



**2001
ELECTRICAL WIRING
MANUAL**

**SAF-T-LINER
ER & HD**

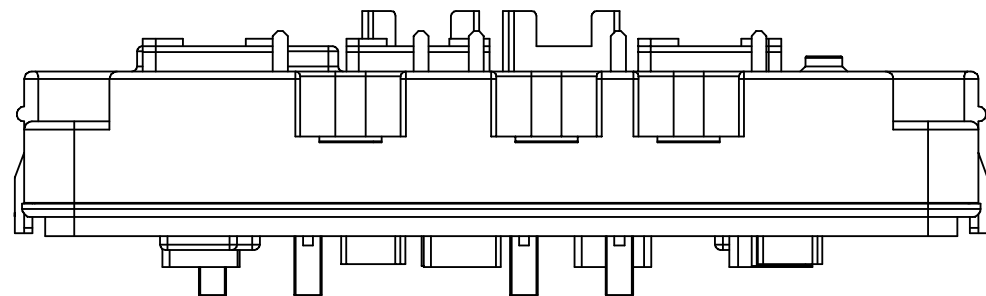
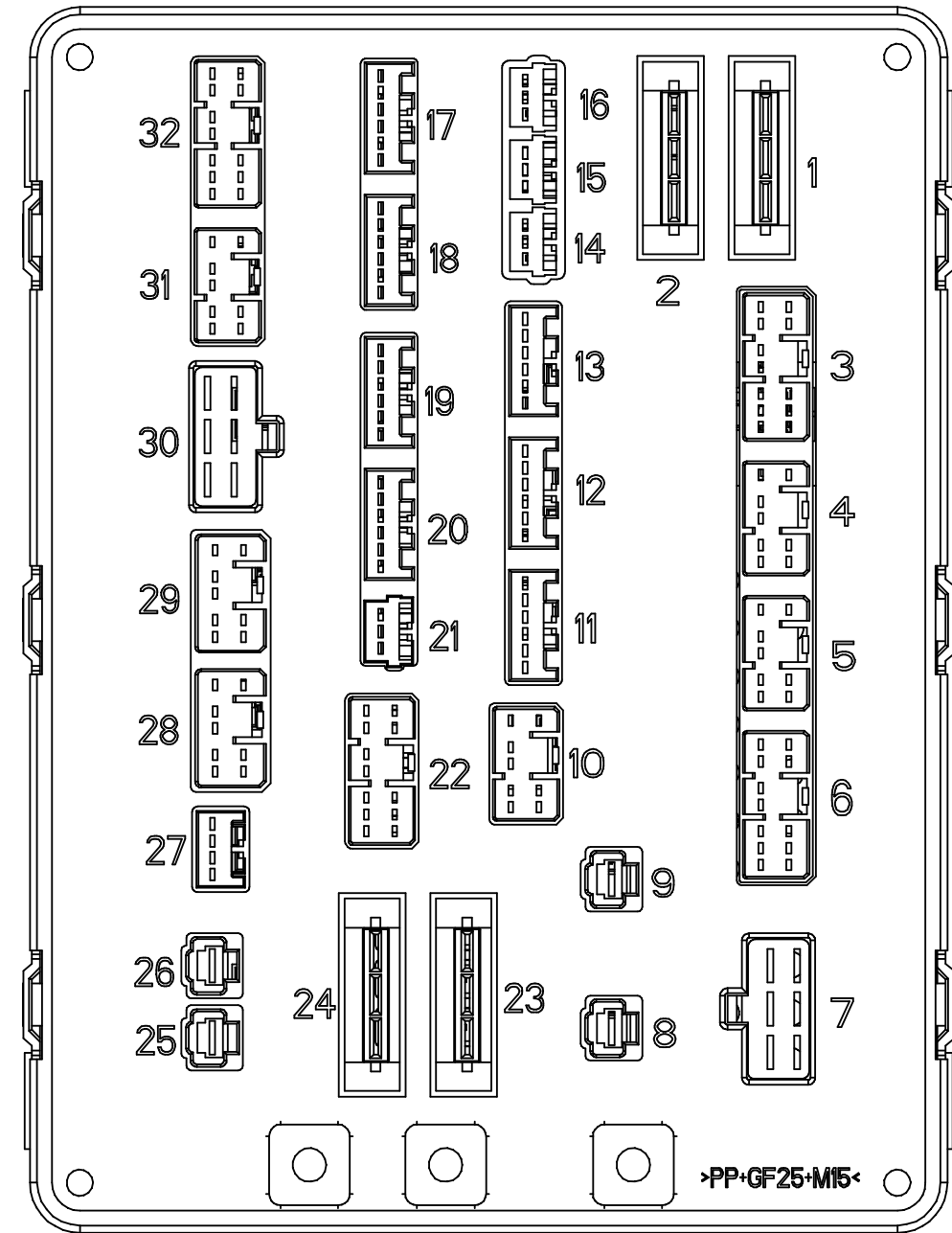
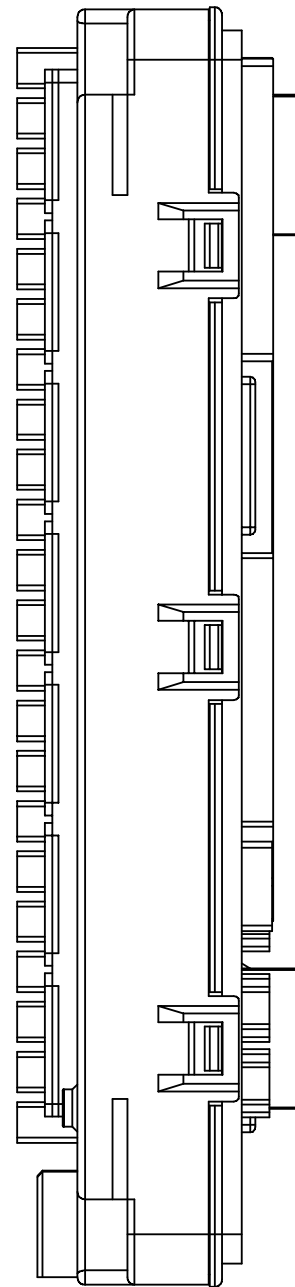
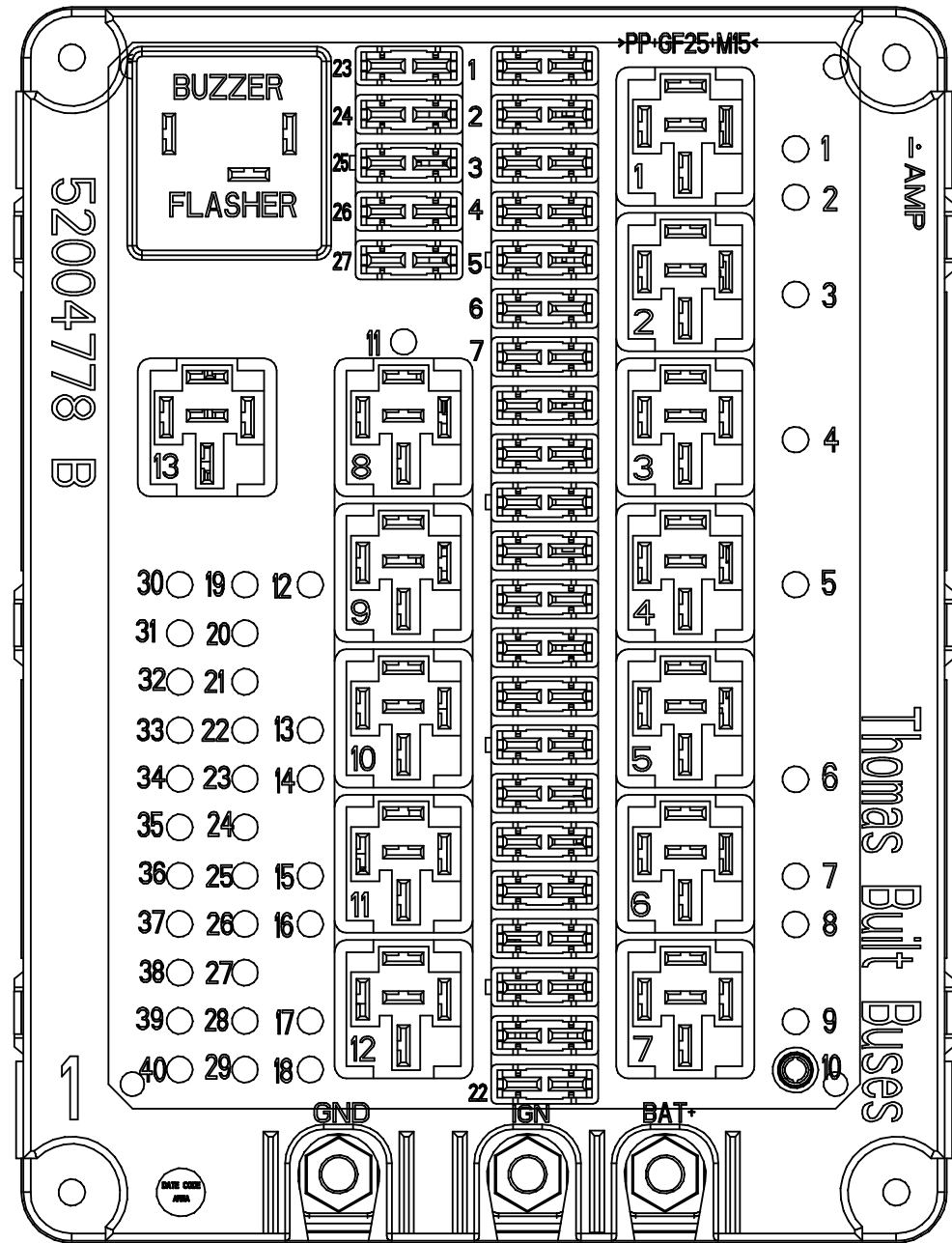
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NOTE: THIS REVISION OF THE PHYSICAL BOARD MODEL CORRESPONDS WITH REVISION E OF THE BOARD SCHEMATIC.

DEMINSIONS ARE FOR REFERENCE ONLY.

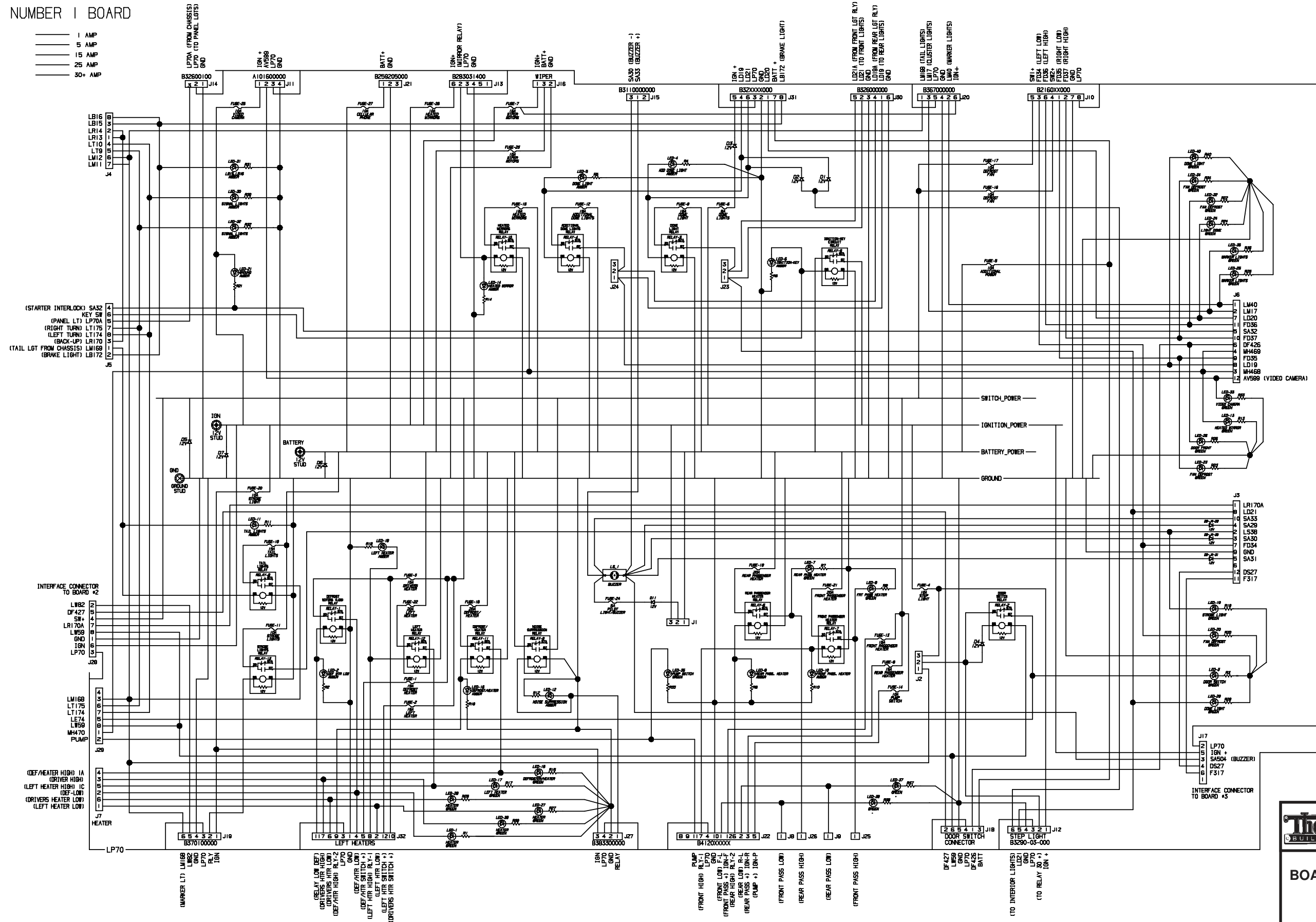
VENDOR INFORMATION:
 AMP
 P.O. BOX 55
 WINSTON-SALEM, NC 27102-0055

Sheet 1 of 4

	52004778 B
PRINTED CIRCUIT BOARD ASSEMBLY 1	

NUMBER 1 BOARD

- 1 AMP
- 5 AMP
- 15 AMP
- 25 AMP
- 30+ AMP



	52004770 F
BOARD 1	

CONNECTOR FACE VIEW

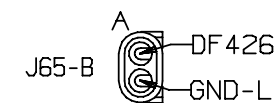
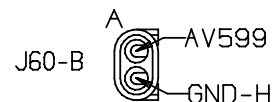
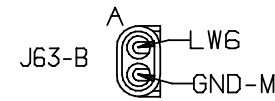
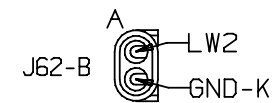
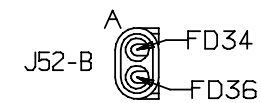
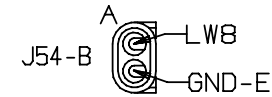
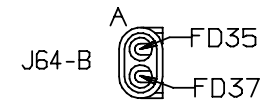
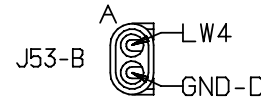
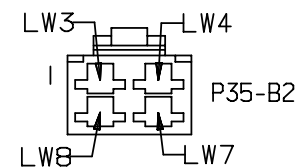
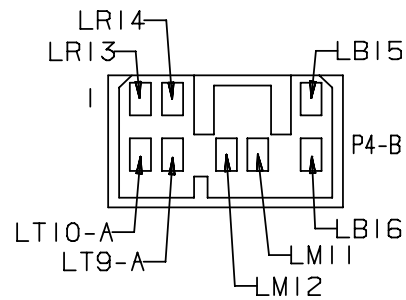
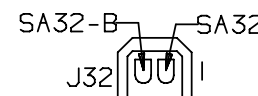
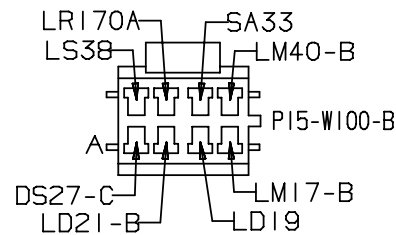
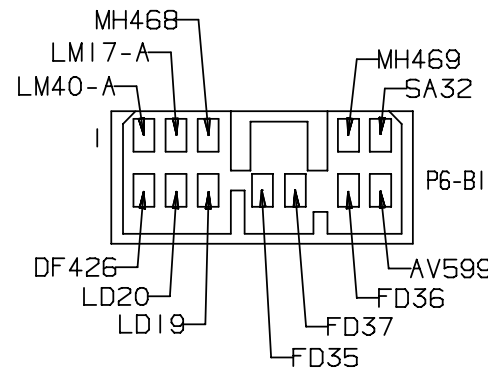
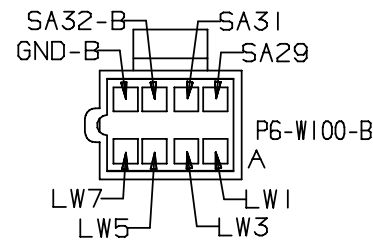
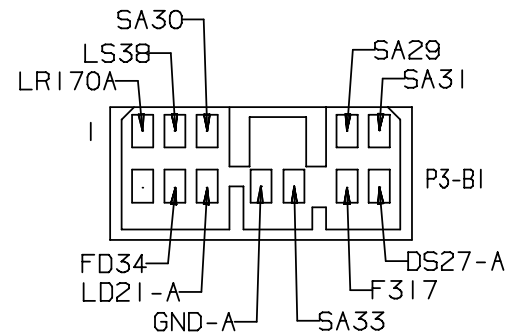
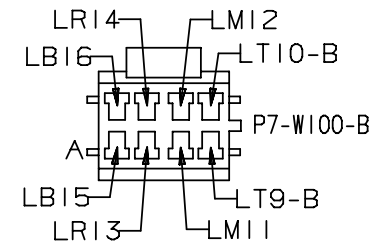



TABLE 1

CKT. CODE	GA	COLOR	DESCRIPTION
LW1	12	BLACK	LEFT REAR WARNING LIGHT (RED)
LW2	12	BROWN	RIGHT FRONT WARNING LIGHT (RED)
LW3	12	ORANGE	RIGHT REAR WARNING LIGHT (RED)
LW4	12	YELLOW	LEFT FRONT WARNING LIGHT (RED)
LW5	12	BLUE	LEFT REAR WARNING LIGHT (AMBER)
LW6	12	WHITE	RIGHT FRONT WARNING LIGHT (AMBER)
LW7	12	RED	RIGHT REAR WARNING LIGHT (AMBER)
LW8	12	GREEN	LEFT FRONT WARNING LIGHT (AMBER)
LT9	16	GREEN	RIGHT TURN SIGNAL (REAR & FRONT SIDE)
LT10	16	YELLOW	LEFT TURN SIGNAL (REAR & FRONT SIDE)
LM11	16	BROWN	RIGHT TAIL LIGHT
LM12	16	BROWN/WHITE	LEFT TAIL LIGHT
LR13	16	BLUE	RIGHT BACK-UP LIGHT
LR14	16	BLUE/WHITE	LEFT BACK-UP LIGHT
LB15	16	RED	RIGHT BRAKE LIGHT
LB16	16	RED/WHITE	LEFT BRAKE LIGHT
LM17	16	BROWN	MARKER LIGHTS (REAR)
LD19	16	BLACK	INTERIOR LIGHTS
LD20	16	TAN	DRIVER'S LIGHT
LD21	16	BLACK	INTERIOR LIGHT
DS27	16	PINK	IDENTIFICATION SIGN
SA29	16	BLUE	REAR DOOR BUZZER (GND)
SA30	16	TAN	PULL CORD OR PUSH OUT SLASH (GND)
SA31	16	GRAY	SIDE DOOR BUZZER (GND)
SA32	16	YELLOW	VANDALOCK (GND)
SA33	16	PINK	BUZZER FEED (REAR & SIDE DOOR)
FD34	16	GRAY	FAN
FD35	16	TAN	FAN
FD36	16	BLACK	FAN
FD37	16	BLUE	FAN
LS38	16	PURPLE	STROBE LIGHT
LM40	16	BROWN	MARKER LIGHTS (SIDE)
LRI70A	16	BLUE	BACK-UP LIGHT FEED
F317	16	ORANGE	HATCH FAN
DF426	16	GREEN	DOOR CONTROLLER (OPEN)
MH468	16	ORANGE	LEFT MIRROR HEAT
MH469	16	BLUE	RIGHT MIRROR HEAT
AV599	16	PINK	L.E.D. PILOT LIGHT
GND	16	WHITE	GROUND

NOTE:
 1) SUFFIX (B1) ON CONNECTORS INDICATE BODY PC BOARD 1, CONNECTOR IS TO BE LABELED PLUG (#) IN BLUE INK
 2) SUFFIX (B2) ON CONNECTOR INDICATE BODY PC BOARD 2, CONNECTOR IS TO BE LABELED PLUG (#) IN RED INK.

	52004509 D
HARNESS, FRONT-MAIN, (W100) w/CONVOLUTE TUBING PC BOARD COMPATIBLE End Date: 5/15/01	

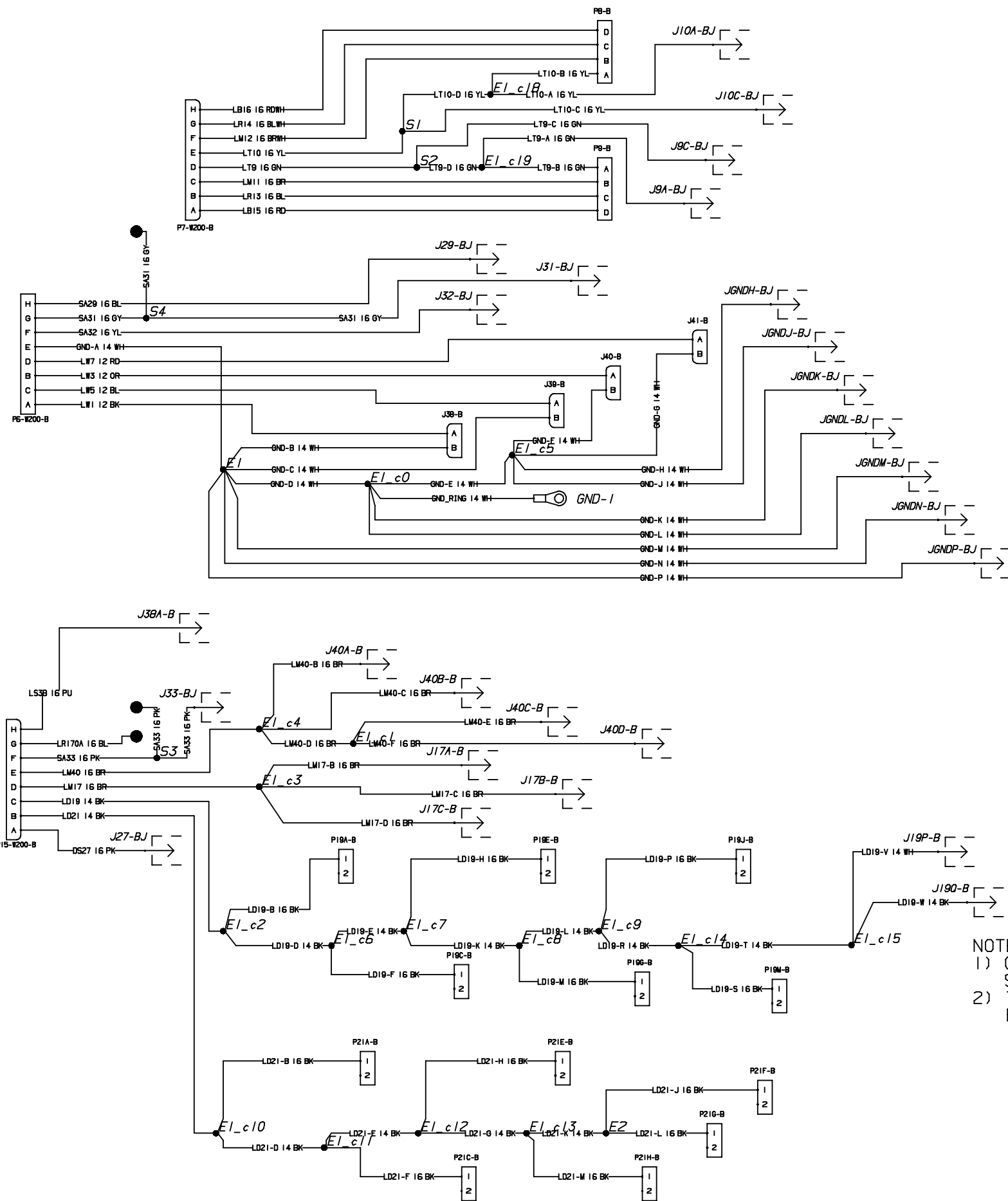


TABLE 1

CKT_CODE	GA	COLOR	DESCRIPTION
LW1	12	BLACK	LEFT REAR WARNING LIGHT (RED)
LW3	12	ORANGE	RIGHT REAR WARNING LIGHT (RED)
LW5	12	BLUE	LEFT REAR WARNING LIGHT (AMBER)
LW7	12	RED	RIGHT REAR WARNING LIGHT (AMBER)
LT9	16	GREEN	RIGHT TURN SIGNAL (REAR& FRONT SIDE)
LT10	16	YELLOW	LEFT TURN SIGNAL (REAR& FRONT SIDE)
LM11	16	BROWN	RIGHT TAIL LIGHT
LM12	16	BROWN/WHITE	LEFT TAIL LIGHT
LR13	16	BLUE	RIGHT BACK-UP LIGHT
LR14	16	BLUE/WHITE	LEFT BACK-UP LIGHT
LB15	16	RED	RIGHT BRAKE LIGHT
LB16	16	RED/WHITE	LEFT BRAKE LIGHT
LM17	16	BROWN	MARKER LIGHTS (REAR)
LD19	14/16	BLACK	INTERIOR LIGHTS
LD21	14/16	BLACK	INTERIOR LIGHT
DS27	16	PINK	IDENTIFICATION SIGN
SA29	16	BLUE	REAR DOOR BUZZER (GND)
SA31	16	GRAY	SIDE DOOR BUZZER (GND)
SA32	16	YELLOW	VANDALOCK (GND)
SA33	16	PINK	BUZZER FEED (REAR& SIDE DOOR)
LS38	16	PURPLE	STROBE LIGHT
LM40	16	BROWN	MARKER LIGHTS (SIDE)
LR170A	16	BLUE	BACK-UP LIGHT FEED
GND	14	WHITE	GROUND

NOTE:
 1) ON WIRE DIAGRAM, SUFFIX (- LETTER) IS FOR PRO/E ROUTING PURPOSES ONLY, STAMPING ON WIRES WILL CONTAIN ONLY CKT. CODE LISTED IN TABLE 1.
 2) TRUNK OF CIRCUITS LD19& LD21 ARE 14 AWG AND BRANCHES ARE 16 AWG EXCEPT FOR LD19-V& LD19-W.

Thomas
 BUILT BUSES

52004055 D

HARNESS, REAR-MAIN,
 130, PC BOARD
 COMPATIBLE

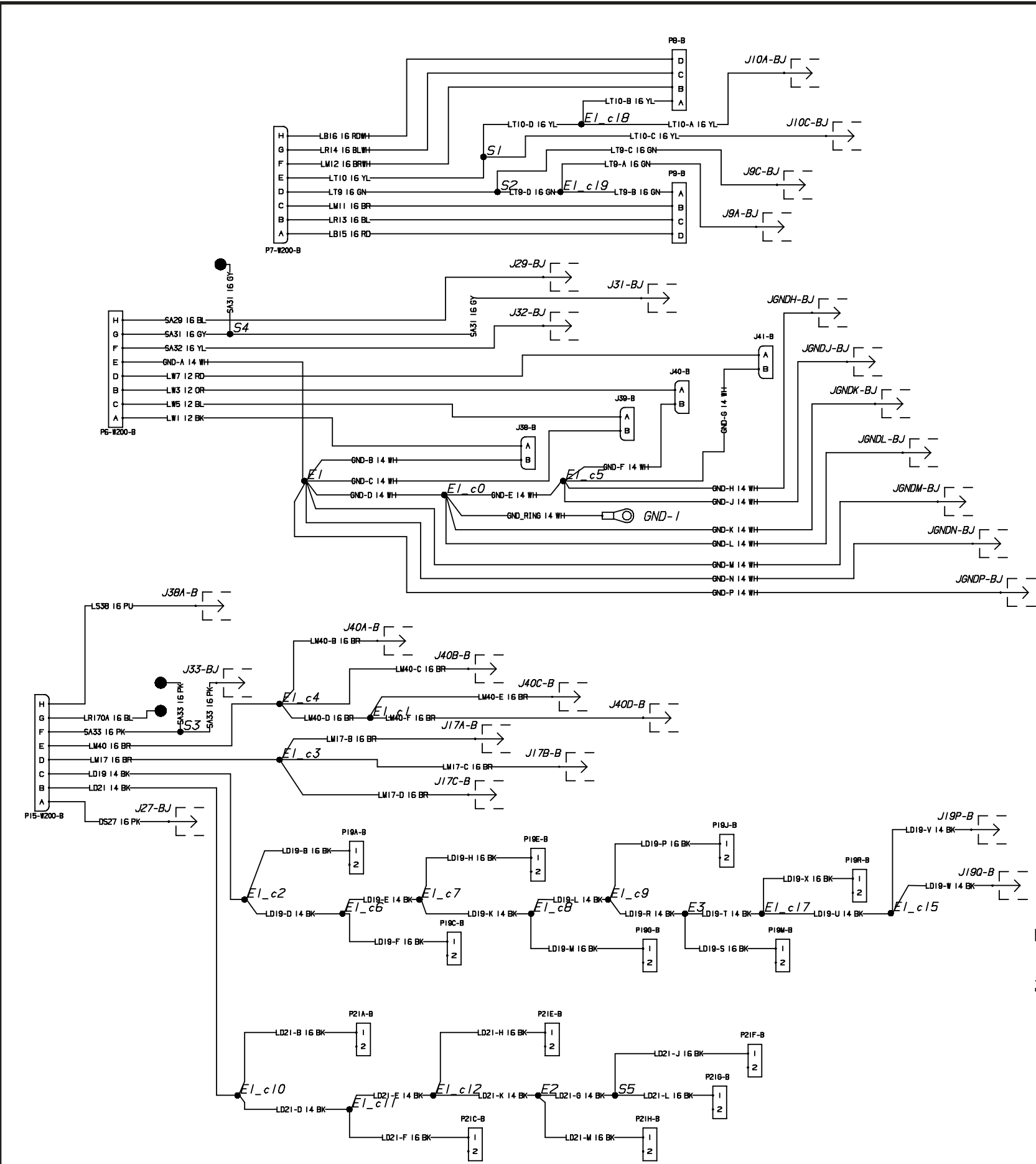


TABLE 1

CKT_CODE	GA	COLOR	DESCRIPTION
LW1	12	BLACK	LEFT REAR WARNING LIGHT (RED)
LW3	12	ORANGE	RIGHT REAR WARNING LIGHT (RED)
LW5	12	BLUE	LEFT REAR WARNING LIGHT (AMBER)
LW7	12	RED	RIGHT REAR WARNING LIGHT (AMBER)
LT9	16	GREEN	RIGHT TURN SIGNAL (REAR& FRONT SIDE)
LT10	16	YELLOW	LEFT TURN SIGNAL (REAR& FRONT SIDE)
LM11	16	BROWN	RIGHT TAIL LIGHT
LM12	16	BROWN/WHITE	LEFT TAIL LIGHT
LR13	16	BLUE	RIGHT BACK-UP LIGHT
LR14	16	BLUE/WHITE	LEFT BACK-UP LIGHT
LB15	16	RED	RIGHT BRAKE LIGHT
LB16	16	RED/WHITE	LEFT BRAKE LIGHT
LM17	16	BROWN	MARKER LIGHTS (REAR)
LD19	14/16	BLACK	INTERIOR LIGHTS
LD21	14/16	BLACK	INTERIOR LIGHT
DS27	16	PINK	IDENTIFICATION SIGN
SA29	16	BLUE	REAR DOOR BUZZER (GND)
SA31	16	GRAY	SIDE DOOR BUZZER (GND)
SA32	16	YELLOW	VANDALOCK (GND)
SA33	16	PINK	BUZZER FEED (REAR& SIDE DOOR)
LS38	16	PURPLE	STROBE LIGHT
LM40	16	BROWN	MARKER LIGHTS (SIDE)
LR170A	16	BLUE	BACK-UP LIGHT FEED
GND	14	WHITE	GROUND

NOTE:
 1) ON WIRE DIAGRAM, SUFFIX (- LETTER) IS FOR PRO/E ROUTING PURPOSES ONLY, STAMPING ON WIRES WILL CONTAIN ONLY CKT. CODE LISTED IN TABLE 1.
 2) TRUNK OF CIRCUITS LD19& LD21 ARE 14 AWG AND BRANCHES ARE 16 AWG EXCEPT FOR LD19-V& LD19-W.

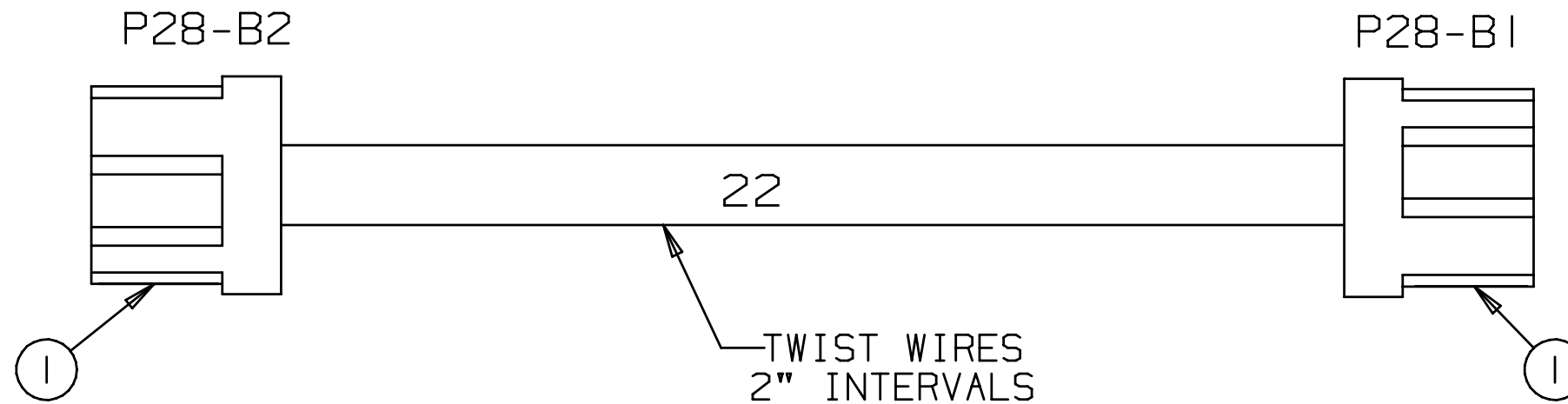
Thomas
 BUILT BUSES

52004508 C


**HARNES, REAR-MAIN,
 140, w/CONVOLUTE
 TUBING, PC BOARD
 COMPATIBLE**

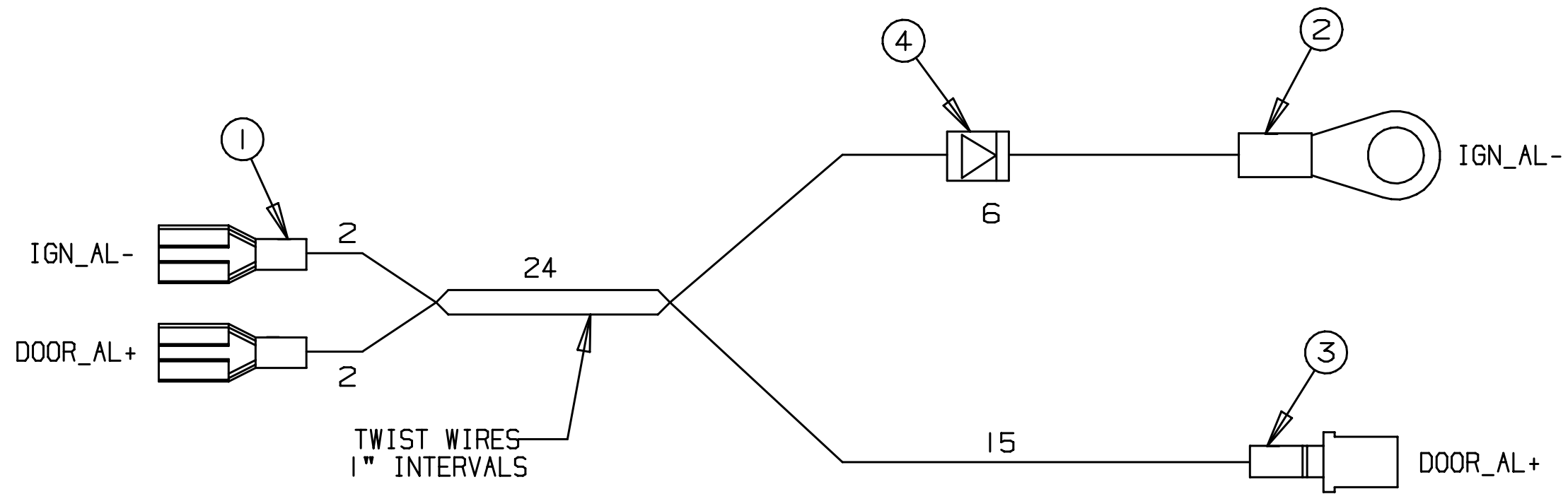
NOTE :

- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR BACK ENDS OF CONN. SHELLS.
- 6) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE.
- 7) (XX) MAY USE TERMINALS EQUIVALENT OR EXCEEDING VENDOR SPEC.
- 6) PC BOARD CONNECTOR (B1) IS TO BE LABELED PLUG# (28) IN BLUE INK.
- 7) PC BOARD CONNECTOR (B2) IS TO BE LABELED PLUG# (28) IN RED INK.
- :



Sheet 1 of 2

	52004993 A
HARNESS, JUMPER BETWEEN PC BOARD 1 & PC BOARD 2	
Effective Date: 3/30/01	



NOTES:

- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4 INCH INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) USE ULTRASONIC SPLICING WITH SEALING HEAT SHRINK.
- 6) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR "BREAK-OUTS" AND BACK ENDS OF TERMINALS.
- 7) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFR. SPECIFICATIONS.
- 8) (XX) MAY USE TERMINALS EQUIVALENT OR EXCEEDING VENDOR SPEC.
- 9) SPOT TAPE AS NEEDED AT BREAK-OUTS.

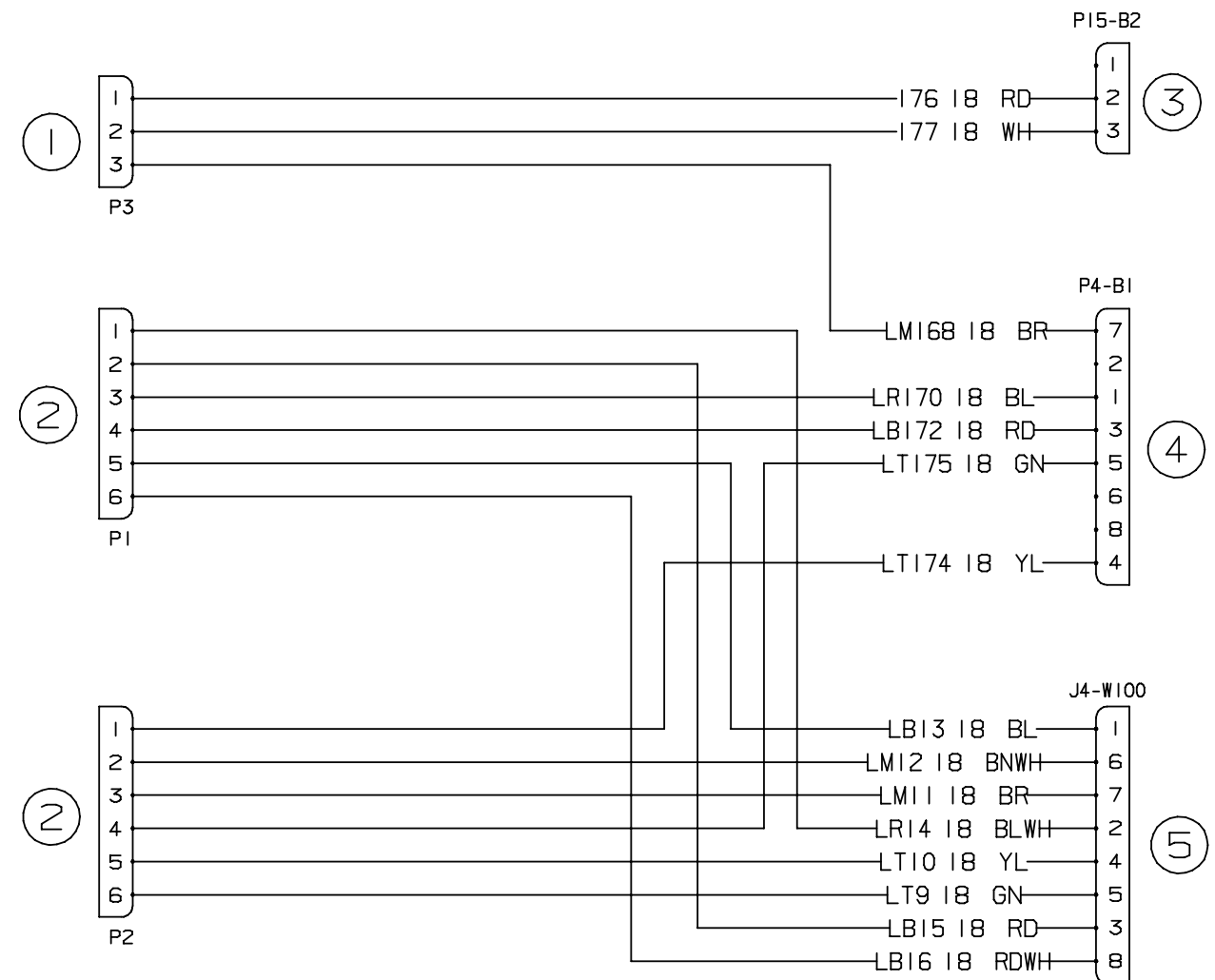
CKT.CODE	GA	COLOR	INSULATION
DOOR_AL+	16	GREEN	GXL
IGN_AL-	16	RED	GXL

ITEM	VENDOR	PART NO.	DESCRIPTION
1	AMP	XX	TERMINAL-FEMALE, .250 FASTON, FULLY INSULATED
2	AMP	XX	RING TERMINAL, 5/16 STUD, INSULATED
3	AMP	XX	TERMINAL-MALE, .250 FASTON, FULLY INSULATED
4	DIGI-KEY	XX	DIODE, 600V 3A, (P/N IN5406GCT-ND)

Thomas BUILT BUSES	52004597 B
HARNESS, ALARM w/DOOR OPEN & IGN. ON	

CKT. CODE	GA	COLOR	DESCRIPTION
I76	18	RED	DORAN FEED
I77	18	WHITE	DORAN GROUND
LM168	18	BROWN	TAIL LIGHT FEED
LR170	18	BLUE	BACK-UP LIGHT FEED
LB172	18	RED	BRAKE LIGHT FEED
LT175	18	GREEN	RIGHT TURN SIGNAL FEED
LT174	18	YELLOW	LEFT TURN SIGNAL FEED
LB13	18	BLUE	RIGHT BACK-UP LIGHT
LM12	18	BROWN/WHITE	LEFT TAIL LIGHT
LM11	18	BROWN	RIGHT TAIL LIGHT
LR14	18	BLUE/WHITE	LEFT BACK-UP LIGHT
LT10	18	YELLOW	LEFT TURN SIGNAL (REAR& FRONT SIDE)
LT9	18	GREEN	RIGHT TURN SIGNAL (REAR& FRONT SIDE)
LB15	18	RED	RIGHT BRAKE LIGHT
LB16	18	RED/WHITE	LEFT BRAKE LIGHT

ITEM	VENDOR	PART NO.	DESCRIPTION
1	AMP	794186-1	MINI MAT-N-LOK CONNECTOR
		X	TERMINAL, FEMALE
2	AMP	174923	MULTILOCK CONNECTOR, 070 6P
		X	TERMINAL, FEMALE TIN/BRONZE
3	AMP	174921	MULTILOCK CONNECTOR, 070 3P
		X	TERMINAL, FEMALE TIN/BRONZE
4	AMP	173850	MULTILOCK CONNECTOR, 070 8P
		X	TERMINAL, FEMALE TIN/BRONZE
5	AMP	174931	MULTILOCK CONNECTOR, 070 8P
		X	TERMINAL, MALE TIN/BRONZE



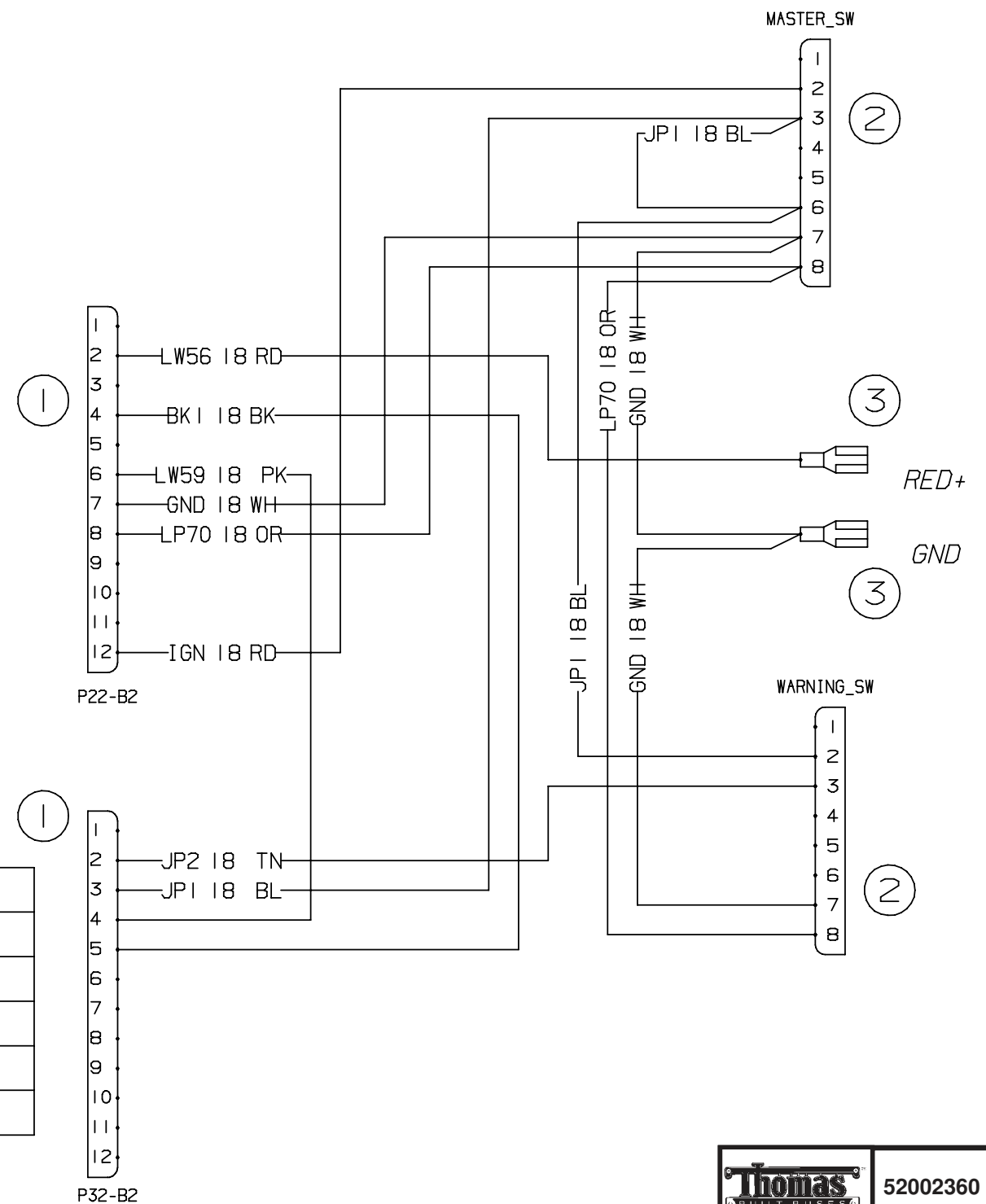
Sheet 2 of 2



HARNESS, MONITOR TAIL LIGHT

CKT.CODE	GA	COLOR	DESCRIPTION
BK1	18	BLACK	LEFT REAR WARNING LIGHT
GND	18	WHITE	GROUND
LP70	18	ORANGE	PANEL LIGHT
LW56	18	RED	WARNING LIGHT (RED)
LW59	18	PINK	DOOR SW SIGNAL (GND)
IGN	18	RED	IGNITION
JPI	18	BLUE	JUMPER 1
JP2	18	TAN	JUMPER 2

ITEM	VENDOR	PART NO.	DESCRIPTION
1	AMP	173851-1	MULTILOCK CONNECTOR, 070 12P
		X	FEMALE TERMINALS, 070 SERIES TIN/BRONZE
2	CARLING	99916716001	SWITCH CONNECTOR
	PACKARD	X	TERMINAL, FEMALE 630 SERIES TIN/BRASS
3	AMP	XX	TERMINAL, FEMALE-250 FASTON, FULLY INSULATED

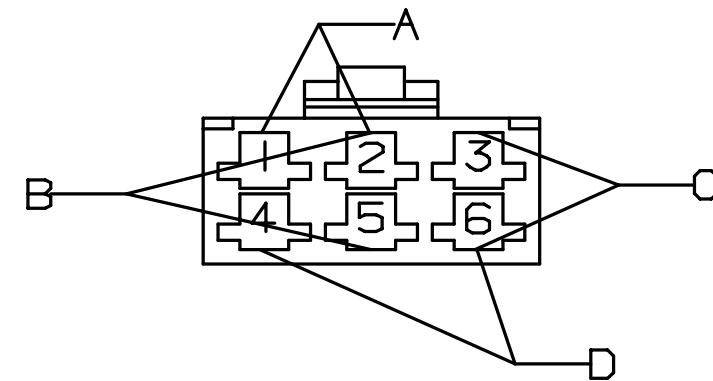
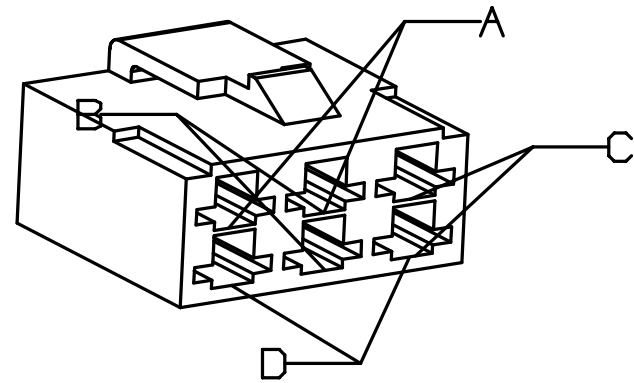


Sheet 2 of 2

Thomas BULLY BUSES	52002360 C
HARNESS, WARNING LIGHTS	
Option: B3541-05-000	

NOTE:


- 1) TAG JUMPER FOR IDENTIFICATION.
- 2) ALL WIRE LENGTHS ON DRAWING ARE WIRE CUT LENGTHS.
- 3) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFG. SPECIFICATIONS.

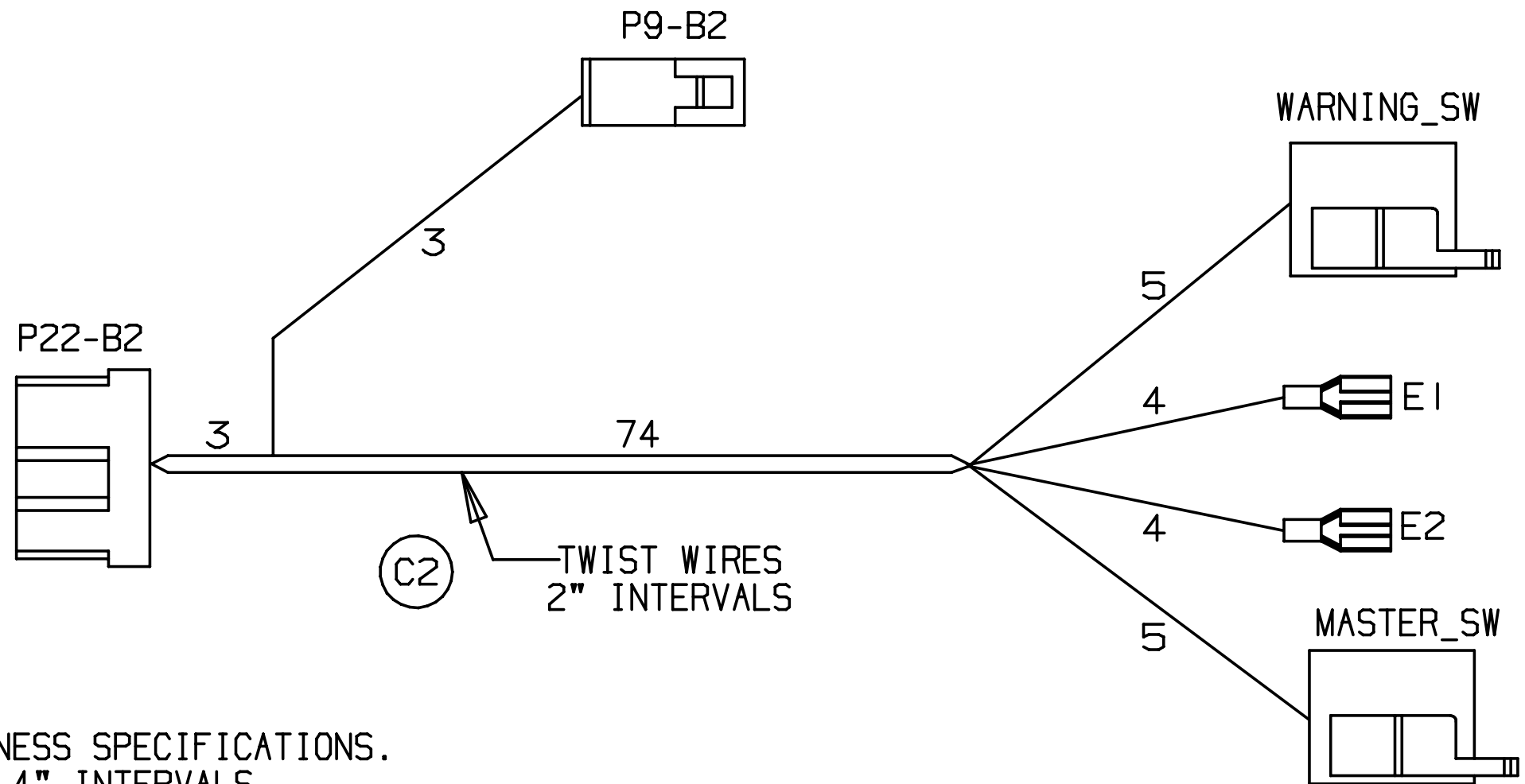


CONNECTOR FACE VIEW

- A) JUMPER YELLOW 14 AWG = 2", PIN 1-2
- B) JUMPER YELLOW 14 AWG = 2", PIN 2-5
- C) JUMPER YELLOW 14 AWG = 2", PIN 3-6
- D) JUMPER YELLOW 14 AWG = 2", PIN 4-6

- 1) AMP, 250 SERIES FASTON CONNECTOR, 6 PIN HOUSING - 171898 QTY:1
- 2) (X) FEMALE TERMINALS
- 3) CONNECTOR TO BE LABELED: (36) IN RED INK

 Thomas BUILT BUSES	52004110 A
JUMPER, WARNING LIGHT (AMBER)	



NOTE:

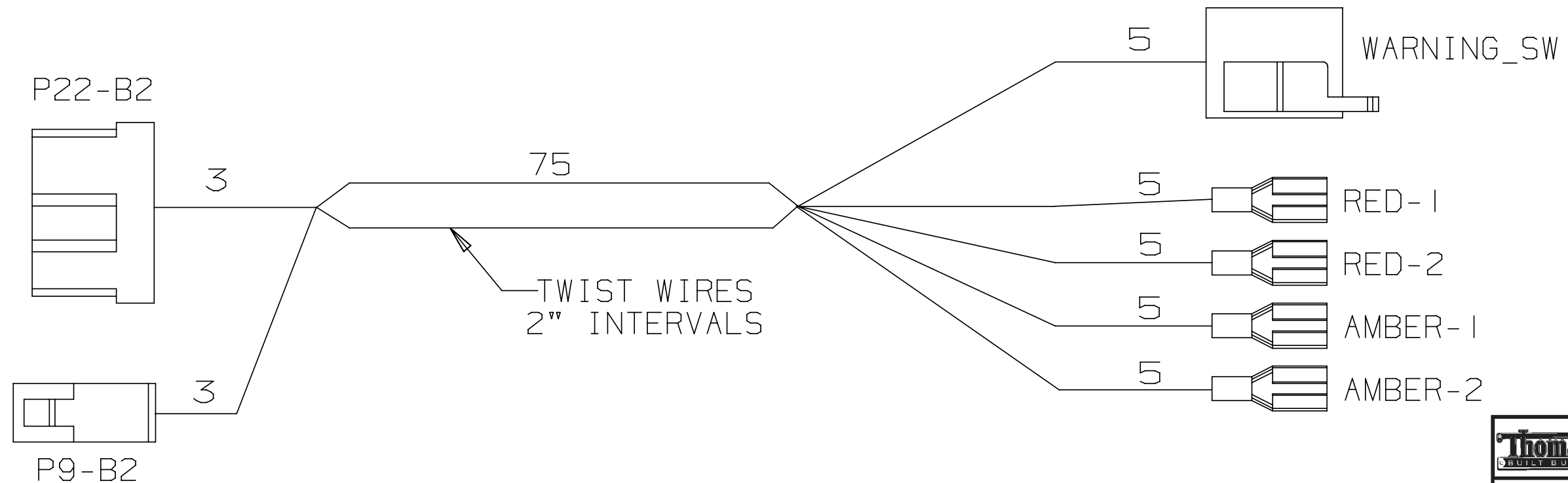
- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR "BREAK-OUTS" AND BACK ENDS OF CONN. SHELLS.
- 6) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFR. SPECIFICATIONS.
- 7) (XX) MAY USE TERMINALS EQUIVALENT OR EXCEEDING VENDOR SPEC.
- 8) PC BOARD CONNECTOR W/SUFFIX (B2) IS TO BE LABELED PLUG (#) IN RED INK.
- 9) LABEL SWITCH CONNECTORS.
- 10) SPOT TAPE AS NEEDED AT BREAK-OUTS.
OPTION: B3580-07-000

Sheet 1 of 2

Thomas <small>BUILT BUSES</small>	52004141 C
HARNESS, WARNING LIGHTS	
Option: B3580-07-000	

NOTE :

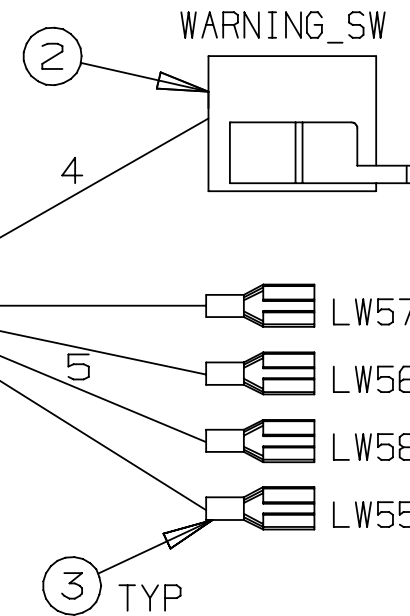
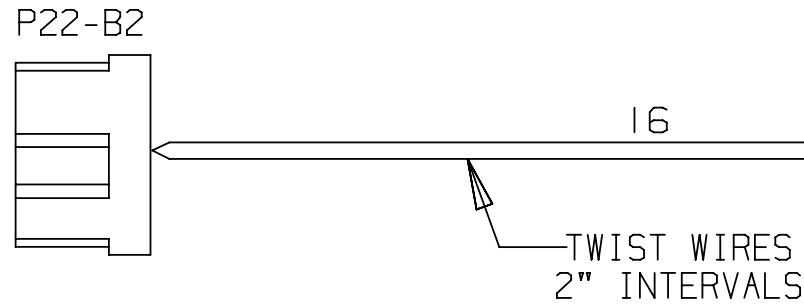
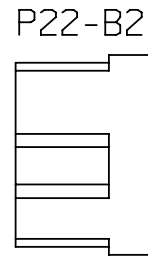
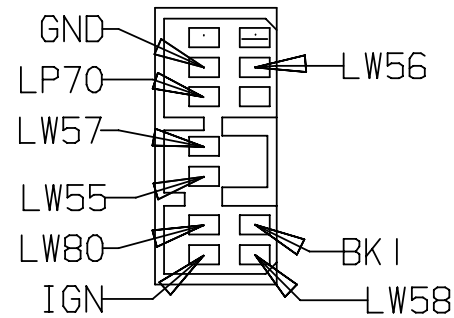
- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) USE ULTRASONIC SPLICING WITH SEALING HEAT SHRINK.
- 6) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR "BREAK-OUTS" AND BACK ENDS OF CONN. SHELLS.
- 7) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFG. SPECIFICATIONS.
- 8) (XX) MAY USE TERMINALS EQUIVALENT OR EXCEEDING VENDOR SPEC.
- 9) PC BOARD CONNECTORS (B2) ARE TO BE LABELED PLUG (#) IN RED INK.
- 10) LABEL SWITCH CONNECTOR.



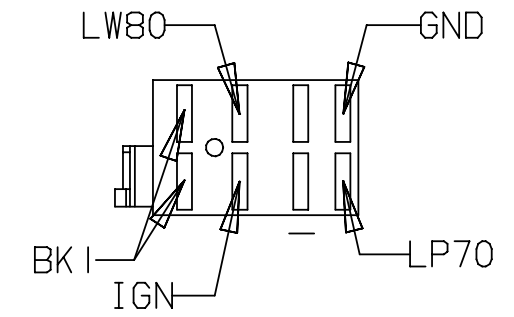
Sheet 1 of 2

HARNESS, WARNING
LIGHT SWITCH & INDICA-
TOR FROM PC BOARD 2
TO SWITCH
Option: B3580-17-000

CONNECTOR FACE VIEW



CONNECTOR FACE VIEW



NOTE:

- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
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- 6) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFR. SPECIFICATIONS.
- 7) (XX) MAY USE TERMINALS EQUIVALENT OR EXCEEDING VENDOR SPEC.
- 8) PC BOARD CONNECTOR W/SUFFIX (B2) IS TO BE LABELED PLUG (22) IN RED INK.
- 9) LABEL SWITCH CONNECTORS.
- 10) SPOT TAPE AS NEEDED AT BREAK-OUTS.
OPTION: B3580-23-000

CKT_CODE	GA	COLOR	DESCRIPTION
BK I	18	BLACK	LEFT REAR WARNING LIGHT
GND	18	WHITE	GROUND
LP70	18	ORANGE	PANEL LIGHT
LW55	18	YELLOW	WARNING LIGHT (AMBER)
LW56	18	RED	WARNING LIGHT (RED)
LW57	18	RED	WARNING LIGHT (RED)
LW58	18	YELLOW	WARNING LIGHT (AMBER)
LW80	18	TAN	START SWITCH +12V
IGN	18	RED	IGNITION

ITEM	VENDOR	PART NO.	DESCRIPTION
1	AMP	173851-1	MULTILOCK CONNECTOR, 070 12P
		X	FEMALE TERMINALS, 070 SERIES TIN/BRONZE
2	CARLING	99916716001	SWITCH CONNECTOR
	PACKARD	X	TERMINAL, FEMALE 630 SERIES TIN/BRASS
3	AMP	XX	TERMINAL, FEMALE-250 FASTON, FULLY INSULATED

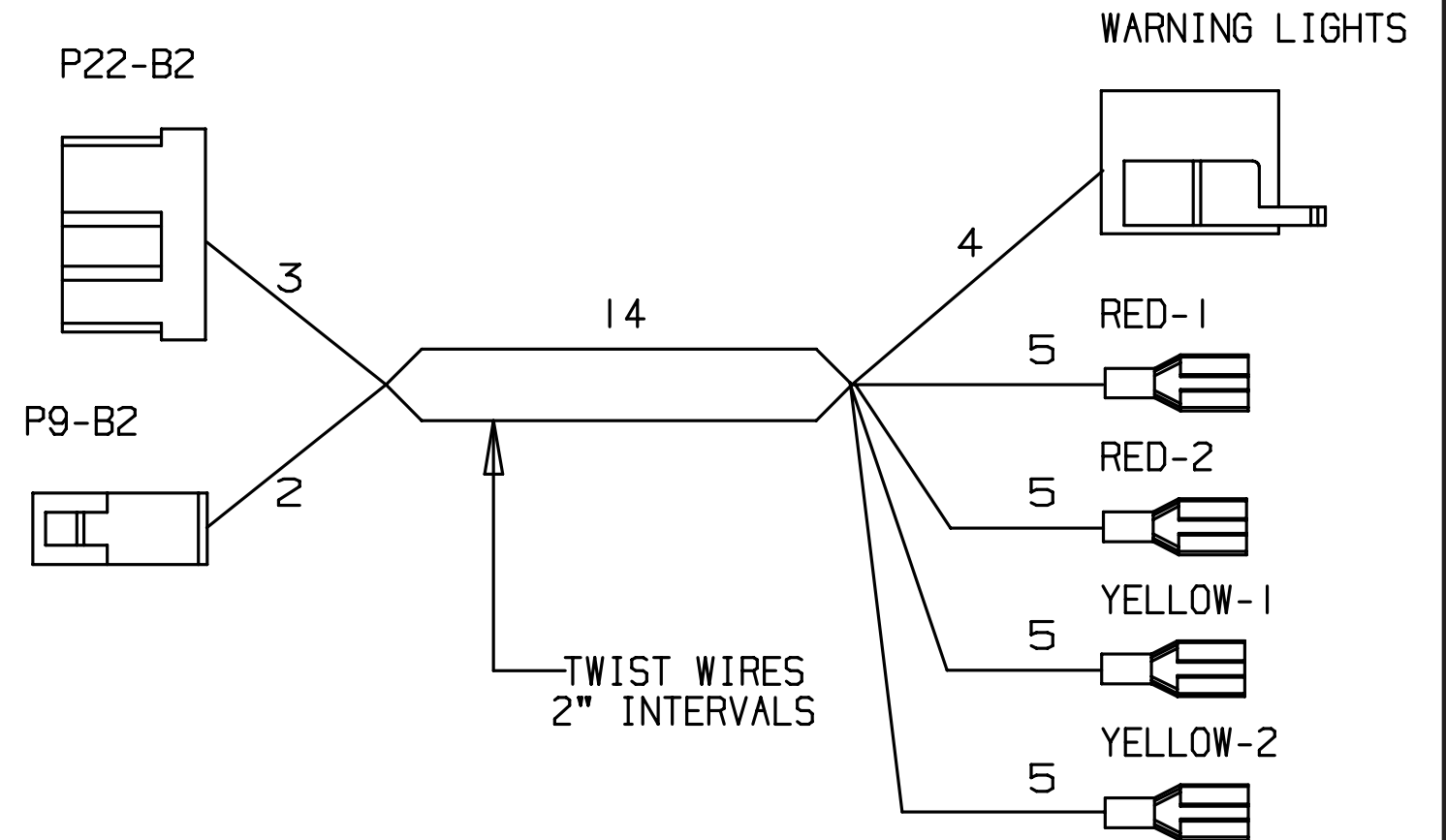


HARNESS, WARNING LIGHTS

Option: B3580-23-000

NOTE:

- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR "BREAK-OUTS" AND BACK ENDS OF CONN. SHELLS.
- 6) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFG. SPECIFICATIONS.
- 7) BUILD HARNESS TO LAY SIMILAR TO DRAWING.
- 8) PC BOARD CONNECTOR (B2) IS TO BE LABELED PLUG# (9,22) IN RED INK.
- 9) LABEL SWITCH CONNECTOR.

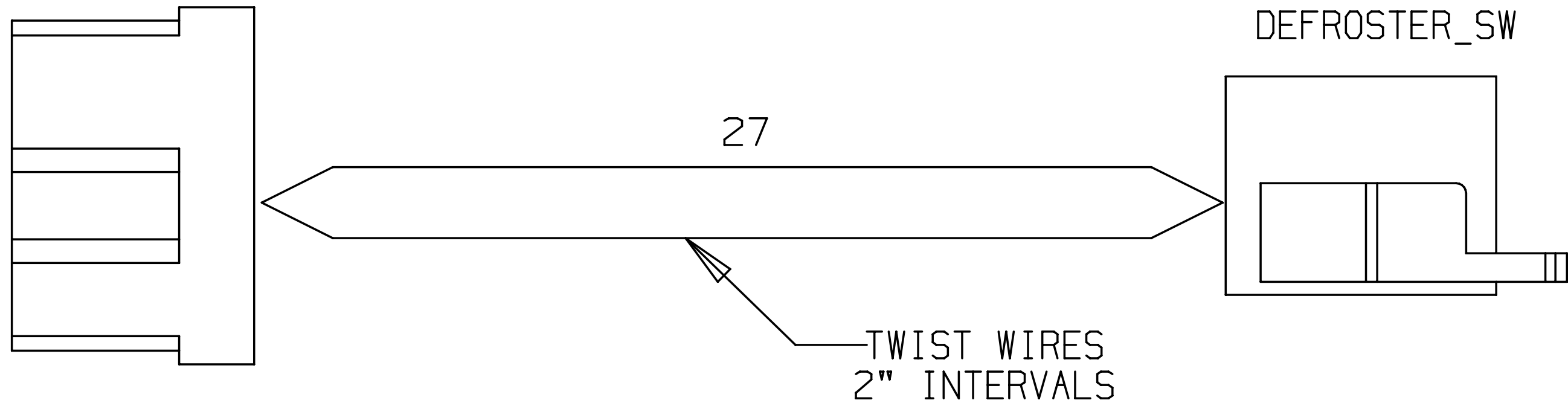


Thomas BUILT BUSES	52004150 B
------------------------------	------------

Sheet 1 of 2

HARNESS, WARNING LIGHT SWITCH & INDICATOR FROM PC BOARD 2 TO SWITCH


P32-B1



NOTE:

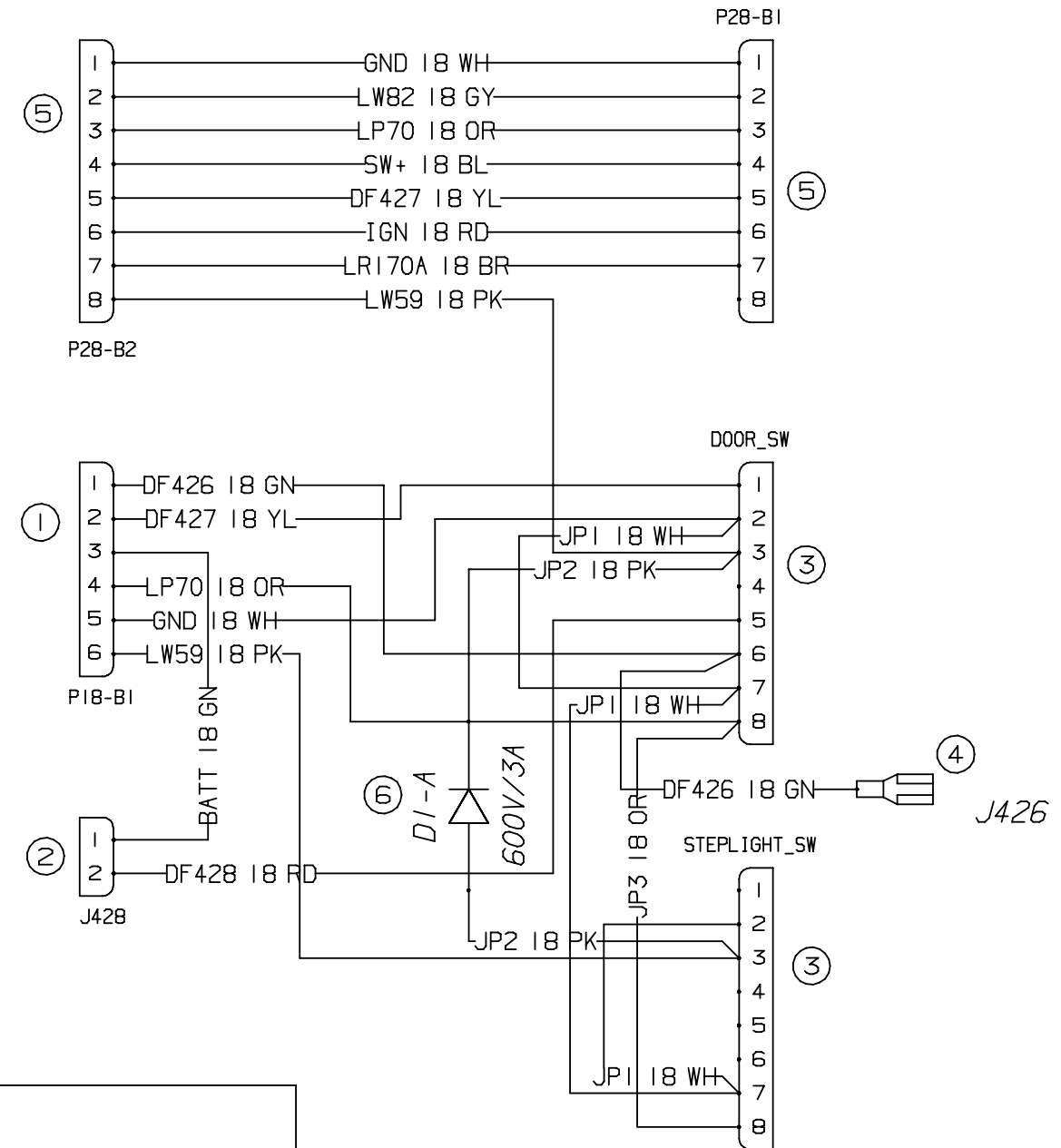
- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR BACK ENDS OF CONN. SHELLS.
- 6) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFG. SPECIFICATIONS.
- 7) PC BOARD CONNECTOR (B1) IS TO BE LABELED PLUG# (32) IN BLUE INK.
- 8) LABEL SWITCH CONNECTOR.

Sheet 1 of 2

 BUILT BUSES	52004170 B
HARNESS, SINGLE SWITCH CONTROLLING TWO DEFROSTER MOTORS	

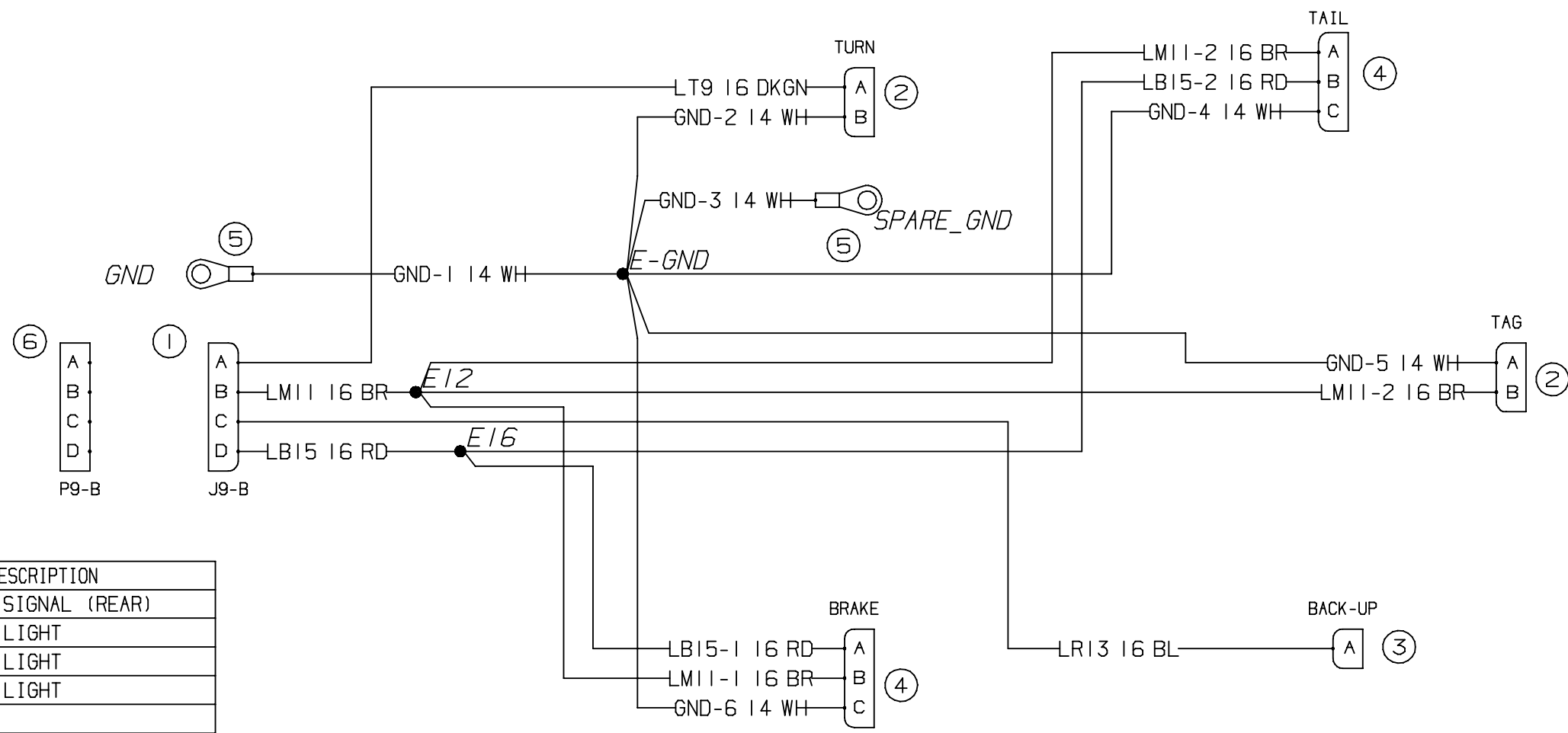
CKT.CODE	GA	COLOR	DESCRIPTION
BATT	18	GREEN	BATTERY POWER
GND	18	WHITE	GROUND
LP70	18	ORANGE	PANEL LIGHTS
LW59	18	PINK	SW SIGNAL (GND) TO WARN LT. FLASHER
DF426	18	GREEN	DOOR CONTROLLER (OPEN)
DF427	18	YELLOW	MANUAL OVERRIDE RELAY
DF428	18	RED	DOOR SIGNAL
LW82	18	GRAY	SIGNAL TO STOP ARM
LRI70A	18	BROWN	BACK-UP LIGHT FEED
SW+	18	BLUE	SWITCH POWER
IGN	18	RED	IGNITION
JPI	18	WHITE	JUMPER 1
JP2	18	PINK	JUMPER 2
JP3	18	ORANGE	JUMPER 3

ITEM	VENDOR	PART NO.	DESCRIPTION
1	AMP	174923-1 173631-6	MULTILOCK CONNECTOR, 070 6P FEMALE TERMINALS, TIN/BRONZE
2	AMP	174460-1 X	MULTILOCK CONNECTOR, 070 2P MALE TERMINALS, TIN/BRONZE
3	CARLING PACKARD	99916716001 X	SWITCH CONNECTOR TERMINAL-FEMALE 630 SERIES TIN/BRASS
4	AMP	XX	TERMINAL, FEMALE-250 FASTON, FULLY INSULATED
5	AMP	173850-1 X	MULTILOCK CONNECTOR, 070 8P FEMALE TERMINALS, TIN/BRONZE
6	DIGI-KEY	XX	DIODE, 600V 3A (P/N IN5406GCT-ND)



Sheet 2 of 2

Thomas BUILT BUSES	52004531 B
HARNES, DOOR & STEP-LIGHT SWITCH	



CKT.CODE	GA	COLOR	DESCRIPTION
LT9	16	DARK GREEN	RIGHT TURN SIGNAL (REAR)
LM11	16	BROWN	RIGHT TAIL LIGHT
LM11-1	16	BROWN	RIGHT TAIL LIGHT
LM11-2	16	BROWN	RIGHT TAIL LIGHT
LM11-3	16	BROWN	TAG LIGHT
LR13	16	BLUE	RIGHT BACK-UP LIGHT
LB15	16	RED	RIGHT BRAKE LIGHT
LB15-1	16	RED	RIGHT BRAKE LIGHT
LB15-2	16	RED	RIGHT BRAKE LIGHT
GND-1	14	WHITE	GROUND
GND-2	14	WHITE	GROUND
GND-3	14	WHITE	GROUND
GND-4	14	WHITE	GROUND

ITEM	VENDOR	PART NO.	DESCRIPTION
1	PACKARD	12010974	CONNECTOR, 4 PIN WEATHERPACK, FEMALE
		X	TERMINAL - MALE RECEPTACLE
2	PACKARD	12010973	CONNECTOR, 2 PIN WEATHERPACK, FEMALE
		X	TERMINAL - MALE RECEPTACLE
3	PACKARD	12010996	CONNECTOR, 1 PIN WEATHERPACK, FEMALE
		X	TERMINAL - MALE RECEPTACLE
4	PACKARD	12010717	CONNECTOR, 3 PIN WEATHERPACK, FEMALE
		X	TERMINAL - MALE RECEPTACLE
5	AMP	X	RING TERMINAL, 3/8" STUD, INSULATED
6	PACKARD	12015797	CONNECTOR, 4 PIN WEATHERPACK, MALE
		NONE	N/A

Sheet 2 of 2

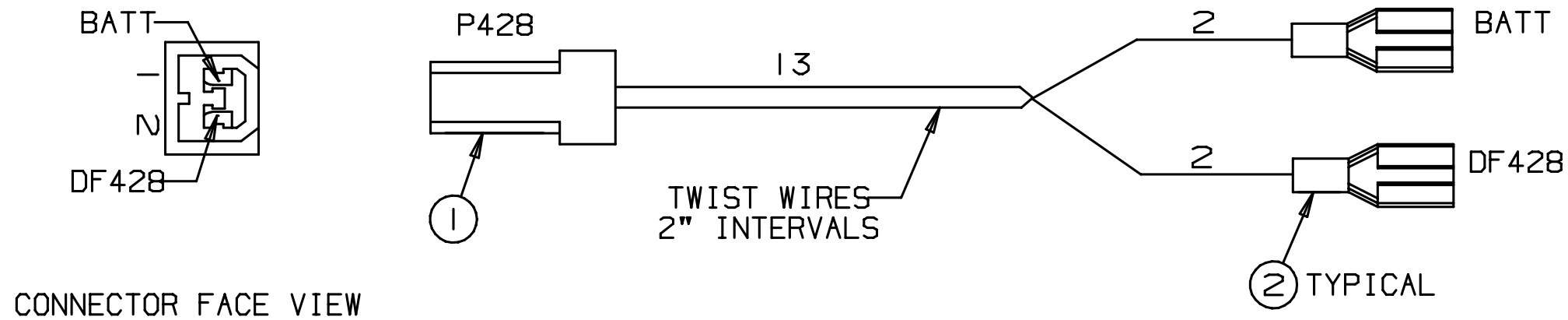
 <small>BUILT BUSES</small>	52004616 D
HARNES, ENGINE DOOR REAR LIGHTS, RIGHT SIDE REAR ENGINE	

NOTE:

- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) USE ULTRASONIC SPLICING WITH SEALING HEAT SHRINK.
- 6) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR "BREAK-OUTS" AND BACK ENDS OF CONN. SHELLS.
- 7) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFG. SPECIFICATIONS.
- 8) (XX) MAY USE TERMINALS EQUIVALENT OR EXCEEDING VENDOR SPEC.

ITEM	VENDOR	PART NO.	DESCRIPTION
1	AMP	174463-1 173631-6	MULTILOCK CONNECTOR, 070 2P FEMALE TERMINALS, TIN/BRONZE
2	AMP	XX	TERMINAL-FEMALE, 250 FASTON, FULLY INSULATED

CKT.CODE	GA	COLOR	DESCRIPTION
BATT	18	GREEN	BATTERY POWER
DF428	18	RED	DOOR SIGNAL



Thomas BUILT BUSES	52004103 A
HARNESS, DOOR SWITCH (EXT. ACCESS)	

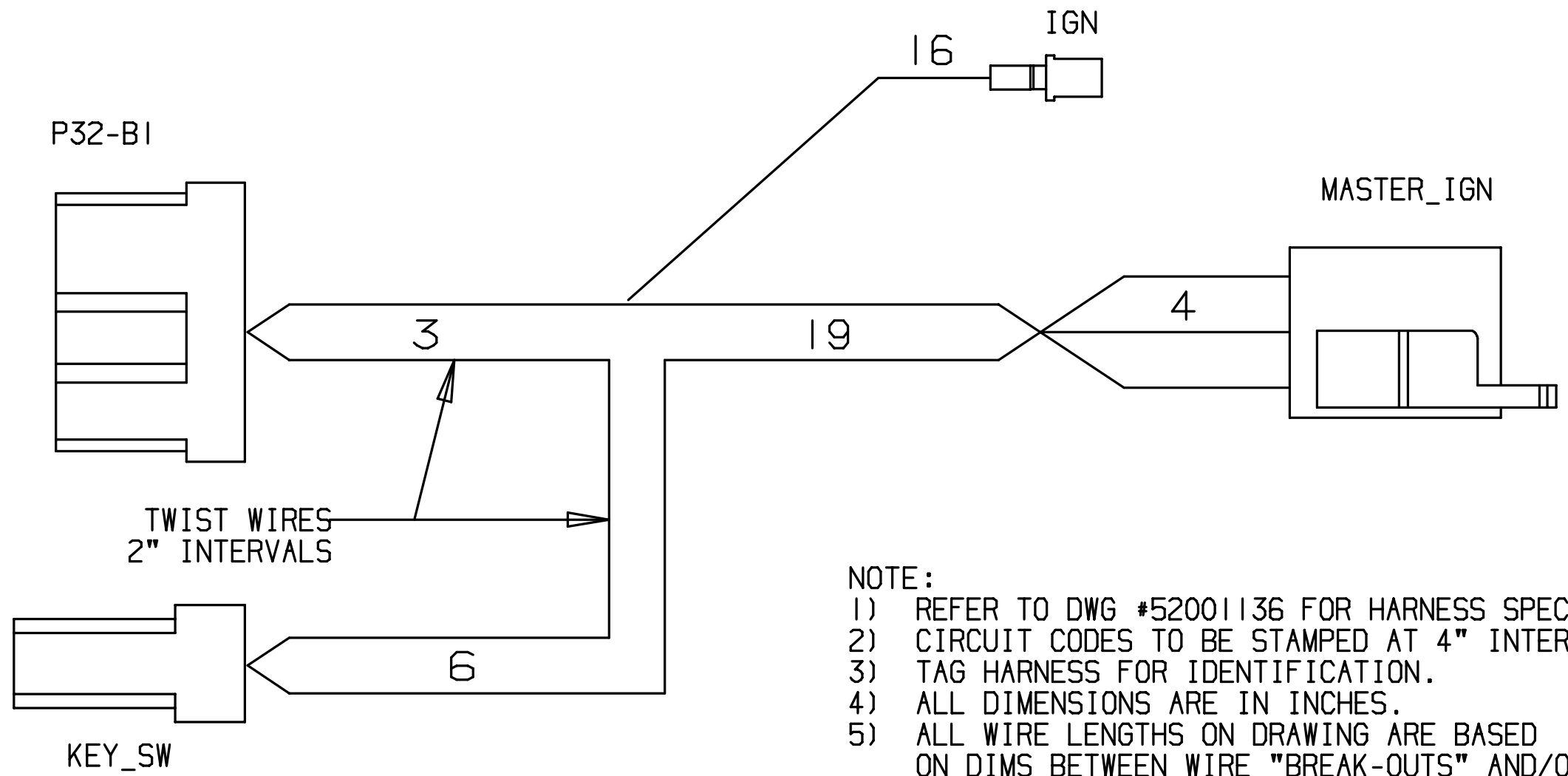
CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to **CLICKING** the link, please download this PDF first and then click on it.

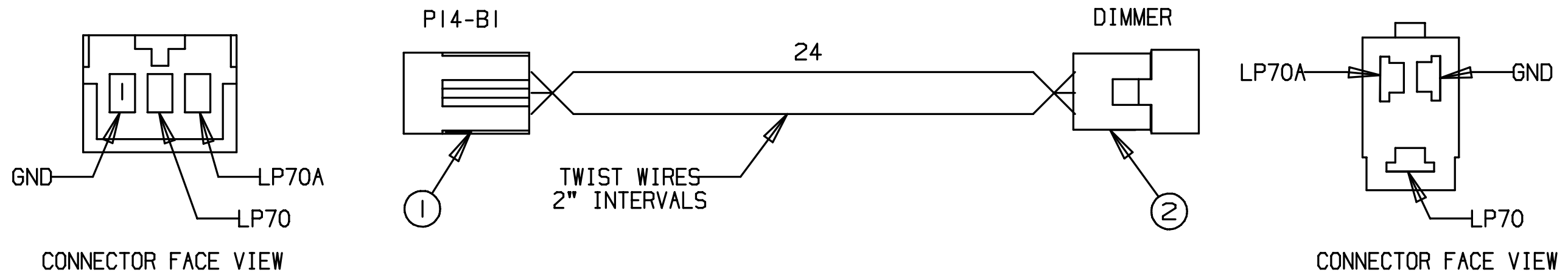
CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL



- NOTE:
- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
 - 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
 - 3) TAG HARNESS FOR IDENTIFICATION.
 - 4) ALL DIMENSIONS ARE IN INCHES.
 - 5) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR "BREAK-OUTS" AND BACK ENDS OF CONN. SHELLS
 - 6) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MER. SPECIFICATIONS.
 - 7) (XX) MAY USE TERMINALS/COMPONENTS EQUIVALENT OR EXCEEDING VENDOR SPEC.
 - 8) PC BOARD CONNECTOR W/SUFFIX (BI) IS TO BE LABELED PLUG (32) IN BLUE INK.
 - 9) LABEL SWITCH CONNECTOR.
 - 10) SPOT TAPE AS NEEDED AT BREAK-OUTS.
OPTION: B3835-00-000

Thomas BUILT BUSES	52004630 B
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HARNESS, IGN OVERRIDE	
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ITEM	VENDOR	PART NO.	DESCRIPTION
1	AMP	174921-1	MULTILOCK CONNECTOR
		X, XX	TERMINAL, FEMALE
2	DELPHI	8900542	CONNECTOR
		X, XX	TERMINAL, FEMALE

CKT. CODE	GA	COLOR	DESCRIPTION
LP70	18	ORANGE	PANEL LIGHTS
LP70A	18	BLACK	PANEL LIGHTS FROM CHASIS
GND	18	WHITE	GROUND

- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR BACK ENDS OF CONN. SHELLS.
- 6) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFG. SPECIFICATIONS.
- 7) (XX) MAY USE TERMINALS EQUIVALENT OR EXCEEDING VENDOR SPEC.

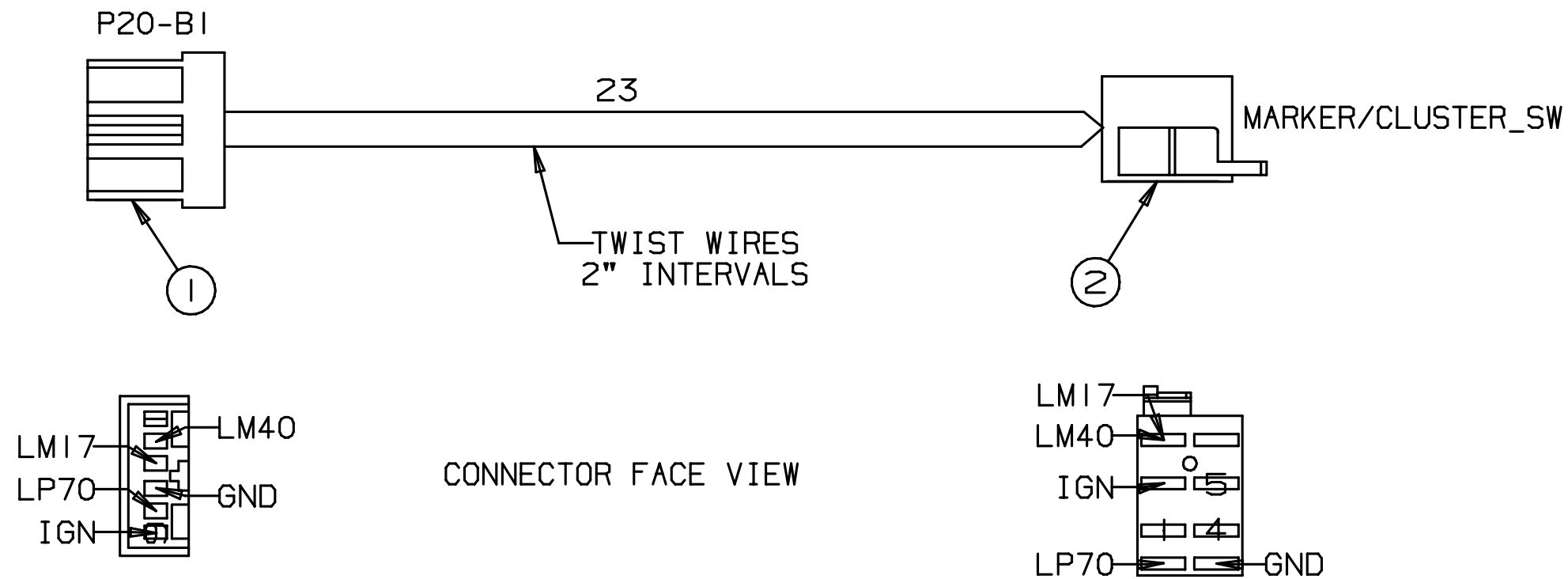
	52004133 B
HARNESS, PANEL LIGHT DIMMER	

NOTE:

- 1) REFER TO DWG #52001136 FOR HARNESS SPECIFICATIONS.
- 2) CIRCUIT CODES TO BE STAMPED AT 4" INTERVALS.
- 3) TAG HARNESS FOR IDENTIFICATION.
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) ALL WIRE LENGTHS ON DRAWING ARE BASED ON DIMS BETWEEN WIRE "BREAK-OUTS" AND/OR BACK ENDS OF CONN. SHELLS.
- 6) PC BOARD CONNECTOR (BI) IS TO BE LABELED PLUG# (20) IN BLUE INK.
- 7) (X) USE TERMINALS APPROPRIATE TO WIRE SIZE BASED ON CONNECTOR MFG. SPECIFICATIONS.
- 8) LABEL SWITCH CONNECTOR.

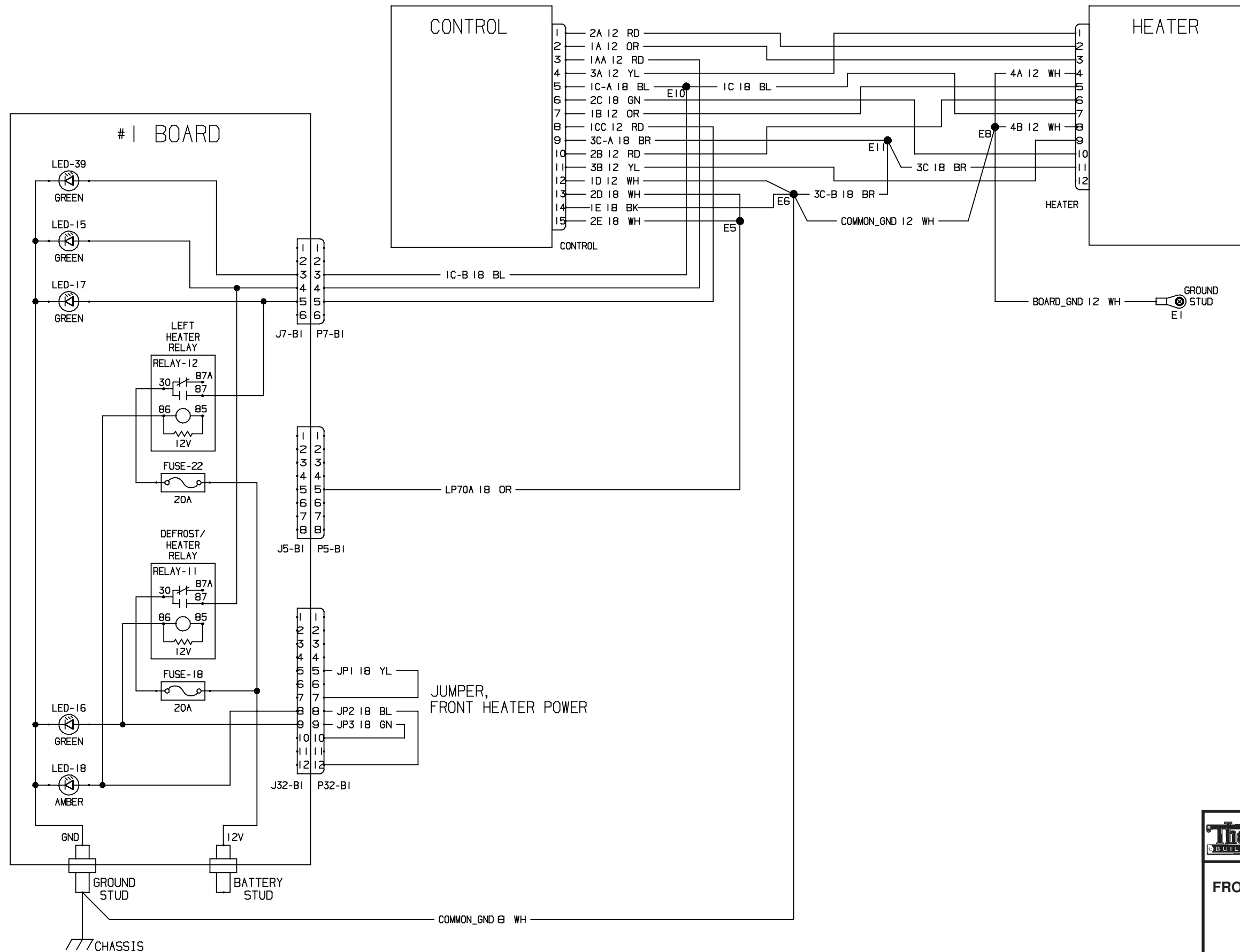
ITEM	VENDOR	PART NO.	DESCRIPTION
1	AMP	174923-1 173631-6	MULTILOCK CONNECTOR, 070 6P FEMALE TERMINALS, TIN/BRONZE
2	CARLING PACKARD	9991671600 X	SWITCH CONNECTOR TERMINAL-FEMALE 630 SERIES TIN/BRASS


CKT.CODE	GA	COLOR	DESCRIPTION
IGN	18	RED	IGNITION POWER
GND	18	WHITE	GROUND
LP70	18	ORANGE	PANEL LIGHTS
LM17	18	BROWN	CENTER CLEARANCE LIGHTS
LM40	18	BROWN	SIDE MARKER LIGHTS

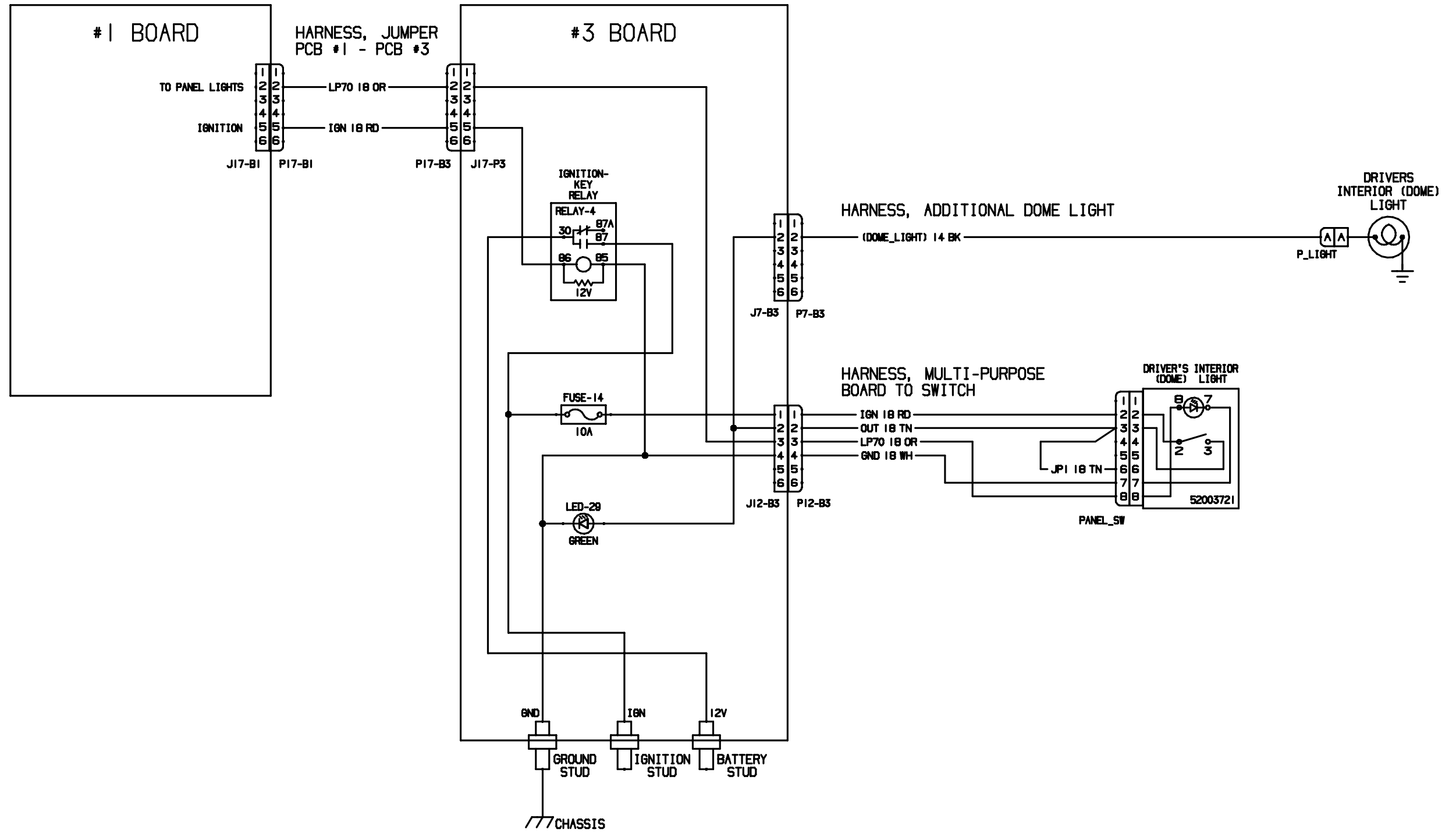


Thomas BUILT BUSES	52004153 B
HARNESS, MARKER/ CLUSTER FROM PC BOARD 1 TO SWITCH	

HARNESS, INTERIOR BULKHEAD
CHASSIS/BODY INTERFACE

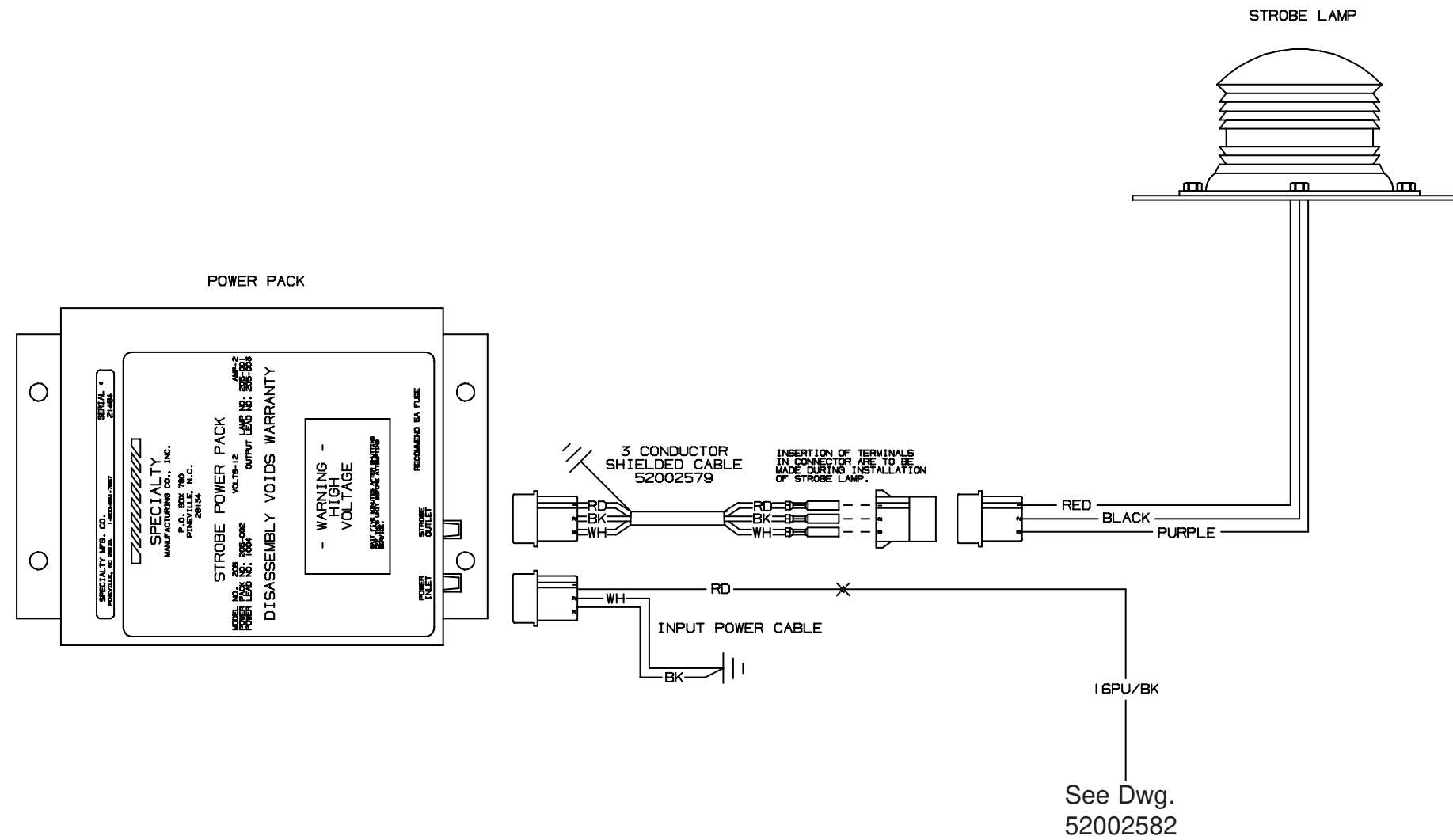


 Thomas BUILT BUSES	52004815 A
FRONT HEATER	



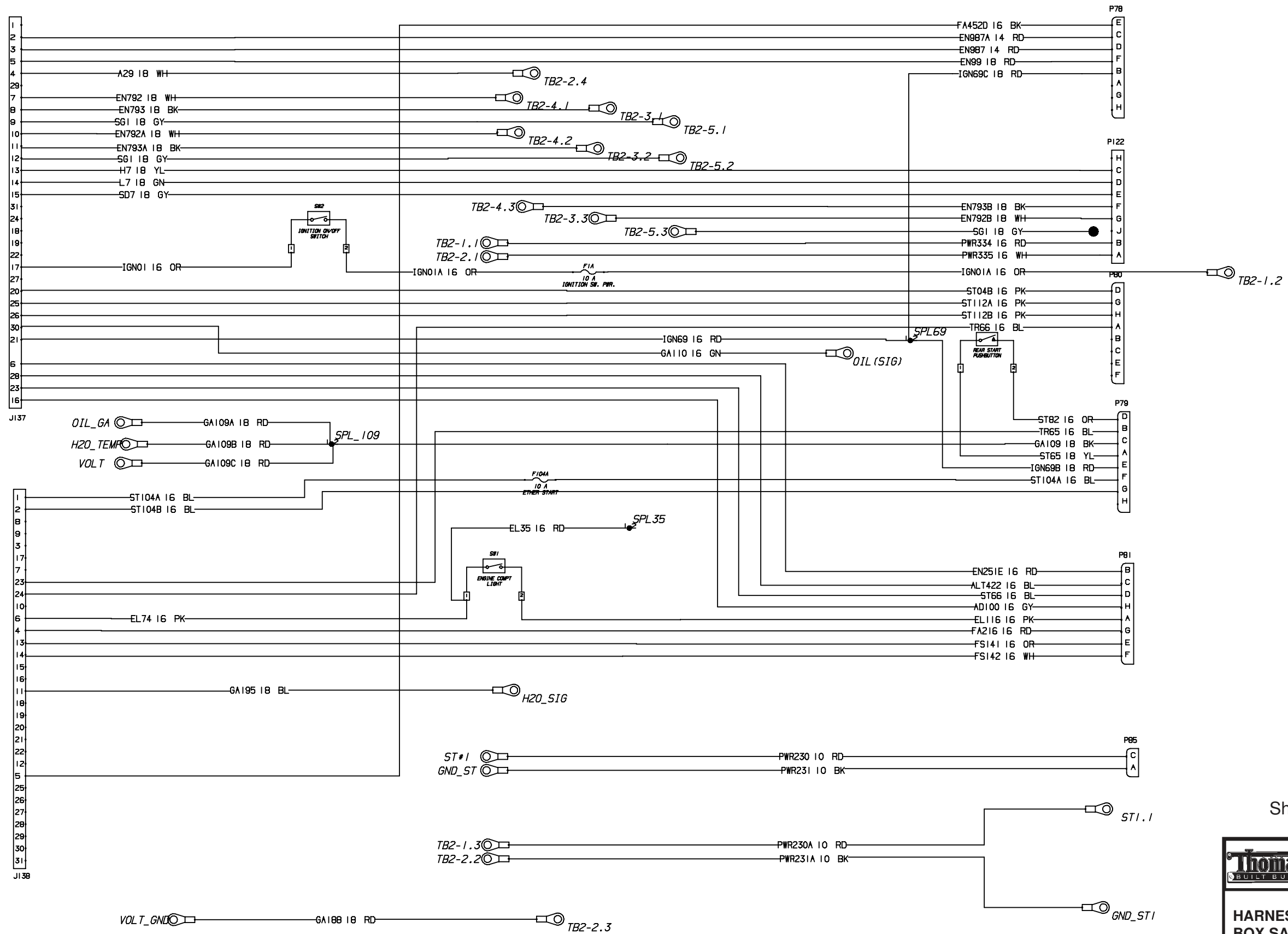
OPTION: B3230-00-000

Thomas BUILT BUSES	52004994 A
DRIVERS INTERIOR (DOME) LIGHT - ONE	
Option: B3230-00-000	



NOTES:
1. POWER PACK, STROBE LAMP, INPUT POWER CABLE, AND AMP CONNECTOR ARE PART OF KIT #52002574.

	52002582 A
<p>STROBE LIGHT ROOF MOUNTED, SPECIALTY MODEL #205-202</p>	



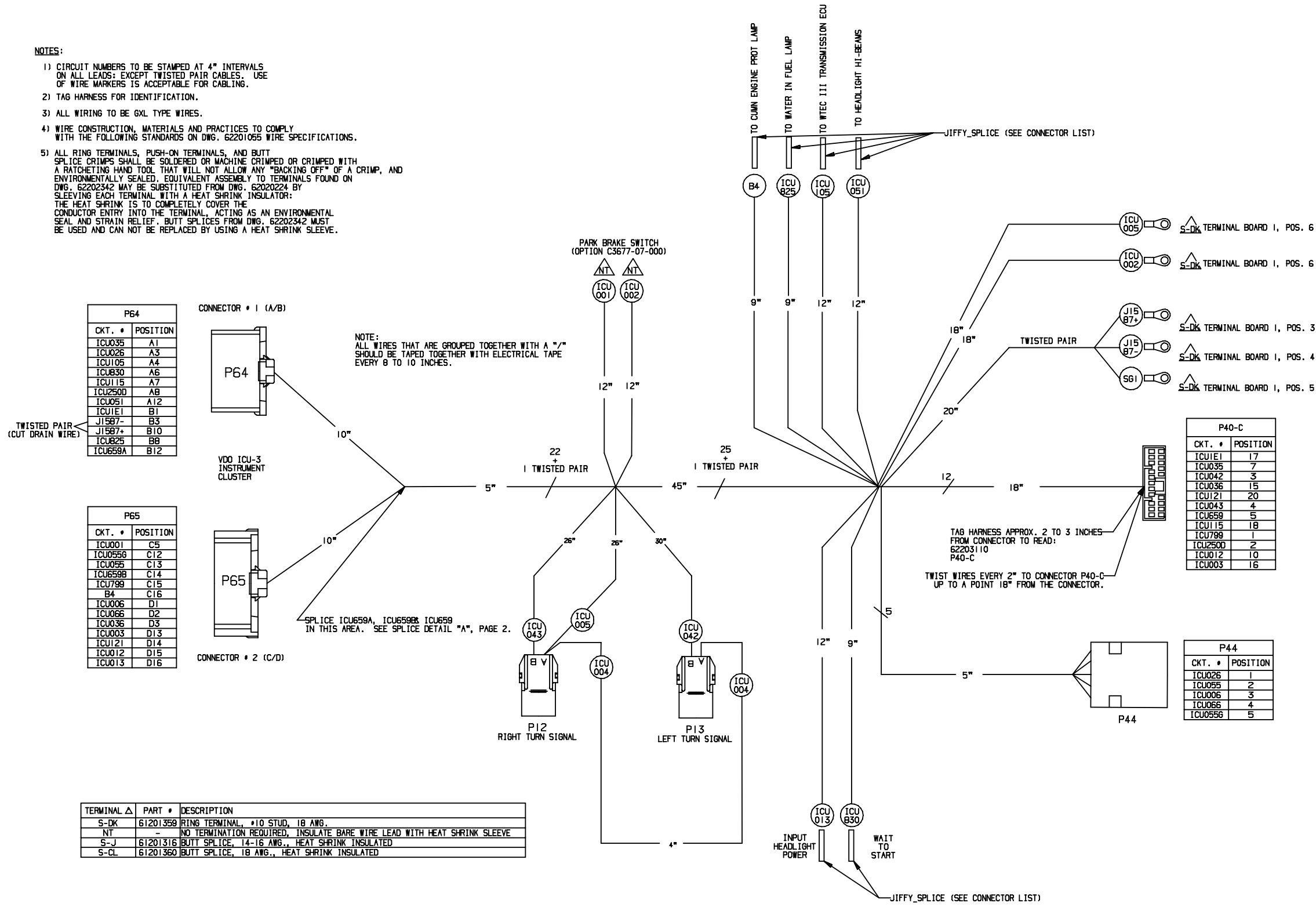
Sheet 3 of 3



HARNES, REAR ELECT BOX SAF-T-LINER HD

NOTES:

- 1) CIRCUIT NUMBERS TO BE STAMPED AT 4" INTERVALS ON ALL LEADS, EXCEPT TWISTED PAIR CABLES. USE OF WIRE MARKERS IS ACCEPTABLE FOR CABLING.
- 2) TAG HARNESS FOR IDENTIFICATION.
- 3) ALL WIRING TO BE GXL TYPE WIRES.
- 4) WIRE CONSTRUCTION, MATERIALS AND PRACTICES TO COMPLY WITH THE FOLLOWING STANDARDS ON DWG. 62201095 WIRE SPECIFICATIONS.
- 5) ALL RING TERMINALS, PUSH-ON TERMINALS, AND BUTT SPLICE CRIMPS SHALL BE SOLDERED OR MACHINE CRIMPED OR CRIMPED WITH A PATCHETING HAND TOOL THAT WILL NOT ALLOW ANY "BACKING OFF" OF A CRIMP, AND ENVIRONMENTALLY SEALED. EQUIVALENT ASSEMBLY TO TERMINALS FOUND ON DWG. 62202342 MAY BE SUBSTITUTED FROM DWG. 62020224 BY SLEEVING EACH TERMINAL WITH A HEAT SHRINK INSULATOR. THE HEAT SHRINK IS TO COMPLETELY COVER THE CONDUCTOR ENTRY INTO THE TERMINAL, ACTING AS AN ENVIRONMENTAL SEAL AND STRAIN RELIEF. BUTT SPLICES FROM DWG. 62202342 MUST BE USED AND CAN NOT BE REPLACED BY USING A HEAT SHRINK SLEEVE.



P64	
CKT. #	POSITION
ICU035	A1
ICU026	A3
ICU105	A4
ICU830	A6
ICU115	A7
ICU2500	A8
ICU051	A12
ICU1E1	B1
J1597-	B3
J1597+	B10
ICU825	B8
ICU659A	B12

P65	
CKT. #	POSITION
ICU001	C5
ICU0556	C12
ICU055	C13
ICU659B	C14
ICU799	C15
B4	C16
ICU006	D1
ICU066	D2
ICU036	D3
ICU003	D13
ICU121	D14
ICU012	D15
ICU013	D16

P40-C	
CKT. #	POSITION
ICU1E1	17
ICU035	7
ICU042	3
ICU036	15
ICU121	20
ICU043	4
ICU659	5
ICU115	18
ICU799	1
ICU2500	2
ICU012	10
ICU003	16

P44	
CKT. #	POSITION
ICU026	1
ICU055	2
ICU006	3
ICU066	4
ICU0556	5

TERMINAL Δ	PART #	DESCRIPTION
S-DK	61201358	RING TERMINAL, #10 STUD, 18 AWG.
NT	-	NO TERMINATION REQUIRED, INSULATE BARE WIRE LEAD WITH HEAT SHRINK SLEEVE
S-J	61201316	BUTT SPLICE, 14-16 AWG., HEAT SHRINK INSULATED
S-CL	61201360	BUTT SPLICE, 18 AWG., HEAT SHRINK INSULATED

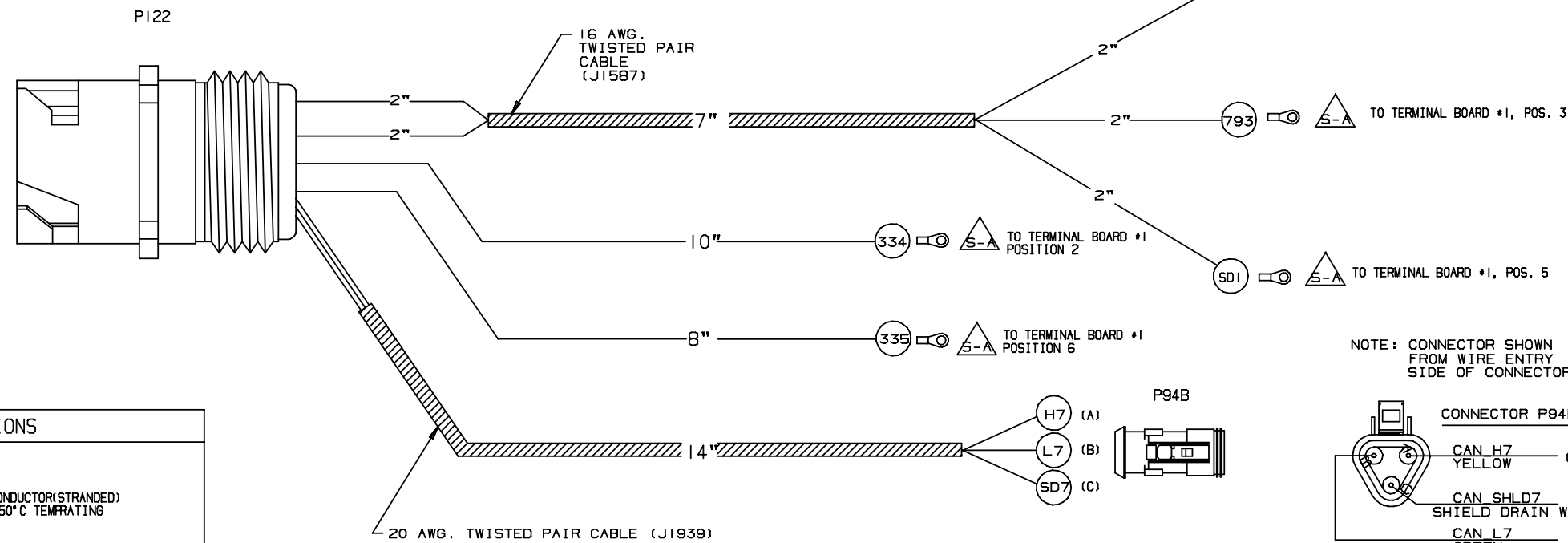
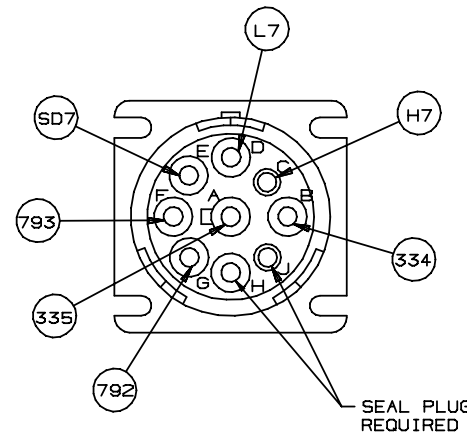
62203354 D

**HARNES, WIRING, DASH
SAF-T-LINER ER**

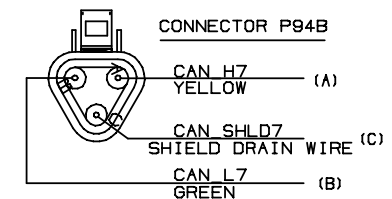
Effective Date: 7/18/00
End Date: 10/16/00

CONNECTOR LIST				
CONN.	VENDOR	PART #	DESCRIPTION	QTY
P94B	DEUTSCH	DT06-35-P032	PLUG ASM., 3-WAY	1
	DEUTSCH	3662-204-1690	SOCKET, GOLD PLATED, 20 AWG.	2
	DEUTSCH	W3S-1939-P012	WEDGE LOCK, KEYS PLUG "B"	1
	DEUTSCH	0462-221-1631	SOCKET, SHIELD DRAIN WIRE	1
	DEUTSCH	H010-9-1939P	SQUARE FLANGE RECEPTACLE, 9-WAY, FEMALE	1
P122	DEUTSCH	D460-215-16141	PIN CONTACT, 14-16 AWG.	4
	DEUTSCH	HDC16-9	SEAL CAP	1
	DEUTSCH	0460-202-1631	PIN CONTACT, 16-18 AWG.	2
	DEUTSCH	114017	CAVITY PLUG	2
	DEUTSCH	0460-247-1631	PIN CONTACT, SHIELD DRAIN WIRE	1
	DEUTSCH	0460-247-1631	PIN CONTACT, SHIELD DRAIN WIRE	1

CIRCUIT	AWG.	COLOR	DESCRIPTION
334	14	RED	DATA LINK PLUG (P122 POS. B) TO T.B. #1 (POS. 2)
335	14	WHITE	DATA LINK PLUG (P122 POS. A) TO T.B. #1 (POS. 6)
792	TWISTED PAIR	WHITE	J1587 DATA LINK -: P122 (POS. G) TO T.B. #1 (POS. 4)
793	TWISTED PAIR	BLACK	J1587 DATA LINK +: P122 (POS. F) TO T.B. #1 (POS. 3)
SD1	16 AWG	DRAIN WIRE	T.B. #1 (POS. 5), CUT BACK TO INSULATION AT P122
H7	TW. PAIR (J1939)	YELLOW	J1939 DATA LINK +: P122 (POS. C) TO P94B (POS. A)
SD7	20 AWG	DRAIN WIRE	J1939 DATA LINK SHIELD DRAIN WIRE: P122 (POS. E) TO P94B (POS. C)
L7	20 AWG	GREEN	J1939 DATA LINK -: P122 (POS. D) TO P94B (POS. B)



NOTE: CONNECTOR SHOWN FROM WIRE ENTRY SIDE OF CONNECTOR



J1939 TWISTED PAIR CABLE SPECIFICATIONS		
TYPE - COMMUNICATION, CONTROL, DATA BUS CABLE, (1) TWISTED PAIR, 2 CONDUCTOR (STRANDED) W/ DRAIN WIRE, 100% SHIELD COVERING, 300V - 600V RATING, 90°C - 150°C TEMPERATURE RATING FOR SAE J1939 USAGE. IMPEDANCE AT 120Ω ± 12Ω CONDUCTOR NO. 1 (GREEN), CONDUCTOR NO. 2 (YELLOW)		
AWG.	APPROVED VENDORS OF CABLE	PART NUMBER
20	ANIXTER RAYCHEM/STAF-CO CHAMPLAIN	CE3656065 301 15-00037 (11875)

TWISTED PAIR CABLE SPECIFICATIONS		
TYPE - COMMUNICATION, CONTROL, INSTRUMENTATION CABLE, (1) TWISTED PAIR, 2 CONDUCTOR (STRANDED) W/ DRAIN WIRE, 100% SHIELD COVERING, 300V - 600V RATING, 90°C - 90°C TEMP. RATING		
AWG.	APPROVED VENDORS OF CABLE	PART NUMBER
18	BELDEN ALPHA	88760 561681801
16	BELDEN ALPHA	8719 561681601
14	BELDEN ALPHA	8720 561681401

TERMINAL Δ	PART #	DESCRIPTION
S-A	61201312	RING TERMINAL, #10 STUD, 14 AWG.

- NOTES:
- CIRCUIT NUMBERS TO BE STAMPED AT 4" INTERVALS ON ALL LEADS, EXCEPT TWISTED PAIR CABLES. USE OF WIRE MARKERS IS ACCEPTABLE FOR CABLING LEADS.
 - TAG HARNESS FOR IDENTIFICATION.
 - NO CONVOLUTED CONDUIT TUBING IS REQUIRED ON HARNESS.
 - WIRE CONSTRUCTION, MATERIALS AND PRACTICES TO COMPLY WITH THE FOLLOWING STANDARDS ON DWG. 62201055 WIRE SPECIFICATIONS.
 - ALL WIRING TO BE GXL TYPE WIRE, EXCEPT TWISTED PAIR CABLES.
 - CONSTRUCTION PRACTICES AND GUIDELINES FOR THIS HARNESS SHALL COMPLY WITH THE FOLLOWING SPECS: TMC RP142(T), SAE J1939/11.
 - ALL RING TERMINALS, PUSH-ON TERMINALS, AND BUTT SPLICE CRIMPS SHALL BE SOLDERED OR MACHINE CRIMPED OR CRIMPED WITH A RATCHETING HAND TOOL THAT WILL NOT ALLOW ANY "BACKING OFF" OF A CRIMP, AND ENVIRONMENTALLY SEALED. EQUIVALENT ASSEMBLY TO TERMINALS FOUND ON DWG. 62202342 MAY BE SUBSTITUTED FROM DWG. 62202224 BY SLEEVEING EACH TERMINAL WITH A HEAT SHRINK INSULATOR: THE HEAT SHRINK IS TO COMPLETELY COVER THE CONDUCTOR ENTRY INTO THE TERMINAL, ACTING AS AN ENVIRONMENTAL SEAL AND STRAIN RELIEF. BUTT SPLICES FROM DWG. 62202342 MUST BE USED AND CAN NOT BE REPLACED BY USING A HEAT SHRINK SLEEVE.
- B) ALL DIMENSIONS SHOWN ARE ACTUAL WIRE LENGTHS.

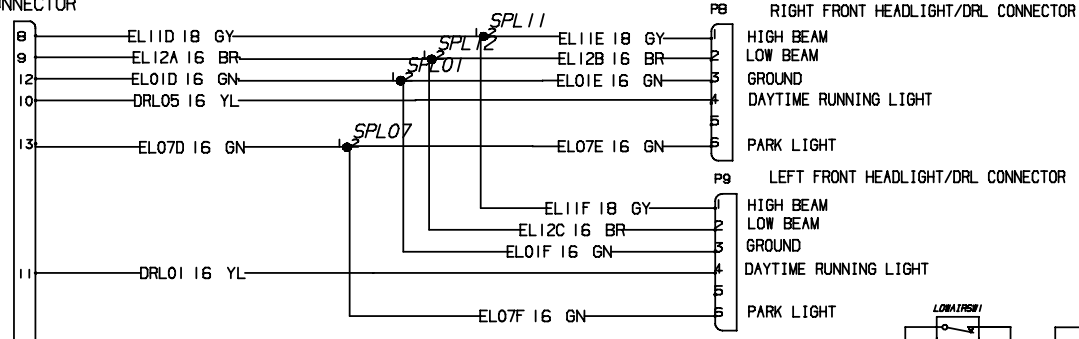
	62203137 D
HARNESS, WIRING, DATALINK J1587/J1939, FRONT ELECT. COMP. SAF-T-LINER ER/HD	

P75
CHASSIS BULKHEAD
CONNECTOR

CONTINUED
FROM
SHEET 1

CONTINUED
FROM
SHEET 1

CONTINUED
FROM
SHEET 1

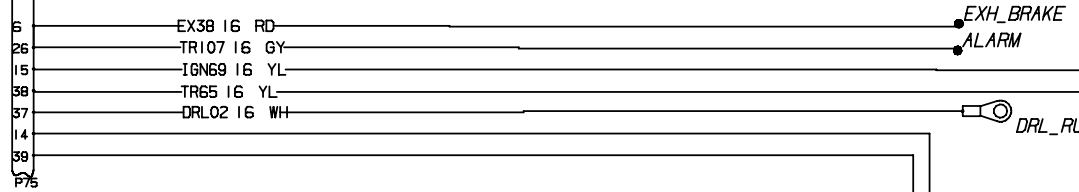
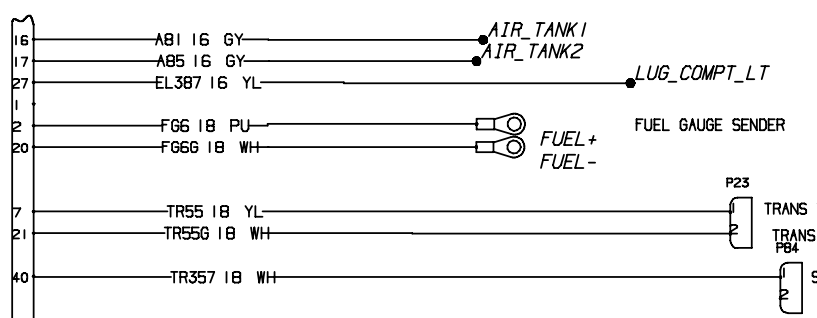


LOW AIR SWITCHES

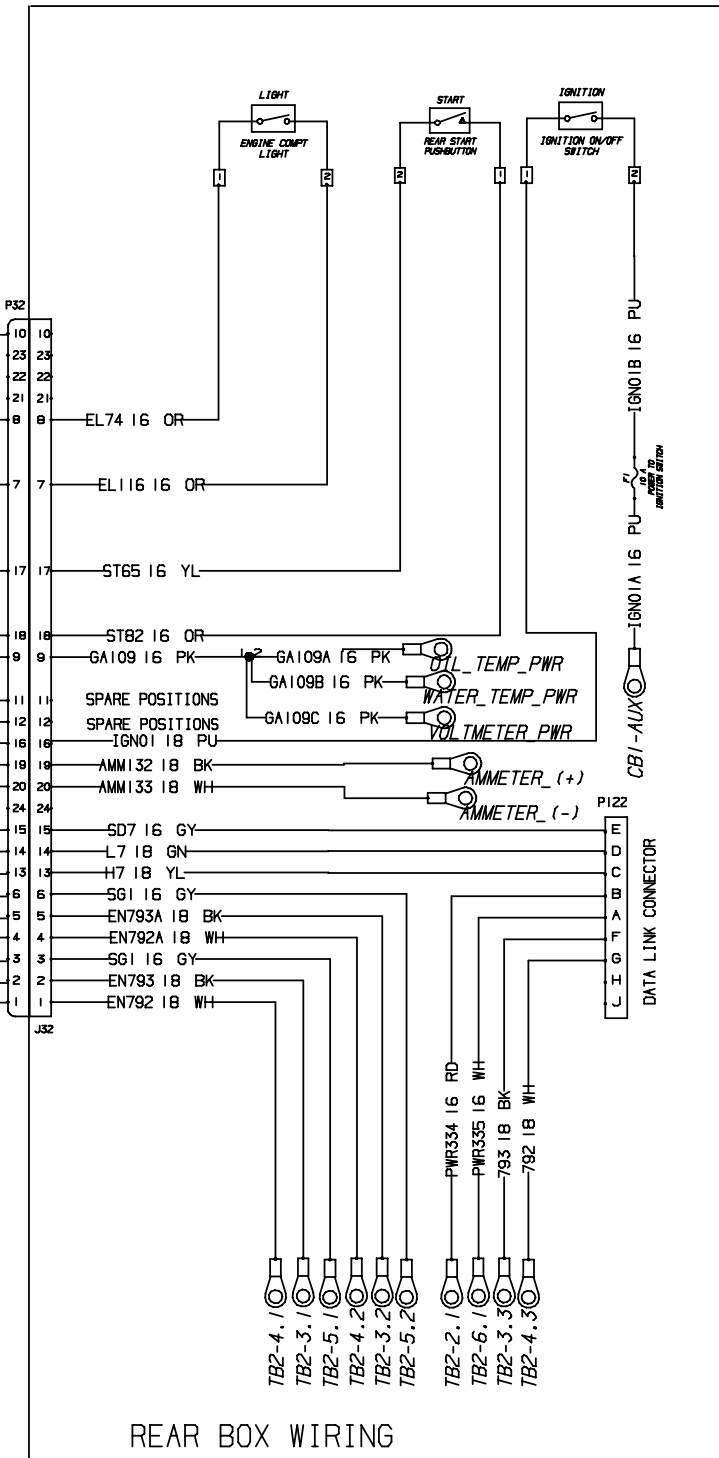
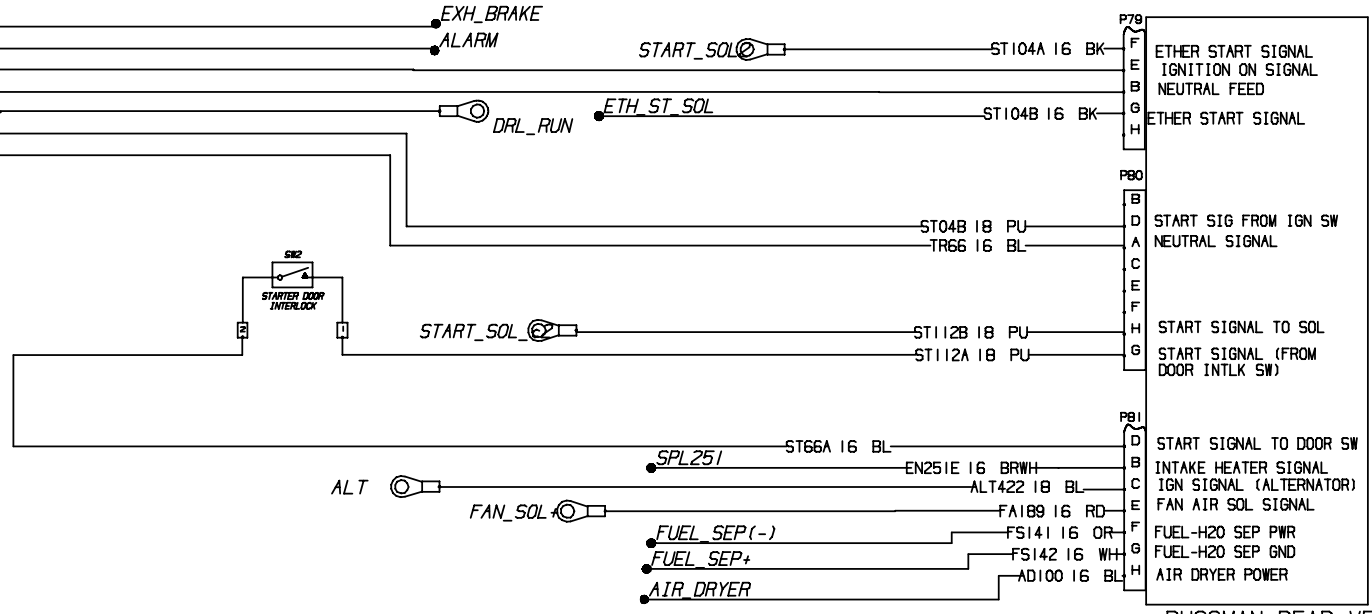
BRAKE LIGHT SWITCHES

START SIGNAL TO REAR START PSB
POWER TO REAR START PSB
GAUGE POWER

- 10 SHIELD GROUND
- 11 SAE J1939(-)
- 12 SAE J1939(+)
- 13 SHIELD GROUND
- 14 SAE J1587(+)
- 15 SAE J1587(-)
- 16 SHIELD GROUND
- 17 SAE J1587(+)
- 18 SAE J1587(-)



POSITIONS RESERVED
FOR RETARDER-EQUIPPED UNITS

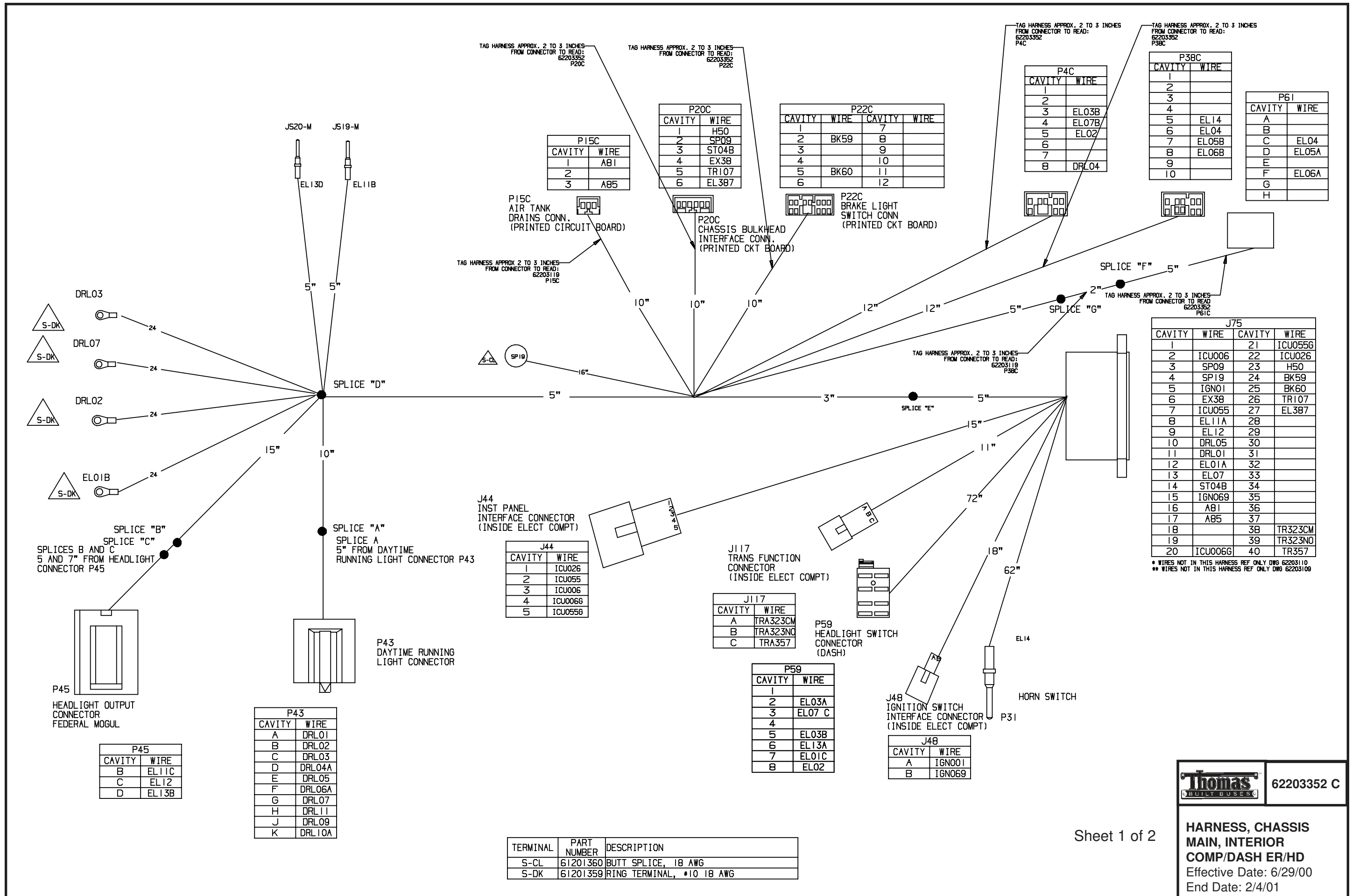


Sheet 3 of 3

Thomas
BULLY BUSES

62203253 A

DIAGRAM, MAIN CHASSIS ELECTRICAL



Thomas BUILT BUSES C 62203352 C

Sheet 1 of 2

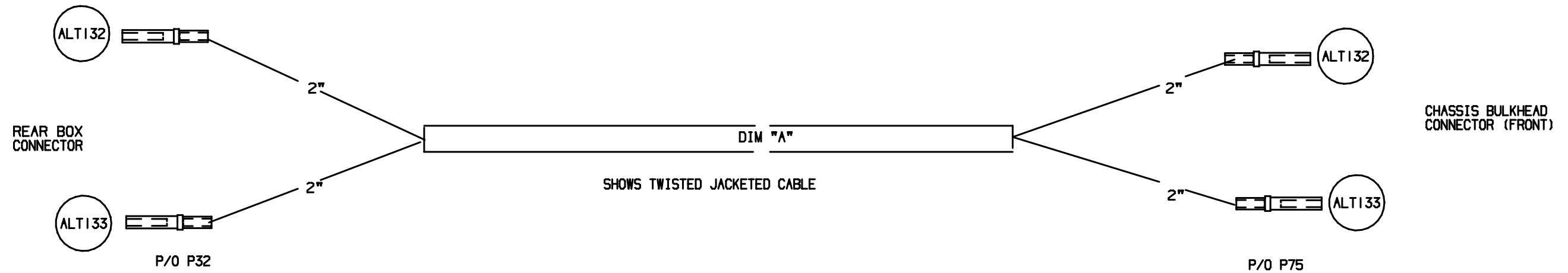
HARNESS, CHASSIS MAIN, INTERIOR COMP/DASH ER/HD
Effective Date: 6/29/00
End Date: 2/4/01

TERMINAL	PART NUMBER	DESCRIPTION
S-CL	61201360	BUTT SPLICE, 18 AWG
S-DK	61201359	RING TERMINAL, #10 18 AWG

WIRE LIST		
WIRE NO.	COLOR	DESCRIPTION
ALT132	BLACK	AMMETER (+) P32-19 TO P75-18
ALT133	WHITE	AMMETER (-) P32-20 TO P75-19


NOTE: HD CHASSIS - P138-9 TO P75-18
 NOTE: HD CHASSIS - P138-10 TO P75-19

CABLE CHART			
PART NO.	DESCRIPTION	DIM "A"	LENGTH
62203215	HARNESS, AMMETER, 181 TO 209" WB	461	DIM "A" +4"
62203216	HARNESS, AMMETER, 238" TO 277" WB	530	DIM "A" +4"



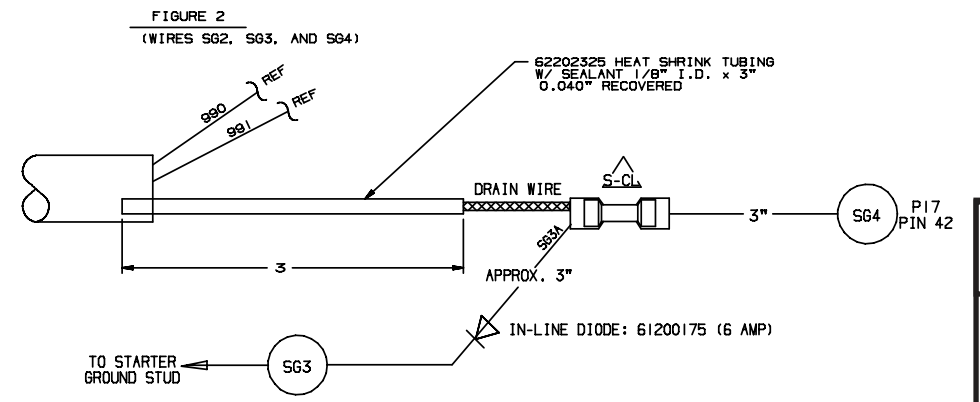
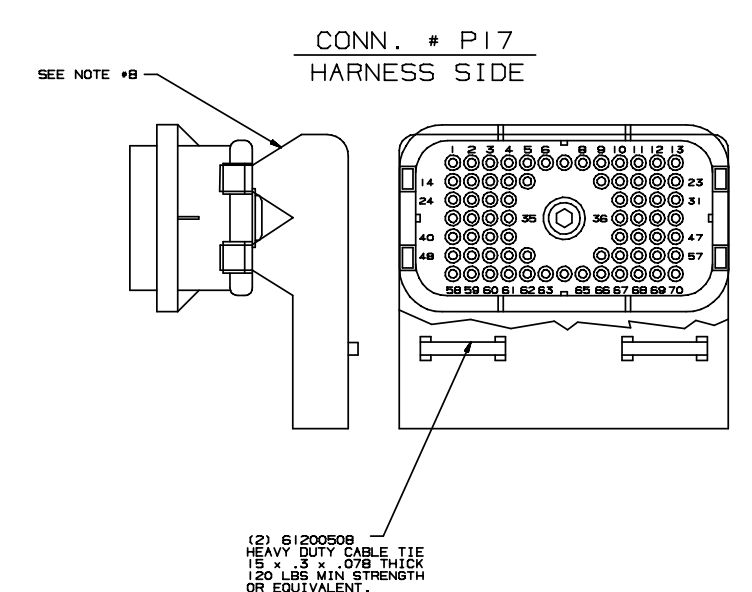
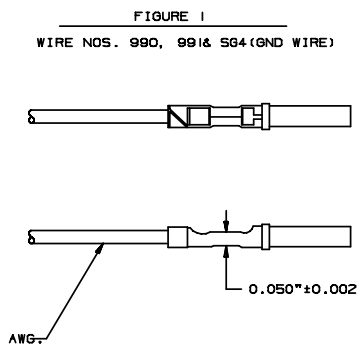
TWISTED PAIR CABLE SPECIFICATIONS	
TWISTED CABLE, 2 CONDUCTOR, JACKETED, 12 TWISTS PER FOOT, MINIMUM 300 - 600V RATING 80 - 90 DEG CENTIGRATE RATING	
AWG	APPROVED VENDORS
14	CHAMPLAIN
14	BELDEN
14	ALPHA

CONNECTOR TABLE (TERMINALS)				
CONN.	VENDOR	PART NO.	DESCRIPTION	QTY
P/O P32	DEUTSCH	0462-209-16141	CONTACT, SOLID, SOCKET 14-16 AWG	2
P/O P75	DEUTSCH	0462-209-16141	CONTACT, SOLID, SOCKET 14-16 AWG	2

	62203212 B
AMMETER CABLE CENTER CHASSIS	

CIRCUIT	AWG.	COLOR	DESCRIPTION	LENGTH (INCHES)
SG1	18	SHIELD GND	TWISTED PAIR CABLE SHIELD	-
SG2	20	SHIELD GND	TWISTED PAIR CABLE SHIELD	-
99	18	RED	P17 ENGINE ECM CONNECTOR (PIN 70) TO P78 VEC BLACK CONNECTOR (PIN F)	45
212	16	BLACK	P42 SHIFT MODULATOR CONN. (PIN A) TO P76 ENGINE BULKHEAD CONN. (PIN 4)	367 + DIM. "A"
213	18	WHITE	P78 VEC BLACK CONN. (PIN E) TO P42 SHIFT MODULATOR (PIN B)	68
250D	16	WHITE	P76 ENGINE BULKHEAD CONN. (PIN 28) TO P18 INLET AIR HEATER LAMP CONN. (PIN B)	421 + DIM. "A"
251E	16	BLACK	P18 INLET AIR HEATER LAMP CONN. (PIN A) TO JIFFY SPLICE TO INLET AIR HEATERCOIL	56
409	18	ORANGE	P76 ENGINE BULKHEAD CONN. (PIN 14) TO P17 ENGINE ECM CONN. (PIN 62)	400 + DIM. "A"
458	16	RED	P76 ENGINE BULKHEAD CONN. (PIN 1) TO SERVICE BRAKE SW. * 2 (INPUT)	110
659	16	PINK	P76 ENGINE BULKHEAD CONN. (PIN 15) TO P17 ENGINE ECM CONN. (PIN 29)	400 + DIM. "A"
784	18	WHITE	P17 ENGINE ECM CONN. (PIN 32) TO P16 VEHICLE SPEED INPUT CONN. (PIN A)	32
785	18	BLACK	P17 ENGINE ECM CONN. (PIN 33) TO P16 VEHICLE SPEED INPUT CONN. (PIN B)	32
792	18	WHITE	DATA LINK -, P83 REAR BOX DATA LINK CONN. (PIN 1) TO P17 ENGINE ECM CONN. (PIN 9)	61
793	18	BLACK	DATA LINK +, P83 REAR BOX DATA LINK CONN. (PIN 2) TO P17 ENGINE ECM CONN. (PIN 8)	61
792A	16	WHITE	DATA LINK -, P83 REAR BOX DATA LINK CONN. (PIN 4) TO P76 ENGINE BULKHEAD CONN. (PIN 8)	391 + DIM. "A"
793A	16	BLACK	DATA LINK +, P83 REAR BOX DATA LINK CONN. (PIN 5) TO P76 ENGINE BULKHEAD CONN. (PIN 9)	391 + DIM. "A"
795	18	GREY	P17 ENGINE ECM CONN. (PIN 18) TO P27 COOLANT LEVEL SENSOR CONN. (PIN B)	100
799	18	GREEN	P17 ENGINE ECM CONN. (PIN 28) TO P76 ENGINE BULKHEAD CONN. (PIN 30)	400 + DIM. "A"
837	18	YELLOW	P17 ENGINE ECM CONN. (PIN 11) TO P78 VEC BLACK CONN. (PIN B)	45
844	18	PINK	P17 ENGINE ECM CONN. (PIN 46) TO P76 ENGINE BULKHEAD CONN. (PIN 17)	400 + DIM. "A"
879	18	ORANGE	P17 ENGINE ECM CONN. (PIN 2) TO P27 LOW COOLANT LEVEL CONN. (PIN C)	100
900	16	WHITE	P17 ENGINE ECM CONN. (PIN 64) TO SERVICE BRAKE SWITCH * 2 (OUTPUT)	346 + DIM. "A"
902	18	GREEN	P17 ENGINE ECM CONN. (PIN 40) TO P76 ENGINE BULKHEAD CONN. (PIN 21)	400 + DIM. "A"
903	18	BLUE	P17 ENGINE ECM CONN. (PIN 20) TO P76 ENGINE BULKHEAD CONN. (PIN 19)	400 + DIM. "A"
905	18	RED	P17 ENGINE ECM CONN. (PIN 31) TO P76 ENGINE BULKHEAD CONN. (PIN 20)	400 + DIM. "A"
975	18	WHITE	P17 ENGINE ECM CONN. (PIN 59) TO P76 ENGINE BULKHEAD CONN. (PIN 18)	400 + DIM. "A"
977	18	BLUE	P17 ENGINE ECM CONN. (PIN 22) TO MANUAL TRANSMISSION CLUTCH SWITCH (OUTPUT)	343 + DIM. "A"
978	18	BROWN	P17 ENGINE ECM CONN. (PIN 35) TO P76 ENGINE BULKHEAD CONN. (PIN 22)	400 + DIM. "A"
979	18	ORANGE	P17 ENGINE ECM CONN. (PIN 44) TO P76 ENGINE BULKHEAD CONN. (PIN 29)	400 + DIM. "A"
981	18	GREEN	P17 ENGINE ECM CONN. (PIN 12) TO P76 ENGINE BULKHEAD CONN. (PIN 24)	400 + DIM. "A"
983	18	WHITE	P17 ENGINE ECM CONN. (PIN 49) TO P27 LOW COOLANT LEVEL CONN. (PIN D)	100
984	18	YELLOW	P17 ENGINE ECM CONN. (PIN 54) TO P27 LOW COOLANT LEVEL CONN. (PIN A)	100
985	18	BLUE	P17 ENGINE ECM CONN. (PIN 4) TO P76 ENGINE BULKHEAD CONN. (PIN 25)	400 + DIM. "A"
986	18	BROWN	P17 ENGINE ECM CONN. (PIN 66) TO P76 ENGINE BULKHEAD CONN. (PIN 26)	400 + DIM. "A"
987	14	RED	P17 ENGINE ECM CONN. (PIN 52) TO P78 VEC BLACK CONN. (PIN D)	45
987A	14	RED	P17 ENGINE ECM CONN. (PIN 53) TO P78 VEC BLACK CONN. (PIN C)	45
988A	14	BLACK	P17 ENGINE ECM CONN. (PIN 65) TO STARTER GND STUD	25
988B	14	BLACK	P17 ENGINE ECM CONN. (PIN 67) TO STARTER GND STUD	25
990	20	GREEN	DATA LINK -, P17 ENGINE ECM CONN. (PIN 34) TO P93A "WYE" (PIN B)	55
991	20	YELLOW	DATA LINK +, P17 ENGINE ECM CONN. (PIN 50) TO P93A "WYE" (PIN A)	55
990A	20	GREEN	DATA LINK -, P93B "WYE" (PIN B) TO P136A (PIN B)	352 + DIM. "A"
991A	20	YELLOW	DATA LINK +, P93B "WYE" (PIN A) TO P136A (PIN A)	352 + DIM. "A"
990B	20	GREEN	DATA LINK -, P125B "WYE" (PIN B) TO P83 REAR BOX DATA LINK CONN. (PIN 11)	8
991B	20	YELLOW	DATA LINK +, P125B "WYE" (PIN A) TO P83 REAR BOX DATA LINK CONN. (PIN 12)	8
990G	20	GREEN	DATA LINK -, P93C (PIN B) TO P125A (PIN B)	8
991G	20	YELLOW	DATA LINK +, P93C (PIN A) TO P125A (PIN A)	8
990H	20	GREEN	DATA LINK -: P136C (PIN B) TO P76 ENGINE BULKHEAD CONN. (PIN 12)	71
991H	20	YELLOW	DATA LINK +: P136C (PIN A) TO P76 ENGINE BULKHEAD CONN. (PIN 13)	71
992	16	VIOLET	P17 ENGINE ECM CONN. (PIN 45) TO SERVICE BRAKE SWITCH * 1 (OUTPUT)	343 + DIM. "A"
993	16	WHITE	P17 ENGINE ECM CONN. (PIN 5) TO P76 ENGINE BULKHEAD CONN. (PIN 5)	400 + DIM. "A"
993D	16	WHITE	P76 ENGINE BULKHEAD CONN. (PIN 2) TO SERVICE BRAKE SWITCH * 1 (INPUT)	89
993E	18	WHITE	P76 ENGINE BULKHEAD CONN. (PIN 3) TO MANUAL TRANSMISSION CLUTCH SWITCH (INPUT)	89
999	18	GREEN	P17 ENGINE ECM CONN. (PIN 56) TO P76 ENGINE BULKHEAD CONN. (PIN 27)	400 + DIM. "A"
SG3	20	WHITE	SG2 SPLICE THROUGH DIODE TO STARTER GROUND STUD	22
SG4	20	WHITE	SG2 SPLICE TO P17 ENGINE ECM CONN. (PIN 42)	3
SG3A	20	WHITE	SG2 SPLICE TO DIODE	3

TERM.	PART #	DESCRIPTION
S-A	61201312	RING TERMINAL, *10 STUD, 14 AWG.
S-AN	61201339	RING TERMINAL, 1/2" STUD, 10 AWG.
S-AR	61201342	MALE BLADE, 1/4", 16-14 AWG.
NT	-	NO TERMINATION REQUIRED, HEAT SHRINK INSULATE END OF WIRE LEAD
S-J	61201316	BUTT SPLICE, 14 AWG.
S-CL	61201360	BUTT SPLICE, 18 AWG.



Sheet 2 of 3

	62203543 C
HARNESS, EXTERIOR CAT 3126 ENGINE ECM & CONTROLS	
Effective Date: 11/30/00	

CIRCUIT	AWG.	COLOR	DESCRIPTION	LENGTH (INCHES)
SG1	18	SHIELD GND	TWISTED PAIR CABLE SHIELD	-
SG2	18	SHIELD GND	TWISTED PAIR CABLE SHIELD	-
B1	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 1) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 7):STOP LAMP	400 + DIM. "A"
B2	18	BLUE	P17 ENGINE ECM CONNECTOR B (PIN 2) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 6):WATER IN FUEL LAMP	400 + DIM. "A"
B3	18	YELLOW	P17 ENGINE ECM CONNECTOR B (PIN 3) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 15):DIAGNOSTIC LAMP	400 + DIM. "A"
B4	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 4) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 30):ENG PROT LAMP	400 + DIM. "A"
B5	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 5) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 31):AUX	400 + DIM. "A"
B7	18	GREEN	P17 ENGINE ECM CONNECTOR B (PIN 7) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 29):CRUISE RESUME	400 + DIM. "A"
B8	18	WHITE	P17 ENGINE ECM CONNECTOR B (PIN 8) TO P16 VEHICLE SPEED INPUT (PIN A): VEHICLESPEED SENSOR +	32
B11	18	LT. BLUE	P17 ENGINE ECM CONNECTOR B (PIN 11) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 16):WAIT TO START LAMP	400 + DIM. "A"
B13	18	YELLOW	P17 ENGINE ECM CONNECTOR B (PIN 13) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 22):CRUISE SET& COAST	400 + DIM. "A"
B14	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 14) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 18):CRUISE ON/OFF	400 + DIM. "A"
B18	18	BLACK	P17 ENGINE ECM CONNECTOR B (PIN 18) TO P16 VEHICLE SPEED INPUT (PIN B): VEHICLESPEED SENSOR -	32
B19	18	WHITE	P17 ENGINE ECM CONNECTOR B (PIN 19) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 40):THROTTLE RETURN	400 + DIM. "A"
B20	18	WHITE	P17 ENGINE ECM CONNECTOR B (PIN 20) TO P96 WATER IN FUEL SENSOR (PIN A)	32
B21	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 21) TO P42 AT/MT TRANSMISSION ELEC. SHIFTMODULATOR CONNECTOR (PIN A)	93
B24	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 24) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 37):THROTTLE INTERLOCK INPUT	400 + DIM. "A"
B25	18	GREEN	P17 ENGINE ECM CONNECTOR B (PIN 25) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 23):OFF IDLE SWITCH	400 + DIM. "A"
B26	18	YELLOW	P17 ENGINE ECM CONNECTOR B (PIN 26) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 21):ON IDLE SWITCH	400 + DIM. "A"
B27	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 27) TO P97 MANUAL TRANSMISSION CLUTCH SWITCHCONNECTOR (PIN A)	353 + DIM. "A"
B27A	18	WHITE	J97 MANUAL TRANSMISSION CLUTCH SWITCH CONNECTOR JUMPER FROM PIN A TO PIN B	4
B29	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 29) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 38):THROTTLE +5 VDC	400 + DIM. "A"
B30	18	BLACK	P17 ENGINE ECM CONNECTOR B (PIN 30) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 39):THROTTLE POSITION INPUT	400 + DIM. "A"
B31	18	BLUE	P17 ENGINE ECM CONNECTOR B (PIN 31) TO P18 GRID HEATER CONNECTOR (PIN A)	77
B33	18	YELLOW	P17 ENGINE ECM CONNECTOR B (PIN 33) TO SERVICE BRAKE TERMINAL (+)	353 + DIM. "A"
B34	18	GREEN	P17 ENGINE ECM CONNECTOR B (PIN 34) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 36):ENGINE BRAKE ON/OFF	400 + DIM. "A"
B35	18	BLUE	P17 ENGINE ECM CONNECTOR B (PIN 35) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 17):IDLE/DIAG INCREMENT INPUT	400 + DIM. "A"
B36	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 36) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 14):IDLE/DIAG DECREMENT INPUT	400 + DIM. "A"
B37	18	YELLOW	P17 ENGINE ECM CONNECTOR B (PIN 37) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 35):DIAG ON/OFF INPUT	400 + DIM. "A"
B40	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 40) TO P96 WATER IN FUEL SENSOR (PIN B)	32
B41	18	RED	P17 ENGINE ECM CONNECTOR B (PIN 41) TO P18 GRID HEATER CONNECTOR (PIN B)	77
B46	18	GREEN	P17 ENGINE ECM CONNECTOR B (PIN 46) TO P76 ENGINE BULKHEAD CONNECTOR (PIN 34):REMOTE PTO ON/OFF	400 + DIM. "A"
B49	18	BLACK	J1587+: P17 ENGINE ECM CONNECTOR B (PIN 49) TO P83 DATA LINK CONNECTOR (PIN 2)	61
B50	18	WHITE	J1587-: P17 ENGINE ECM CONNECTOR B (PIN 50) TO P83 DATA LINK CONNECTOR (PIN 1)	61
BNEG	14	WHITE	P76 ENGINE BULKHEAD CONNECTOR (PIN 5) TO STARTER/BATTERY NEGATIVE POST	427 + DIM. "A"
BNEG9	18	WHITE	P76 ENGINE BULKHEAD CONNECTOR (PIN 1) TO SERVICE BRAKE TERMINAL (-)	89
BNEG10	18	WHITE	P76 ENGINE BULKHEAD CONNECTOR (PIN 3) TO P97 MANUAL TRANSMISSION CLUTCH SWITCHCONNECTOR (PIN B)	89
BNEG11	16	WHITE	P76 ENGINE BULKHEAD CONNECTOR (PIN 2) TO P18 GRID HEATER CONNECTOR (PIN C)	407 + DIM. "A"
F_GND	16	WHITE	P42 ELECT. SHIFT MODULATOR (PIN B) TO JIFFY SPLICE IN REAR MOD BOX AREA	381 + DIM. "A"
792A	16	WHITE	J1587-: P76 ENGINE BULKHEAD CONNECTOR (PIN 8) TO P83 DATA LINK CONNECTOR (PIN#)	391 + DIM. "A"
793A	16	BLACK	J1587+: P76 ENGINE BULKHEAD CONNECTOR (PIN 9) TO P83 DATA LINK CONNECTOR (PIN#)	391 + DIM. "A"
990	20	GREEN	J1939-: P125B (POS. B) TO P93C (POS. B)	14
991	20	YELLOW	J1939+: P125B (POS. A) TO P93C (POS. A)	14
990A	20	GREEN	J1939-: P76 ENGINE BULKHEAD CONNECTOR (POS. 12) TO P93B (POS. B)	387 + DIM. "A"
991A	20	YELLOW	J1939+: P76 ENGINE BULKHEAD CONNECTOR (POS. 13) TO P93B (POS. A)	387 + DIM. "A"
990B	20	GREEN	J1939-: P93A (POS. B) TO P83 DATA LINK INTERFACE CONNECTOR (POS. 11)	8
991B	20	YELLOW	J1939+: P93A (POS. A) TO P83 DATA LINK INTERFACE CONNECTOR (POS. 12)	8
990D	20	GREEN	J1939-: P125A (POS. B) TO P126 (POS. B)	22
991D	20	YELLOW	J1939+: P125A (POS. A) TO P126 (POS. A)	22
SG3	20	WHITE	J1939 SHIELD DRAIN SPLICE THROUGH DIODE TO NEGATIVE BATTERY POST	82
SG3A	20	WHITE	J1939 SHIELD DRAIN SPLICE TO DIODE	3
SG4	20	WHITE	J1939 SHIELD DRAIN SPLICE TO P93B (POS. C)	3
A42	18	LT. BLUE	P76 ENGINE BULKHEAD CONNECTOR (POS. 25) TO JIFFY SPLICE FOR EXHAUST BRAKE	381 + DIM. "A"

— TWISTED PAIR, SHIELDED, 18 AWG.

— TWISTED TRIAD, 18 AWG.

— TWISTED PAIR, SHIELDED, 18 AWG.

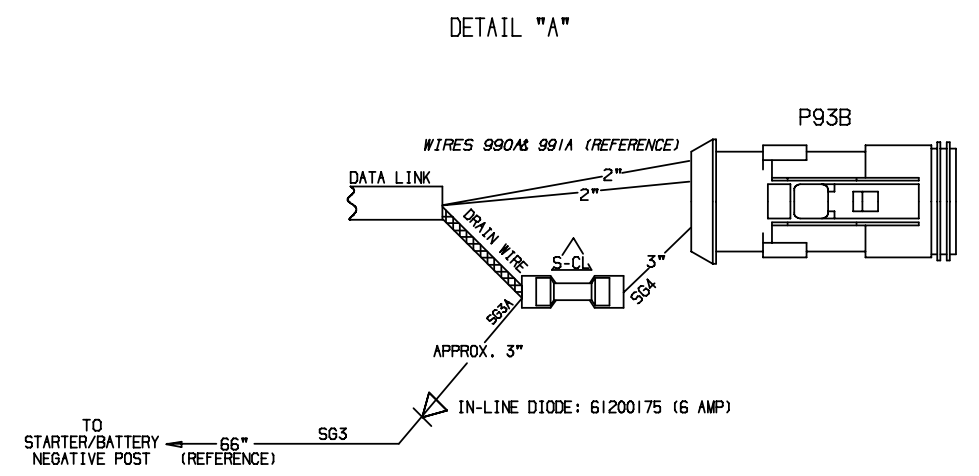
— TWISTED PAIR, SHIELDED, 16 AWG.

— TWISTED PAIR, J1939

— TWISTED PAIR, J1939

— TWISTED PAIR, J1939

— TWISTED PAIR, J1939

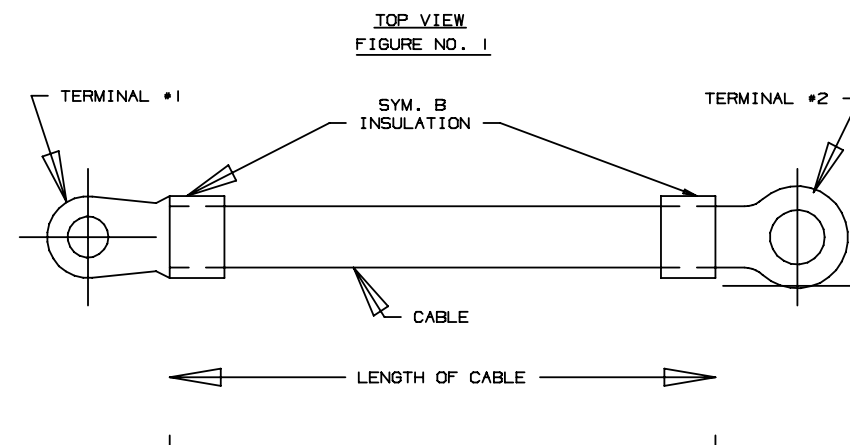


TERM.	PART #	DESCRIPTION
S-A	61201312	RING TERMINAL, #10 STUD, 14 AWG.
S-AN	61201339	RING TERMINAL, 1/2" STUD, 10 AWG.
S-AR	61201342	MALE BLADE, 1/4", 16-14 AWG.
NT		NO TERMINATION REQUIRED
S-CR	61201367	RING TERMINAL, 1/2" STUD, 14-16 AWG
S-CL	61201360	BUTT SPLICE, 18 AWG.

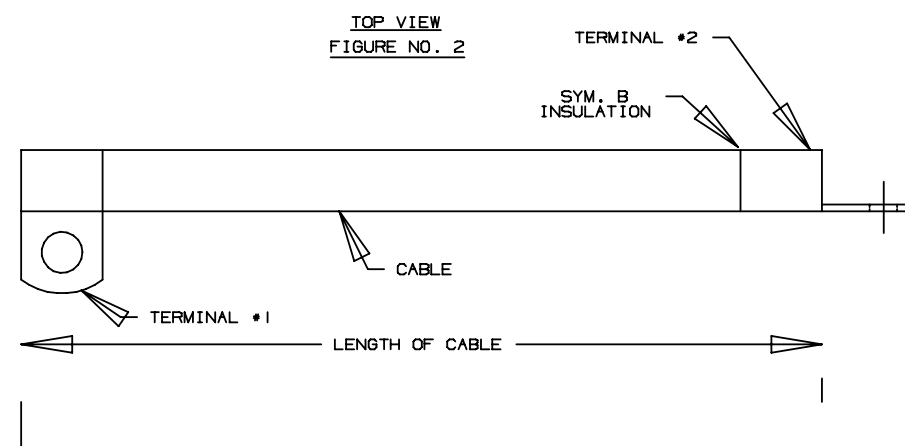
	62203140 C
HARNES, CUMMINS ISB/ISC ELEK ENG. ECM & CONTROLS	
End Date: 11/29/00	


PART NO.	DESCRIPTION	ASSEMBLY INFORMATION								REF. FIGURE FOR ASM.
		TERM #1		INSULATION		CABLE		TERM #2		
		SYM.	QTY.	SYM.	QTY.	SYM.	QTY.	SYM.	QTY.	
62201958	AIR INLET GRID HTR. NO.2 C.B. (AUX) TO POWER SOLENOID NO.2 (INPUT)	AZ	1	B	1	NO. 1	1	GG	1	2 (SEE NOTE NO.1)
62201959	AIR INLET GRID HTR. NO.1 C.B. (AUX) TO POWER SOLENOID NO.1 (INPUT)	AZ	1	B	1	NO. 2	1	GG	1	2 (SEE NOTE NO.1)
62201960	STARTER POSITIVE TERM. TO AIR INLET GRID HTR. NO.1 C.B. (BAT)	S	1	B	2	NO. 3	1	R	1	1
62201961	STARTER POSITIVE TERM. TO AIR INLET GRID HTR. NO.2 C.B. (BAT)	S	1	B	2	NO. 4	1	R	1	1
62201985	POWER SOLENOID NO.1 (OUTPUT) TO ENGINE GRID HTR. NO.1 (ON ENGINE)	GG	1	B	2	NO. 5	1	R	1	1
62201986	POWER SOLENOID NO.2 (OUTPUT) TO ENGINE GRID HTR. NO.2 (ON ENGINE)	GG	1	B	2	NO. 6	1	R	1	1
62202315	POWER SOLENOID NO.1 AND NO.2 (OUTPUT) TO ENG. GRID HTR NO.1 AND NO.2 (ON ENGINE)	GG	1	B	2	NO. 7	1	R	1	1
62202316	STARTER POSITIVE TERM. TO AIR INLET GRID HTR. NO.1 AND NO.2 C.B. (BAT)	S	1	B	2	NO. 8	1	R	1	1
62203235	POWER SOLENOID NO.1 AND NO.2 (OUTPUT) TO ENG. GRID HTR NO.1 AND NO.2 (ON ENGINE)	GG	1	B	2	NO. 9	1	R	1	1
62203237	POWER SOLENOID NO.1 AND NO.2 (OUTPUT) TO ENG. GRID HTR NO.1 AND NO.2 (ON ENGINE)	GG	1	B	2	NO. 10	1	R	1	1

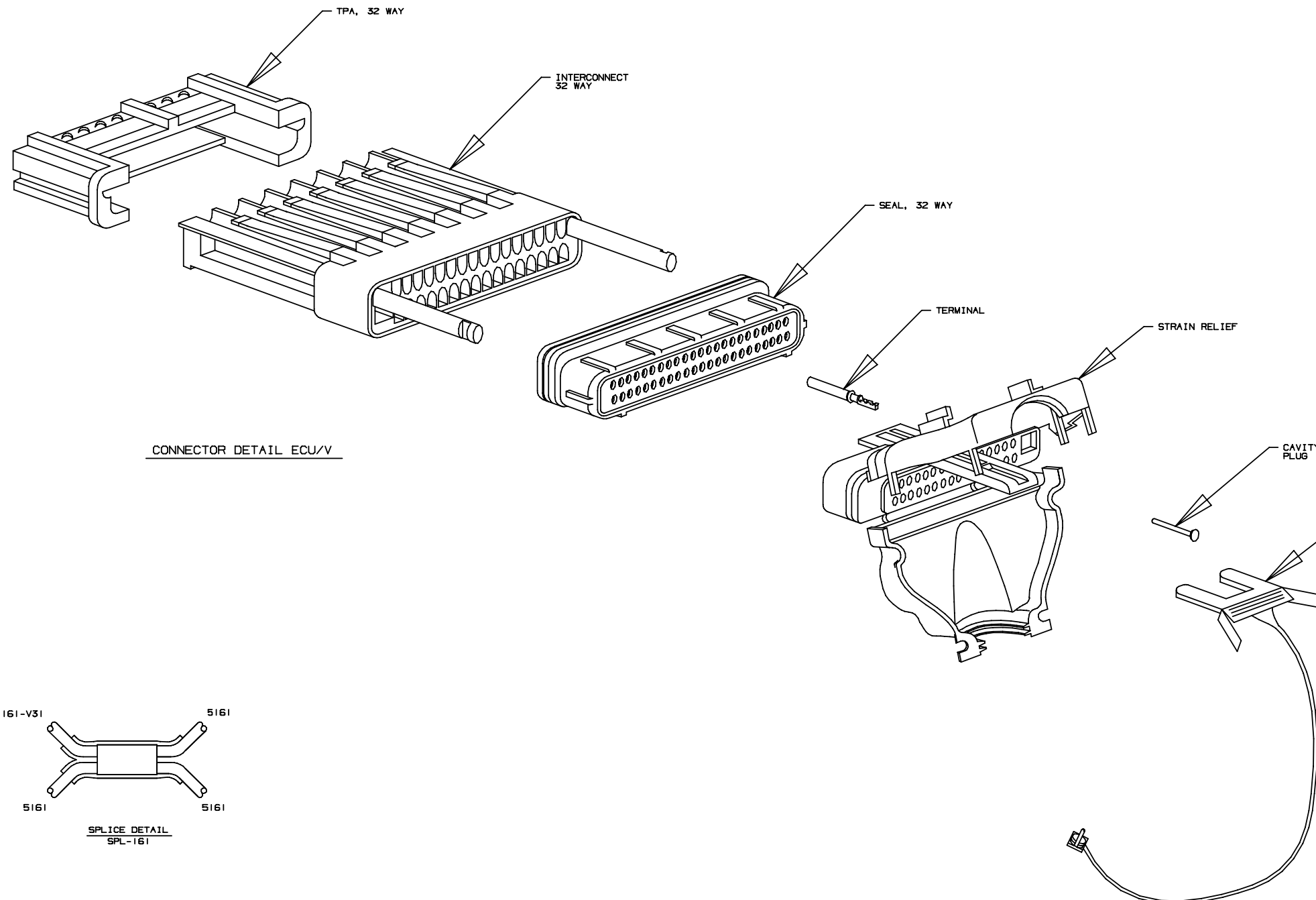
KEY TO PARTS SYMBOLS		
SYM.	PART NO.	DESCRIPTION
R	61200455	RING TERMINAL, 1/4" STUD, 2 AWG., AMP #320383, ETC #G-375-14
S	61200252	RING TERMINAL, 1/2" STUD, 2 AWG.
T	61200454	RING TERMINAL, 3/8" STUD, 2 AWG.
GG	61200467	RING TERMINAL, 5/16" STUD, 2 AWG.
AZ	61200929	RING TERMINAL, 1/4" STUD, 2 AWG., NON-INSUL. FLAG, (EQUIV. TO T & B G671)
B	62020336	TUBE, HEAT SHRINK x 1.5" (61200453)
CC	61201112	RING TERMINAL, 3/8" STUD, 4 AWG. (REF. T & B NO. F10731)
CD	61201113	RING TERMINAL, 1/2" STUD, 4 AWG. (REF. T & B NO. F975)
NO.1	62201963	CABLE, BATTERY, 2 AWG., RED x 5.5" (61200243)
NO.2	62201964	CABLE, BATTERY, 2 AWG., RED x 4.75" (61200243)
NO.3	62201965	CABLE, BATTERY, 2 AWG., RED x 52" (61200243)
NO.4	62201966	CABLE, BATTERY, 2 AWG., RED x 50.5" (61200243)
NO.5	62201983	CABLE, BATTERY, 2 AWG., RED x 79" (61200243)
NO.6	62201984	CABLE, BATTERY, 2 AWG., RED x 74.5" (61200243)
NO.7	62202317	CABLE, BATTERY, 2 AWG., RED x 31" (61200243)
NO.8	62202318	CABLE, BATTERY, 2 AWG., RED x 80" (61200243)
NO.9	62203234	CABLE, BATTERY, 2 AWG., RED x 42" (61200243)
NO.10	62203236	CABLE, BATTERY, 2 AWG., RED x 47" (61200243)



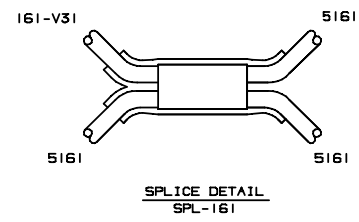
NOTE NO.1
FOR CABLE 62201958,
AND CABLE 62201959,
90° FLAG TERMINAL IS
FLAT ON SURFACE AND
RING TERMINAL IS CRIMPED
-90° SO THAT R.S. EDGE
IS PARALLEL TO CABLE AS
SHOWN.



	62201962 C
CHART, CABLE ASSEMBLY - ELECT. POWER TYPE, GRID HEATER 98 CUMMINS 6B	



CONNECTOR DETAIL ECU/V



SPLICE CONNECTION ASM.

WIRE NO.	AWG.	SPLICE TO	WIRE NO.	AWG.
5161	18	-	161-V31	18
5161	18	-	161-V31	18
5161	18	-	161-V31	18

NOTES:

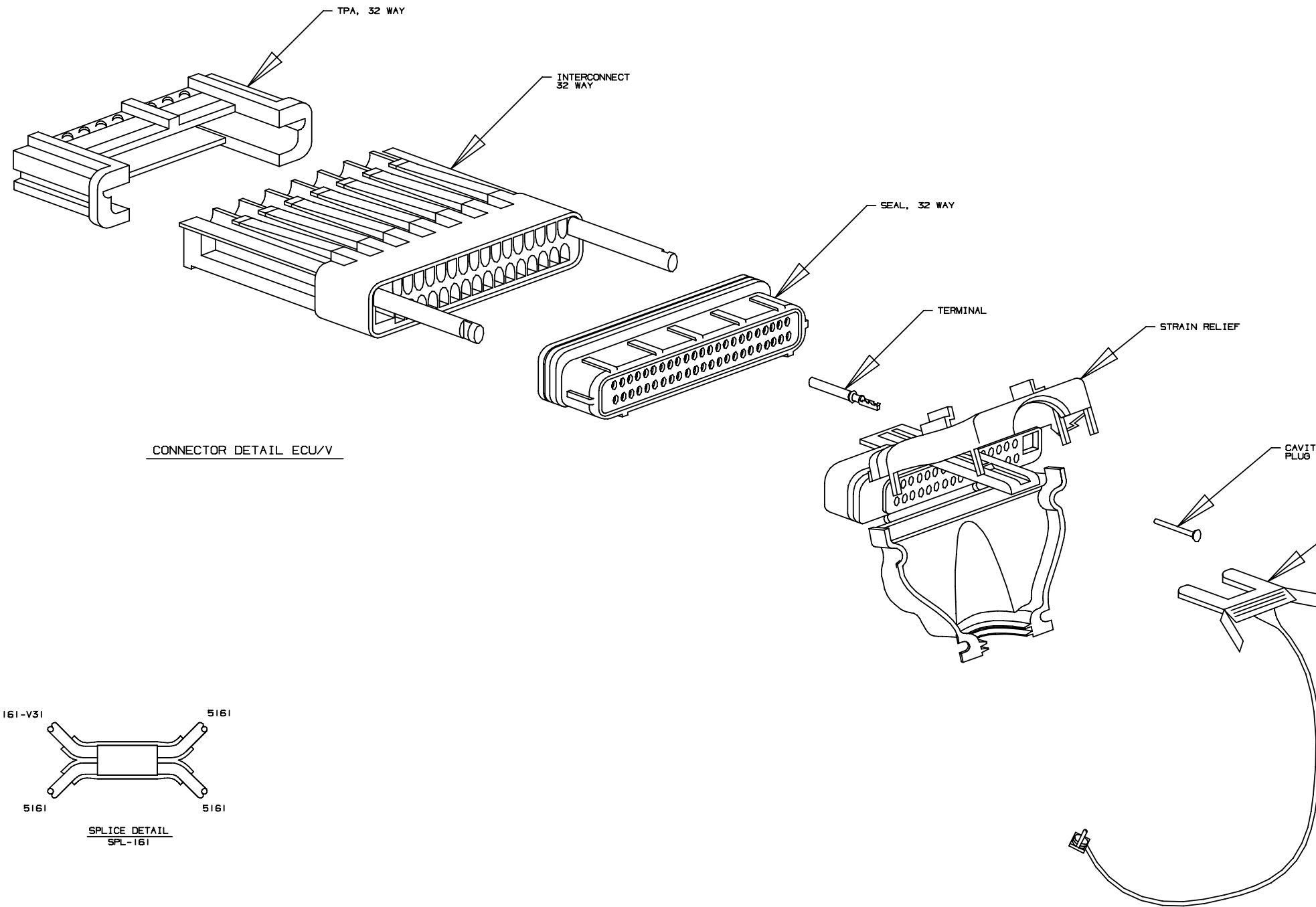
1. CIRCUIT NUMBERS SHALL BE STAMPED AT 4" INTERVALS ON ALL LEADS EXCEPT TWISTED PAIR CABLES. USE OF WIRE MARKERS IS ACCEPTABLE FOR CABLING.
2. TAG HARNESES FOR IDENTIFICATION.
3. ALL WIRING TO BE TXL TYPE WIRES.
4. WIRE CONSTRUCTION, MATERIALS AND PRACTICES TO COMPLY WITH THE FOLLOWING STANDARDS ON DWG. 62201065 WIRE SPECIFICATIONS.
5. ALL RING TERMINALS, PUSH ON TERMINALS, AND BUTT SPLICE CRIMPS SHALL BE SOLDERED OR MACHINE CRIMPED OR CRIMPED WITH A RATECHETING HAND TOOL THAT WILL NOT ALLOW ANY "BACKING OFF" OF A CRIMP, AND THE CONNECTIONS SHALL BE ENVIRONMENTALLY SEALED. EQUIVALENT ASSEMBLY TO TERMINALS FOUND ON DWG. 62202342 MAY BE SUBSTITUTED FROM DWG. 62020224 BY SLEEVING EACH TERMINAL WITH A HEAT SHRINK INSULATOR. THE HEAT SHRINK IS TO COMPLETELY COVER THE CONDUCTOR ENTRY INTO THE TERMINAL, ACTING AS AN ENVIRONMENTAL SEAL AND STRAIN RELIEF. BUTT SPLICES FROM DWG. 62202342 MUST BE USED AND CAN NOT BE REPLACED USING A HEAT SHRINK SLEEVE.
6. REGARDING ITEM #1, IF HARNESS DOES NOT HAVE APPROPRIATE WIRE NUMBER STAMPING AT INTERVALS NOT TO EXCEED 4", THE HARNESS WILL BE RETURNED TO THE MANUFACTURER FOR NON COMPLIANCE. NO EXCEPTIONS.
7. TAPE WIRE OVER ENTIRE HARNESS LENGTH. USE 2" SECTION OF LOOM TO RETAIN WIRES UNDER ECU CONNECTOR.

Thomas
BUILT BUSES

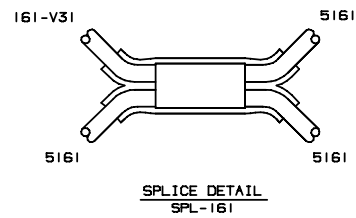
62203111 E

HARNESS, WTEC III
ECU/V TO VIM1 NON
RETARDER

End Date: 10/16/00



CONNECTOR DETAIL ECU/V



SPLICE CONNECTION ASM.				
WIRE NO.	AWG.	SPLICE TO	WIRE NO.	AWG.
5161	18	-	161-V31	18
5161	18	-	161-V31	18
5161	18	-	161-V31	18

NOTES:

1. CIRCUIT NUMBERS SHALL BE STAMPED AT 4" INTERVALS ON ALL LEADS, EXCEPT TWISTED PAIR CABLES. USE OF WIRE MARKERS IS ACCEPTABLE FOR CABLING.
2. TAG HARNESSES FOR IDENTIFICATION.
3. ALL WIRING TO BE TXL TYPE WIRES.
4. WIRE CONSTRUCTION, MATERIALS AND PRACTICES TO COMPLY WITH THE FOLLOWING STANDARDS ON DWG. 62201055 WIRE SPECIFICATIONS.
5. ALL RING TERMINALS, PUSH ON TERMINALS, AND BUTT SPLICE CRIMPS SHALL BE SOLDERED OR MACHINE CRIMPED OR CRIMPED WITH A RATECHETING HAND TOOL THAT WILL NOT ALLOW ANY "BACKING OFF" OF A CRIMP, AND THE CONNECTIONS SHALL BE ENVIRONMENTALLY SEALED. EQUIVALENT ASSEMBLY TO TERMINALS FOUND ON DWG. 62202342 MAY BE SUBSTITUTED FROM DWG. 62020224 BY SLEEVING EACH TERMINAL WITH A HEAT SHRINK INSULATOR. THE HEAT SHRINK IS TO COMPLETELY COVER THE CONDUCTOR ENTRY INTO THE TERMINAL, ACTING AS AN ENVIRONMENTAL SEAL AND STRAIN RELIEF. BUTT SPLICES FROM DWG. 62202342 MUST BE USED AND CAN NOT BE REPLACED USING A HEAT SHRINK SLEEVE.
6. REGARDING ITEM #1, IF HARNESS DOES NOT HAVE APPROPRIATE WIRE NUMBER STAMPING AT INTERVALS NOT TO EXCEED 4", THE HARNESS WILL BE RETURNED TO THE MANUFACTURER FOR NON COMPLIANCE. NO EXCEPTIONS.
7. TAPE WIRE AT LEAST EVERY 8 INCHES. USE 2" SECTION OF LOOM TO SECURE WIRES UNDER ECU CONNECTOR.
8. DIMENSIONS SHOWN ARE ACTUAL WIRE LENGTHS.

SHEET 2 OF 2

 Thomas <small>BUILT BUSES</small>	62203228 C
HARNESS, WTEC III ECU/V TO VIM1 RETARDER	

CIRCUIT	AWG.	COLOR	DESCRIPTION
SG1	18	SHIELD	J1587 CABLE SHIELD
SG2	20	SHIELD	J1939 CABLE SHIELD
IA1	18	WHITE	P99 (POS. A1) TO P6-C (POS. 2)
IA2	18	WHITE	P99 (POS. A2) TO P6-C (POS. 3)
IA3	18	WHITE	P99 (POS. A3) TO P6-C (POS. 7)
IB1	18	RED	P99 (POS. B1) TO P6-C (POS. 12)
IC1	18	RED	P99 (POS. C1) TO J101 (POS. 2)
IC2	16	DK. BLUE	P99 (POS. C2) TO JIFFY SPLICE (WHEEL SPIN LAMP)
IC3	20	YELLOW	J1939 DATA LINK +: P99 (POS. C3) TO P94B (POS. A)
ID1	18	WHITE	P99 (POS. D1) TO J101 (POS. 3)
ID3	20	GREEN	J1939 DATA LINK -: P99 (POS. D3) TO P94B (POS. B)
IE1	18	RED	P99 (POS. E1) TO J101 (POS. 1)
IE3	18	YELLOW	P99 (POS. E3) TO P6-C (POS. 1)
IF1	18	BLACK	P99 (POS. F1) TO J101 (POS. 8)
IF2	16	RED/BK	P99 (POS. F2) TO P145 (POS. 3) 12V SIGNAL
IF2P	16	RED	TERMINAL BOARD #1 (POS. 2) TO P145 (POS. 2) 12V IGNITION
IG1	18	WHITE	P99 (POS. G1) TO J101 (POS. 10)
IG2	18	BLACK	J1587 DATA LINK +: P99 (POS. G2) TO T.B. #1 (POS. 3)
IG3	18	WHITE	J1587 DATA LINK -: P99 (POS. G3) TO T.B. #1 (POS. 4)
IH1	18	RED	P99 (POS. H1) TO J101 (POS. 9)
IH2	18	BLACK	P99 (POS. H2) TO J101 (POS. 4)
IH3	18	WHITE	P99 (POS. H3) TO J101 (POS. 5)
IJ1	18	BLACK	P99 (POS. J1) TO J101 (POS. 11)
IJ2	18	WHITE	P99 (POS. J2) TO J101 (POS. 12)
IK1	18	WHITE	P99 (POS. K1) TO P6-C (POS. 11)
IK2	18	RED	P99 (POS. K2) TO P6-C (POS. 4)
IK3	18	RED	P99 (POS. K3) TO P6-C (POS. 5)
2A1	18	RED	P100 (POS. A1) TO J101 (POS. 14)
2B1	18	WHITE	P100 (POS. B1) TO J101 (POS. 15)
2C1	18	BLACK	P100 (POS. C1) TO J101 (POS. 13)
2D1	18	BLACK	P100 (POS. D1) TO J101 (POS. 18)
2D2	18	BLACK	P100 (POS. D2) TO J101 (POS. 23)
2D3	18	WHITE	P100 (POS. D3) TO J101 (POS. 24)
2E1	18	WHITE	P100 (POS. E1) TO J101 (POS. 20)
2E2	18	BLACK	P100 (POS. E2) TO J101 (POS. 16)
2E3	18	WHITE	P100 (POS. E3) TO J101 (POS. 17)
2F1	18	RED	P100 (POS. F1) TO J101 (POS. 19)
2F2	18	BLACK	P100 (POS. F2) TO J101 (POS. 21)
2F3	18	WHITE	P100 (POS. F3) TO J101 (POS. 22)
GND2	14	WHITE	GROUND JUMPER: TERMINAL BOARD #1, POSITION 6 TO POSITION 7
TLO2S	16	ORANGE	TERMINAL BOARD #1 (POS. 8) DIMMER POWER TO P145 (POS. 8) 12V (DASH LIGHTS)
TLO3S	16	WHITE	TERMINAL BOARD #1 (POS. 7) TO P145 (POS. 7) GND. RETURN

↳ TWISTED PAIR, 20 AWG.
J1939


↳ TWISTED PAIR, 18 AWG.

CONNECTOR LIST				
CONN.	VENDOR	PART #	DESCRIPTION	QTY
P6-C	AMP	173851-1	CONNECTOR, 12-PIN, PCB WITH SECONDARY LOCK	1
	AMP	173631-6	WIRE TERMINAL, FEMALE, 18 AWG.	5
P94-B	DEUTSCH	DT06-3S-P032	CONNECTOR ASM., PLUG	1
	DEUTSCH	W3S-1939-P012	WEDGE PLUG, KEYED	1
	DEUTSCH	1062-16-0122	WIRE TERMINAL, SOCKET, 16-18 AWG.	3
P99	PACKARD	12034398	CONNECTOR ASM., METRI-PACK, 150 SERIES, 30-WAY SEALED	1
	PACKARD	12103881-L	WIRE TERMINAL, METRI-PACK, 150 SERIES, FEMALE, 16-18 AWG.	20
	PACKARD	12089290-L	WIRE TERMINAL, METRI-PACK, 150 SERIES, FEMALE, 20-22 AWG.	3
	PACKARD	12034413	CAVITY PLUG, METRI-PACK, 150 SERIES	7
P100	PACKARD	12040921	CONNECTOR ASM., METRI-PACK, 150 SERIES, 18-WAY SEALED	1
	PACKARD	12103881-L	WIRE TERMINAL, METRI-PACK, 150 SERIES, FEMALE, 16-18 AWG.	12
	PACKARD	12034413	CAVITY PLUG, METRI-PACK, 150 SERIES	6
J101	DEUTSCH	DRC12-24PA	CONNECTOR, BULKHEAD RECEPTACLE, DRC 24 SERIES	1
	DEUTSCH	1060-16-0122	WIRE TERMINAL, PIN, 16-18 AWG.	22
	DEUTSCH	114017	CAVITY PLUG	2
F1	BUSSMAN	HHC-5	FUSEHOLDER, 5 A ATC	1
F2	BUSSMAN	HHC-5	FUSEHOLDER, 5 A ATC	1
P145	CARLING	999-16716-001	CONNECTOR BODY, SWITCH, 8 POSITION	1
	PACKARD	12015869	WIRE TERMINAL, METRI-PACK, 630 SERIES, FEMALE 16-18 AWG.	4
J146	PACKARD	12065171	CONNECTOR ASM., METRI-PACK 280, SINGLE SEALED	1
	PACKARD	12048159	TERMINAL, MALE, 280 SERIES, 16-18 AWG.	1
	PACKARD	12015284	CABLE SEALS, GREEN	1
	PACKARD	12065249	TPA, BLACK	1
P146A	PARKARD	12065172	CONNECTOR ASM., METRI-PACK 280, SINGLE SEALED	1
	PARKARD	12065249	TPA, BLACK	1
	PARKARD	12052834	CPA, GREEN	1
	PARKARD	12010300	280 METRI-PACK CAVITY PLUG	1

TWISTED PAIR CABLE SPECIFICATIONS		
TYPE - COMMUNICATION, CONTROL, INSTRUMENTATION CABLE, (1) TWISTED PAIR, 2 CONDUCTOR (STRANDED) W/ DRAIN WIRE, 100% SHIELD COVERING. 300V - 600V RATING. 80°C - 90°C TEMP. RATING		
AWG.	APPROVED VENDORS OF CABLE	PART NUMBER
18	ALPHA	5616B1801
16	BELDEN	8719
	ALPHA	5616B1601
14	BELDEN	8720
	ALPHA	5616B1401

J1939 TWISTED PAIR CABLE SPECIFICATIONS		
TYPE - COMMUNICATION, CONTROL, DATA BUS CABLE, (1) TWISTED PAIR, 2 CONDUCTOR (STRANDED) W/ DRAIN WIRE, 100% SHIELD COVERING, 300V - 600V RATING, 90°C - 150°C TEMPERATURE RATING FOR SAE J1939 USAGE. IMPEDANCE AT 120Ω ± 12Ω CONDUCTOR NO. 1 (GREEN), CONDUCTOR NO. 2 (YELLOW)		
AWG.	APPROVED VENDORS OF CABLE	PART NUMBER
20	ANIXTER CHAMPLAIN	CE3656065 15-00037 (11875)

Sheet 2 of 2

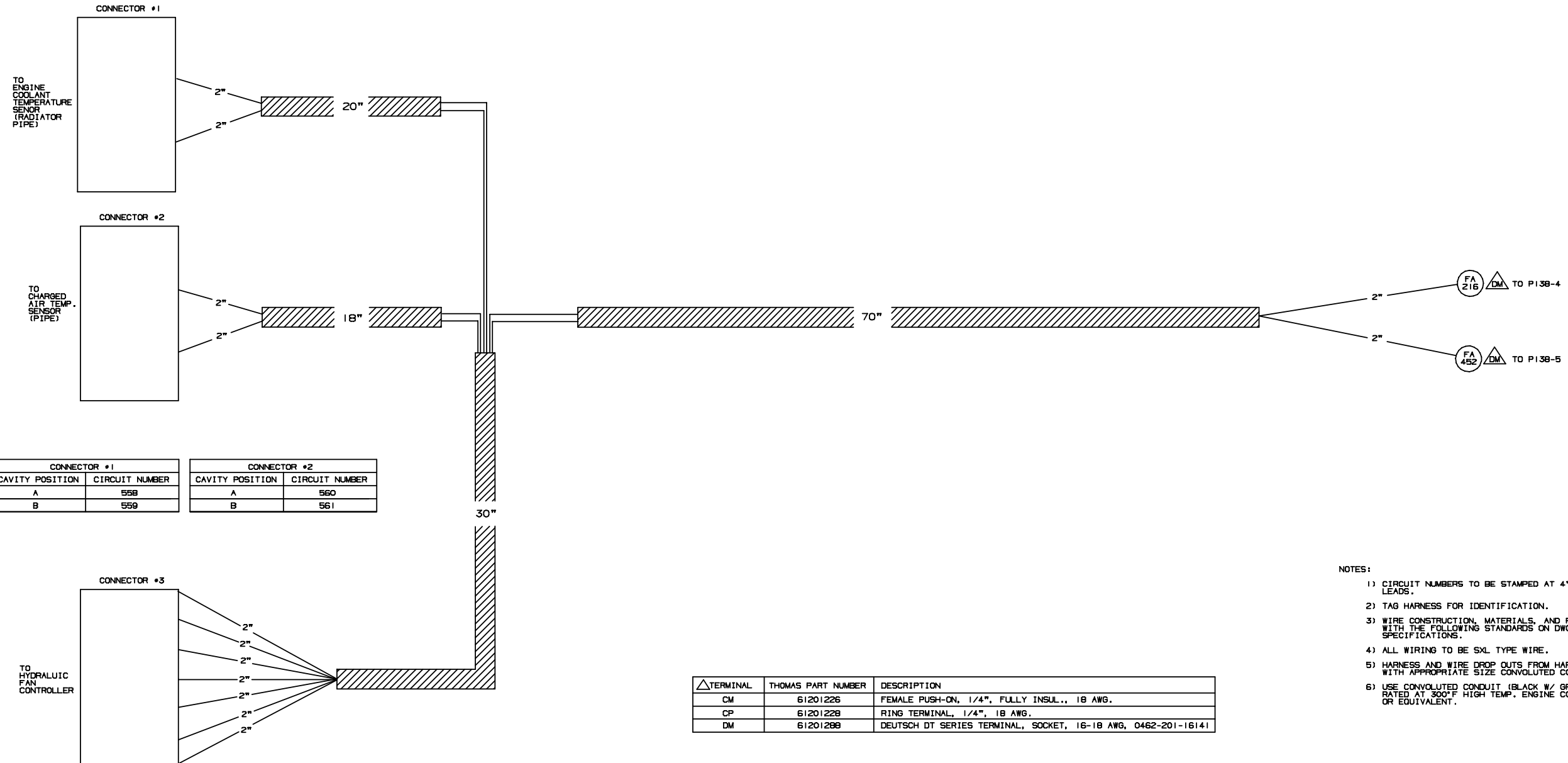
	62203583 B
HARNES, INTERIOR ANTILOCK BRAKE SYSTEM	
Effective Date: 4/23/01	

CONNECTOR PARTS LIST

CONN.	VENDOR	PART NUMBER	DESCRIPTION	QTY.
1	PACKARD	12162197	CONNECTOR ASM., 2-WAY, FEMALE, METRI-PACK, 150 SERIES, SEALED, P25	1
	PACKARD	12124075	WIRE TERMINAL, FEMALE, METRI-PACK, 150 SERIES, 18-16 AWG.	2
2	PACKARD	12162197	CONNECTOR ASM., 2-WAY, FEMALE, METRI-PACK, 150 SERIES, SEALED, P25	1
	PACKARD	12124075	WIRE TERMINAL, FEMALE, METRI-PACK, 150 SERIES, 18-16 AWG.	2
3	PACKARD	12047937	CONNECTOR ASM., 8-WAY, FEMALE, METRI-PACK, 150 SERIES, SEALED	5
	PACKARD	12048074	WIRE TERMINAL, FEMALE, METRI-PACK, 150 SERIES, 16-20 AWG.	6
	PACKARD	12066304	SECONDARY LOCK, 8-WAY, METRI-PACK, 150 SERIES	1
	PACKARD	12048086	CABLE SEAL, METRI-PACK, 150 SERIES, 18 AWG.	6
	PACKARD	12059168	CAVITY PLUG, METRI-PACK, 150 SERIES	2

HYDRAULIC FAN CONTROLLER (CONN. 3, POS B TO P138-4)

CIRCUIT	GA.	COLOR	DESCRIPTION	LENGTH (IN)
FA216	18	RED	HYDRAULIC FAN CONTROLLER (CONN. 3 POS B) TO P138-4	104
FA452	18	WHITE	HYDRAULIC FAN CONTROLLER (CONN. 3, POS. A) TO P138-5	104
558	18	DK. BLUE	ENG COOLANT TEMP SENSOR (CONN.1, POS.A) TO HYDRAULIC FAN CONTROLLER (CONN.3, POS.G)	54
559	18	WHITE	ENG COOLANT TEMP SENSOR (CONN.1, POS.B) TO HYDRAULIC FAN CONTROLLER (CONN.3, POS.H)	54
560	18	DK. BLUE/WHITE	CHG AIR TEMP SENSOR (CONN.2, POS.A) TO HYDRAULIC FAN CONTROLLER (CONN.3, POS.C)	52
561	18	GRAY/BLACK	CHG AIR TEMP SENSOR (CONN.2, POS.B) TO HYDRAULIC FAN CONTROLLER (CONN.3, POS.D)	52



CONNECTOR #1	
CAVITY POSITION	CIRCUIT NUMBER
A	558
B	559

CONNECTOR #2	
CAVITY POSITION	CIRCUIT NUMBER
A	560
B	561

CONNECTOR #3	
CAVITY POSITION	CIRCUIT NUMBER
A	FA452
B	FA216
C	560
D	561
E	PLUG
F	PLUG
G	558
H	559

TERMINAL	THOMAS PART NUMBER	DESCRIPTION
CM	61201226	FEMALE PUSH-ON, 1/4", FULLY INSUL., 18 AWG.
CP	61201228	RING TERMINAL, 1/4", 18 AWG.
DM	61201288	DEUTSCH DT SERIES TERMINAL, SOCKET, 16-18 AWG, 0462-201-16141

NOTES:

- 1) CIRCUIT NUMBERS TO BE STAMPED AT 4" INTERVALS ON ALL LEADS.
- 2) TAG HARNESS FOR IDENTIFICATION.
- 3) WIRE CONSTRUCTION, MATERIALS, AND PRACTICES TO COMPLY WITH THE FOLLOWING STANDARDS ON DWG. 62201055 WIRE SPECIFICATIONS.
- 4) ALL WIRING TO BE SXL TYPE WIRE.
- 5) HARNESS AND WIRE DROP OUTS FROM HARNESS TO BE COVERED WITH APPROPRIATE SIZE CONVOLUTED CONDUIT.
- 6) USE CONVOLUTED CONDUIT (BLACK W/ GRAY STRIPE) NYLON. RATED AT 300°F HIGH TEMP. ENGINE COMPARTMENT USAGE OR EQUIVALENT.



HARNESS, VARIABLE SPEED FAN CONTROL SYSTEM, w/SENSORS

CIRCUIT	AWG.	COLOR	DESCRIPTION
DIM001	18	RED	P16-C (POS. 1) TO T.B. #1 (POS. 8 - CRIMPED WITH CKT. DIM004)
DIM002	18	WHITE	P16-C (POS. 2) TO P60 (POS. B - CRIMPED WITH CKT. DIM005)
DIM003	18	LT. BLUE	P16-C (POS. 3) TO P60 (POS. A - CRIMPED WITH CKT. DIM006)
DIM004	18	RED	T.B. #1 (POS. 8 - CRIMPED WITH CKT. DIM001) TO P60 (POS. C)
DIM005	18	WHITE	P60 (POS. F) TO P60 (POS. B - CRIMPED WITH CKT. DIM002)
DIM006	18	LT. BLUE	P60 (POS. D) TO P60 (POS. A - CRIMPED WITH CKT. DIM003)

CONNECTOR LIST				
CONN.	VENDOR	PART NUMBER	DESCRIPTION	QTY.
P16-C	AMP	174921-1	CONNECTOR, PCB, 3-PIN WITH SECONDARY LOCK	1
	AMP	173631-6	WIRE TERMINAL, FEMALE, 18 AWG.	3
P60	PACKARD	12015344	CONNECTOR, METRI-PACK, 6 POSITION	1
	PACKARD	12015823	WIRE TERMINAL, METRI-PACK, FEMALE, 18-20 AWG.	3
	PACKARD	12103347	WIRE TERMINAL, METRI-PACK, FEMALE, 14-16 AWG.	2

NOTES:

- 1) CIRCUIT NUMBERS TO BE STAMPED AT 4" INTERVALS ON ALL LEADS: EXCEPT TWISTED PAIR CABLES. USE OF WIRE MARKERS IS ACCEPTABLE FOR CABLING.
- 2) TAG HARNESS FOR IDENTIFICATION.
- 3) ALL WIRING TO BE GXL TYPE WIRES.
- 4) WIRE CONSTRUCTION, MATERIALS AND PRACTICES TO COMPLY WITH THE FOLLOWING STANDARDS ON DWG. 62201055 WIRE SPECIFICATIONS.
- 5) ALL RING TERMINALS, PUSH-ON TERMINALS, AND BUTT SPLICE CRIMPS SHALL BE SOLDERED OR MACHINE CRIMPED OR CRIMPED WITH A RATCHETING HAND TOOL THAT WILL NOT ALLOW ANY "BACKING OFF" OF A CRIMP, AND ENVIRONMENTALLY SEALED. EQUIVALENT ASSEMBLY TO TERMINALS FOUND ON DWG. 62202342 MAY BE SUBSTITUTED FROM DWG. 62020224 BY SLEEVING EACH TERMINAL WITH A HEAT SHRINK INSULATOR: THE HEAT SHRINK IS TO COMPLETELY COVER THE CONDUCTOR ENTRY INTO THE TERMINAL, ACTING AS AN ENVIRONMENTAL SEAL AND STRAIN RELIEF. BUTT SPLICES FROM DWG. 62202342 MUST BE USED AND CAN NOT BE REPLACED BY USING A HEAT SHRINK SLEEVE.
- 6) ALL DIMENSIONS SHOWN ARE ACTUAL WIRE LENGTHS.

TERMINAL BOARD #1
POSITION 8

TERMINAL	PART #	DESCRIPTION
S-A	61201312	RING TERMINAL, #10 STUD, 14 AWG.

P16-C	
CKT. #	POSITION
DIM001	1
DIM002	2
DIM003	3

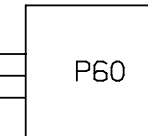
P16-C



TAG HARNESS APPROX. 2 TO 3 INCHES FROM CONNECTOR TO READ:
62203107
P16-C

TAPE WIRES DIM004, DIM003, AND DIM002 TOGETHER WITH ELECTRICAL TAPE EVERY 8 TO 10 INCHES UP TO A DISTANCE OF APPROX. 56" FROM CONNECTOR P60.

DIMMER SWITCH (DASH AREA)



P60	
CKT. #	POSITION
DIM003 DIM006	A
DIM002 DIM005	B
DIM004	C
DIM006	D
-	E
DIM005	F

JUMPERS

SEE CONNECTOR P60 FOR TERMINATION AND POSITION.



DIM 005

3"

DIM 005



SEE CONNECTOR P60 FOR TERMINATION AND POSITION.

SEE CONNECTOR P60 FOR TERMINATION AND POSITION.



DIM 006

3"

DIM 006



SEE CONNECTOR P60 FOR TERMINATION AND POSITION.



62203107 D

HARNESS, DIMMER SWITCH

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