

Harness 10021057-H01
wired in-place after installation of bulkhead connector

Aft Bulkhead Connector
Main Umbilical

P1	1	PWR CHARGE POS	RED
	2	ENET_TXP	WHITE/ORANGE
	3	ENET_TXN	ORANGE
	4	ENET_RXP	WHITE/GREEN
	5	ENET_RXN	GREEN/WHITE
	6	RS232_RXD	RED
	7	RS232_TXD	WHITE
	8	SHORE POWER POS	VIOLET
	9	SHORE POWER NEG	BLACK
	10	PWR CHARGE NEG	BLACK

Seacon/MINK-10-L-BCR-DO
10 pin bulkhead recepticle
wired in place

Seacon MINI-CON series
Current limit per #14 pin: 16A
Current limit per wire: 16A

24 AWG twisted pair 24" MIN Actual TBD 2 wires

WHITE/ORANGE	ENET_TXP	1
ORANGE/WHITE	ENET_TXN	2
		3
		4
WHITE/GREEN	ENET_RXP	5
GREEN/WHITE	ENET_RXN	6
		7
		8

To MB Ethernet Connector
or
Cradle Point Router WAN Port

RJ45 Ethernet
Stewart/940-SP-3088R-A133

24 AWG twisted pair 24" MIN Actual TBD 2 wires

WHITE/GREEN	ENET_RXP	5
GREEN/WHITE	ENET_RXN	6
		7
		8

24 AWG twisted pair 36" MIN Actual TBD 2 wires

RED	RS232_TXD	1
WHITE	RS232_RXD	2
		3
		4

To MB RS-232 Serial Console
MB3.0: J6

Molex C-Gid 4x1
Molex/50-57-9404

18 AWG hook-up wire 36" MIN Actual TBD 2 wires

VIOLET	PWR CHARGE POS	1
BLACK	SHORE POWER NEG	2
		3
		4

To Mother Board Shore Power;
MB3.0: J26

3.5MM DIP PLUG
Hirose/MDF6-4DS-3.5C

14 AWG 20" 2 wires (Jim Montgomery 3-7-16)

Red	PWR CHARGE POS	1
Black	PWR CHARGE NEG	2

To Power Interface Board: J1

PC16
Molex/0433740001
Molex Sabre Contact 14-16
Quantity Q2 = 2
Mates with Molex 43160-3102
Crimper: MBARI-0239

J1

Harness 10021057-H02
wired in-place after installation of bulkhead connector

Aft Bulkhead Connector
Dropweight / Boost Charge

P8	1	BURNWIRE_ACT	Black
	2	BURNWIRE_RTN	White
	3	DROP_WEIGHT_SIGNAL	Red
	4	DROP_WEIGHT_POWER	Green
	5	PWR BOOST POS	Orange
	6	PWR BOOST POS	Blue
	7	PWR BOOST POS	White/Black
	8	PWR BOOST POS	Red/Black
	9	PWR BOOST NEG	Green/Black
	10	PWR BOOST NEG	Orange/Black
	11	PWR BOOST NEG	Blue/Black
	12	PWR BOOST NEG	Black/White

Subconn/MCBH12F AS

SubConn Circular Micro 12 pins

Teledyne Impulse stock connector with 20AWG 24" pigtail
Current limit per pin 5A

Teledyne Impulse/ 20AWG trim to 18" 4 wires (Jim Montgomery 3-7-16)

Red	DROP_WEIGHT_SIGNAL	1
Black	BURNWIRE_ACT	2
White	BURNWIRE_RTN	3
Green	DROP_WEIGHT_POWER	4
20AWG Black / second line		5
20AWG White / second line		6

To MB Aft Signals
MB3.0: J33

TE Connectivity Mod II series 2-row
Crimp contacts: 2-87523-4 (20-24 AWG)
Crimper 91516-1
Mates with TE 5-102618-1
Current limit 3A per pin
TE-Connectivity/87631-1

Teledyne Impulse/ 20AWG trim to 8" 8 wires (Jim Montgomery 3-7-16)

Orange	PWR BOOST POS	1
Blue	PWR BOOST POS	2
Green/Black	PWR BOOST NEG	3
Orange/Black	PWR BOOST NEG	4
Blue/Black	PWR BOOST NEG	5
Black/White	PWR BOOST NEG	6
White/Black	PWR BOOST POS	7
Red/Black	PWR BOOST POS	8
		9
		10

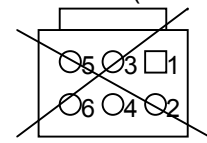
To Power Interface Board: J3

Hirose MDF6 Series Crimp contacts:
MDF6-1618SCF, MDF6-1618SC (16-18AWG)
Mates with Hirose/MDF6- 10DP-3.5DSA(05)

10021057-PIB1
power interface
board
cont. next page

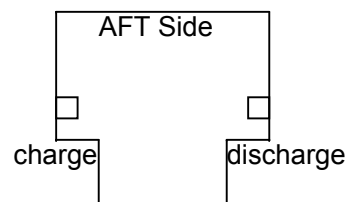
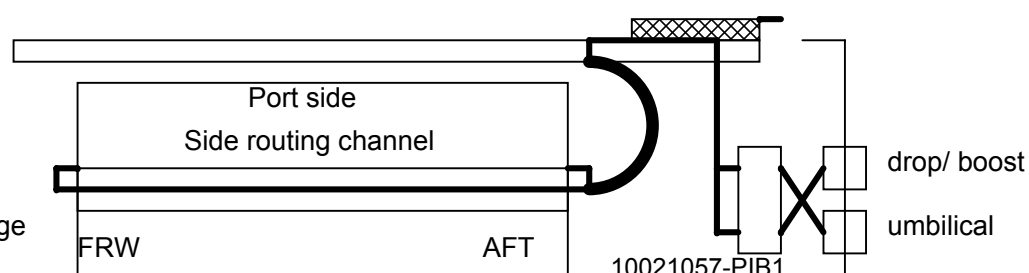
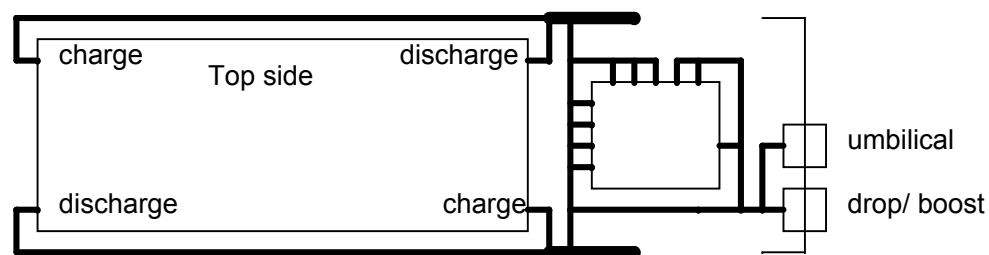
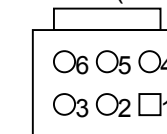
J3

TE-Connectivity/87631-1 Plug back (wire side) view
Incorrect (MB 10020881Rel B):



Rev D
6 pin

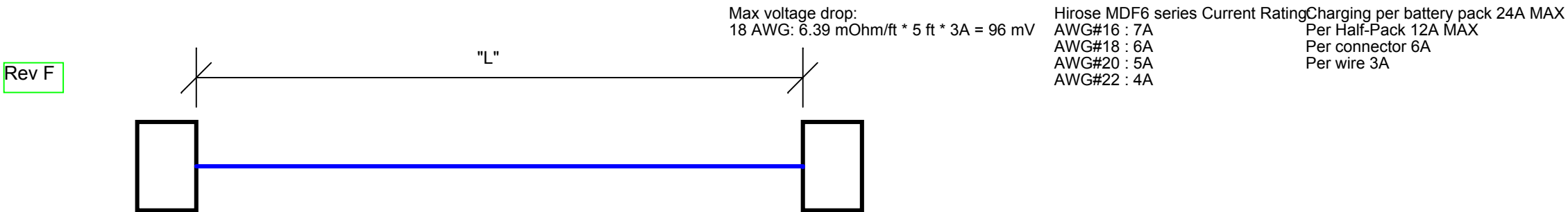
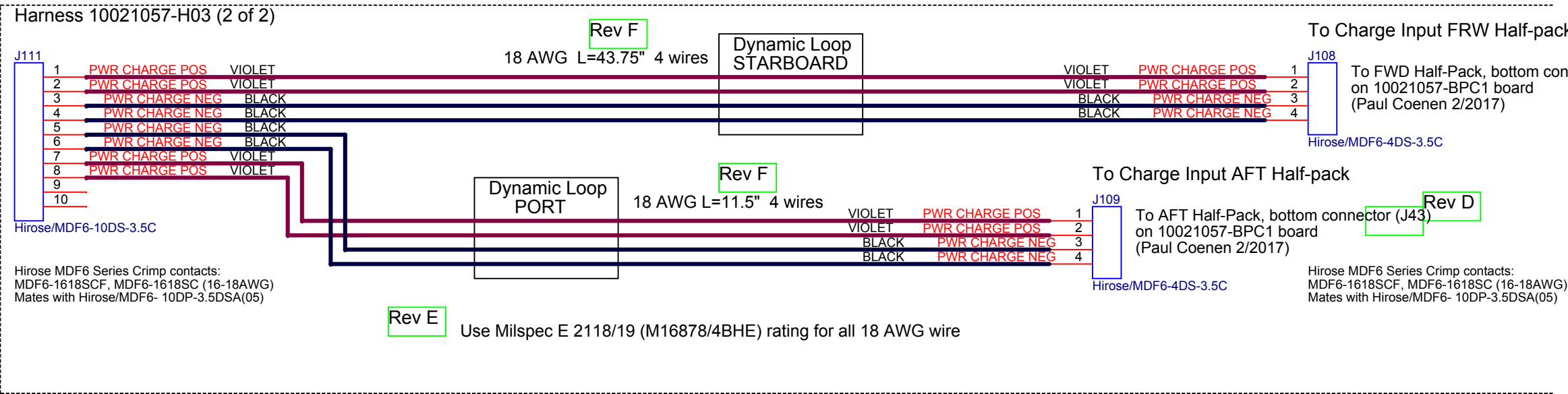
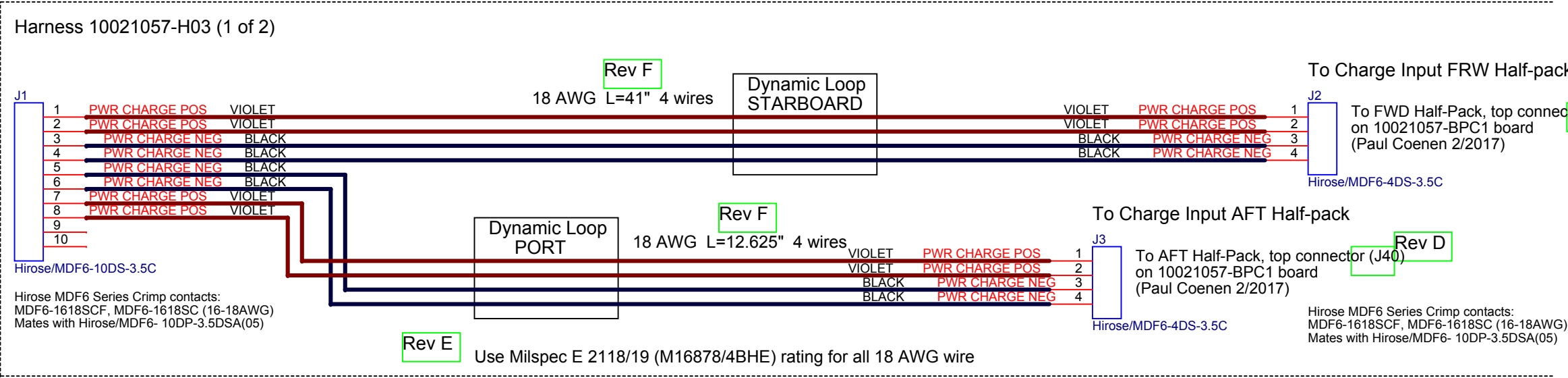
Correct (harness):



Rev notes sheet 1
RevA(07/30/2014): Initial Release
RevC(03/26/2015): harness PN added, some moved to p2, length changed
RevD(04/24/2017): wiring update for MB 3.0 only
-H02 length changed 8 wires from 18" to 8"; 4 wires from 12" to 18"; plug P6 changed from 8pin to 6pin, rewired
-H01 length changed 14AWG 2 wires from 24" to 20";
RevE(11/28/17) JR
-Updated revision to "E" on sheet 1.
-Made updates to sheets 2, 3, and 4.
RevF(05/23/18) JR
-Updated revision to "F" on sheet 1.
-Made updates to sheets 2, 3, and 4.



Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076			
Page Title Charge Harnesses p1			Project: 901400
File Name (auto) 10021057-APACK-HARNESSES			Rev F
Tuesday, November 28, 2017 Wednesday, May 23, 2018			Sheet: 1 of 4



Rev notes sheet 2 (continuation from sheet1)
RevD(05/14/2017): Plug-in connections J2, J3, J108, J109 specified
RevE(11/28/17) JR: Specified milspec E rating on all 18AWG wire.
RevF(05/23/18) JR: Changed lengths

		Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076	
Engineer Klimov		831-775-1914	
Size B	Doc. or Part Number <Doc>	Page Title Charge Harnesses p2	
File Name (auto) 10021057-APACK-HARNESSES		Project: 901400	
Rev ref sheet 1			
Page Modify Date (auto): Design Modify Date (auto):		Wednesday, May 23, 2018 Wednesday, May 23, 2018	
Sheet:		2 of 4	

Harness 10021057-H04

From Half-pack
Output FRW

Long cable

JP1

- | | | |
|---|---------------------|--------|
| 1 | MAIN BATT FRW POS | ORANGE |
| 2 | MAIN BATT FRW POS | ORANGE |
| 3 | MAIN BATT FRW NEG | BLACK |
| 4 | MAIN BATT FRW NEG | BLACK |
| 5 | BACKUP BATT FRW NEG | BLACK |
| 6 | BACKUP BATT FRW NEG | BLACK |
| 7 | BACKUP BATT FRW POS | ORANGE |
| 8 | BACKUP BATT FRW POS | ORANGE |

Hirose/MDF6- 8DS-3.5C

Dynamic Loop
PORT

Rev E
Rev F

Use Milspec E 2118/19 (M16878/4BHE) rating for all 18 AWG wire
18 AWG "L" 3 TWISTED PAIRS

To MB3.0 Main Battery Connector J30

- | | | |
|--------|-------------------|---|
| ORANGE | MAIN BATT FRW POS | 1 |
| ORANGE | MAIN BATT FRW POS | 2 |
| BLACK | MAIN BATT FRW NEG | 3 |
| BLACK | MAIN BATT FRW NEG | 4 |

JP2

Hirose/MDF6-4DS-3.5C

Rev D

MB2.5
mating
references
removed

From Half-pack Output AFT

Short cable

JP3

- | | | |
|---|---------------------|--------|
| 1 | MAIN BATT AFT POS | ORANGE |
| 2 | MAIN BATT AFT POS | ORANGE |
| 3 | MAIN BATT AFT NEG | BLACK |
| 4 | MAIN BATT AFT NEG | BLACK |
| 5 | BACKUP BATT AFT NEG | BLACK |
| 6 | BACKUP BATT AFT NEG | BLACK |
| 7 | BACKUP BATT AFT POS | ORANGE |
| 8 | BACKUP BATT AFT POS | ORANGE |

Hirose/MDF6- 8DS-3.5C

Dynamic Loop
STARBOARD

Rev F

18 AWG high-flex "L" 3 TWISTED PAIRS
Use Milspec E 2118/19 (M16878/4BHE) rating for all 18 AWG wire

Rev E

To MB3.0 Main Battery Connector J27

- | | | |
|--------|-------------------|---|
| ORANGE | MAIN BATT AFT POS | 1 |
| ORANGE | MAIN BATT AFT POS | 2 |
| BLACK | MAIN BATT AFT NEG | 3 |
| BLACK | MAIN BATT AFT NEG | 4 |

JP4

Hirose/MDF6-4DS-3.5C

To MB3.0 BackUp Battery Connector J32

- | | | |
|--------|---------------------|---|
| ORANGE | BACKUP BATT FRW POS | 1 |
| ORANGE | BACKUP BATT AFT POS | 2 |
| BLACK | BACKUP BATT FRW NEG | 3 |
| BLACK | BACKUP BATT AFT NEG | 4 |

JP5

Hirose/MDF6-4DS-3.5C

FRW Side

charge discharge

Port side

Side routing channel

FRW

AFT

10021057-PIB1

umbilical

drop/ boost drop/ boost

drop/ boost

umbilical

AFT Side

charge discharge

"L" Rev F

L=42.75"

JP2

L=42.75"

JP5

L=24.75"

L=24.75"

JP4



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7700 Sandholdt Rd, Moss landing CA 95076

Engineer
Klimov 831-775-1914

Page Title
Discharge Harness

Project:
901400

Size
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File Name (auto)
10021057-APACK-HARNESSES

Rev
ref sheet 1

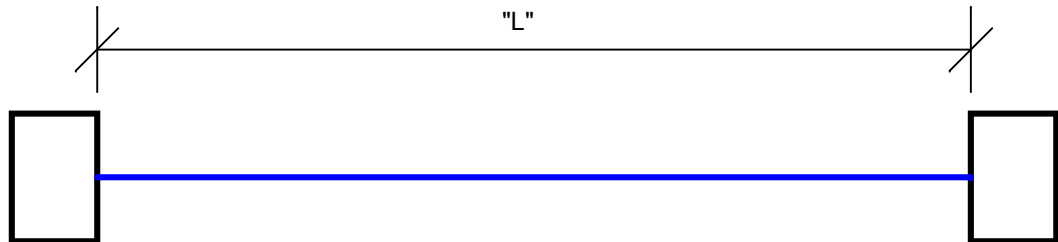
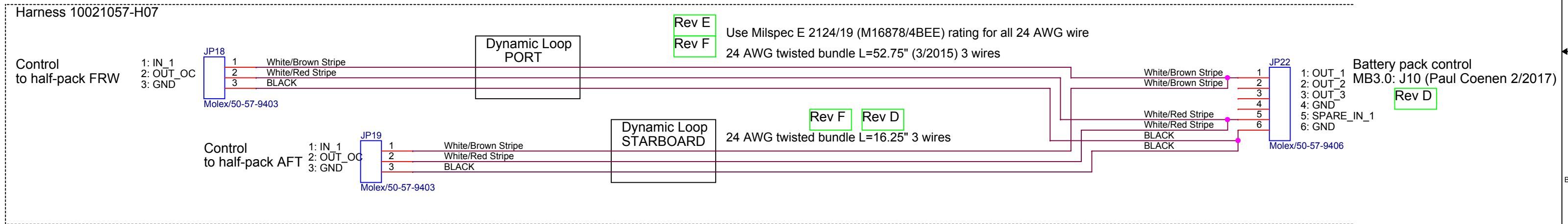
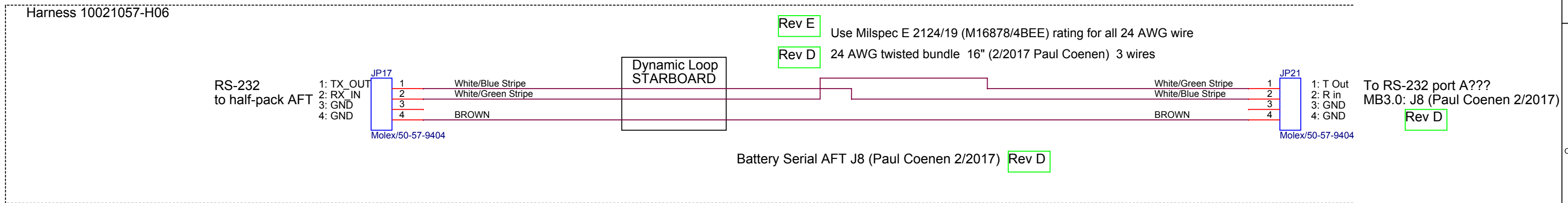
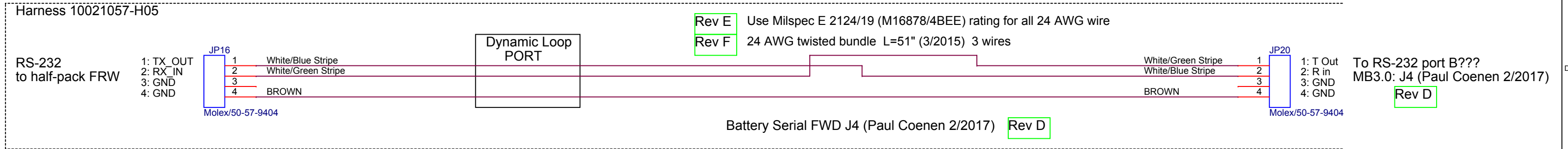
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Sheet:
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Rev notes sheet 4 (continuation from sheet3)
RevD(05/14/2017): Plug-in connections for JP20, JP21, JP22 specified; lengths updated from 36" to 16"
RevE(11/28/17) JR:
-Specified milspec E rating on all 24AWG wire.
RevF(05/23/18) JR: Changed lengths

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