Magnum 235
Magnum 260
Magnum 290
Magnum 315
Magnum 340
Magnum 370
Continuously Variable Transmission (CVT) Tractor

PIN ZCRD02588 and above

SERVICE MANUAL

Part number 47533562
2nd edition English
October 2013

CASE IH AGRICULTURE

MidWestTech | Case Magnum 235, 260, 290, 315, 340, 370 CVT Tractor Service Manual | Publication 47533562
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Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1

[10.101] Cylinder heads 10.2

[10.114] Pump drives 10.3

[10.202] Air cleaners and lines 10.4

[10.216] Fuel tanks 10.5

[10.310] Aftercooler 10.6

[10.400] Engine cooling system 10.7

[10.414] Fan and drive 10.8

[10.500] Selective Catalytic Reduction (SCR) exhaust treatment 10.9

Power coupling 19

[19.100] Drive shaft 19.1

Transmission 21

[21.504] Continuously Variable Transmission (CVT) 21.1

[21.505] Continuously Variable Transmission (CVT) external controls 21.2

[21.507] Continuously Variable Transmission (CVT) internal components 21.3

[21.506] Continuously Variable Transmission (CVT) lubrication system 21.4

Four-Wheel Drive (4WD) system 23

[23.202] Electro-hydraulic control 23.1

[23.314] Drive shaft 23.2

Front axle system 25

[25.100] Powered front axle 25.1

[25.102] Front bevel gear set and differential 25.2

[25.108] Final drive hub, steering knuckles, and shafts 25.3

[25.122] Axle suspension control 25.4

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Rear axle system 27
[27.100] Powered rear axle 27.1
[27.106] Rear bevel gear set and differential 27.2
[27.120] Planetary and final drives 27.3
Power Take-Off (PTO) 31
[31.104] Rear electro-hydraulic control 31.1
[31.110] One-speed rear Power Take-Off (PTO) 31.2
[31.114] Two-speed rear Power Take-Off (PTO) 31.3
[31.146] Front Power Take-Off (PTO) 31.4
Brakes and controls 33
[33.110] Parking brake or parking lock 33.1
[33.202] Hydraulic service brakes 33.2
[33.220] Trailer brake hydraulic control 33.3
[33.224] Trailer brake pneumatic control 33.4
Hydraulic systems 35
[35.000] Hydraulic systems 35.1
[35.102] Pump control valves 35.2
[35.106] Variable displacement pump 35.3
[35.114] Three-point hitch control valve 35.4
[35.124] Three-point hitch hydraulic adjustment 35.5
[35.204] Remote control valves 35.6
[35.300] Reservoir, cooler, and filters 35.7
[35.304] Combination pump units 35.8
Pneumatic system 36
[36.100] Pneumatic system 36.1
Hitches, drawbars, and implement couplings 37
[37.110] Rear three-point hitch 37.1
[37.162] Front hitch 37.2

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Steering 41
[41.101] Steering control 41.1
[41.200] Hydraulic control components 41.2
[41.206] Pump 41.3
Cab climate control 50
[50.100] Heating 50.1
[50.200] Air conditioning 50.2
[50.300] Cab pressurizing system 50.3
Electrical systems 55
[55.012] Engine cooling system 55.1
[55.015] Engine control system 55.2
[55.024] Transmission control system 55.3
[55.045] Front axle control system 55.4
[55.046] Rear axle control system 55.5
[55.050] Heating, Ventilation, and Air-Conditioning (HVAC) control system 55.6
[55.051] Cab Heating, Ventilation, and Air-Conditioning (HVAC) controls 55.7
[55.100] Harnesses and connectors 55.8
[55.130] Rear three-point hitch electronic control system 55.9
[55.201] Engine starting system 55.10
[55.301] Alternator 55.11
[55.302] Battery 55.12
[55.404] External lighting 55.13
[55.405] External lighting switches and relays 55.14
[55.408] Warning indicators, alarms, and instruments 55.15
[55.512] Cab controls 55.16
[55.514] Cab lighting 55.17
[55.518] Wiper and washer system 55.18

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Air conditioning - Problem solving

Magnum 235, Magnum 260, Magnum 290, Magnum 315, Magnum 340

This troubleshooting, in combination with measurements from the test gauges, should be used when insufficient cooling from the evaporator is apparent.

OPERATION

Metric standard

Ambient temp	Normal low side pressure		Normal high side pressure		Louver temperature*		Fan speed***
	Low relative humidity**	High relative humidity	Low relative humidity**	High relative humidity	Low relative humidity**	High relative humidity	RPM range
21 °C	117 - 138 kPa	145 - 172 kPa	938 - 1117 kPa	1040 - 1214 kPa	13 °C	17 °C	710 - 770 RPM
27 °C	145 - 172 kPa	172 - 207 kPa	1158 - 1379 kPa	1262 - 1469 kPa	16 °C	19 °C	770 - 810 RPM
32 °C	179 - 207 kPa	207 - 234 kPa	1372 - 1641 kPa	1482 - 1724 kPa	19 °C	22 °C	820 - 860 RPM
38 °C	200 - 241 kPa	228 - 276 kPa	1593 - 1951 kPa	1662 - 2027 kPa	22 °C	25 °C	1150 - 1410 RPM
43 °C	228 - 276 kPa	255 - 319 kPa	1813 - 2213 kPa	1875 - 2289 kPa	25 °C	27 °C	1320 - 1440 RPM
49 °C	255 - 319 kPa	283 - 345 kPa	2034 - 2482 kPa	2089 - 2551 kPa	28 °C	30 °C	1460 - 1500 RPM

U.S. standard

Ambient temp	Normal low side pressure		Normal high side pressure		Louver temperature*		Fan speed***
	Low relative humidity**	High relative humidity	Low relative humidity**	High relative humidity	Low relative humidity**	High relative humidity	RPM range
70 °F	17 - 20 psi	21 - 25 psi	136 - 162 psi	151 - 176 psi	55 °F	62 °F	710 - 770 RPM
80 °F	21 - 25 psi	25 - 30 psi	168 - 200 psi	183 - 213 psi	60 °F	67 °F	770 - 810 RPM
90 °F	26 - 30 psi	30 - 34 psi	199 - 238 psi	215 - 250 psi	67 °F	71 °F	820 - 860 RPM
100 °F	29 - 35 psi	33 - 40 psi	231 - 283 psi	241 - 294 psi	71 °F	76 °F	1150 - 1410 RPM
110 °F	33 - 40 psi	37 - 45 psi	263 - 321 psi	272 - 332 psi	77 °F	81 °F	1320 - 1440 RPM
120 °F	37 - 45 psi	41 - 50 psi	295 - 360 psi	303 - 370 psi	82 °F	86 °F	1460 - 1500 RPM

* Temperatures shown are the highest normal temperatures expected at the louvers; actual temperatures may be cooler. Louver temperature should be measured in the louvers facing the operator.

** Compressor clutch cycling may occur under low humidity, low temperature conditions.

*** Fan speed significantly affects discharge pressure. Values are for reference only.

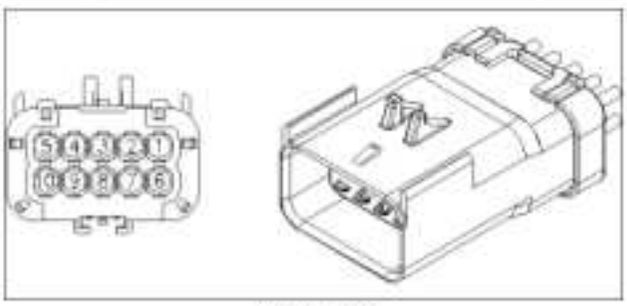
TROUBLESHOOTING

1. Special tools
   - refrigerant recovery station,
   - refrigerant identifier,
   - compressor dip stick,
   - and a stem type thermometer to measure air temperature out of the louvers.

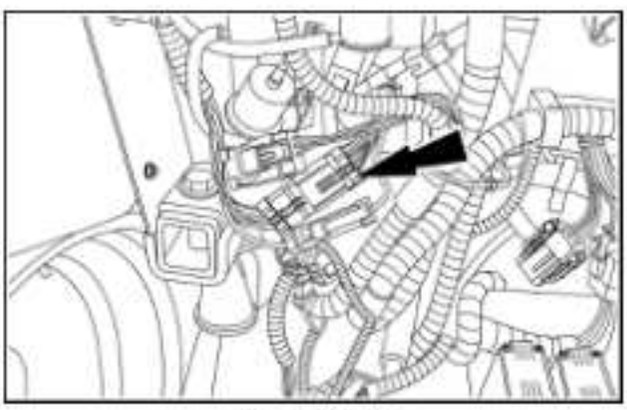
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CONNECTOR X-1020 - LEFT FENDER TO CHASSIS HARNESS

CONNECTOR X-1020 - LEFT FENDER TO CHASSIS HARNESS			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	787D (OR) 787FB (OR)	LEFT WORKLIGHT B+ WORKLIGHTS +	
2	753B (VT) 976A (VT)	LEFT TURN LIGHT DISPLAY UNSW B+	
3	573FC (VT) 751M (VT)	WIDE MARKER LIGHT LEFT STOP/WIDE MARKER LIGHT	
4	755FB (OR) 755J (OR)	STOP LIGHT BRAKE LIGHTS	
5	750FB (VT) 750F (VT)	TAIL LEFT TAIL LIGHTS	
6	599AB (OR) 599U (OR)	B+ TCU VH B+	
7	452B (YE) 955A (YE)	REMOTE PTO NC PTO SWITCH NC	
8	454B (BL) 956A (BL)	REMOTE PTO NO PTO SWITCH LEFT NO	
9	2032C (YE) 399F (YE)	R/L EHR TOP LINK EXTEND REMOTE EHR NO (EXTEND)	
10	2033C (YE) 958D (YE)	R/L EHR TOP LINK RETRACT REMOTE EHR NC (RETRACT)	



22



23

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A. Error code does not redisplay. Return unit to field operation.

B. Error code redisplays. Continue to step **5**.

5. Swap the pilot head causing the error with another pilot head.

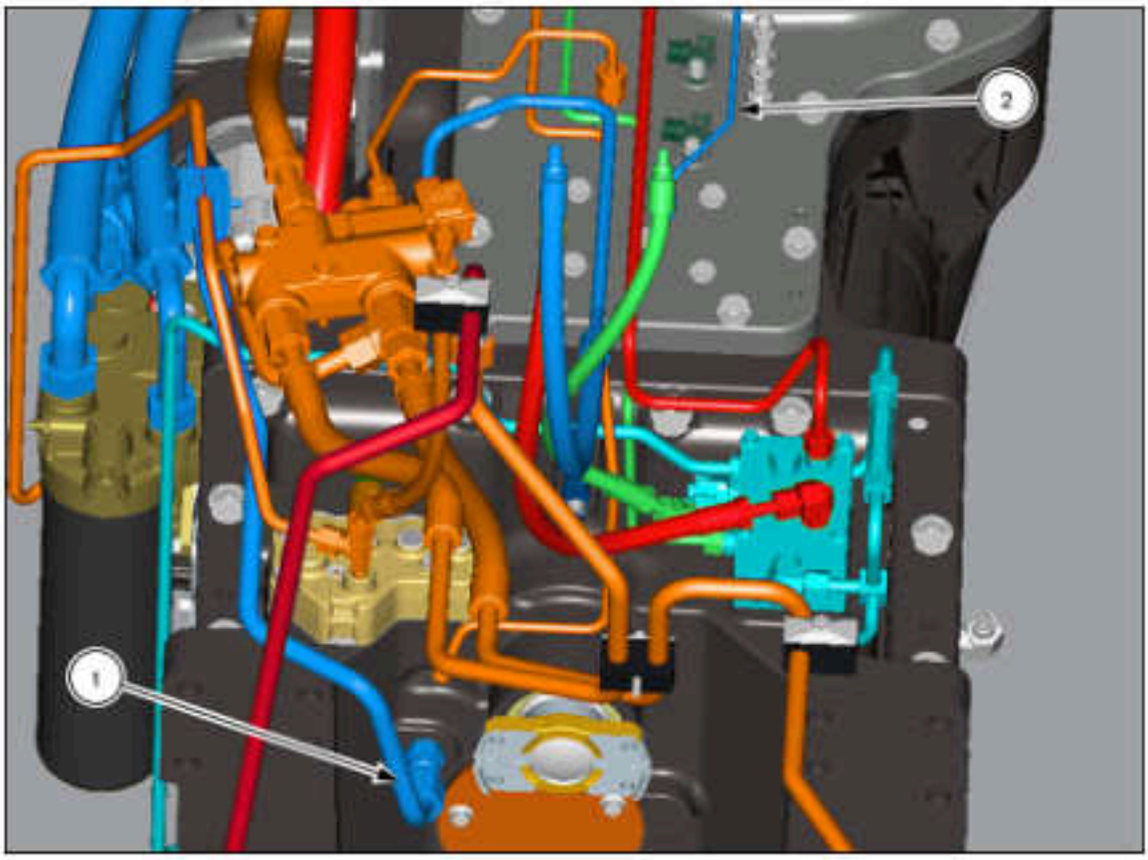
   Retest system operation.

   A. Error code follows the pilot head move. Replace the pilot head. Return unit to field operation.

   B. Error code does not follow the pilot head move. Return the pilot heads to their original location and submit a concern to ASIST.

Wire harnesses - Electrical schematic frame 18 (55.100.DP-C.20.E.18)

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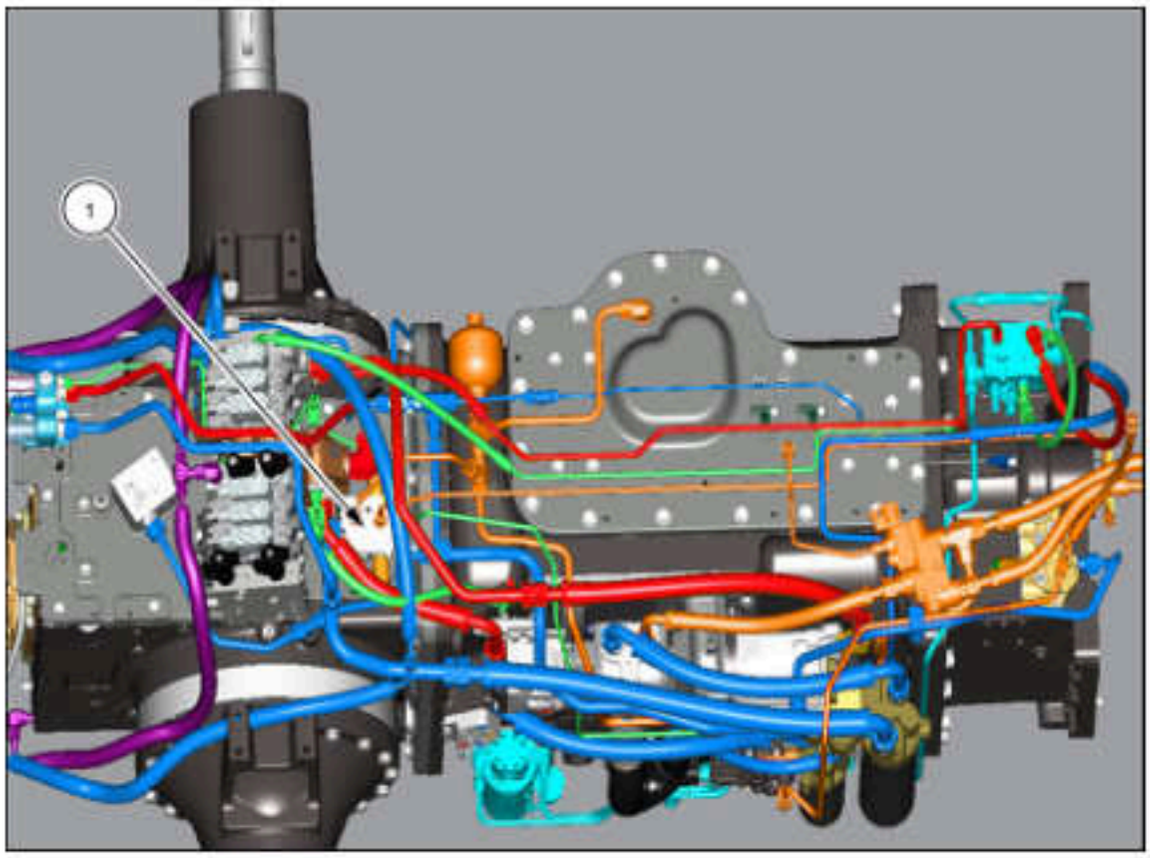
RAIL13TR00668FA 2

1. Front cover lube line	2. Front CVT hydro bearing lube

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Power Take-Off (PTO) control valve - Dynamic description

The PTO/diff lock valve is located on top of the rear frame housing. The PTO/diff lock valve controls the PTO and diff lock operation. The PTO/diff lock valve also controls and distributes lube flow.



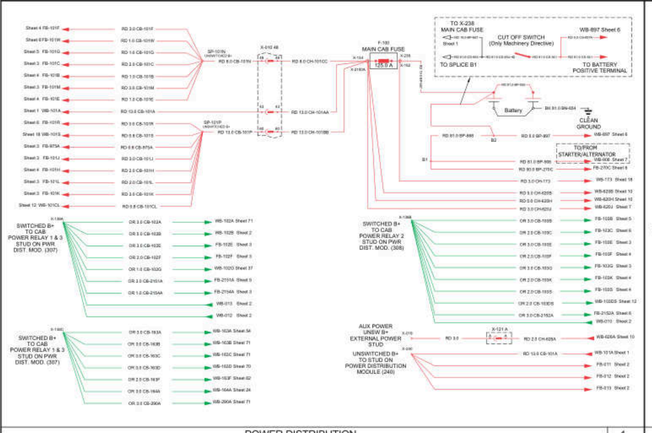
RAIL1STR30652FA 1

1. PTO/diff lock valve	

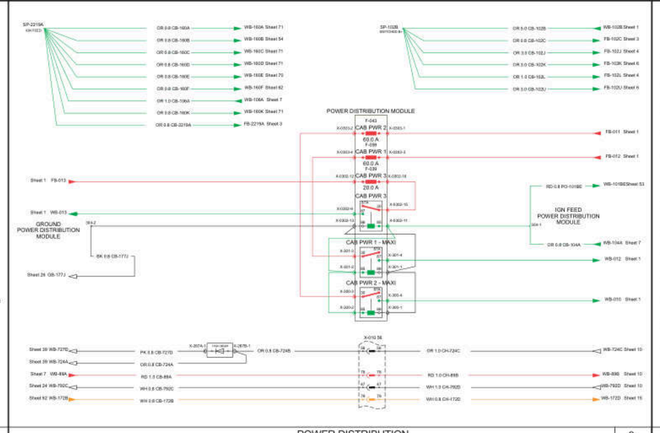
The regulated pressure circuit supplies the PTO and diff lock functions. The regulated supply to both the PTO and diff lock is limited to **22.4 - 24.5 bar** (**325 - 355 psi**). The supply to the PTO clutch and diff lock are internally ported through the rear frame assembly.

The charge/lube circuit supplies the lube portion of the valve. The lube points include the diff lock, pinion, front and rear hydro bearings and service brakes. The amount of lube to the left and right brakes is controlled through the lube solenoid valve. The lube solenoid minimizes lube to brakes, when the brakes are not applied. Once the brakes are applied a signal from brake pedal switch, energizes the lube solenoid. The lube pressure is directed to the base of the lube spool. As pressure builds the spool shifts up increasing the lube flow to the brakes.

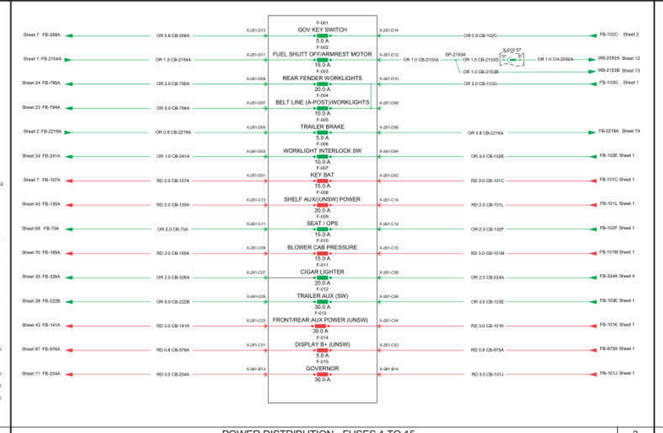
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POWER DISTRIBUTION | 1



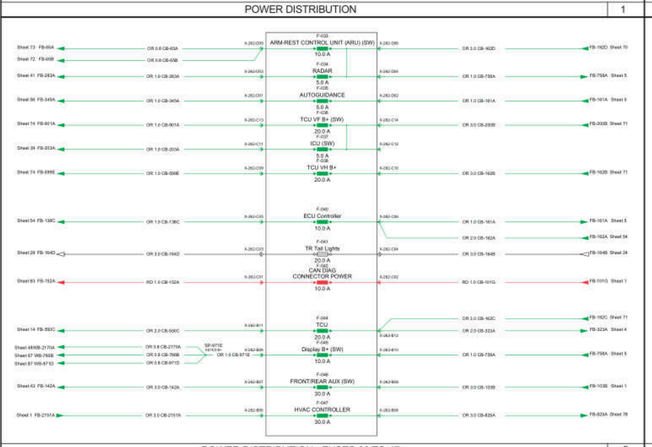
POWER DISTRIBUTION | 2



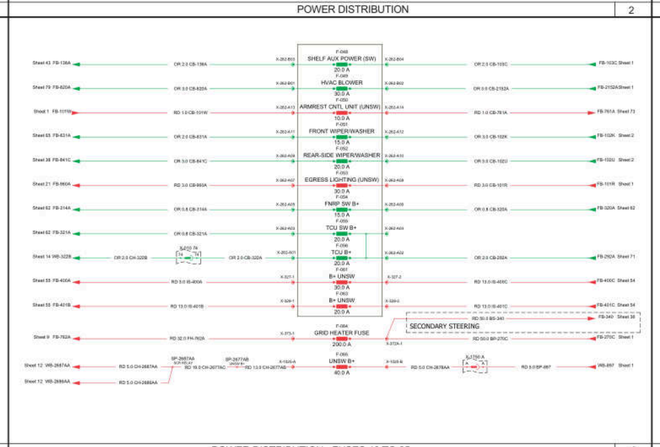
POWER DISTRIBUTION - FUSES 1 TO 15 | 3



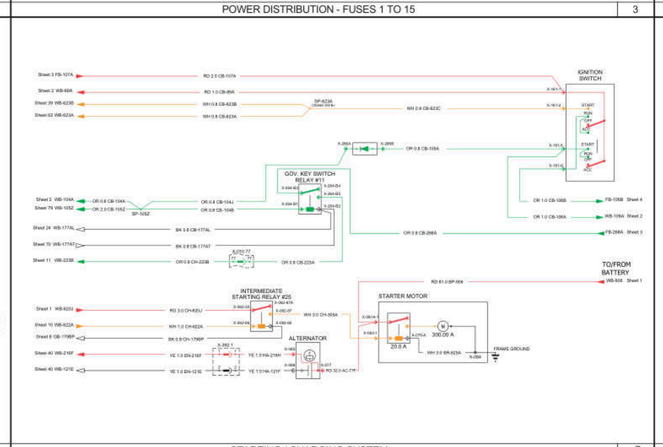
POWER DISTRIBUTION - FUSES 16 TO 32 | 4



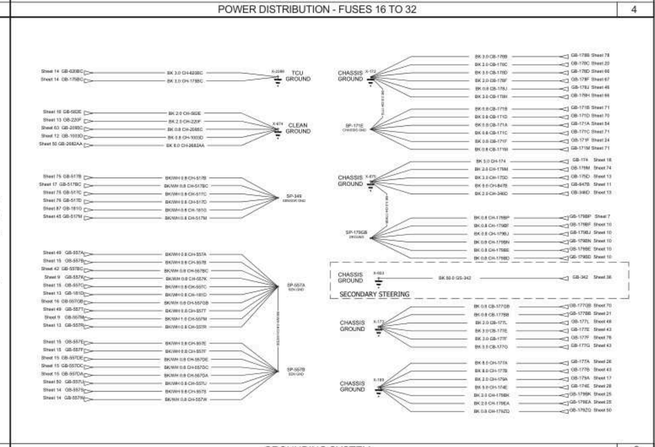
POWER DISTRIBUTION - FUSES 33 TO 47 | 5



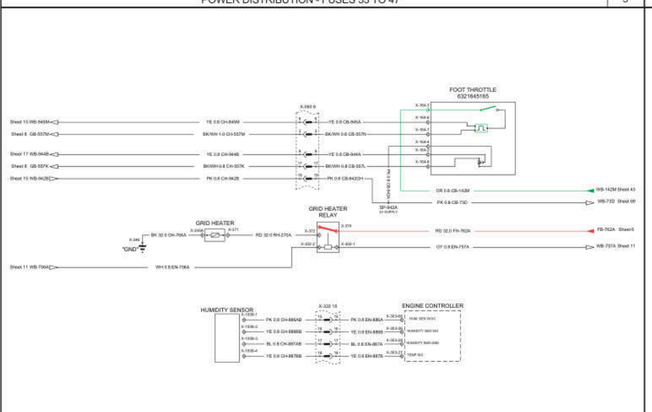
POWER DISTRIBUTION - FUSES 48 TO 65 | 6



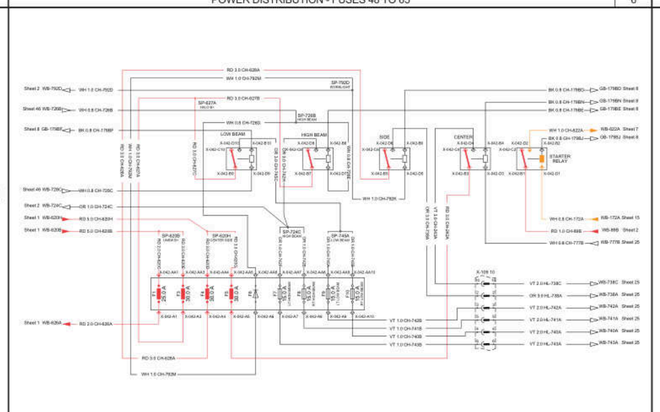
STARTING / CHARGING SYSTEM | 7



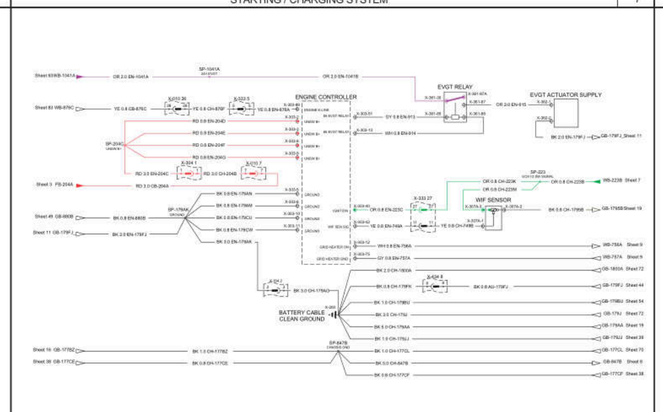
GROUNDING SYSTEM | 8



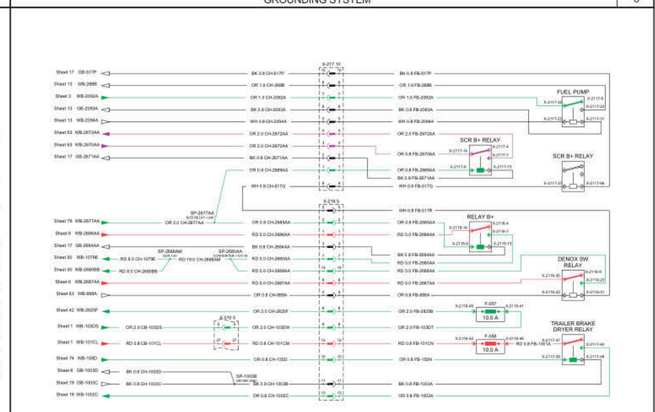
ELECTRONIC ENGINE | 9



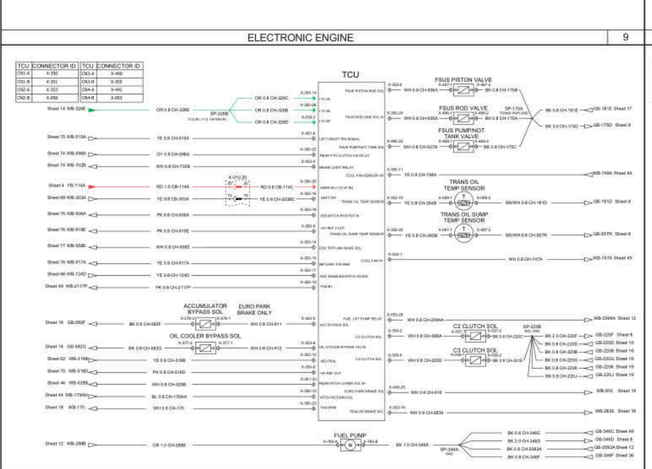
ENGINE FUSE BOX | 10



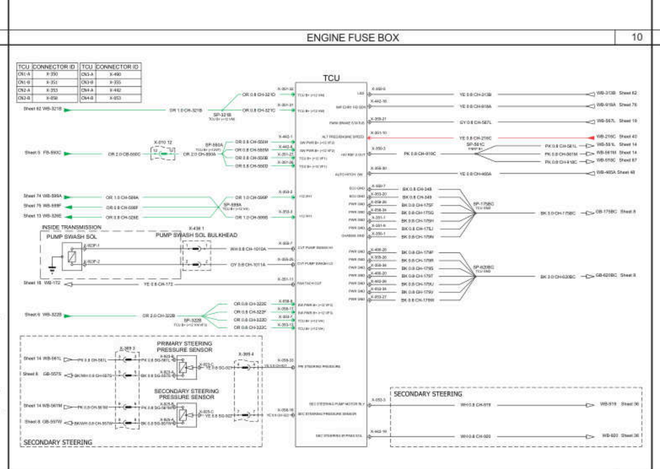
ELECTRONIC ENGINE CONTROLLER | 11



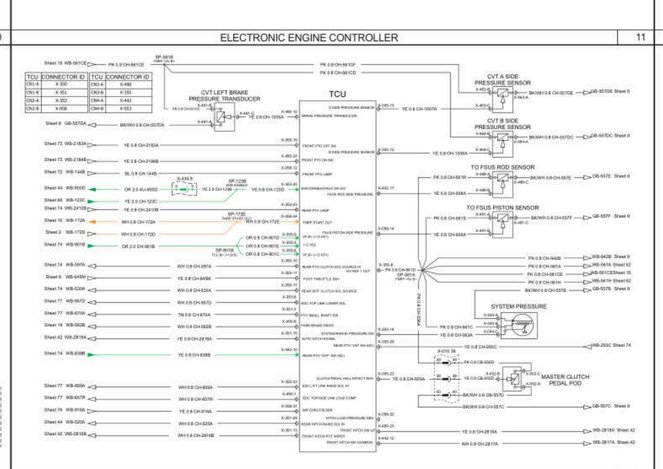
FUSES AND RELAYS BOX | 12



TRANSMISSION CONTROL SYSTEM | 13



TRANSMISSION CONTROL SYSTEM | 14



TRANSMISSION CONTROL SYSTEM | 15

MAGNUM 235, 260, 290, 315, 340 AND 370 TRACTOR SERIES WITH CONTINUOUSLY VARIABLE TRANSMISSION (CVT) ELECTRICAL SCHEMATIC RAC 47451825

LEGEND

- INDICATES CONSTANT POWER
- INDICATES POWER WHEN KEY SWITCH IS ON
- INDICATES POWER WHEN KEY SWITCH IS IN START POSITION
- INDICATES 24 VOLT CIRCUIT

RAC47451825S1S1

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