

19097

Main Farms

4 RSPH W/65" AH

MAIN'S. 2019 4RSPH

kk

GROUND DRIVE SENSOR HARNESS

1 OF 2

①

LH WHEEL MOTOR — 13' (MALES)

4 PIN

<u>PIN</u>	<u>COLOR</u>	<u>NUMBER</u>
1	RED	2
2	BLACK	2
3	ORANGE	1

②

RH WHEEL MOTOR — 13' (MALES)

4 PIN

<u>PIN</u>	<u>COLOR</u>	<u>NUMBER</u>
1	PURPLE RED	2
2	BLACK	2
3	PURPLE	2

③

ISS # 1 (AT 6', BRANCH OUT 18")

✓ 4 PIN

<u>PIN</u>	<u>COLOR</u>	<u>NUMBER</u>
1	RED	1
2	BLACK	1
3	YELLOW	1

④

ISS # 2

✓ 2 PIN

<u>PIN</u>	<u>COLOR</u>	<u>NUMBER</u>
1	WHITE	42
2	BLACK	30

MAINS 2019 4RSPH

GROUND DRIVE SENSOR HARNESS

2 OF 2

5

GROUND DRIVE Pump #1

(AT 12', 12" BRANCH)

✓ 4 pin

<u>PIN</u>	<u>COLOR</u>	<u>NUMBER</u>
1	RED	1
2	BLACK	1
3	BLUE	1

6

GROUND DRIVE Pump #2

(AT 12', 12" BRANCH)

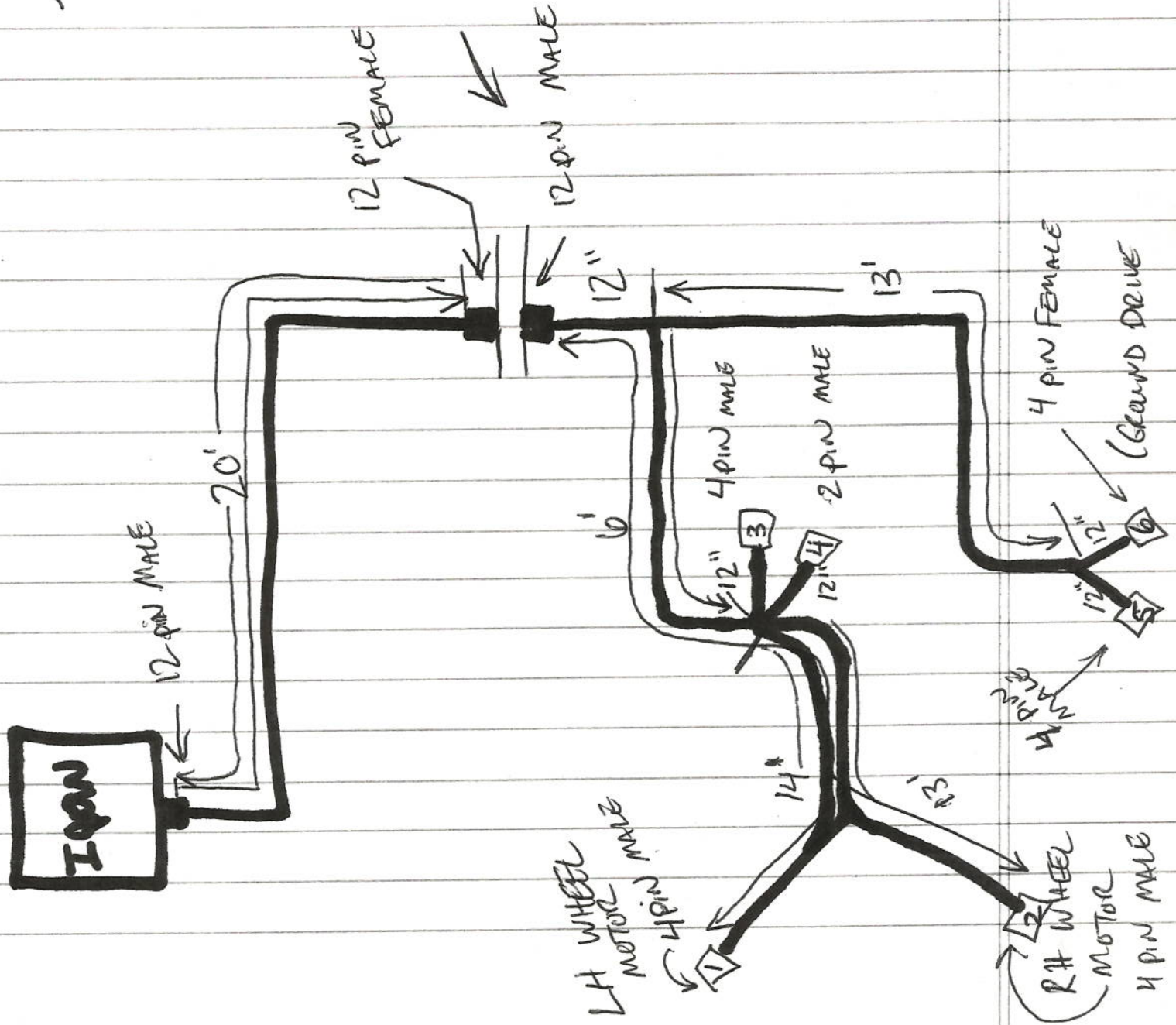
✓ 4 pin

<u>PIN</u>	<u>COLOR</u>	<u>NUMBER</u>
1	RED	1
2	BLACK	1
3	GREEN	2

MAINS 2019
4RSPH

GROUND DRIVE
SENSOR HARNESS
kk

BREAK @
REAR AXLE
(END OF
TRAY)



March 2019

possibly plus
12-pin plus

GD SENSORS			
PIN #	COLOR	NUMBER	DISCRIPTION
A	ORANGE	1	LEFT SPEED SENSOR SIG ✓ LH
B	PURPLE	2	RIGHT SPEED SENSOR SIG ✓ RH
C	YELLOW	1	MOTOR PRESSURE CONTROL TRANSDUCER SIGNAL 155
D	BLUE	1	PUMP A-PORT PRESSURE TRANSDUCER SIGNAL ✓
E	GREEN	2	PUMP B-PORT PRESSURE TRANSDUCER SIGNAL ✓
F	WHITE	42	MOTOR DISP CONTROL C1:42 OF MC43
G	BLACK	30	MOTOR DISP CONTROL C1:30 OF MC43 GROUND
H	RED	1	5V FOR MOTOR PRESSURE CONTROL TRANSDUCER + VRef
J	BLACK	1	GROUND FOR TRANSDUCERS → VRef
K	RED	2	12V FOR SPEED SENSOR ✓ LH / RH
L	BLACK	2	GROUND FOR SPEED SENSORS ✓ LH / RH
M			
N			
O			
P			
Q			
R			
S			
T			
U			
V			
W			
X			

1 2 3 4 5 6 7 8 9 10 11



MODEL PWM-1401

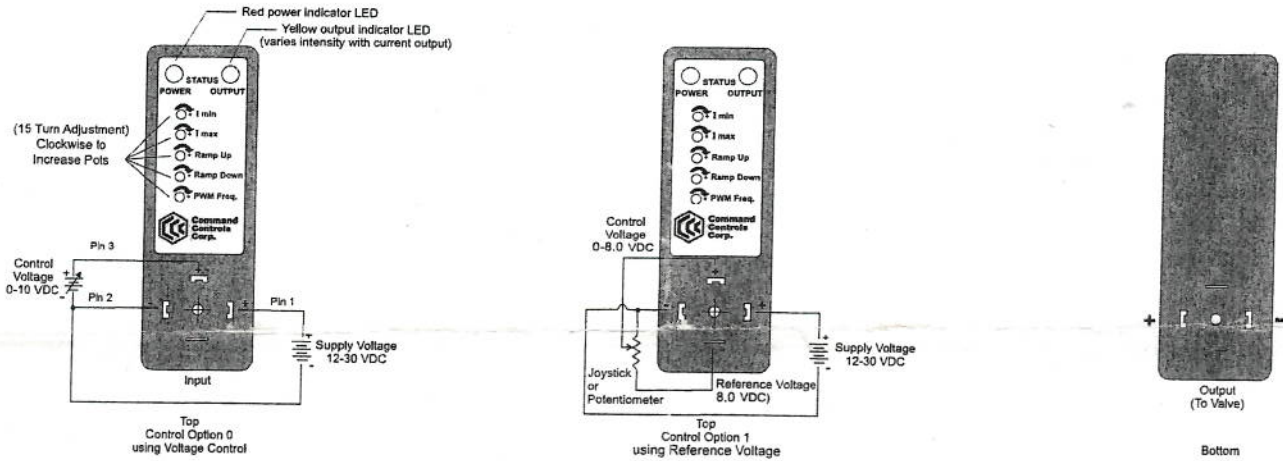
**PWM MICRO PROPORTIONAL DRIVER
INSTALLATION & USER GUIDE**

General Description

The Command Controls Model PWM-1401 is a compact electronic circuit proportional valve driver built into an environment-resistant miniaturized enclosure. Features include selectable control signal and adjustable min/max current output. Functions include minimum and maximum current limiting, control signals from 0-10 V (with a step function at 0.2 volts included for minimum current), a 0.10-20 sec. linear ramp up/ramp down adjustment. The PWM-1401 has an output current that is proportional to the command signal input.

This unit incorporates the Form "A" DIN 43650/ISO 4400 connector male and female interface. The unit is mounted by use of a single mounting screw, DIN connector and two gaskets. Built to meet NEMA 4 environment standards, the PWM-1401 is made from engineered polymers for resistance to harsh chemicals and ingress of water or foreign substances. Adjustments are made on the top surface of the unit. Additional features include on-board diagnostics such as a red indicator light for power and a yellow indicator light for output to the solenoid.

Hook-Up Diagram

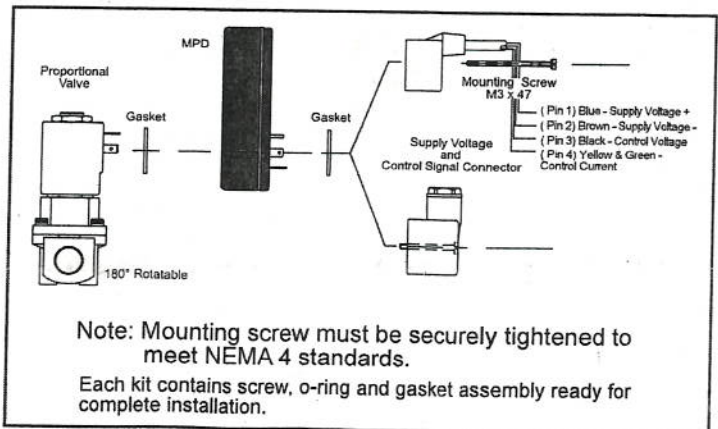


Installation & Set-Up

The unit is best adjusted by observing the system response. Coil current can also be used, but coil voltage is not accurate.

Minimum Current & Maximum Current - These two adjustments will vary the minimum and maximum output current limits. The minimum current can be set between 0 - 1.0 A (0 - .5 A for the PWM-1401-24). The maximum current can be set in the range between the minimum current setting and the minimum current setting plus 2 A. (1 A. for the PWM-1401-24). The minimum current must be set first as described below. Always adjust the I MIN or I MAX pot until the response starts changing and then adjust to the desired response.

1. Turn the I MAX, I MIN, PWM FREQ and RAMP UP, RAMP DOWN pots 15 turns CCW.
2. Turn on the power supply. The PWR light will come on if the power supply voltage is greater than 11.5 volts. The unit will not function correctly if the POWER indicator light is off or blinking.
3. The OUTPUT Indicator light indicates the duty cycle of the voltage to the coil by going from no light, always off, through bright yellow, always on. The intensity of the yellow gives a relative indication of current flow through the coil as an aid to tuning and troubleshooting.
4. Set the control input to minimum, (.2 V or etc.). **Minimum Current Adjustment** - Adjust the min current adjuster for a minimum current or to a desired system response. Back up adjuster until system stops responding. Proceed to max current adjuster. The I MIN pot can eliminate the valve's deadband.



5. Adjust the I MAX pot 15 turns CCW. Set the control input to its maximum, (or 10 V or etc.). **Maximum Current Adjustment** - Adjust max current adjuster for a maximum current limit or to a desired system response. The I MAX pot adjusts the maximum valve shift. Do not adjust the unit for more current than is required to fully shift the valve; this reduces the useful range of the control input and may harm the coil.

SERIAL NUMBER: AFE 2019
CUSTOMER: 4 ROW SELF PROPELLED
DEALER: AIRHEAD HARVESTER
SALESPERSON: DATE:

OPTION:

AIRHEAD SIZE: 65"

COMMENTS:

AIRHEAD OPTIONS: ELECTRICAL LEVELING

COMMENTS: travel mode extra lowering airhead
 instead of manual valve buy airhead.
 We are working on this.

ENGINE MAKE OPTION: QSX-15 LITER 600 HP CUMMINS TIER 4 FINAL

COMMENTS: 2100 RPM

ENGINE ADD-ONS: REVERSING FAN

COMMENTS:

REAR TIRES: 1050/50 R32 TRELLEBORG

COMMENTS:

FRONT TIRES: OTHER

COMMENTS: 1600x24 12 tires

REAR WHEEL MOTORS: ESKRIDGE 600

COMMENTS:

FRONT WHEEL MOTORS: BLACK BRUIN BB6

COMMENTS:

GROUND DRIVE: ELECTRONICALLY CONTROLLED PUMPS

COMMENTS:

MAX. DIGGING GROUND SPEED = 3. MPH

SERIAL NUMBER: AFE 2019
CUSTOMER: 4 ROW SELF PROPELLED
DEALER: AIRHEAD HARVESTER
SALESPERSON: DATE:

OPTION:

PRIMARY ROW SPACING: 34"

COMMENTS:

VINE COULTERS: DOUBLE DISK COULTER
24" DIA DISK

COMMENTS:

DIGGER BLADE BRACKET: ROCK GUARD

COMMENTS:

DIGGER BLADES: REGULAR (STANDARD BLADE) STRAIGHT POINT
12" LONG (STANDARD LENGTH)

COMMENTS:

CENTER BLADES: 15" LONG

COMMENTS:

PRIMARY BED OPTIONS: FULL WIDTH SIDE TO SIDE CONTROL
STAINLESS STEEL ON PRIMARY, WELDED TO OUTSIDE
OTHER

1" THICK OUTSIDE LOWER PRIMARY PLATES
3/4" THICK CENTER LOWER PRIMARY RIBS

COMMENTS: reinforced lower primary,
reinforced digger noses . I have
pictures

PRIMARY DRIVE: REVERSE DRIVE

COMMENTS:

PRIMARY GEARBOX OPTION: 6,000 HYDRAULIC MOTOR W/ GEAR BOX

COMMENTS:

SERIAL NUMBER: AFE 2019
CUSTOMER: 4 ROW SELF PROPELLED
DEALER: AIRHEAD HARVESTER
SALESPERSON: DATE:

OPTION:

VIBRATOR OPTIONS: ROTATING HYDRAULIC SHAKER - PRIMARY
 NO LOWER PRIMARY VIBRATOR

Diff in Shakers



COMMENTS:

PRIMARY BED CHAINS: SINGLE WIDTH BELTED
 WIDTH: 32" CHAIN (SINGLE WIDTH-USE W/34" ROWS)
 PATTERN: 50MM 2 DOWN & 1 STRAIGHT
 STANDARD CENTER TO CENTER DIGGERNOSE DISTANCE - FOR CHAIN SELECTED = 134-1/4
 CHANGE DIGGERNOSE CENTER TO CENTER DISTANCE TO :
 FRAME INSIDE DIMENSION (BASED SEC. CHAIN) = 134 1/2
 FRAME ROW WIDTH 34. INCHES

COMMENTS:

SECONDARY GEARBOX OPTION: 6,000 HYDRAULIC MOTOR W/ GEAR BOX

COMMENTS:

SECONDARY BED CHAINS: FULL WIDTH BELTED SRT 65.00
 PATTERN: 45MM ALL STRAIGHT SRT

COMMENTS:

2ND SECONDARY - STAR TABLE OPTIONS: AFE TABLE - 6 STARS W/ 2 ADJ. SMOOTH ROLLS AND DISTRIBUTOR STARS ON CROSS, 1ST 2 SHAFTS HAVE SINGLE BRG IN MIDDLE

STAR/AFE TABLE DRIVE MOTOR OPTION: "S" SERIES (STANDARD)
 STAR SPECIFICATIONS: NOFSINGER 70DURO 14PT
 NOTE: SHORT SIDE: ENDS W/ 2 STARS

COMMENTS: add 2 stare rollers on short side

AFE SMOOTH ROLL OPTION: 6" DIAMETER
 OTHER

,add 3 rolls of stares on long side . I have pictures the last 3 rolls on long side steo down

SERIAL NUMBER: AFE 2019
CUSTOMER: 4 ROW SELF PROPELLED
DEALER: AIRHEAD HARVESTER
SALESPERSON: DATE:

OPTION:

2ND SECONDARY GEARBOX OPTION: NO 2ND SECONDARY

PATTERN:

COMMENTS:

DEVINER GEARBOX OPTION: 6,000 HYDRAULIC MOTOR W/ GEAR BOX

COMMENTS:

DEVINER/OVERRIDE CHAIN: 150MM
~6X6 CHECKER BOARD

COMMENTS:

REAR CROSS: 48" WIDE CROSS NO LEVELING SYSTEM

PATTERN: 50MM

SECONDARY/AFE TABLE TO CROSS DROP DISTANCE = 3.25 INCHES

COMMENTS:

REAR CROSS TABLE OPTION: NO STAR TABLE - CHAIN ONLY

COMMENTS:

LOWER SIDE ELEVATOR AFE STAR TABLE OPTION: NO AFE STAR TABLE

50MM STANDARD PATTERN = ALL STRAIGHT SRT

STANDARD CONVEYOR STYLE = UHMW SLIDES

COMMENTS:

TOP SIDE ELEVATOR VINEBELT OR AIRKNIFE OPTION: AIR KNIFE W/ 10" CRARY BLOWER (600HP REQ'D)

STAR SPECIFICATIONS:

NOFSINGER 55DURO 14PT

45MM STANDARD PATTERN = 10 DOWN 1 STRAIGHT SRT

STANDARD CONVEYOR STYLE = UHMW SLIDES

COMMENTS:

SERIAL NUMBER: AFE 2019
CUSTOMER: 4 ROW SELF PROPELLED
DEALER: AIRHEAD HARVESTER
SALESPERSON: DATE:

OPTION:

MULTI-SEP / M-TABLE OPTION:

COMMENTS:

BIN OPTIONS: LARGE BIN (80-100 BAG) W/ FILL CONV SONIC CONTROL

BIN BELT: 40" WIDE CHEVRON STYLE

OF SONIC SENSORS: 2 SENSORS

BIN FILL: 40" BIN FILL CONVEYOR

45MM STANDARD PATTERN = 3 DOWN 1 STRAIGHT SRT

STANDARD CONVEYOR STYLE = UHMW SLIDES

COMMENTS:

BULK LOADER: 40" WIDE

PATTERN: OTHER

STANDARD CONVEYOR STYLE = UHMW SLIDES

REVERSE DRIVE(S) DRIVE SPROCKETS:



UNDER-OVER UNDER

COMMENTS:

STONE BOX OPTIONS: STANDARD CLAM STYLE STONE BOX

COMMENTS:

STONE CONVEYOR CHAIN: BELTED CHAIN

OPTIONS: SOLID FLOOR - OPEN UNDER AIRHEAD

COMMENTS:

CHAIN ROLLER OPTIONS: (SPECIFY LOCATIONS) TEROG

COMMENTS:

BOLT/NUT OPTIONS: USE SPIN LOCK NUTS

COMMENTS:

SERIAL NUMBER: AFE 2019
 CUSTOMER: 4 ROW SELF PROPELLED
 DEALER: AIRHEAD HARVESTER
 SALESPERSON: DATE:

OPTION:

WORK PLATFORMS:

FLOW CONTROLS:

PRIMARY - ELECTRONIC CONTROLS -	ADD REVERSING	COMMENTS:
SECONDARY/DEVINER - ELECTRONIC CONTROLS -	ADD REVERSING	COMMENTS:
AFE TABLE-FLOW CONTROL W/ACTUATOR	ADD LT/RT/DIST REVERSING + <i>FULL WIDTH STRAPS</i>	COMMENTS:
CROSS CONVEYOR	MANUAL FLOW CONTROL	COMMENTS:
CROSS STAR TABLE OPTION	NO STAR TABLE/FLOW CONTROL	COMMENTS:
CROSS DISTRIBUTOR STARS	REVERSING - <i>FLORIS C</i>	COMMENTS:
AIRHEAD FEED - FLOW CONTROL W/ACTUATOR	MANUAL FLOW CONTROL	COMMENTS:
STONE CONVEYOR	FLOW CONTROL W/ACTUATOR	COMMENTS:
AIRHEAD DISCHARGE CONVEYOR	MANUAL FLOW CONTROL	COMMENTS:
VINEBELT FEED STARS - MANUAL FLOW CONTROL	FLOW CONTROL W/ACTUATOR	COMMENTS:
VINEBELT FEED STEEL ROLL - MANUAL FLOW CONTROL		COMMENTS:
VINEBELT DRIVE - MANUAL FLOW CONTROL		COMMENTS:
VINEBELT/MULTI-SEP/M-TABLE DIST ROLLS - MANUAL FLOW CON'		COMMENTS:
BIN FILL/SORT TABLE	MANUAL FLOW CONTROL	COMMENTS:
BIN UNLOAD - FLOW CONTROL W/ACTUATOR		COMMENTS:
BOOM		COMMENTS:
Other		COMMENTS:

*Soft start
 on All Conveyors
 Cuts*

CAB OPTIONS:

JOHN DEERE OEM CAB
 CLIMATE CONTROL
 MAX. CAB (HARVESTER) HEIGHT = 172. INCHES + *Hyd CAB LIFT*
 MECHANICAL HYDRAULIC PRESSURE GAUGES
 4 - COLOR CAMERAS (SPECIFY LOCATION)
 OTHER

COMMENTS: hydraulic raise and lower cab

SERIAL NUMBER: AFE 2019
CUSTOMER: 4 ROW SELF PROPELLED
DEALER: AIRHEAD HARVESTER
SALESPERSON: DATE:

OPTION:

EXTRA OPTIONS:

GRATING ALONG CAB: BAR GRATING (2-3/8X4)

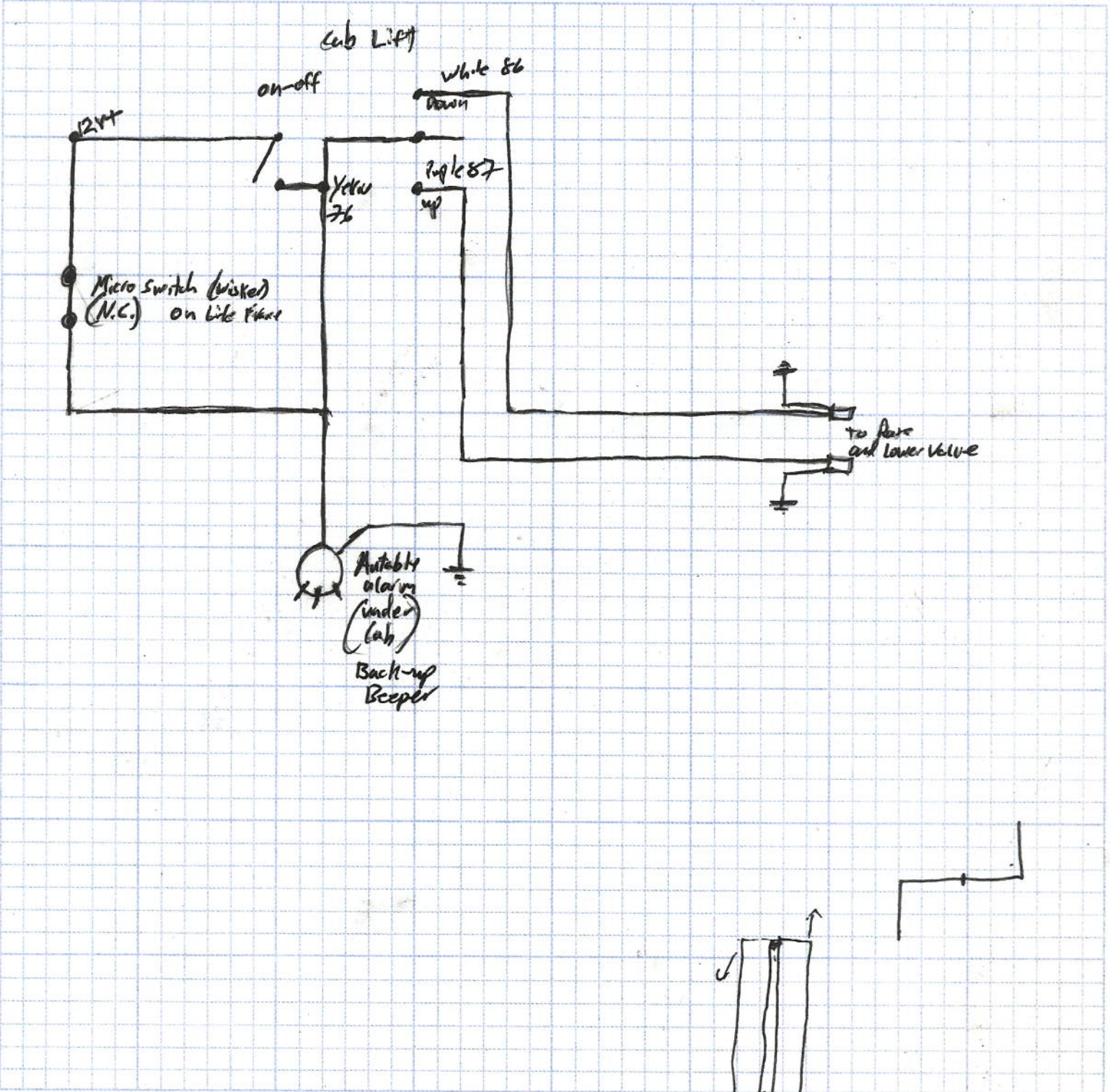
COMMENTS: 0

Additional Comments: 0

QTY	PART NO	DESCRIPTION
6	2001-1043	Parker Pressure Transducer 35Bar
6	2001-1044	Parker Pressure Transducer 500Bar
2	2001-0905	Quad Cab Cam Camera Kit 7" Screen (Comes with two cameras & two 20' Power Cords)
4	2001-0906	Quad Cab Cam Camera Only
4	2001-0907	20' Quad Cab Cam Camera Cable
4	2001-0908	65' Quad Cab Cam Camera Cable
2tote	2036-0011	#315 Simplex Supreme Hydraulic Oil - ISO 53-56
10	2001-1054	Camera Mounting Magnet
20bag	22275	Heat Shrink Tube 6"L, .25" Open, .125" Shrunk

Project: Cab Lift etc. Main Farm 2019

Date: _____



- Pneumatics & Fluid Control
- Industrial Hydraulics & Lubrication
- Motion Control & Automation
- Mobile Products
- Engineered Systems

MAINS 2019
4RSPH

FRONT OF CAB

PG 2 OF 2

FRONT OF CAB HARNESS

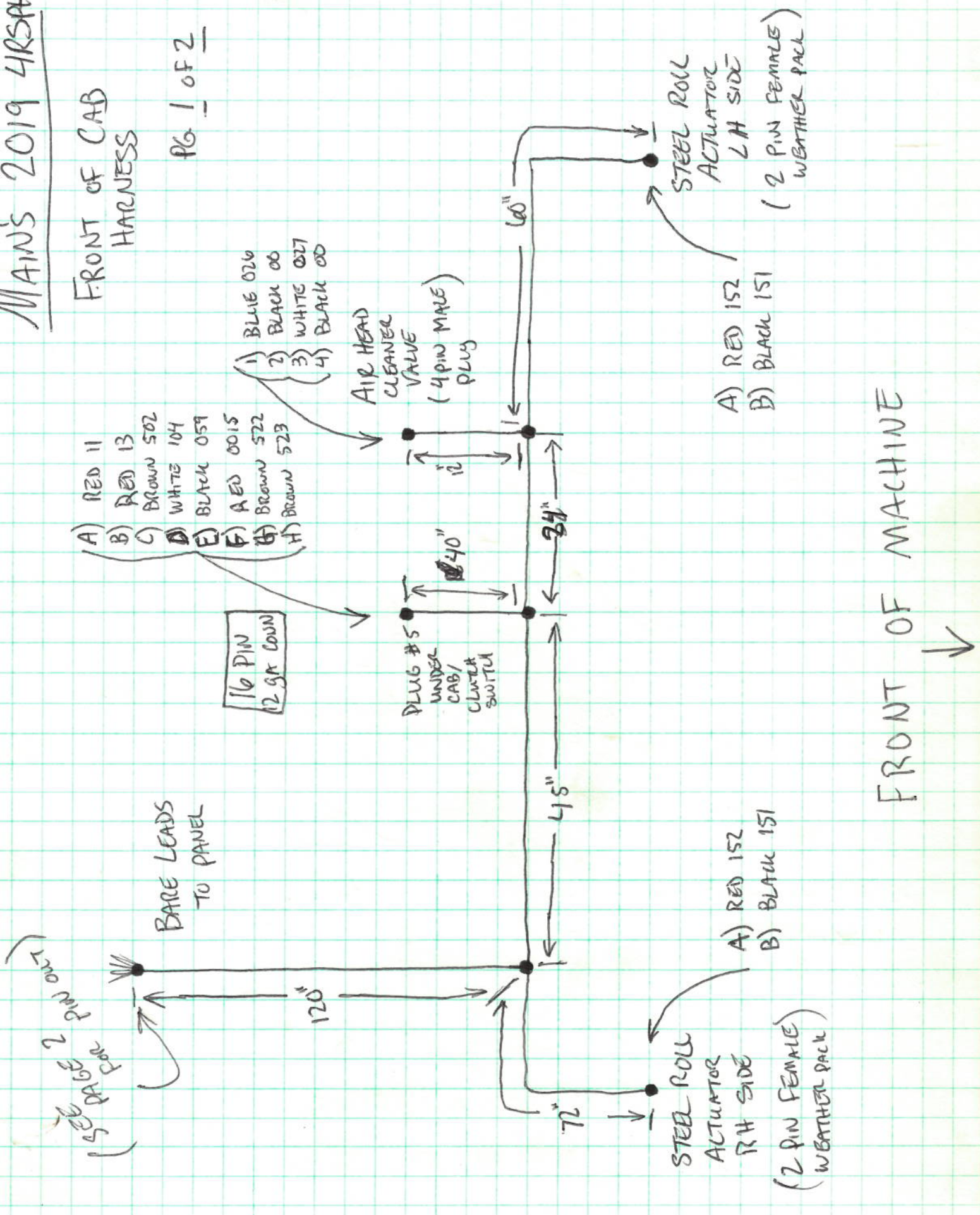
BARE LEADS TO PANEL
"PIN-OUT"

- A) RED 11 — ST87 HOT SIDE TERMINAL
- B) RED 13 — ST87 IGNITION TERMINAL / CUMMINS
- C) BROWN 502 — POWER FROM TURN STAT POWER VIEW
- D) WHITE 1041 — CLUTCH SWITCH N.C. TO RELAY
- E) BLACK 059 — TO CLUTCH SWITCH N.O. POSITION TO F(5)
- F) RED 0015 — TO SMX SWITCH - "COM/N.O ON SMX RED"
IS TO SV4 SOLENOID
- G) BROWN 522 — RIGHT TURN SIGNAL - BROWN 54 ON MACHINE
- H) BROWN 523 — LEFT TURN SIGNAL - YELLOW 53 ON MACHINE
- J) BLACK 151 — STEEL ROLL ACTUATOR
(SPLICED IN 120" LEADS FOR BOTH SIDES)
- K) RED 152 — STEEL ROLL ACTUATOR
(SPLICED IN 120" LEADS FOR BOTH SIDES)
- L) _____
- M) _____
- N) BLUE 026 — AIR HEAD CLEANER (PIN 1)
- O) WHITE 027 — AIR HEAD CLEANER (PIN 3)
- P) BLACK 00 — GROUND (AIR HEAD CLEANER - SPLICED TOGETHER IN 24" SECTION)

MAN'S 2019 4RSPH

FRONT OF CAB HARNESS

PG 1 OF 2



FRONT OF MACHINE ↓

PACKING LIST



Ship From
 AM-DYN-IC FLUID POWER LLC
 3755 Linden Avenue S.E.
 Grand Rapids MI 49548
 USA

Ship To
 ADVANCED FARM EQUIPMENT
 5773 CRYSTAL RD
 VESTABURG MI 48891
 USA

Bill To
 ADVANCED FARM EQUIPMENT
 5773 CRYSTAL RD
 VESTABURG MI 48891
 USA

Payment Terms	Net 30 Days (NET 30)
Ship Method	Delivery
Freight Terms	Prepaid & Add
Cust Ship-to	C01540-01
Cartons	1
Weight	0.00
Tracking Nbrs	

Shipping Notes:

Customer PO: 062404

Mark Number:

Packing List #: 00069889

LINE	ITEM / DESCRIPTION	UOM	QUANTITY ORDERED	QTY PREV SHIPPED	QUANTITY BACK ORDERED	QUANTITY THIS SHIPMENT
0010	100151955 IC8S SPOOL 4A 10.5 GPM CLOSED CENTER CYL Your item # is: 2013-0460	EA	2.00	0.00	0.00	2.00
					Unit Price: 84.18	Ext. Price: 168.36
	PL#: 00069889 SO#: 00047640					
	Picked by: RYAN.HOLBROOK Shipped by: RYAN.HOLBROOK					
					AMOUNT	168.36
					FREIGHT/INSUR/HANDLE	0.00
					SALES TAX	0.00
					TOTAL	168.36

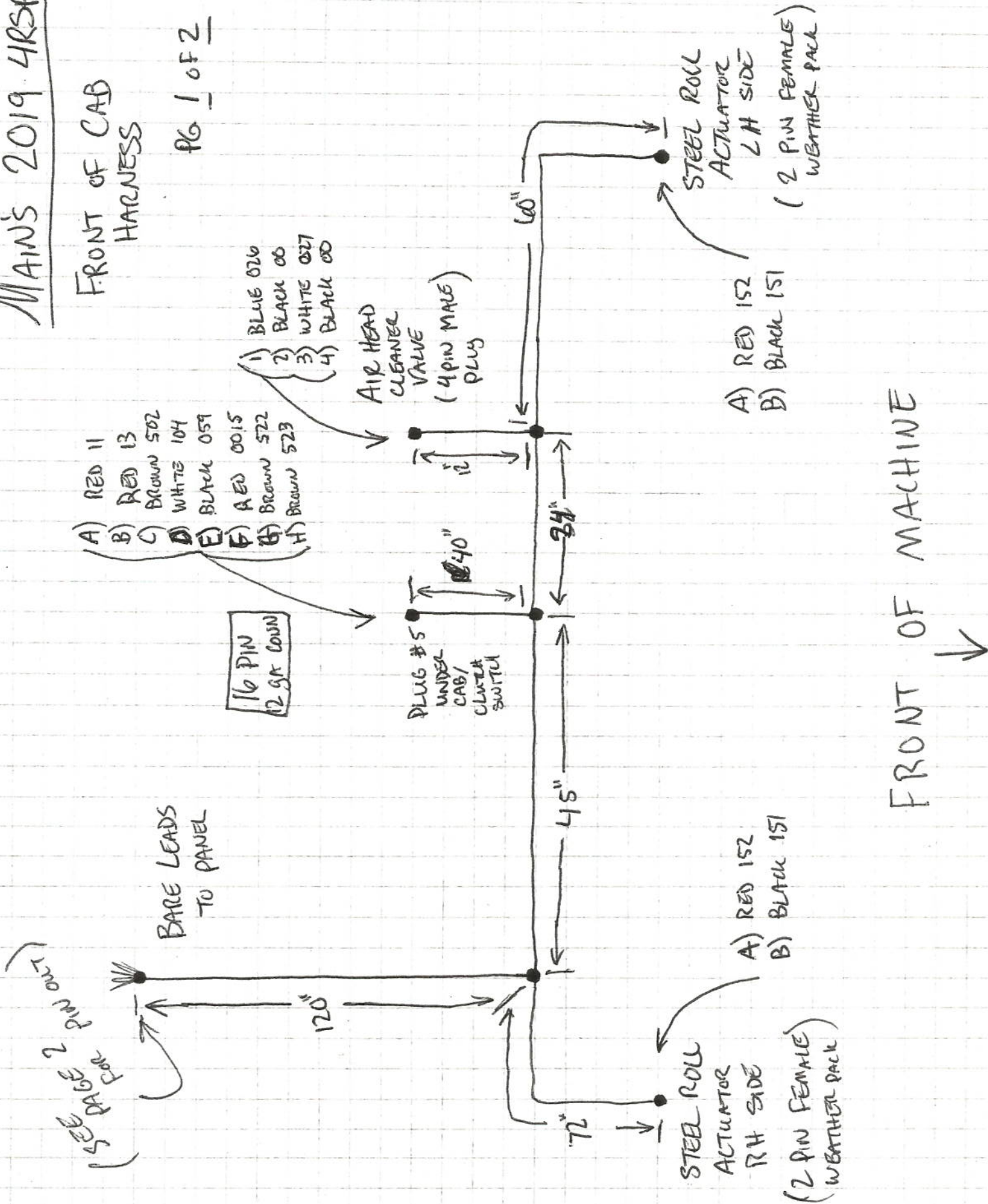
Questions?

Phone: 616.241.4695

MAIN'S 2019 4RSFH

FRONT OF CAB
HARNES

PG 1 OF 2



- A) RED 11
- B) RED 13
- C) BROWN 502
- D) WHITE 104
- E) BLACK 059
- F) RED 0015
- G) BROWN 522
- H) BROWN 523

- 1) BLUE 026
- 2) BLACK 00
- 3) WHITE 027
- 4) BLACK 00

- A) RED 152
- B) BLACK 151

- A) RED 152
- B) BLACK 151

(2 PIN FEMALE WEATHER PACK)

(2 PIN FEMALE WEATHER PACK)

16 PIN (12 GR COUN)

BARE LEADS TO PANEL

PLUG #5 UNDER CAB/CLUTCH SWITCH

AIR HEAD CLEANER VALVE (4 PIN MALE) PLUG

STEEL ROLL ACTUATOR RH SIDE (2 PIN FEMALE WEATHER PACK)

STEEL ROLL ACTUATOR LH SIDE (2 PIN FEMALE WEATHER PACK)

FRONT OF MACHINE ↓

MAINS 2019
4RSPH

FRONT OF CAB

PG 2 OF 2

FRONT OF CAB HARNESS

BARE LEADS TO PANEL
"PIN-OUT"

- A) RED 11 — ST87 HOT SIDE TERMINAL
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- C) BROWN 502 — POWER FROM TURN STAT POWER VIEW
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- O) WHITE 027 — AIR HEAD CLEANER (PIN 3)
- P) BLACK 00 — GROUND (AIR HEAD CLEANER - SPLICED
TOGETHER IN 24" SECTION)

CAUTION

- These instructions are intended to provide assistance with the installation of this product, and are not a substitute for a more comprehensive understanding of electrical systems. We strongly recommend that a competent electrical professional perform the installation of this product.
- The illustrated wiring diagram represents a common installation and is not meant to be a guide for wiring a specific vessel. The wiring diagram shows a single battery bank installation.
- Disconnect all negative battery connections before beginning the installation.
- All unused control wires should be carefully insulated from each other and from accidental contact using heat shrink tubing or electrical tape. External contact or shorting between control wires can lead to malfunction.

Installation Instructions

Mounting

Install as close as possible to battery bank. To avoid corrosion to connecting wires and terminals, mount in a dry and protected location. Avoid mounting directly above vented lead acid batteries so that the Remote Battery Switch/Solenoid Switch is not exposed to corrosive gasses expelled from the batteries.

High Current Primary Circuit Connections (stud terminals A and B)

For help selecting the appropriate wire size and circuit protection rating, go to www.blueseas.com and click the *Circuit Wizard* quick link.

NOTE: Stud terminals A and B are interchangeable. The load can be connected to A or B; the battery bank can be connected to A or B.

To connect high current circuit wires:

- Connect the battery bank to one of the stud terminals marked A or B.
- Connect the load to the other stud terminal marked B or A.
- Torque the high current terminal stud nuts to 140 in-lbs (15.8 N·m) maximum.

NOTE: If switching an inverter, windlass, bow thruster, etc., the circuit wires must have circuit protection to comply with ABYC guidelines. Wires used for engine starting do not require circuit protection.

Control Circuit Connections (wires contained in the wire harness)

NOTE: The Remote Battery Switch/Solenoid Switch is designed to be controlled by momentary SPDT switch, (included), or two momentary push button switches. Use minimum 16 AWG wire for the Control Circuit.

To connect DC power to the Remote Battery Switch/Solenoid Switch Control Circuit:

- Connect the red wire through a 10A (min) circuit protection device to DC+. The power source should be a direct connection to the battery.
- Connect the black wire to DC ground.

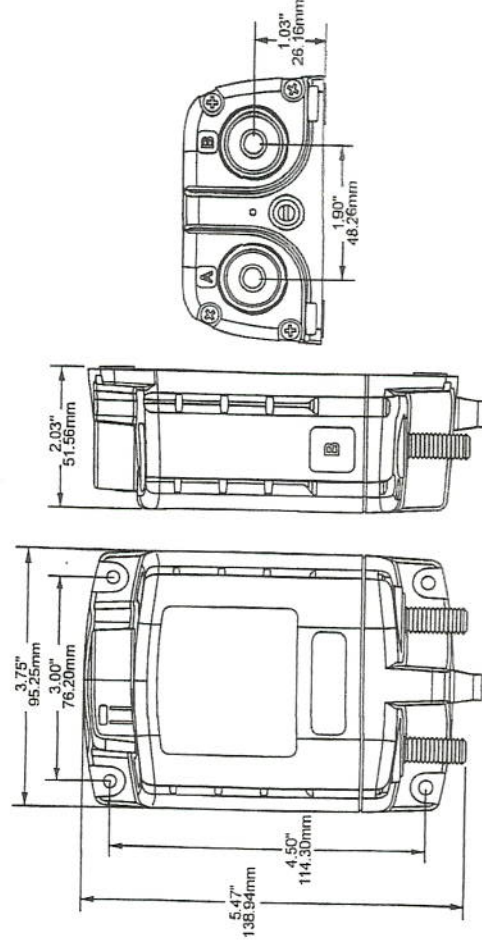
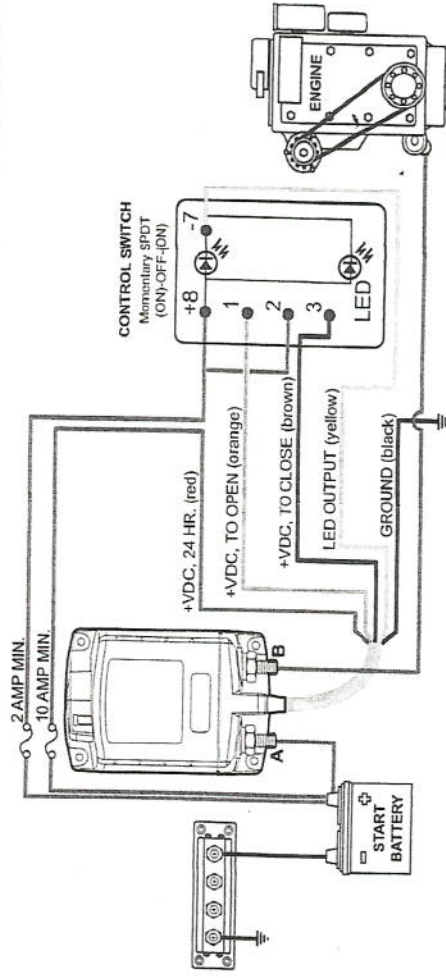
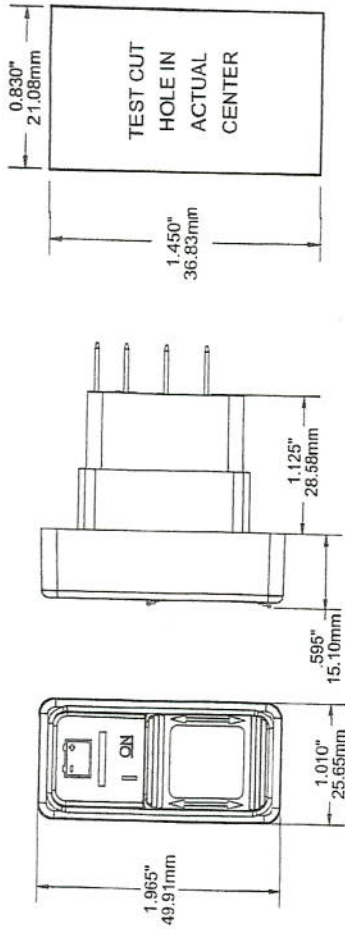
To connect the momentary SPDT Contura Control Switch:

- Connect the common load terminal of the Control Switch, pin 2, through a 2A (min) circuit protection device to DC+. Use a 24-hour power source (connected directly to the battery).
- Connect the brown wire to the CLOSE side of the Control Switch, pin 3.
- Connect the orange wire to the OPEN side of the Control Switch, pin 1.
- Connect the LED power terminal of the Control Switch, pin 8, through 2A (min) circuit protection device to DC+. **Note:** This connection can share the same wire/fuse as step #1 above, (see diagram).
- Connect the LED Ground terminal of the Control Switch, pin 7, to the yellow wire of the Remote Battery Switch.

Guarantee

Blue Sea Systems stands behind its products for as long as you own them. Find detailed information at www.blueseas.com/about. For customer service, call 800-222-7617.

Installation Instructions



ML-Series

- Remote Battery Switches** (with manual control)
PN 7700 / PN 7702
- Solenoid Switches** (without manual control)
PN 7701 / PN 7703

- Magnetic Latch—draws no current in ON or OFF state, only draws current when changing state of switch
- Silver alloy contacts provide high reliability for switching live loads
- Manual control override knob provides an added level of safety allowing control with or without power, and offering LOCKED OFF capability for servicing (Remote Battery Switch ONLY)
- LED output to remotely indicate switch state
- Tin-plated copper studs for maximum conductivity and corrosion resistance
- Label recesses for circuit identification

Specifications

12V DC	See table below	24V DC	See table below
Cranking Rating	See table below	See table below	See table below
Intermittent Rating	See table below	See table below	See table below
Continuous Rating	See table below	See table below	See table below
ML-Coil Function	Bi-Stable	Bi-Stable	Bi-Stable
Contact Circuit Voltage	32V DC Max.	32V DC Max.	32V DC Max.
Coil Voltage	9-16V DC	18-32V DC	18-32V DC
Amperage Operating Current	<0 mA continuous	<0 mA continuous	<0 mA continuous
Remote Control Switch Current	<7A when changing state (20 ms)	<4A when changing state (20 ms)	<4A when changing state (20 ms)
Terminal Stud Size	<100 mA	<100 mA	<100 mA
Maximum Terminal Stud Torque	3/8"-16	3/8"-16	3/8"-16
Ring Terminal Size	140 in.-lb (15.8 N-m)	140 in.-lb (15.8 N-m)	140 in.-lb (15.8 N-m)
Terminal Ring Diameter Clearance	3/8" (M10)	3/8" (M10)	3/8" (M10)
Live Current Switching	1.18" (30 mm)	1.18" (30 mm)	1.18" (30 mm)
Mechanical Switching	10,000 Cycles (300A@12V DC)	10,000 Cycles	100,000 Cycles

PN 2145 Switch

- Action: Momentary SPDT (ON)-OFF-(ON)
- Seals: Internal & External Gasket Panel Seal
- Mounting Hole: 0.83" x 1.45" (21.08 mm x 36.83 mm)
- LED Rating: 100,000 hours 1/2 life

Regulatory Meets ISO 8846 and SAE J1171 external ignition protection requirements, CE marked, Rated IP66

Wire Size and Current Ratings

AWG	Metric (mm ²)	Cranking 1.0 sec.	Cranking 1 min.	Intermittent 5 min.	Continuous (UL 1107)
2/0	70	2,000A	750A	400A	225A
4/0	120	2,200A	750A	400A	300A
2x (4/0)	2x (120)	2,500A	1,100A	700A	500A

PN	Solenoid Switch		Remote Battery Switch	
	Termination	Manual Control Circuit	Termination	Control Circuit
7701	Tinned Wires	No	Tinned Wires	Yes
7703	Tinned Wires	No	Tinned Wires	Yes

Overview of Application



The ML-Series Remote Battery Switch/Solenoid Switch provides high-current carrying and switching under load. The Remote Battery Switch/Solenoid Switch is installed close to the battery banks. A single pole double throw (SPDT) Control Switch Panel, or two momentary push button switches, operate the Remote Battery Switch/Solenoid Switch. Control Switches are installed in a convenient location near other electrical controls or companionway (see illustrations on reverse).

The Manual Control Override Knob provides (Remote Battery Switch Only):



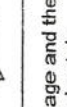

- an added level of safety that allows manual ON-OFF control with or without power
- LOCK OFF for servicing the electrical system

A remote LED (sold separately) indicates a closed connection between battery bank and load, or between two battery banks when used as an emergency cross-connect.

Remote Operation. The momentary (SPDT) (ON)-OFF-(ON) Remote Control Contura Switch can provide cross connect and/or battery isolation. The Control Switch should be mounted in a convenient location near helm controls to allow for quick access.

To connect battery bank to load, or combine battery banks	Momentarily depress control switch actuator to "ON". Remote LED indicates closed connection.*	
To disconnect battery bank from load, or isolate battery banks that are connected	Momentarily depress control switch actuator to "OFF".*	




Emergency Manual Control Override Operations (Remote Battery Switch Only)

To connect battery bank to load, or combine battery banks	With Override Knob in (REMOTE position), push button until latched (Push to Latch On).	
To disconnect battery bank from load, or isolate battery banks that are connected	Rotate Override Knob to right to release button from Latch On mode (button pops up). Rotate Override Knob to left (REMOTE position).	
To prevent remote operation	Rotate Override Knob to right (LOCK OFF position).	
To secure for servicing	With Override Knob in (LOCK OFF position), pass cable tie through hole.	

* If the Control Switch is held ON or OFF for 5 seconds, the internal coil protection will engage and the Remote Battery Switch/Solenoid Switch will not respond to further remote input for approximately 10 seconds.

ML-RBS REMOTE BATTERY SWITCH

Manual Override Control Operations

Function	ON	OFF	LOCK OFF
Manual Knob Operation	Push DOWN until LATCHED 	1 Rotate RIGHT 2 Rotate LEFT 	
Remote	ENABLED	ENABLED	DISABLED

Specifications

Contact Circuit Voltage	32V DC Max.
Coil Voltage	12V DC (16V DC Max.)
Amperage Operating Current	0mA continuous <7A when changing state (20 ms)
Terminal Stud Size	3/8"-16 (M10)
Max. Terminal Stud Torque	140 in-lb (15.8 Nm)
Ring Terminal Size	3/8" (M10)
Mechanical Switching	100,000 Cycles
Live Current Switching	10,000 Cycles (300A @ 12V DC)
Control Switch Included	2145 Momentary, SPDT, (ON)-OFF-(ON)

Regulatory

IP66 - protected against powerful water jets
 CE marked, meets J1171 Marine and ISO 8846 Marine external ignition protection requirements

Blue Sea Systems, Inc.
 4600 Ryzex Way
 Bellingham, WA 98226 USA
 p 360.738.8230
www.blueseas.com
 Designed in Bellingham,
 Washington USA
 Assembled in Mexico
 980011160 Rev.004

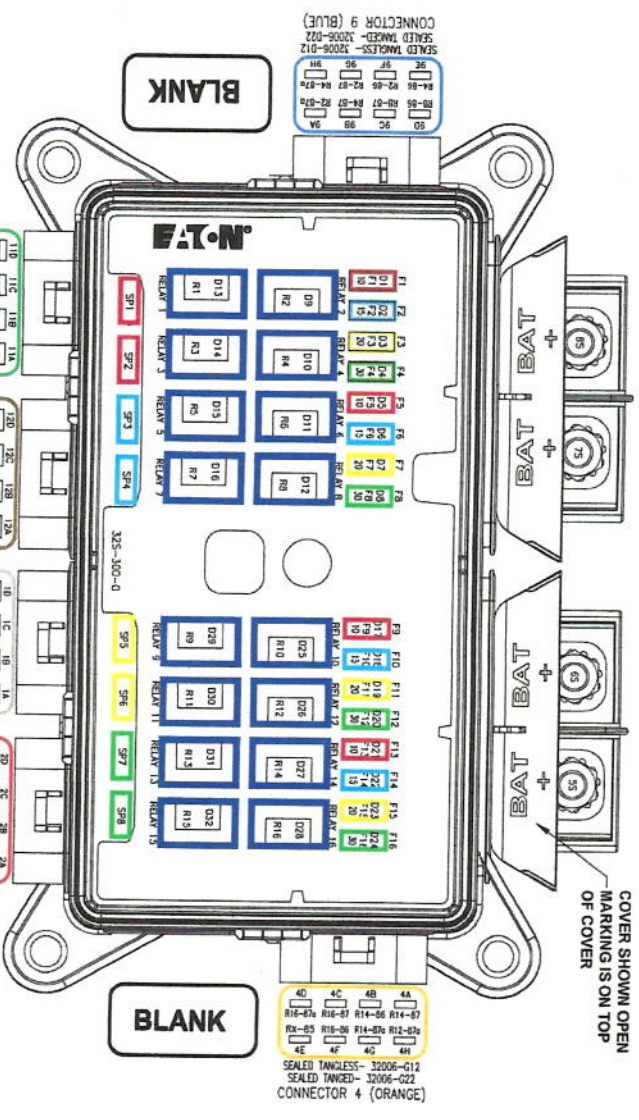
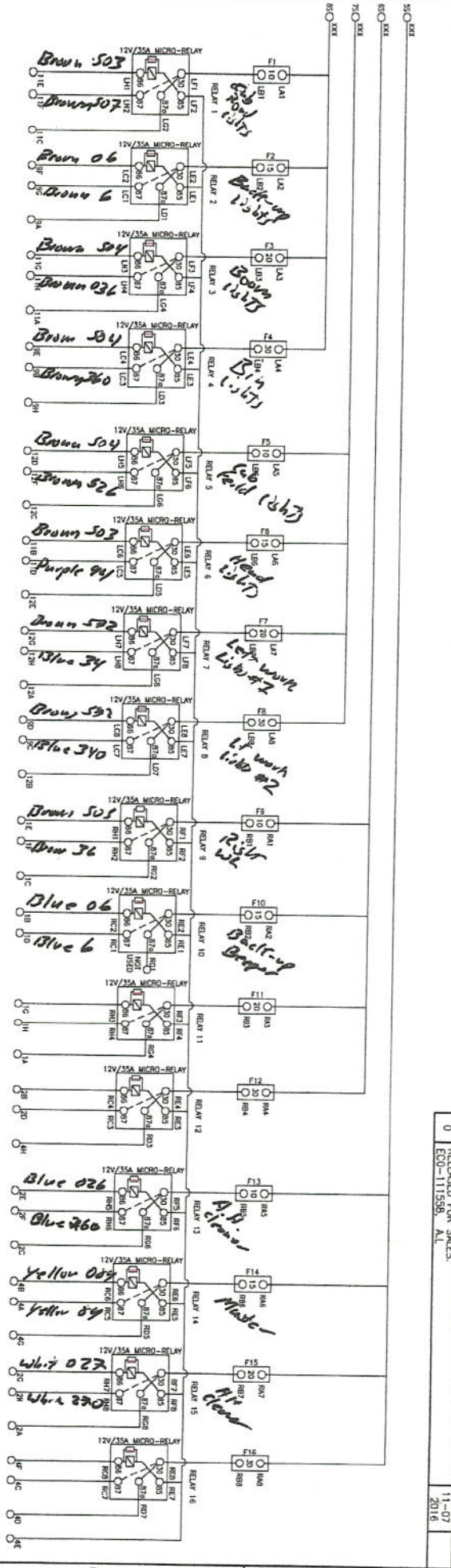


WARNING: Cancer and Reproductive Harm
 - www.P65Warnings.ca.gov



Mark 2014

1. RATING (MAXIMUM RATING):
- 400A CAPACITY
 - 100A PER INPUT STUD (M8)
 - 30A PER OUTPUT TERMINAL
 - 100A PER OUTPUT CONNECTOR
2. MAXIMUM TORQUE:
- M8 INPUT STUD: 216 IN-LEBS (18 FT-LEBS)
 - MOUNTING: 300 IN-LEBS (25 FT-LEBS)
 - OPERATING TEMPERATURE: 40°F (-40°C) TO 221°F (105°C)
 - INGRESS PROTECTION: APPLICATION DEPENDENT UP TO IP66 REQUIREMENTS



- SEALING INSTRUCTIONS - 32008-012
SEALING INSTRUCTIONS - 32008-012
CONNECTOR 9 (BLUE)
- SEALING INSTRUCTIONS - 32008-012
SEALING INSTRUCTIONS - 32008-012
CONNECTOR 11 (GREEN)
- SEALING INSTRUCTIONS - 32008-012
SEALING INSTRUCTIONS - 32008-012
CONNECTOR 12 (BROWN)
- SEALING INSTRUCTIONS - 32008-012
SEALING INSTRUCTIONS - 32008-012
CONNECTOR 1 (GREY)
- SEALING INSTRUCTIONS - 32008-012
SEALING INSTRUCTIONS - 32008-012
CONNECTOR 2 (RED)
- SEALING INSTRUCTIONS - 32008-012
SEALING INSTRUCTIONS - 32008-012
CONNECTOR 4 (ORANGE)

PART NO. 32S-300-0 SALES

METRIC (mm)

THIS IS A CAD DRAWING - DO NOT MANUALLY REVISE

REV # 0
RELEASED FOR SALES
ECO-111559, AL

DATE 11-07
APPN

POSITION	REFERENCE	DEVICE	PART #
D1	F1	MINI FUSE	AN-10AMP-FEC
D2	F2	MINI FUSE	AN-15AMP-FEC
D3	F3	MINI FUSE	AN-20AMP-FEC
D4	F4	MINI FUSE	AN-30AMP-FEC
D5	F5	MINI FUSE	AN-10AMP-FEC
D6	F6	MINI FUSE	AN-15AMP-FEC
D7	F7	MINI FUSE	AN-20AMP-FEC
D8	F8	MINI FUSE	AN-30AMP-FEC
D9	R1	12V, 5-PIN MICRO	B120-70161
D10	R2	12V, 5-PIN MICRO	B120-70161
D11	R3	12V, 5-PIN MICRO	B120-70161
D12	R4	12V, 5-PIN MICRO	B120-70161
D13	R1	12V, 5-PIN MICRO	B120-70161
D14	R2	12V, 5-PIN MICRO	B120-70161
D15	R3	12V, 5-PIN MICRO	B120-70161
D16	R7	12V, 5-PIN MICRO	B120-70161

POSITION	REFERENCE	DEVICE	PART #
D17	F9	MINI FUSE	AN-10AMP-FEC
D18	F10	MINI FUSE	AN-15AMP-FEC
D19	F11	MINI FUSE	AN-20AMP-FEC
D20	F12	MINI FUSE	AN-30AMP-FEC
D21	F13	MINI FUSE	AN-10AMP-FEC
D22	F14	MINI FUSE	AN-15AMP-FEC
D23	F15	MINI FUSE	AN-20AMP-FEC
D24	F16	MINI FUSE	AN-30AMP-FEC
D25	R10	12V, 5-PIN MICRO	B120-70161
D26	R12	12V, 5-PIN MICRO	B120-70161
D27	R14	12V, 5-PIN MICRO	B120-70161
D28	R16	12V, 5-PIN MICRO	B120-70161
D29	R9	12V, 5-PIN MICRO	B120-70161
D30	R11	12V, 5-PIN MICRO	B120-70161
D31	R13	12V, 5-PIN MICRO	B120-70161
D32	R15	12V, 5-PIN MICRO	B120-70161

POSITION	DEVICE	PART #
SP1	MINI FUSE	AN-10AMP-FEC
SP2	MINI FUSE	AN-10AMP-FEC
SP3	MINI FUSE	AN-15AMP-FEC
SP4	MINI FUSE	AN-15AMP-FEC
SP5	MINI FUSE	AN-20AMP-FEC
SP6	MINI FUSE	AN-20AMP-FEC
SP7	MINI FUSE	AN-30AMP-FEC
SP8	MINI FUSE	AN-30AMP-FEC

DEVICE	PART #	AMOUNT
MINI FUSE	AN-10AMP-FEC	6
MINI FUSE	AN-15AMP-FEC	6
MINI FUSE	AN-20AMP-FEC	6
MINI FUSE	AN-30AMP-FEC	6
12V, 5-PIN MICRO	B120-70161	16

AT&T

VEHICLE ELECTRICAL CENTER

DATE 11-07-16

APPN

1

RELAY CENTER #2			
CONNECTOR #9 (BLUE)			
USE CONNECTOR PART # 2001-1331			
PIN #	COLOR	NUMBER	DISCRPTION
A			NOT USED
B	BROWN	360	BIN LIGHTS TO PLUG #8
C	BLUE	340	LEFT WORK LIGHTS TO CAB CON. #1
D	BROWN	572	LEFT WORK LIGHTS FROM CAB CON. #1 splice with brown G
E	BROWN	504	CAB FIELD LIGHT FROM CAB CON. #1 SPLICE WITH GREEN E
F	BROWN	*06	BACK-UP LIGHTS FROM CAB CON. #3
G	BROWN	6	BACK-UP LIGHTS TO PANEL PLUG #7
H			NOT USED

RELAY CENTER #2			
CONNECTOR #11 (GREEN)			
USE CONNECTOR PART # 2001-1333			
PIN #	COLOR	NUMBER	DISCRPTION
A			NOT USED
B	BROWN	503	ROAD LIGHT SWITCH FROM CAB CON. #1 SPLICE WITH E
C			NOT USED
D	PURPLE	94	HEADLIGHTS TO PANEL PLUG #6
E	BROWN	503	ROAD LIGHT SWITCH FROM CAB CON. #1 SPLICE WITH B
F	BROWN	507	CAB FIELD LIGHT TO CAB CON. #1
G	BROWN	504	CAB FIELD LIGHT FROM CAB CON. #1 SPLICE WITH BLUE E
H	BROWN	* 94 94	BOOM LIGHTS TO PANEL PLUG #8

RELAY CENTER #2			
CONNECTOR #12 (BROWN)			
USE CONNECTOR PART # 2001-1332			
PIN #	COLOR	NUMBER	DISCRPTION
A			NOT USED
B			NOT USED
C			NOT USED
D	BROWN	504 504	CAB FIELD LIGHTS TO RELAY FROM CAB CON. #1 SPLUSE WITH GREEN G , BLUE E
E			NOT USED
F	BROWN	526	CAB FIELD LIGHT SWITCH TO CAB CON. #1
G	BROWN	572	LEFT WORK LIGHTS FROM CAB CON. #1 SPLICE WITH GREEN E
H	BLUE	34	LEFT WORK LIGHT #1 TO CAB CON. #1

RELAY CENTER #2
CONNECTOR #1 (GRAY)

USE CONNECTOR PART # 2001-1270

PIN #	COLOR	NUMBER	DISCRPTION
A			NOT USED
B	BLUE	*06	BACK-UP BEEPER FROM IQAN ??????????????????????
C			NOT USED
D	BLUE	6	BACK-UP BEEPER TO PANEL CON. #7
E	BROWN	502	RIGHT WORK LIGHT FROM CAN CON. #2
F	BROWN	36	RIGHT WORK LIGHTS TO PANEL CON. #6
G			NOT USED
H			NOT USED

RELAY CENTER #2

CONNECTOR #2 (RED)

USE CONNECTOR PART # 2001-1335

PIN #	COLOR	NUMBER	DISCRPTION
A			NOT USED
B			NOT USED
C			NOT USED
D			NOT USED
E	BLUE	260	AH CLEANER FROM IQAN ??????????????????????
F	BLUE	*026	AIR HEAD CLEANER TO PANEL PLUG #5
G	WHITE	270	AH CLEANER FROM IQAN ??????????????????????
H	WHITE	*027	AIR HEAD CLEANER TO PANEL PLUG #5

RELAY CENTER #2

CONNECTOR #4 (ORANGE)

USE CONNECTOR PART # 2001-1334

PIN #	COLOR	NUMBER	DISCRPTION
A	YELLOW	89	MASTER POWER CAB CON. #4
B	YELLOW	*089	MASTER ON FROM IQAN ?????????????? SPLICE WITH F
C			NOT USED
D			NOT USED
E	BLACK		GROUND
F			NOT USED
G			NOT USED
H			NOT USED