

09032

Hearthland Farm

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

ELECTRONIC GAUGES

1-7-09

#09032

HEARTLAND FARMS

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

5.1 Sensor Scaling

All data scaling for each of the displayed parameters will be done within the CANtrak SW & the GPSI shall transmit raw (unscaled) data acquired from the sensors.

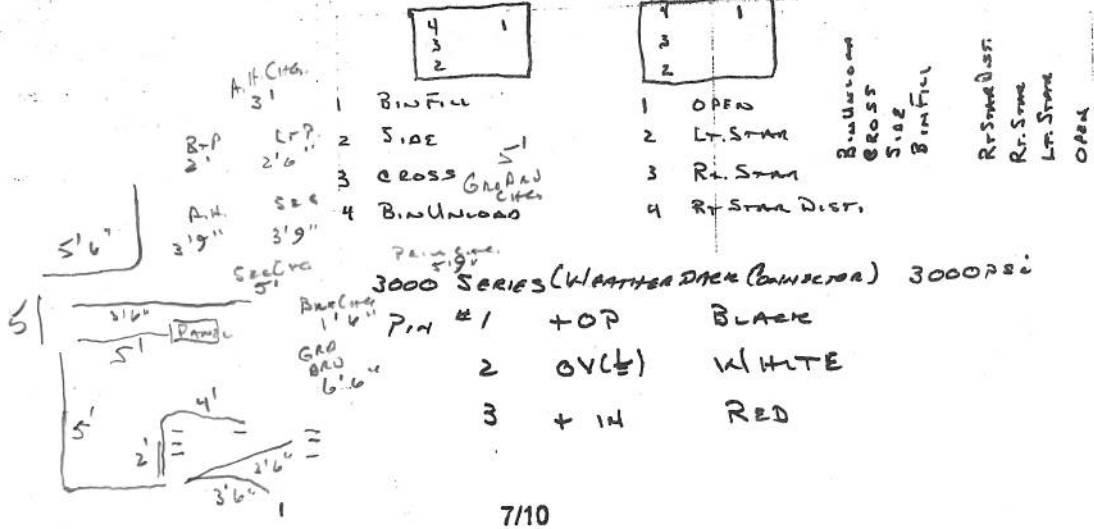
The pressure sensors are assumed to produce an output signal in the range 0-10V with the max. pressure producing the max. voltage.

The ranges and the scaling factors applied to the parameters described above are detailed below.

Only the initial digits of the part number are specified as the remaining requirements are not known.

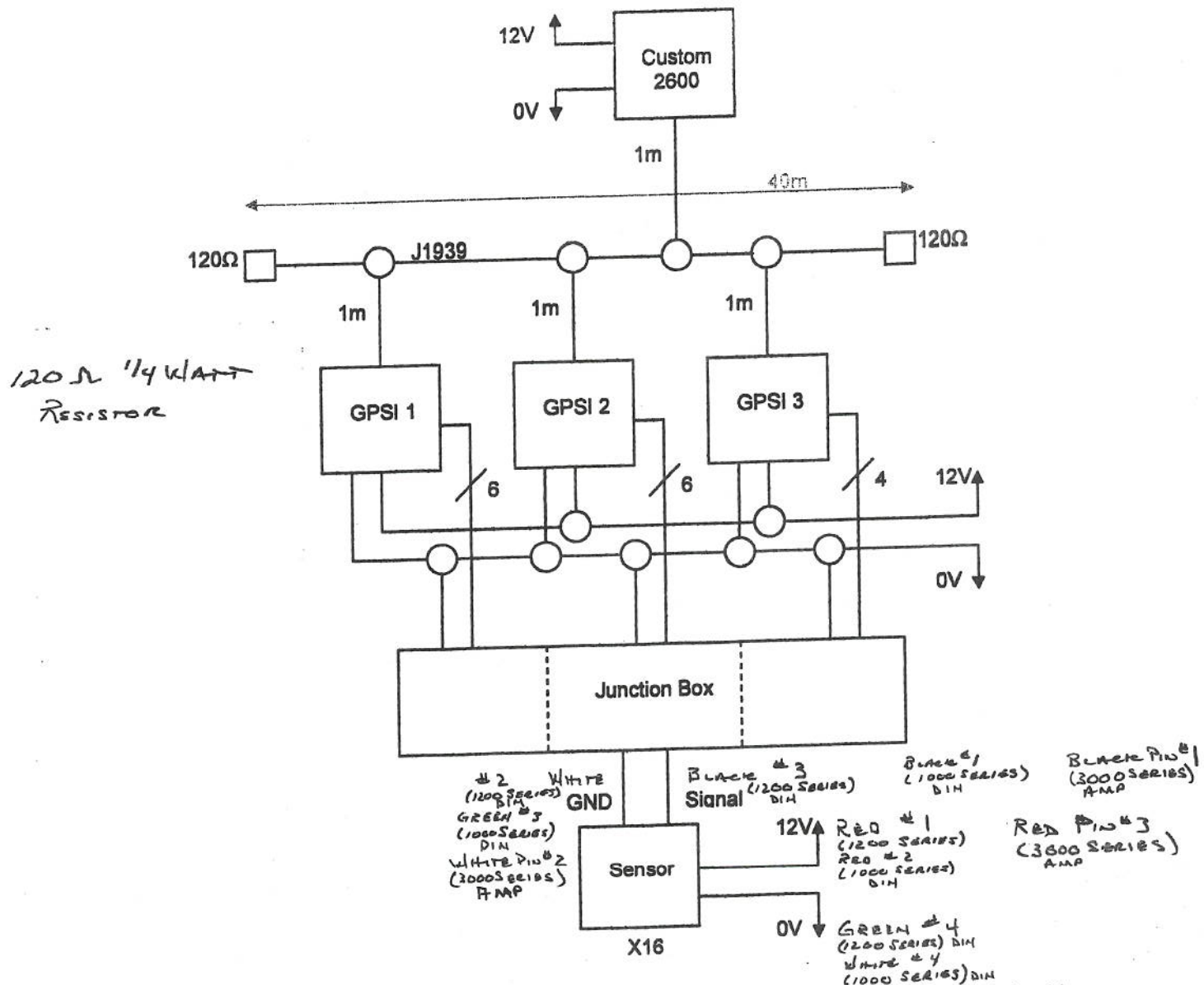
BELDEN 9444 20AWG 4C

GPSI	INPUT
✓ 15"	✓ A1 GROUND DRIVE
✓ 18"	A2 LEFT PRIMARY
✓ 17'6"	A3 RIGHT PRIMARY
✓ 19'3"	✓ 1. A4 SECONDARY
✓ 21'3"	A5 GROUND DRIVE (CROSS PRESS.)
✓ 18'6"	A6 AIR HEAD CHARGE PRESS.
✓ 19'3"	✓ 15'3" A7 PRIMARY CHARGE PRESS.
✓ 18'6"	✓ 15' A1 SECONDARY CHARGE PRESS.
✓ 19'3"	A2 AIR HEAD
✓ 15' ✓ 2'0'9"	A3
✓ 13'6"	A4 BRANK CHARGE PRESS.
✓ 13'6"	A5 STEERING
✓ 13'6"	A6 RIGHT STEER TABLE
✓ 13'6"	A7 LEFT STEER TABLE
✓ 13'6"	✓ 3 A1 STEER TABLE DISTRIBUTION
✓ 12'	A2 CROSS
✓ 12'	A3 SIDE
✓ 14'	A4 BIN FILL
✓ 12'	A5 BIN UNLOAD
	A6
	A7



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.

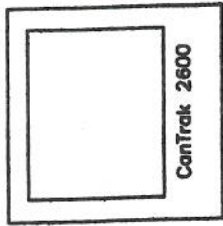
GPSI Cable Harness Connections

Deutsch pin#	GRAY	Connector A. Function	GPSI 1 A	GPS 2 A	GPS 3 A
1		Ground	GREEN To GRD. BAR		GREEN To GRD. BAR
2		Fuel Sensor 1	BLACK 1-7	LEFT STR. TABLE	BLACK 1-7
3		Analogue Input 7	PRIMARY CHARGE	STEERING	BLACK 2-5
4		Analogue Input 5	GRD DRIVE CHARGE		BIM IN LORO SIDE
5		Analogue Input 3	RIGHT PRIMARY	SECONDARY	BLACK 3-3
6		Analogue Input 1	GROUND DRIVE		BLACK 3-1
7		Analogue Input 2	LEFT PRIMARY	AIRHEAD	BLACK 3-2
8		Analogue Input 4	SECONDARY	BONNE LITE PRESS.	BLACK 3-4
9		Analogue Input 6	A.H. CHARGE	RIGHT STR. TABLE	BLACK 3-4
10		Fuel Sensor 2			
11		Fuel Sensor Supply			
12		Voltage Reference	- RED To JUNE BLOCK 1		RED To JUNE BLOCK 3

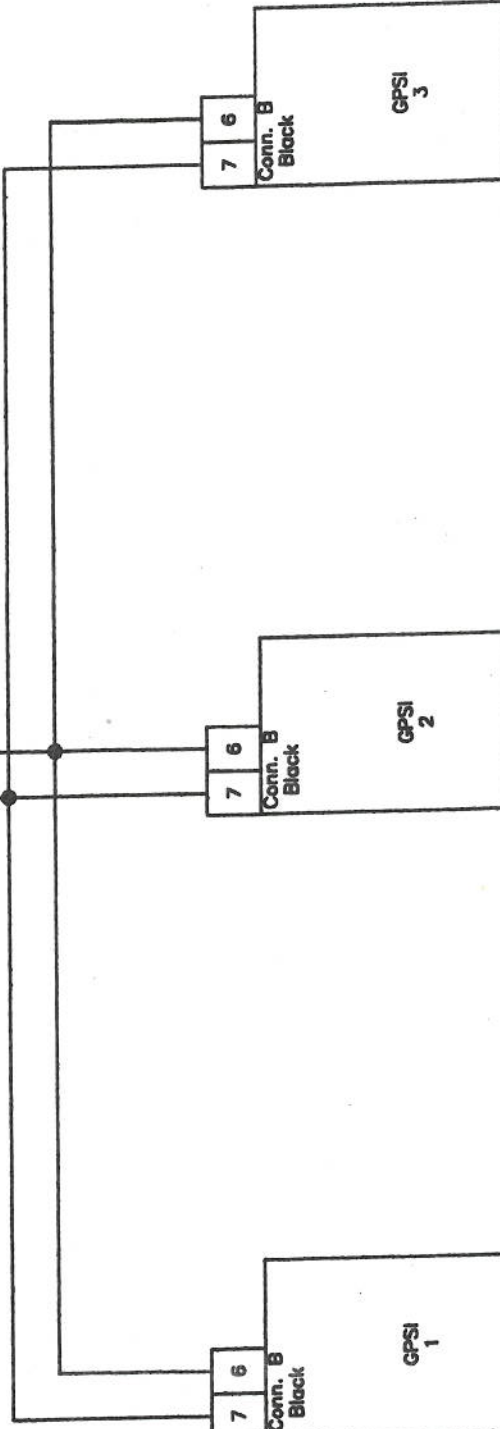
Deutsch pin#	Function	BLACK	Connector B.	GPSI 2 B	GPSI 3 B
1	Ground	GPSI 1 B	GREEN To GRD. BAR		GREEN To GRD. BAR
2	Digital Output				
3	Tach H				
4	RS232 TxD / RS485A / J11708A				
5	CAN Supply + (isolated version only)	RED To JUNE BLOCK 7		RED To JUNE BLOCK 8	RED To JUNE BLOCK 9
6	CAN H	BLACK To JUNE BLOCK 15		BLACK To JUNE BLOCK 15	BLACK To JUNE BLOCK 17
7	CAN L	GREEN To JUNE BLOCK 16		GREEN To JUNE BLOCK 16	GREEN To JUNE BLOCK 18
8	CAN Supply - (isolated version only)	BLACK To GRD. BAR		BLACK To GRD. BAR	BLACK To GRD. BAR
9	RS232 RxD / RS485B / J1708B				
10	Tach L				
11	Battery Sense				
12	Supply +	RED To JUNE BLOCK 7		RED To JUNE BLOCK 5	RED To JUNE BLOCK 6

REVISIONS			DATE	APPROVED
ZONE	REV	DESCRIPTION	01-21-05	

CAN Bus Wiring Layout



120 Ohm
1/4 Watt
Resistor



Acemarc, Inc.
Automation & Machinery Repair
1 888-860-TECH
11136 Holston Rd
Homerville, Ohio 44235

Advanced Farm Equipment
HARVESTER

CANtrak 2600/GPS1 IO CAN Bus Wiring

SIZE	FORM NO.	DRG NO.	REV
B	B		1

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.

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

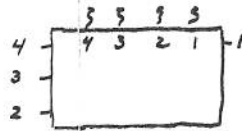
Signal	Pin Number
1	Ground
2	Digital Output
3	Tachometer High Input
4	RS232 Tx
5	* CAN Power Input +
6	CAN Bus High
7	CAN Bus Low
8	* CAN Power Input -
9	RS232 Rx
10	Tachometer Low Input
11	High Voltage Input
12	Power Supply Input +

BELDEN 9444
TRANSducer WIRING

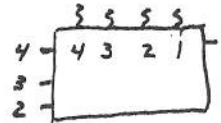
3000 SERIES
AMP CONNECTOR

PIN # 1 TOP BLACK
2 OV($\frac{1}{2}$) WHITE
3 + IN RED

DTS-0373 B



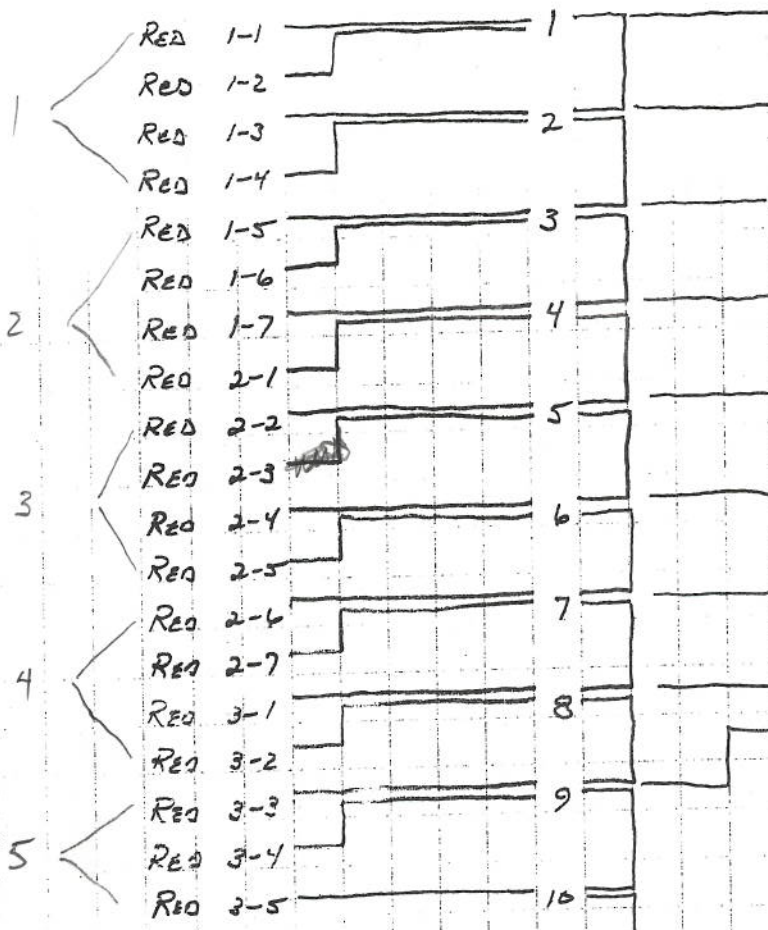
1 B.M.F.I.C.
2 SIDE
3 CROSS
4 B.M.H.W.O.A.S.



1 OPEN
2 Lt STRM
3 Rn STRM
4 Rn STRM DIST

GAUGE GPSI'S (19 GAUGES) JUNCTION BLOCK

GRAY PLUG

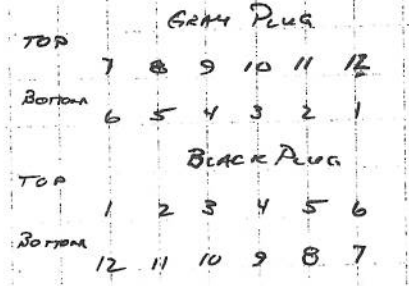


GPSI-1A RED - PIN 12	GRAY PLUG
GPSI-2A RED - PIN 12	GRAY PLUG
GPSI-3A RED - PIN 12	GRAY PLUG
GPSI-1B RED - PIN 12	BLACK PLUG
GPSI-2B RED - PIN 12	BLACK PLUG
GPSI-3B RED - PIN 12	BLACK PLUG
GPSI-1B RED - PIN 5	BLACK PLUG
GPSI-2B RED - PIN 5	BLACK PLUG
GPSI-3B RED - PIN 5	BLACK PLUG

GROUND BAR

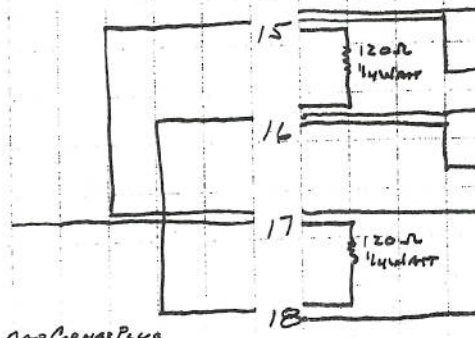
GPSI	Color	PIN	PLUG COLOR
GPSI-1A	BLACK	PIN-1	GRAY
GPSI-1B	BLACK	PIN-1	BLACK
GPSI-2A	BLACK	PIN-1	GRAY
GPSI-2B	BLACK	PIN-1	BLACK
GPSI-3A	BLACK	PIN-1	GRAY
GPSI-3B	BLACK	PIN-1	BLACK
GPSI-1B	BLACK	PIN-8	BLACK
GPSI-2B	BLACK	PIN-8	BLACK
GPSI-3B	BLACK	PIN-8	BLACK

PANEL 12VDC RED 0028 (P)



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

PIN #8
CANTRAC - BLACK

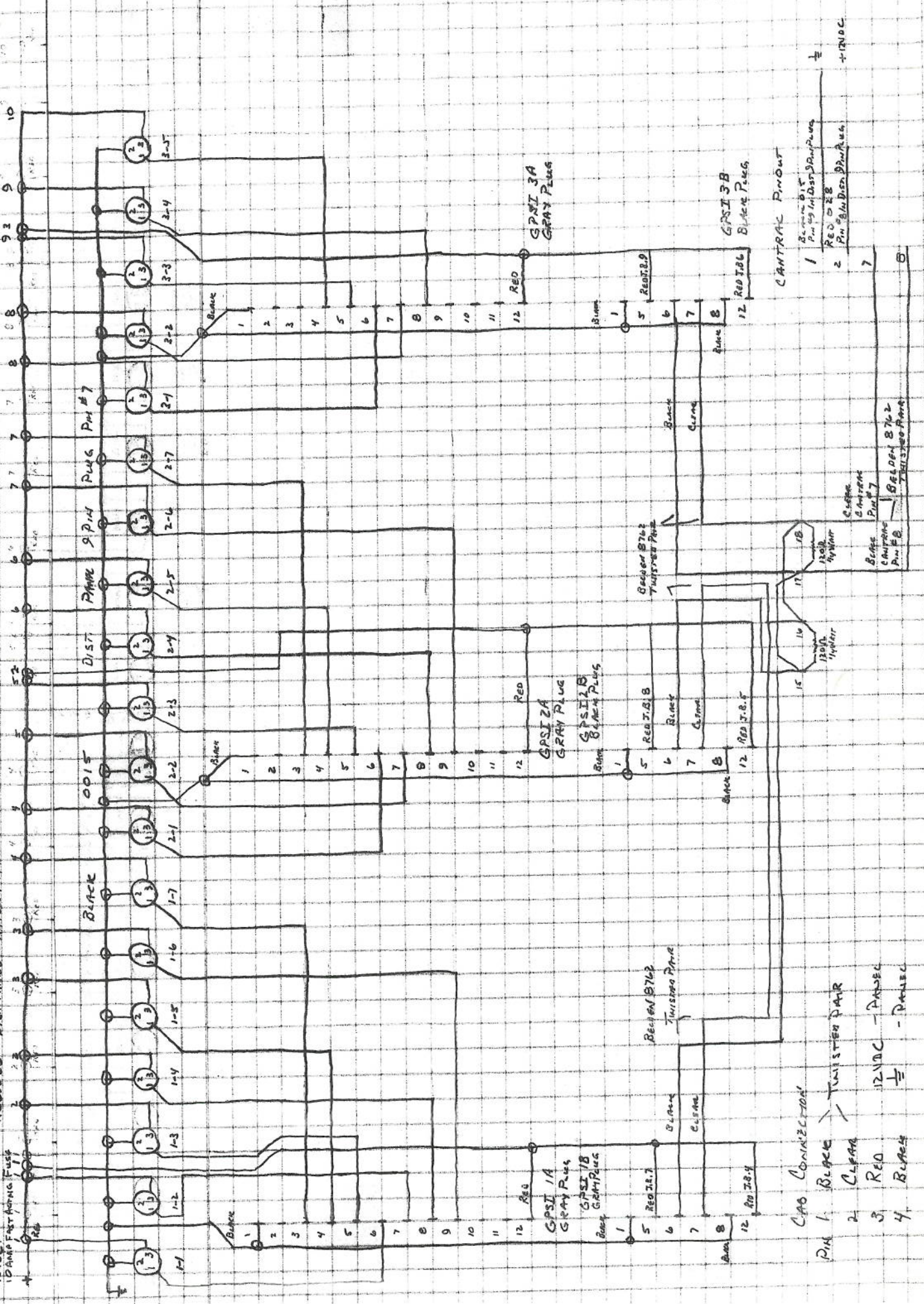
PIN #7
CANTRAC - CLEAR

CANTRAC PLUG
 PIN 1 BLACK - CANTRAC
 2 CLEAR - CANTRAC
 3 ~~BLACK - CANTRAC~~
 4 RED 028 12VDC BLACK 015

JUNCTION BLOCK #11
12VDC
10 AMP FUSE

RED 020 DISC PANEL SPIN PLUG PIN #6

12VDC JUNCTION BLOCK



CAS CONNECTION
PIN 1 BLACK - TWISTED PAIR
PIN 2 CLEAR
PIN 3 RED - PANEL
PIN 4 BLACK - PANEL
12VDC - PANEL

GREEN
12VDC
10 AMP FUSE
DISC PANEL SPIN PLUG
PIN #6

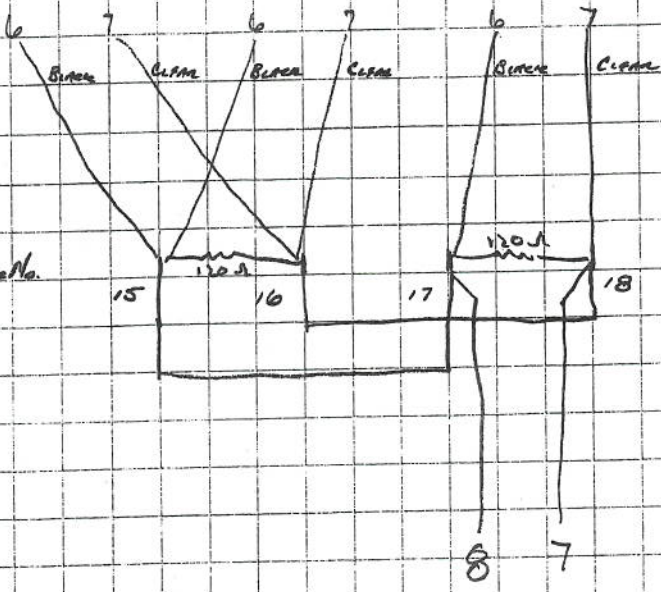
CANTRAC PRIORITY
1 RED 020
2 RED 028
7
8

12VDC

GPSI Plug
1 B (B. mem)

GPSI Plug
2 B (B. mem)

GPSI Plug
3 B (B. mem)



BELDEN 8722 20AWG 2C TWISTED

JUNCTION BLOCK No.

TO CENTER

For Chris

ADVANCED FARM EQUIPMENT 19 GAUGE GPSI LAYOUT

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	

Fax

To: **AFE** From: **HJV**
 Fax: **989-268-5630** Pages:
 Phone: Date: **5-4-05**
 Re: **LEVESQUE** CC: **LAYOUT**

Urgent For Review Please Comment Please Reply Please Recycle

• Comments:

#05007 LEVESQUE
#06009 TORIQUE

THIS WOULD BE MY CHOICE FOR LAYOUT

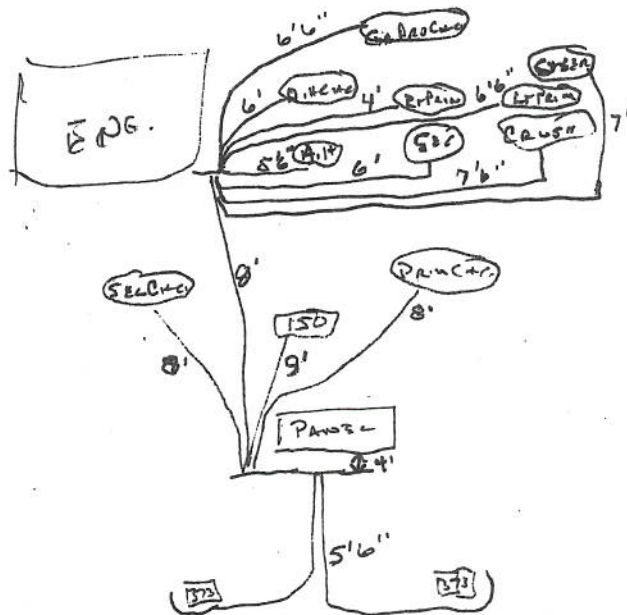
- 1 GROUND DRIVE
- 5 LH PRIMARY
- 6 RH PRIMARY
- 8 SECONDARY

- 2 GROUND DRIVE CHARGE
- 7 AIRHEAD CHARGE
- 4 PRIMARY CHARGE
- 10 SECONDARY CHARGE

- 3 AIRHEAD
- 9 ROCK CRUSHER (#05007)
- 18 BRAKE CHARGE
- 19 STEERING

- 11 RT STAR
- 17 LH STAR
- 12 STAR TABLE DIST
- 13 CROSS

- 14 SIDE
- 15 BIN FILL
- 16 BIN UNLOAD



Alliston Location: (Head Office)

R.R. 23, 5770 County Road #15
 Alliston, Ont. L9R 2V3
 705.435.3226 • FAX 705.435.8893

Hershall Location:

72090 London Road, R.R. #1
 Hershall, Ont. N0M 1Z0
 519.262.2450 • FAX 519.262.2455

Grand Falls Location:

10109-Rte #2, DBL
 De St. Andre, NB E5Y 2H6
 506.473.5557 • FAX 506.473.5874

#09032

**ELECTRONIC GAUGES
HEARTLAND FARMS
4RSPH W/ 65" LAH
ENCLOSURE PINOUTS**

PIN #1 TOP Buck

2 - 0V (+) WHITE

3 +14 Red

Below 9444

1/7/09

PLUG #1

PIN #1	1-1	BLACK	GROUND DRIVE
2	1-1	WHITE	GROUND DRIVE
3	1-1	RED	GROUND DRIVE
4	1-2	BLACK	LEFT PRIMARY
5	1-2	WHITE	LEFT PRIMARY
6	1-2	RED	LEFT PRIMARY
7	1-3	BLACK	RIGHT PRIMARY
8	1-3	WHITE	RIGHT PRIMARY
9	1-3	RED	RIGHT PRIMARY
10	1-4	BLACK	SECONDARY
11	1-4	WHITE	SECONDARY
12	1-4	RED	SECONDARY

PLUG #2

PIN#1	1-5	BLACK	GROUND DRIVE CHARGE PRESSURE
2	1-5	WHITE	GROUND DRIVE CHARGE PRESSURE
3	1-5	RED	GROUND DRIVE CHARGE PRESSURE
4	1-6	BLACK	AIR HEAD CHARGE PRESSURE
5	1-6	WHITE	AIR HEAD CHARGE PRESSURE
6	1-6	RED	AIR HEAD CHARGE PRESSURE
7	1-7	BLACK	PRIMARY CHARGE PRESSURE
8	1-7	WHITE	PRIMARY CHARGE PRESSURE
9	1-7	RED	PRIMARY CHARGE PRESSURE
10	2-1	BLACK	SECONDARY CHARGE PRESSURE
11	2-1	WHITE	SECONDARY CHARGE PRESSURE
12	2-1	RED	SECONDARY CHARGE PRESSURE

PLUG #3

PIN#1	2-2	BLACK	AIR HEAD
2	2-2	WHITE	AIR HEAD
3	2-2	RED	AIR HEAD
4	2-3		
5	2-3		
6	2-3		
7	2-4	BLACK	BRAKE CHARGE PRESSURE
8	2-4	WHITE	BRAKE CHARGE PRESSURE
9	2-4	RED	BRAKE CHARGE PRESSURE
10	2-5	BLACK	STEERING
11	2-5	WHITE	STEERING
12	2-5	RED	STEERING

#09032

**ELECTRONIC GAUGES
HEARTLAND FARMS
4RSPH W/ 65" LAH
ENCLOSURE PINOUTS**

Pin #1 TOP Black
2 -OV(1/2) WHITE
3 +IN Red
Belden 9444

1/7/09

PLUG #4

PIN #1	2-6	BLACK	RIGHT STAR TABLE
2	2-6	WHITE	RIGHT STAR TABLE
3	2-6	RED	RIGHT STAR TABLE
4	2-7	BLACK	LEFT STAR TABLE
5	2-7	WHITE	LEFT STAR TABLE
6	2-7	RED	LEFT STAR TABLE
7	3-1	BLACK	STAR TABLE DISTRIBUTOR
8	3-1	WHITE	STAR TABLE DISTRIBUTOR
9	3-1	RED	STAR TABLE DISTRIBUTOR
10	3-2	BLACK	CROSS
11	3-2	WHITE	CROSS
12	3-2	RED	CROSS

PLUG #5

PIN#1	3-3	BLACK	SIDE
2	3-3	WHITE	SIDE
3	3-3	RED	SIDE
4	3-4	BLACK	BIN FILL
5	3-4	WHITE	BIN FILL
6	3-4	RED	BIN FILL
7	3-5	BLACK	BIN UNLOAD
8	3-5	WHITE	BIN UNLOAD
9	3-5	RED	BIN UNLOAD

10
11
12

PLUG #6

PIN#1	BLACK		BELDEN 8762 TO CAB
2	CLEAR		BELDEN 8762 TO CAB
3	RED	0028	12VDC FROM DISTRIBUTION PANEL
4	BLACK	0015	GROUND TO DISTRIBUTION PANEL GROUND