

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE

SCHEMATIC SYMBOLS

DISPLAY SYMBOL INFORMATION



1. Left Turn



2. Seat Belt



3. High Beam



4. Auxiliary Brake

Indicates engine brake or retarder is active. May not be used on all applications.



5. Right Turn



6. ABS

ABS Fault

ABS may be inop., service ASAP.



7. Brake Fluid

Hyd. Brake Fault

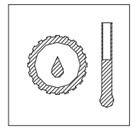
Brakes may be inop., service ASAP.
Wire # SP211



8. Park Brake

Park Brake Set

Parking Brakes applied.
Wire # SP068



9. High Trans Temp

High Fluid Temp.

Temperature has exceeded the specified value.
Wire # WT105



10. Do Not Shift

Trans Fault

Shifting limited or restricted, service immediately.
Wire # WT115



11. Wait to Start

Engine Preheat

Wire #EN037



12. Water In Fuel

Water in Fuel

Drain fuel bowl.
Wire #EN038



13. Service Engine

Maintenance Monitor

Not available on most vehicles. Predetermined oil change interval has been reached.
Wire #EN016



14. Engine Warning

Engine Fault

Engine may still be operated, service ASAP.
Wire #EN419



15. Engine Stop

Engine Fault

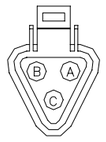
Engine will shutdown, service immediately.
Wire #EN017

WIRE GAUGE EQUIVALENCE

AWG		mm²
20	≡	0.5
18	≡	0.8
16	≡	1
14	≡	2
12	≡	3
10	≡	5
8	≡	8
6	≡	13
4	≡	21
2	≡	34
1	≡	42
0	≡	54
00	≡	67
000	≡	85
0000	≡	105

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TITLE
WARNING DISPLAY SYMBOLS & WIRE GAUGE SIZE



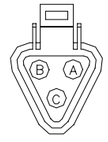
1

ITEM: 1				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187A	--	--	---
B	SP188A	--	--	---
C	SP186A	--	--	---



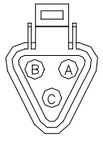
6

ITEM: 6				
1939 GROUND				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP186J	--	--	---



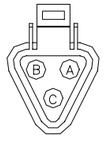
12

ITEM: 12				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187E	--	--	---
B	SP188E	--	--	---
C	SP186E	--	--	---



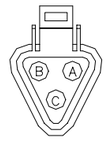
2

ITEM: 2				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187A	--	--	---
B	SP188A	--	--	---
C	SP186A	--	--	---



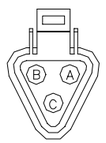
7

ITEM: 7				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187C	--	--	---
B	SP188C	--	--	---
C	SP186C	--	--	---



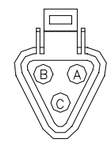
13

ITEM: 13				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187E	--	--	---
B	SP188E	--	--	---
C	SP186E	--	--	---



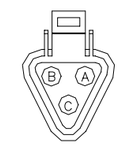
3

ITEM: 3				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187B	--	--	---
B	SP188B	--	--	---
C	SP186B	--	--	---



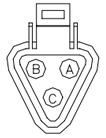
9

ITEM: 9				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187D	--	--	---
B	SP188D	--	--	---
C	SP186D	--	--	---



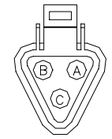
15

ITEM: 15				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187F	--	--	---
B	SP188F	--	--	---
C	SP186F	--	--	---



5

ITEM: 5				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187C	--	--	---
B	SP188C	--	--	---
C	SP186C	--	--	---



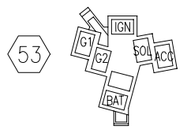
10

ITEM: 10				
DEUTSCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187D	--	--	---
B	SP188D	--	--	---
C	SP186D	--	--	---

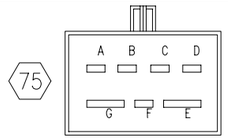
REV:	REVISION DESCRIPTION	REVISION DATE	REVISION BY
D	INITIAL RELEASE	11/03/00	JDT

ENGINEER: MIKE CAMPEAU
DRAWING BY: JOE THOM
TITLE: J1939 DATA BUS
DRAWING NUMBER: 1788-GG10D
PAGE: 1 OF 1
REV: D

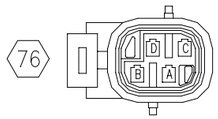
Spartan Motors Chassis, Inc.
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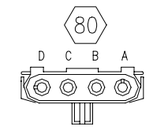
ITEM: 53				
KEY SWITCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
BAT	SP053A	RD	3.0	BATT POS/IGN ACT
G-1	SP006X	BK	1.0	TYPE 4 GROUND
G-2	SP006Y	BK	1.0	TYPE 4 GROUND
ACC	SP054A	PK	0.8	IGN SW/ACC RLY
IGN	SP055A	PK	3.0	IGN SW IGN ACT
SOL	SP056A	PK	2.0	START SIGNAL



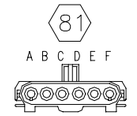
ITEM: 75				
NS BU SWITCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	---	--	--	---
B	SP522	--	1.0	PARK ACTIVE
C	SP520	--	1.0	PARK/REV FEED
D	LC220C	GN	0.8	COMMON RETURN
E	SP057	PK	2.0	NEUT. SW TO START SOL.
F	SP521	--	1.0	REV ACTIVE
G	SP056	PK	2.0	START SIGNAL



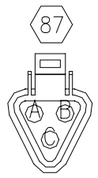
ITEM: 76				
NSBU SWITCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	LC205	BE	0.8	NSBU SWITCH A
B	LC207	GY	0.8	NSBU SWITCH C
C	LC208	WE	0.8	NSBU SWITCH P
D	LC206	YW	0.8	NSBU SWITCH B



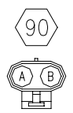
ITEM: 80				
PARK/REV				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP520	--	1.0	PARK/REV FEED
B	---	--	--	---
C	SP521	--	1.0	REV ACTIVE
D	SP522	--	1.0	PARK ACTIVE



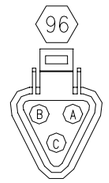
ITEM: 81				
ESXHAUST BRAKE INTERCONNECT				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	EN014	GY	0.8	ENG BRK ON/OFF
B	EN015	PK	0.8	ENG BRK ENABLE
C	LC107C	OE	0.8	EXHAUST BRAKE ENABLE
D	LC120	OE	0.8	EXHAUST BRAKE OUTPUT
E	SP038	PK	0.8	EXH BRK ACTIVE
F	---	--	--	---



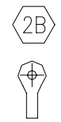
ITEM: 87				
J1939				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	LC129	RD	0.8	J1939 POS
B	LC132	BK	0.8	J1939 NEG
C	LC131	GN	0.8	SJIELD



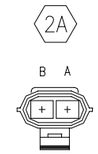
ITEM: 90				
REAR START				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP056	PK	2.0	START SIGANAL
B	SP055C	PK	1.0	IGN SW IGN ACT



ITEM: 96				
J1939				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP187H	YW	0.8	J1939 POS
B	SP188H	DK.GN	0.8	J1939 NEG
C	SP186H	---	0.8	J1939 SHIELD



ITEM: 2B				
ALT				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP012	RD	1	BATT SENSE TO ALT



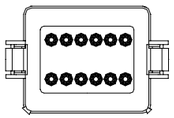
ITEM: 2A				
ALT				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP013	PK	1.0	IGN ACT TO ALT
B	SP012	RD	1.0	BATT SENSE TO ALT

REV:	REVISION DESCRIPTION	REVISION DATE	REVISION BY
E	UPDATED TITLE BLOCK	10/17/00	DRG

ENGINEER: MIKE CAMPEAU
DRAWING BY: DANIEL GOULD
TITLE: CONNECTOR DESCRIPTIONS
DRAWING NUMBER: 1889-GG10E
PAGE: 4 OF 4
REV: E

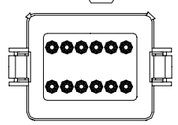
Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

1



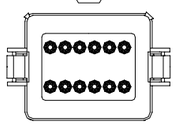
ITEM: 1 BLACK				
ABS POWER				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP210	GY	1.0	J1587 NEG
2	SP004	RD	1.0	IGN TO ABS ECU
3	SP002C	RD	2.0	ABS ECU PWR
4	---	--	--	---
5	---	--	--	---
6	SP367	RD	1.0	H'MAX RLY FEED
7	SP513	TN	1.0	FM ECU TO TRD BK RLY
8	SP003	BK	1.0	ABS DSH LMP GND
9	SP185B	BK	1.0	GROUND TYPE 1
10	SP366B	GY	1.0	H'MAX PUMP POS
11	SP002D	RD	2.0	ABS ECU PWR
12	SP209	PK	1.0	J1587 POS

2



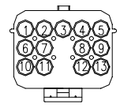
ITEM: 2 GREY				
ABS MODULATOR UNIT				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	---	--	--	---
2	SP185C	BK	1.0	GROUND TYPE 1
3	SP245	YW	1.0	ABS 1 VLV L I/L
4	SP248	YW	1.0	ABS 1 VLV R I/L
5	SP257	YW	1.0	ABS 2 VLV L I/L
6	SP260	YW	1.0	ABS 2 VLV R I/L
7	SP261	RD	1.0	ABS 2 VLV R O/L
8	SP258	RD	1.0	ABS 2 VLV L O/L
9	SP249	RD	1.0	ABS 1 VLV R O/L
10	SP246	RD	1.0	ABS 1 VLV L O/L
11	---	--	--	---
12	---	--	--	---

3



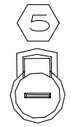
ITEM: 3 GREEN				
ABS SENSORS				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	---	--	--	---
2	---	--	--	---
3	SP252	BN	1.0	ABS 2 SENS L1
4	SP242	BN	1.0	ABS 1 SENS R1
5	SP240	BK	1.0	ABS 1 SENS L2
6	SP254	BN	1.0	ABS 2 SENS R1
7	SP255	BK	1.0	ABS 2 SENS R2
8	SP241	BN	1.0	ABS 1 SENS L1
9	SP243	BK	1.0	ABS 1 SENS R2
10	SP253	BK	1.0	ABS 2 SENS L2
11	---	--	--	---
12	---	--	--	---

4



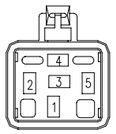
ITEM: 4				
MODULATOR VALVE				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP258	RD	1.0	ABS 2 VLV L O/L
2	SP257	YW	1.0	ABS 2 VLV L I/L
3	---	--	--	---
4	SP248	YW	1.0	ABS 1 VLV R I/L
5	SP249	RD	1.0	ABS 1 VLV R O/L
6	---	--	--	---
7	---	--	--	---
8	SP185E	BK	1.0	GROUND TYPE 1
9	---	--	--	---
10	SP261	RD	1.0	ABS 2 VLV R O/L
11	SP260	YW	1.0	ABS 2 VLV R I/L
12	SP245	YW	1.0	ABS 1 VLV L I/L
13	SP246	RD	1.0	ABS 1 VLV L O/L

5



ITEM: 5				
PUMP DROP (-)				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP006B	BK	5	GROUND TYPE 4

7



ITEM: 7				
ABS MODULATOR RELAY				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP002A	RD	3.0	ABS ECU PWR
2	SP185D	BK	1.0	GROUND TYPE 1
3	---	--	--	---
4	SP366A	GY	5	H'MAX PUMP POS
5	SP367	RD	1.0	H'MAX RLY FEED

8



ITEM: 8				
ABS/TRANS RELAY				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	LC128	YW	1.0	SIGNAL RETURN
2	SP185F	BK	1.0	GROUND TYPE 1
3	---	--	--	---
4	LC113	PK	1.0	ABS
5	SP513	TN	1.0	FM ECU TO TRD BK RLY

9



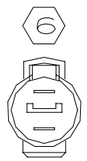
ITEM: 9				
FRONT LEFT SIDE ABS SENSOR				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP240	BK	1.0	ABS 1 SENS L2
B	SP241	BN	1.0	ABS 1 SENS L1

11



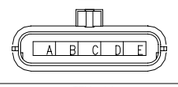
ITEM: 11				
REAR RIGHT ABS SENSOR				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP254	BN	1.0	ABS 2 SENS R1
B	SP255	BK	1.0	ABS 2 SENS R2

6



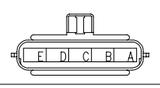
ITEM: 6				
PUMP DROP MOTOR POWER				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP366	GY	5	H'MAX PUMP POS
B	SP006C	BK	5	GROUND TYPE 4

14



ITEM: 14				
ABS CONNECTOR				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP002A	RD	3.0	ABS ECU PWR
B	SP004	RD	1.0	IGN TO ABS ECU
C	LC128	YW	1.0	SIGNAL RETURN
D	SP003	BK	1.0	ABS DSH LMP GND
E	SP185A	BK	5	GROUND TYPE 1

15



ITEM: 15				
ABS CONNECTOR				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP185F	BK	1.0	GROUND TYPE 1
B	SP006A	BK	5	GROUND TYPE 4
C	LC113	PK	1.0	ABS
D	PLUG	--	--	---
E	SP002B	RD	3.0	ABS ECU PWR

10



ITEM: 10				
FRONT RIGHT SIDE ABS SENSOR				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP242	BN	1.0	ABS 1 SENS R1
B	SP243	BK	1.0	ABS 1 SENS R2

12



ITEM: 12				
REAR LEFT ABS SENSOR				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP252	BN	1.0	ABS 2 SENS L1
B	SP253	BK	1.0	ABS 2 SENS L2

13

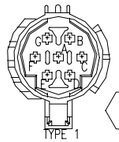


ITEM: 13				
J1587				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP209	PK	1.0	J1587 POS
B	SP210	GY	1.0	J1587 NEG

REV:	REVISION DESCRIPTION	REVISION DATE	REVISION BY
D	UPDATED TITLE BLOCK	03/12/01	TSM

ENGINEER: MIKE CAMPEAU
DRAWING BY: DANIEL GOULD
TITLE: CONNECTOR DESCRIPTIONS
DRAWING NUMBER: 1900-GG10D
PAGE: 1 OF 1
REV: D

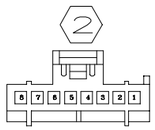
Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813



1

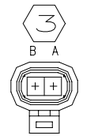
ITEM: 1				
CHASSIS HARNESS INTERFACE				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP183	RD	2.0	TYPE 1 BAT
B	SP024A	PK	1.0	STP PRS SW1
C	SP211C	GY	0.8	BRK FLUID LVL
D	SP364	GY	1.0	H'MAX WRNG LMP
E	SP365C	GY	1.0	G'MAX PUMP SIG
F	SP185A	BK	2.0	GROUND TYPE 1
G	EN011	GY	0.8	BRK SW SIG

2



ITEM: 2				
HYDROMAX CONTROL MODULE				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP363A	GY	0.8	H'MAX FLOW SW
2	SP211A	GY	0.8	BRK FLUID LVL
3	SP364	GY	1.0	H'MAX WRNG LMP
4	SP185B	BK	2.0	GROUND TYPE 1
5	SP365A	GY	1.0	H'MAX PUMP SIG
6	SP366A	GY	0.8	H'MAX PUMP POS
7	SP183	RD	2.0	TYPE 1 BATT
8	SP024B	PK	1.0	STP PRS SW1

3



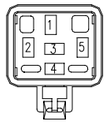
ITEM: 3				
HYDROMAX FLOW SWITCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP363B	GY	0.8	H'MAX FLOW SW
B	PLUG	--	--	---

4



ITEM: 4				
HYDROMAX PUMP				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP366C	GY	3.0	H'MAX PUMP POS

5



ITEM: 5				
HYDROMAX PUMP RELAY				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP367	RD	5.0	H'MAX RLY FEED
2	SP363C	GY	0.8	H'MAX FLOW SW
3	---	--	--	---
4	SP366B	GY	3.0	H'MAX PUMP POS
5	SP365B	GY	1.0	H'MAX PUMP SIG

6



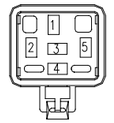
ITEM: 6				
BRAKE PRESSURE DIFFERENTIAL SWITCH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP211E	GY	0.8	BRK FLUID LVL
B	SP211D	GY	0.8	BRK FLUID LVL

7



ITEM: 7				
STARTER +				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP367	RD	5.0	H'MAX RLY FEED

8



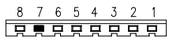
ITEM: 8				
CRUISE SW				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP185C	BK	0.8	GROUND TYPE 1
2	SP024C	PK	0.8	STP PRS SW
3	EN011	GY	0.8	BRK SW SIG
4	---	--	--	---
5	SP185D	BK	0.8	GROUND TYPE 1

REV:	REVISION DESCRIPTION	REVISION DATE	REVISION BY
C	UPDATED TITLE BLOCK	03/12/01	TSM

ENGINEER: MIKE CAMPEAU
DRAWING BY: DANIEL GOULD
TITLE: CONNECTOR DESCRIPTIONS
DRAWING NUMBER: 1901-GG10C
PAGE: 1 OF 1
REV: C

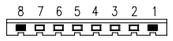
Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

1



ITEM: 1				
WARNING LAMP 1				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP044C	YW	0.8	LEFT TURN SIG
2	---	--	--	---
3	---	--	--	---
4	SP061C	RD	0.8	HDLP HI BM PWR
5	LC107B	OE	0.8	ENG BRK REG
6	SP006M	BK	0.8	TYPE 4 GROUND
7	SP045B	DK. GN	0.8	RIGHT TURN SIG
8	SP006D	BK	0.8	TYPE 4 GROUND

2



ITEM: 2				
WARNING LAMP 2				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	---	--	--	---
2	EN419	PK	0.8	CHECK ENGINE
3	EN016A	GY	0.8	ENG FLUIDS SIG
4	EN038	GY	0.8	WIF LAMP
5	EN037	GY	0.8	WAIT TO START
6	---	--	--	---
7	SP003B	BK	0.8	ABS LIGHT GND
8	---	--	--	---

3



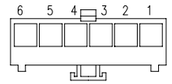
ITEM: 3				
WARNING LAMP 3				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP043	RD	0.8	CORNER LT PWR
2	SP068C	GY	0.8	PARK BRK LT
3	SP211A	GY	0.8	BRK FLUID LVL
4	LC125B	GN	0.8	CHECK TRANS
5	LC123	PK	0.8	RANGE INHIBITED
6	SP020F	RD	0.8	INSTMT PWR
7	EN017	GY	0.8	ENG STOP SIG
8	---	--	--	---

4



ITEM: 4				
PIEZZO BUZZER				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP020G	RD	0.8	INSTMT PWR
B	SP211E	GY	0.8	BRK FLUID LVL

5



ITEM: 5				
DEMUX				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP020B	RD	0.8	INSTMT PWR
2	SP009B	RD	0.8	DSH LP PWR
3	SP209B	PK	0.8	J1587 POS
4	SP210B	GY	0.8	J1587 NEG
5	---	--	--	---
6	SP185L	BK	1.0	TYPE 1 GROUND

8



ITEM: 8				
FUEL				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
5	SP020E	RD	0.8	INSTMT PWR
6	SP185K	BK	0.8	TYPE 1 GROUND
7	SP040	TN	0.8	FUEL SNDR SIG
8	SP009E	RD	0.8	DSH LP PWR
9	---	--	--	---
10	---	--	--	---

9



ITEM: 9				
HI LO FEED				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP059	RD	3.0	HIGH LOW SW

10



ITEM: 10				
LO BEEM				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP060	RD	3.0	HDLP LO BM PWR

11



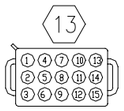
ITEM: 11				
HI BEAM				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP061A	RD	3.0	HDLP HI BM PWR

12



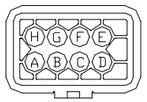
ITEM: 12				
TS/HORN				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP044A	YW	3.0	LEFT TURN SIG
2	SP045A	DK GN	3.0	RIGHT TURN SIG
3	SP227	YW	3.0	LT RN TO RLY
4	SP226	DK GN	1.0	RT TURN TO RLY
5	SP101	WE	3.0	TURN SIGNAL
6	SP051	GY	0.8	HORN
7	SP042B	RD	3.0	FLASHER OUTPUT
8	SP024A	PK	1.0	STP PRS

13



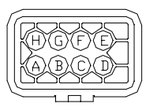
ITEM: 13				
HEADLAMP/CRUISE/AUX BRAKE				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP058	RD	3.0	HDLMP PWR
2	SP059	RD	3.0	HIGH LOW SW
3	SP008	RD	3.0	MRKR LT PWR FT
4	SP001	PK	3.0	MRKR SW TO MKR
5	SP006E	BK	1.0	TYPE 4 GROUND
6	LC121	WE	0.8	RANGE INDICATOR
7	EN541	PK	0.8	SET/COAST
8	EN544	PK	0.8	CRUISE ENABLE
9	SP009A	RD	0.8	DSH LP PWR
10	SP055G	PK	0.8	IGN SWITCH TO RLY
11	SP185D	BK	0.8	TYPE 1 GROUND
12	EN545	PK	0.8	CRUISE RES/ACC
13	SP054	PK	0.8	IGN SWTCH ACC RLY
14	EN022	GY	0.8	IDLE DEC SIG
15	EN023	GY	0.8	IDLE DEC SIG

14



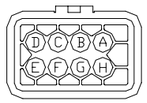
ITEM: 14				
BUSSMANN-BLACK				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP050A	PK	3.0	HRN RLY TO HRN
B	SP051	GY	0.8	HORN
C	SP048	YW	3.0	LEFT TURN REAR
D	SP227	YW	3.0	LT TRN TO RLY
E	SP226	DK. GN	1.0	RT TURN TO RLY
F	SP047	DK. GN	3.0	RIGHT TURN REAR
G	SP055B	PK	0.8	IGN SWITCH TO RLY
H	SP101	WE	3.0	TURN SIGNAL

15



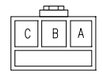
ITEM: 15				
BUSSMANN-GREY				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	---	--	--	---
B	SP520	--	2.0	PRK/REV ACC FEED
C	SP076	RD	3.0	STP LT-RLY/LT
D	SP024E	PK	1.0	STP PRS
E	SP055C	PK	0.8	IGN SWTCH TO RLY
F	SP042C	RD	3.0	FLASHER OUTPUT
G	---	--	--	---
H	---	--	--	---

17



ITEM: 17				
BUSSMANN-GREEN				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	---	--	--	---
B	SP063	RD	3.0	FRONT MARKER LAMP
C	SP041A	RD	3.0	HZD/TRNSIG PWR
D	---	--	--	---
E	SP064	BN	3.0	REAR MARKER LAMP
F	SP001	PK	3.0	MRKR SW TO MKR
G	SP008	RD	3.0	MRKR LT PWR FT
H	---	--	--	---

18



ITEM: 18				
BUSSMANN-POWER				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP184B	RD	3.0	TYPE 4 BATT
B	---	--	--	---
C	SP006A	BK	1.0	TYPE 4 GROUND

19



ITEM: 19				
BUSSMANN-POWER				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP184C	RD	3.0	TYPE 4 PWR
B	---	--	--	---
C	---	--	--	---

20



ITEM: 20				
STOP SWTICH				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP024C	PK	1.0	STP PRS
B	SP041C	RD	1.0	HZD/TRNSIG PWR

REV:	REVISION DESCRIPTION	REVISION DATE	REVISION BY
A	UPDATED CONNECTOR CHANGES	03/08/01	TSM

ENGINEER: MIKE CAMPEAU
DRAWING BY: TIM MARCOTTE
TITLE: CONNECTOR DESCRIPTIONS
DRAWING NUMBER: 2022-GG10B
PAGE: 1 OF 4
REV: B

Spartan Motors Chassis, Inc.
SPARTAN
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

81



ITEM: 81				
BLOWER MOTOR RELAY				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP184F	RD	2.0	TYPE 4 PWR
2	SP055J	PK	0.8	IGN SWITCH TO RLY
3	---	--	--	---
4	SP105	RD	2.0	BLWR MTR PWR
5	SP006S	BK	0.8	TYPE 4 GROUND

82



82				
STARTER (+)				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
--	SP184C	RD	3.0	TYPE 4 POWER
--	SP184D	RD	2.0	TYPE 4 POWER

90



ITEM: 90				
EXHAUST BRAKE				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	EN014	GY	0.8	ENGINE BRAKE ON/OFF
2	LC107D	OE	0.8	ENG BRK REQUEST
3	SP009F	RD	0.8	DSH LP PWR
4	SP185E	BK	0.8	TYPE 1 GROUND
5	LC107A	OE	0.8	ENG BRK REQ
6	SP006N	BK	1.0	TYPE 4 GROUND

92



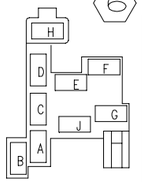
ITEM: 92				
CUSTOMER CONNECT				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	SP007	RD	0.8	A/C CLUTCH
2	SP015C	PK	2.0	B/UP LT ACTIVE
3	SP068B	GY	0.8	PARK BRK LIGHT

7



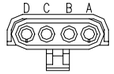
ITEM: 7				
DOME LIGHT				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
--	SP062	BK	2.0	DOME LIGHT SWITCH GROUND

6



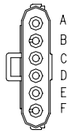
ITEM: 91				
CRUISE/AUX BRAKE				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	SP058	RD	3.0	HEADLAMP POWER
B	SP062	BK	2.0	DOME LIGHT SWITCH GROUND
C	SP009A	RD	0.8	DSH LP PWR
D	---	--	--	---
E	SP001	PK	3.0	MARKER SWITCH TO MARKER
F	SP008	RD	3.0	MARKER LIGHT POWER FT
G	---	--	--	---
H	SP006E	BK	1.0	GROUND TYPE 4
J	SP059	RD	3.0	HIGH LOW SWITCH

24



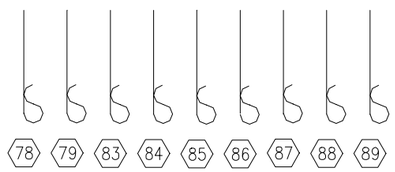
ITEM: 24				
CAP				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	PLUG	--	--	---
B	PLUG	--	--	---
C	PLUG	--	--	---
D	PLUG	--	--	---

25

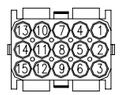


ITEM: 25				
CAP				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
A	PLUG	--	--	---
B	PLUG	--	--	---
C	PLUG	--	--	---
D	PLUG	--	--	---
E	PLUG	--	--	---
F	PLUG	--	--	---

ITEMS: 78, 79, 83-89				
BLUNT CUTS				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
78	LC121B	RD	3.0	MARKER LIGHT POWER FT
79	EN541B	PK	0.8	SET/COAST
83	EN544B	PK	0.8	CRUISE ENABLE
84	SP055F	PK	0.8	IGNITION SWITCH TO RELAY
85	SP185B	BK	0.8	GROUND TYPE 1
86	EN545B	PK	0.8	CRUISE RESUME/ACCELERATE
87	SP054B	PK	0.8	IGN SWITCH ACC RELAY
88	EN022B	GY	0.8	IDLE DECR SIG
89	EN023B	GY	0.8	IDLE INCR SIG



91



ITEM: 91				
CRUISE/AUX BRAKE				
CAVITY	CIRCUIT	COLOR	GAUGE	DESCRIPTION
1	---	--	--	---
2	---	--	--	---
3	---	--	--	---
4	---	--	--	---
5	---	--	--	---
6	LC121B	RD	3.0	MARKER LIGHT POWER FT
7	EN541B	PK	0.8	SET/COAST
8	EN544B	PK	0.8	CRUISE ENABLE
9	---	--	--	---
10	SP055F	PK	0.8	IGNITION SWITCH TO RELAY
11	SP185B	BK	0.8	GROUND TYPE 1
12	EN545B	PK	0.8	CRUISE RESUME/ACCELERATE
13	SP054B	PK	0.8	IGN SWITCH ACC RELAY
14	EN022B	GY	0.8	IDLE DECR SIG
15	EN023B	GY	0.8	IDLE INCR SIG

REV:	REVISION DESCRIPTION	REVISION DATE	REVISION BY
A	UPDATED CONNECTOR CHANGES	03/08/01	TSM

ENGINEER: MIKE CAMPEAU
DRAWING BY: TIM MARCOTTE
TITLE: CONNECTOR DESCRIPTIONS
DRAWING NUMBER: 2022-GG10B
PAGE: 4 OF 4
REV: B

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

2022-GG5 CUSTOMER | 1889-GG5 BACKBONE | 1900-GG5 HYDRAULIC ABS

WARNING LIGHTS (2)
ABS LIGHT GND
7 SP003B
SPL-SP003
SP003A Y
26 (2) Y SP003
X LC128B

TRANSMISSION ECU (100) GREY
SIGNAL RETURN 28 LC128A
ABS 13 LC113
SPL-LC128

SPL-SP185

(73) SP003D B
(74) SP003C A
SP003X
SP003X
ABS SHORTING PLUG

1771-GG5-004 BUSSMANN

ABS MOD 15A
ABS FCD 25A
ABS5 5A
ABS5 5A
BATT +
IGN RELAY
30 87A 87 85 86
IGN
(43) G SP002C
F SP002A
(41) A SP004B
B SP004A

SEE DATALINK
(13) (13)
SP209A A A SP209
SP210A B B SP210
SPL-SP002

(3A) (14)
SP002A A A SP002A
SP004A B B SP004
LC128C C C LC128
SP003 D D SP003
SP185H E E SP185A

(3B) (15)
SP185J A A SP185F
SP006C B B SP006A
LC113 C C LC113
SP004B D
SP002B E E SP002B

SP185A (25)

(1) ABS ECU
SP210 1 J1587 NEG
SP004 2 IGN TO ABS ECU
SP002C 3 ABS BATT PWR
SP367 6 H'MAX RLY FEED
SP513 7 SCENE LT PWR
SP003 8 ABS LIGHT GND
SP185B 9 GROUND TYPE 1
SP366B 10 H'MAX PUMP POS
SP002D 11 ABS BATT PWR
SP209 12 J1587 POS
BLACK GREEN
ABS 2 SENS L1
ABS 1 SENS R1
ABS 1 SENS L2
ABS 2 SENS R1
ABS 2 SENS R2
ABS 1 SENS L1
ABS 1 SENS R2
ABS 2 SENS L2
GRAY
GROUND TYPE 1
ABS 1 VLV L O/L
ABS 1 VLV R I/L
ABS 2 VLV L COM
ABS 2 VLV R I/L
ABS 2 VLV R O/L
ABS 2 VLV L O/L
ABS 1 VLV R O/L
ABS 1 VLV L O/L

(2) SP185C 2, SP245 3, SP248 4, SP257 5, SP260 6, SP261 7, SP258 8, SP249 9, SP246 10

(3) 3 SP252, 4 SP242, 5 SP240, 6 SP254, 7 SP255, 8 SP241, 9 SP243, 10 SP253

(10) FRONT RIGHT SENSOR
SP242 A ABS 1 SENS R1
SP243 B ABS 1 SENS R2

(9) FRONT LEFT SENSOR
SP240 A ABS 1 SENS L2
SP241 B ABS 1 SENS L1

(11) FRONT RIGHT SENSOR
SP254 A ABS 2 SENS R1
SP255 B ABS 2 SENS R2

(12) FRONT LEFT SENSOR
SP252 A ABS 2 SENS L1
SP253 B ABS 2 SENS L2

(7) ABS MOD RELAY
SP366A 4
87A 87 30 85 86
1 SP002A
2 SP185D
5 SP367

(8) ABS/TRANS RELAY
LC113 4
87A 87 30 85 86
1 LC128
2 SP185F
5 SP513

SPL-SP185
SPL-SP366
SPL-SP006

(5) A SP006B
(6) A SP366, B SP006C
(4) 8 SP185E, 12 SP245, 4 SP248, 2 SP257, 11 SP260, 10 SP261, 1 SP258, 5 SP249, 13 SP246

GROUND TYPE 4
H'MAX PUMP POS
GROUND TYPE 4
GROUND TYPE 1
ABS 1 VLV L I/L
ABS 1 VLV R I/L
ABS 2 VLV L I/L
ABS 2 VLV R I/L
ABS 2 VLV R O/L
ABS 2 VLV L O/L
ABS 1 VLV R O/L
ABS 1 VLV L O/L

MODULATOR VALVE
HYDROMAX BRAKES

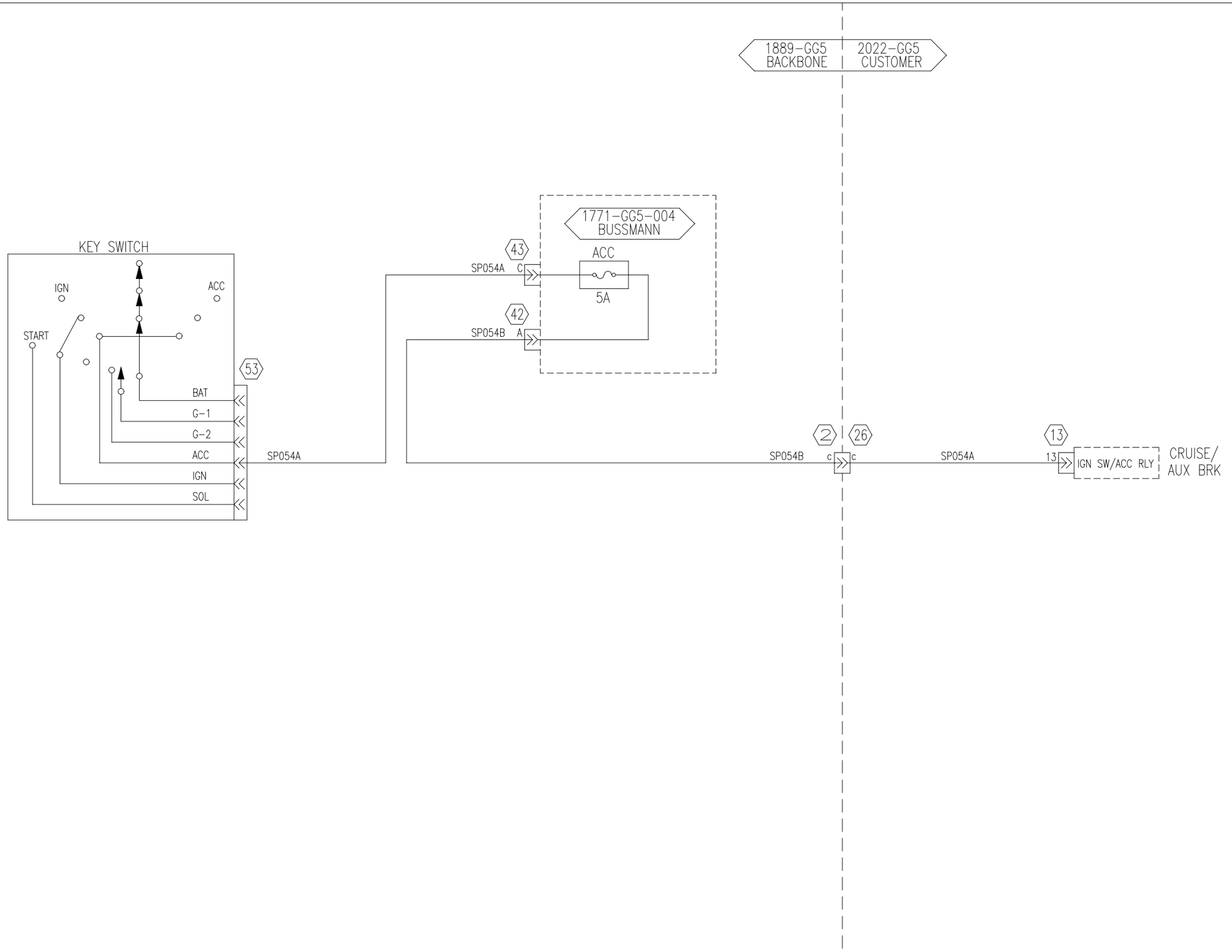
PAGE 1 OF 1

LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/05/01	TSM		

ENGINEER MIKE CAMPEAU DATE
DRAWN BY JASON RANDALL DATE 03/29/00
CHECKED BY RICK SCHUTTE DATE 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE HYDRAULIC ABS
DRAWING NUMBER 0028-GG9-002 REV. A



LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/05/01	TSM		

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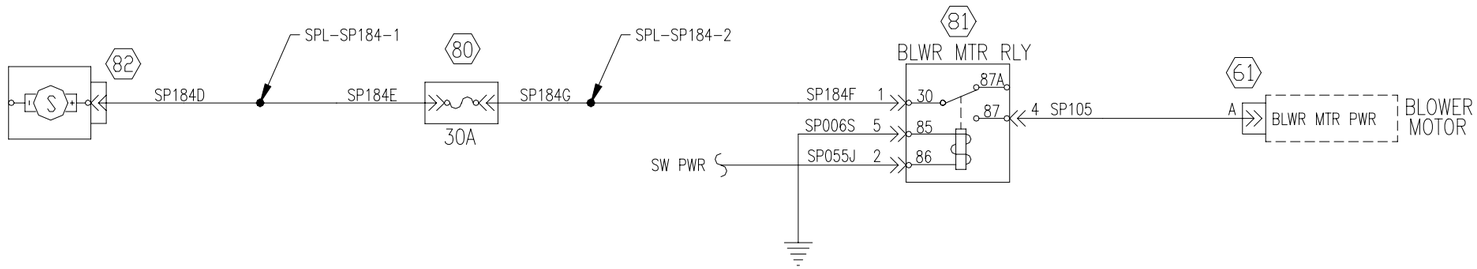
ENGINEER	MIKE CAMPEAU	DATE
DRAWN BY	JASON RANDALL	DATE 03/28/00
CHECKED BY	RICK SCHUTTE	DATE 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: ACCESSORY POWER

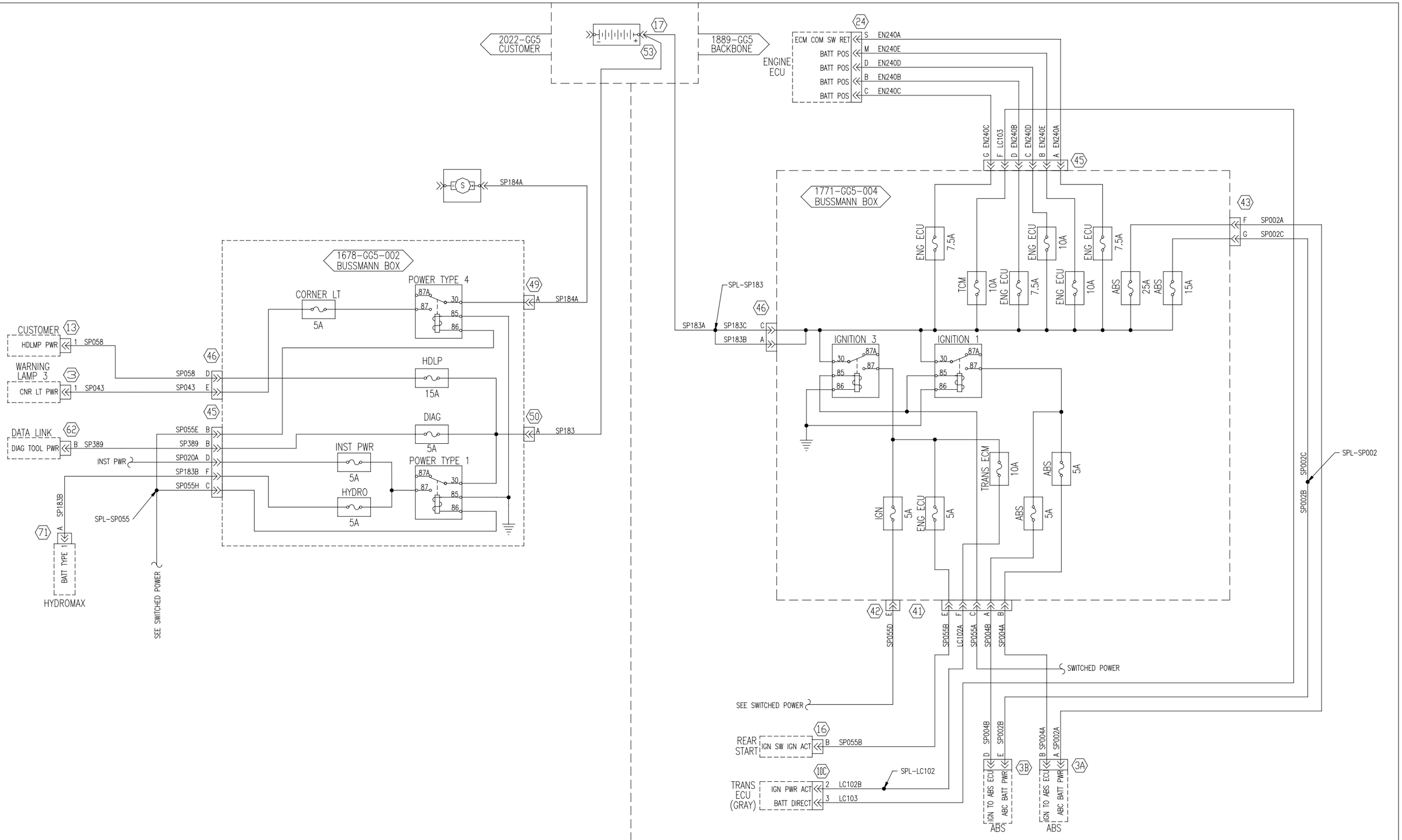
DRAWING NUMBER: 0028-GG9-004 REV. A

2022-GG5
CUSTOMER



PAGE 1 OF 1								ENGINEER MIKE CAMPEAU	DATE	Spartan Motors Chassis, Inc.
								DRAWN BY JASON RANDALL	DATE 03/29/00	WORLD WIDE VEHICLES AND CHASSIS 1000 REYNOLDS RD. CHARLOTTE, MICHIGAN 48813
	A	INITIAL RELEASE		03/05/01	TSM			CHECKED BY RICK SCHUTTE	DATE 03/12/01	
	LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY			

TITLE	
BLOWER POWER	
DRAWING NUMBER	REV.
0028-GG9-006	A

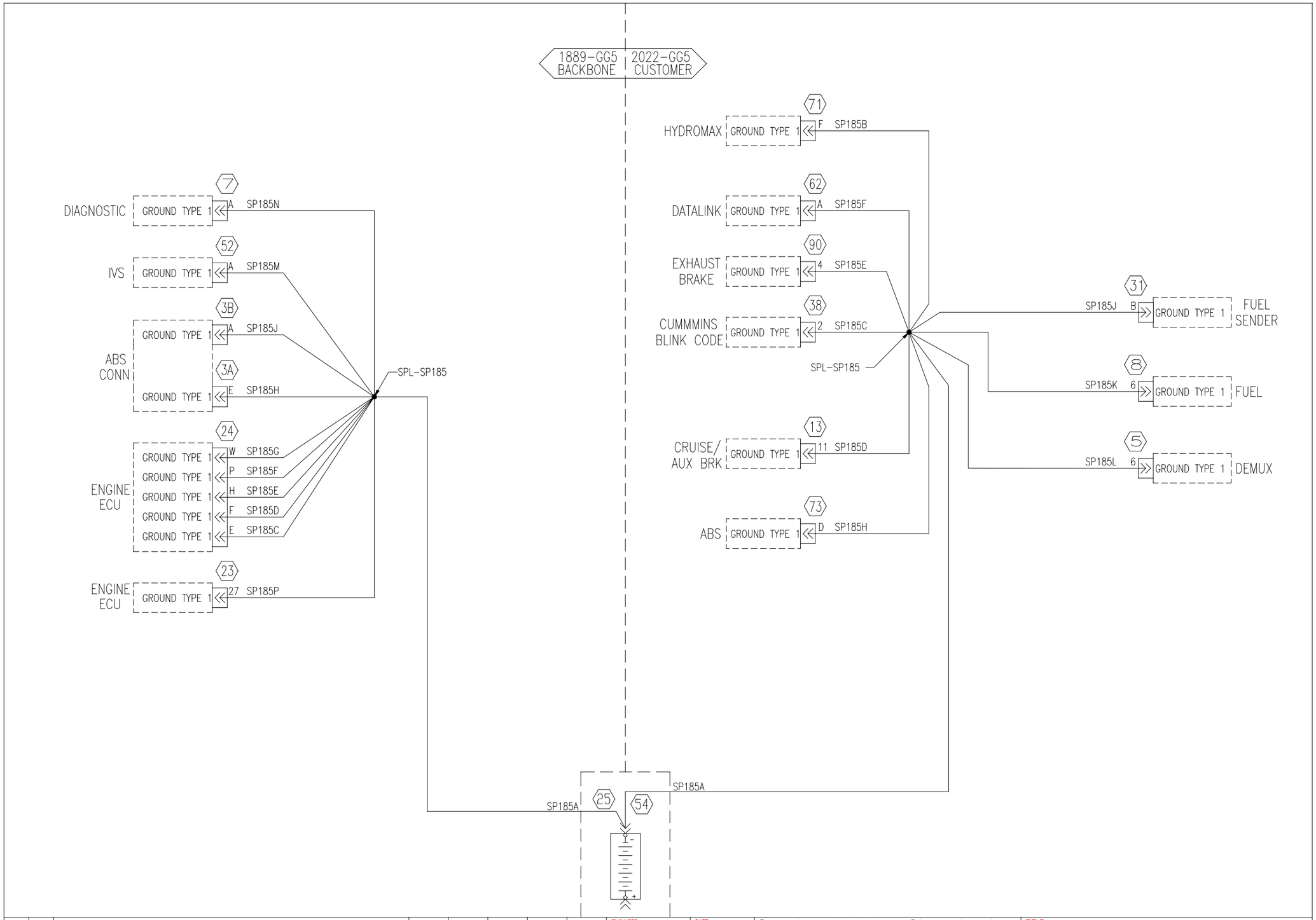


LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/05/01	TSM		

ENGINEER: MIKE CAMPEAU — DATE:
DRAWN BY: JASON RANDALL — DATE: 03/28/00
CHECKED BY: RICK SCHUTTE — DATE: 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: TYPE 1 BATTERY POWER
DRAWING NUMBER: 0028-GG9-008
REV: A



PAGE 1 OF 1								ENGINEER MIKE CAMPEAU	DATE
								DRAWN BY JASON RANDALL	DATE 03/28/00
	A	INITIAL RELEASE		03/05/01	TSM			CHECKED BY RICK SCHUTTE	DATE 03/12/01
	LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY		

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: CLEAN GROUND
DRAWING NUMBER: 0028-GG9-010
REV: A

1889-GG5 BACKBONE | 2022-GG5 CUSTOMER

1771-GG5-004 BUSSMANN

TYPE 1 POWER — ABS 15A — (43) G SP002C — SPL-SP002

1678-GG5-002 BUSSMANN

TYPE 1 POWER — DIAG 10A — (45) B SP389

J1939 (63)
- C SP186
- B SP188
- A SP187

J1939 (96)
- J1939 SHLD DRN — C SP186H
- J1939 NEG — B SP188H
- J1939 POS — A SP187H

DIAGNOSTIC (62)
- J1939 POS — C SP187
- J1939 NEG — D SP188
- J1939 SHLD DRN — E SP186
- DIAGN TOOL PWR — B SP389
- J1587 POS — F SP209C
- J1587 NEG — G SP210C
- GROUND TYPE 1 — A SP185F

DIAGNOSTIC (7)
- J1939 POS — C SP187H
- J1939 NEG — D SP188H
- J1939 SHLD DRN — E SP186H
- DIAGN TOOL PWR — B SP389
- J1587 POS — F SP209D
- J1587 NEG — G SP210D
- GROUND TYPE 1 — A SP185N

SPL-SP210, SPL-SP209 — (2) (26) — SP209E b — b SP209A; SP210E a — a SP210A

(5) DEMUX
- SP209B 3 — J1587 POS
- SP210B 4 — J1587 NEG

SPL-SP185

BATTERY (25) — SP185N

ENGINE ECU (23)
- J1587 POS — 49 SP209B
- J1587 NEG — 50 SP210B

J1587 (13)
- J1587 POS — A SP209A
- J1587 NEG — B SP210A

LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/05/01	TSM		

ENGINEER: MIKE CAMPEAU
DRAWN BY: JASON RANDALL — DATE 03/28/00
CHECKED BY: RICK SCHUTTE — DATE 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: DATA LINK
DRAWING NUMBER: 0028-GG9-012 REV. A

PAGE 1 OF 1

2022-GG5 CUSTOMER | 1889-GG5 BACKBONE

PARK BRAKE SET
GROUND TYPE 4
PARK BRK LIGHT
SP006L A
SP068A B
70

DEMUX
GROUND TYPE 2
J1587 +
J1587 –
DSH LP PWR
INSTRUMENT PWR
SP185L 6
SP209B 3
SP210B 4
SP009B 2
SP020B 1
5

CUSTOMER 92
PARK BRK LIGHT 3
SP068B
SP068C
SPL-SP068
SPL-SP006
SP006J
S

WARNING LIGHT PANEL
3
ENG STOP LT 7 EN017
INST PWR 6 SP020F
RANGE INHIBIT 5 LC123
CHK TRANS 4 LC125B
BRK FLUID LEVEL 3 SP211A
PRK BRK LT 2 SP068C
DIRTY PWR 1 SP043
1
GND 8 SP006D
RT TURN 7 SP045B
GND 6 SP006M
ENG BRK REQ 5 LC107B
HI BEAM 4 SP061C
LT TURN 1 SP044C
2
CHK ENG 2 EN419
ENG FLUID 3 EN016A
WIF LIGHT 4 EN038
WAIT TO START 5 EN037
ABS LIGHT GND 7 SP003B

TURN SIGNAL
12
LT TURN 1 SP044A
RT TURN 2 SP045A

HEAD LAMP
11
HI BEAM 1 SP061A

CUSTOMER
28
HI BEAM PWR B SP061B
LT TURN C SP044B
RT TURN D SP045C

SPL-SP044
SPL-SP045
SPL-SP003
SPL-SP061
SPL-SP210
SPL-SP209
SPL-SP020
SPL-LC125
SPL-EN016
SPL-LC107
SPL-SP107
SPL-SP006-1

KEY SWITCH
IGN
ACC
START
53
BAT
G-1
G-2
ACC
IGN
SOL
SP006X
SP006Y
SP055A
IGN

26 2
SP006X f f SP006X
SP003A Y Y SP003
SP210A a a SP210E
SP209A b b SP209E
EN037 d d EN037
EN016B D D EN016
EN419 H H EN419
EN038 e e EN038
EN017 E E EN017
LC125A W W LC125
LC123 U U LC123
M LC107B

3A
D ABS LT GND
ABS

52 81
LC107C C C LC107C

FUEL 8
INSTRUMENT PWR 5 SP020E
GROUND TYPE 2 6 SP185K
FUEL SENDER SIG 7 SP040
DSH LT PWR 8 SP009E

31
SP185J B
SP040 A
FUEL SENDER
FUEL

BATTERY 54
SP185A
SPL-SP185
SPL-SP009

PIEZO BUZZER 4
A SP020G
B SP211E

DIODE BLOCK
LC125
EN016
SP211E
SPL-SP211-2
SPL-SP211-1

HEADLIGHT SWITCH 6
E
H
B
F
C SP009A
G
A
D

71
SP211B
BRK FLUID LVL
HYDROMAX

73
ABS
ABS LIGHT GND A SP003C
ABS LIGHT GND B SP003D

74
SP003X A
SP003X B
ABS LIGHT GND
ABS LIGHT GND
ABS SHORT PLUG

EXHAUST BRAKE
90
3
5
2
LC107A
LC107D
SP009F

45 D SP020A
46 E SP043
47 A

1678-GG5-002
FRONT BUSSMANN

POWER RLY 1
BATT (+)
IGN
30
87A
87
85
86

POWER RLY 2
BATT (+)
IGN
30
87A
87
85
86

IGN 5A
BATT (+)
IGN

IGN
30
87A
87
85
86
IGN

10C
LC107A 7 ENG BRK REQ
LC123 23 RANGE INHIBIT
LC125 25 CHK TRANS
TRANSMISSION

23
EN017 1 ENG STOP SIG
EN038 2 WIF LT
EN419 3 CHK ENG LT
EN016 4 ENG FLUID SIG
EN037 11 WAIT TO START LT
SP209B 49 J1587 +
SP210B 50 J1587 –
ENGINE

LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/05/01	TSM		

ENGINEER MIKE CAMPEAU DATE
DRAWN BY JASON RANDALL DATE 03/28/00
CHECKED BY RICK SCHUTTE DATE 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: DEMUX, WARN LTS, GAUGES, PIEZO BUZZER
DRAWING NUMBER: 0028-GG9-014
REV: A

1889-GG5 BACKBONE | 2022-GG5 CUSTOMER

ABS CONN
GROUND TYPE 4
SP006C B
3B

1771-GG5-004 BUSSMANN
RELAY 3
RELAY 1
RELAY 2
87A 87 30 85 86

47
C SP006B

EXHAUST BRAKE
GROUND TYPE 4
SP006F B
10

GRID HEATER 1
GROUND TYPE 4
SP006H
6A

GRID HEATER 2
GROUND TYPE 4
SP006J
7A

5D
S
SP006A

SPL-SP006-1

PIEZZO BUZZER
4
SPL-SP211-2
SPL-SP211-1

WINDSHIELD WIPER SWITCH
GROUND TYPE 4
GROUND TYPE 4
64
SP006V F
SP006U B

FRONT CUSTOMER CONN
GROUND TYPE 4
28
SP006C F

5B
START RELAY
30 87A 87 85 86
SP006K

KEY SWITCH
IGN ACC START
53
BAT
G-1
G-2
ACC
IGN
SOL
SP006X
SP006Y

2 26
SP006X f f SP006X

SPL-SP006

1678-GG5-002 BUSSMANN BOX
49
SP006B C
POWER TYPE 1
POWER TYPE 4
30 87A 87 85 86

1618-GG5 BUSSMANN BOX
18
SP006A C
LEFT TURN
BRAKE LIGHT
MARKER
HORN
RIGHT TURN
T/S RELAY
IGNITION
30 87A 87 85 86

81
BLOWER MOTOR RELAY
30 87A 87 85 86
SP006S 5

SP006N 6 4 GROUND TYPE 90
EXHAUST BRAKE

SP006D 8 4 GROUND TYPE
SP006M 6 4 GROUND TYPE 1
WARN LAMP

SP006E H 4 GROUND TYPE 6
HEADLAMP SWITCH

SP006H 30
S

SP006J F 4 GROUND TYPE 27
REAR CUSTOMER

SP006K 33
HORN

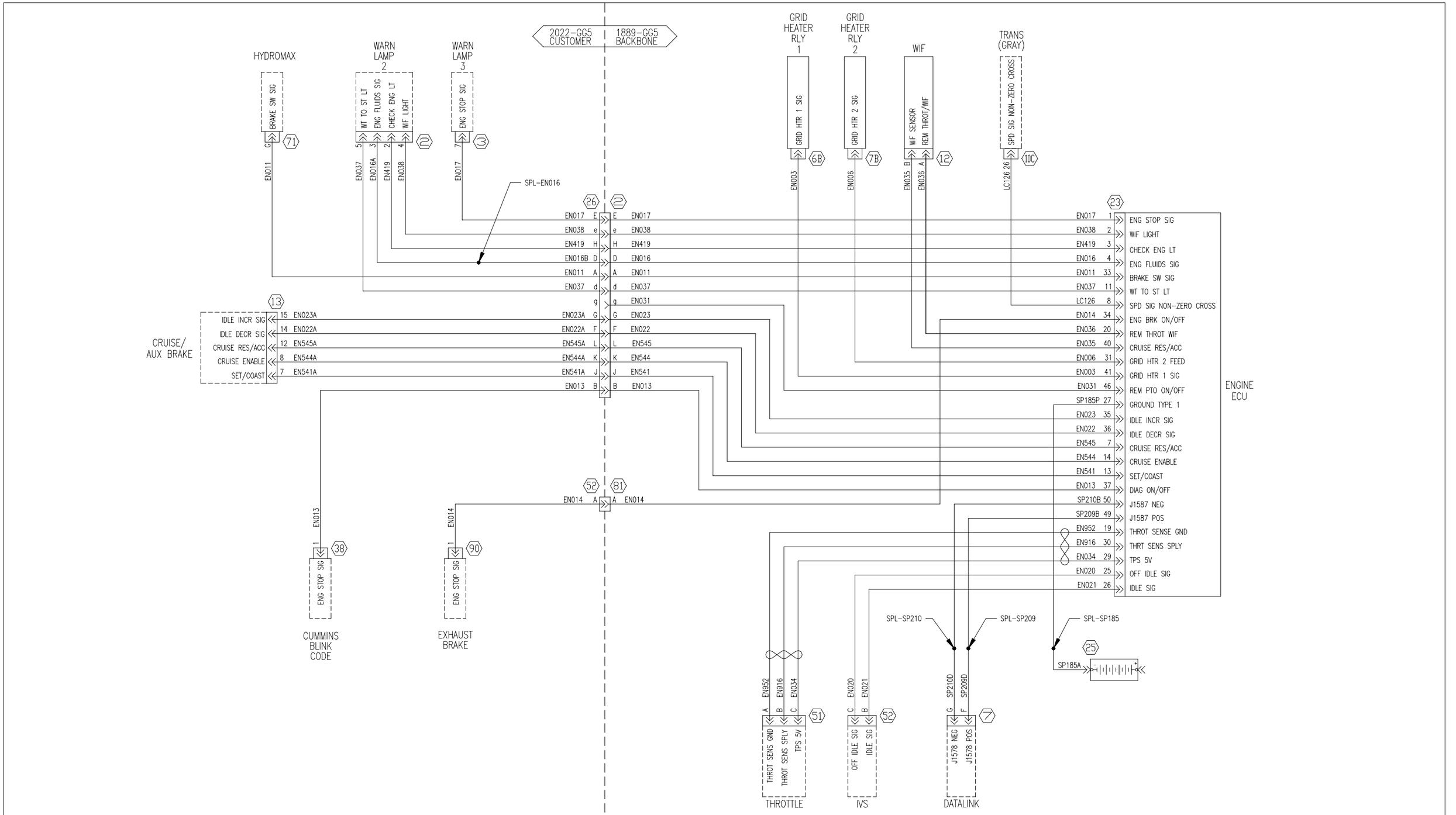
SP006L A 4 GROUND TYPE 70
PARK BRAKE SET

LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/06/01	TSM		

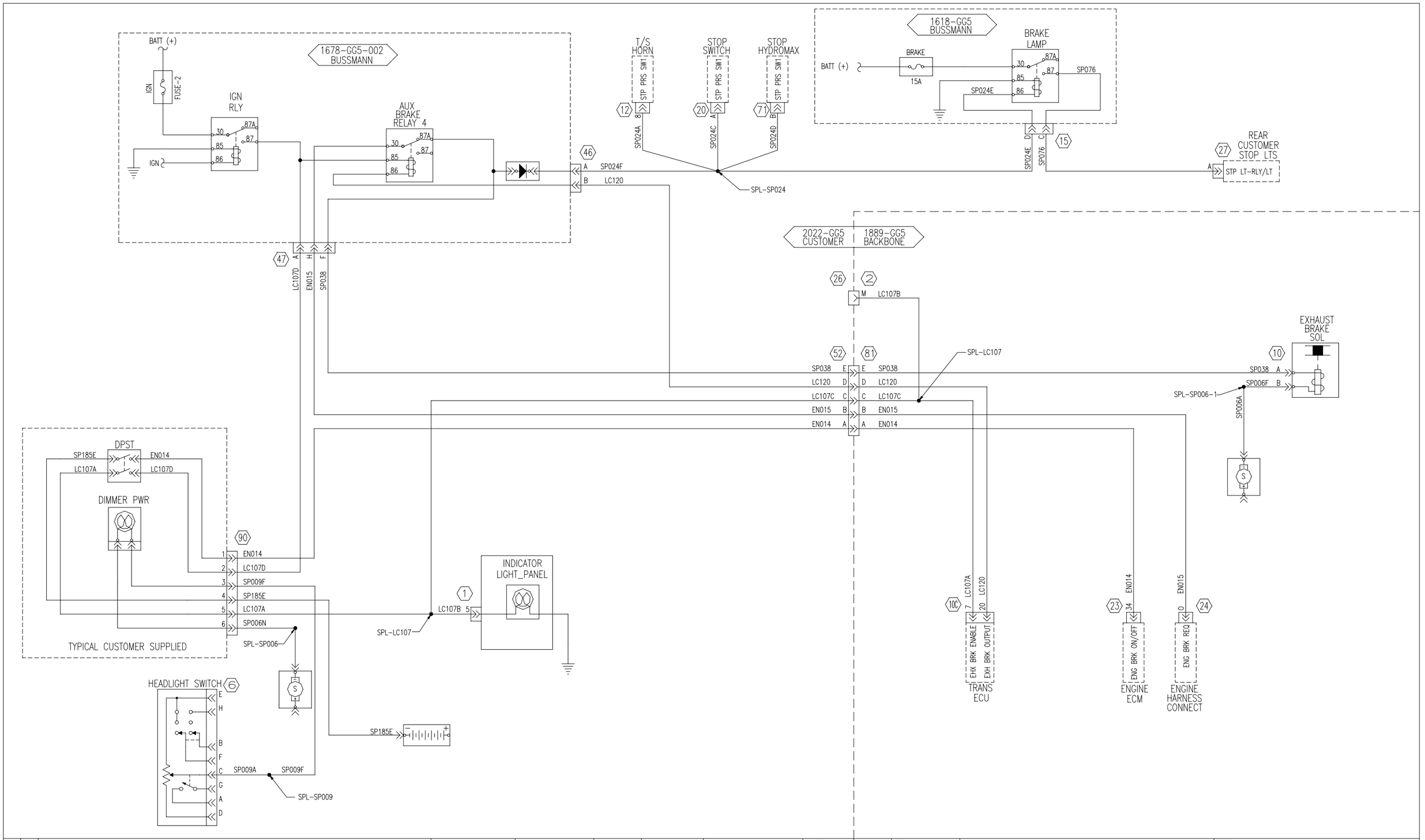
ENGINEER MIKE CAMPEAU DATE
DRAWN BY JASON RANDALL DATE 03/28/00
CHECKED BY RICK SCHUTTE DATE 03/12/01

Spartan Motors Chassis, Inc.
SPARTAN
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: DIRTY GROUND
DRAWING NUMBER: 0028-GG9-016 REV. A



PAGE 1 OF 1							ENGINEER MIKE CAMPEAU	DATE	Spartan Motors Chassis, Inc.	TITLE ECU CONTROLS
	A	INITIAL RELEASE		03/06/01	TSM		DRAWN BY JASON RANDALL	DATE 03/28/00	WORLD WIDE VEHICLES AND CHASSIS 1000 REYNOLDS RD. CHARLOTTE, MICHIGAN 48813	DRAWING NUMBER 0028-GG9-018 REV. A
	LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	CHECKED BY RICK SCHUTTE	DATE 03/12/01		
						APPROVED BY				

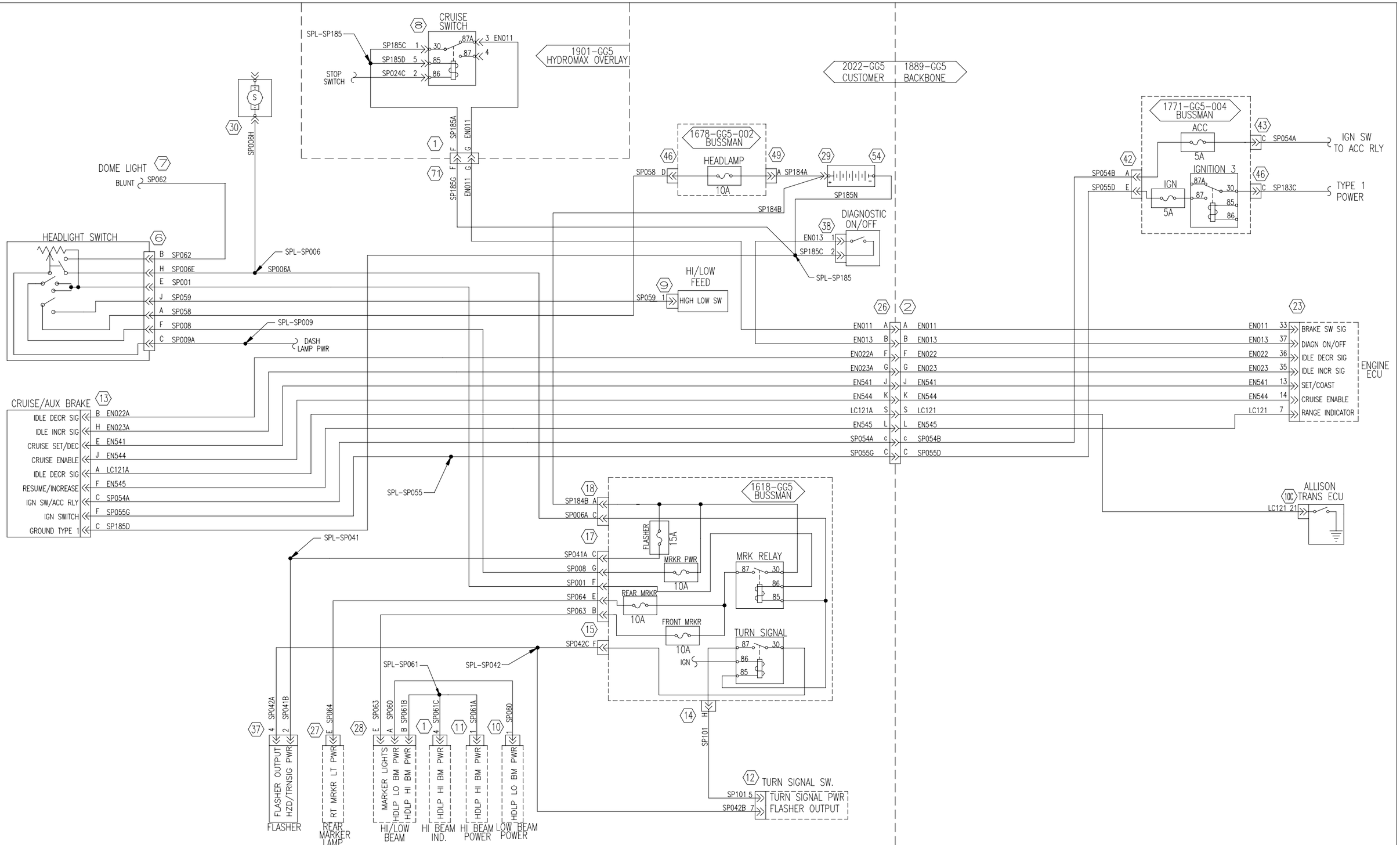


LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/06/01	TSM		

ENGINEER	MIKE CAMPEAU	DATE
DRAWN BY	JASON RANDALL	DATE 03/28/00
CHECKED BY	RICK SCHUTTE	DATE 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: EXHAUST BRAKE
DRAWING NUMBER: 0028-GG9-020 REV. A

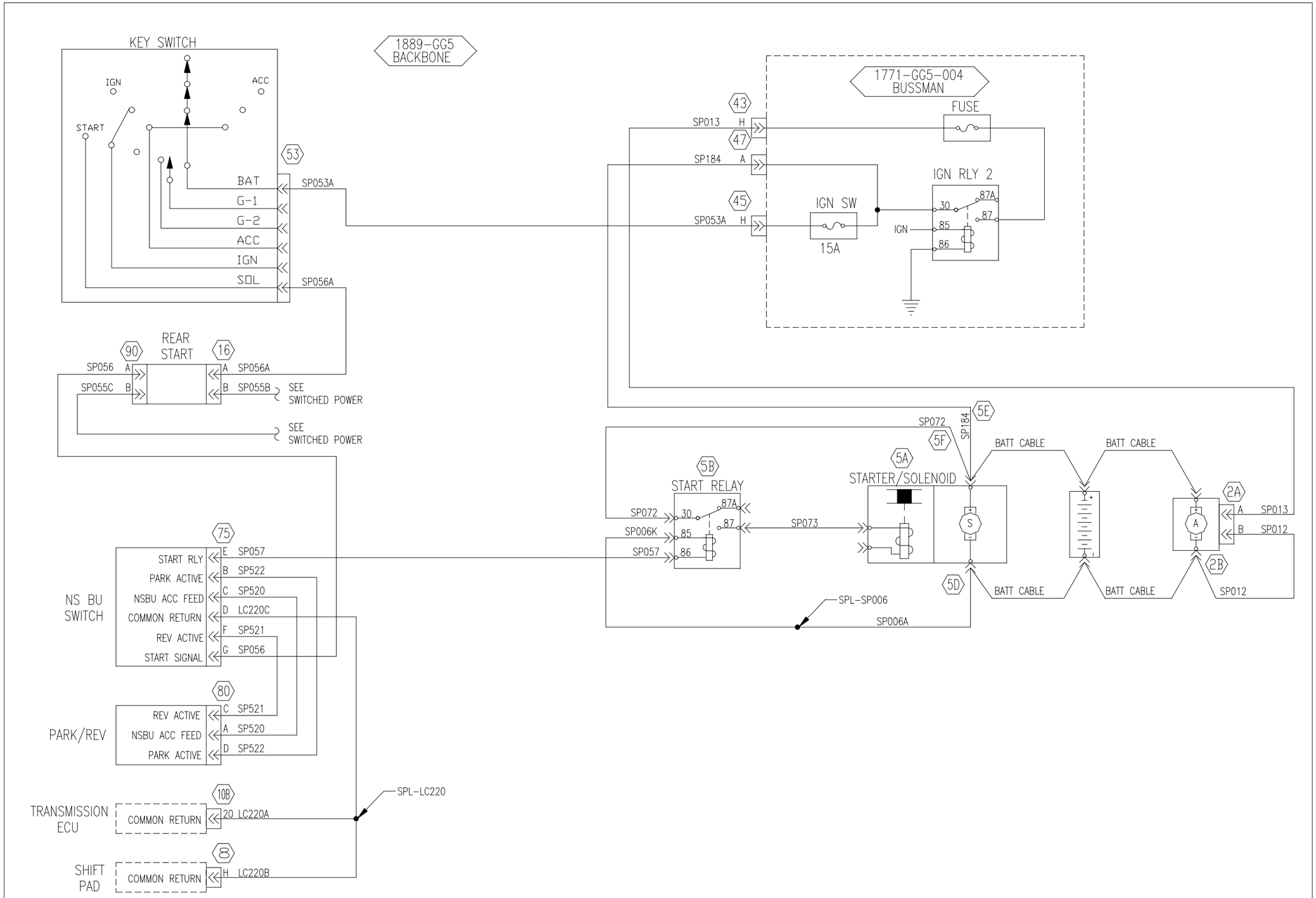


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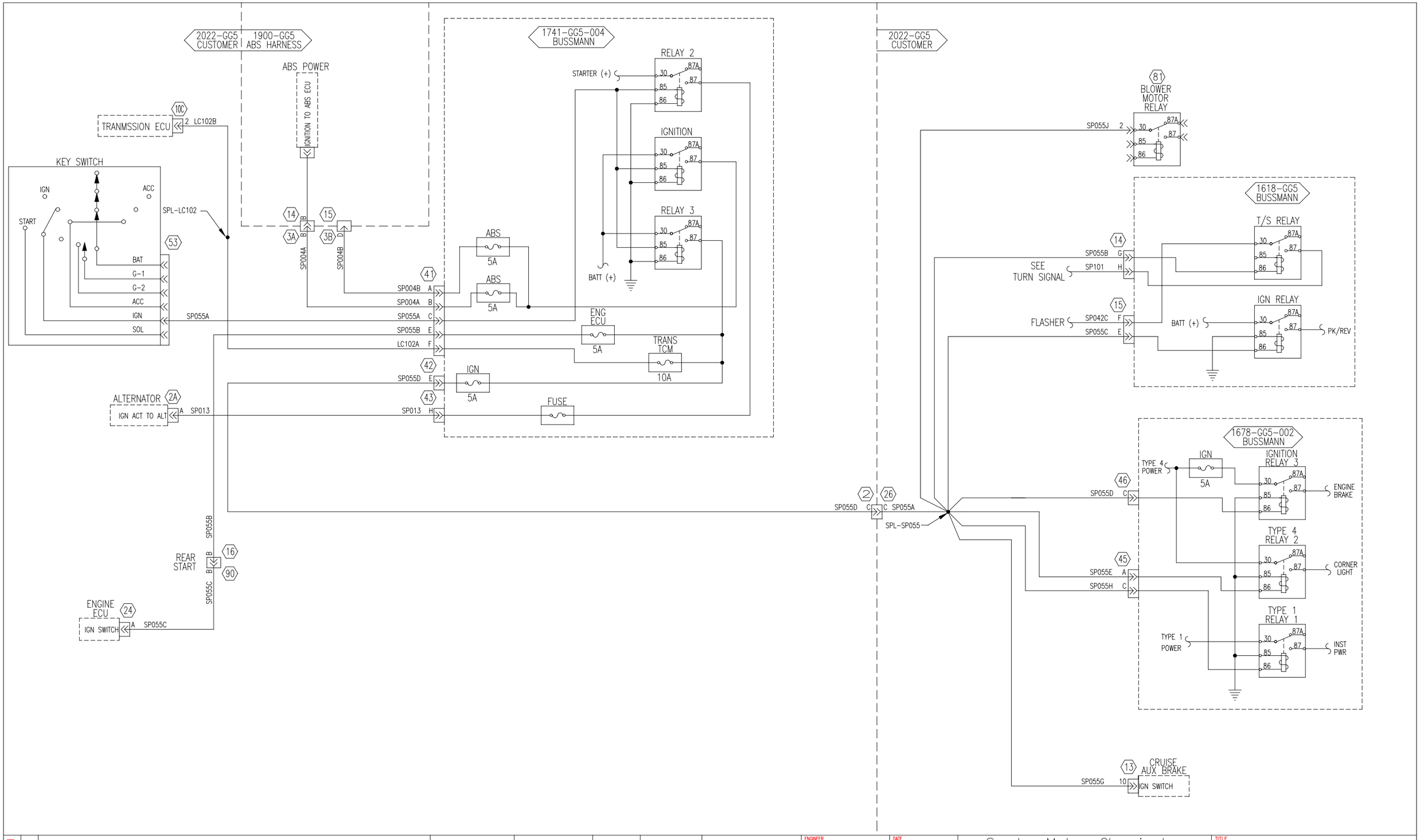
ENGINEER: MIKE CAMPEAU
DRAWN BY: JASON RANDALL — DATE: 03/28/00
CHECKED BY: RICK SCHUTTE — DATE: 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

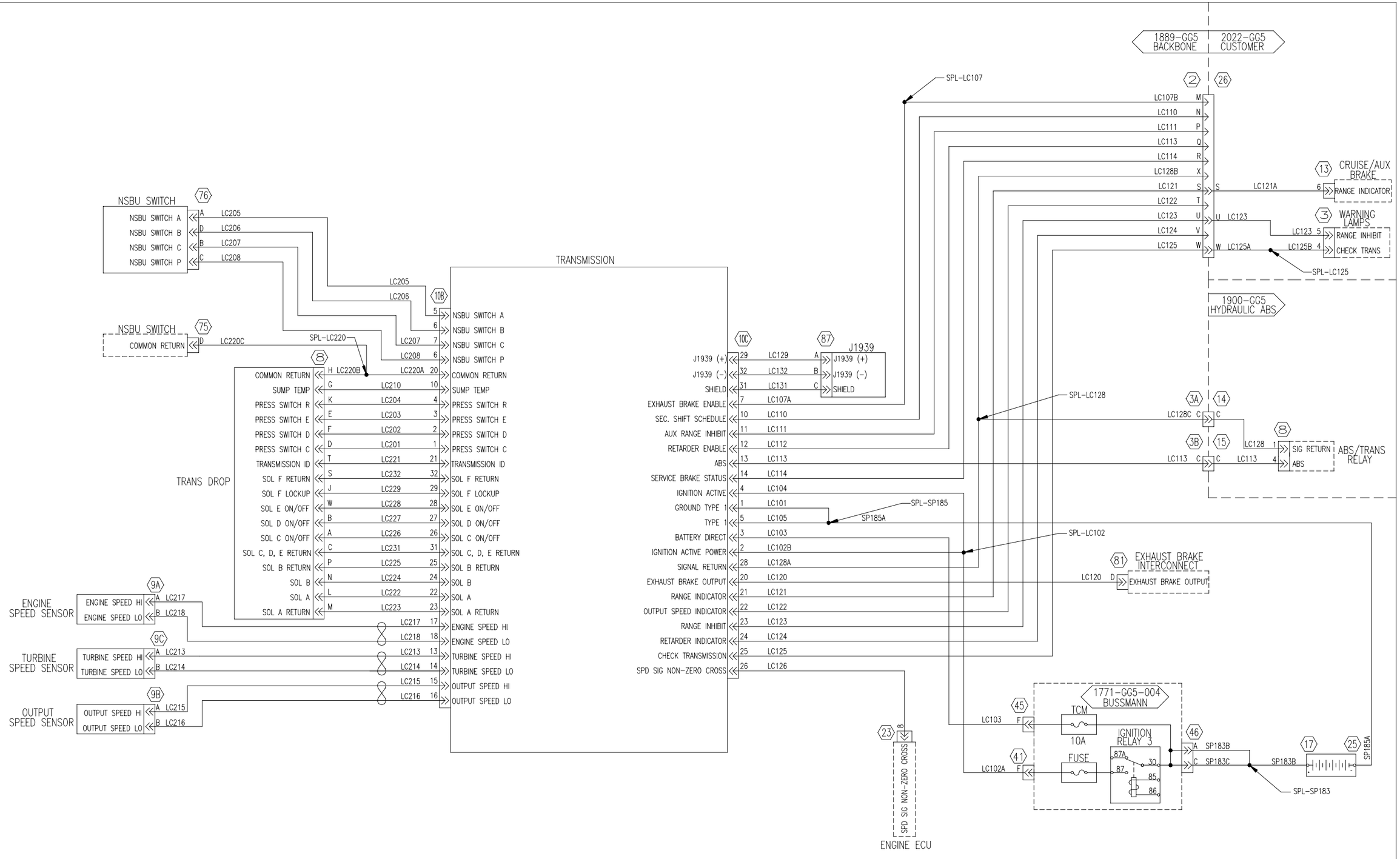
TITLE: HEADLAMP, CRUISE, MARKER PWR
DRAWING NUMBER: 0028-GG9-022 REV. A



PAGE 1 OF 1											
								ENGINEER MIKE CAMPEAU	DATE	Spartan Motors Chassis, Inc.	TITLE STARTER POWER
								DRAWN BY JASON RANDALL	DATE 03/29/00	WORLD WIDE VEHICLES AND CHASSIS 1000 REYNOLDS RD. CHARLOTTE, MICHIGAN 48813	DRAWING NUMBER 0028-GG9-024 REV. A
A	INITIAL RELEASE			03/06/01	TSM			CHECKED BY RICK SCHUTTE	DATE 03/12/01		
LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY					



PAGE 1 OF 1							ENGINEER MIKE CAMPEAU	DATE	TITLE SWITCHED POWER
							DRAWN BY JASON RANDALL	DATE 03/29/00	Spartan Motors Chassis, Inc.
	A	INITIAL RELEASE		03/06/01	TSM		CHECKED BY RICK SCHUTTE	DATE 03/12/01	WORLD WIDE VEHICLES AND CHASSIS 1000 REYNOLDS RD. CHARLOTTE, MICHIGAN 48813
	LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY		DRAWING NUMBER 0028-GG9-026 REV. A



PAGE 1 OF 1							ENGINEER MIKE CAMPEAU	DATE	Spartan Motors Chassis, Inc.	TITLE TRANSMISSION CONTROLS
							DRAWN BY JASON RANDALL	DATE 03/29/00	WORLD WIDE VEHICLES AND CHASSIS 1000 REYNOLDS RD. CHARLOTTE, MICHIGAN 48813	DRAWING NUMBER 0028-GG9-028 REV. A
							CHECKED BY RICK SCHUTTE	DATE 03/12/01		
LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY				
A	INITIAL RELEASE		03/06/01	TSM						

STEERING COLUMN | 2022-GG5 CUSTOMER

TYPICAL CUSTOMER

WARNING LIGHTS PANEL

FAST ON

HORN

FLASHER PWR LOAD

CUSTOMER CONNCTOR FRONT

STOP SWITCH

1678-GG5-002 BUSSMANN

AUX BRAKE

IGN RLY

52 AUX_BRAKE

PARK REAR ACCESS

TURN SIGNAL SWITCH

RIGHT

HAZARD

LEFT

HORN BUTTON

SPL-SP044

SPL-SP045

SPL-SP050

SPL-SP042

SPL-SP015

SPL-SP024

SPL-SP041

SPL-SP006

27 CUSTOMER REAR

1618-GG5 BUSSMANN

TURN

LT TURN RLY

RT TURN RLY

HORN

T/S RLY

BRAKE

BRAKE LAMP

MRKR RLY 1

REAR MARKER

IGN RLY 7

PK REV

FLASHER

LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/07/01	TSM		

ENGINEER MIKE CAMPEAU DATE

DRAWN BY JASON RANDALL DATE 03/29/00

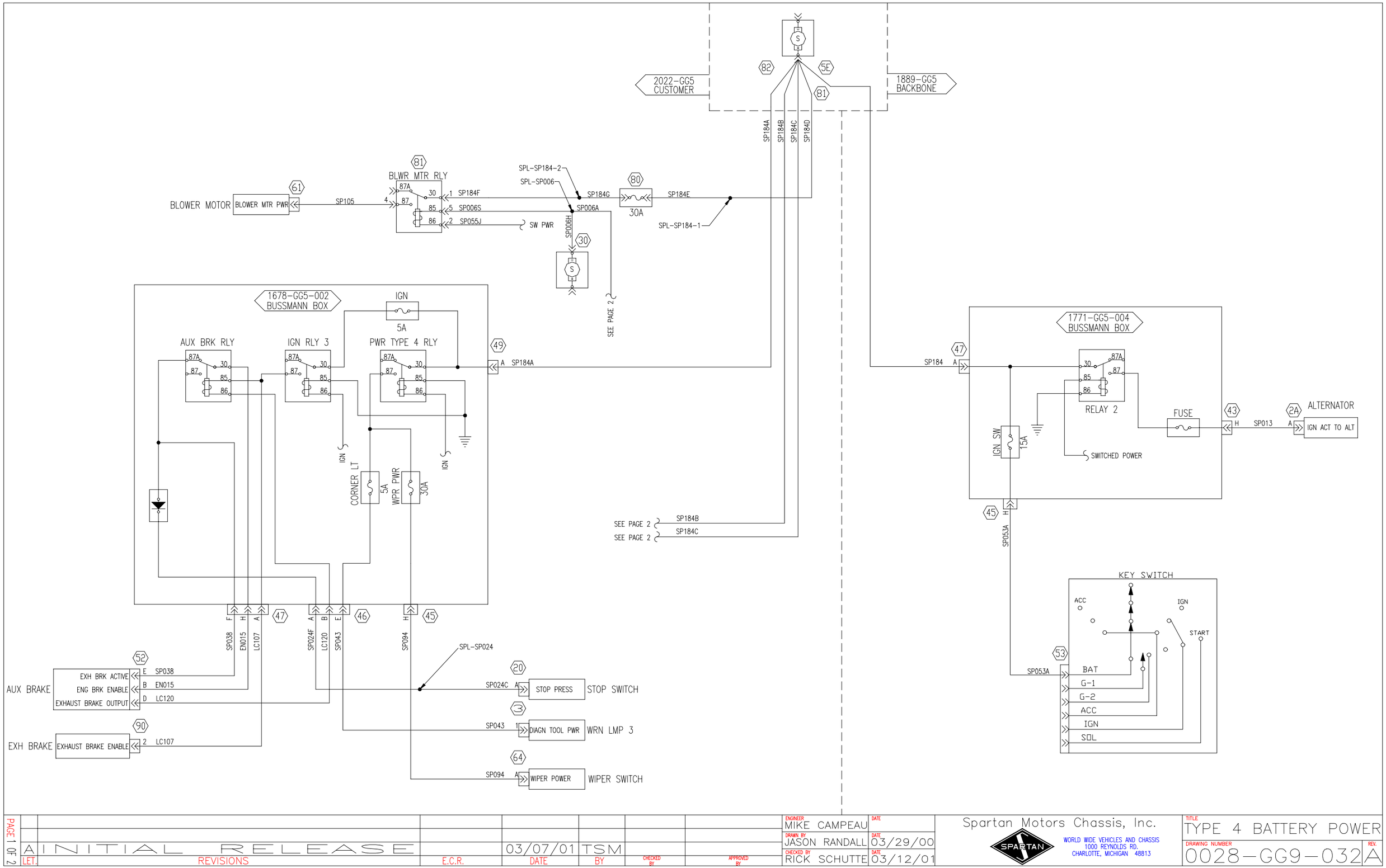
CHECKED BY RICK SCHUTTE DATE 03/12/01

Spartan Motors Chassis, Inc.

WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: TURN SIG, HAZZ, HORN, STOP, REV

DRAWING NUMBER: 0028-GG9-030 REV. A



LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/07/01	TSM		

PAGE 1 OF 2

ENGINEER	MIKE CAMPEAU	DATE
DRAWN BY	JASON RANDALL	DATE 03/29/00
CHECKED BY	RICK SCHUTTE	DATE 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE: TYPE 4 BATTERY POWER

DRAWING NUMBER: 0028-GG9-032 REV. A

2022-GG5
CUSTOMER

REAR CUST CONN
27
R MRKR LT PWR E SP064
STP LT-RLY/LT A SP076
RIGHT TRN REAR D SP047
LEFT TURN REAR C SP048

PRK REAR ACCESS
55
NSBU ACC FEED A SP520
SW PWR

1618-GG5
BUSSMANN BOX

15
B SP520
E SP055C
C SP076
D SP042C

17
E SP064
B SP063
F SP001

PK REV 10A
R/MRK 10A
F/MRKR 10A
HORN 15A
BRK 15A
TURN 15A

IGN RLY 7
MRKR RLY 1
HRN RLY 3
BRK LMP RLY 4
RT TRN RLY 5
LT TRN RLY 2
87A 87 30 85 86

28
SP063 E MARKER LIGHTS
FRT CUST CONN

13
SP001 4 HDLP SW TO MKR
CRUISE/ AUX BRK

FLASHER
FLASHER OUTPUT
37
4 SP042A
SPL-SP042

18
A SP184B SEE PAGE 1
C SP006A SEE PAGE 1

19
A SP184C SEE PAGE 1

14
A SP050A
B SP051
F SP047
E SP226
C SP048
D SP227

12
SP042B 7 FLASHER OUTPUT
SP227 3 LT TRN TO RLY
SP226 4 RT TRN TO RLY
SP051 6 HORN BUTTON
T/S HORN

HORN
HORN RLY TO HORN
32
SP050B

HORN
HORN RLY TO HORN
60
SP050C

SP050A
SPL-SP050

LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/07/01	TSM		

ENGINEER MIKE CAMPEAU DATE
DRAWN BY JASON RANDALL DATE 03/29/00
CHECKED BY RICK SCHUTTE DATE 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE
TYPE 4 BATTERY POWER
DRAWING NUMBER
0028-GG9-032
REV. A

1889-GG5 BACKBONE | 2022-GG5 CUSTOMER

1901-GG5 HYDROMAX OVERLAY

1678-GG5-002 BUSSMANN

POWER TYPE 1

TYPE 1 POWER

30 87A 87 85 86

IGN

HYDROMAX 45

5A

F SP183B

1618-GG5 BUSSMANN

FLASHER

TYPE 1 POWER

15A

17 C SP041A SP041C B SPL-SP041

20 A SP024C SPL-SP024

BRAKE SWITCH

CRUISE SWITCH 8

SP185C 1 30 87A 3 EN011

SP024C 2 85 87

SP185D 5 86

HYDROMAX CONTROL MODULE

2 7 SP183 TYPE 1 BATT

8 SP024B STOP PRESS SW

3 SP364 H'MAX WARN LT

4 SP185B GROUND TYPE 1

1 SP363A H'MAX FLOW SW

2 SP211A BRAKE FLUID LVL

5 SP365A H'MAX PUMP SIG

6 SP366A H'MAX PUMP POS

PUMP RELAY 5

SP367 1 4 SP366B

SP363C 2

SP365B 5

SPL-SP366

HYDROMAX PUMP MOTOR

4 SP366C

SPL-SP024

71 1

SP183B A A SP183

SP024D B B SP024A

SP211B C C SP211C

SP364 D D SP364

SP365 E E SP365C

SP185G F F SP185A

EN011 G G EN011

SPL-SP185

SPL-SP185

SPL-SP365

SPL-SP363

SPL-SP211

FLOW SWITCH 3

A SP363B

6 A SP211E B SP211D

PRESSURE DIFFERNTIAL SWITCH

WARNING LAMPS 3

3 SP211A

SPL-SP211

PIEZZO BUZZER 4

SP211E

77 SP365 BLUNT WNG LMP

76 SP364 BLUNT HMAX SIG

ISB ECU 23

BRAKE SW SIG 33

EN011

2 26 A A EN011

54 7

SP185A SP367

PAGE 1 OF 1	LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
	A	INITIAL RELEASE		03/08/01	TSM		

ENGINEER MIKE CAMPEAU DATE

DRAWN BY JASON RANDALL DATE 03/29/00

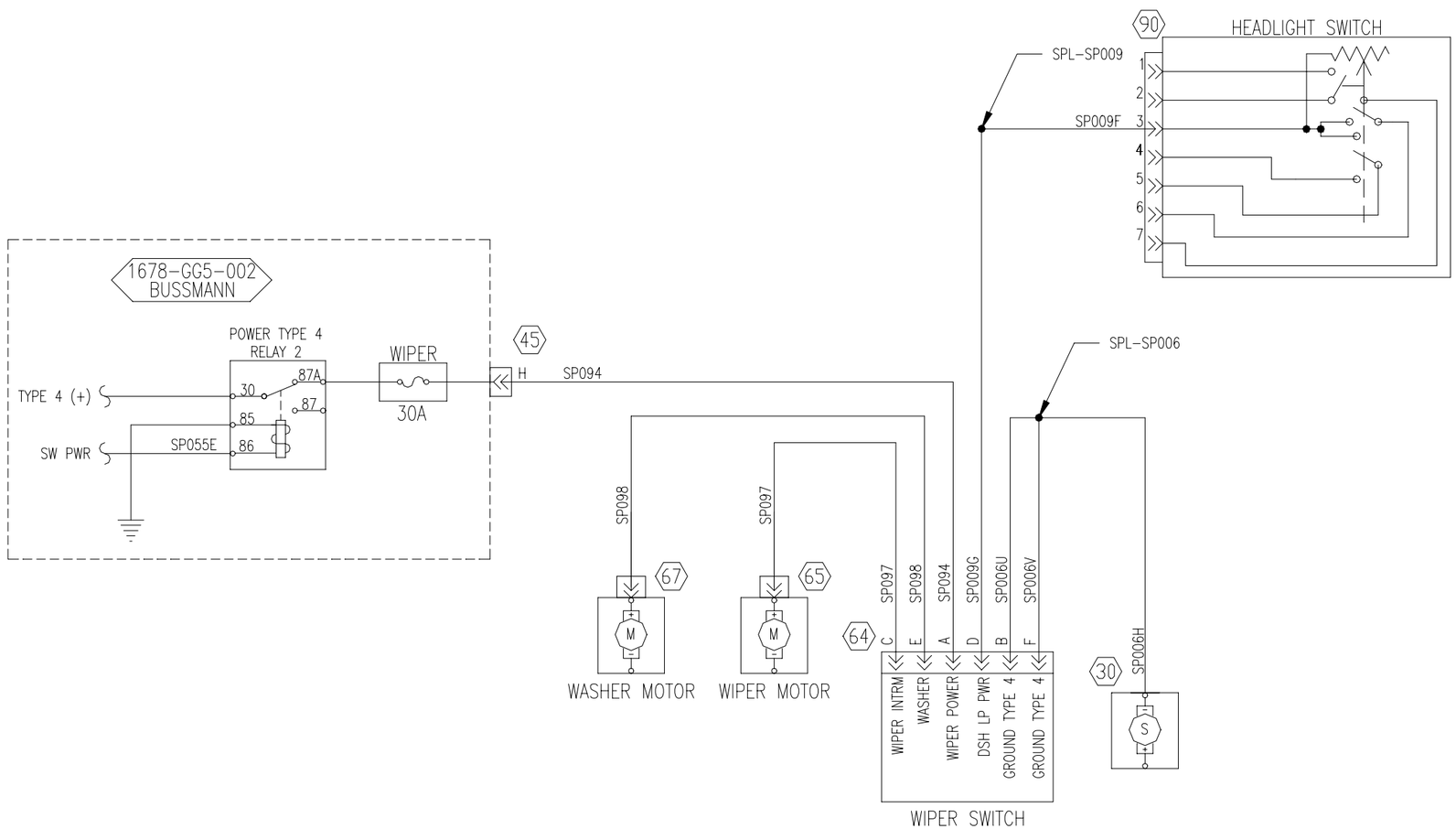
CHECKED BY RICK SCHUTTE DATE 03/12/01

Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

TITLE HYDROMAX SYSTEM

DRAWING NUMBER 0028-GG9-034 REV. A

2022-GG5
CUSTOMER



LET.	REVISIONS	E.C.R.	DATE	BY	CHECKED BY	APPROVED BY
A	INITIAL RELEASE		03/08/01	TSM		

PAGE 1 OF 1

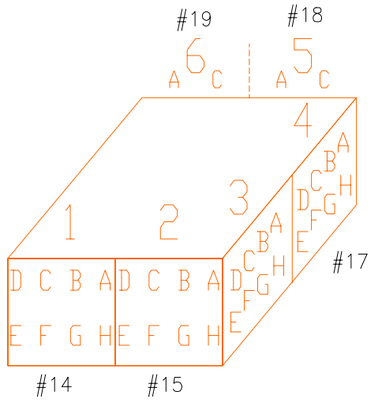
ENGINEER MIKE CAMPEAU	DATE	
DRAWN BY JASON RANDALL	DATE	03/30/00
CHECKED BY RICK SCHUTTE	DATE	03/12/01

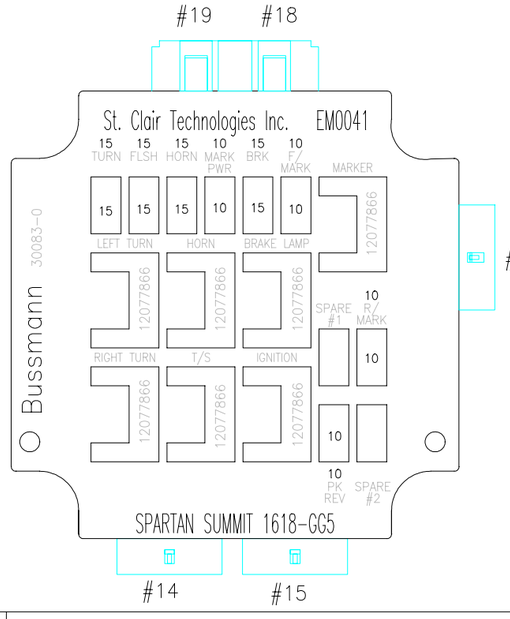
Spartan Motors Chassis, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

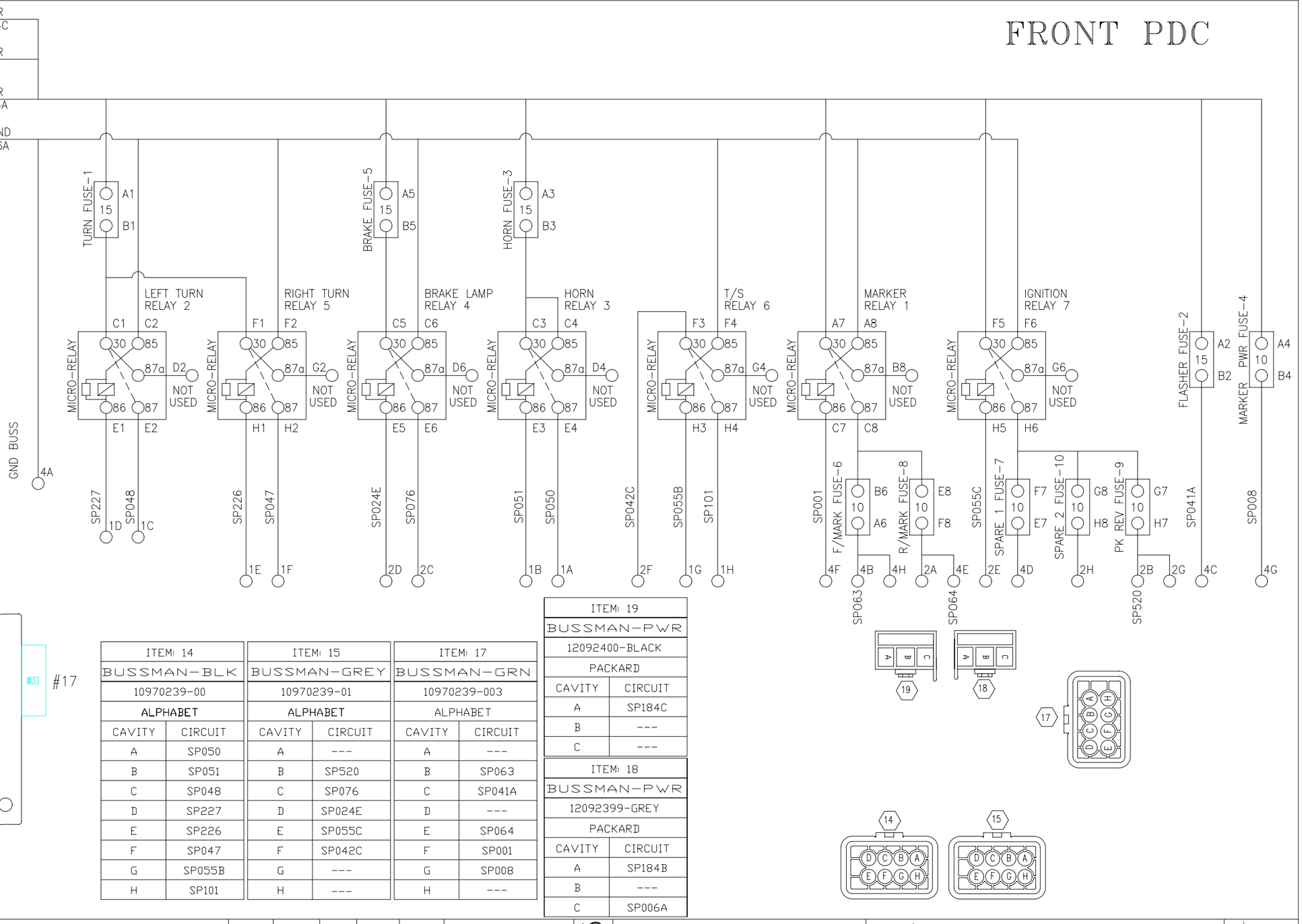
TITLE: WIPER POWER

DRAWING NUMBER: 0028-GG9-036 REV. A

FRONT PDC







ITEM: 14	
BUSSMAN-BLK	
10970239-00	
ALPHABET	
CAVITY	CIRCUIT
A	SP050
B	SP051
C	SP048
D	SP227
E	SP226
F	SP047
G	SP055B
H	SP101

ITEM: 15	
BUSSMAN-GREY	
10970239-01	
ALPHABET	
CAVITY	CIRCUIT
A	---
B	SP520
C	SP076
D	SP024E
E	SP055C
F	SP042C
G	---
H	---

ITEM: 17	
BUSSMAN-GRN	
10970239-003	
ALPHABET	
CAVITY	CIRCUIT
A	---
B	SP063
C	SP041A
D	---
E	SP064
F	SP001
G	SP008
H	---

ITEM: 19	
BUSSMAN-PWR	
12092400-BLACK	
PACKARD	
CAVITY	CIRCUIT
A	SP184C
B	---
C	---

ITEM: 18	
BUSSMAN-PWR	
12092399-GREY	
PACKARD	
CAVITY	CIRCUIT
A	SP184B
B	---
C	SP006A

LET.	REVISIONS	E.C.R.	DATE	BY	APPROVED BY	CHECKED BY
C	SWITCHED-SP226+SP227-AROUND-AT-ITEM-14-CAV.D-AND-E.		7/26/99	BLC	BLC	
B	CHANGED-FUSE-4-TO-MARK-PWR-ADDED-CIRCUIT-NUMBERS-TO-DRAWING	-	7/26/99	BLC	CAP	
A	INITIAL_RELEASE	-	4/20/99	MAC	MB	

PART NO. & REV. LETTER MUST BE STAMPED ON PART

TOLERANCES UNLESS NOTED
X.X ± .06
X.XX ± .03
X.XXX ± .010
< ± 1°

1618-GG5

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MATERIAL: COOPER#

FINISH: FINISH

DO NOT SCALE DRAWING

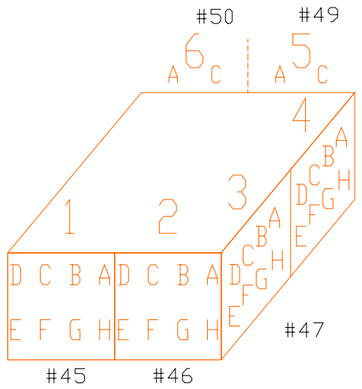
Spartan Motors, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

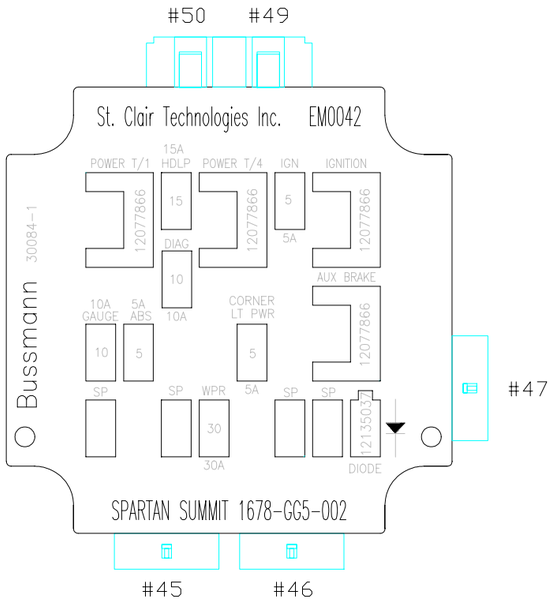
THIRD ANGLE PROJECTION

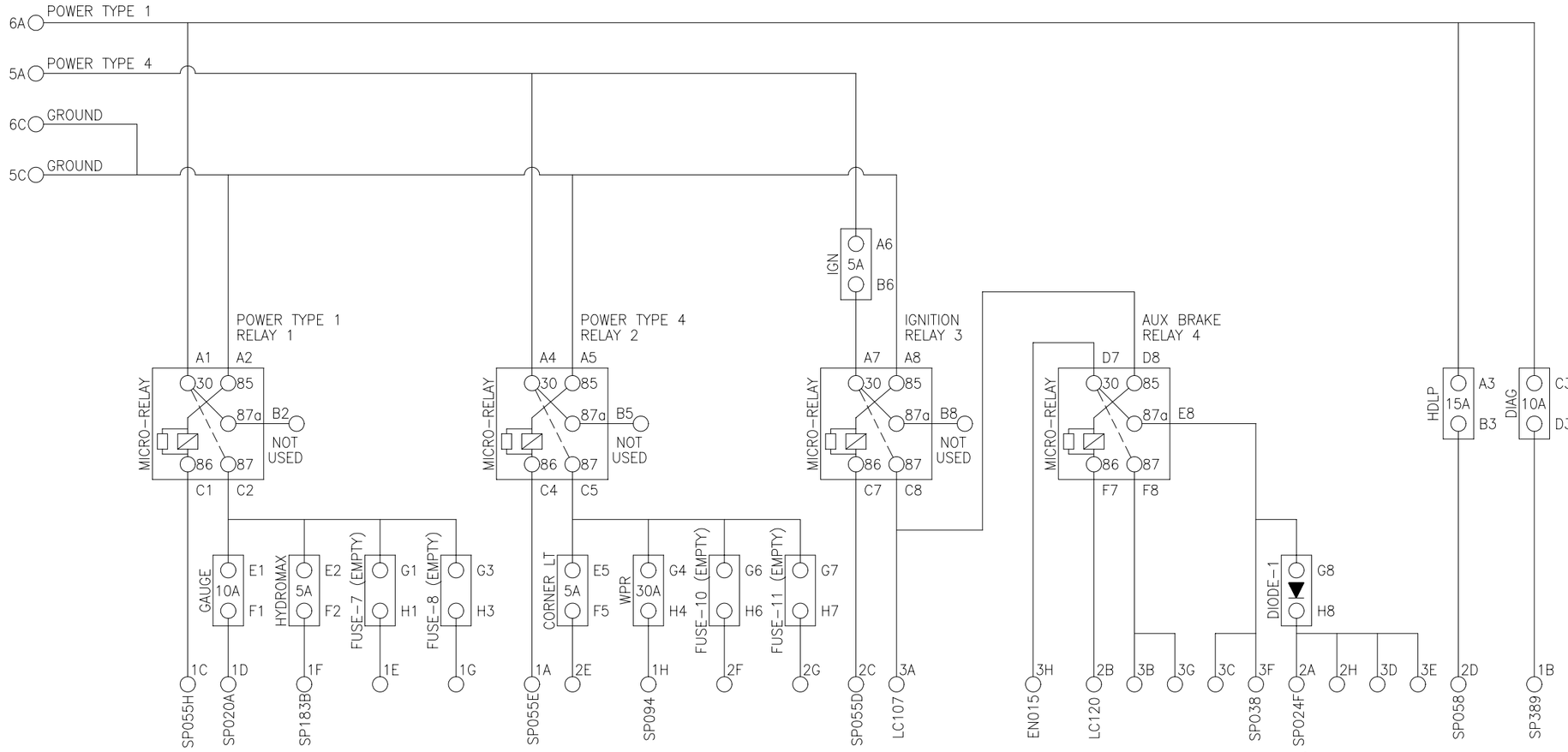
TITLE: BUSMAN_BOX_SCHM. MODULAR_BACK_BONE

DRAWING NUMBER: 1618-GG5

REV. C







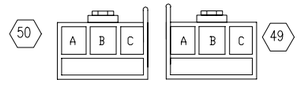
ITEM: 45	
BUSSMAN-BLK	
10970239-00	
ALPHABET	
CAVITY	CIRCUIT
A	SP055E
B	SP389
C	SP055H
D	SP020A
E	---
F	SP183B
G	---
H	SP094

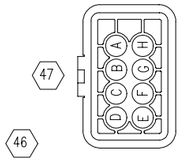
ITEM: 46	
BUSSMAN-GREY	
10970239-01	
ALPHABET	
CAVITY	CIRCUIT
A	SP024F
B	LC120
C	SP055D
D	SP058
E	SP043
F	---
G	---
H	---

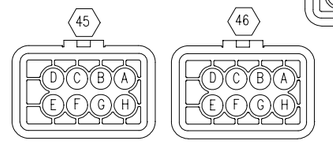
ITEM: 47	
BUSSMAN-BLUE	
10970239-02	
ALPHABET	
CAVITY	CIRCUIT
A	LC107
B	---
C	---
D	---
E	---
F	SP038
G	---
H	EN015

ITEM: 49	
BUSSMAN-PWR	
12092399-GREY	
PACKARD	
CAVITY	CIRCUIT
A	SP184A
B	---
C	SP006B

ITEM: 50	
BUSSMAN-PWR	
12092400-BLK	
PACKARD	
CAVITY	CIRCUIT
A	SP183
B	---
C	---







LET.	REVISIONS	E.C.R.	DATE	BY	APPROVED BY	CHECKED BY
B	CORRECT_DIFFERENCES_BETWEEN_LABEL_AND_SCHEMATIC,_CHANGE_DIAGNOSTIC_FUSE_TO_10A		6/6/00	DCS	DCS	
A	INITIAL_RELEASE	C7841	4/20/00	JER	GM	–

PART NO. & REV. LETTER MUST BE STAMPED ON PART

TOLERANCES UNLESS NOTED
X.X ± .06
X.XX ± .03
X.XXX ± .010
< ± 1°

1678-GG5

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MATERIAL: COOPER#

FINISH: FINISH

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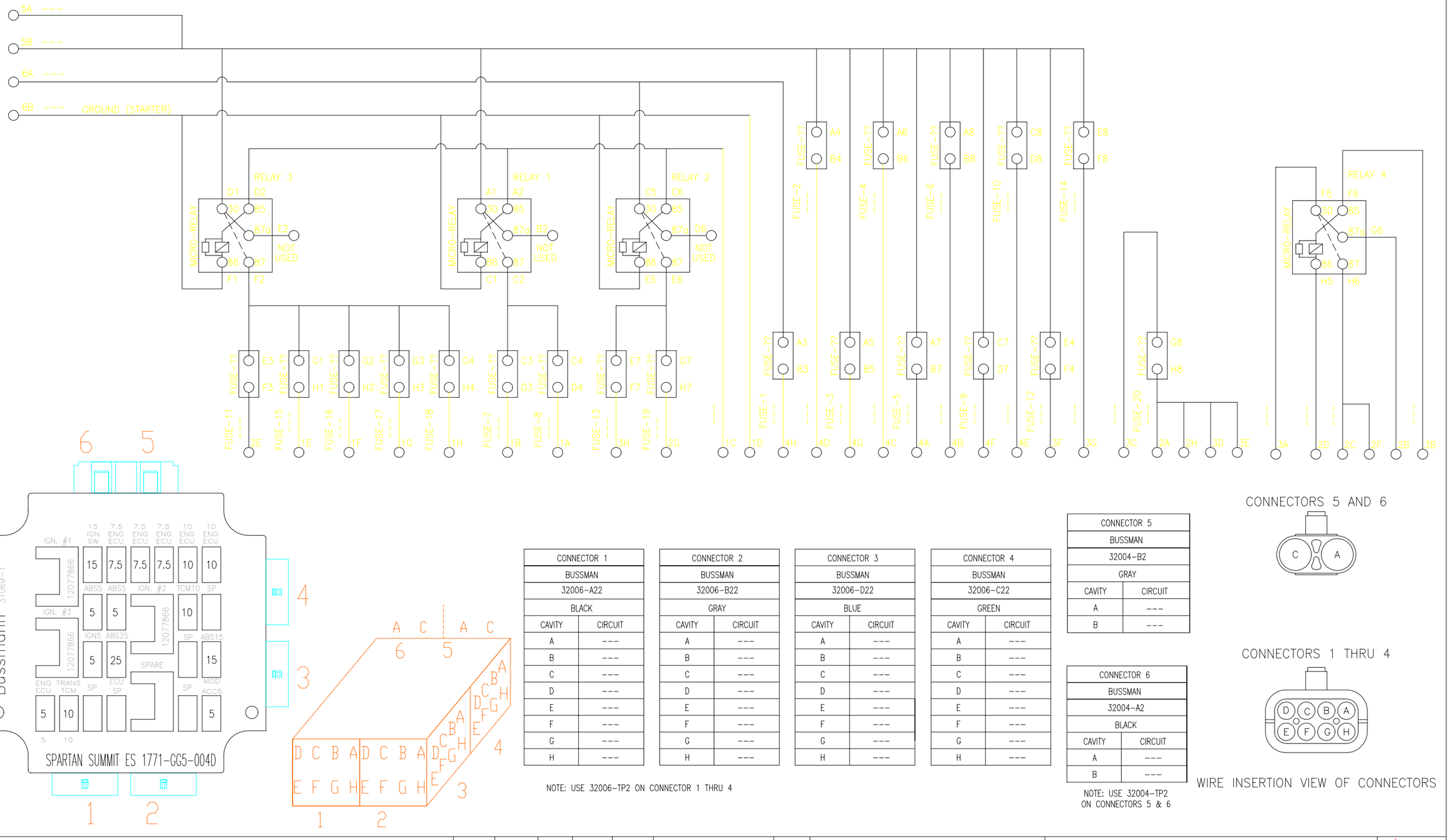
Spartan Motors, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

THIRD ANGLE PROJECTION

TITLE: BUSMAN_BOX_SCHM. CUST._OPT_#2

DRAWING NUMBER: 1678-GG5-002

REV. B



CONNECTOR 1
BUSSMAN
32006-A22
BLACK
CAVITY / CIRCUIT
A ---
B ---
C ---
D ---
E ---
F ---
G ---
H ---

CONNECTOR 2
BUSSMAN
32006-B22
GRAY
CAVITY / CIRCUIT
A ---
B ---
C ---
D ---
E ---
F ---
G ---
H ---

CONNECTOR 3
BUSSMAN
32006-D22
BLUE
CAVITY / CIRCUIT
A ---
B ---
C ---
D ---
E ---
F ---
G ---
H ---

CONNECTOR 4
BUSSMAN
32006-C22
GREEN
CAVITY / CIRCUIT
A ---
B ---
C ---
D ---
E ---
F ---
G ---
H ---

NOTE: USE 32006-TP2 ON CONNECTOR 1 THRU 4

CONNECTOR 5
BUSSMAN
32004-B2
GRAY
CAVITY / CIRCUIT
A ---
B ---

CONNECTOR 6
BUSSMAN
32004-A2
BLACK
CAVITY / CIRCUIT
A ---
B ---

NOTE: USE 32004-TP2 ON CONNECTORS 5 & 6

CONNECTORS 5 AND 6

CONNECTORS 1 THRU 4

WIRE INSERTION VIEW OF CONNECTORS

LET.	REVISIONS	E.C.R.	DATE	BY	APPROVED BY	CHECKED BY
D	REMOVE WIRE INFO, INCLUDE REV LETTER IN PART NUMBER & REMOVE ST. CLAIR PART #	–	10/25/00	DS	DS	DS
C	CORRECT_FUSE_SIZES_IN_FUSE_LOCATIONS_A6/B6_AND_A7/B7		6/29/00	DCS	DCS	
B	CORRECT_DIFFERENCES_BETWEEN_LABEL_AND_SCHEMATIC		6/6/00	DCS	DCS	
A	INITIAL_RELEASE	C7841	4/20/00	JER	GM	–

PART NO. & REV. LETTER MUST BE STAMPED ON PART

TOLERANCES UNLESS NOTED
X.X ± .06
X.XX ± .03
X.XXX ± .010
< ± 1°

1771-GG5-004D

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MATERIAL: COOPER#

FINISH: FINISH

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Spartan Motors, Inc.
WORLD WIDE VEHICLES AND CHASSIS
1000 REYNOLDS RD.
CHARLOTTE, MICHIGAN 48813

THIRD ANGLE PROJECTION

TITLE: BACKBONE BUSSMAN BOX ISB/C MT/AT WTIII

DRAWING NUMBER: 1771-GG5-004D

REV. D