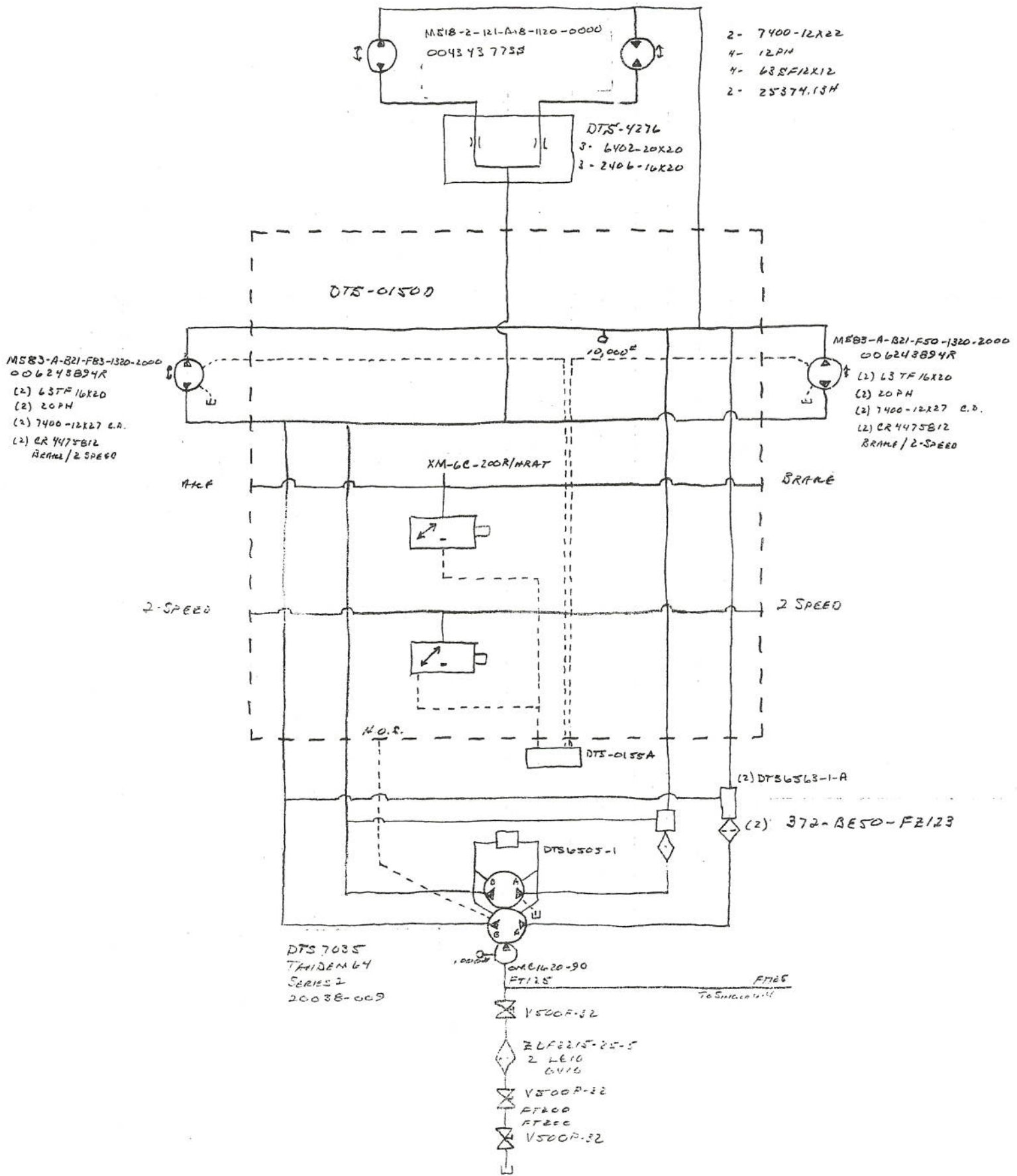


FD 7815

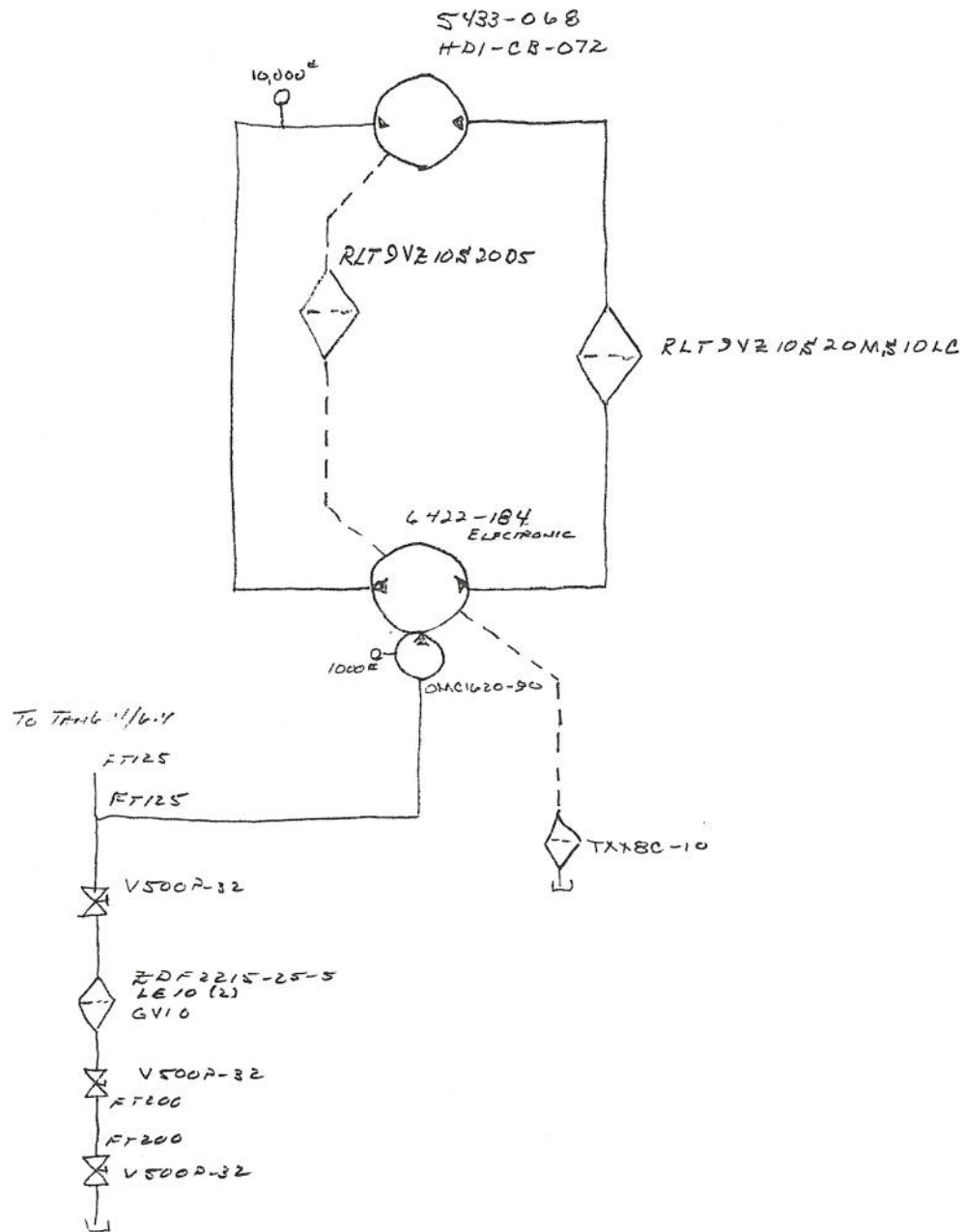
PARA MOUNT Farms

4RSPH $\frac{w}{65}$ " AH

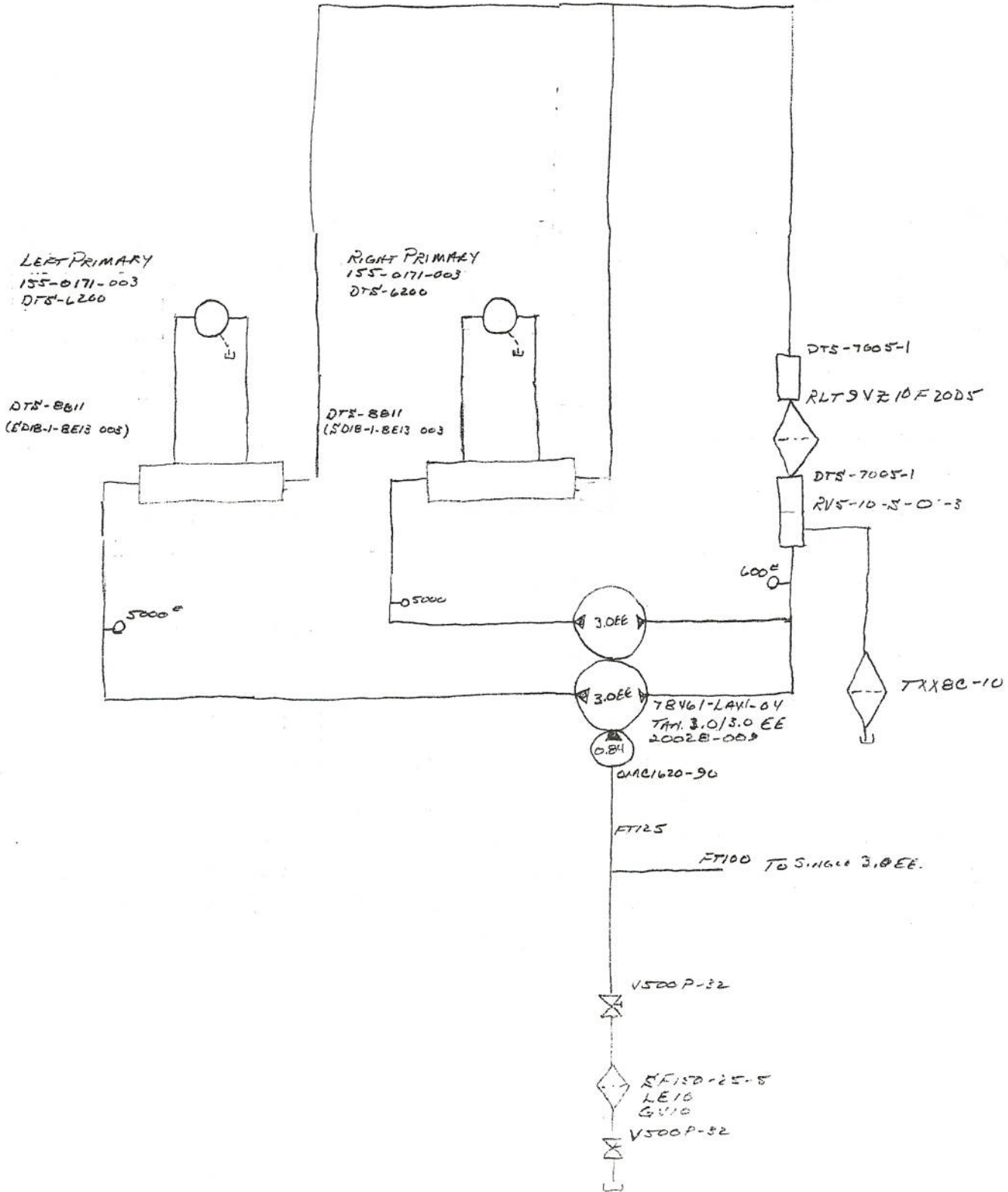
12/10/62
 #07015
 PARTS LIST
 4 RSPH 4/65" - TANK



12/18/06
#07015
PHEASANT FARMS
4RS44 W/LS"-TANK

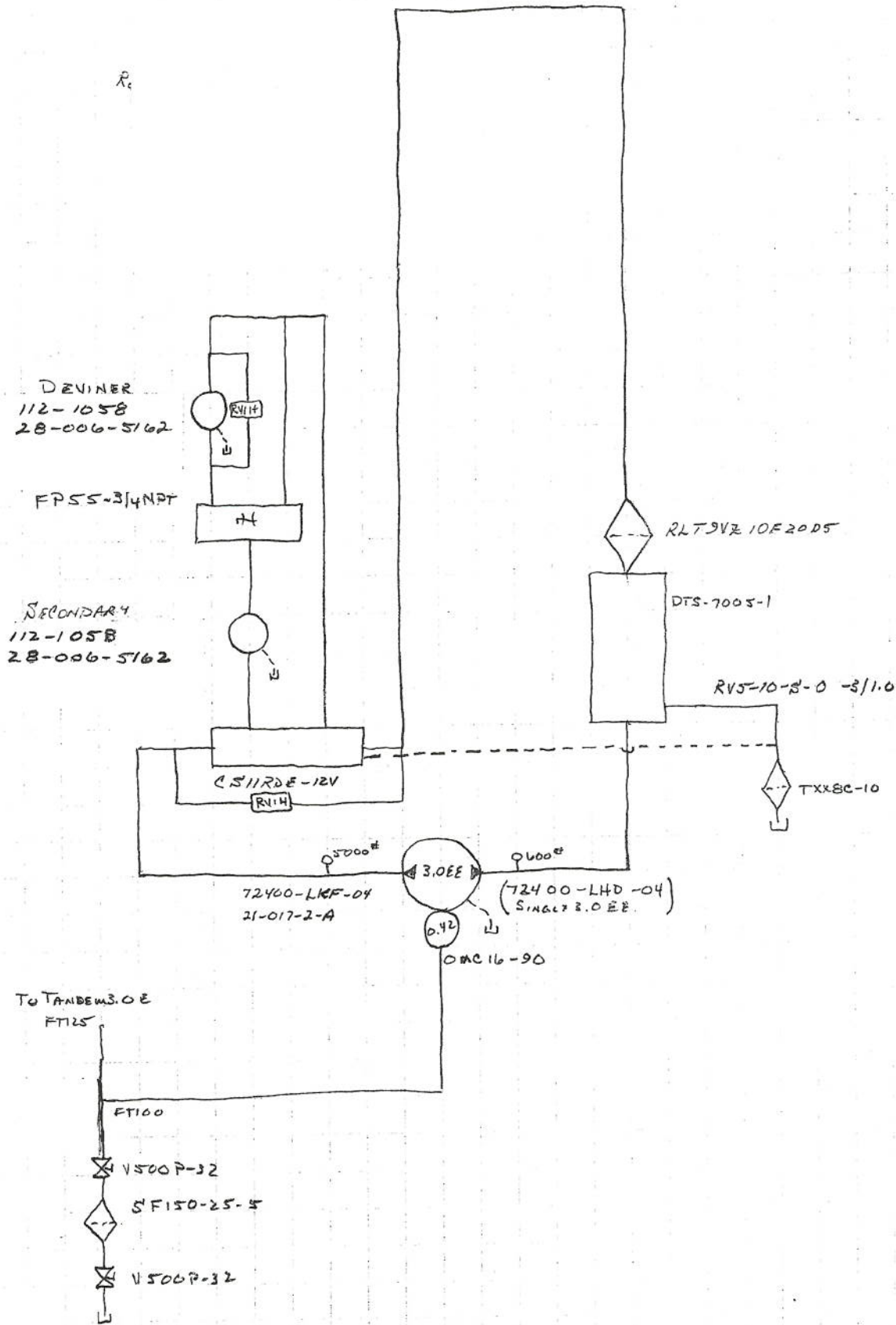


12/18/06
 #07015
 PARAMOUNT FARMS
 4RSPH W/65" TRAIL



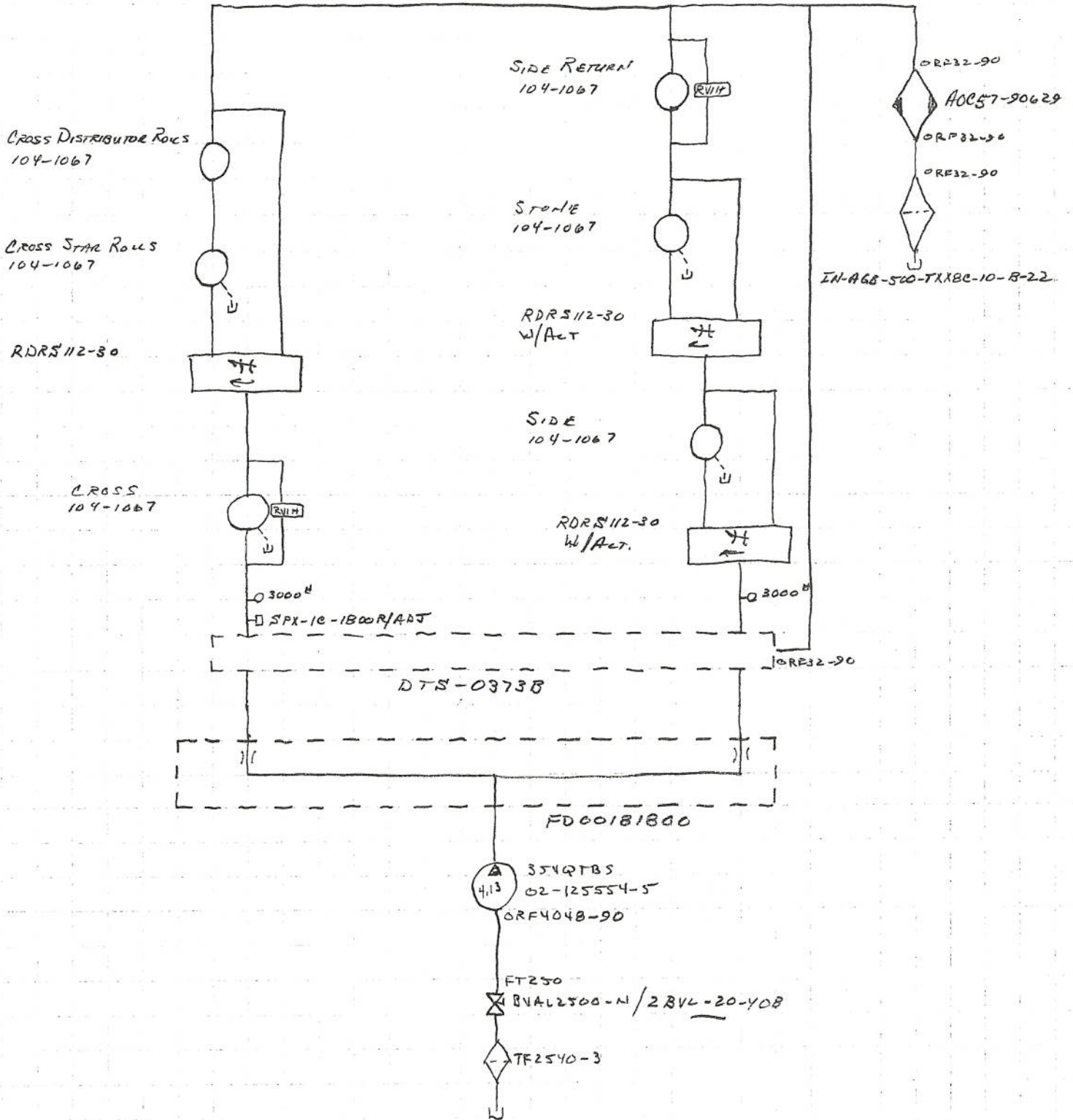
SECONDARY CIRCUIT

2/1/07
 207015
 PARALLEL FIRMS
 4RSPH/6S²-TRAIL-AFE TABLE-
 LEVELING

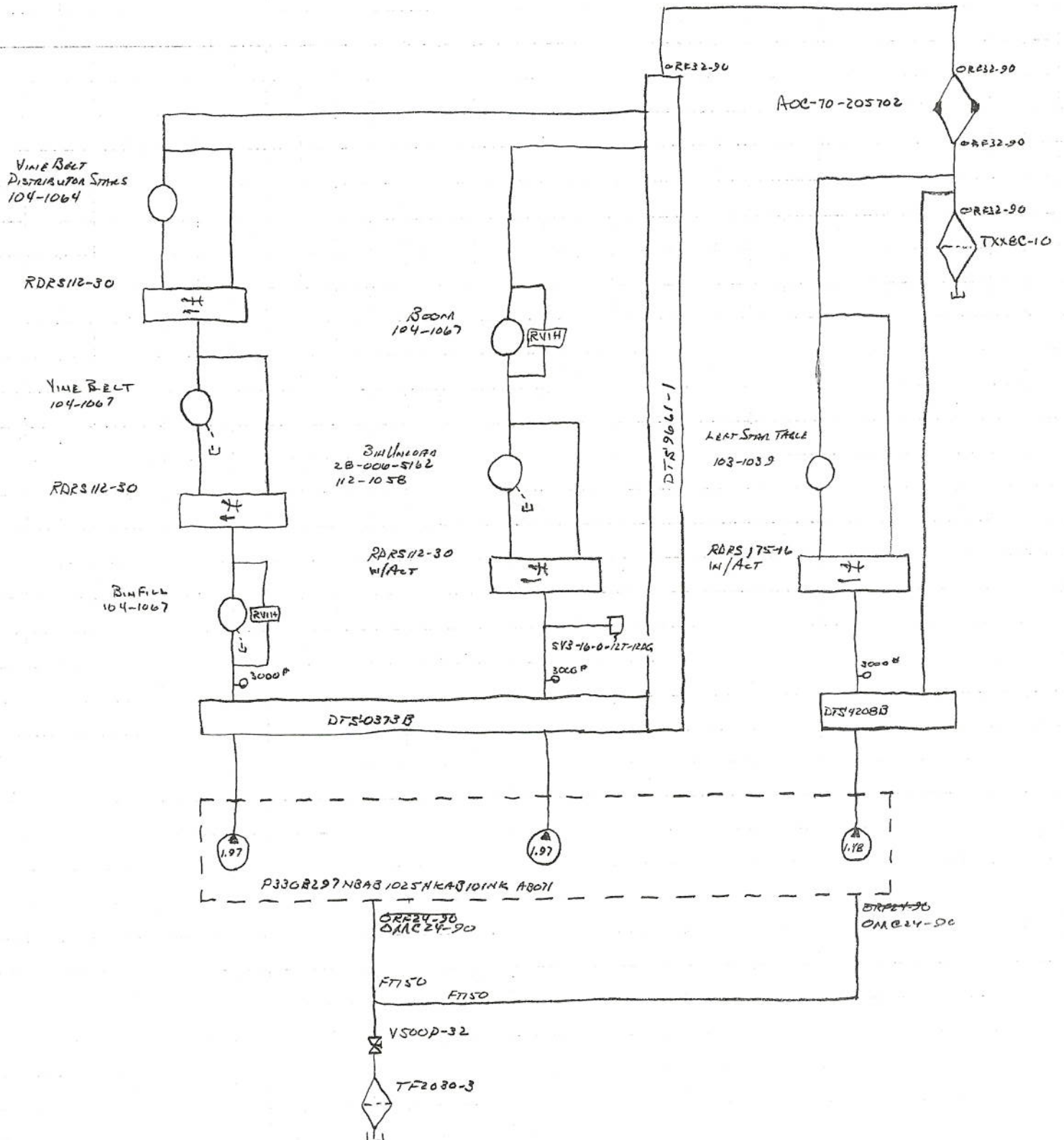


SIDE / CROSS CIRCUITS

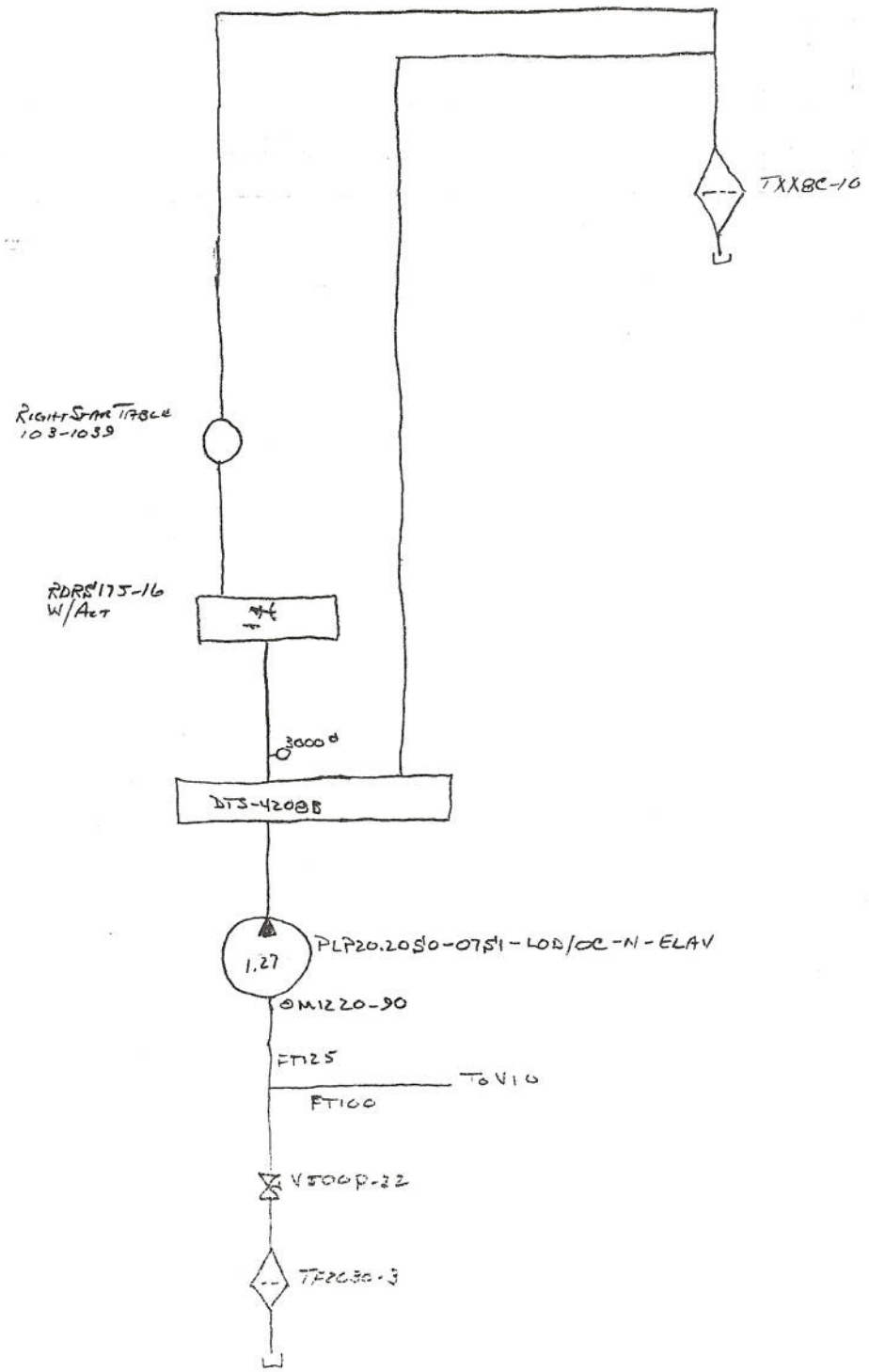
1-10-70
#07015
PARAMOUNT FIRMS
4RSPH/65'-TRAIL



12/18/06
 #67015
 PARANONIT FARMS
 4RSPH W/65" TANK

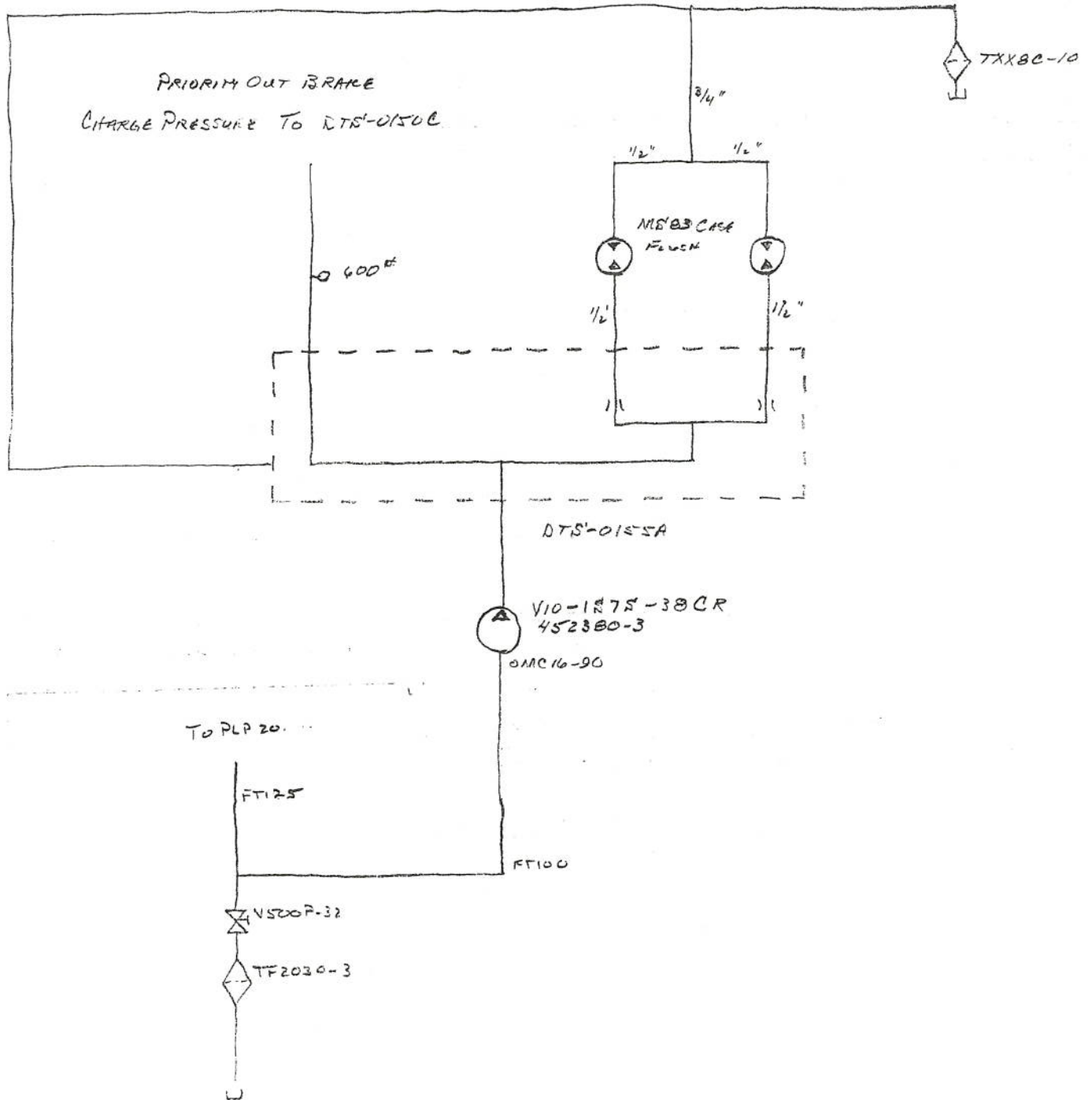


12/18/05
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4RSPH W/65" TANK

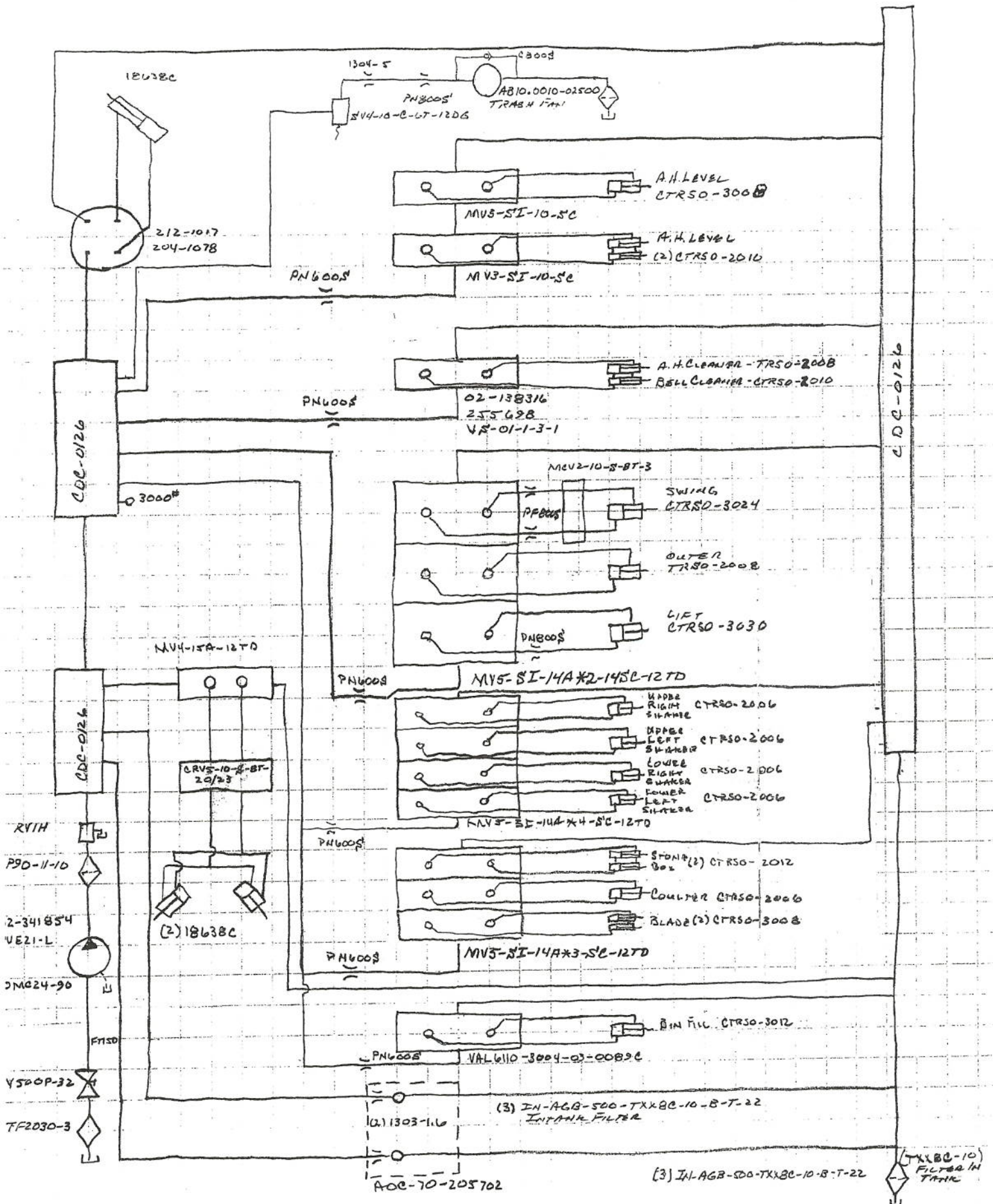


BRAKE CHARGE PRESSURE / CASE FLUSHING

12/18/06
#07015
DRAUGHTSMAN
4RSPT 1/16" L-TANK



STEERING - VALVE BANK CIRCUITS

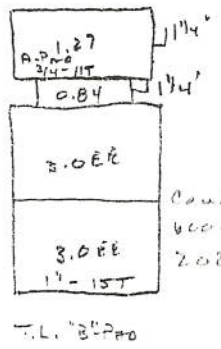
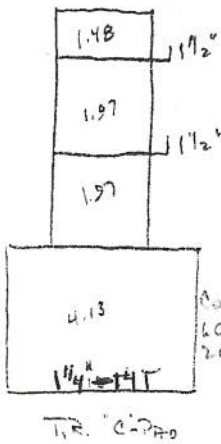
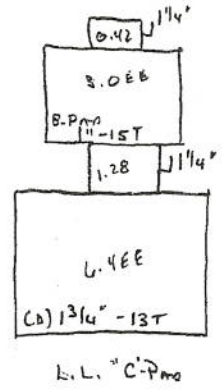
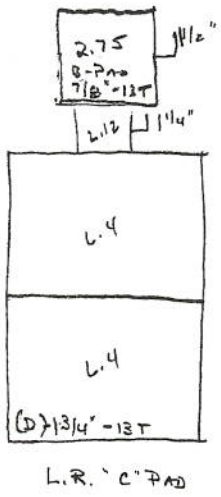


- ④
 TF2540-3
 2 1/2 CLS N/A
 2BVL20-40B
 FT250
 * 35VQTB5
- ③
 3" X 2" BUSH
 2" CLS N/A
 V500P-32
 FT200
 FT200
 V500P-32
 2" CLS N/A
 2" 90° STEEL
 W43-32PK
 20F2215-25-5
 W43-32PK
 2" 90° STEEL
 2" CLS N/A
 V500P-32
 2" CLS N/A
 2" TEE X
 2" X 1 1/4" BUSH
 X FT125
 2" 90° STEEL
 2" X 1 1/4" BUSH
 FT125
 * T6.4/6.4 * L.4EE

- ③
 TF2030-3
 2" CLS N/A
 V500P-32
 2" X 1 1/2" BUSH
 FT150
 * PVEZIL
- ③
 TF2030-3
 2" CLS N/A
 V500P-32
 2" CLS N/A
 2" TEE X
 X 2" X 1 1/2" BUSH
 FT150
 * TRIPLE COMMAN.
 2" 90° STEEL
 2" X 1 1/2" BUSH
 FT150
 * TRIPLE COMMAN

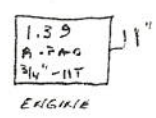
- ③
 TF2030-3
 2" CLS N/A
 V500P-32
 2" CLS N/A
 2" TEE X
 X 2" X 1 1/4" BUSH
 FT125
 * PLP20.20
 2" 90° STEEL
 2" X 1" BUSH
 FT100
 * V10

- ④
 4" X 2" BUSH
 2" CLS N/A
 V500P-32
 2" X 1 1/2" BUSH
 1 1/2" CLS N/A
 8F150-25-5
 1 1/2" CLS N/A
 2" X 1 1/2" BUSH
 V500P-32
 2" CLS N/A
 2" TEE X
 X 2" X 1 1/4" BUSH
 FT125
 * TANDEM 3.0EE
 2" 90° STEEL
 2" X 1" BUSH
 FT100
 * SINGLE 3.0EE



- L.R - TANIK L.4
 PVEZIL
 LL L.4EE
 3.0EE
 T.R 35VQTB5
 TRIPLE COMMAN
 T.L. TANDEM 3.0.
 PLP20.20
 ENGINE VID
- GROUND DRIVE
 STEERING CIRCUIT
 AIR HEAT
 SECONDARY
 CROSS SIDE
 BIN FILL
 BIN UNLOAD
 LEFT START TABLE
 LEFT PRIMARY
 RIGHT PRIMARY
 RIGHT START TABLE
 BRAKE CHARGE PRESSURE

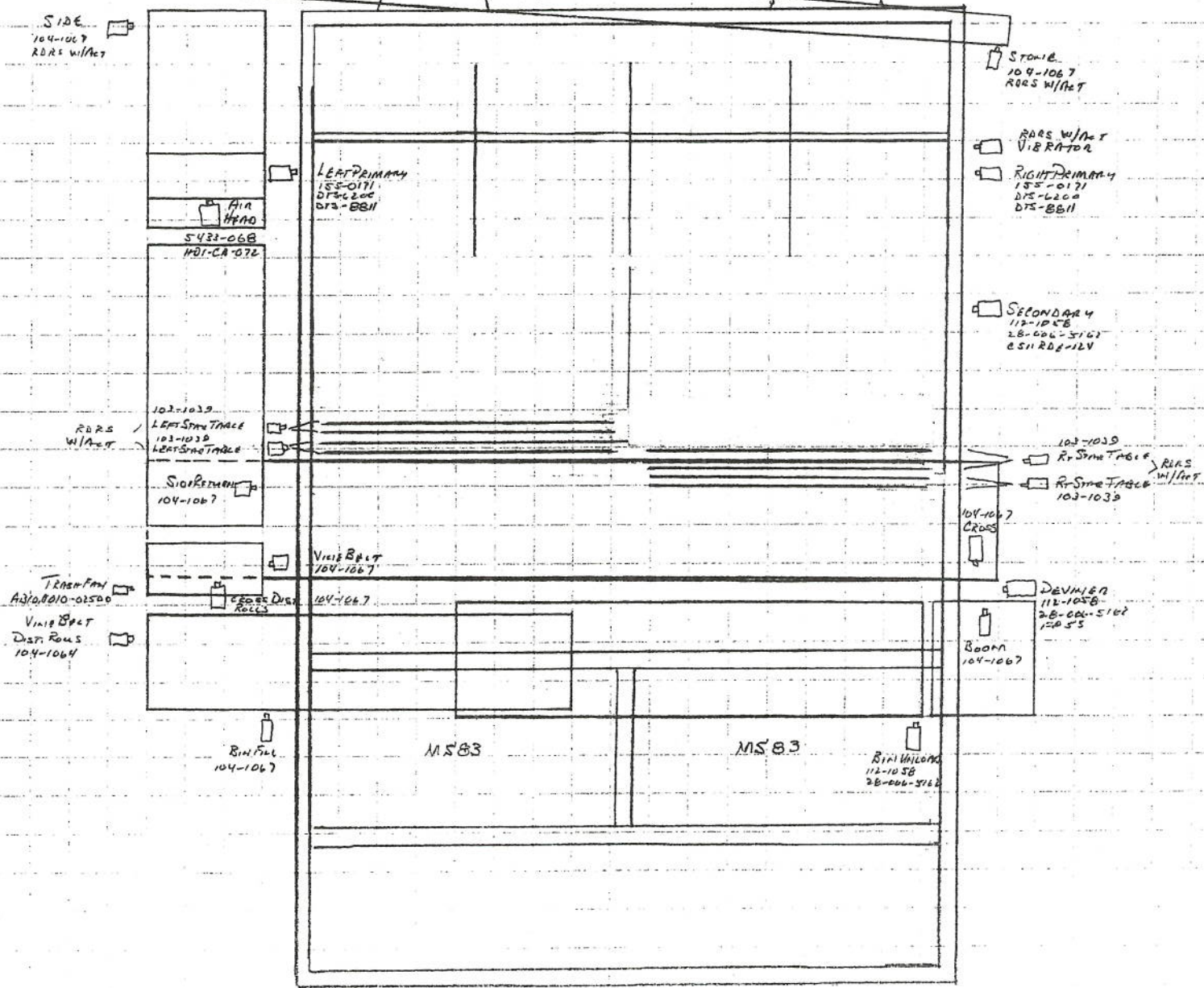
GEAR PRODUCTS DP49 GEAR BOX
 1.21 I



12/12/06
#07015
PARAMOUNT FARMS
425' x 165' - TANK

MS18-2

MS18-2



ELECTRONIC GAUGES

2/28/2007

07015

PARAMONT FARMS

SCREEN	QUANTITY	DESCRIPTION	PRICE	
SCREEN 1	10,000#	GROUND DRIVE	10,000#	
	5,000#	LEFT PRIMARY	5,000#	
	5,000#	RIGHT PRIMARY	5,000#	
	5,000#	SECONDARY	5,000#	
SCREEN 2	1,000#	GROUND DRIVE CHARGE	1,000#	
	1,000#	AIRHEAD CHARGE	1,000#	
	1,000#	AIR HEAD CHARGE PRESSURE	1,000#	
	600#	SECONDARY CHARGE	600#	
SCREEN 3	10,000#	AIRHEAD	10,000#	
	1,000#	BRAKE CHARGE	1,000#	
	3,000#	STEERING	3,000#	
SCREEN 4	3,000#	RIGHT STAR	3,000#	
	3,000#	LEFT STAR	3,000#	
	3,000#	STAR TABLE DIST	3,000#	
	3,000#	CROSS	3,000#	
SCREEN 5	3,000#	SIDE	3,000#	
	3,000#	BIN FILL	3,000#	
	3,000#	BIN UNLOAD	3,000#	

BELDEN 9444



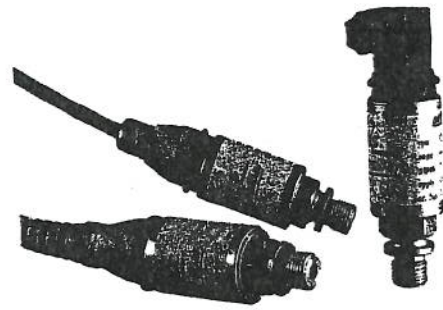
1200 Series / 1600 Series – OEM Transducers Featuring Exceptional Proof Pressure and Stability Specifications

- ▶ Gauge, Vacuum, and Compound Pressure Models
- ▶ General Purpose and Wash down Enclosures
- ▶ High Proof Pressure Achieved by Thicker Diaphragm Construction
- ▶ Voltage and Current Output Models

The 1200 Series features stability and toughness via its CVD and ASIC design coupled with a thicker diaphragm. The thicker diaphragm enables these sensors to survive most pressure spikes caused by pump ripple, solenoid valves, etc. The 1600 Series extends the packaging options by providing an all welded stainless steel back end for demanding industrial applications. A modular design allows special ordering of fittings, electrical cables, etc. for OEM applications. The ASIC and CVD technology enables Gems to offer almost any output over any pressure range.

Specifications

Input	Vacuum to 400 bar (6000 psi)
Pressure Range	4 x Full Scale (FS) (<1% FS Zero Shift)
Proof Pressure	>35 x FS <= 4 bar (60 psi);
Burst Pressure	>20 x FS <= 40 bar (600 psi); >5 x FS <= 400 bar (6000 psi)
Fatigue Life	Designed for more than 100 million FS cycles
Performance	
Supply Voltage Sensitivity	0.01% FS/Volt
Long Term Drift	0.2% FS/year (non-cumulative)
Accuracy	0.5% FS typical
Thermal Error	2.0% FS typical
Compensated Temperatures	-20°C to 80°C (-5°F to 180°F)
Operating Temperatures	-40°C to 125°C (-40°F to 260°F) for elec. codes A, B, C, 1 -20°C to 80°C (-5°F to 180°F) for elec. codes 2, D, G, 3 -20°C to 50°C (-5°F to 125°F) for elec. code F temperatures >100°C supply is limited to 24 VDC
Zero Tolerance	1% of span
Span Tolerance	1% of span
Response Time	0.5 ms
Mechanical Configuration	see ordering chart
Pressure Port	17-4 PH Stainless Steel
Wetted Parts	see ordering chart
Electrical Connection	see ordering chart
Enclosure	316 SS, 17-4 PH ss IP65 NEMA 4 for elec. codes A,B,C,D,G,1,2,3 IP67 for elec. codes F IP30 for elec. code "3" with flying leads
Vibration	70g, peak to peak sinusoidal, 5 to 2000 Hz (Random Vibration: 20 to 200 Hz @ ≈20g Peak per MIL-STD.-810E Method 514.4)
Acceleration	100g steady acceleration in any direction 0.032% FS/g for 1 bar (15 psi) range decreasing logarithmically to 0.0007% FS/g for 400 bar (6000 psi) range.
Shock	20g, 11 ms, per MIL-STD.-810E Method 516.4 Procedure I
Approvals	CE, UR (12 ET, 16 ET Intrinsically safe)
Weight	approx. 100 grams (additional; cable 75 g/m)



PRESSURE TRANSDUCERS

Along with the superiority of the CVD strain gauge, Psibar® transducers incorporate components to leverage the sensing element's strength. The output is a product with a unique balance of performance and value unmatched in today's pressure sensing market.



Thicker diaphragm for handling pulsating pressures – all stainless steel wetted parts.

CVD sensor stability and high sensitivity allows use of our thicker diaphragm. 17-4 PH SS sensor beam is laser welded for distortion-free construction.

Weldless stainless steel case.

ASIC chip is the brain behind the brain. Programmability provides greater linearity correction than common thermal compensation methods.

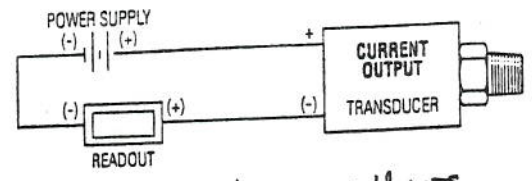
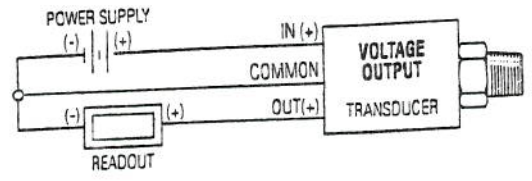
RF/EMI & ESD protection circuit meets and exceeds requirements for CE marking. Protecting against noise, voltage spikes and static discharge.

2 SUPPLY RED
3 EARTH GREEN
4 SUPPLY 1/2 K/MTR

Individual Specifications

Voltage Output units	
Output	See ordering chart
Supply Voltage (Vs)	1.5 VDC above span to 35 VDC
Min. Load Resistance	(FS output / 2) Kohms
Current Output units	
Output	4-20 mA (2 wire)
Supply Voltage (Vs)	24 VDC, (7-35 VDC)
Max. Loop Resistance	(Vs-7) x 50 ohms

Electrical Connection Cable	PIN	Voltage Units				Current Units (4-20 mA)		
		IN+	COM	OUT+	EARTH	(+)	(-)	EARTH
A, B, G "DIN"	PIN	1	2	3	4	1	2	4
C "10-6 Bayonet"	PIN	A	C	B	E	A	B	E
D "cable"		R	BK	W	DRAIN	R	BK	DRAIN
F "IP 67 cable"		R	BK	W	DRAIN	R	BK	DRAIN
1 "8-4 Bayonet"	PIN	A	C	B	D	A	B	D
2 "cable"		R	BK	W	DRAIN	R	BK	DRAIN
3 "conduit & cable"		R	BK	W	DRAIN	R	BK	DRAIN



VOLTAGE UNITS
Pin 1 RED
2 WHITE
3 BLACK
4 GREEN (EARTH)
600 TO 6000 PSI
1200 SERIES

Cable Legend:
R = Red
BL = Blue
BK = Black
W = White
Y = Yellow

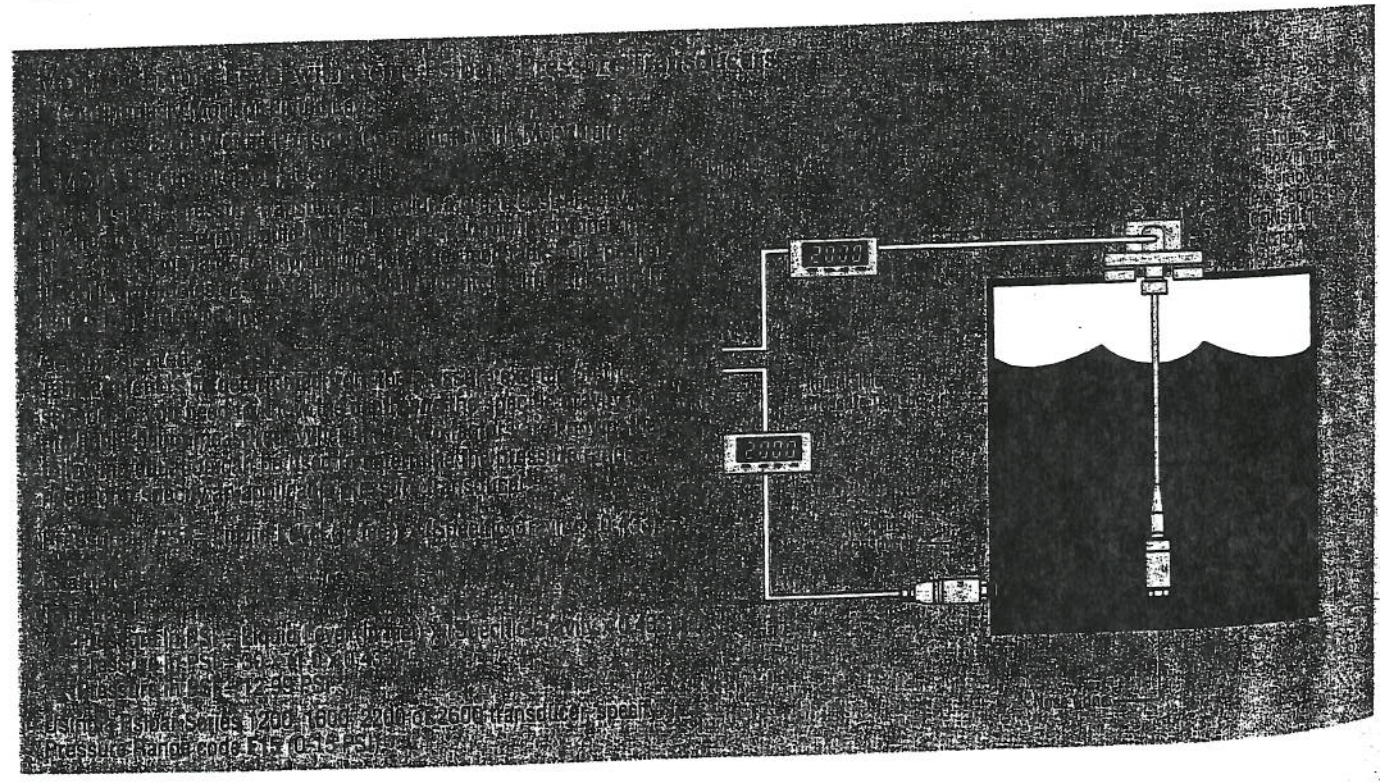
Electromagnetic Capability

Meets the requirement for CE marking of EN50081-2 for emissions and EN50082-2 for susceptibility.

- Test Data:**
- EN61000-4-2 Electrostatic Discharge. 8kV air discharge, 4kV contact discharge. Unit survived.
 - ENV50140 Radiated RF Susceptibility. 10V/m, 80MHz-1GHz, 1kHz mod. Maximum recorded output error was $\leq \pm 1\%$
 - ENV50204 Radiated RF Susceptibility to Mobile Telephones. 10V/m, 900MHz. Maximum recorded output error was $\leq \pm 1\%$
 - EN61000-4-4 Fast Burst Transient. 2kV, 5/50ns, 5kHz for 1 minute. Unit survived.
 - ENV50141 Conducted RF Susceptibility. 10Vms, 1kHz mod, 150kHz - 80MHz. Maximum recorded output error was $\leq \pm 1\%$

Table 1 - Cable Length

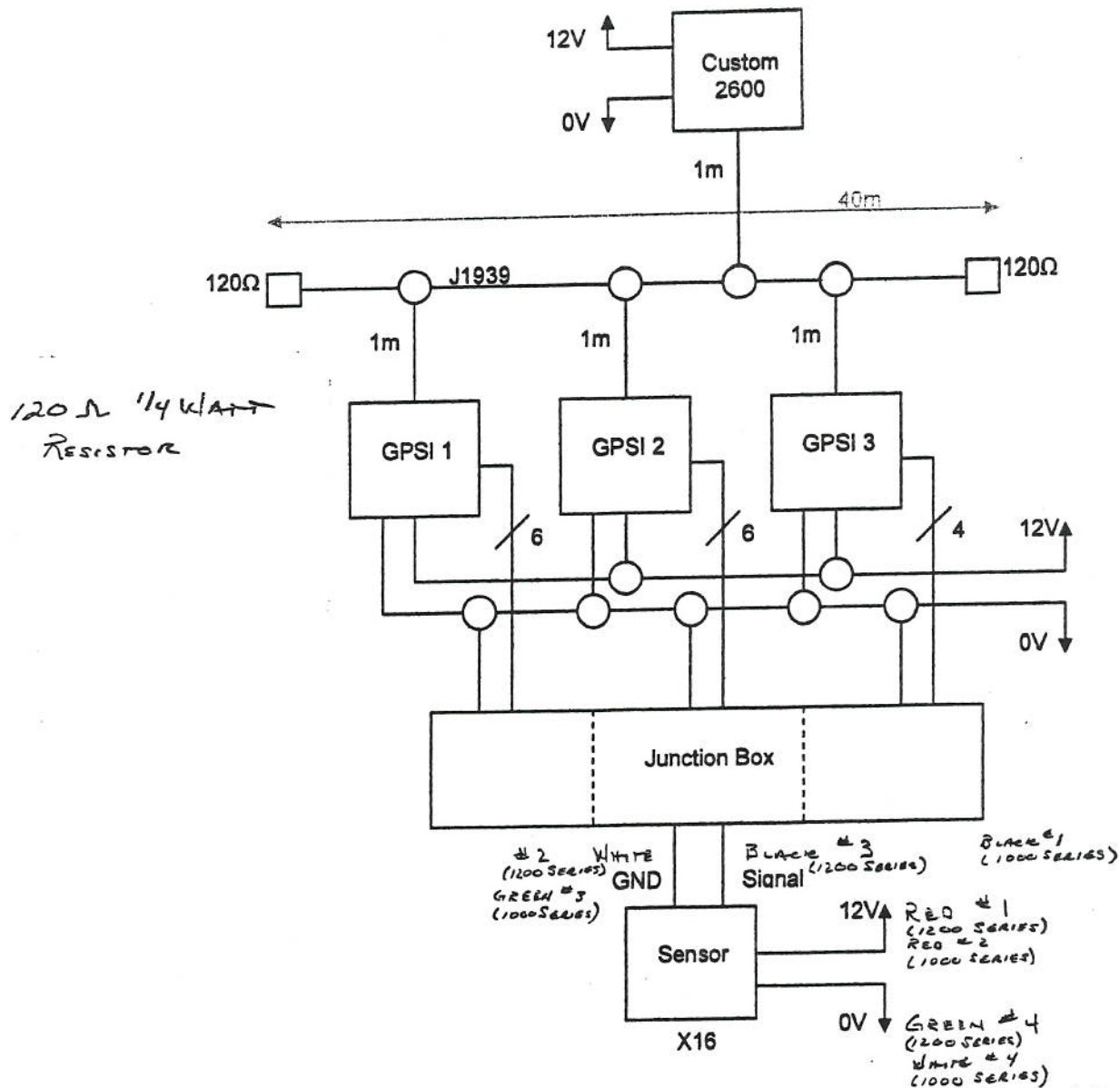
Code	Length (M)	Code	Length (M)
U	No Cable Fitted	M	40
D	1	N	50
E	3	P	75
F	5	Q	100
G	10	R	125
H	15	S	150
J	20	4	170
K	25	5	200
L	30	6	225



Using Gemstar Series 1200, 1600, 2200 or 2600 transducer - PCB
Pressure Range code: P 15 (0-15 PSI)

Project : OHIO Power Systems

6 Appendix A – Circuit Block Diagram for CANtrak & GPSI to OHIO Power System's Sensors



The CAN bus should be a shielded twisted pair, with impedance 120Ω. The shield ground should be connected to 0V.

'CAN+' (App.B GPSI Connector B pin 6) and 'CAN HI' (App.C CANtrak pin 8) should be linked.
'CAN -' (App.B GPSI Connector B pin 7) and 'CAN LO' (App.C CANtrak pin 7) should be linked.
GPSI Ground (App.B Connector B pin 1) and CANtrak Ground (App.C CANtrak pin 1) should be common.

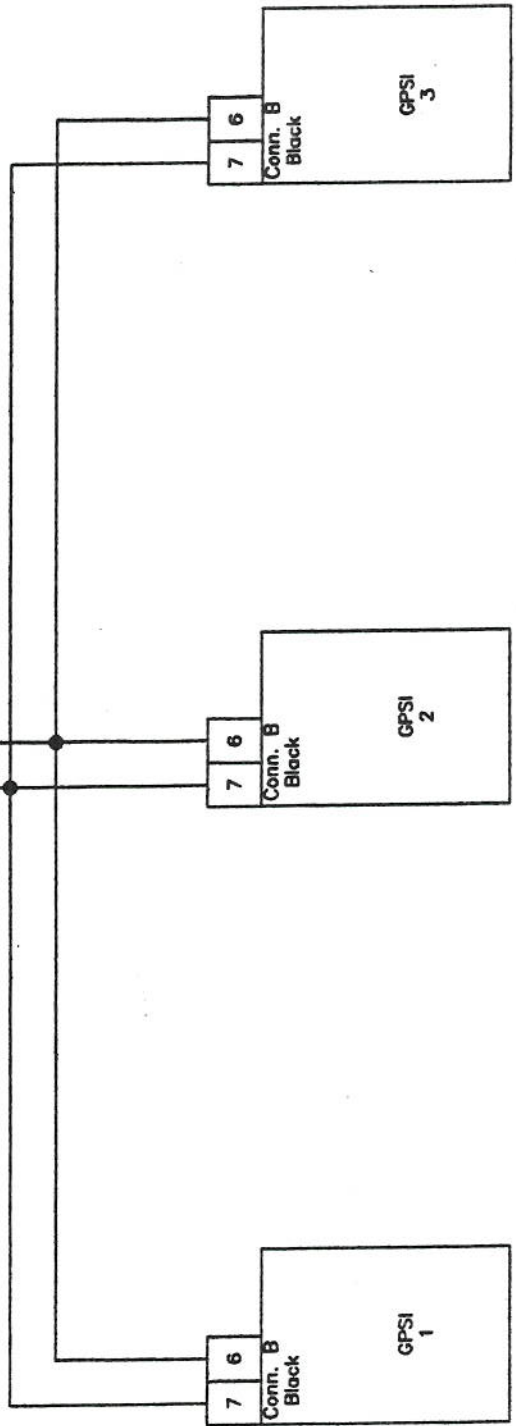
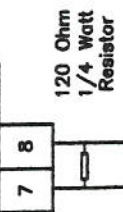
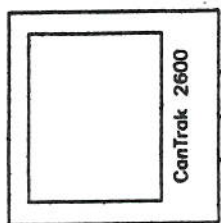
GPSI Power (App B Connector B pin 12) should be tied to +12V.

OUT+ of each sensor should be connected to the relevant Analog input on GPSI (see 4.1)
Each sensor's Ground and Earth should be common and IN+ tied to 12V.

GPSI Cable Harness Connections

Deutsch pin#	Connector A. Function	GPSI 1 A	GPSI 2 A	GPSI 3 A	Notes
1	Ground	GREEN TO GRD BARR		GREEN TO GRD BARR	GREEN TO GRD BARR P.101
2	Fuel Sensor 1				P.102
3	Analogue Input 7	PRIMARY CHARGE	LEFT STAR TABLE		P.103
4	Analogue Input 5	GRV DRIVE CHARGE	STEERING	B/M VINCOR	BLACK 3-5 P.104
5	Analogue Input 3	RIGHT PRIMARY		SIDE	BLACK 3-3 P.105
6	Analogue Input 1	GRV DRIVE	SECONDARY CHARGE	STAR TABLE DRIVER	BLACK 3-1 P.106
7	Analogue Input 2	LEFT PRIMARY	AIRHEAD	CROSS	BLACK 3-2 P.107
8	Analogue Input 4	SECONDARY	DRIVE CHG PRESS.	B/M FILL	BLACK 3-4 P.108
9	Analogue Input 6	A/H CHARGE	RIGHT STAR TABLE		P.109
10	Fuel Sensor 2				P.110
11	Fuel Sensor Supply				P.111
12	Voltage Reference			REF TO JUNE BLOCK 3 P.112
BLACK Connector B.					
Deutsch pin#	Function	GPSI 1 B	GPSI 2 B	GPSI 3 B	Notes
1	Ground	GREEN TO GRD BARR			GREEN TO GRD BARR
2	Digital Output				
3	Tach H				
4	RS232 Tx / RS485A / J11708A				
5	CAN Supply + (isolated version only)				
6	CAN H				
7	CAN L				
8	CAN Supply - (isolated version only)				
9	RS232 RxD / RS485B / J1708B				
10	Tach L				
11	Battery Sense				
12	Supply +				

REVISIONS			DATE	APPROVED
ZONE	REV	DESCRIPTION	01-21-05	
		CAN Bus Wiring Layout		



Acemarc, Inc. Automation & Machinery Repair 1 888-860-TECH 11138 Holmsee Rd Homer, AL 36448		Advanced Farm Equipment HARVESTER	
SIZE	FIG. NO.	DWG. NO.	REV.
B			1
SCALE		SHEET 1 of 1	

Project : OHIO Power Systems

7 Appendix B - GPSI Pinouts

The GPSI housing contains 2 Deutsch 12 pin connectors that contain all power & signal connections as detailed below.

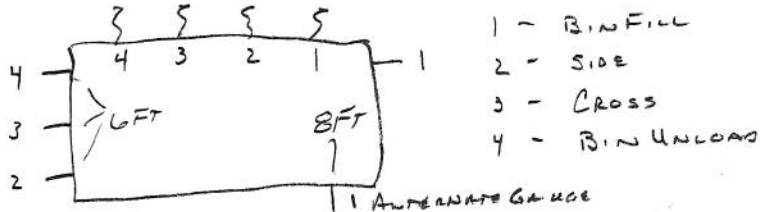
Connector A (Grey)	
Signal	Pin Number
1	Ground
2	Switched Input 1
3	Analogue Input 7
4	Analogue Input 5
5	Analogue Input 3
6	Analogue Input 1
7	Analogue Input 2
8	Analogue Input 4
9	Analogue Input 6
10	Switched Input 2
11	Fused +5V Supply Output
12	4.096V Reference Supply Output

Connector B (Black)	
Signal	Pin Number
1	Ground
2	Digital Output
3	Tachometer High Input
4	RS232 Tx
5	* CAN Power Input +
6	CAN Bus High
7	CAN Bus Low
8	* CAN Power Input -
9	RS232 Rx
10	Tachometer Low Input
11	High Voltage Input
12	Power Supply Input +

Belden 9444

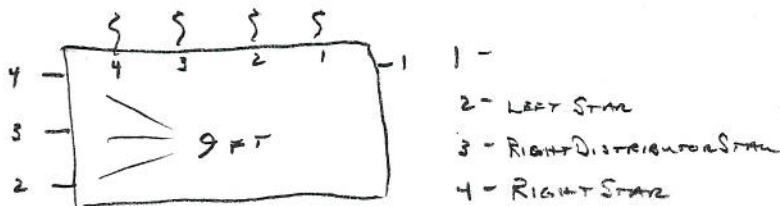
TRANSDUCER WIRING

PIN # 1	RED	IN +
2	WHITE	COM.
3	BLACK	OUT +
4 (EARTH)	GREEN	EARTH

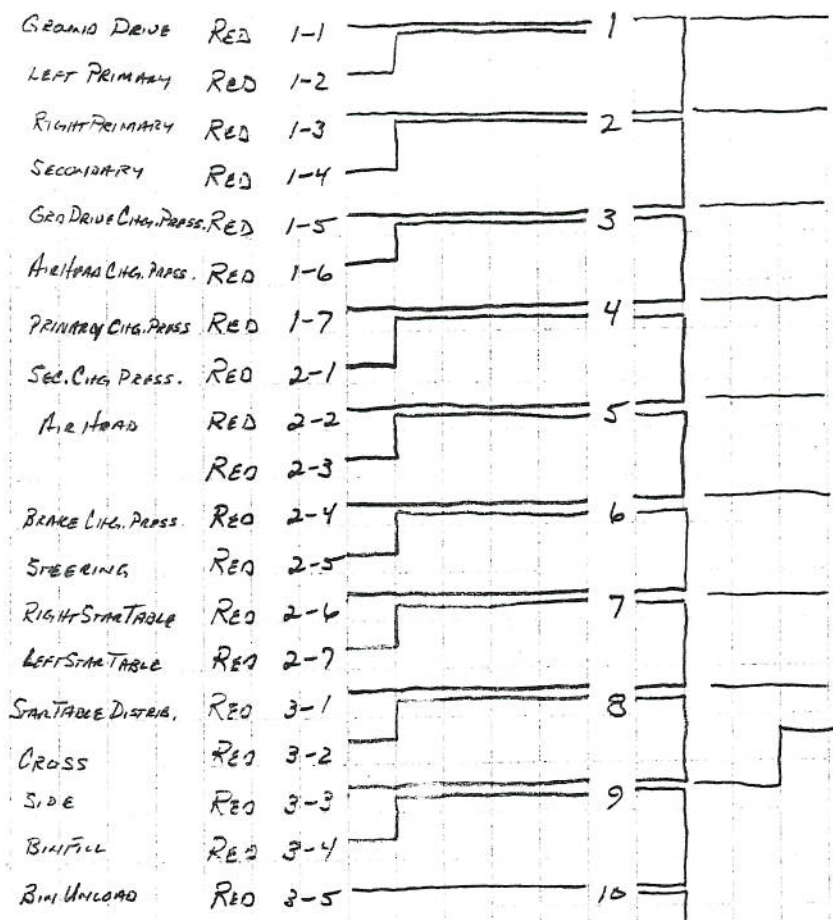


10,000^Ω
1000 SERIES
TRANSDUCER WIRING

PIN # 1	OUTPUT	BLACK
2	SUPPLY	RED
3	EARTH 1/2	GREEN
4	SUPPLY REF 1/2	WHITE

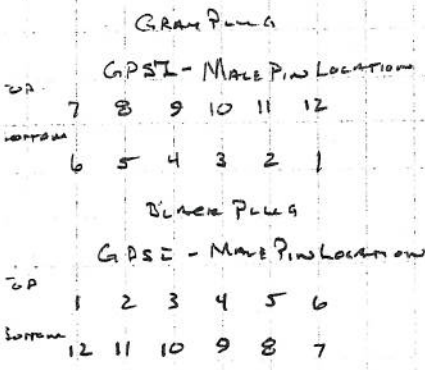


GAUGE GPSI'S (19 GAUGES) JUNCTION BLOCK

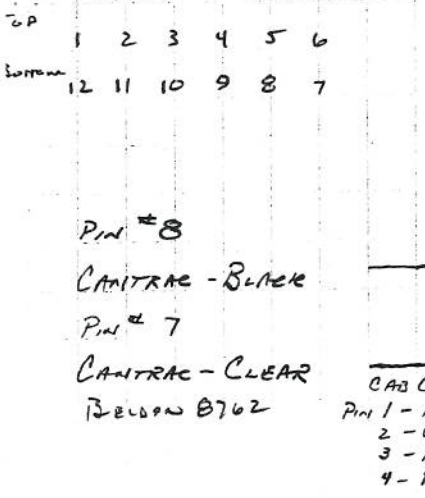


GRAY PLUG	
GPSI-1A RED - PIN 12	GRAY PLUG
GPSI-2A RED - PIN 12	GRAY PLUG
GPSI-3A RED - PIN 12	GRAY PLUG
GPSI-1B RED - PIN 12	BLACK PLUG
GPSI-2B RED - PIN 12	BLACK PLUG
GPSI-3B RED - PIN 12	BLACK PLUG
GPSI-1B RED - PIN 5	BLACK PLUG
GPSI-2B RED - PIN 5	BLACK PLUG
GPSI-3B RED - PIN 5	BLACK PLUG

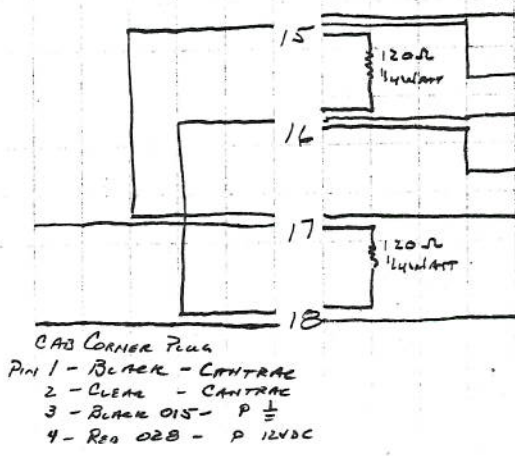
PANEL 12VDC RED 002B (P)



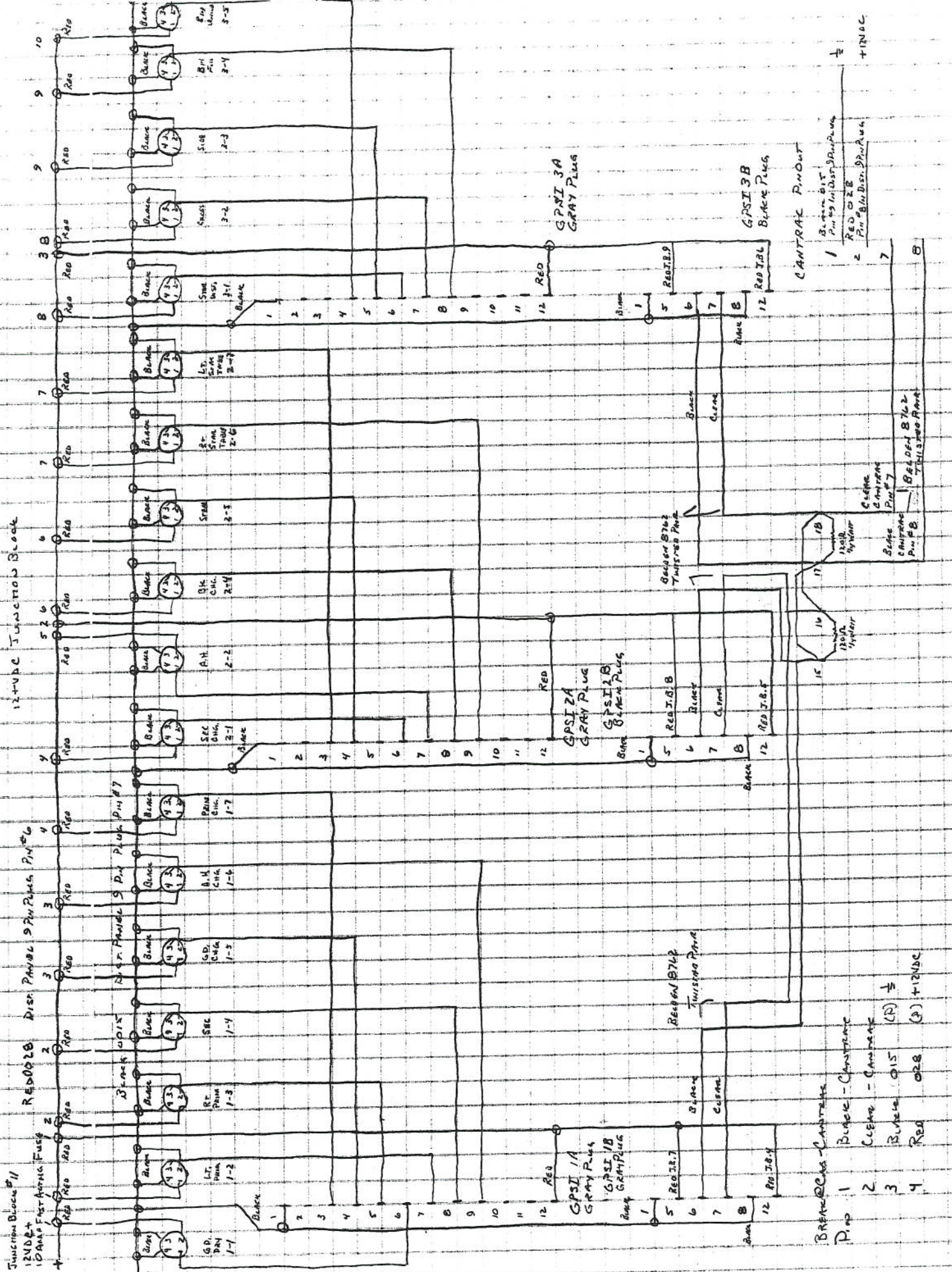
GROUND BAR		PLUG COLOR
GPSI-1A - BLACK	PIN-1	GRAY
GPSI-1B - BLACK	PIN-1	BLACK
GPSI-2A - BLACK	PIN-1	GRAY
GPSI-2B - BLACK	PIN-1	BLACK
GPSI-3A - BLACK	PIN-1	GRAY
GPSI-3B - BLACK	PIN-1	BLACK
GPSI-1B - BLACK	PIN-8	BLACK
GPSI-2B - BLACK	PIN-8	BLACK
GPSI-3B - BLACK	PIN-8	BLACK
BLACK 0015 (P)		



BLACK PLUG	
GPSI-1B BLACK	PIN #6
GPSI-2B BLACK	PIN #6
GPSI-1B CLEAR	PIN #7
GPSI-2B CLEAR	PIN #7
GPSI-3B BLACK	PIN #6
GPSI-3B CLEAR	PIN #7



CAD CORNER PLUG
 PIN 1 - BLACK - CANTRAC
 2 - CLEAR - CANTRAC
 3 - BLACK 015 - P 1/2
 4 - RED 02B - P 12VDC



12VDC Junction Block

JUNCTION BLOCK #11
 12VDC +
 10 AMP FUSE
 RED 028
 2
 RED 029
 3
 RED 030
 4
 RED 031
 5
 RED 032
 6
 RED 033
 7
 RED 034
 8
 RED 035
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 RED 036
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 RED 094
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 RED 095
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 RED 096
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 RED 097
 71
 RED 098
 72
 RED 099
 73
 RED 100

GPSI 1A
 GRAY PLUG
 GPSI 1B
 GRAY PLUG
 GPSI 2A
 GRAY PLUG
 GPSI 2B
 GRAY PLUG
 GPSI 3A
 GRAY PLUG
 GPSI 3B
 BLACK PLUG
 CANTRAK P/MOUT
 CANTRAK P/MOUT
 CANTRAK P/MOUT

RESD028
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 RED 100

GPSI Plug

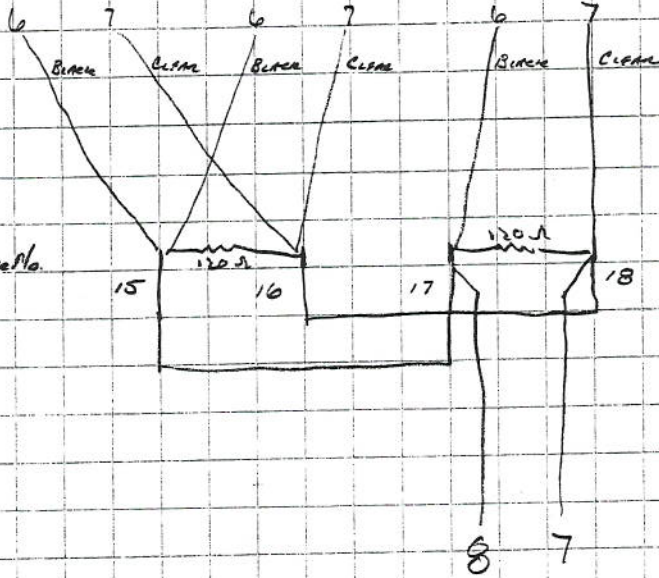
GPSI Plug

GPSI Plug

1B (Blue)

2B (Blue)

3B (Blue)



JUNCTION BLOCK No.

BEUDEN 8762 20AWG 2C TWISTED

TO CONTRAC

FOR VMS

ADVANCED FARM EQUIPMENT 19 GAUGE GPSI LAYOUT

TABLE NUMBER

GROUND DRIVE	// A1 - GPSI 1	1-1
LH PRIMARY	// A2	1-2
RH PRIMARY	// A3	1-3
SECONDARY	// A4	1-4
GD CHARGE	// A5	1-5
AIRHEAD CHARGE	// A6	1-6
PRIMARY CHARGE	// A7	1-7
SECONDARY CHARGE	// A1 - GPSI 2	2-1
AIRHEAD	// A2	2-2
ROCK CRUSHER	// A3	2-3
BRAKE CHARGE	// A4	2-4
STEERING	// A5	2-5
RH STAR	// A6	2-6
LH STAR	// A7	2-7
STAR TABLE DIST	// A1 - GPSI 3	3-1
CROSS	// A2	3-2
SIDE	// A3	3-3
BIN FILL	// A4	3-4
BIN UNLOAD	// A5	3-5
UNUSED	// A6	
UNUSED	// A7	

EATON

Hydraulics

Electronic Proportional (EP) Control for Heavy Duty Series 2 Piston Pumps

Model 33
Model 39
Model 46

Model 54
Model 64

1/5/07

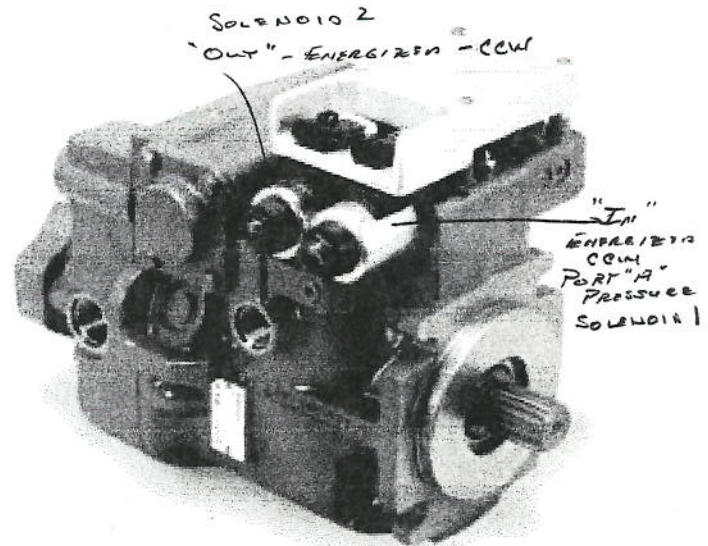
The Electronic Proportional (EP) Control is ideal for a wide range of mobile and industrial applications where electrical control of pump displacement is desired. Eaton's robust design incorporates an electronic module, proportional solenoids and a valve assembly.

Pump displacement is controlled by an input command signal which is converted into proportional current output by the electronic module. The proportional solenoid-actuated valve assembly then converts the current output into proportional pump displacement.

Designed to meet the rigorous duty cycle requirements of off-highway equipment, the EP Control utilizes an electronic module encapsulated in an aluminum enclosure and environmentally-sealed Metri-Pack® connectors to assure maximum protection from the elements. The EP Control is designed to resist Electromagnetic Interference (EMI) which could affect proper operation.

The EP Control offers maximum design and application flexibility with two different types of command input options and compatibility with both 12 and 24 Vdc power supplies. Typical input devices include joysticks (1-6 Vdc) and PLCs ($\pm 4-20$ mA).

For precise, repeatable operation, closed-loop current control is used to compensate for resistance and voltage changes of the proportional solenoids due to temperature variation. In the event of a power loss or loss of signal, the EP Control automatically returns the pump to neutral. Mechanical feedback of the swashplate position provides closed-loop control to maintain the selected displacement setting over a wide range of operating conditions. Solenoids have integral manual override actuators.



EP Control Features

- Robust, flexible electronic pump control
- Electronic module encapsulated for environmental protection
- Automotive style environmentally sealed Metri-Pack® connectors
- Closed-loop current control compensates for resistance change of the proportional solenoids due to temperature variations
- Return to neutral for loss of power or loss of command input signal
- Mechanical feedback of swashplate position for closed-loop control
- Two choices for command input signal
- Operates from 12 or 24 Vdc power supply
- Ease of installation
- Operating temperature range -40° to +85° C
- On-pump mounting for many installations
- External neutral adjustment
- Manual override capability
- Drive module qualification per SAE J1455, SAE J1113, CISPR 25
- External fuse (customer supplied): 3A

Electronic Module Qualification (Contact Eaton for Specific Levels)

- SAE J1455 - Recommended Environmental Practices for Electronic Equipment Design
 - Humidity/Temperature Extreme Cycling
 - Salt Spray
 - Splash & Immersion
 - Steam Cleaning/High Pressure Wash
 - Vibration
 - Mechanical Shock
 - Temperature Cycling
 - Load Dump Transients
 - Inductive Load Switching Transients
- SAE J1113 - Electromagnetic Susceptibility Measurement Procedures for Vehicle Components
 - EMI/EMC - Conducted & Radiated Immunity
- CISPR 25 - International Electrotechnical Commission "Limits and Methods of Measurement of Radio Disturbance Characteristics for the Protection of Receivers used on Board Vehicles"
 - EMI/EMC - Conducted & Radiated Emissions

EATON

Hydraulics

Electronic Proportional (EP) Control for Medium Duty 72400 Piston Pumps

The Electronic Proportional (EP) Control is ideal for a wide range of mobile and industrial applications where electrical control of pump displacement is desired. Eaton's robust design incorporates an electronic module, proportional solenoids and a valve assembly.

Pump displacement is controlled by an input command signal which is converted into proportional current output by the electronic module. The proportional solenoid-actuated valve assembly then converts the current output into proportional pump displacement.

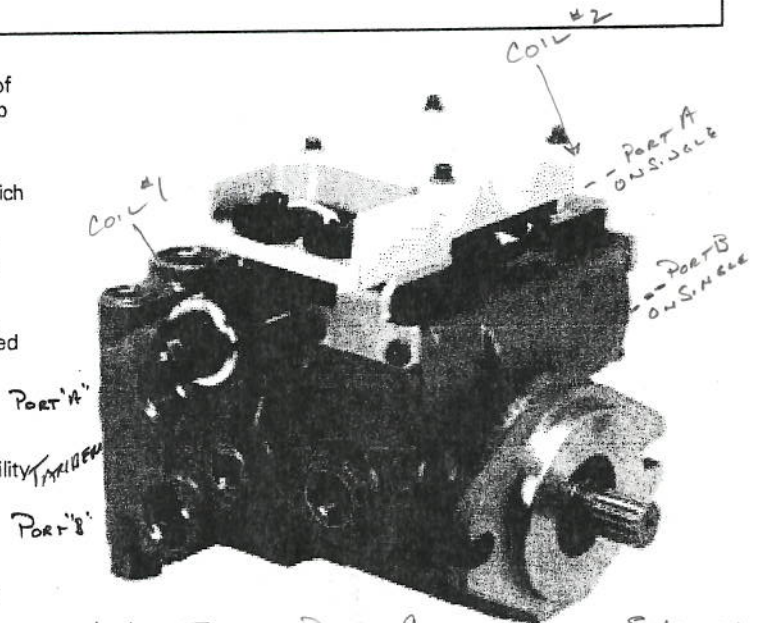
Designed to meet the rigorous duty cycle requirements of off-highway equipment, the EP Control utilizes an electronic module encapsulated in an aluminum enclosure and environmentally-sealed Metri-Pack® connectors to assure maximum protection from the elements. The EP Control is designed to resist Electromagnetic Interference (EMI) which could affect proper operation.

The EP Control offers maximum design and application flexibility with two different types of command input options and compatibility with both 12 and 24 Vdc power supplies. Typical input devices include joysticks (1-6 Vdc) and PLCs (± 4 -20 mA).

For precise, repeatable operation, closed-loop current control is used to compensate for resistance and voltage changes of the proportional solenoids due to temperature variation. In the event of a power loss or loss of signal, the EP Control automatically returns the pump to neutral. Mechanical feedback of the swashplate position provides closed-loop control to maintain the selected displacement setting over a wide range of operating conditions. Solenoids have integral manual override actuators.

EP Control Features

- Robust, flexible electronic pump control
- Electronic module encapsulated for environmental protection
- Automotive style environmentally sealed Metri-Pack® connectors
- Closed-loop current control compensates for resistance change of the proportional solenoids due to temperature variations
- Return to neutral for loss of power or loss of command input signal
- Mechanical feedback of swashplate position for closed-loop control
- Two choices for command input signal
- Operates from 12 or 24 Vdc power supply
- Ease of installation
- Operating temperature range -40° to +85° C
- On-pump mounting for many installations
- External neutral adjustment
- Manual override capability
- Drive module qualification per SAE J1455, SAE J1113, CISPR 25
- External fuse (customer supplied): 3A



1/5/07 TANDEM PUMP CONFIGURATION SHOWN

ENERGIZED - CCW

#1 COIL NEXT TO PRESSURE PORTS - "IN"
PRESSURE OUT PORT "A"

#2 COIL AWAY FROM PORTS - "OUT"

Electronic Module Qualification (Contact Eaton for Specific Levels)

- SAE J1455 - Recommended Environmental Practices for Electronic Equipment Design
 - Humidity/Temperature Extreme Cycling
 - Salt Spray
 - Splash & Immersion
 - Steam Cleaning/High Pressure Wash
 - Vibration
 - Mechanical Shock
 - Temperature Cycling
 - Load Dump Transients
 - Inductive Load Switching Transients
- SAE J1113 - Electromagnetic Susceptibility Measurement Procedures for Vehicle Components
 - EMI/EMC - Conducted & Radiated Immunity
- CISPR 25 - International Electrotechnical Commission "Limits and Methods of Measurement of Radio Disturbance Characteristics for the Protection of Receivers used on Board Vehicles"
 - EMI/EMC - Conducted & Radiated Emissions

OUTPUT SELECTION	00	ZZ	= ADJUST MINIMUM SETTING
PARAMETER SELECTION	00	XX	= ADJUST MAXIMUM SETTING
	00	YX	= ADJUST RAMP UP SETTING
	00	ZX	= ADJUST RAMP DOWN SETTING
	00	00	= OUTPUT SELECTION (1 OR 2)

PROPORTIONAL OUTPUT SETTINGS ARE CHANGEABLE WITHOUT THE PALM PILOT UTILIZING THE ON-BOARD JUMPERS AND ADJUSTMENT POTENTIOMETER. USE THE FOLLOWING PROCEDURE:

- 1.) SELECT WHICH OUTPUT'S PARAMETERS TO CHANGE BY USING THE "O2" SHORTING JUMPER. WHEN THE "O2" PINS ARE SHORTED USING THE JUMPER, PROPORTIONAL OUTPUT #2 IS SELECTED. WHEN THE PINS ARE NOT SHORTED TOGETHER, OUTPUT 1 IS SELECTED.
- 2.) SELECT THE DESIRED PARAMETER TO CHANGE BY INSTALLING A SHORTING JUMPER ON THE CORRESPONDING SET OF PINS AS SHOWN ABOVE:
 - "MN" TO ADJUST THE MINIMUM PROPORTIONAL OUTPUT SETTING. SET ANALOG INPUT SIGNAL (POTENTIOMETER, JOYSTICK) TO ITS LOWEST POSITION, ADJUST "MN" AND MONITOR OUTPUT TO VALVE FOR DESIRED VALUE.
 - "MX" TO ADJUST THE MAXIMUM PROPORTIONAL OUTPUT SETTING. SET ANALOG INPUT SIGNAL (POTENTIOMETER, JOYSTICK) TO ITS MAXIMUM POSITION, ADJUST "MX" AND MONITOR OUTPUT TO VALVE FOR DESIRED VALUE.

"RU" TO ADJUST THE RAMP UP SETTING,
"RD" TO ADJUST THE RAMP DOWN SETTING.

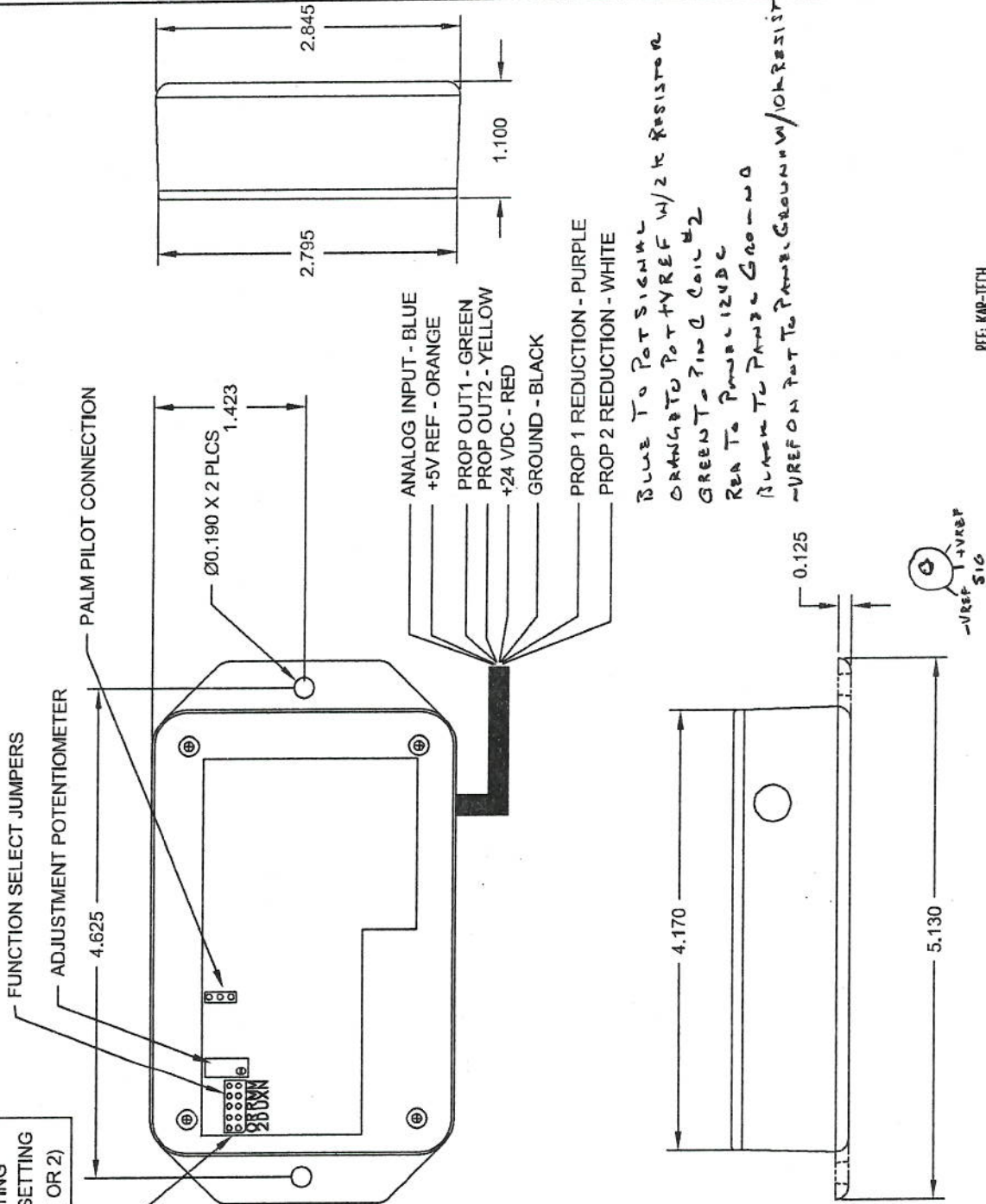
- 3.) ADJUST THE VALUE TO THE DESIRED SETTING USING THE ADJUSTMENT POTENTIOMETER SHOWN ON THE DRAWING.

4.) SAVE THE PARAMETER BY REMOVING THE JUMPER FROM THE SELECTED PARAMETER PINS. DO NOT CHANGE THE STATE OF THE "O2" PINS BEFORE REMOVING THE JUMPER FROM THE PARAMETER PINS OR THE SETTING MAY NOT BE SAVED IN MEMORY.

5.) REPEAT PROCEDURE TO CHANGE ANY AND ALL PARAMETERS FOR THE 2 PROPORTIONAL OUTPUTS. REMEMBER TO REMOVE THE PARAMETER JUMPER BEFORE SELECTING WHICH OUTPUT TO CHANGE USING THE "O2" JUMPER.

6.) REMOVE BOTH JUMPERS AND PLACE HORIZONTALLY FOR STORAGE ON TWO ADJACENT PINS

SEE MANUAL FOR INSTRUCTIONS ON HOW TO SET THE PARAMETERS USING A PALM PILOT.



REF: KAR-TECH

A. ALL REVISED RELEASED		DESCRIPTION	REVISED	DATE	BY
DO	NOT	SCALE	PRINT		
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FILE	KAR-TECH Delafield, WI 53018		REVISED	DATE	BY
DATE	DIGITAL VALVE DRIVER		REVISED	DATE	BY
SCALE	CAD DRAWING DO NOT REVISE MANUALLY		REVISED	DATE	BY
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DATE	21-07-2-A-2-B				

07015

PARAMONT FARMS

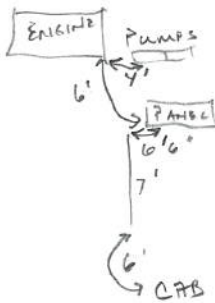
2/28/2007

CAB TO KAR-TECH PANEL
4RSPH W/ 65" - TANK
3 RCDEN 8468 - 19'6"
(18AWG - 15C)

PLUG #6

- 1 BLACK AIR HEAD CONTROLLER POWER SUPPLY PIN "4"
- 2 RED
- 3 ORANGE AIR HEAD CONTROLLER COMMAND SIGNAL PIN "2"
- 4 BLUE AIR HEAD CONTROLLER COMMAND SIGNAL PIN "3"
- 5 BLACK / WHITE LEFT / RIGHT PRIMARY CONTROLLAER POWER SUPPLY PIN "8"
- 6 RED / WHITE
- 7 BLUE / WHITE LEFT PRIMARY CONTROLLER COMMAND SIGNAL PIN " 6 "
- 8 GREEN / WHITE LEFT PRIMARY CONTROLLER COMMAND SIGNAL PIN " 7 "
- 9 ORANGE / BLACK
- 10 BLUE / BLACK RIGHT PRIMARY CONTROLLER COMMAND SIGNAL PIN "10"
- 11 RED / BLACK RIGHT PRIMARY CONTROLLER COMMAND SIGNAL PIN "11"
- 12 GREEN / BLACK SECONDARY CONTROLLER POWER SUPPLY PIN "16"
- 13 WHITE
- 14 GREEN SECONDARY CONTROLLER COMMAND SIGNAL PIN "14"
- 15 WHITE / BLACK SECONDARY CONTROLLER COMMAND SIGNAL PIN "15"
- 16

LEFT / RIGHT PRIMARY - SECONDARY -- COIL #¹/₂ PIN "^B/₂" TO GROUND
AIR HEAD -- COIL #1 PIN "B" TO GROUND



- 15 - 512-2655 (512-1225) 18-14AWG Fam. Sector
- 1 - 512-1110 Sm 16 pins Plug
- 1 - 512-1280 Sm 16 pins La. Receiver

KAR-TECH ENCLOSURE

2/28/2007

07015

PARAMONT FARMS

4RSPH W/ 65" - TANK

PIN #	Color	Description	Part #
1	* RED *	AIR HEAD COIL #1 - PIN "A"	BELDEN 9418
2	ORANGE	AIR HEAD POTENTIOMETER TERMINAL #2	8468
3	BLUE	AIR HEAD POTENTIOMETER TERMINAL #3	8468
4	BLACK	AIR HEAD SWITCH - ON / OFF	8468
5	* GREEN *	LEFT PRIMARY COIL #1 - PIN "A"	9418
6	BLUE/WHITE	LEFT PRIMARY POTENTIOMETER TERMINAL #2	8468
7	GREEN/WHITE	LEFT PRIMARY POTENTIOMETER TERMINAL #3	8468
8	BLACK/WHITE	LEFT / RIGHT PRIMARY SWITCH - ON / OFF	8468
9	* BLACK *	RIGHT PRIMARY COIL #1 - PIN "A"	9418
10	BLUE/BLACK	RIGHT PRIMARY POTENTIOMETER TERMINAL #2	8468
11	RED/BLACK	RIGHT PRIMARY POTENTIOMETER TERMINAL #3	8468
12			
13	* WHITE *	SECONDARY COIL #1 - PIN "A"	9418
14	GREEN	SECONDARY POTENTIOMETER TERMINAL #2	8468
15	WHITE/BLACK	SECONDARY POTENTIOMETER TERMINAL #3	8468
16	GREEN/BLACK	SECONDARY SWITCH - ON / OFF	8468

Color	Part #	Description	Part #	Description
BLACK	0020	KAR-TECH GROUND TO PANEL		P
	0.25	^{Panel} 51739-8 Ground Bar	1	783510 (38680) A-20R1661CR ENCLOSURE
	4	21-017-2-A KAR-TECH CONTROLLER	1	300014-014 Blank Large Panel
	4	895-0366 2KR Resistor	20	58364 TERMINAL BLOCK
			2	58373 END CAP
			9/24	58371 MOUNTING CHASSIS
			4	512-1295 24-20AWG Female Socket
			1	512-1120 24Pin PLUG
			1	512-1265 SM. 37Pin RELIEF
BELDEN 9418 (18AWG 4C)		16'6"	12	512-2655 (512-1225) 18-14AWG Fem. Socket
BELDEN 8468 (18AWG 15C)		19'6"	1	512-1166 24Pin RECEPTACLE
				PUMP CONNECTION
			4	12/86568 4Pin PLUG
			8	31077 18-16AWG Fem. Term.
			16	39008 Data Bus Seal
			8	0413-204-2005 20AWG PLUG
			4	3 B208 4Pin TPA

ADVANCED FARM EQUIPMENT

CAN TO PANEL 2007
7
Name @ 5'6"

#07015

PARAMONT FARMS

4RSPH W/ 65" A.H. / TANK

02-28-07

30A 15	30A 14	30A 13	30A 12	30A 11	20A 10	30A 9	30A 8	20A 7	30A 6	30A 5	20A 4	30A 3	30A 2	30A 1
LT. REAR LIGHT RELAY [BLACK]	RT. REAR LIGHT RELAY [BLUE]	A/C	ACT'S [WHITE]	BACK UP SWITCH [BROWN]	FUEL [RED]	CAB FIELD LIGHTS RELAY [BLACK]	CAB O.H. [RED]	CYL'S [ORANGE]	RADIO [RED]	CONV'S [YELLOW]	BRAKE [BLACK]	CONV'S [ORANGE]	AH CLEAN BIN FILL [GREEN]	HAZ STAT [YELLOW]
			[85 (1)]	[88 (1)]	[081 (1)]	[RELAY]	AUX. [BLACK]	2-SPEED WIPER [BLACK]	[RED]	[89 (1)]	[017 (1)]	[90 (1)]	[91 (1)]	[BROWN]
			CAB/ OUTSIDE PANEL	BACKUP RELAY [BROWN]			OUTLET [BLACK]	[0012 (1)]	[RED]		[RED]		CYBER TECH [GREEN]	
							[156 (3)]	GA PANEL [RED]			[GRD DRV.]		[091 (4)]	
								[21 (4)]			BLU/BLK 8			
											[AH FAN]			
											YEL/BLK 10			
											[HYD LEVEL]			
											YEL/ORG 25			
											[CROSS XP]			
											BLACK 60			

HAZ. STAT

[CB1-YELLOW
_YELLOW 92 (1)]

TURN STAT

[CB1-BROWN
_BROWN 502 (5)]

DTS-0160

SIGNAL BLACK]
12V DC BROWN]
GROUND BLUE]

R E L A Y S

4X4 LOCK

85 GRD.	85 GRD.	85 GRD.
86	86 BLACK 1	86
87	87 BLACK 1	87
30	30 BLACK 01 (2)	30

BACK UP LTS.

4X4 RELAY

85 GRD.	85 GRD.	85 GRD.
86 BROWN 06 (2)	86 ORANGE 144 (2)	86
87 CB11 - BROWN	87 BLACK 1	87
30 BROWN 6	30 BLACK 01 (2)	30

START RELAY

85	85 GRD.	85 GRD.
86	86 ORANGE 144 (2)	86
87	87 RED 2	87
30	30 WHITE 104 (5)	30

CAB FIELD LTS.

RIGHT REAR

RIGHT FRONT

CAB FIELD LTS.	RIGHT REAR	RIGHT FRONT
85 GRD.	LIGHT RELAY	LIGHT RELAY
86 BROWN 504 (3)	85 GRD.	85 GRD.
87 CB9 - BROWN	86 BROWN 505 (2)	86 BROWN 505 (2)
30 BLACK (H) 507 (3)	87 CB14 - BLUE	87 CB18 - BLUE
	30 BLUE 36	30 BLUE 360

CAB ROAD LTS.

LEFT REAR

LEFT FRONT

A.H. CLEANER TIMER

CAB ROAD LTS.	LEFT REAR	LEFT FRONT	A.H. CLEANER TIMER
85 GRD.	LIGHT RELAY	LIGHT RELAY	8 - BLUE 26 -15(1)
86 BROWN 503 (3)	85 GRD.	85 GRD.	9 - WHITE 27 -14(1)
87 CB17 - BROWN	86 BROWN 572 (3)	86 BROWN 572 (3)	10/11 - PURPLE 28 -13(1)
30 BLACK (H) 526 (3)	87 CB15 - BLACK	87 CB19 - BLACK	6/2 - GROUND
	30 BLACK 34	30 BLACK 340	

30A 19	30A 18	30A 17	20A 16
LT FRT LTS RELAY [BLACK]	RT FRT LTS RELAY [BLUE]	CAB RD LTS RELAY [BLACK]	FOOT PED. [RED]
			[52 (1)]

ST 87

I	I	I
12V DC	RED 13 (5)	BLUE/RED 13
RED 11(5)		CB1-7/14-15

ST 87

I	I	I
12V DC	RED 13 (5)	CB 9-13

ST 87

I	I	I
12V DC	RED 13 (5)	CB 16-19

GROUND WIRES

RED/BLUE	18
BLACK	20 - 4(3)
WHITE	31
BLACK	020 (4)
BLACK	0020 (9 P.W.)
PANEL GROUND	