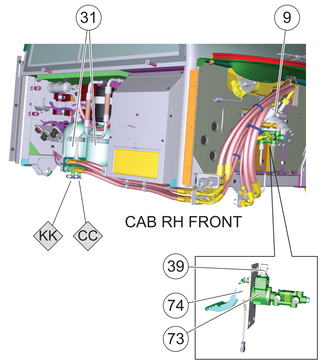
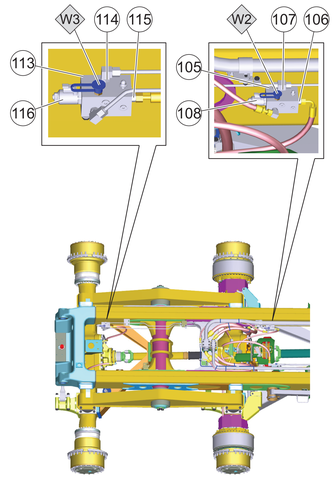
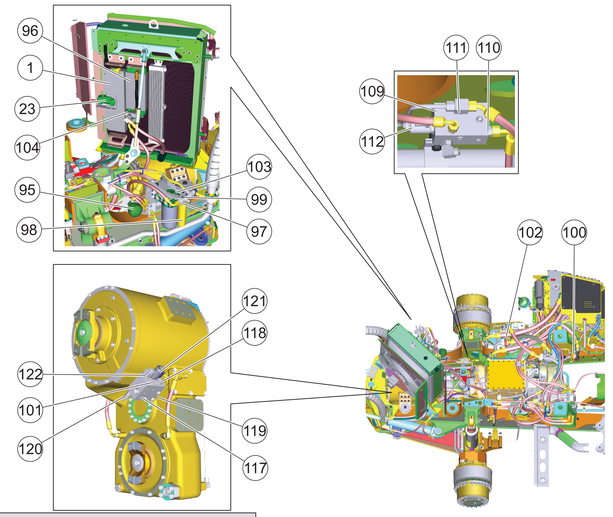


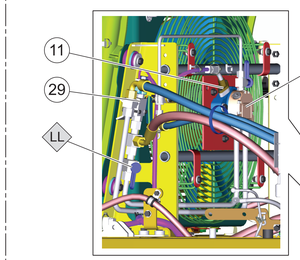


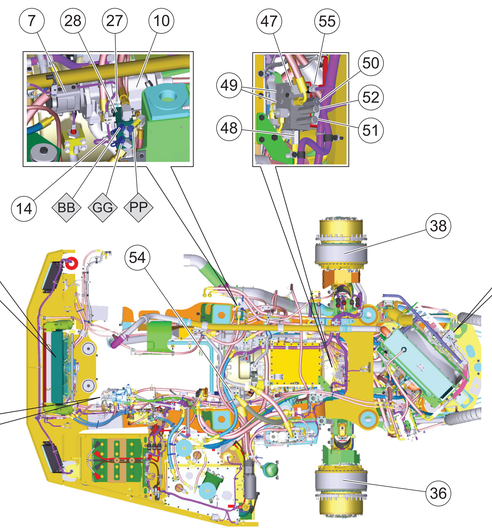
STEERING AND BRAKES

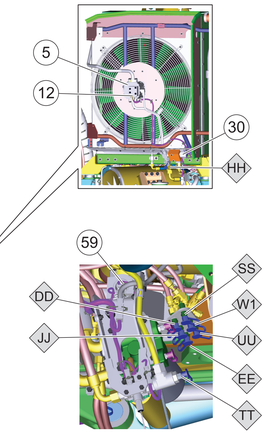


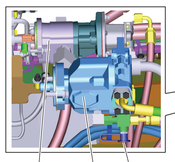
TRACTION CONTROL CIRCUITS

Component Location			
Description		Part Number	Machine Location	Schematic Location
Steering and Fan Drive Circuits				
Core As - Hydraulic Oil Cooler		348-8093	1	C-3
Cylinder Gp - Steering (Left)		223-1335	2	F-1
Cylinder Gp - Steering (Right)		223-1335	3	E-1
Motor Gp - Hydraulic Fan (ATAAC)	(T4S)	347-3862	4	D-1
	(L4F)	343-1928		
Motor Gp - Hydraulic Radiator Fan		338-5721	5	D-3
Pump & Motor Gp - Secondary Steering		340-0917	6	C-4
Pump Gp - Hydraulic Fan		345-9962	7	D-5
Pump Gp - Hydraulic Fan (ATAAC)	(T4S)	248-5605	8	C-7
	(L4F)	343-1927		
Pump Gp - Metering (HMU - Steering)		160-9727	9	F-3
Pump Gp - Steering		348-4505	10	D-6
Sensor Gp - Speed (Hydraulic ATAAC Fan Motor)		264-0148	11	D-1
Sensor Gp - Speed (Hydraulic Radiator Fan Motor)		264-0148	12	C-3
Sensor Gp - Temperature (Steer Tank Hydraulic Oil)		256-5453	13	B-5
Switch As - Pressure (Primary Steering Oil)		313-5104	14	F-5
Switch Gp - Pressure (Filter By-Pass) (Steer / Fan)		253-2673	15	C-4
Tank Gp - Hydraulic Oil (Steer / Fan)		332-6453	16	B-3
Body - Drain Valve (Steer Tank)		5J-8782	17	B-4
Filter Element As - Steer Tank		132-8876	19	B-3
Screen - Steer Tank		119-4885	20	B-4
Screen As - Hydraulic Oil (Steer Tank)		6J-3795	21	B-3
Valve Gp - Hydraulic Oil (Steer Tank)		1U-1643	22	B-3
Valve As - Control (Hydraulic Oil Temperature)		360-5504	23	C-3
Valve As - Fluid Sampling (Steer / Fan)		164-5590	24	C-3
Valve Gp - Check (Flow Control) (Steering Return)		180-4850	25	C-4
Valve Gp - Check (Secondary Steering Pump L/S)		165-7948	26	C-4
Valve Gp - Check (Steering Pump L/S)		165-7948	27	D-5
Valve Gp - Check (Steering)		176-5691	28	F-5
Valve Gp - Control (Hydraulic ATAAC Fan)		347-0556	29	D-2
Valve Gp - Solenoid (Hydraulic Radiator Fan)		279-6530	30	D-3
Brake , Hoist and Suspension Circuits				
Accumulator Gp - Brake (Charged)	(Standard)	251-8269	31	F-11
	(Cold Start)	223-3444		
	(Cold Start Canada)	348-9291		
Accumulator Gp - Charged (Service Brake Cooling)		348-9308	32	B-11
Accumulator Gp - Parking Brake (Charged)		163-5532	33	F-10
Brake Gp - Parking		160-8009	34	F-9
Brake Gp - Service (LC)		217-6309	35	E-8
Brake Gp - Service (LF)		217-6309	36	E-14
Brake Gp - Service (RC)		217-6309	37	F-8
Brake Gp - Service (RF)		217-6309	38	E-15
Breather - Brake Contol Valve		183-3873	39	F-12
Core As - Oil Cooler		187-3323	40	D-13
Cylinder Gp - Ejector		224-1176	41	C-8
Cylinder Gp - Suspension (LH)		228-2758	42	A-10
Cylinder Gp - Suspension (RH)		228-2758	43	A-10
Cylinder Gp - Tailgate		187-7329	44	A-8
Manifold - Front Service Brake Cooling		349-4660	45	E-13
Manifold - Rear Service Brake Cooling		349-4660	46	D-9
Manifold Gp - Control (Differential - Lock / Eject)		337-8683	47	E-11
Screen - Control Manifold		8E-5066	48	E-10
Valve Gp - Check (Brake Charging)		252-6465	49	E-11
Valve Gp - Pressure Reducing (Brake Accumulator)		251-8330	50	E-10
Valve Gp - Pressure Reducing (Differential Lock)		357-E734	51	E-11
Valve Gp - Pressure Reducing (Eject)		239-0615	52	E-11
Pump Gp - Brake		187-9090	53	C-14
Pump Gp - Eject		188-4455	54	C-13
Sensor Gp - Pressure (Brake Oil)		344-7391	55	E-10
Sensor Gp - Pressure (Parking Brake)		344-7391	56	F-9
Sensor Gp - Temperature (Brake / Eject Tank Hydraulic Oil)		256-5453	57	A-14
Switch Gp - Pressure (Filter By-Pass) (Brakes)		253-2673	58	B-13
Switch Gp - Temperature (Front Brake)		3E-5451	59	D-13
Switch Gp - Temperature (Rear Brake)		3E-5451	60	D-9
Tank Gp - Hydraulic Oil (Brake / Eject)		332-6453	61	A-12
Body - Drain Valve (Brake / Eject Tank)		5J-8782	62	A-13
Breather - Brake / Eject Tank		157-7911	63	B-13
Filter Element As - Brake / Eject Tank		132-8876	64	A-12
Screen - Brake Pump Return		119-4885	65	B-13
Screen - Eject Return		119-4885	66	B-12
Screen As - Hydraulic Oil (Eject Tank)		1S0-8457	67	A-12
Valve - Brake / Eject Tank		1U-1643	68	B-12
Valve As - Fluid Sampling (Brakes)		164-5590	69	B-12
Valve Gp - Brake Control (Parking)		190-6290	70	F-10
Valve Gp - Check (Parking Brake Valve)		158-5956	71	E-9
Valve Gp - Solenoid (Parking Brake Valve)		152-8340	72	E-9
Valve Gp - Brake Control (Service)		351-0628	73	F-12
Switch As - Level (Stop Light)		155-5117	74	F-12
Valve Gp - Control (Eject)		320-8840	75	B-9
Actuator Gp - Pilot Control (Eject)		196-2403	76	B-10
Actuator Gp - Pilot Control (Retract)		192-6443	77	C-10
Manifold - Cold Oil By-Pass (Eject Control)		190-1514	78	C-10
Valve Gp - Relief (Hoist Control)		357-9194	79	C-9
Valve Gp - Relief (Hoist Control)		126-6099	80	C-11
Valve Gp - Relief (Hoist Control)		330-9901	81	C-10
Valve Gp - Main Control (Ejector)		207-0934	82	C-8
Plug - Orifice (Ejector)		215-9105	83	B-8
Valve Gp - Check (Ejector)		194-1723	84	C-9
Valve Gp - Check (Ejector)		195-9088	85	B-8
Valve Gp - Diverter (Ejector)		208-1476	86	C-9
Valve Gp - Diverter (Ejector)		192-8833	87	B-9
Valve Gp - Flow Control (Ejector)		215-5101	88	B-8
Valve Gp - Flow Control (Ejector)		208-1480	89	C-8
Valve Gp - Load Control (Ejector)		214-0081	90	B-8
Valve Gp - Load Control (Ejector)		208-1475	91	B-8
Valve Gp - Relief (Ejector)		208-1477	92	B-8
Valve Gp - Sequence (Ejector)		208-1479	93	C-9
Valve Gp - Sequence (Ejector)		224-9385	94	B-9
Traction Control Circuits				
Accumulator Gp - Charged (Traction Control)		365-4859	95	I-3
Cooler Gp - Hydraulic Oil (OTG)		348-8094	96	H-3
Filter Gp - Oil (Rotor Transmission)		358-7804	97	J-4
Filter - Oil (Rotor Transmission)		358-3212	98	J-4
Switch As - Pressure (Oil Filter RTR XMSN)		227-6745	99	J-4
Pump Gp - Output Transfer		357-1663	100	H-6
Sensor Gp - Pressure (Traction Control)		344-7391	101	I-3
Sensor Gp - Temperature (Output Transfer Gear Oil)		702-2240	102	H-5
Switch As - Pressure (Power Train Oil)		369-1487	103	J-4
Valve As - Control (Hydraulic Oil Temperature) (OTG)		360-5504	104	H-3
Valve Gp - Control (Differential Lock Center Axle)		356-8336	105	I-9
Screen - Differential Lock Center Axle		8E-5066	106	I-10
Screen - Differential Lock Center Axle		8E-5066	107	I-9
Valve Gp - Solenoid (Diff Lock Center Axle)		252-6322	108	I-9
Valve Gp - Control (Differential Lock Front Axle)		356-8336	109	I-13
Screen - Differential Lock Front Axle		8E-5066	110	I-13
Screen - Differential Lock Front Axle		8E-5066	111	I-13
Valve Gp - Solenoid (Diff Lock Front Axle)		252-6322	112	I-13
Valve Gp - Control (Differential Lock Rear Axle)		356-8336	113	I-8
Screen - Differential Lock Rear Axle		8E-5066	114	I-8
Screen - Differential Lock Rear Axle		8E-5066	115	I-9
Valve Gp - Solenoid (Diff Lock Rear Axle)		252-6322	116	I-8
Valve Gp - Solenoid & Relief (Traction Control)		344-9066	117	I-3
Valve Gp - Check (Traction Control)		134-9911	118	I-3
Valve Gp - Diverter (Traction Control Accumulator Pressure)		148-9381	119	I-3
Valve Gp - Relief (Traction Control)		356-5143	120	I-3
Valve Gp - Solenoid (Interaxle Diff Clutch)		308-1367	121	I-3
Valve Gp - Solenoid (Traction Control)		277-8863	122	I-3







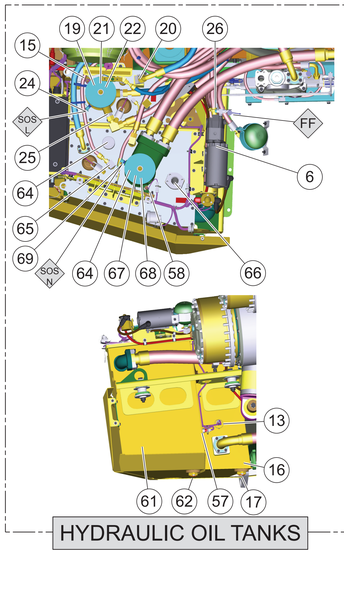


FRONT SUSPENSION CIRCUITS

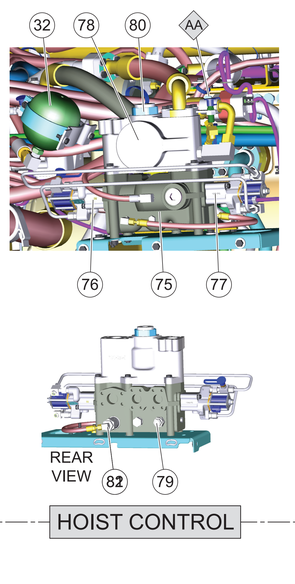
Tap Location Pressure and Sampling		
Tap Number	Description	Schematic Location
AA	Eject / Extend Supply Pressure	C-10
BB	Secondary Steering Pump Pressure	E-5
CC	Front Axle Brake Pressure	E-13
DD	Dumper / Hauler Body Hoist Pilot Pressure	F-11
EE	Differential Interaxle Accumulator Charge Pressure	H-2
FF	Steering Pump Load Sense Pressure	D-4
GG	Steering Pump Pressure	F-5
HH	Fan Drive Pressure	D-3
JJ	Brake Pump Supply Pressure	E-10
KK	Rear Axle Brake Pressure	E-12
LL	ATAAC Fan Pump Supply Pressure	D-1
MM	Parking Brake Pressure	E-9
OO	Brake Pump Case Drain Pressure	B-13
PP	Steering Pump Case Drain Pressure	C-6
SOS L	Fluid Sampling Steering and Fan Circuits	C-3
SOS N	Fluid Sampling Brake Circuits	B-12
SS	Reduced Pressure Supply to the Cross Axle Differential Drives	I-12
TT	Ouput Transfer Gear Lube and Interaxle Differential Charge Pressure	J-5
UU	Differential Front Interaxle Clutch Pressure	H-3
WW	Retract Pressure	C-8
VV	Eject Pressure	C-9
W1	ATAAC Fan Pump Supply Pressure	I-13
W2	Differential Center Axle Clutch Pressure	I-9
W3	Differential Rear Axle Clutch Pressure	I-8

RH ENGINE VIEW

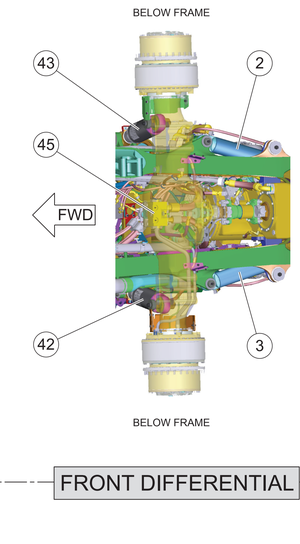
REAR EJECTOR AND BRAKE SYSTEM



HYDRAULIC OIL TANKS



HOIST CONTROL



FRONT DIFFERENTIAL

CATERPILLAR®
UENR1265
April 2011

Schematic

740B Ejector Articulated Truck Hydraulic System

L4F1-UP
T4S1-UP

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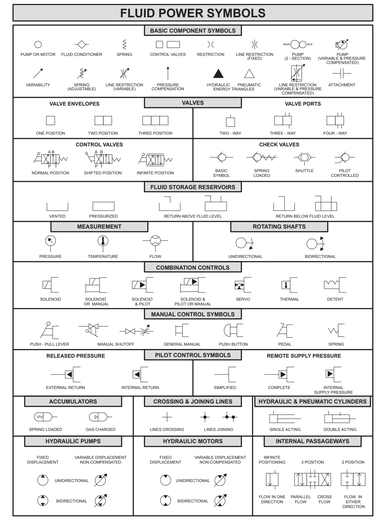
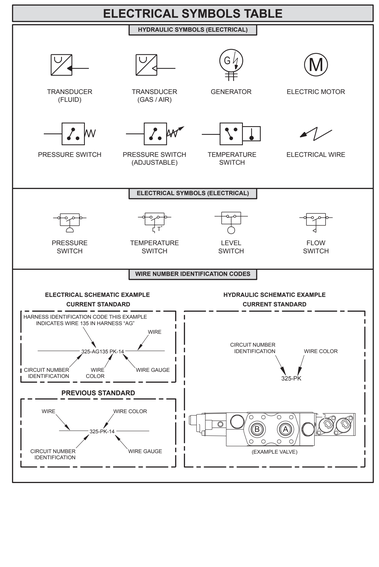
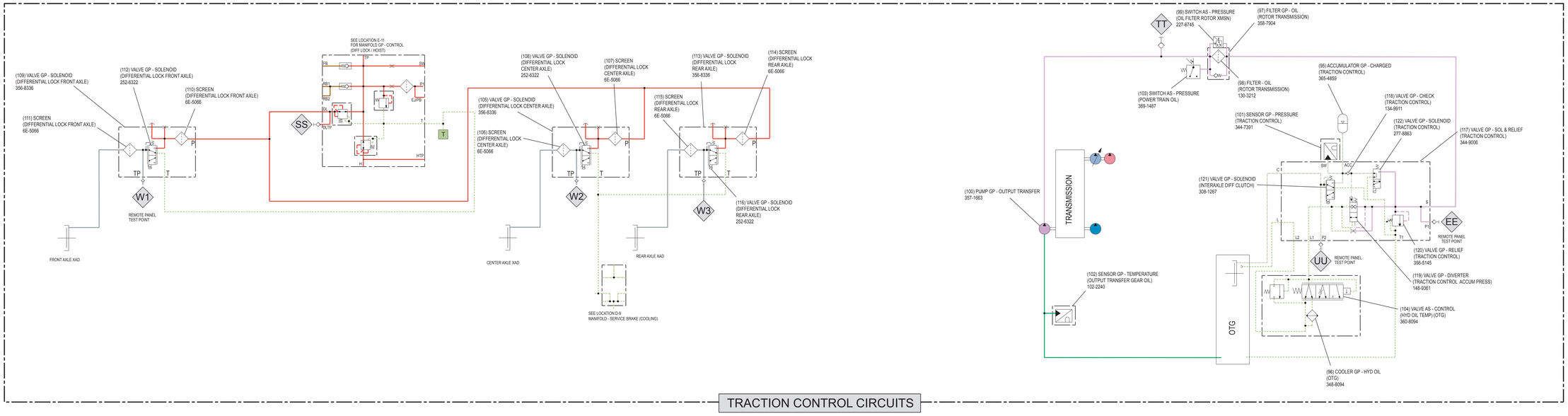
UENR1265
36 Page, (Dimensions: 48 inches x 35 inches)



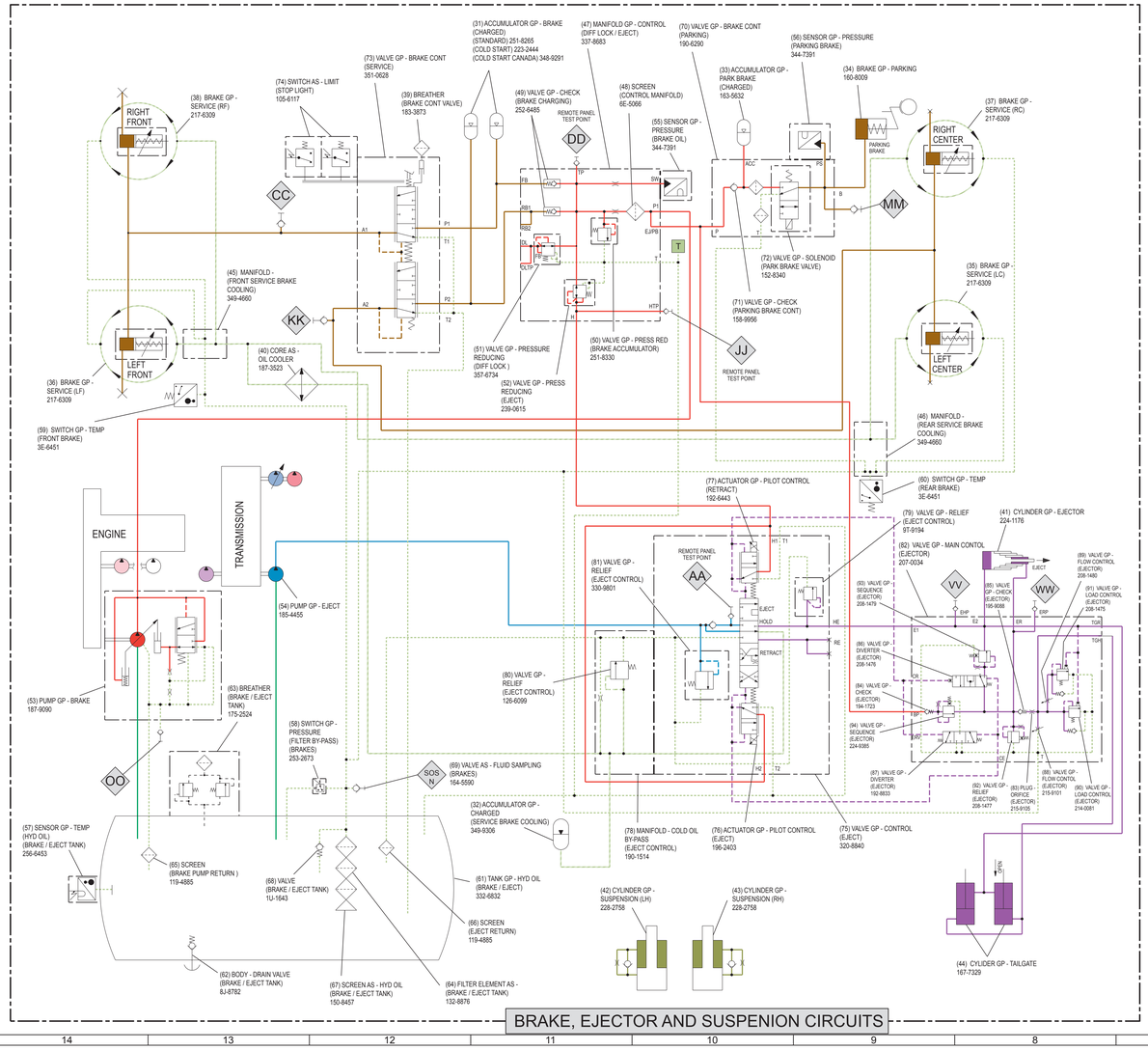


UENR1265

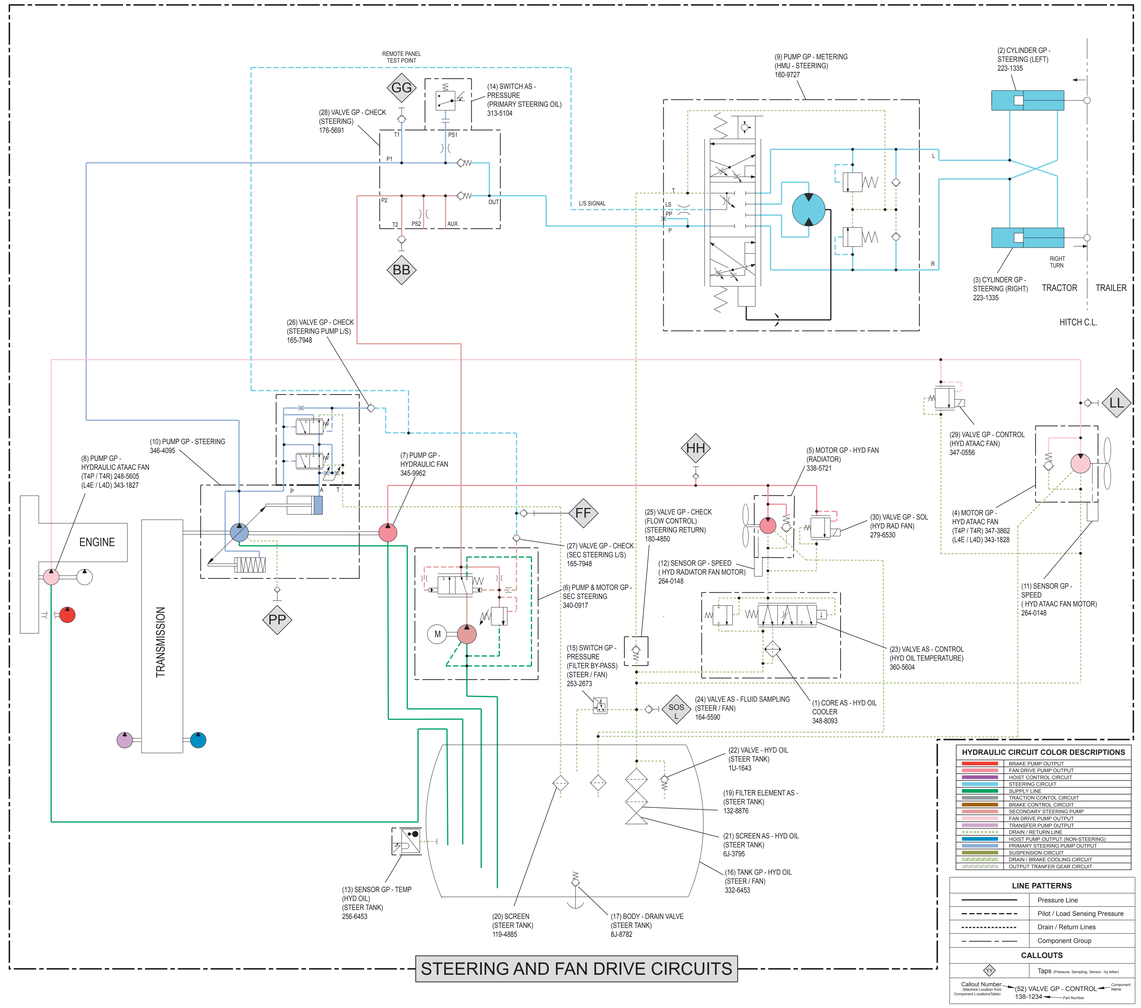
36 Page, (Dimensions: 48 inches x 35 inches)



TRACTION CONTROL CIRCUITS



BRAKE, EJECTOR AND SUSPENION CIRCUITS



STEERING AND FAN DRIVE CIRCUITS

HYDRAULIC CIRCUIT COLOR DESCRIPTIONS	
	BRAKE PUMP OUTPUT
	FAN DRIVE PUMP OUTPUT
	HOIST CONTROL CIRCUIT
	STEERING CIRCUIT
	SUPPLY LINE
	TRACTION CONTROL CIRCUIT
	BRAKE CONTROL CIRCUIT
	SECONDARY STEERING PUMP
	FAN DRIVE PUMP OUTPUT
	TRANSFER PUMP OUTPUT
	DRAIN / RETURN CIRCUIT
	HOIST PUMP OUTPUT (NON-STEERING)
	HOIST PUMP (EJECT) PUMP OUTPUT
	SUSPENSION CIRCUIT
	DRAIN / BRAKE COOLING CIRCUIT
	OUTPUT TRANFER GEAR CIRCUIT

LINE PATTERNS	
	Pressure Line
	Pilot / Load Sensing Pressure
	Drain / Return Lines
	Component Group

CALLOUTS	
	Taps (Pressure, Sampling, Sensor - by letter)

Callout Number - (Machine Location from Component Locations Page) — (52) VALVE GP - CONTROL — Component Name
138-1234 — Part Number

THIS SCHEMATIC IS FOR THE 740B EJECTOR ARTICULATED TRUCK HYDRAULIC SYSTEM

MEDIA NUMBER: UENR1265

SCHEMATIC PART NUMBER: 330-8985, CHANGE: 02, VERSION: -

Components are shown installed on a fully operable machine with the key and engine off, transmission shifter in neutral and with parking brake set.

Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.