



## Electrical Circuit Diagrams





# **DEFENDER**

## **2002MY**

# Electrical Circuit Diagrams

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**COLOUR CODES****DRAADKLEURCODES****CODICI COLORI DEI CAVI****CODES DES COULEURS DES FILS****CODIGOS DE COLORES DE LOS CABLES****KABELFARBCODES****CÓDIGOS DAS CORES DOS FIOS**

CODE	COLOUR	CODE	KLEUR	CODE	COULEUR	CODE	FARBE	CODICE	COLORE	CODIGO	COLOR	CÓDIGO	COR
B	BLACK	B	ZWART	B	NOIR	B	SCHWARZ	B	NERO	B	NEGRO	G	PRETO
G	GREEN	G	GROEN	G	VERT	G	GRÜN	G	VERDE	G	VERDE	K	VERDE
K	PINK	K	ROZE	K	ROSE	K	ROSA	K	ROSA	K	ROSA	LG	ROSA
LG	LIGHT GREEN	LG	LICHTGROEN	LG	VERT CLAIR	LG	HELLGRÜN	LG	VERDE CHIARO	LG	VERDE CLARO	N	VERDE CLARO
N	BROWN	N	BRUIN	N	BRUN	N	BRAUN	N	MARRONE	N	MARRON	O	CASTANHO
O	ORANGE	O	ORANJE	O	ORANGE	O	ORANGE	O	ARANCIONE	O	NARANJA	P	LARANJA
P	PURPLE	P	PAARS	P	VIOLET	P	LILA	P	PORPORA	P	PURPURA	R	ROXO
R	RED	R	ROOD	R	ROUGE	R	ROT	R	ROSSO	R	ROJO	S	VERMELHO
S	SLATE (grey)	S	LEIGRIJS	S	GRIS	S	GRAU	S	ARDESIA (grigio)	S	PIZARRO (gris)	U	CINZENTO
U	BLUE	U	BLAUW	U	BLEU	U	BLAU	U	BLU	U	AZUL	W	AZUL
W	WHITE	W	WIT	W	BLANC	W	WEISS	W	BIANCO	W	BLANCO	Y	BRANCO
Y	YELLOW	Y	GEEL	Y	JAUNE	Y	GELB	Y	GIALLO	Y	AMARILLO	Y	AMARELO

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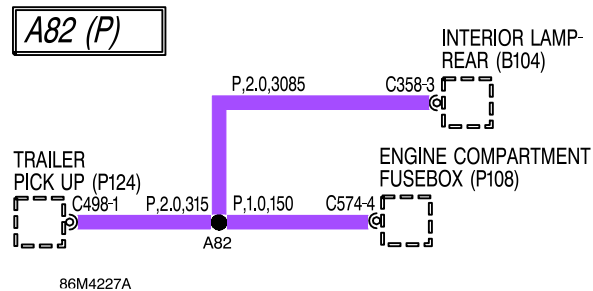
## HOW TO USE THE CIRCUIT DIAGRAMS

All of the information in this folder is intended for use with the **Electrical Reference Library booklet**.

The circuit diagrams are presented with Power and Earth distribution first, followed by individual circuits for each electrical system on the car.

### Power Distribution

The Power Distribution diagram shows the connections from the battery to the engine and passenger compartment fuseboxes. It also shows the internal circuitry of the fuseboxes.



The fuse box details are followed by independent functionally specific circuits and then a Splices and centre taps section outlining the way in which internal harness splices and centre taps distribute power in the harnesses. This information should be used during diagnosis of electrical faults to check for symptoms in associated circuits and narrow down the search area.

### Earth Distribution

The ground distribution section comprises a number of Headers and Splices tables. These are used in a similar manner to those in Power Distribution; to narrow the search area by checking for fault symptoms in associated circuits.

### Splices and centre taps

Header and splice tables present the joint(s) and wiring up to the first component. Splices are identified by a number with an alphabetical prefix and the wire colour.

**The splice information shown on individual system circuits is not complete. Always refer to the splices circuit for complete information on each splice.**

### Wire attributes

Additional information (separated by a ',') is shown alongside the wire colour:

Wire gauge - the cross-sectional area of the wire in square millimetres. This is included to help you select the correct wire during harness repair.

Some wires do not have a gauge shown, these wires are of unique construction and will have a three or four letter code printed after the colour code, eg MAB. The code identifies the type of wire for manufacturing purposes. Usually, only the first two characters have significance in service, but in some instances the third character also becomes significant, see table.

### Wire type

The following table list the wire type codes together with an explanation of their meaning.

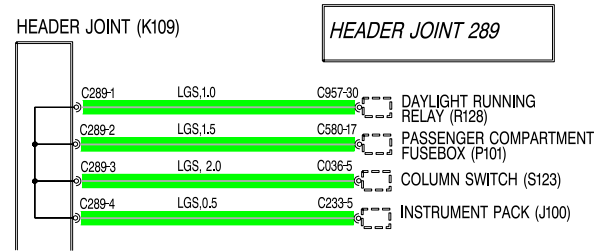
Code	Description
D	Single core DIN wire
F	Single core flexible wire
H	Single core high temperature wire
SA*	Single core resistive wire (0.9 ohms/m)
SB*, SC*, SD*	Single core dual extruded wire
SE*, SF*	Single core fusible wire
MAC, MAD, MAE, MAF, MAG, MAH	Coaxial screened wire
MB*, MO*, MAK	Single core screened wire
MC*, MI*, MP*, MQ*, MAB, MAP	Twin core screened wire
MD*, MJ*, MAM	Twin core ABS sensor wire
ME*, TA*, TB*, MM*, MN*, MU*,MAI	Twisted pair of wires
MF*	Heated oxygen sensor (HO2S) screened wire
MG*	Twin core twisted, screened wire
MH	four core twisted, screened wire
MK*	Three core SRS sensor wire
ML*, MAA, MAR	Four core screened wire
MR*	Six core screened, flexible wire
MS*	Four core screened, flexible wire
MT*	Single core screened, flexible wire
MV*	Twin core flat wire
MW*	Three core round wire
MX*, MY*	Seven core round wire
MZ*	Three core screened, flexible wire
MAJ	Twin core round cable
MAQ, MAU	Three core screened wire
MAS	Single core, double sheath wire
MAT	Double core, double sheath wire
MAL	SRS wire
MAN	Twin core braided, screened wire

# HOW TO USE THE CIRCUIT DIAGRAMS

## Wire length (Power & Earth Distribution only)

The length of the wire in millimetres. This can be used to locate internal harness splices; look for the shortest wire between the joint and connector. For example, it can be seen that C574-4 is 150mm from joint A82.

## Connectors



86M4228A

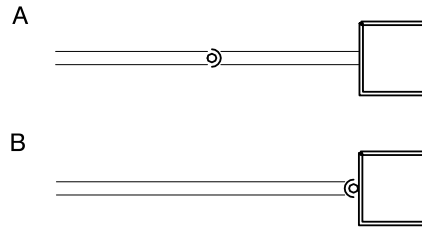
Header joints are identified by their corresponding connector number with a numbered suffix to indicate the pin-out detail of the wire, i.e. C289-1 identifies connector 289, pin number 1. Wire insulation colour is identified in the normal way. Where wires have a predominant colour with a secondary colour stripe, the main colour is identified first, i.e. LGS - Light Green with a Slate stripe.

## Line Types



86M4229A

This means the wire connects to another circuit.

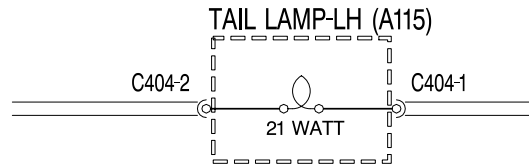


86M4230A

The cup and ball symbol indicates the male and female halves of connector.

- A. Plug on lead (Flylead) wired directly to the component.
- B. Connector plugs directly into component.

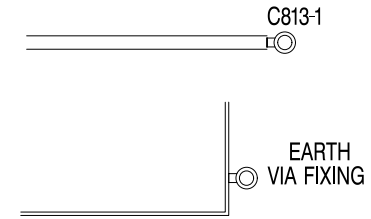
## Components



86M4231A

The name or description of the component is shown. A dotted outline indicates that the component is not shown in its entirety.

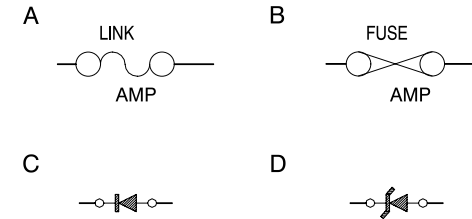
## Earth points



86M4232A

Earth points are identified with an eyelet symbol and a connector number, except where components are grounded through their fixings, when only the eyelet is shown.

## Fuses and Diodes

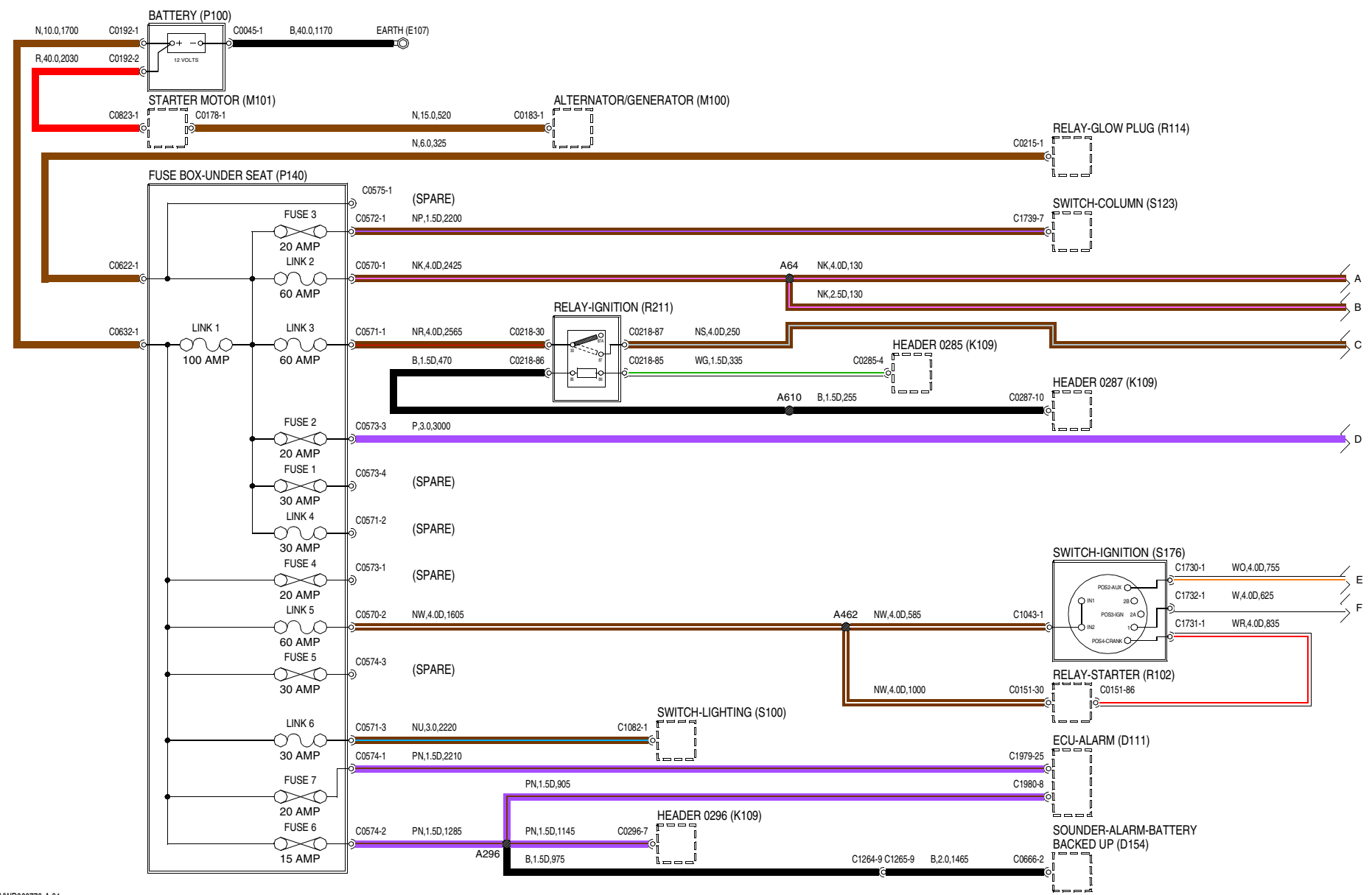


86M4234A

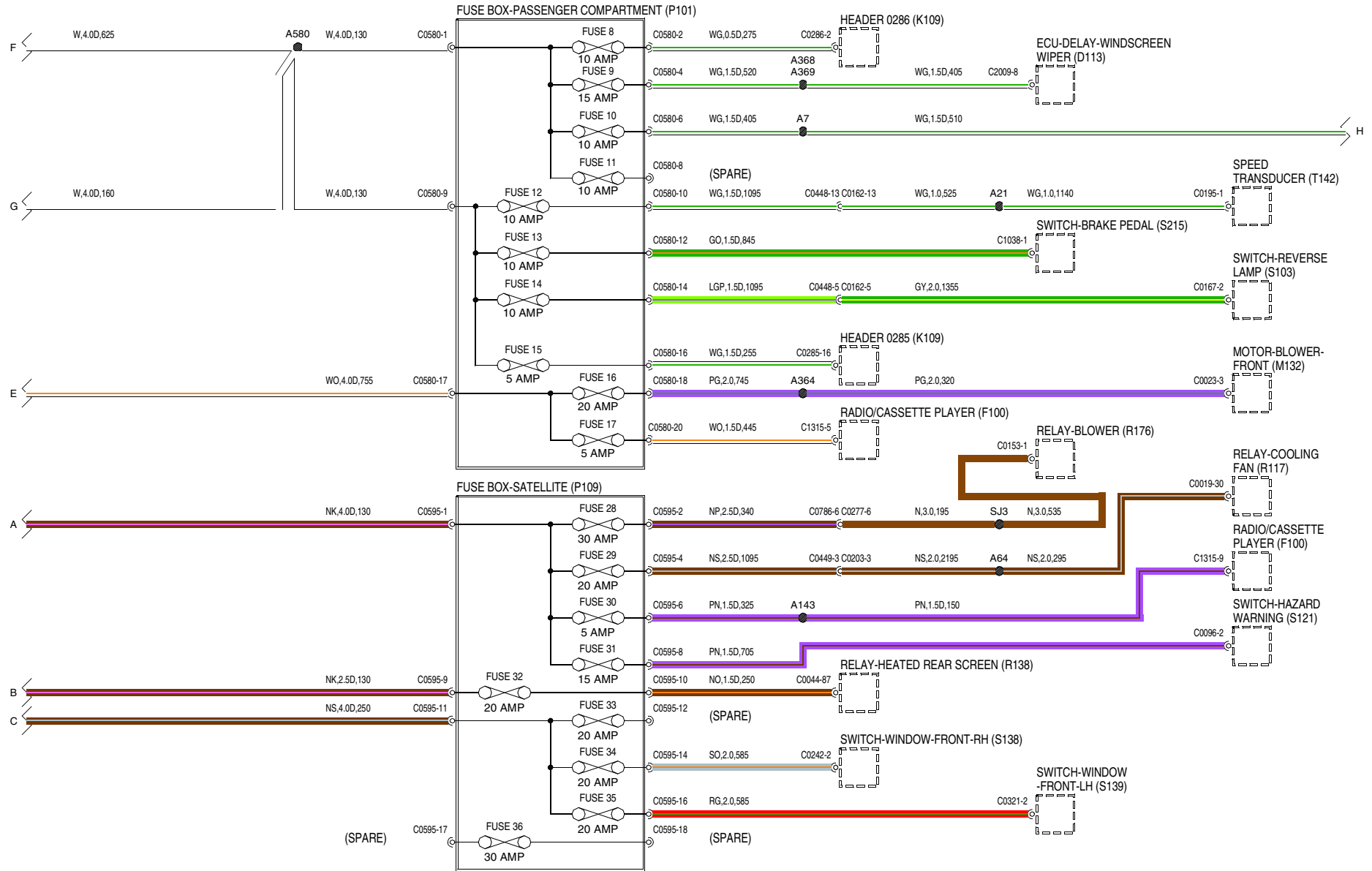
Fusible links (A) and current rated fuses (B) are identified as shown. The direction of the arrow in a Diode symbol (C) indicates the direction of current flow. The Zener diode (D) - prevents current flow until a precise voltage is reached.

# 1 POWER DISTRIBUTION

300 Tdi



VWR000770-A-01

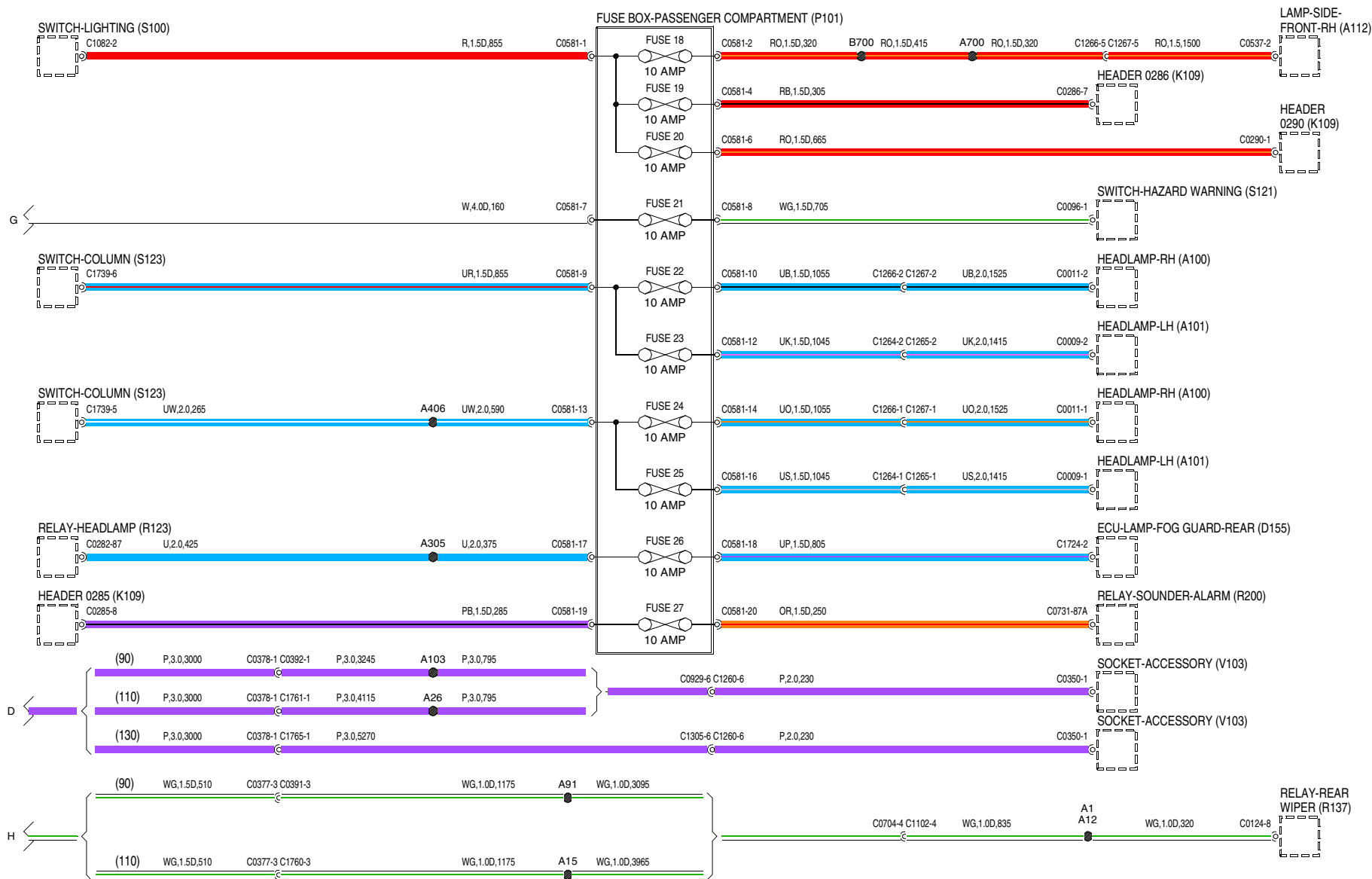


VWR000770-A-02



# 1 POWER DISTRIBUTION

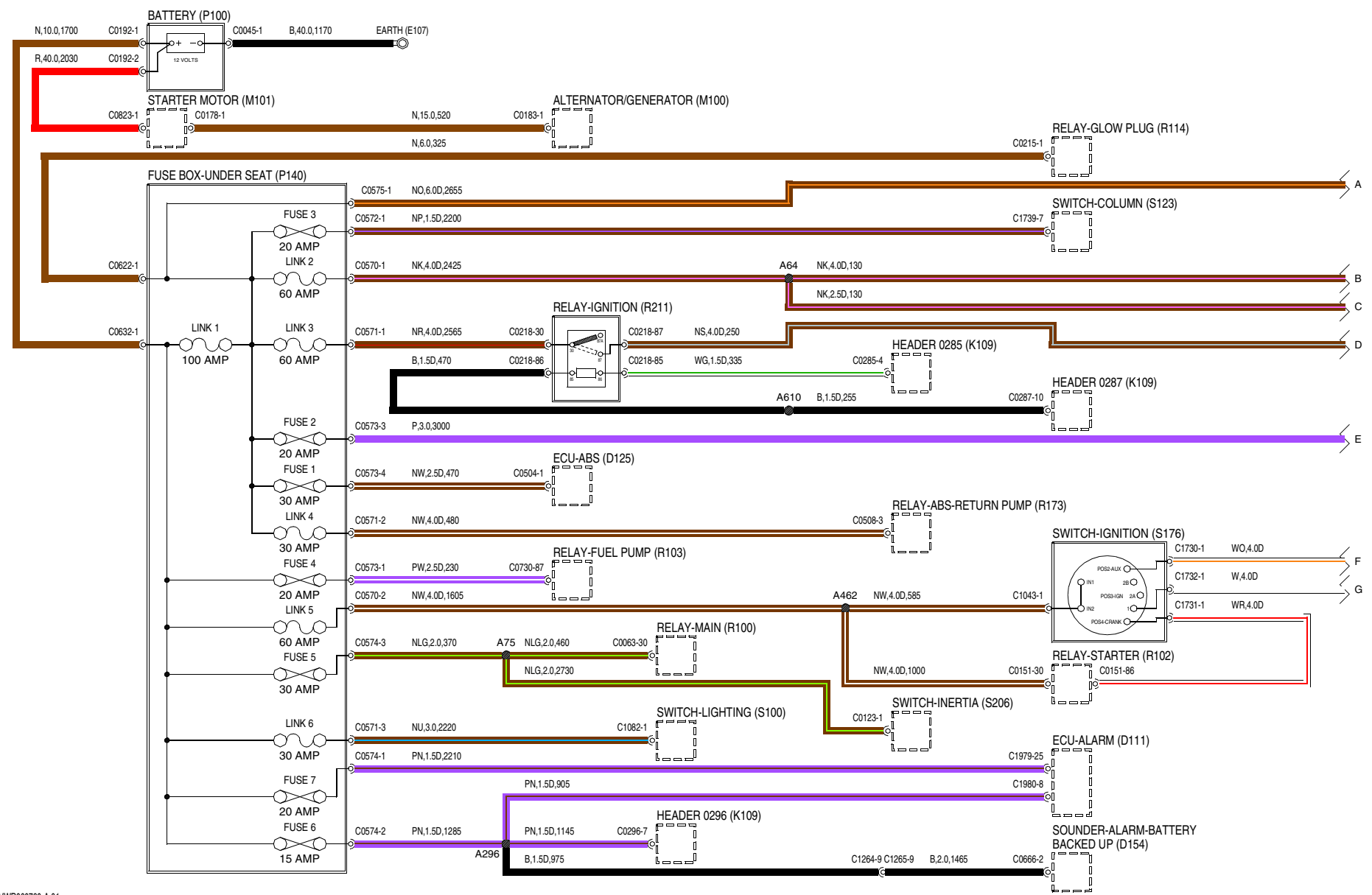
300 Tdi



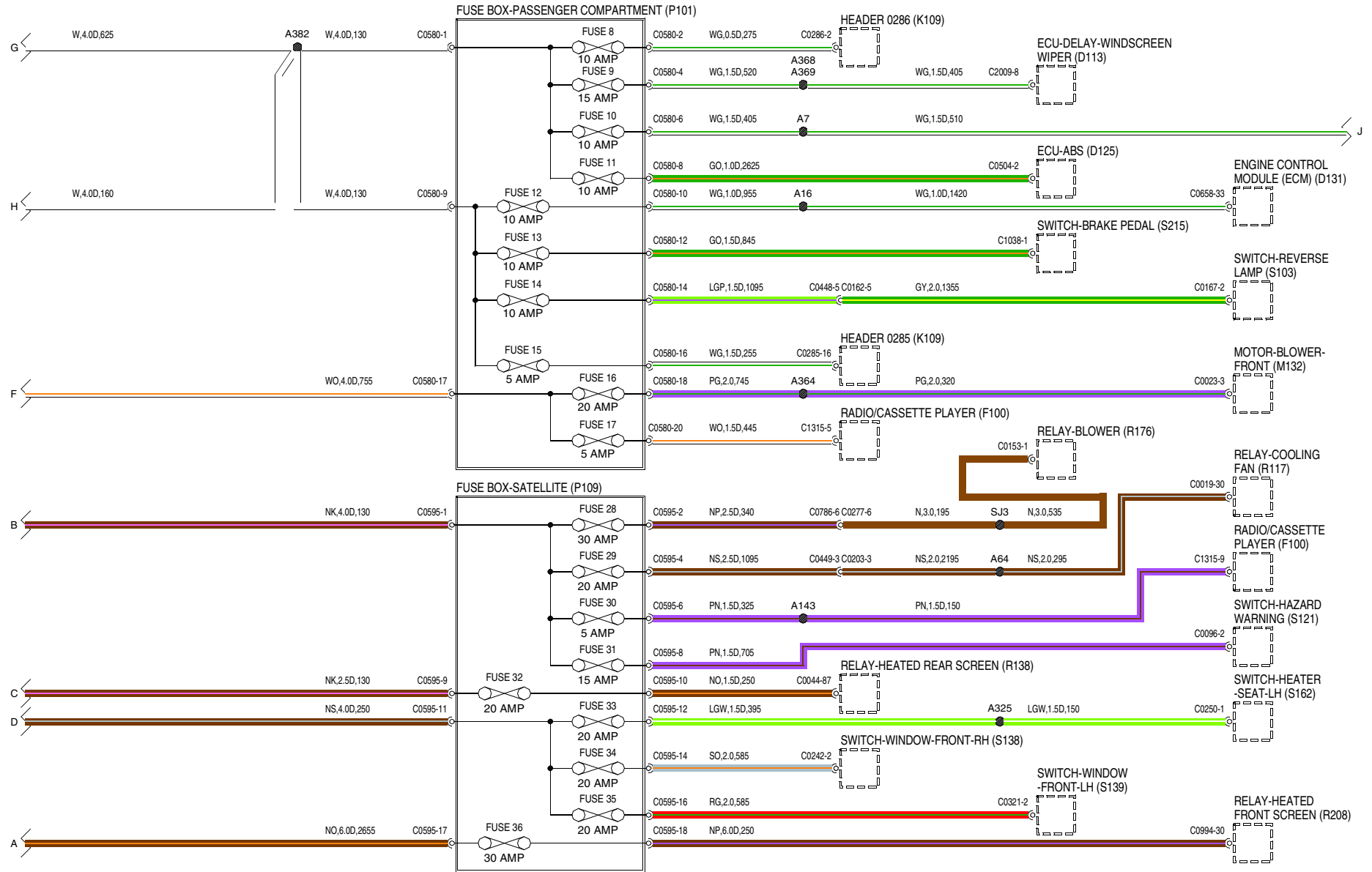
WPR000770-A-03



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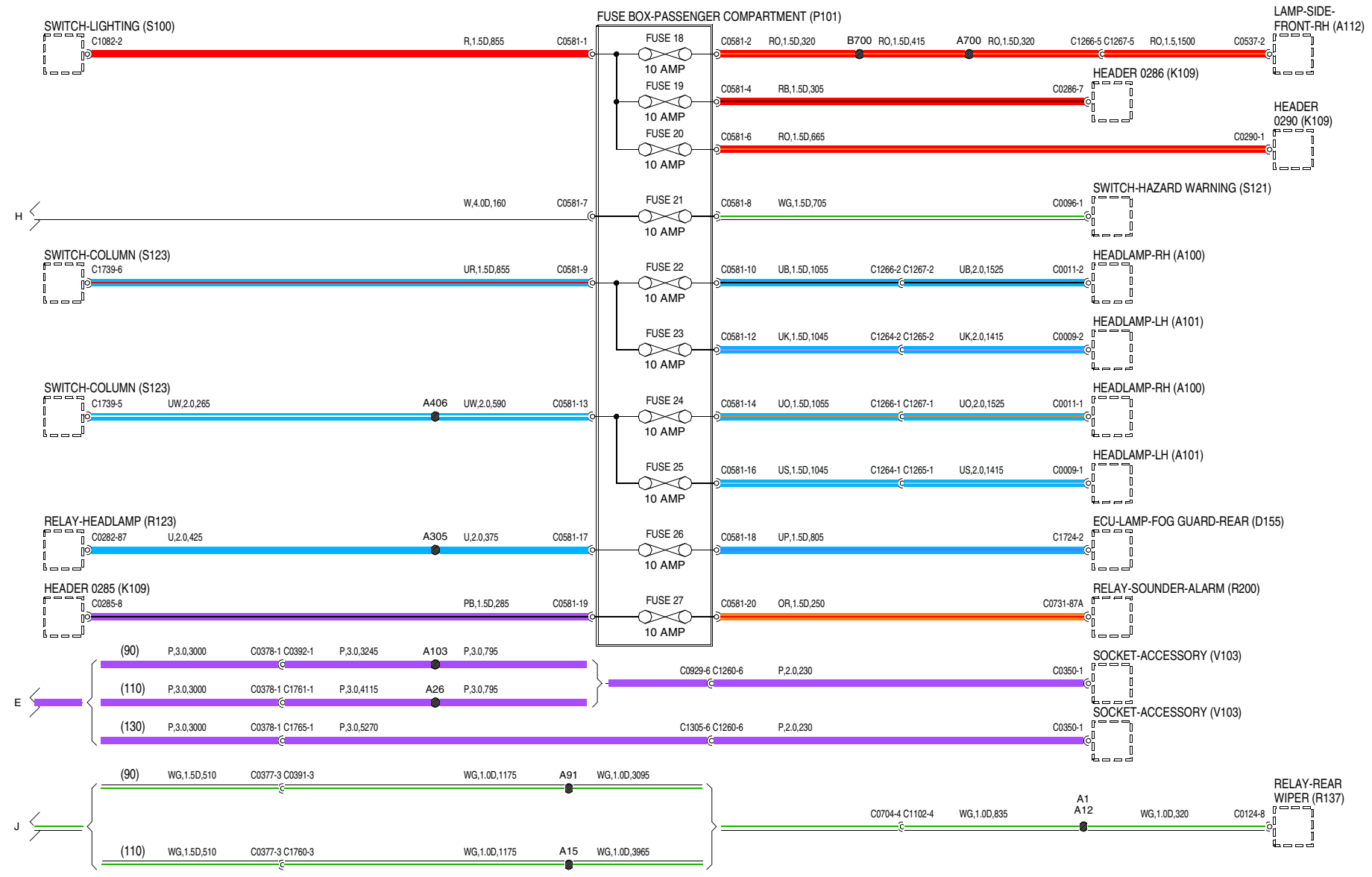


VWR00790-A-01



VWR000790-A-02

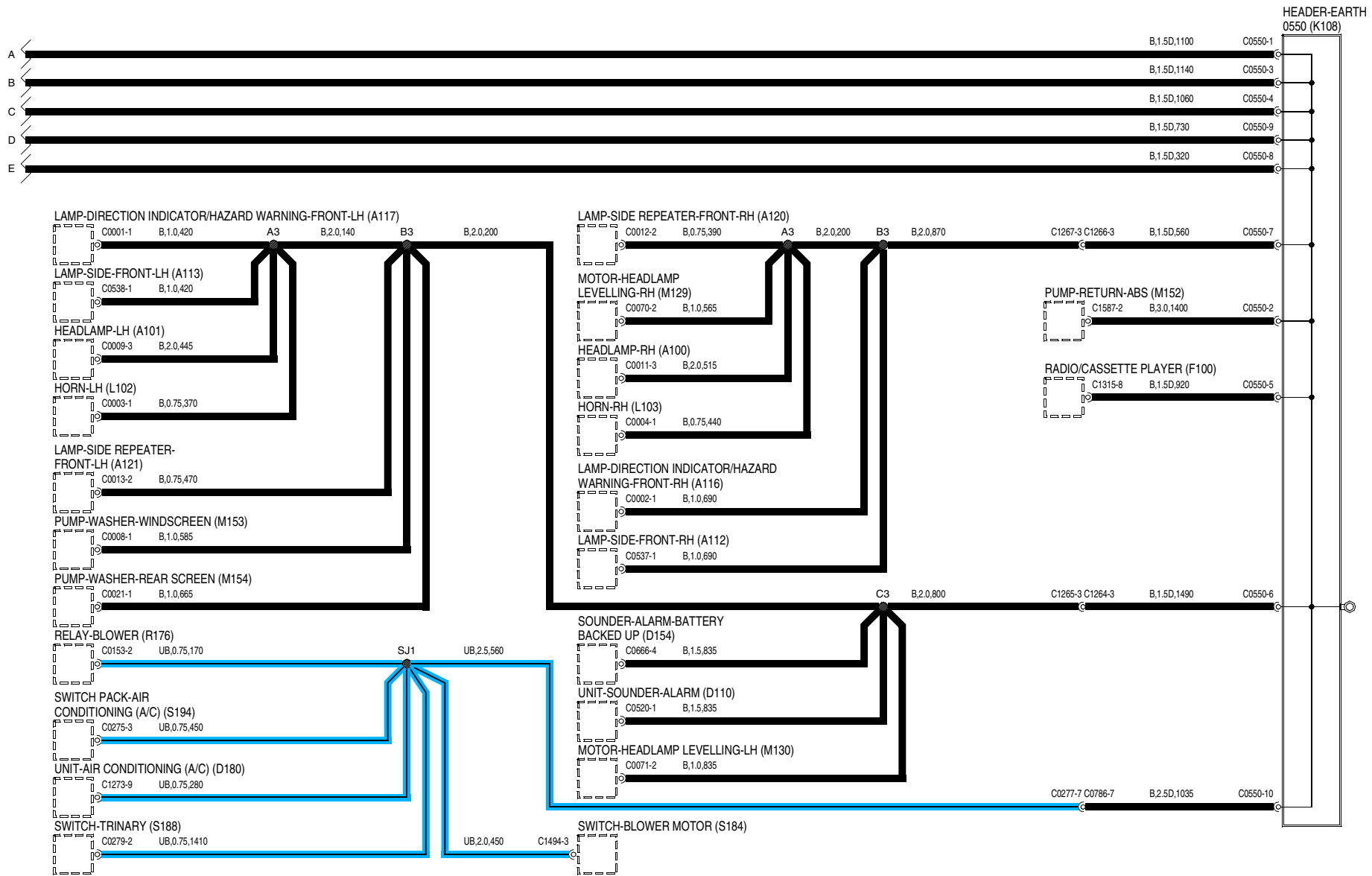
# 1 POWER DISTRIBUTION



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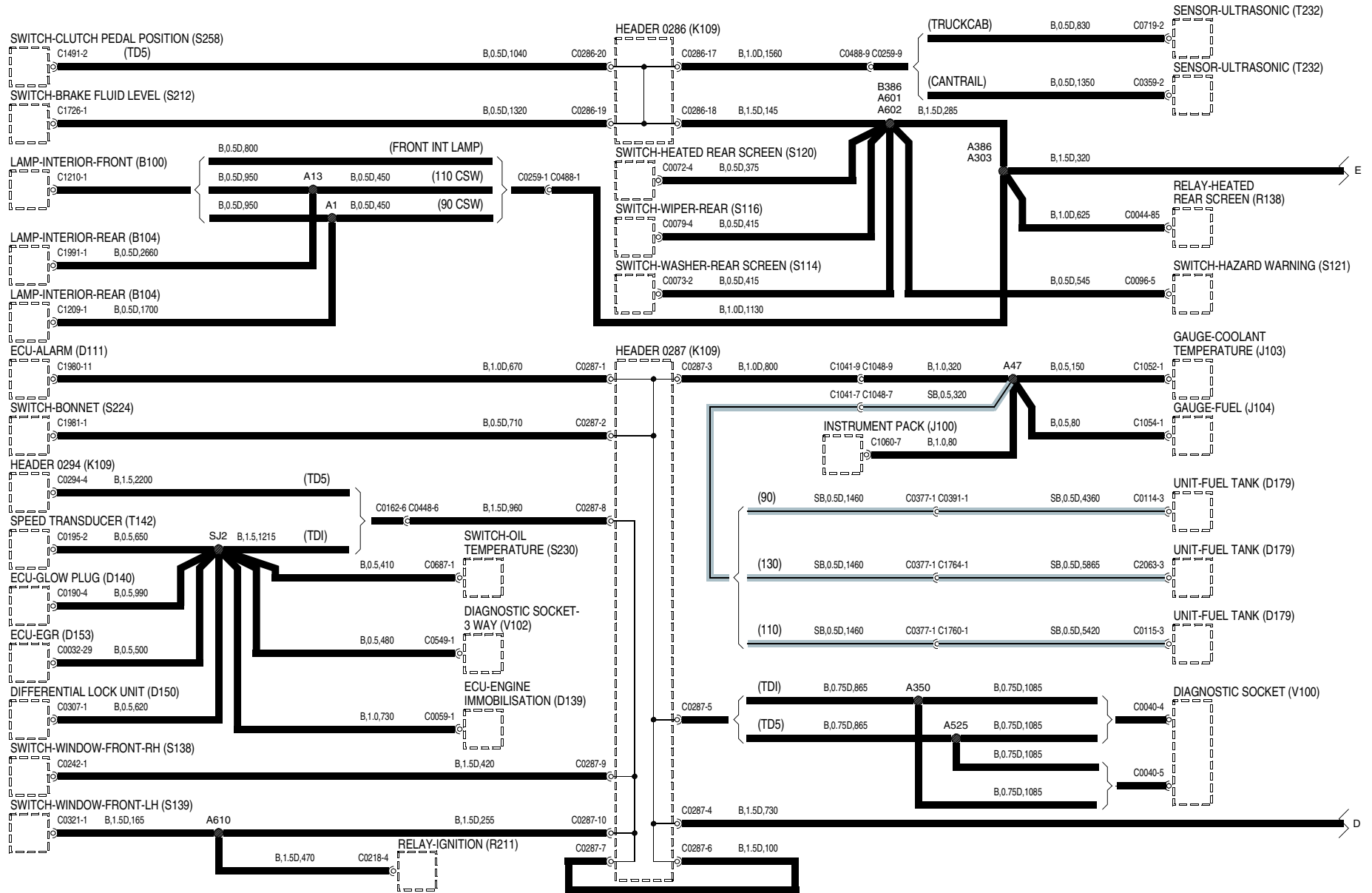


## 2 EARTH DISTRIBUTION



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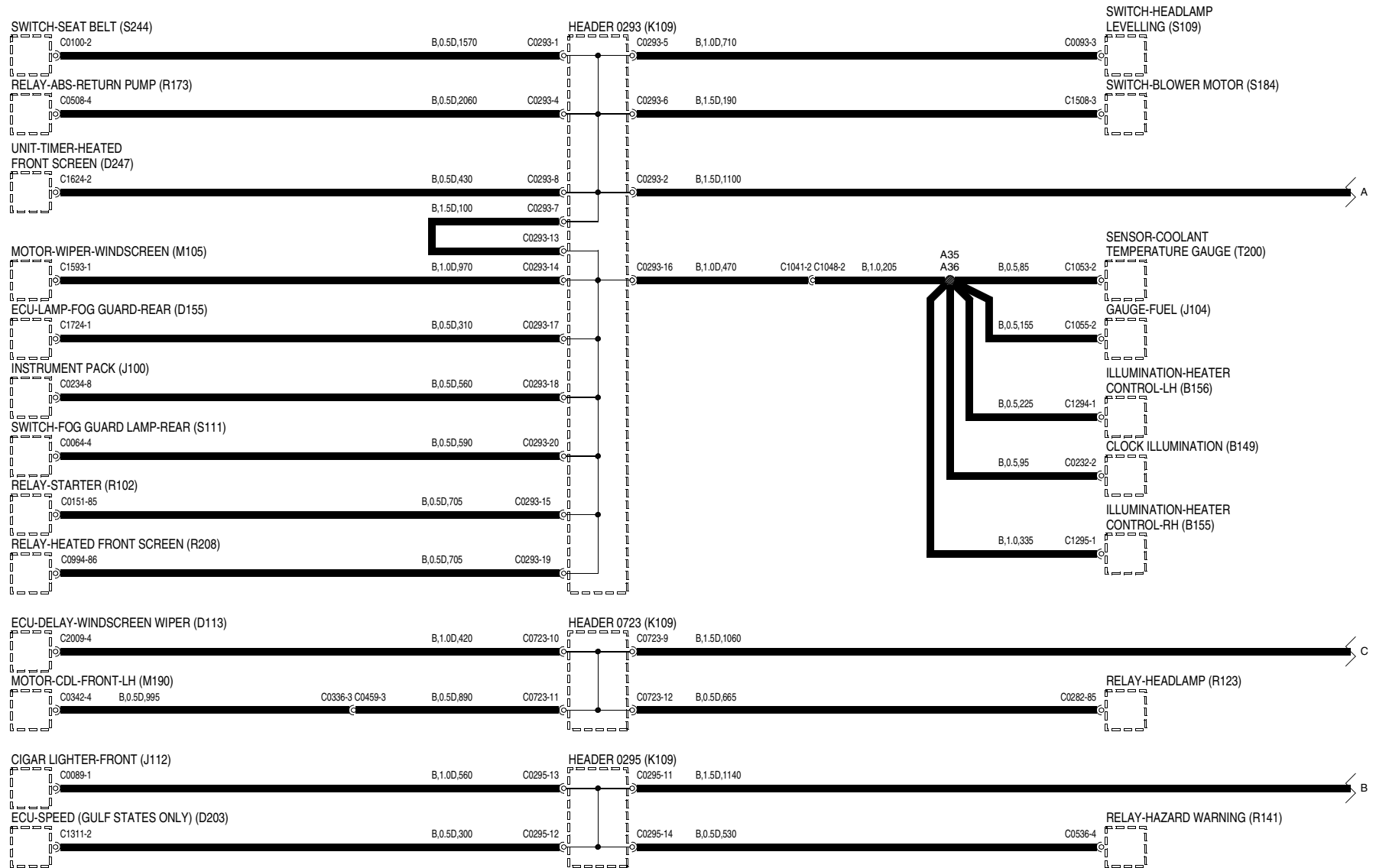
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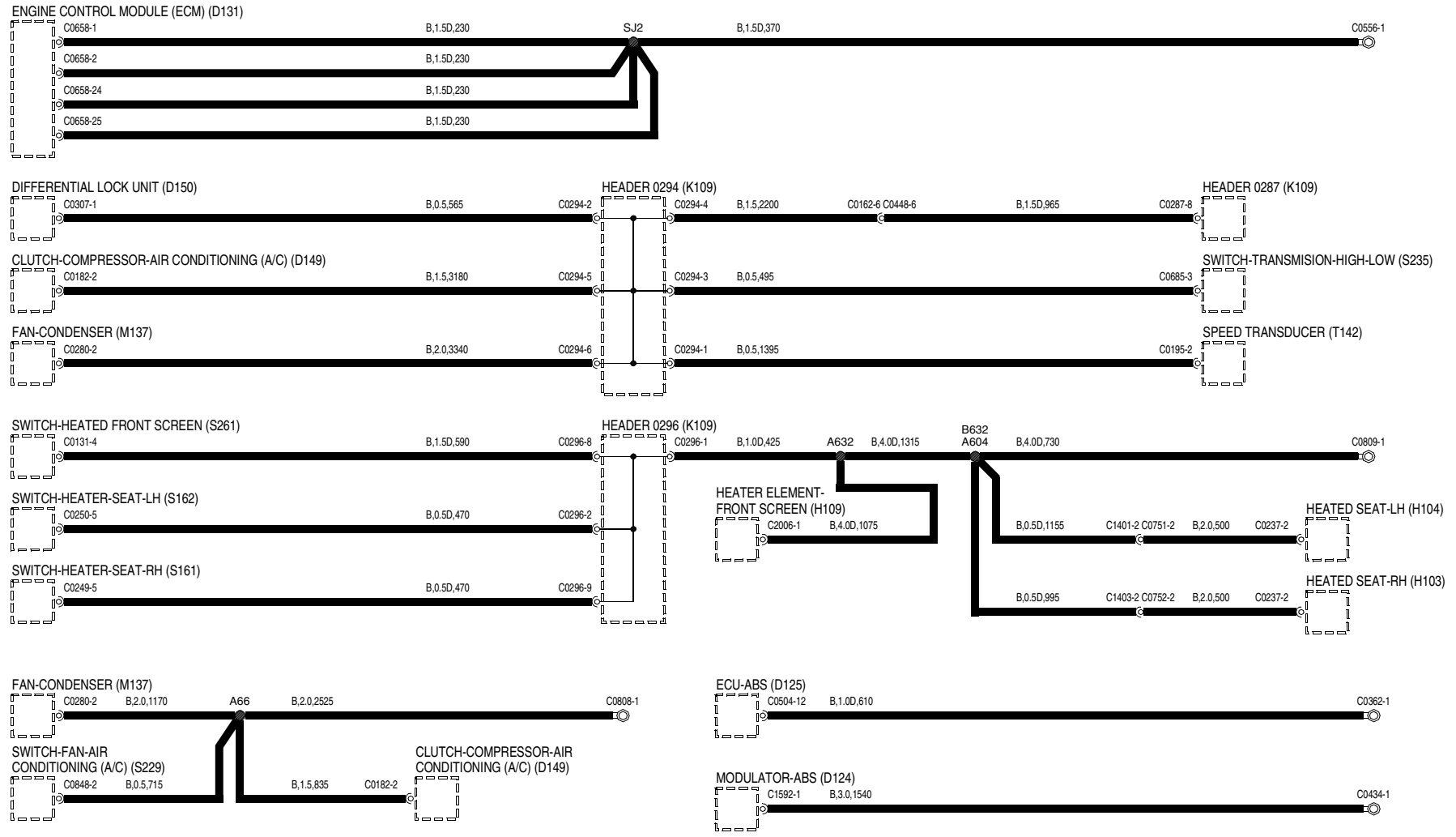


## 2 EARTH DISTRIBUTION



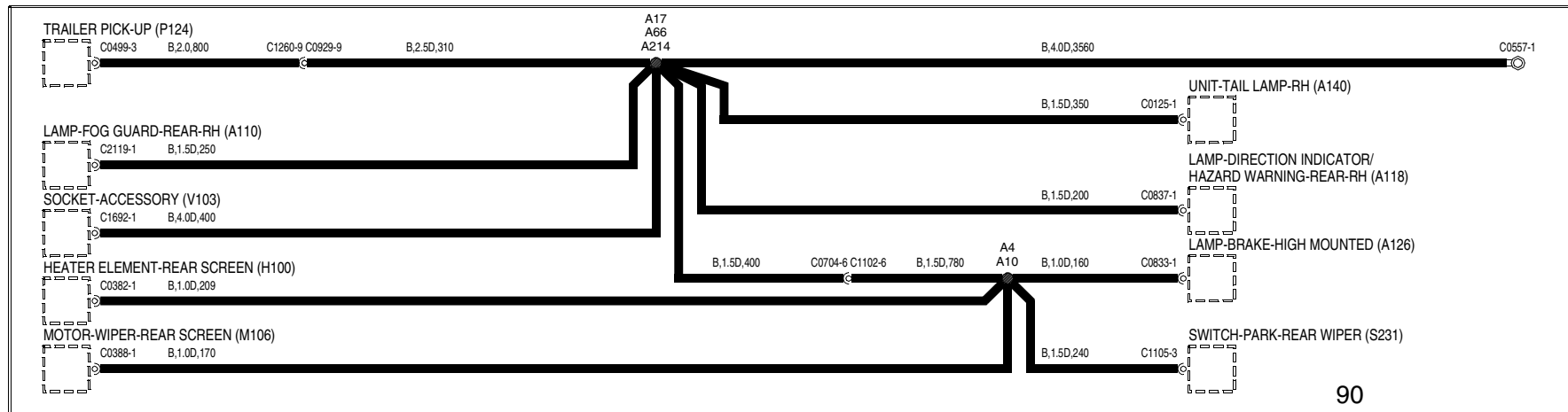
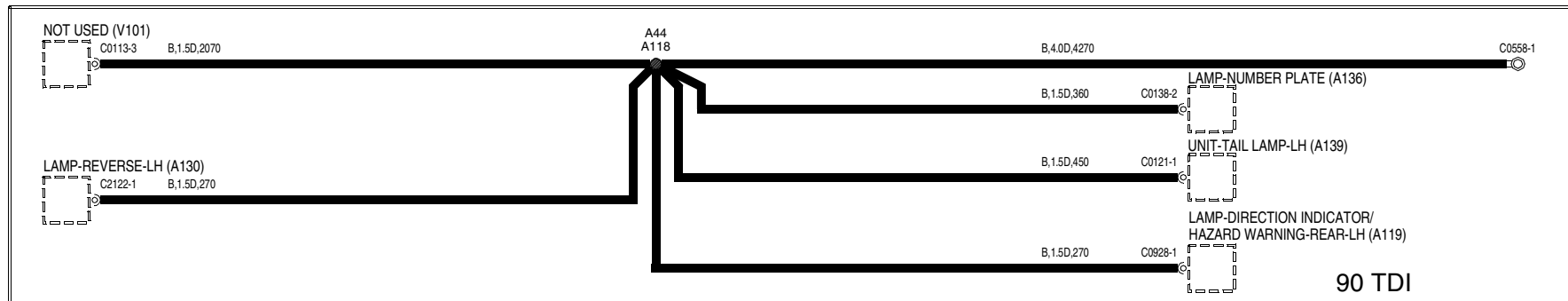
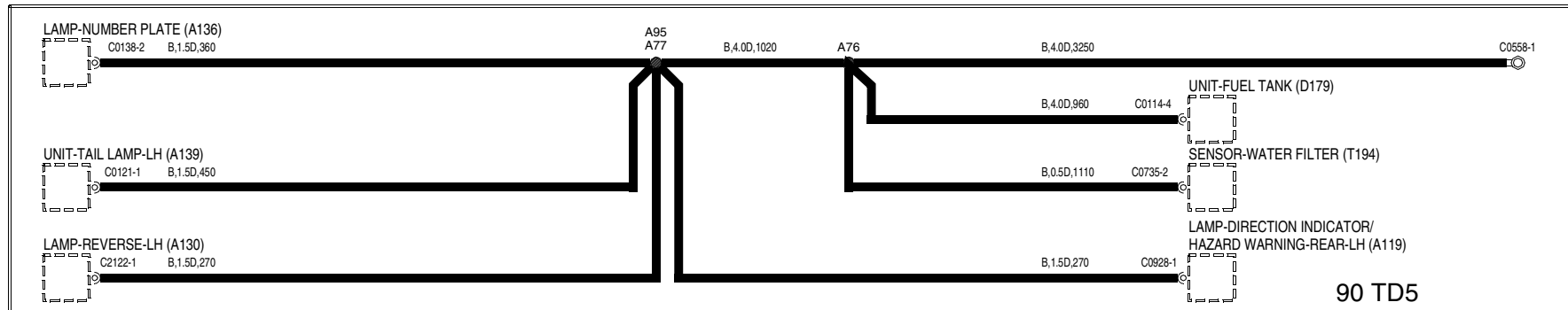
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# 2 EARTH DISTRIBUTION



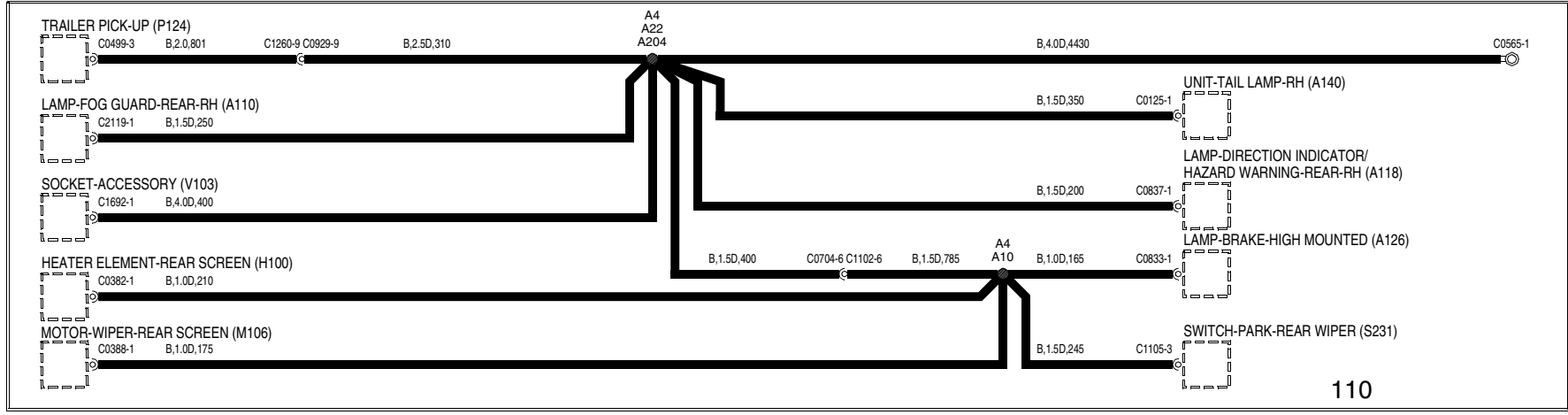
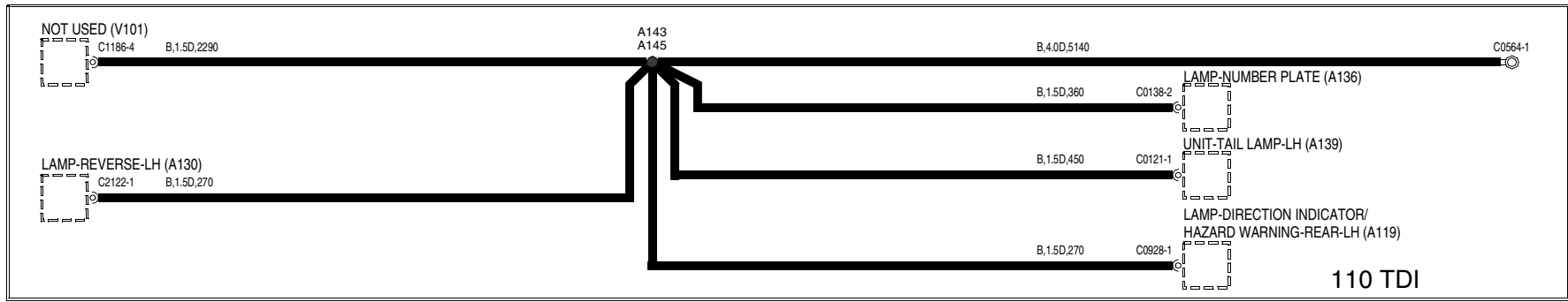
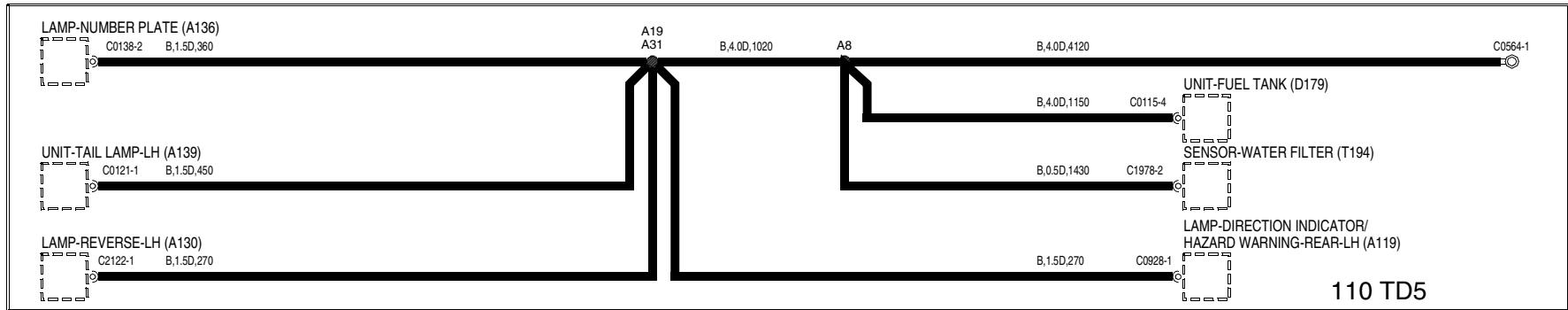
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## 2 EARTH DISTRIBUTION



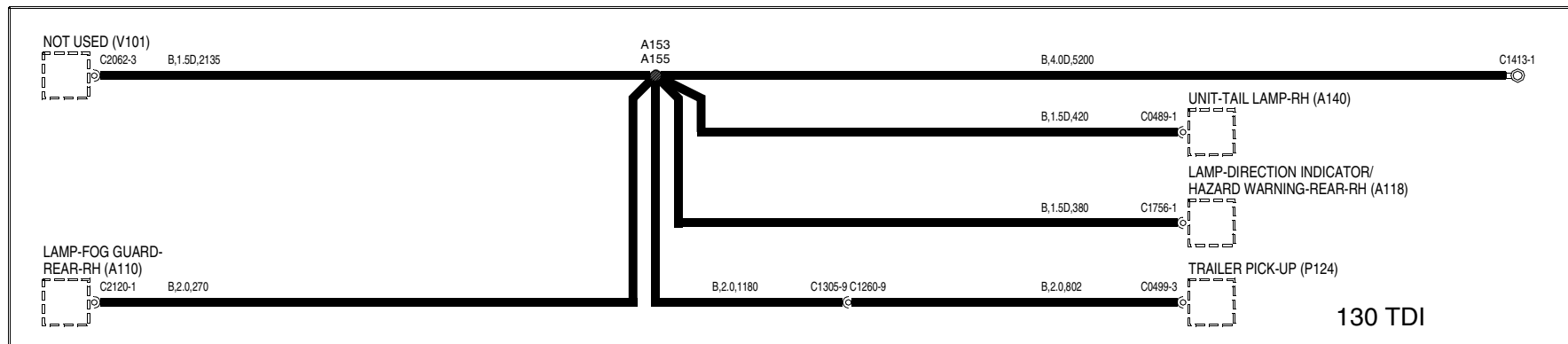
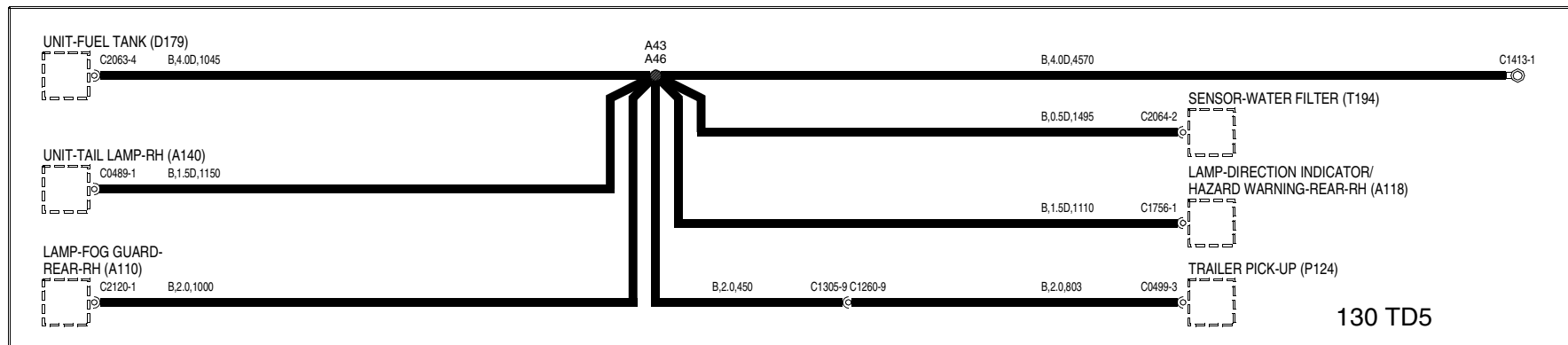
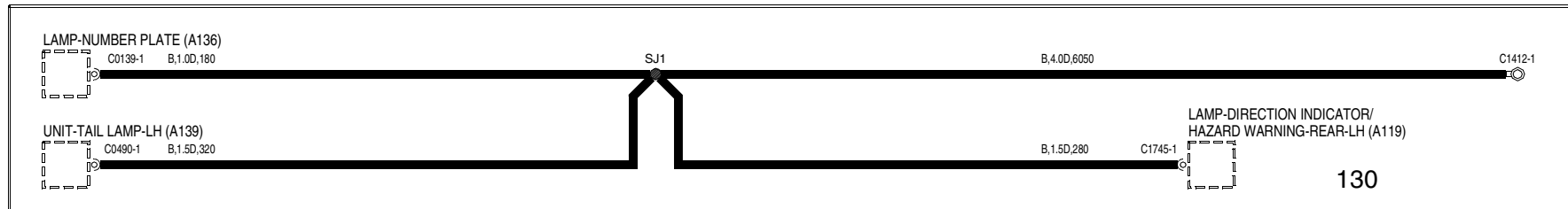
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## 2 EARTH DISTRIBUTION



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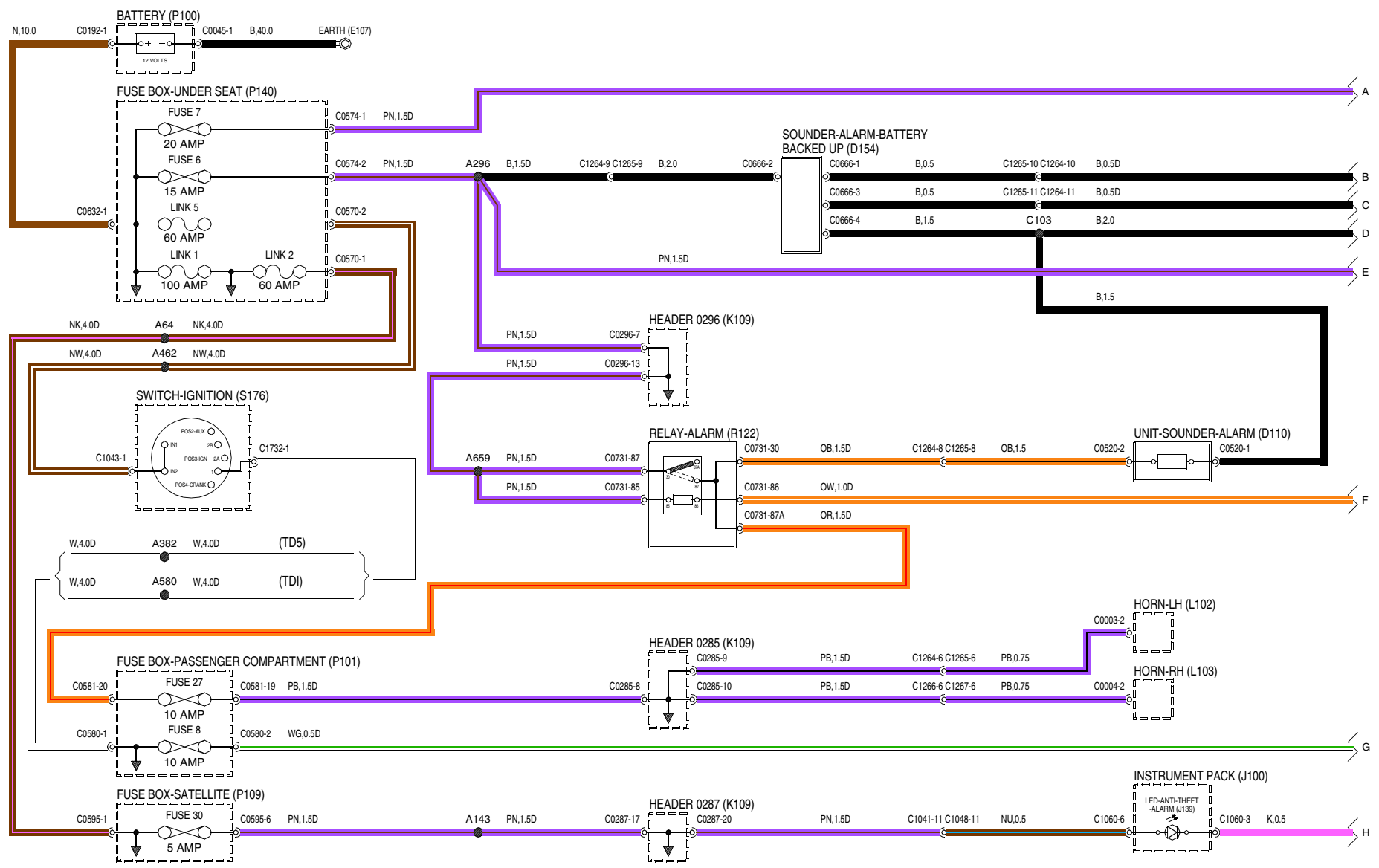
## 2 EARTH DISTRIBUTION



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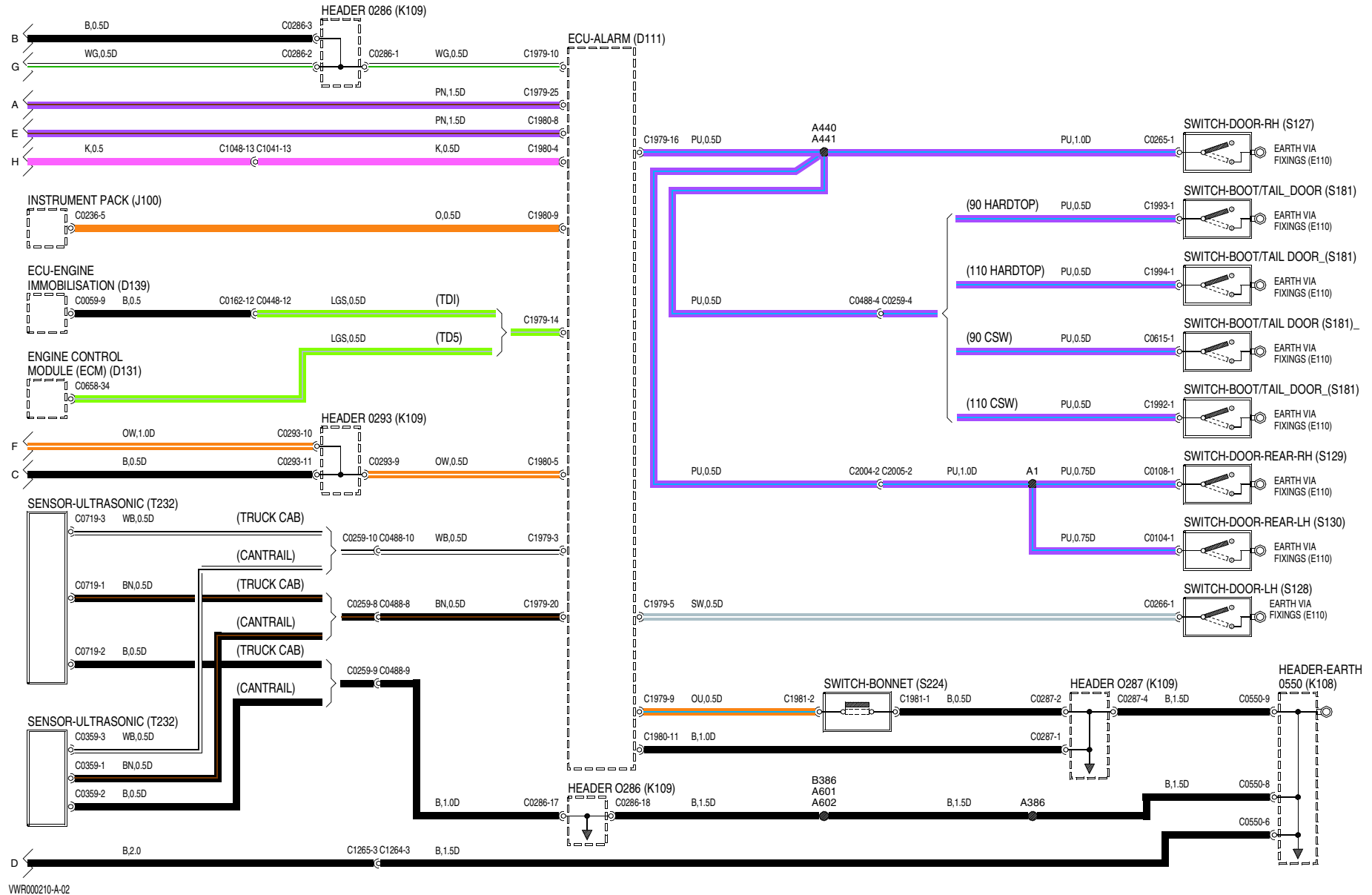


# 3 ANTI-THEFT ALARM AND CENTRAL DOOR LOCKING



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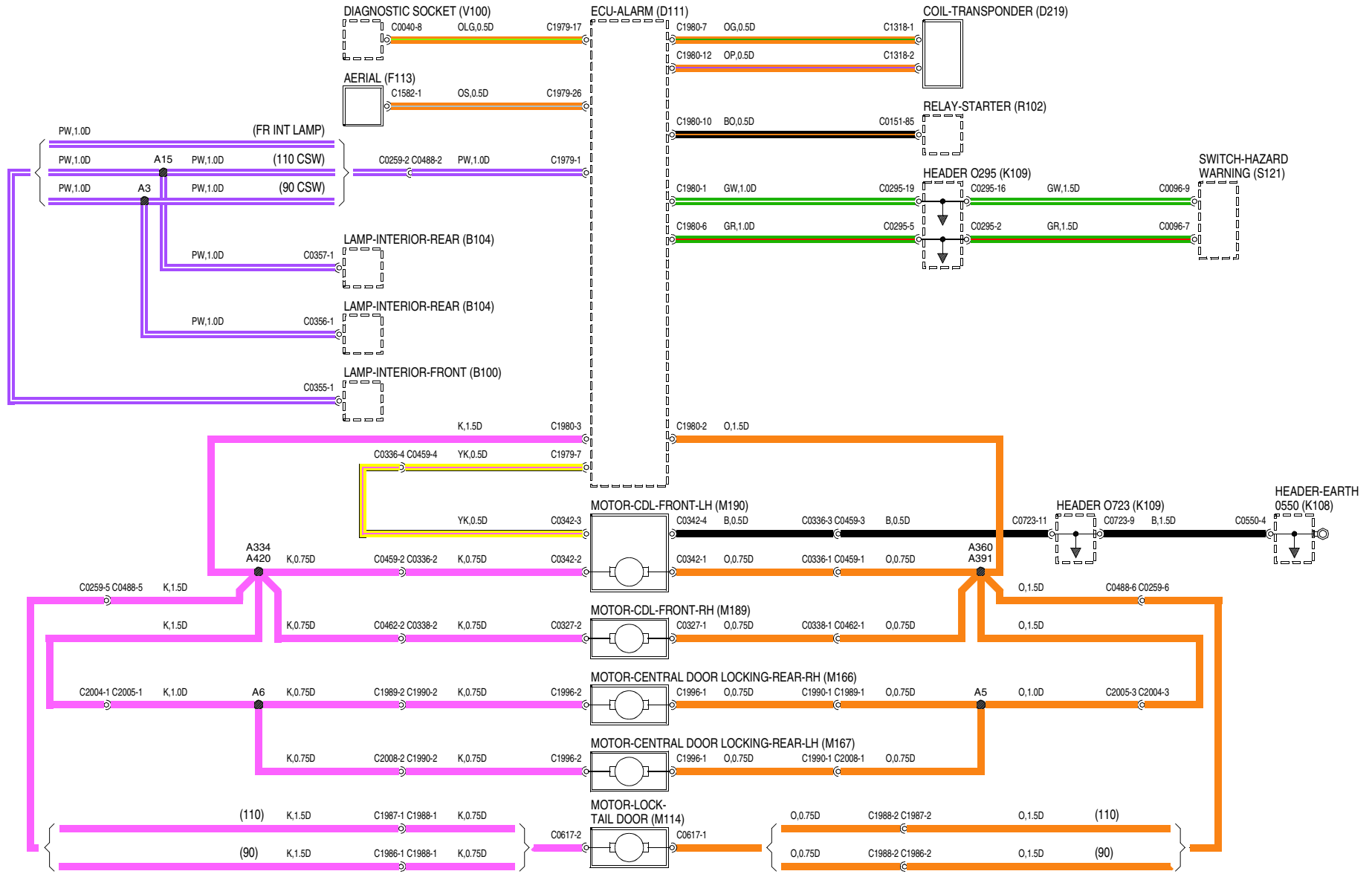
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VWR000210-A-02



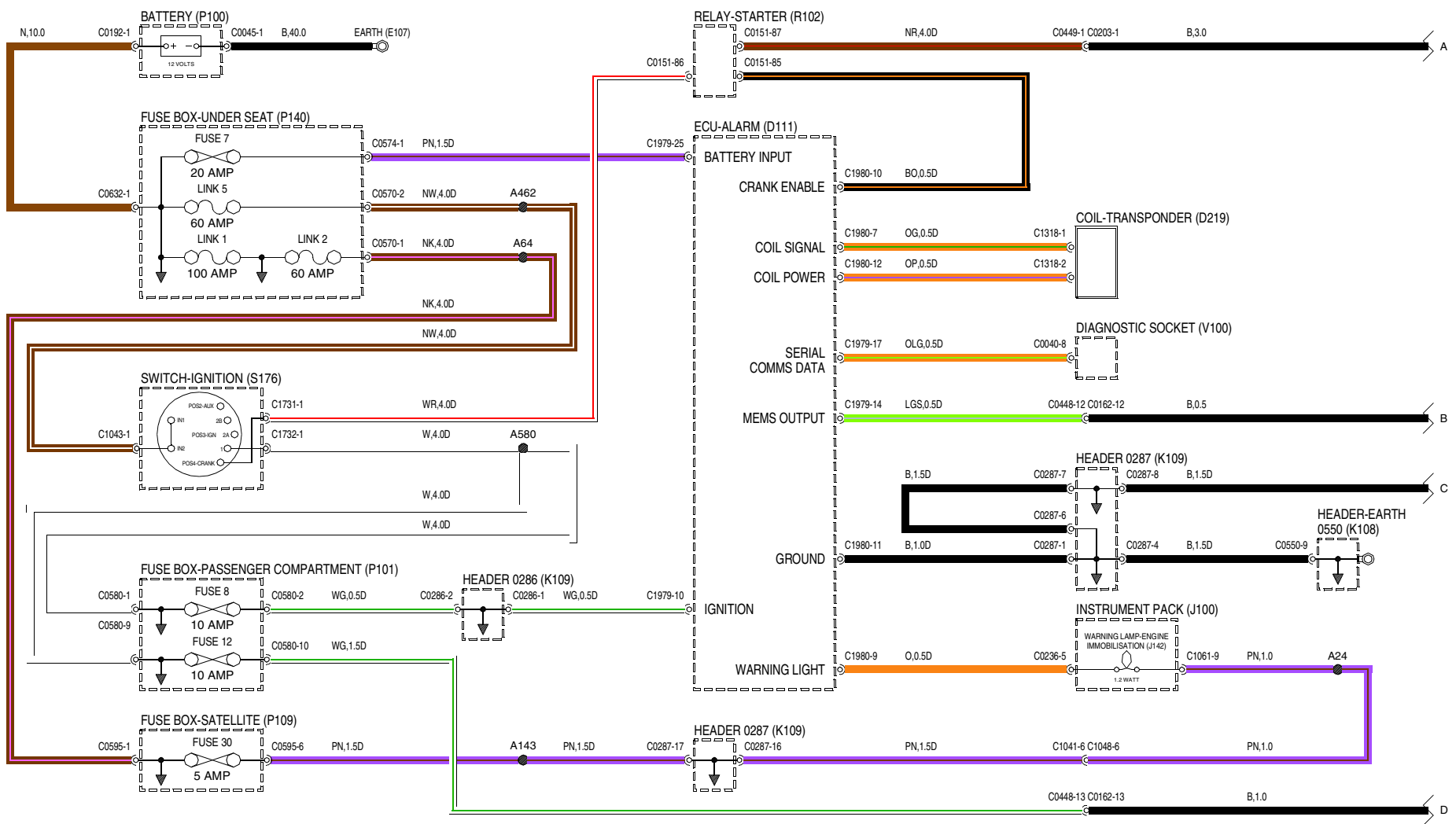
# 3 ANTI-THEFT ALARM AND CENTRAL DOOR LOCKING



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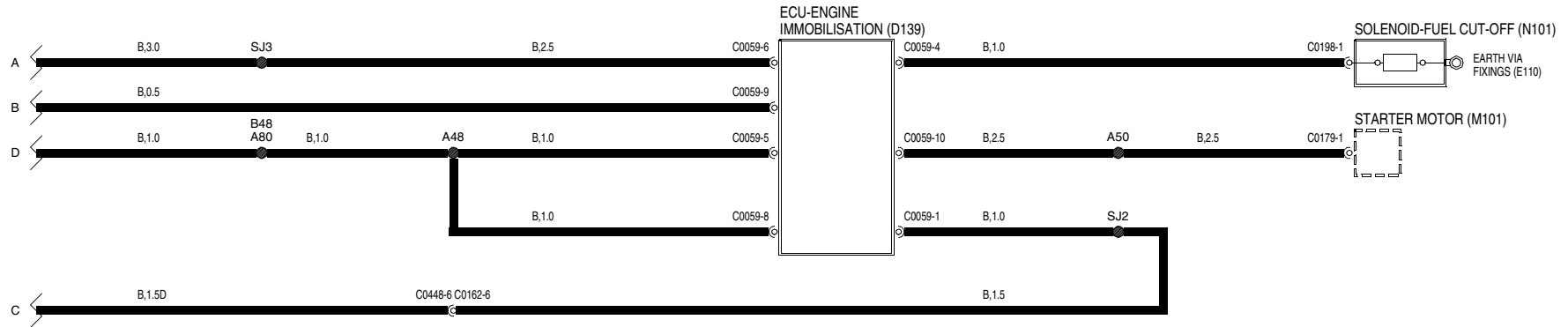


# 3 ENGINE IMMOBILISATION



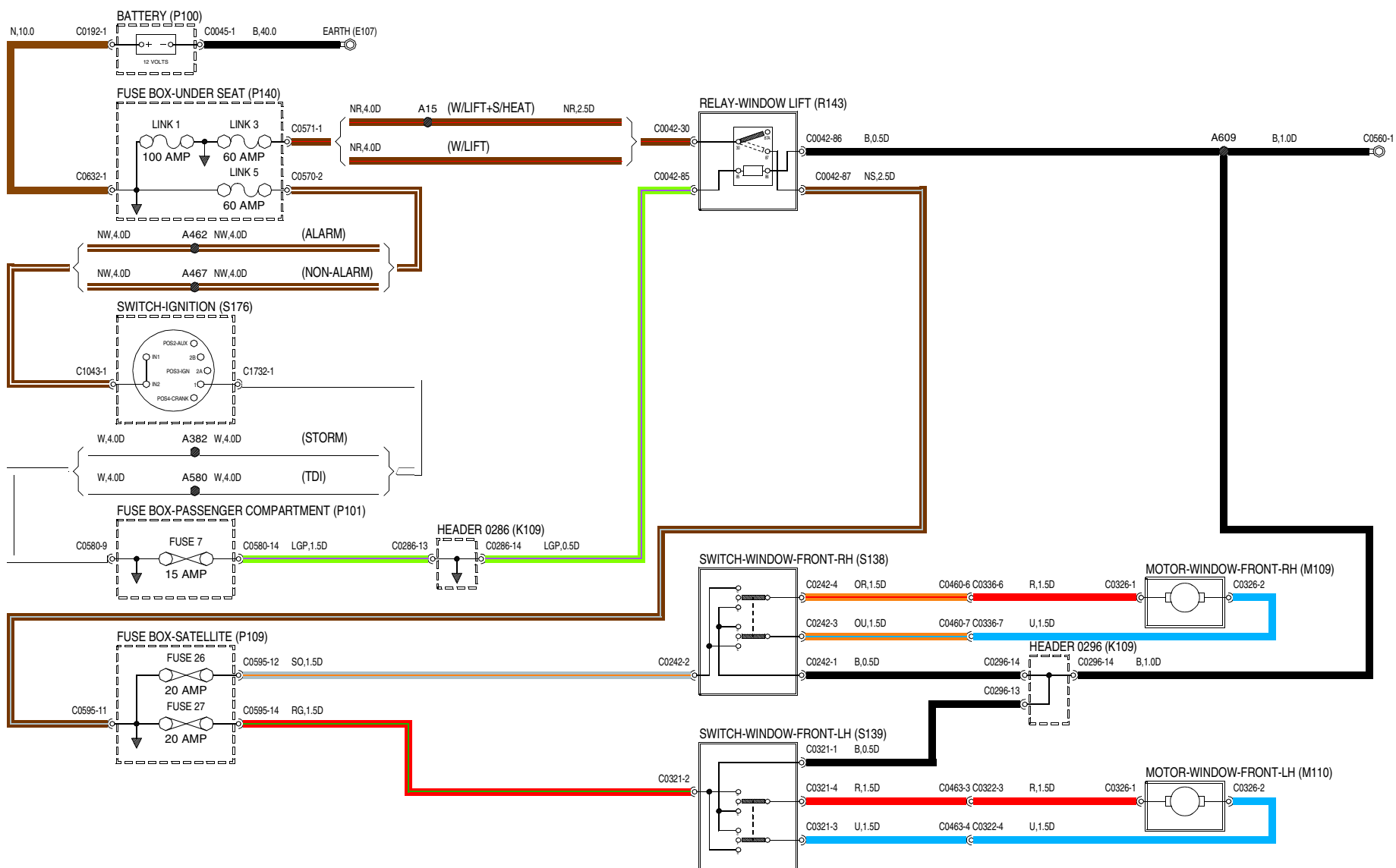
VWR00630-A-01

### 3 ENGINE IMMOBILISATION



VWR000630-A-02

# 5 WINDOWS

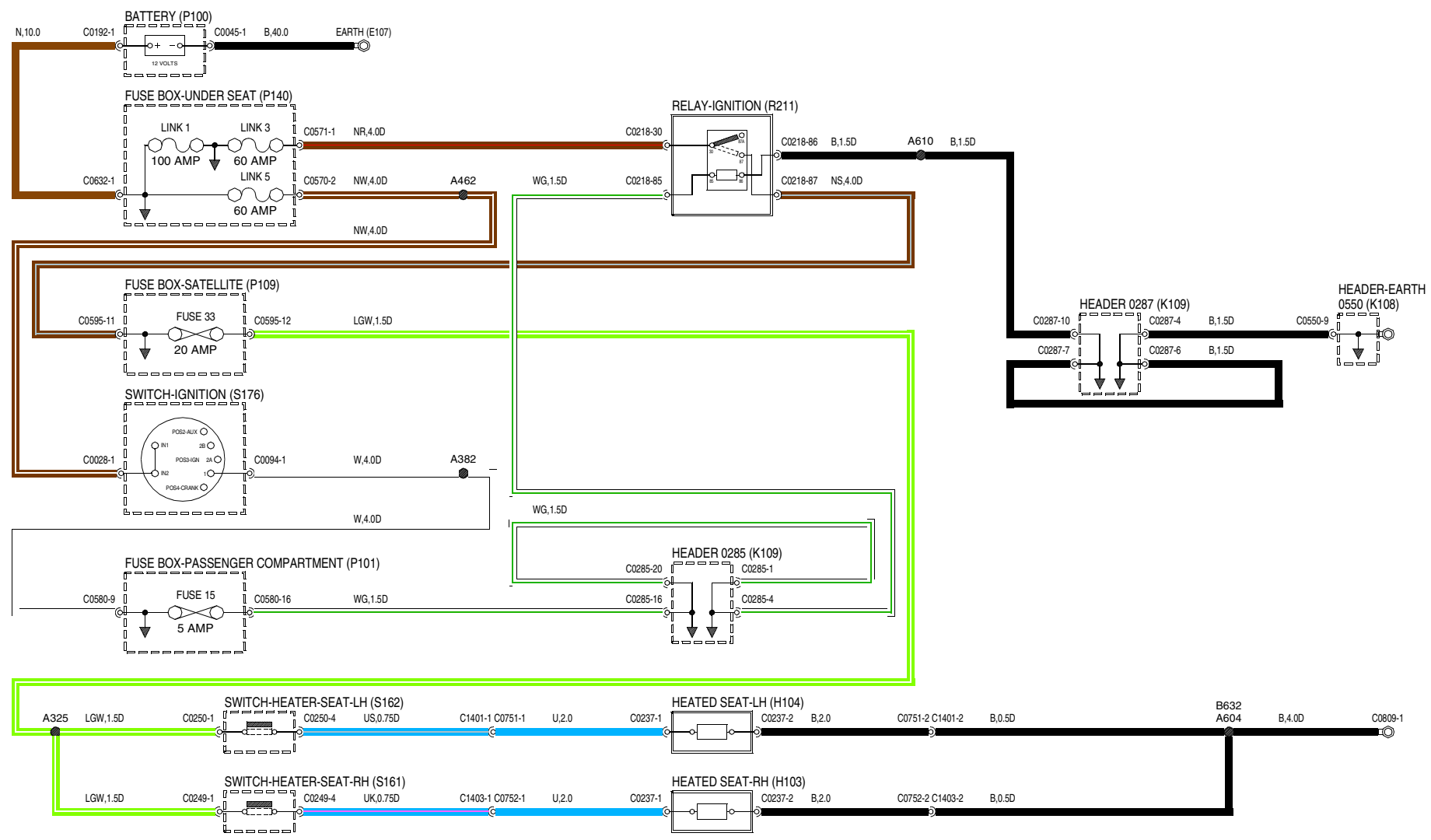


WVR000950-A-01



# 8 SEATS

Heated

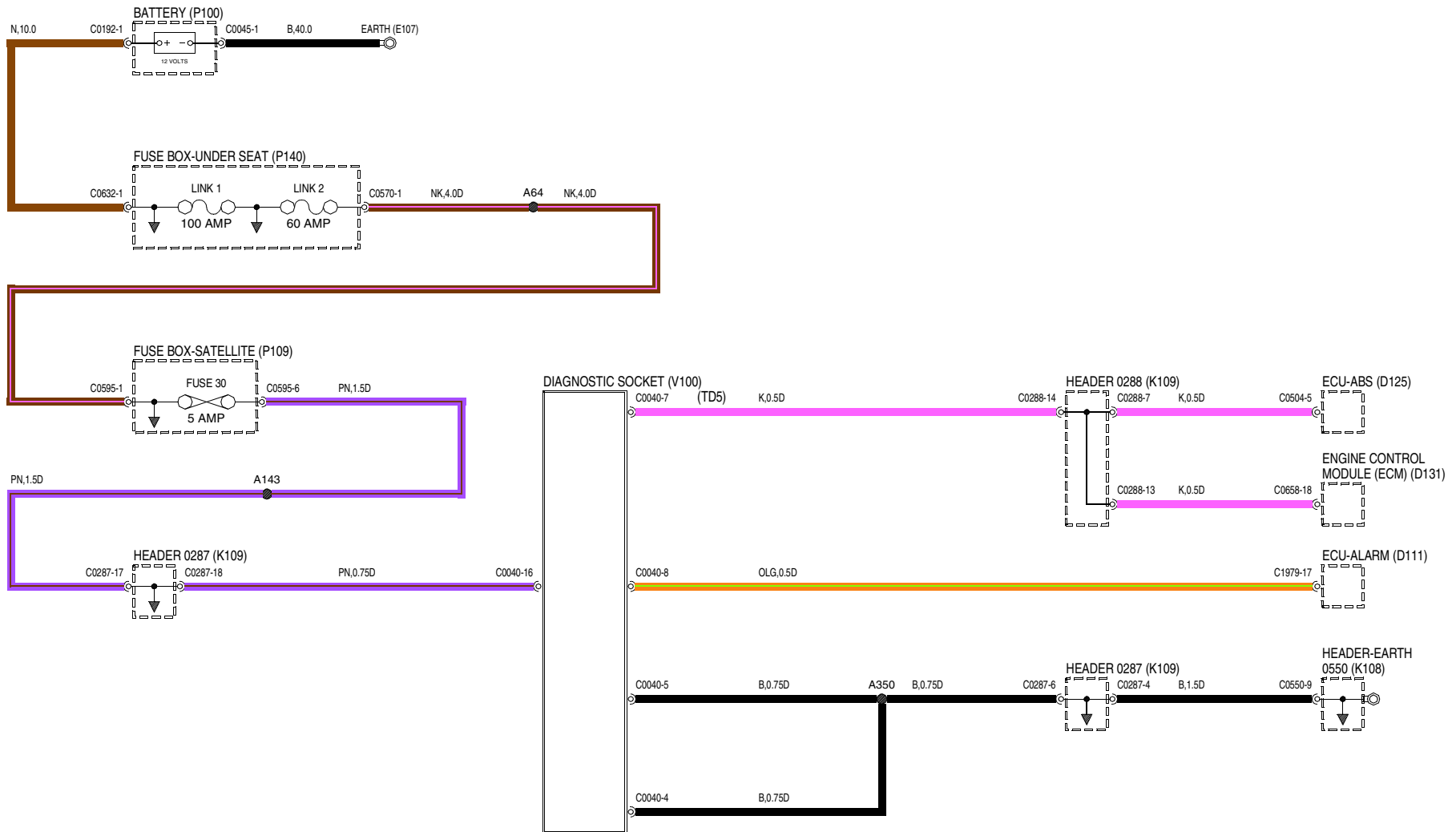


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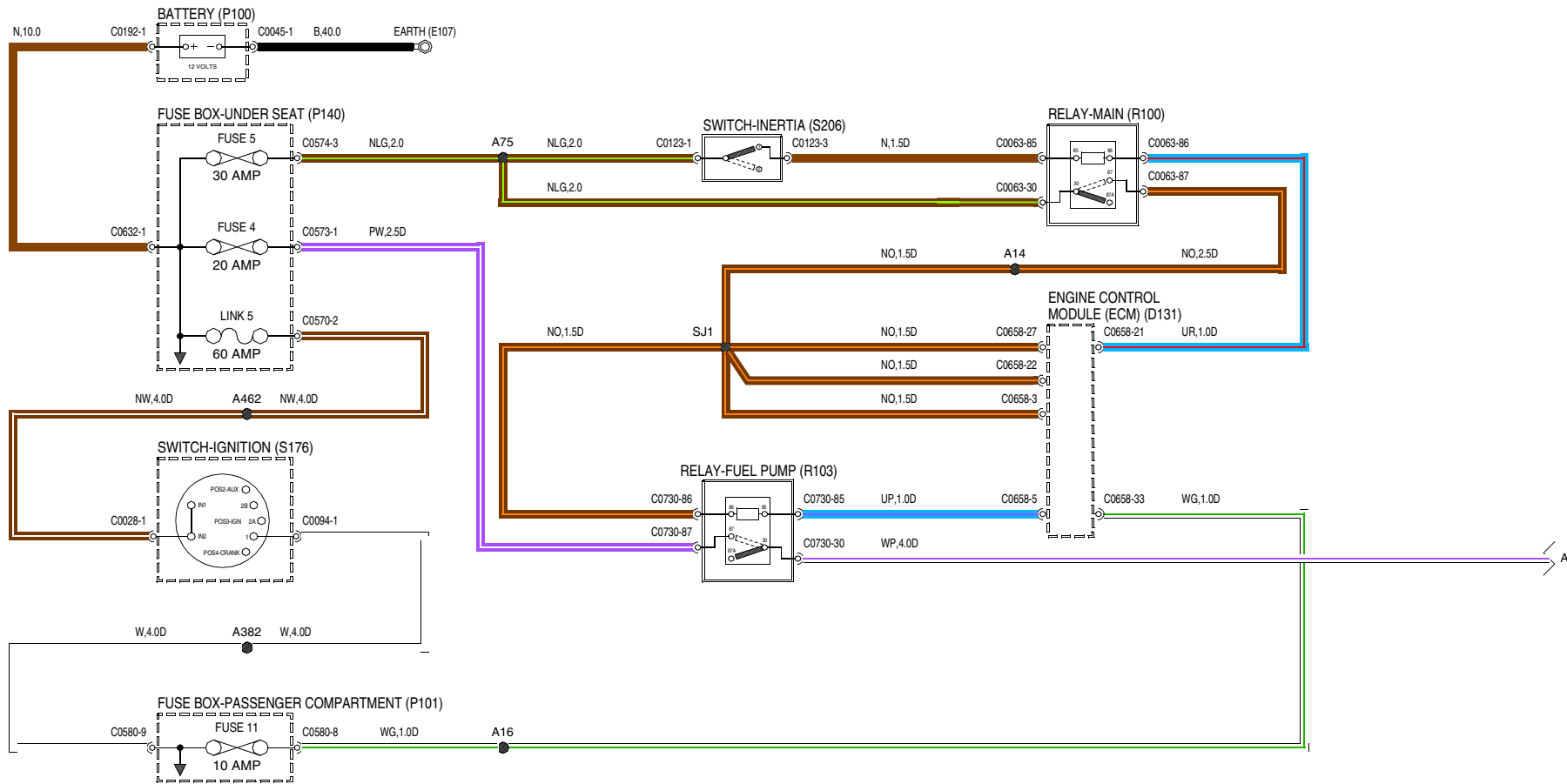


# 10 DIAGNOSTIC SOCKET

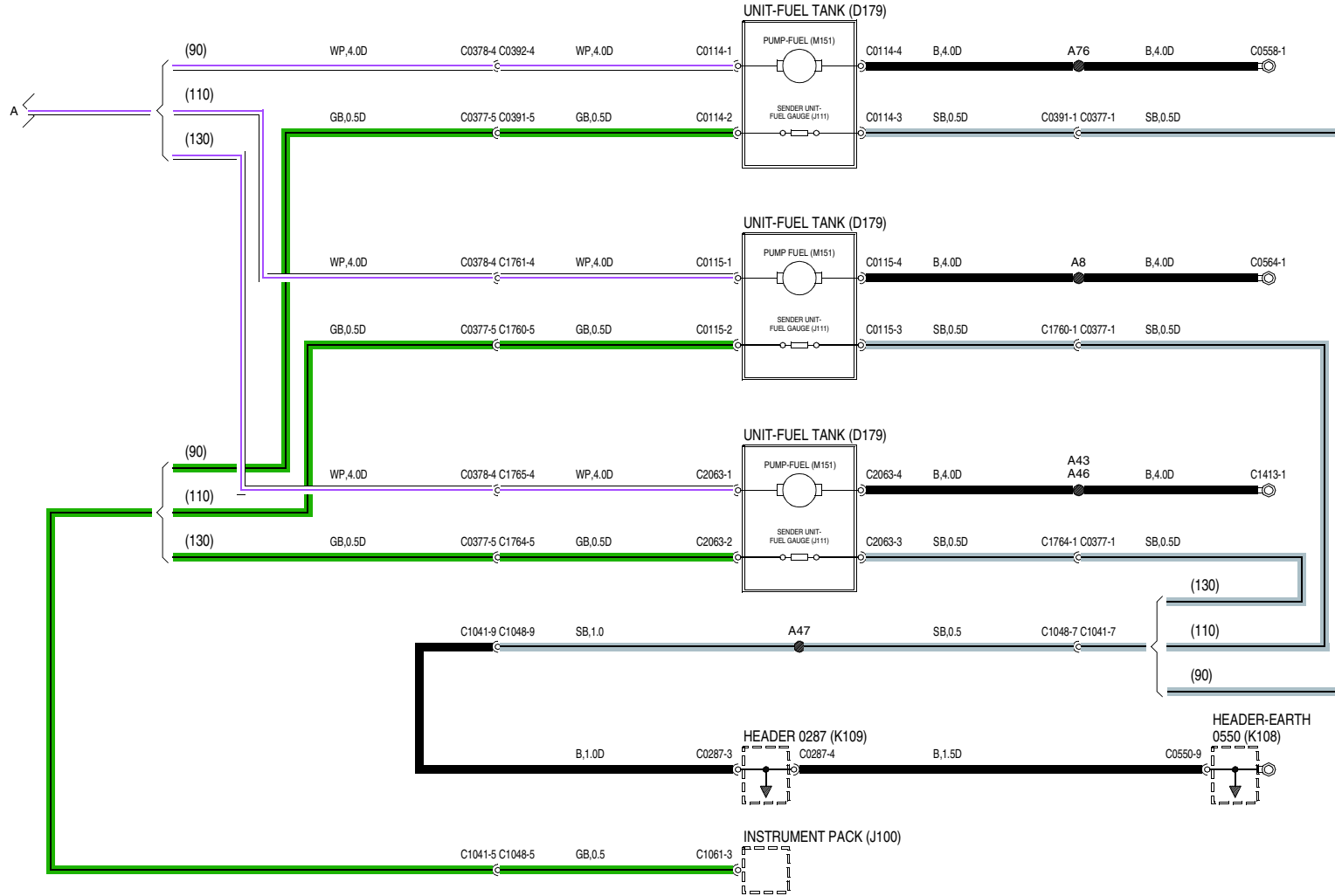


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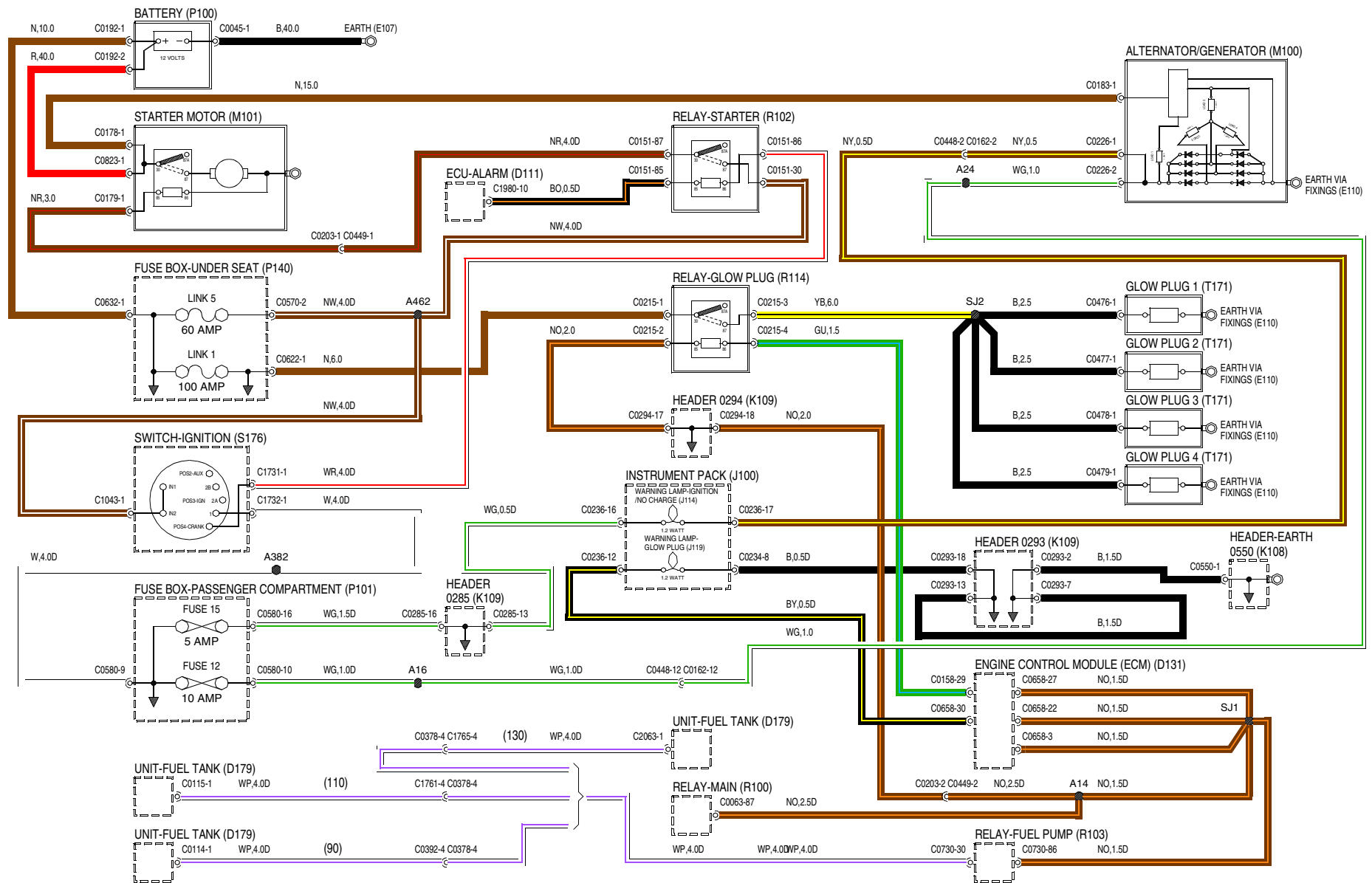
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VWR000450-A-02

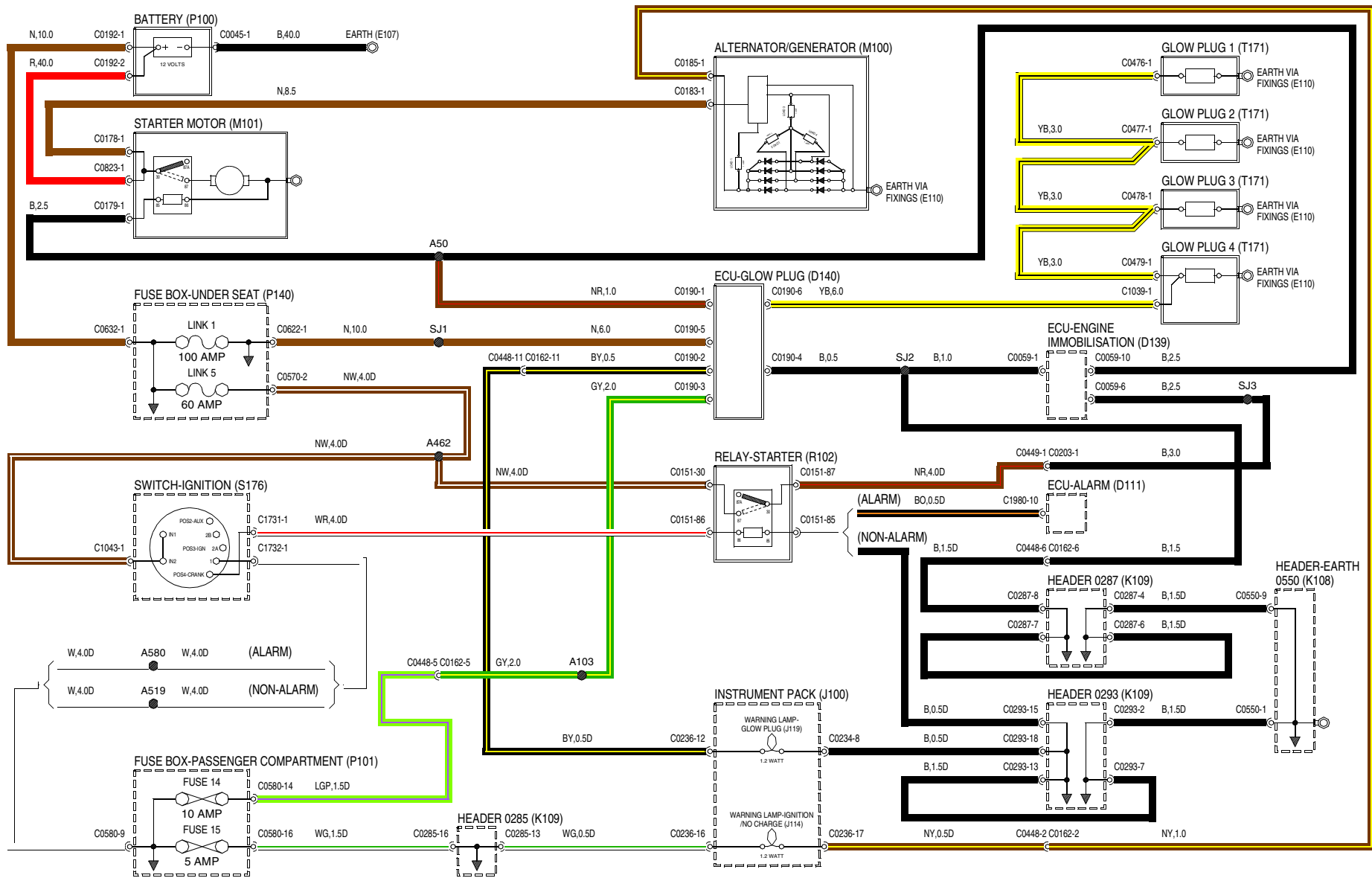
# 15 CHARGING AND STARTING

Td5



VWR000870-A-01

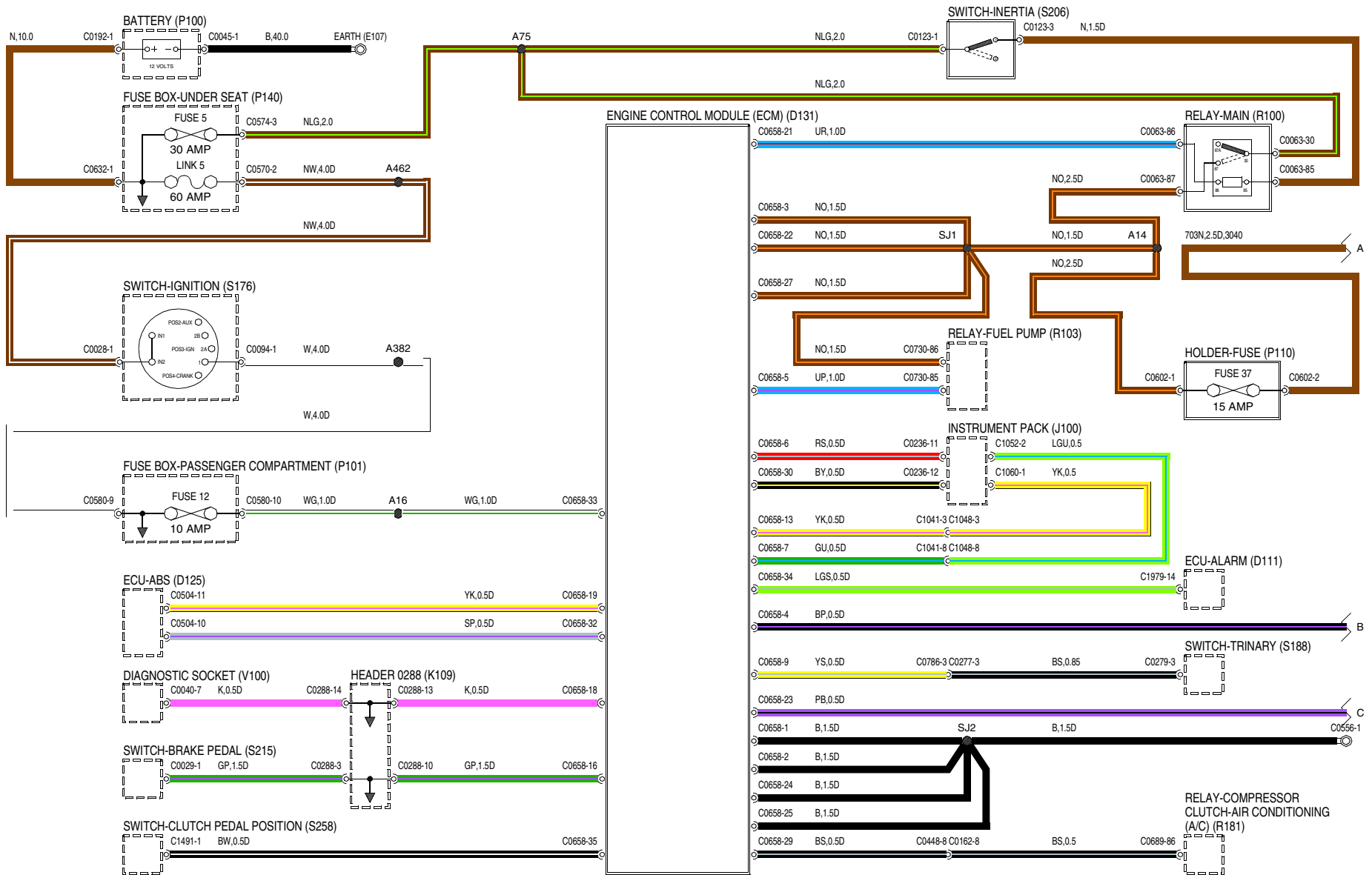




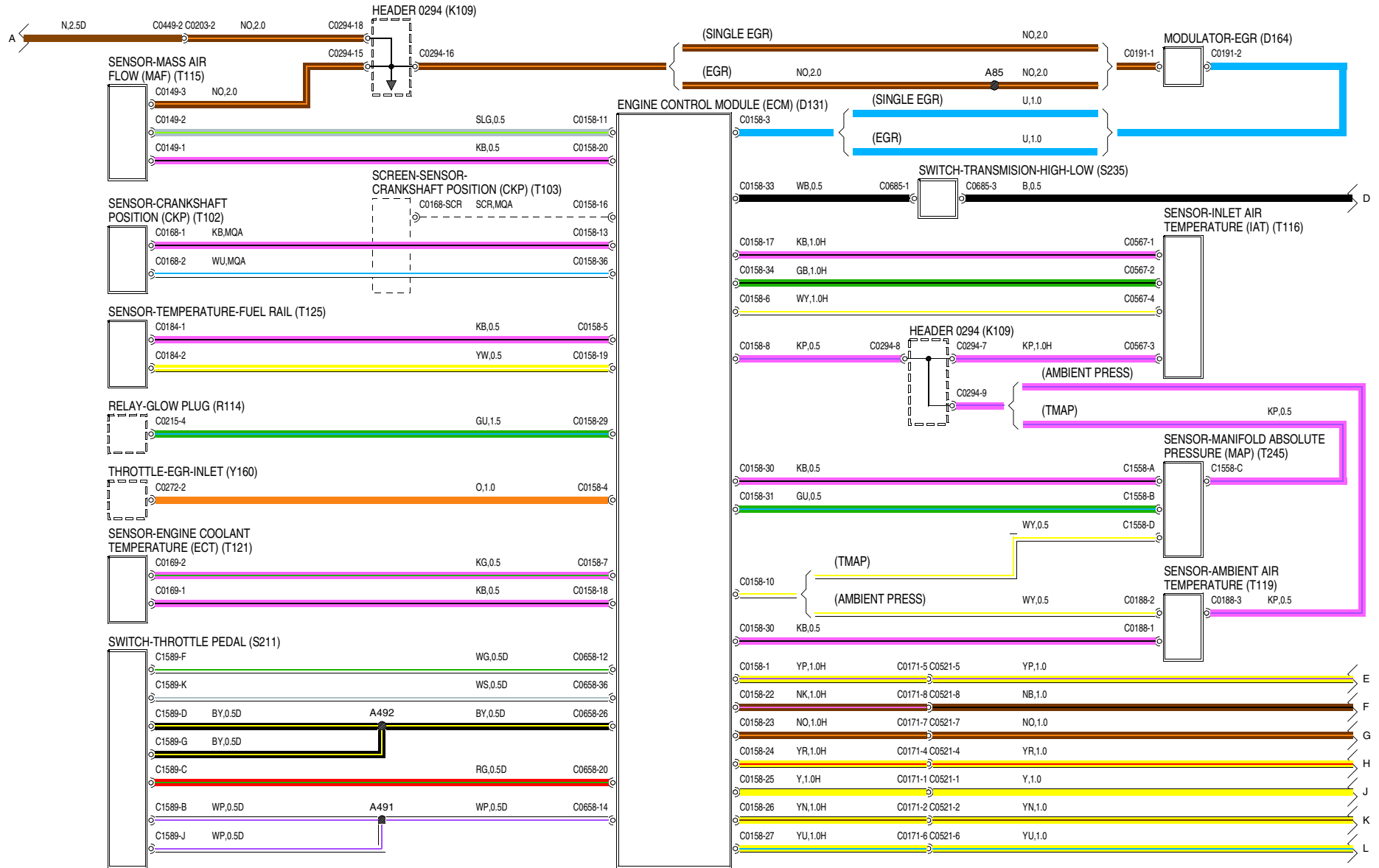
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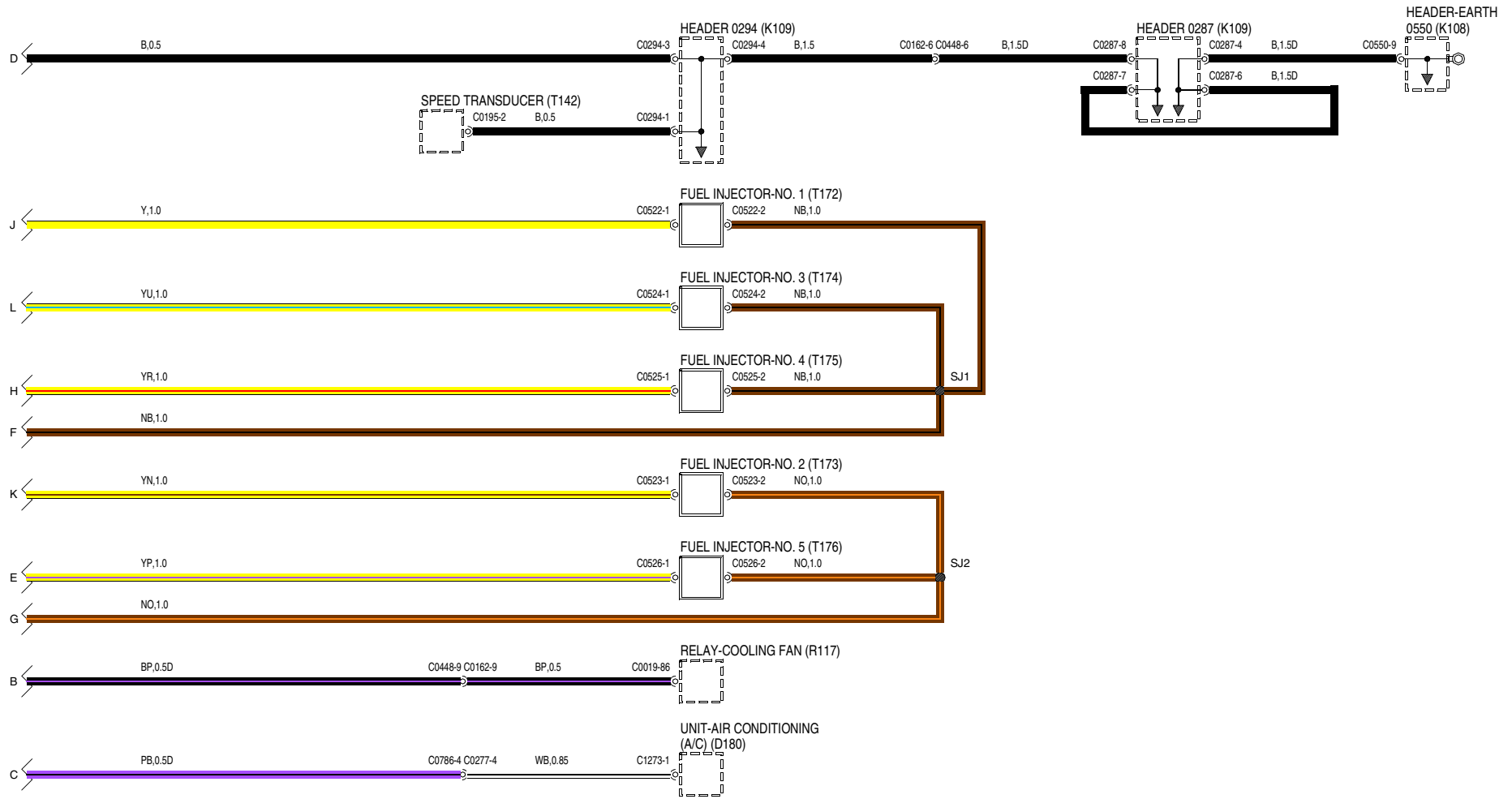




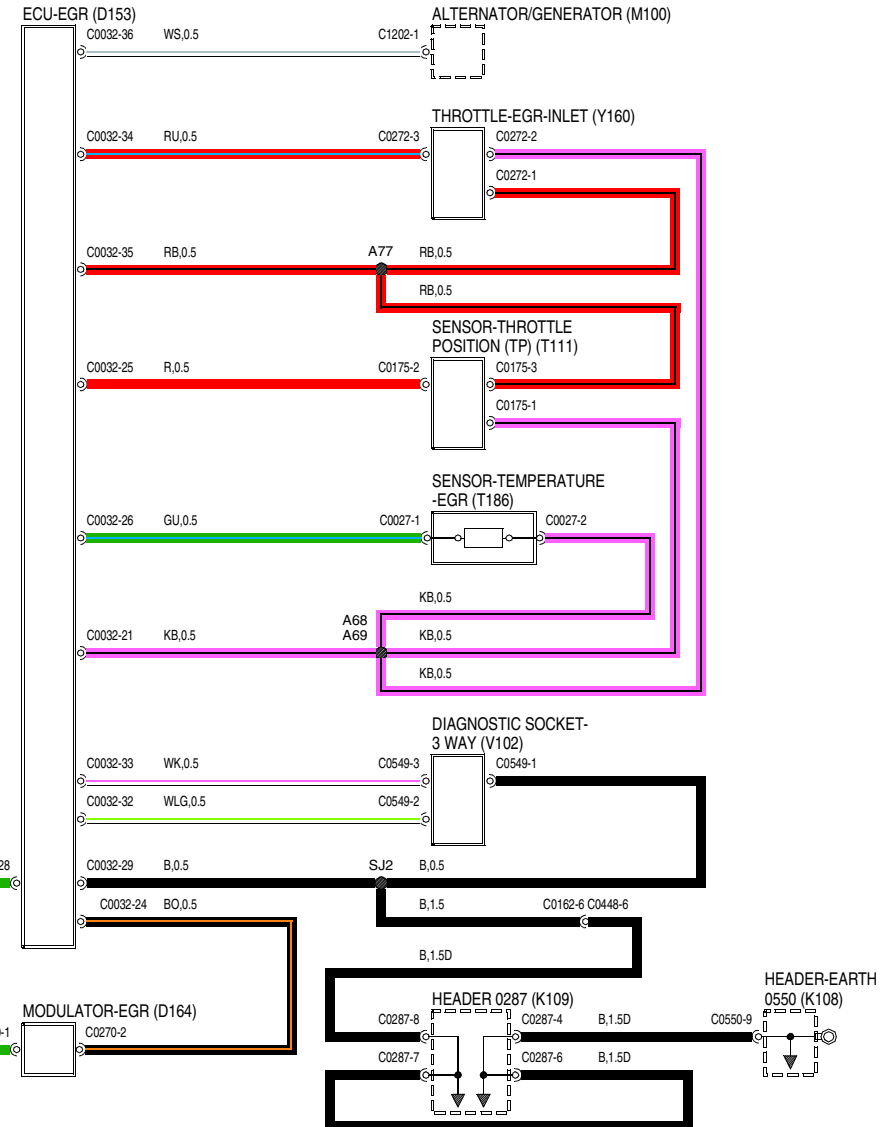
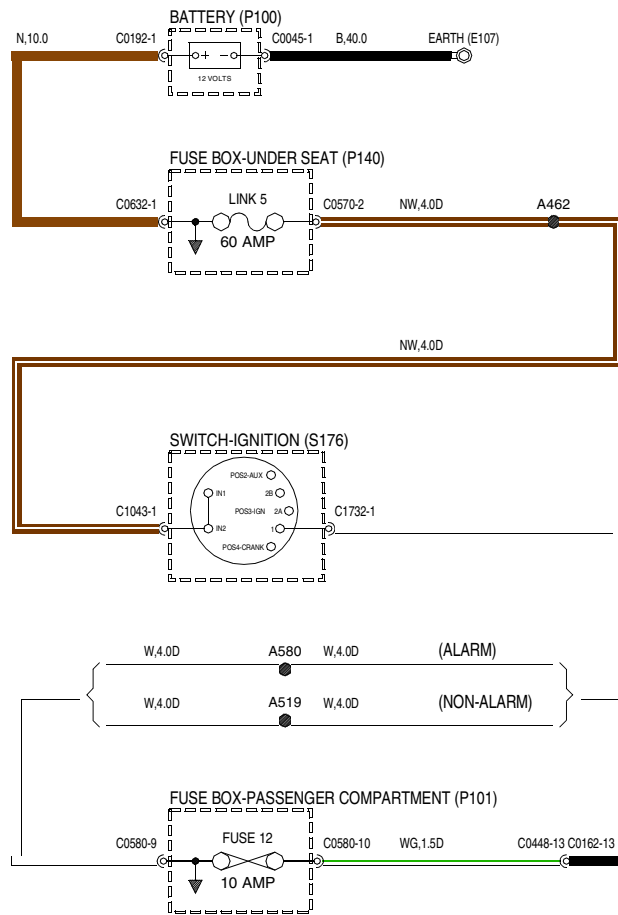
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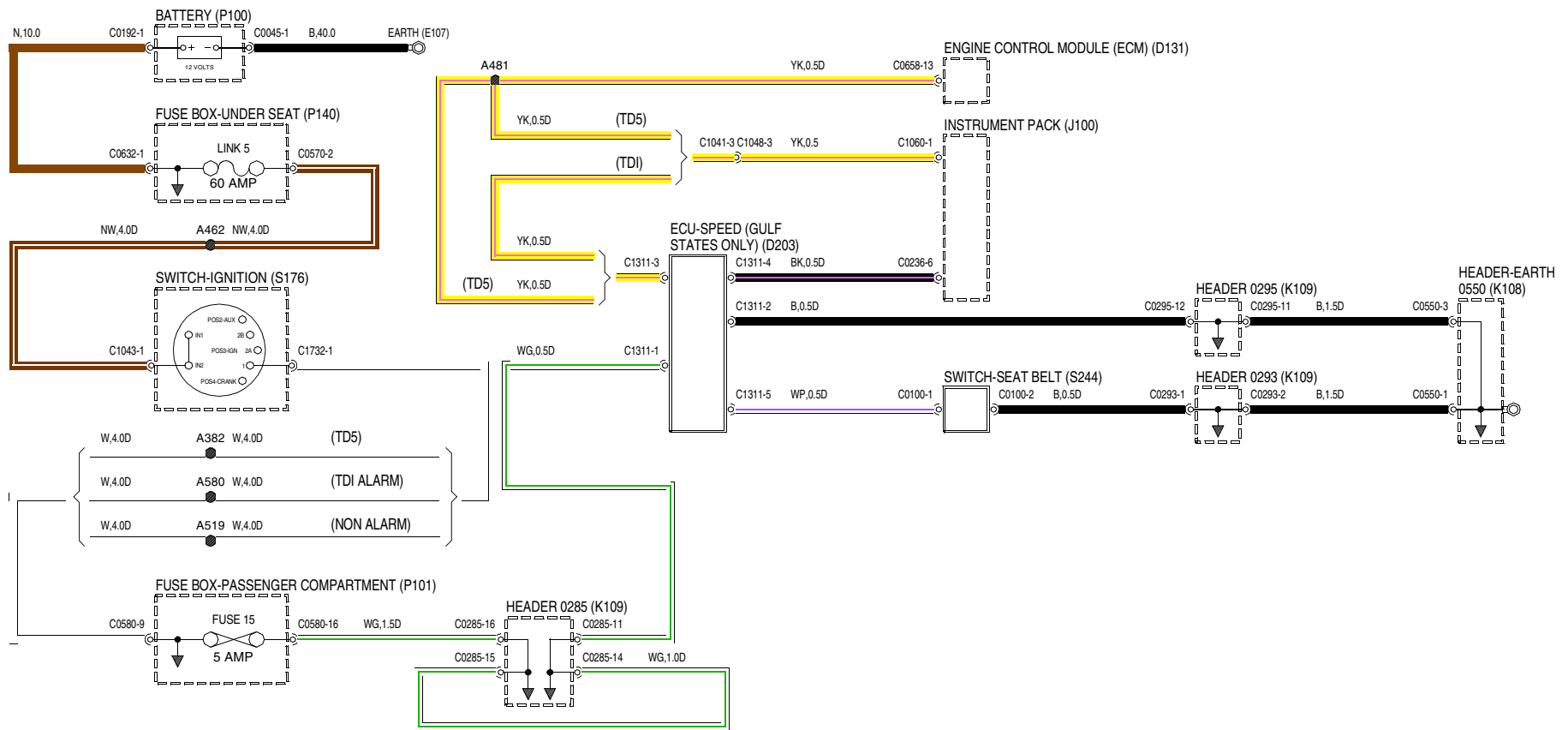


WWR000350-A-03



WVR000370-A-01

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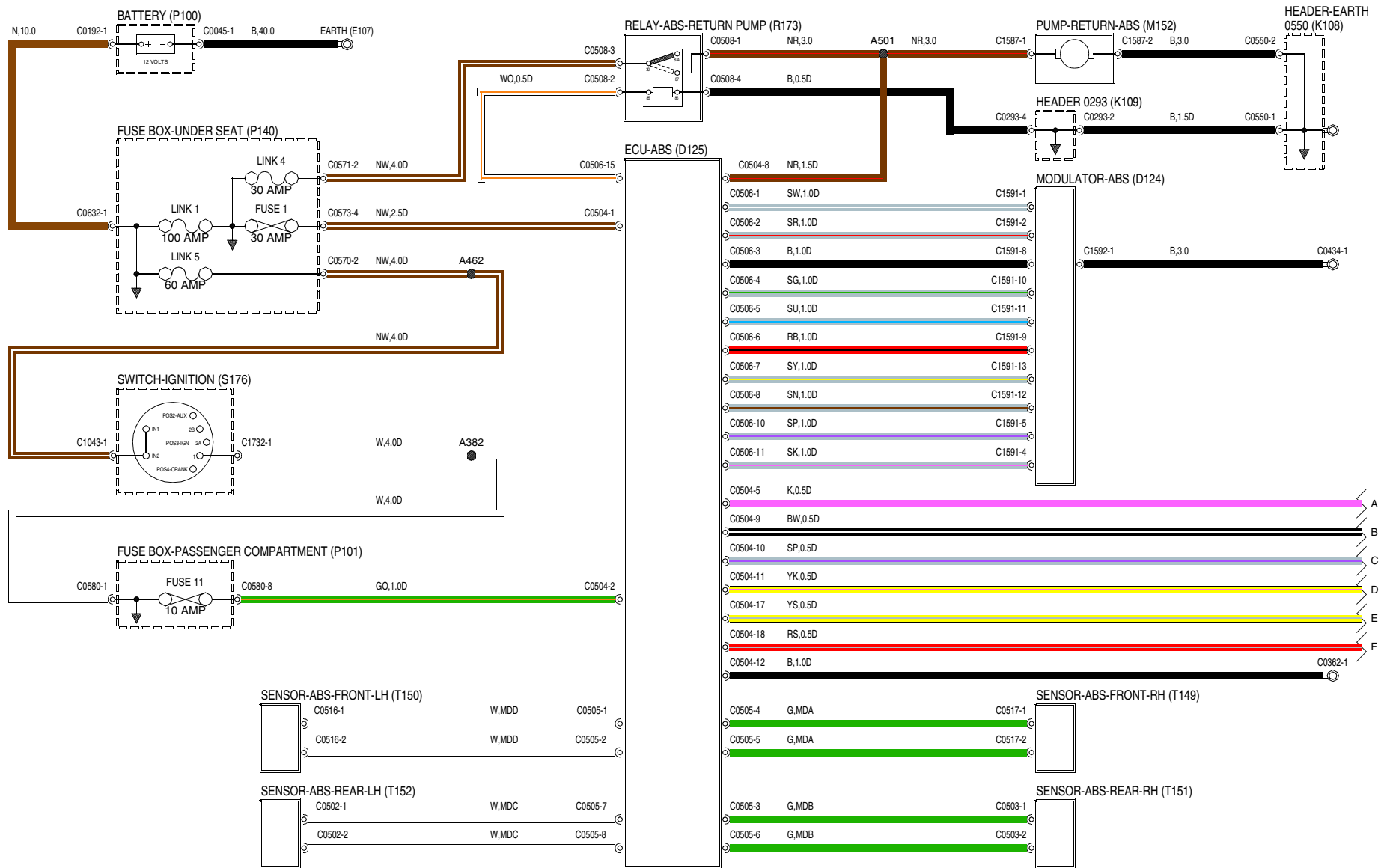


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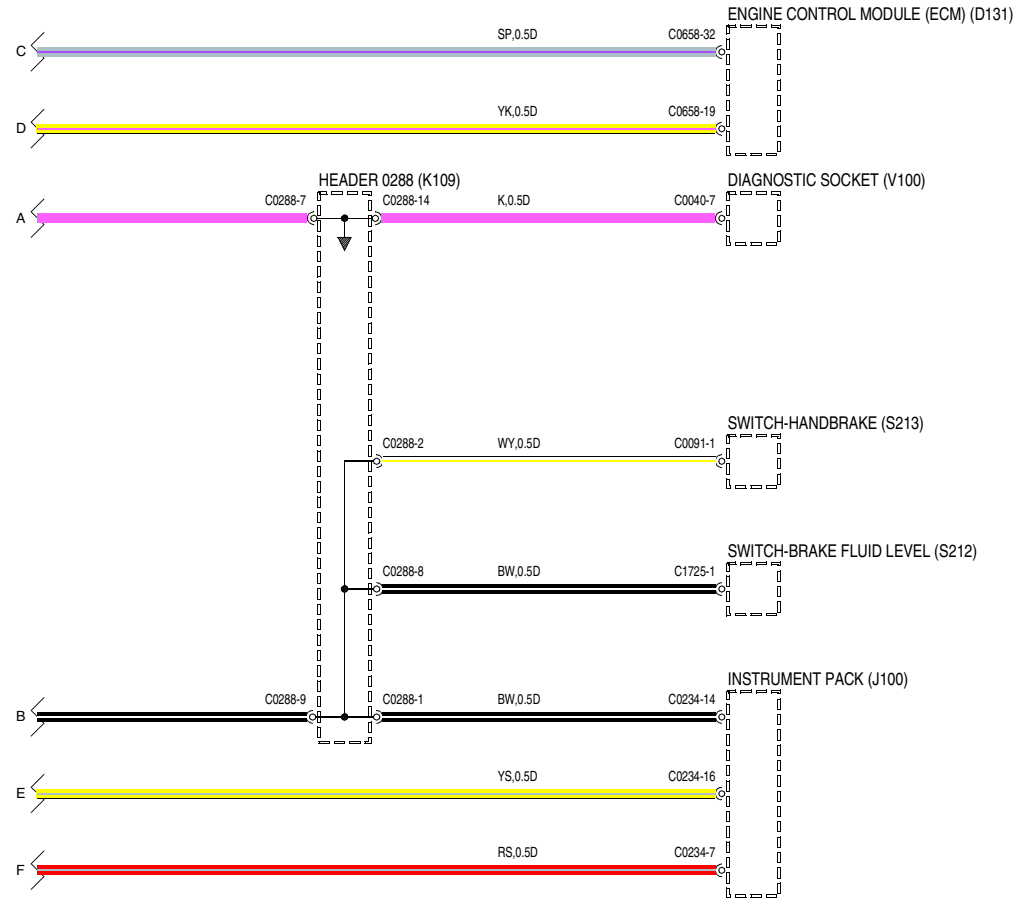


# 35 ANTI-LOCK BRAKING SYSTEM (ABS)

Td5

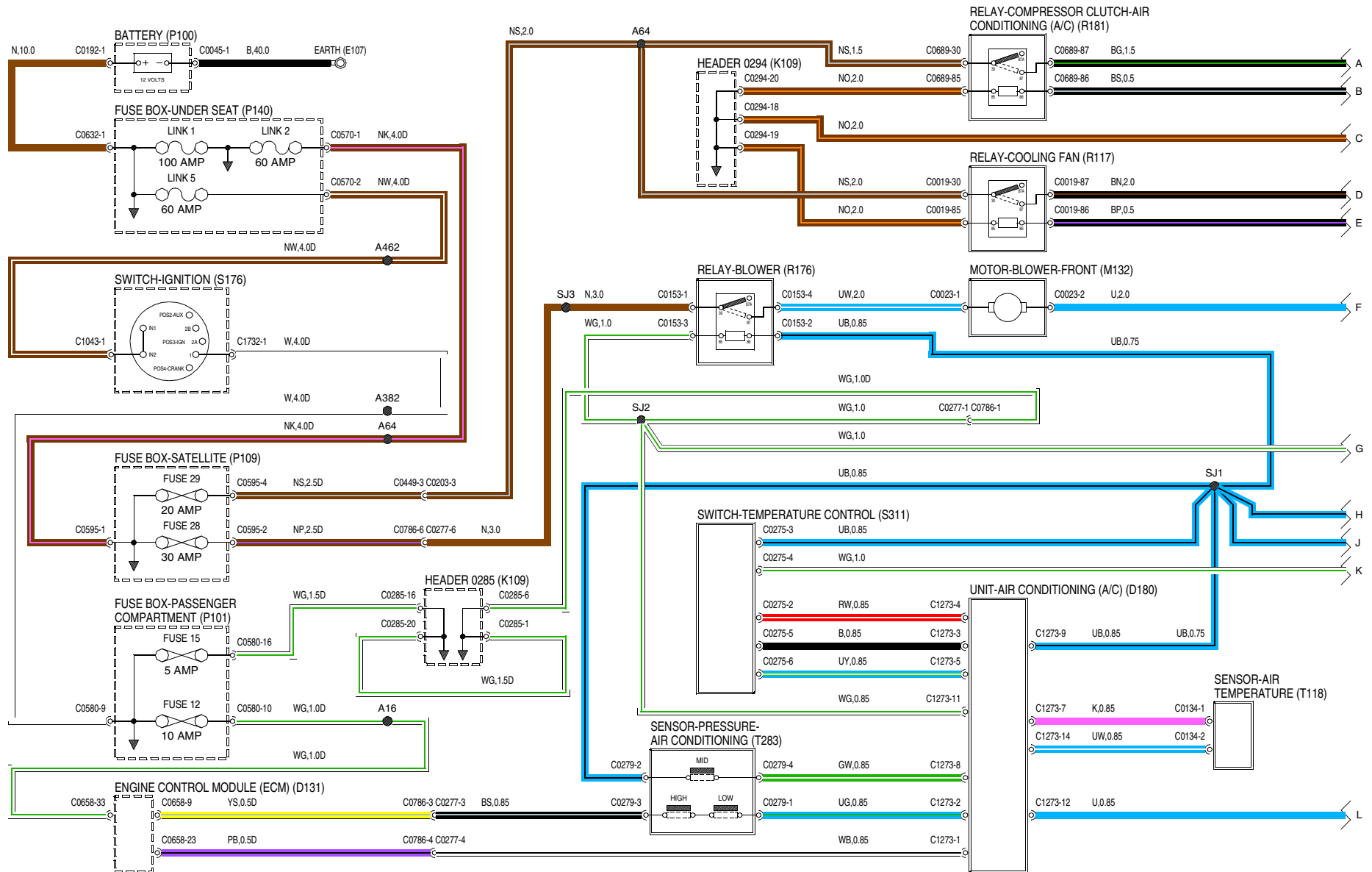


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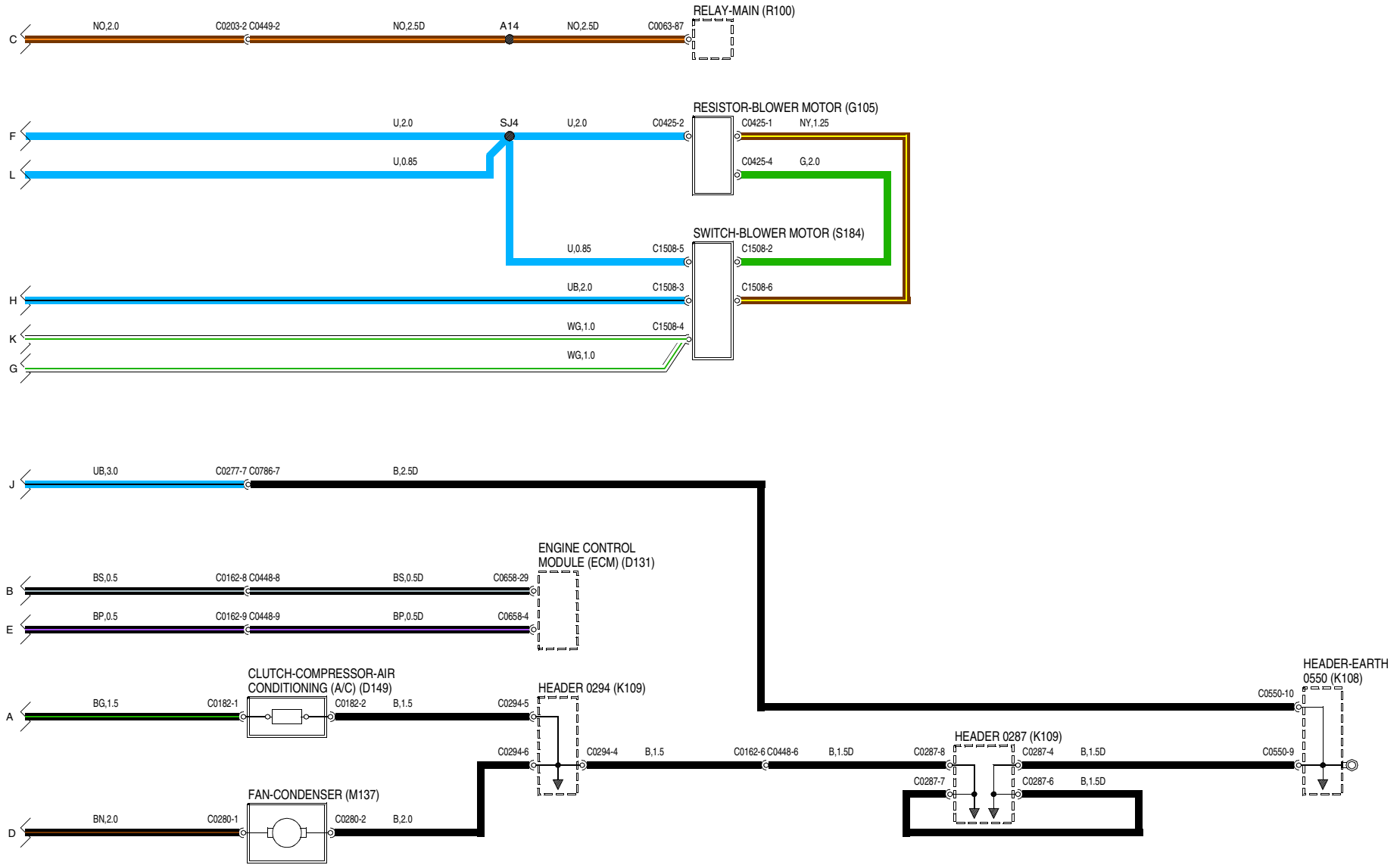


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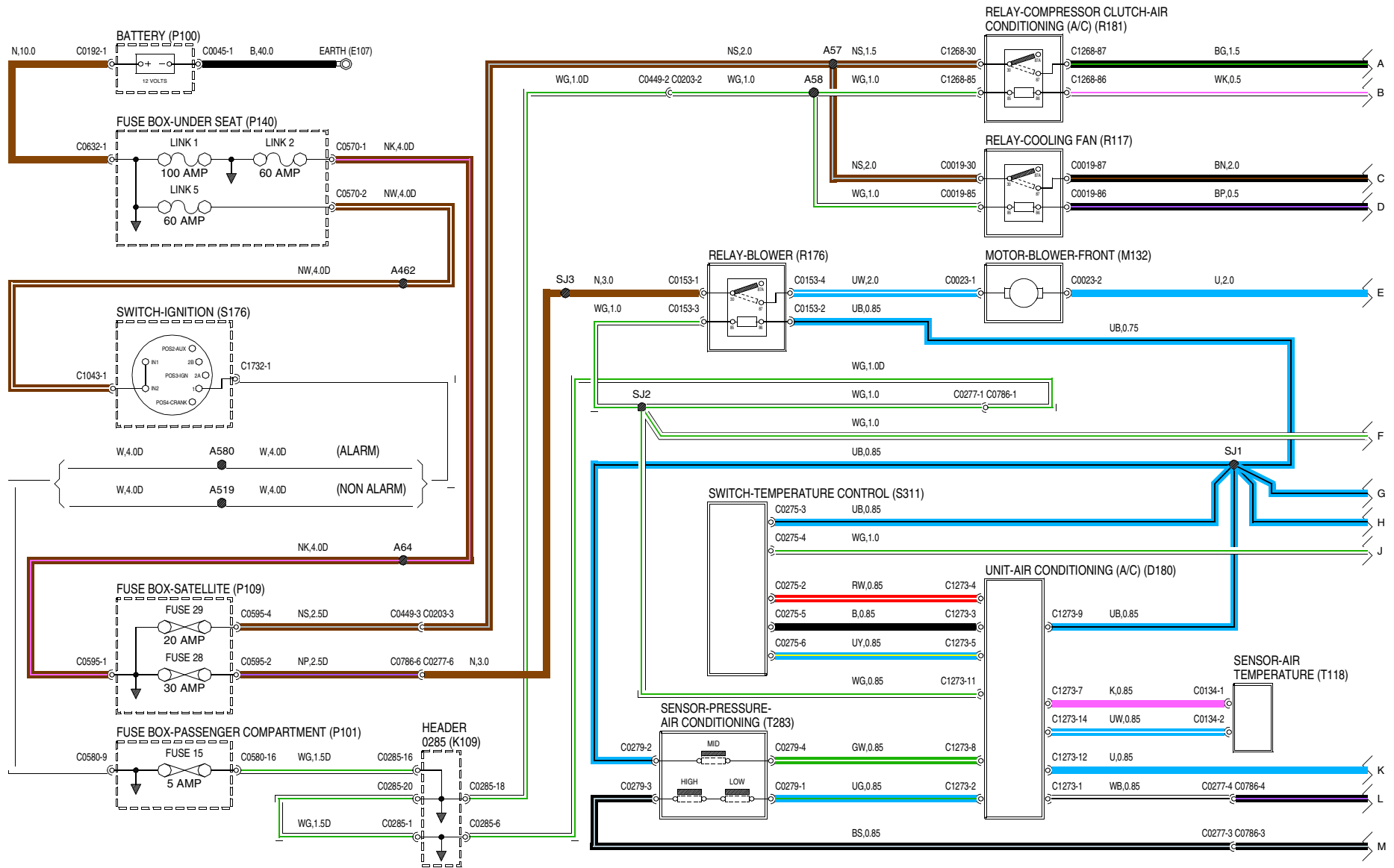




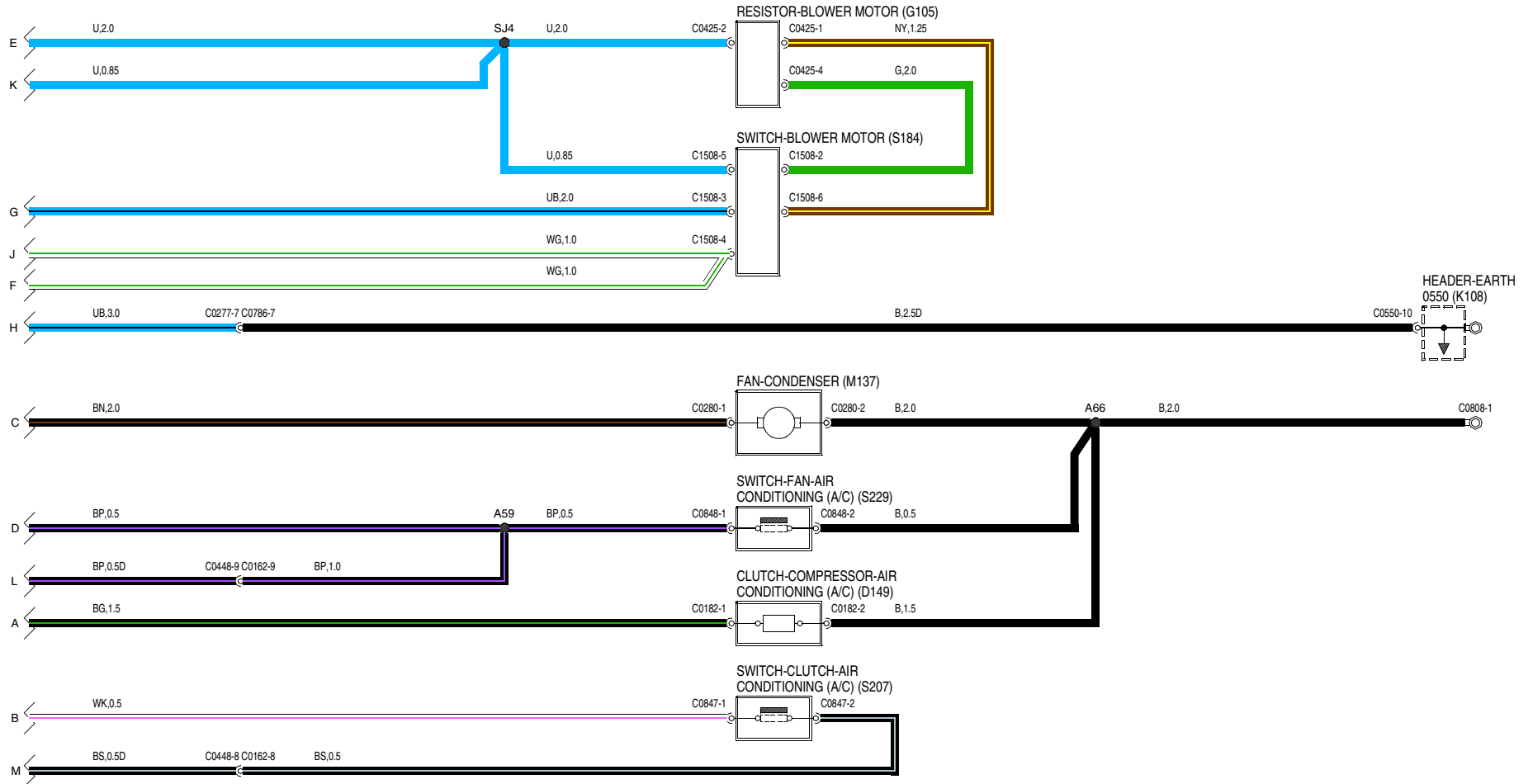
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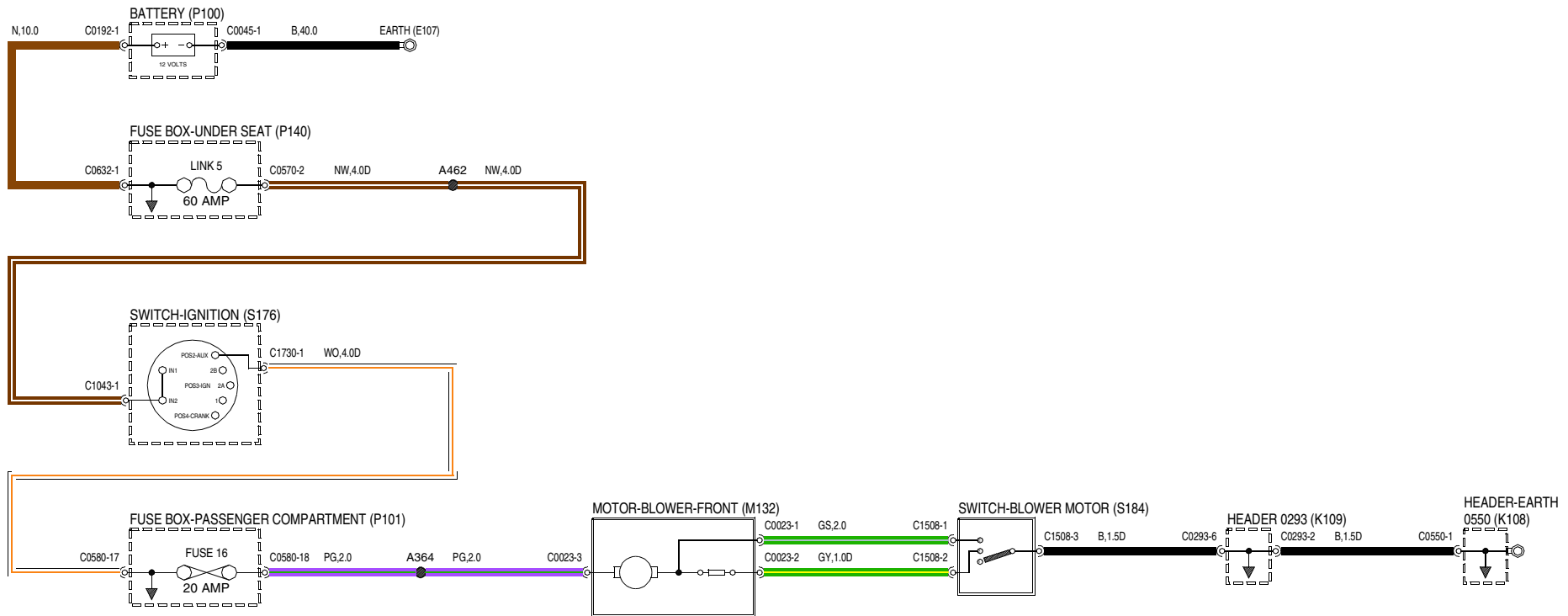


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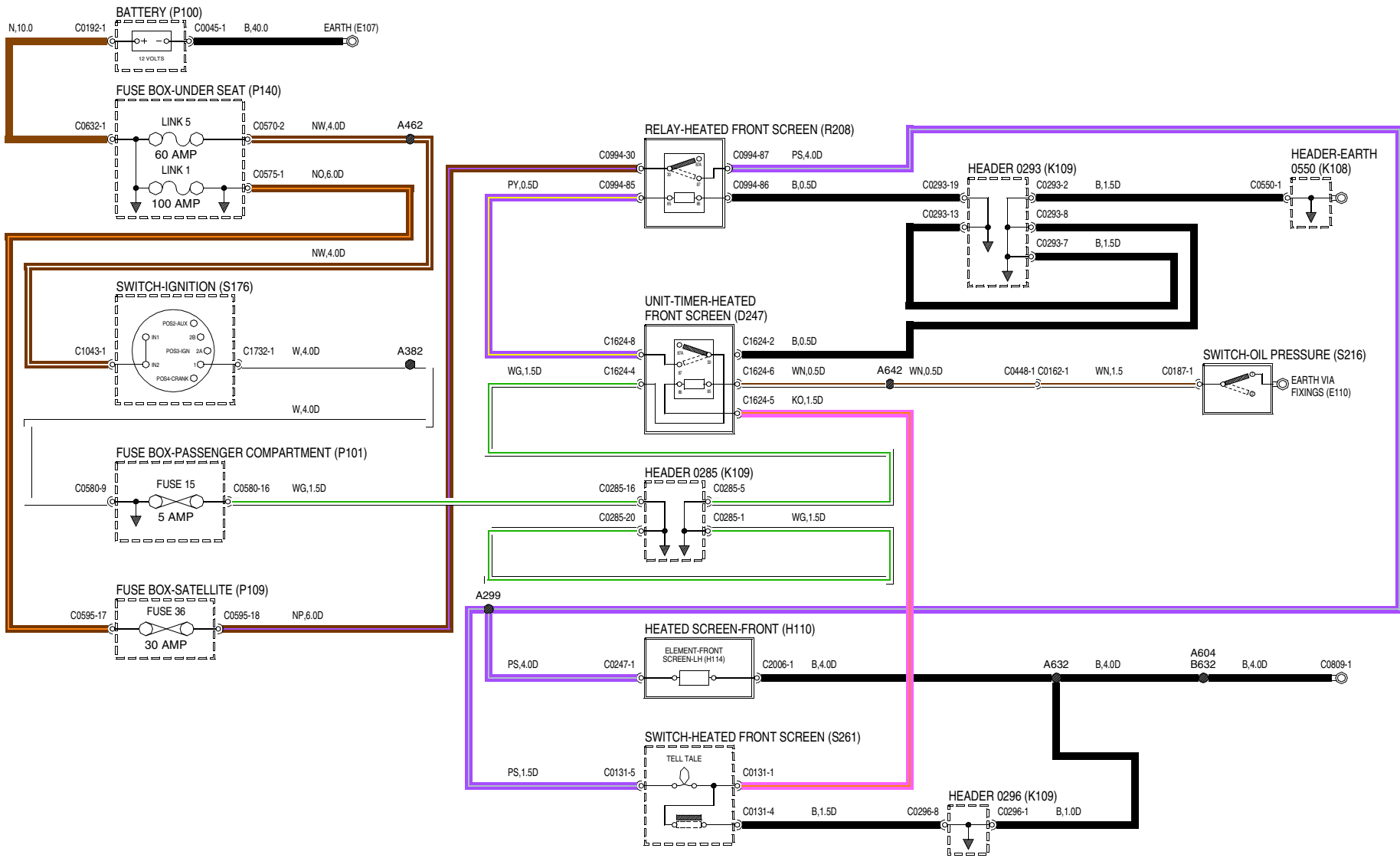
# 39 HEATER



VWR000570-A-01



# 40 HEATED FRONT SCREEN

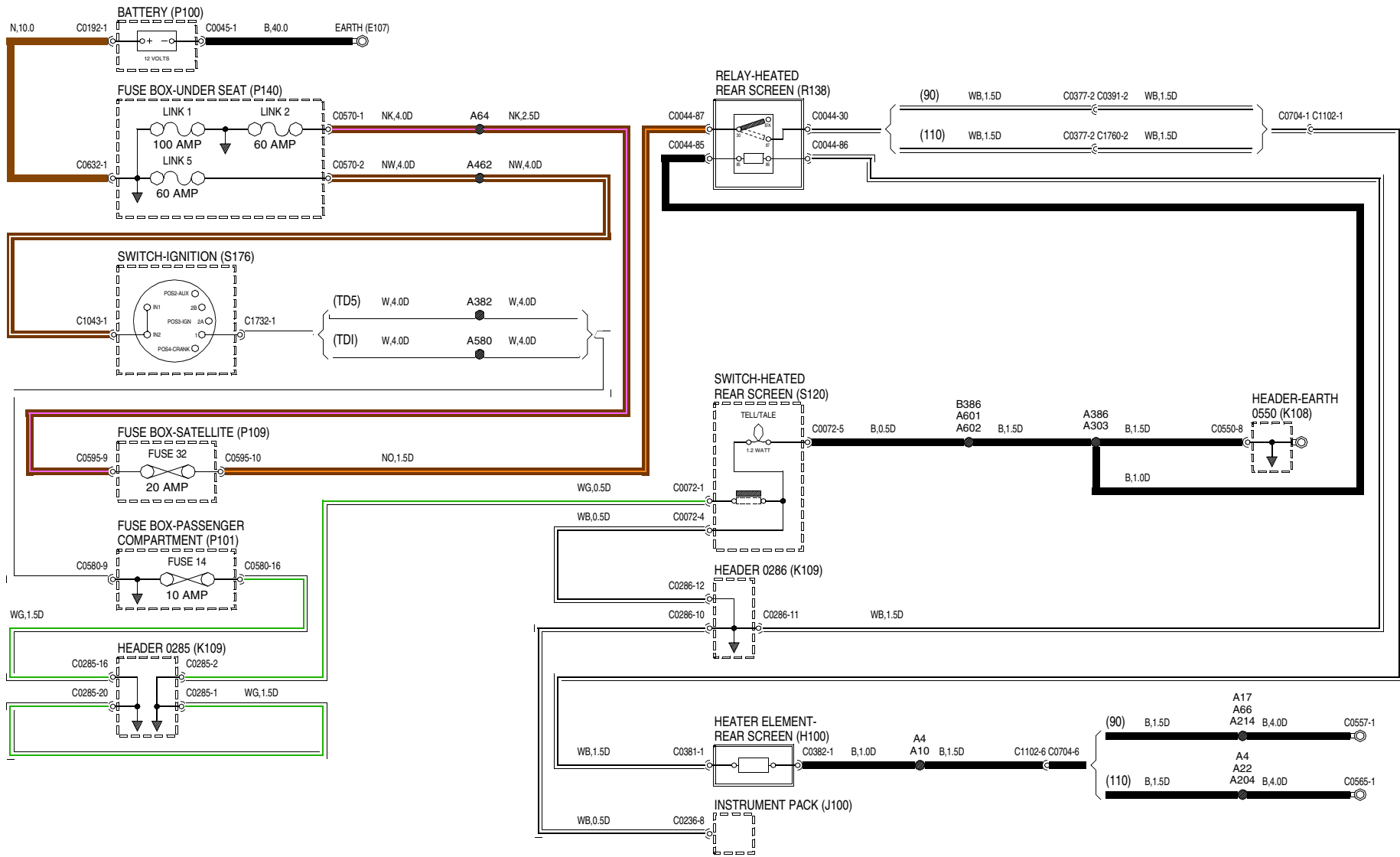


VWR000530-A-01





# 40 HEATED REAR SCREEN

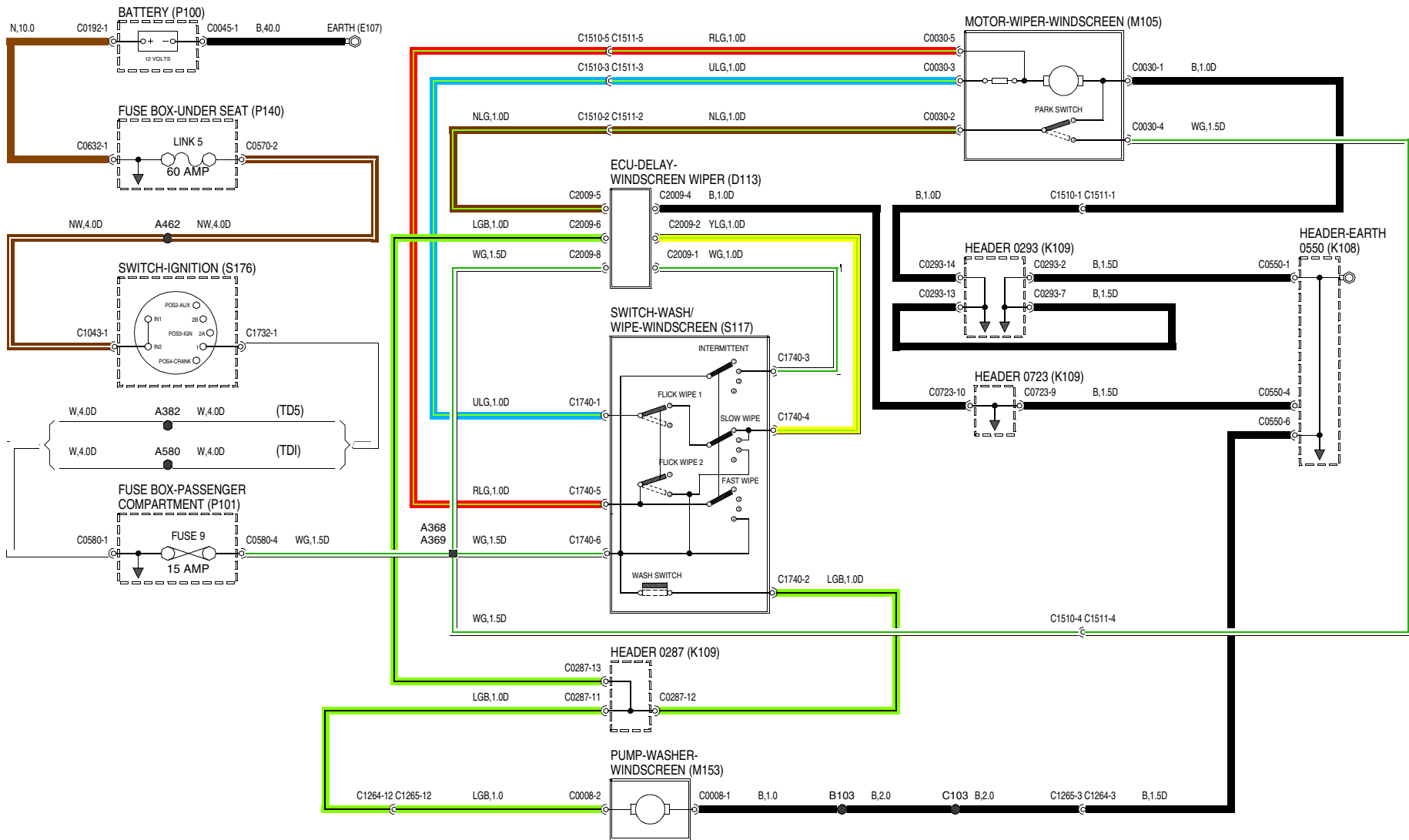


VWR000550-A-01



# 42 WIPERS AND WASHERS

Front

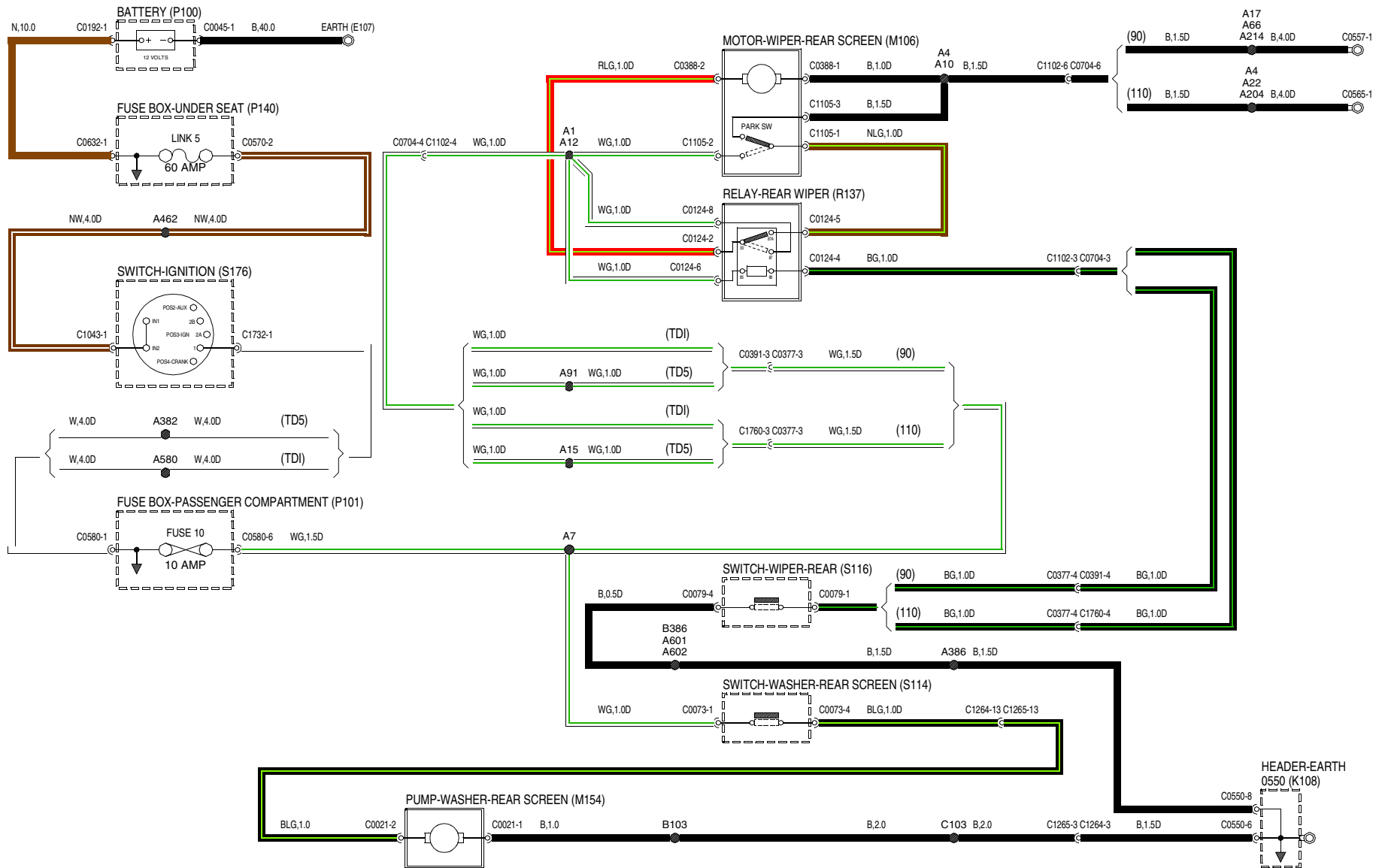


VWR000910-A-01



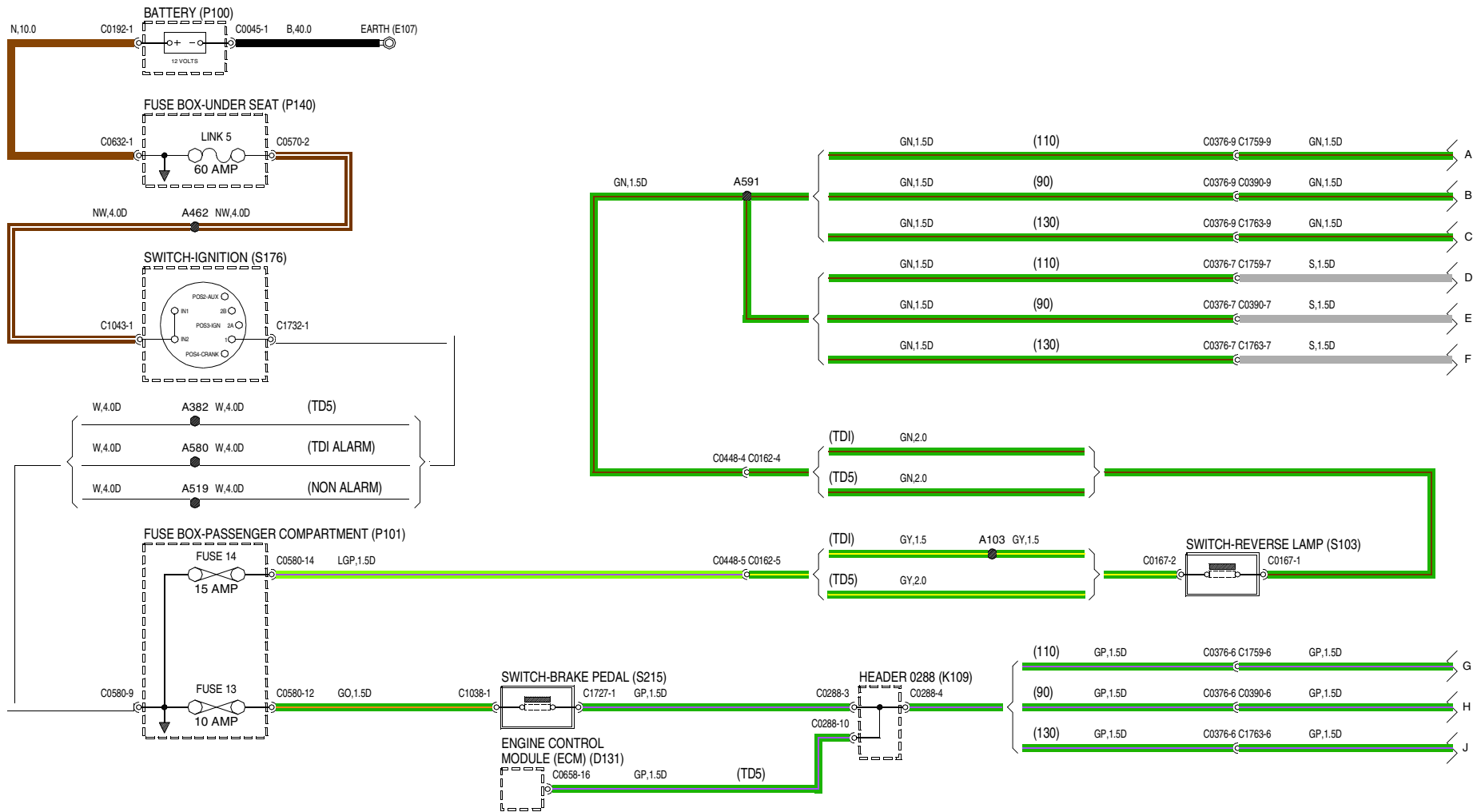
# 42 WIPERS AND WASHERS

Rear

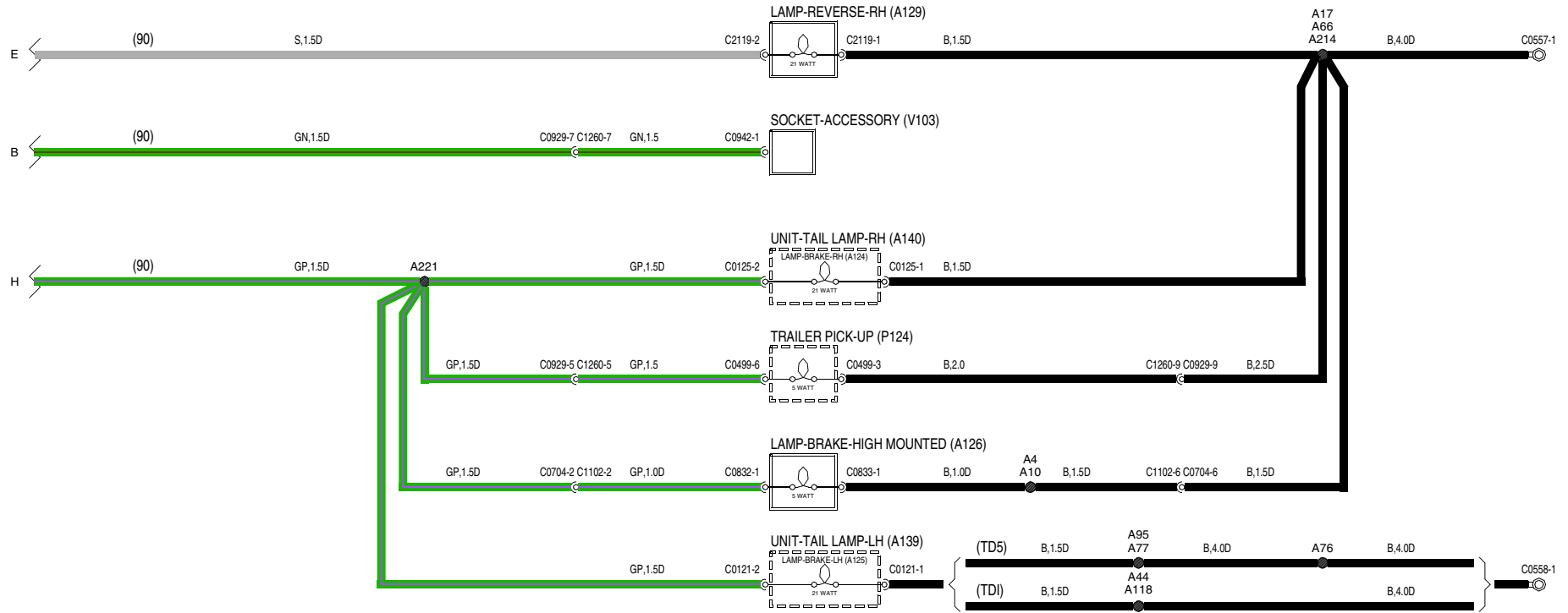


WVR000930-A-01





VWR000230-A-01

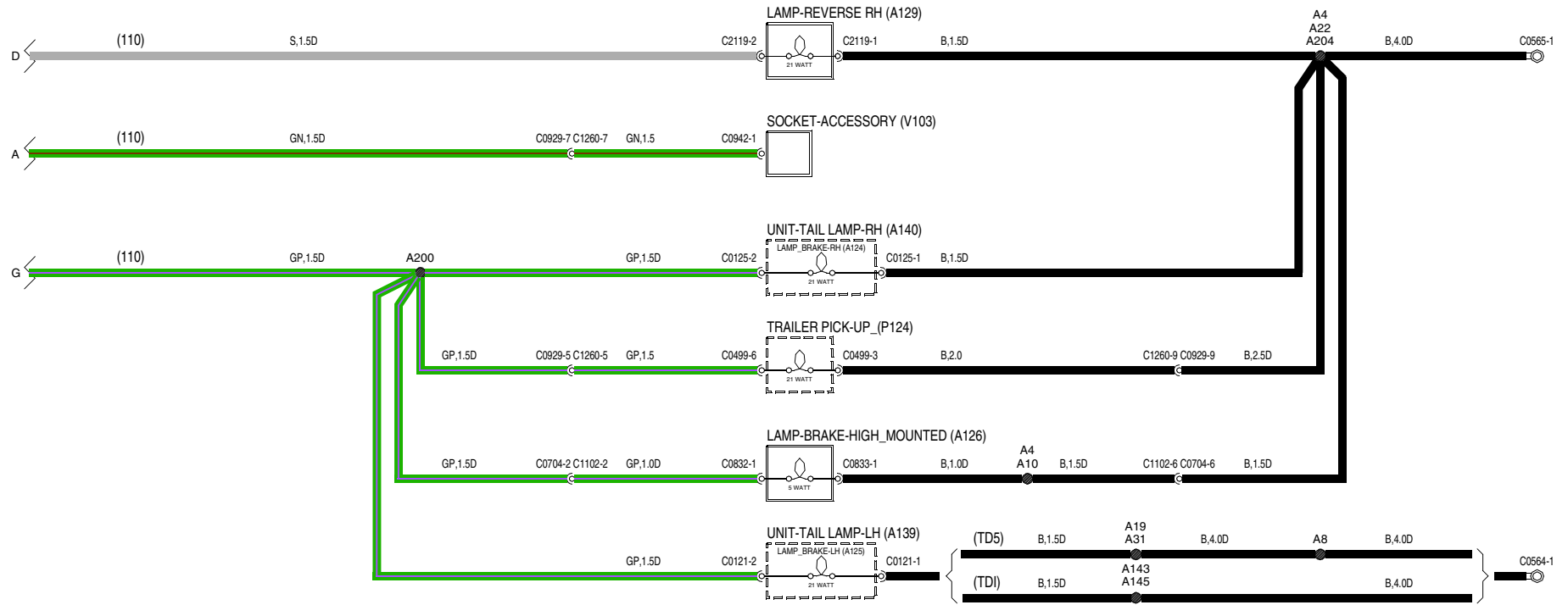


VWR000230-A-02



# 43 EXTERIOR LAMPS

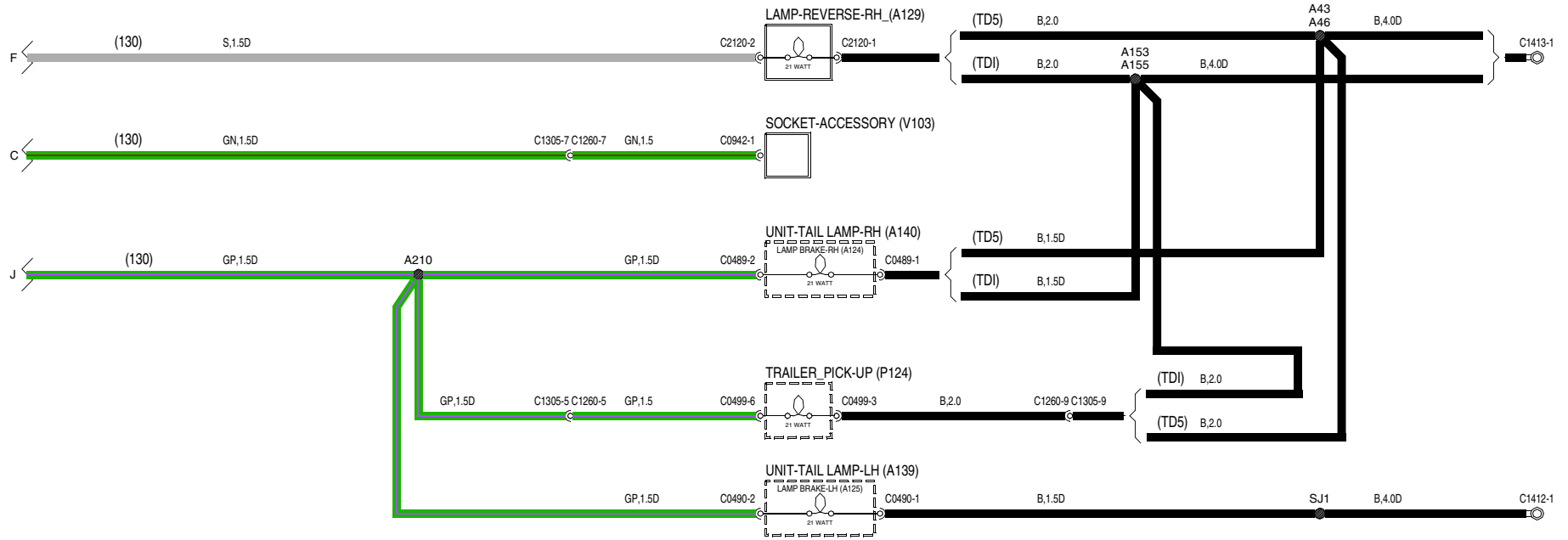
## Brake and reverse lamps



VWR000230-A-03

# 43 EXTERIOR LAMPS

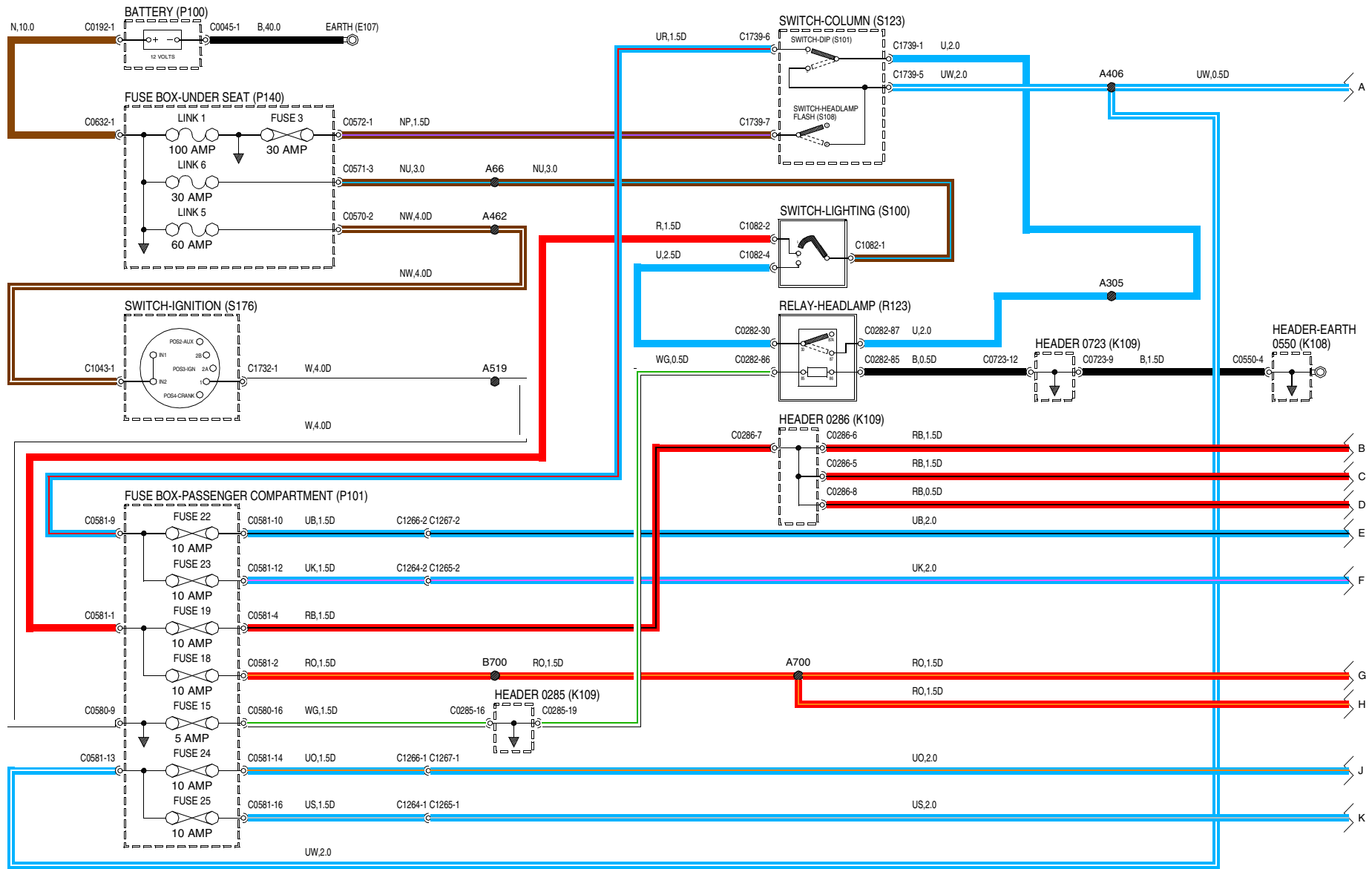
## Brake and reverse lamps



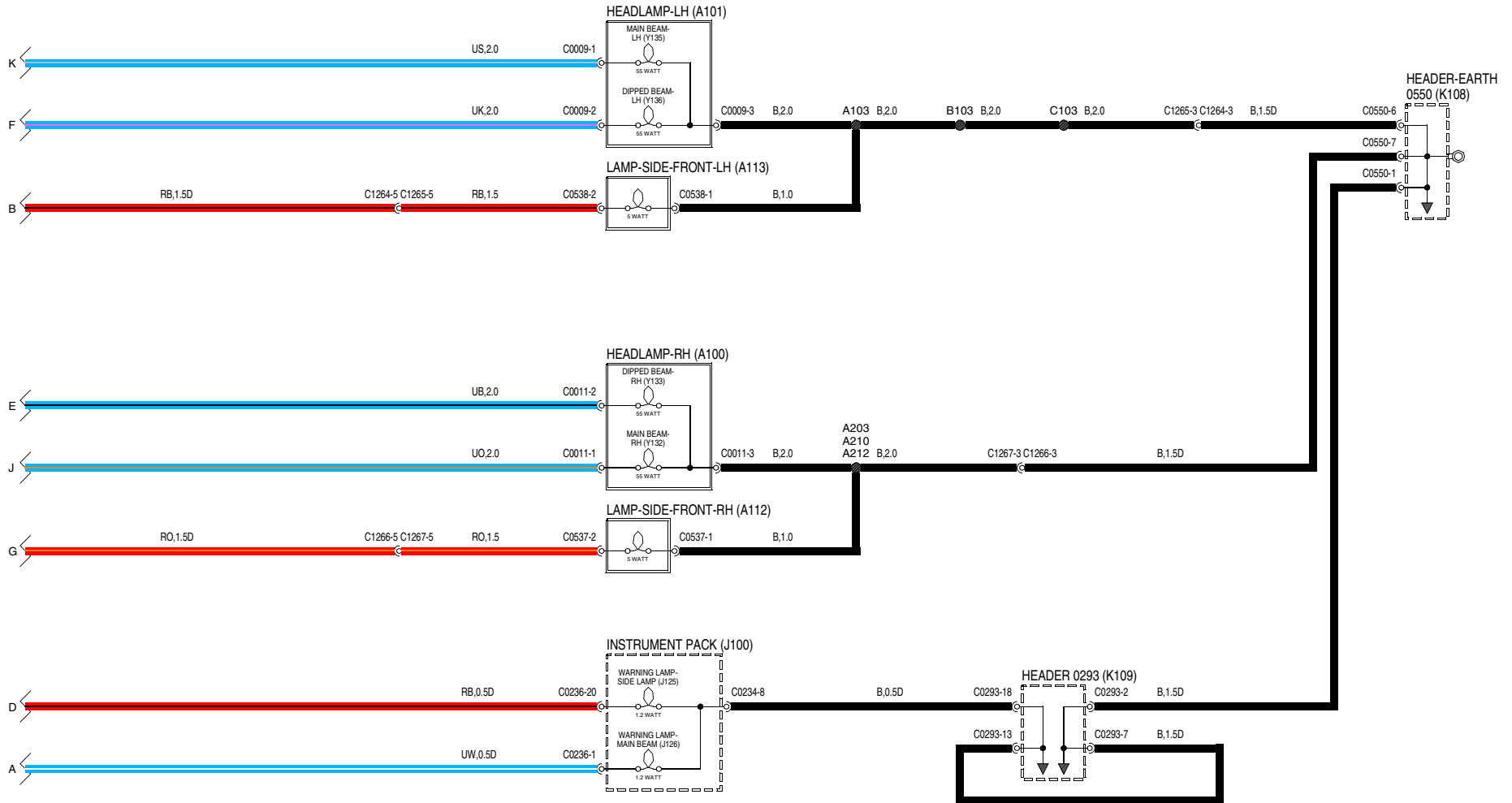
VWR000230-A-04

# 43 EXTERIOR LAMPS

Head, side, tail and number plate lamps - 300 Tdi



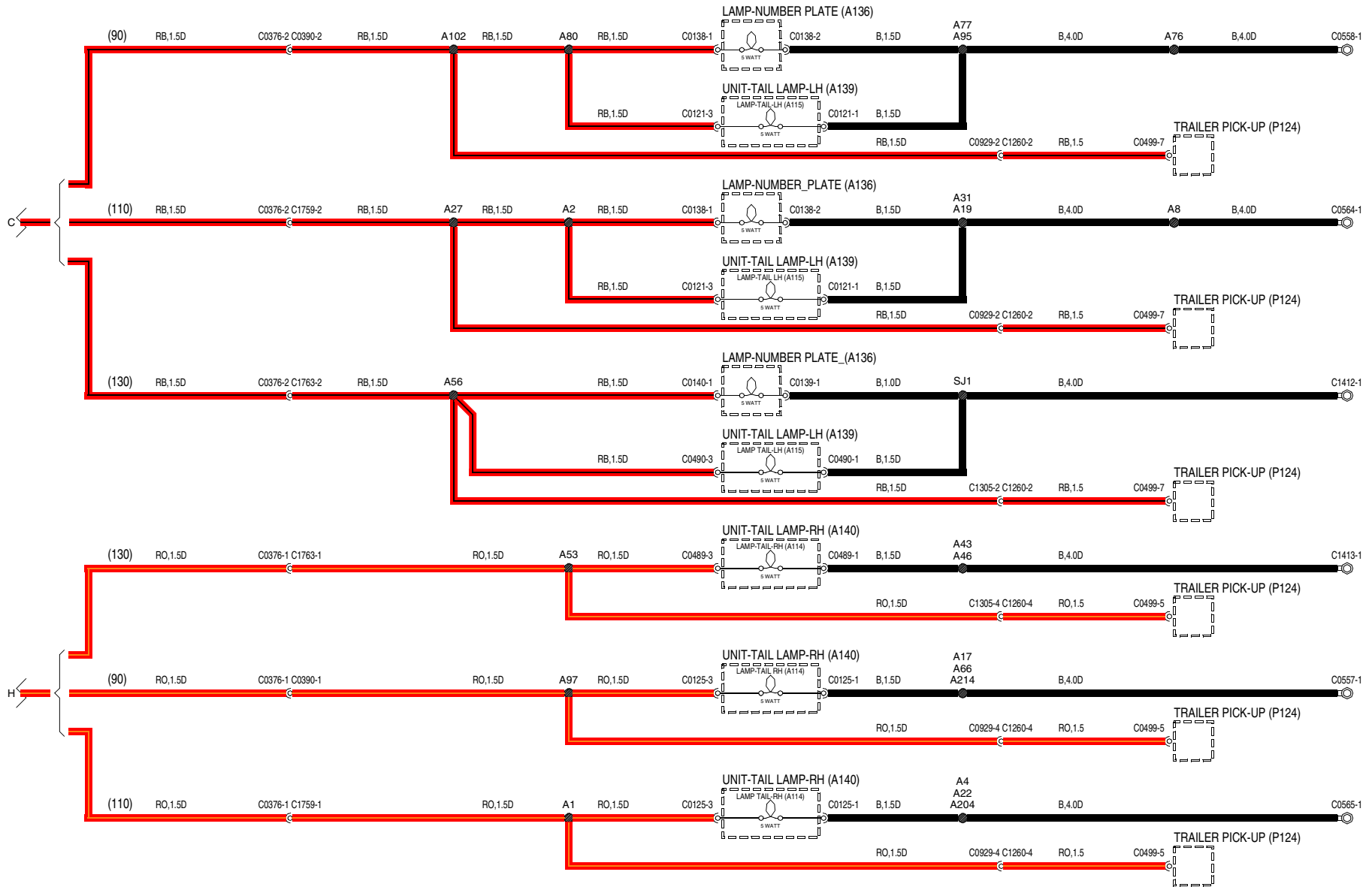
VWR000330-A-01



WWR000330-A-02

# 43 EXTERIOR LAMPS

Head, side, tail and number plate lamps - 300 Tdi

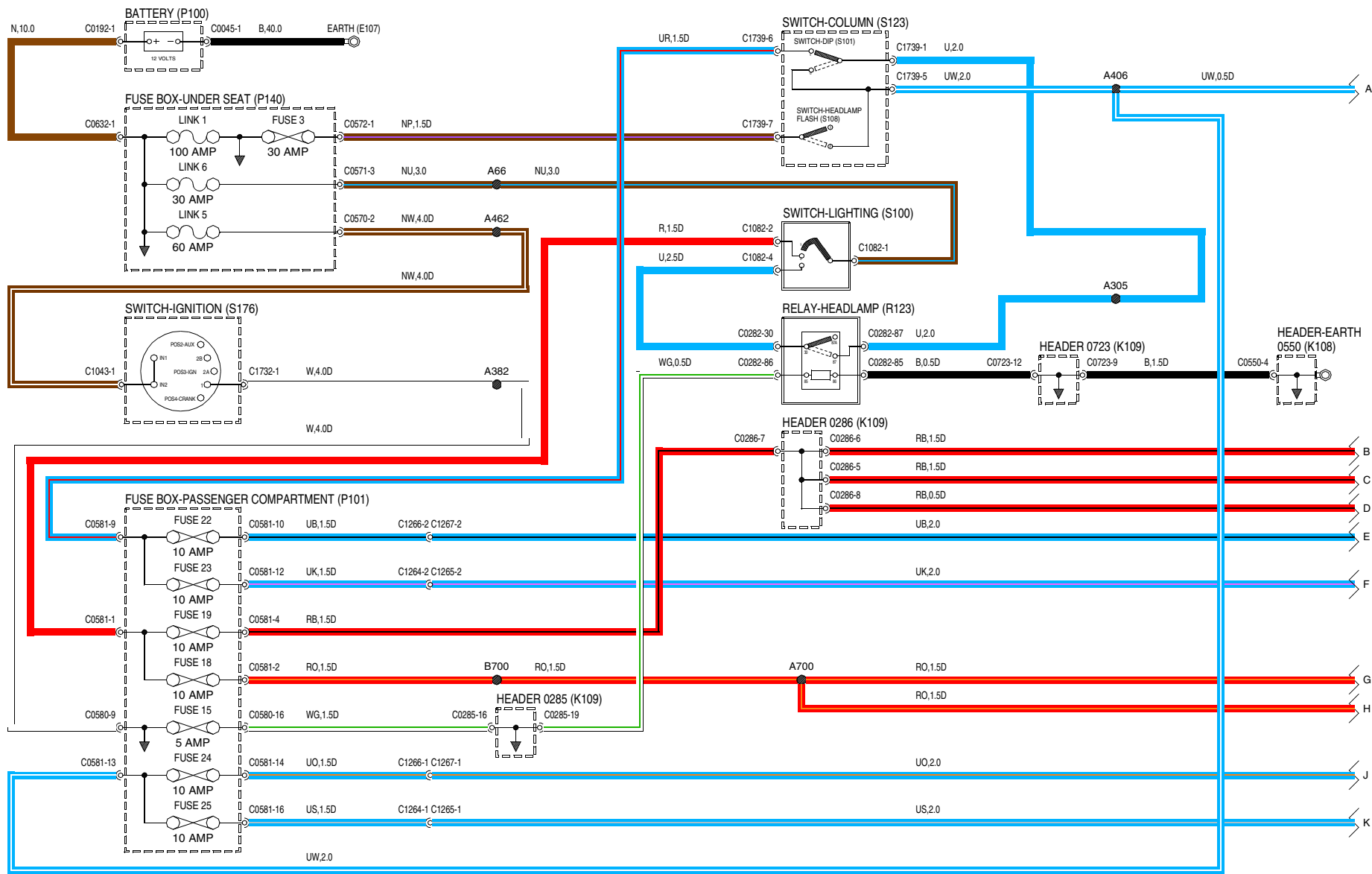


VWR000330-A-03

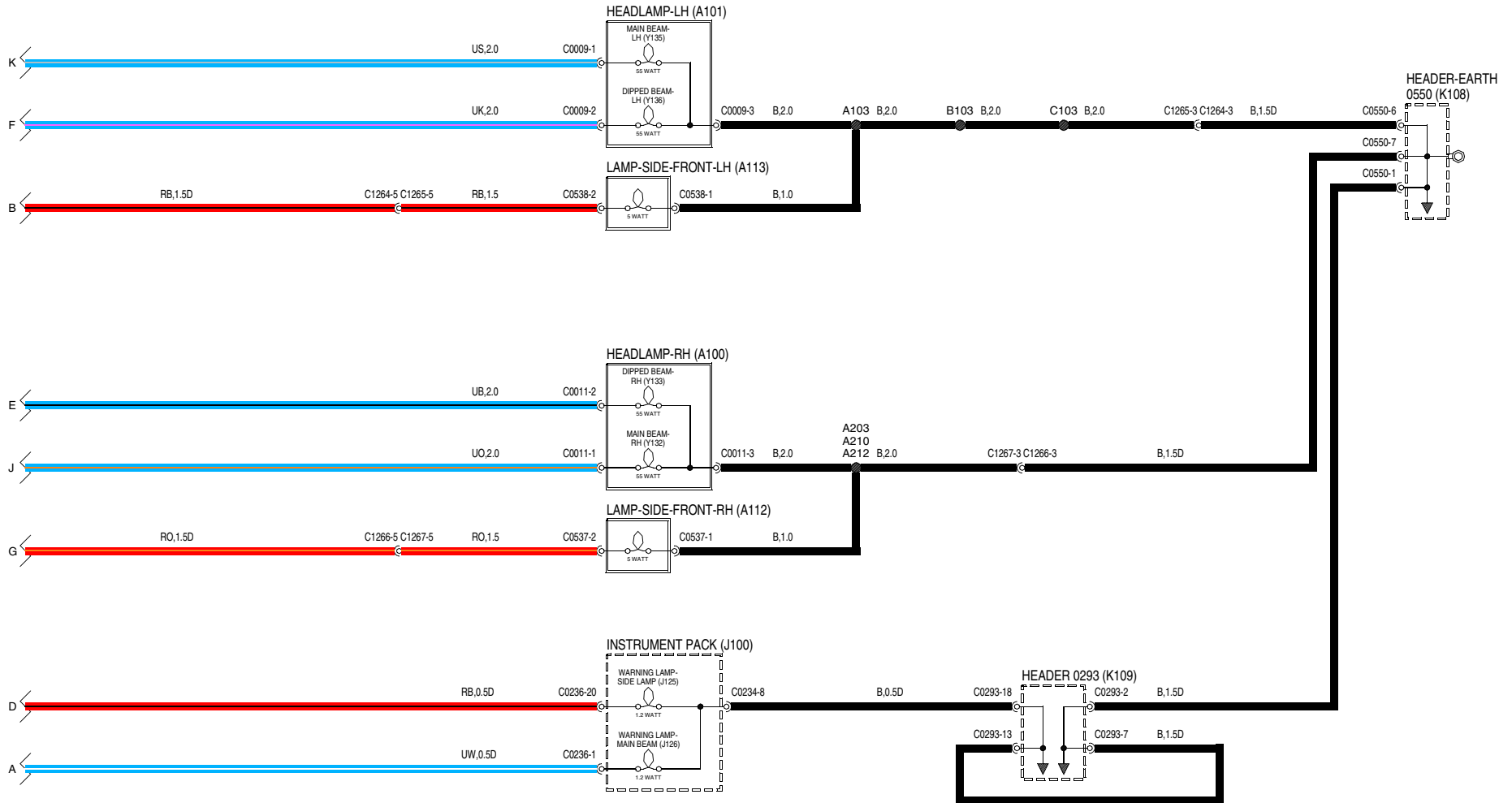


# 43 EXTERIOR LAMPS

Head, side, tail and number plate lamps - Td5



VWR000470-A-01

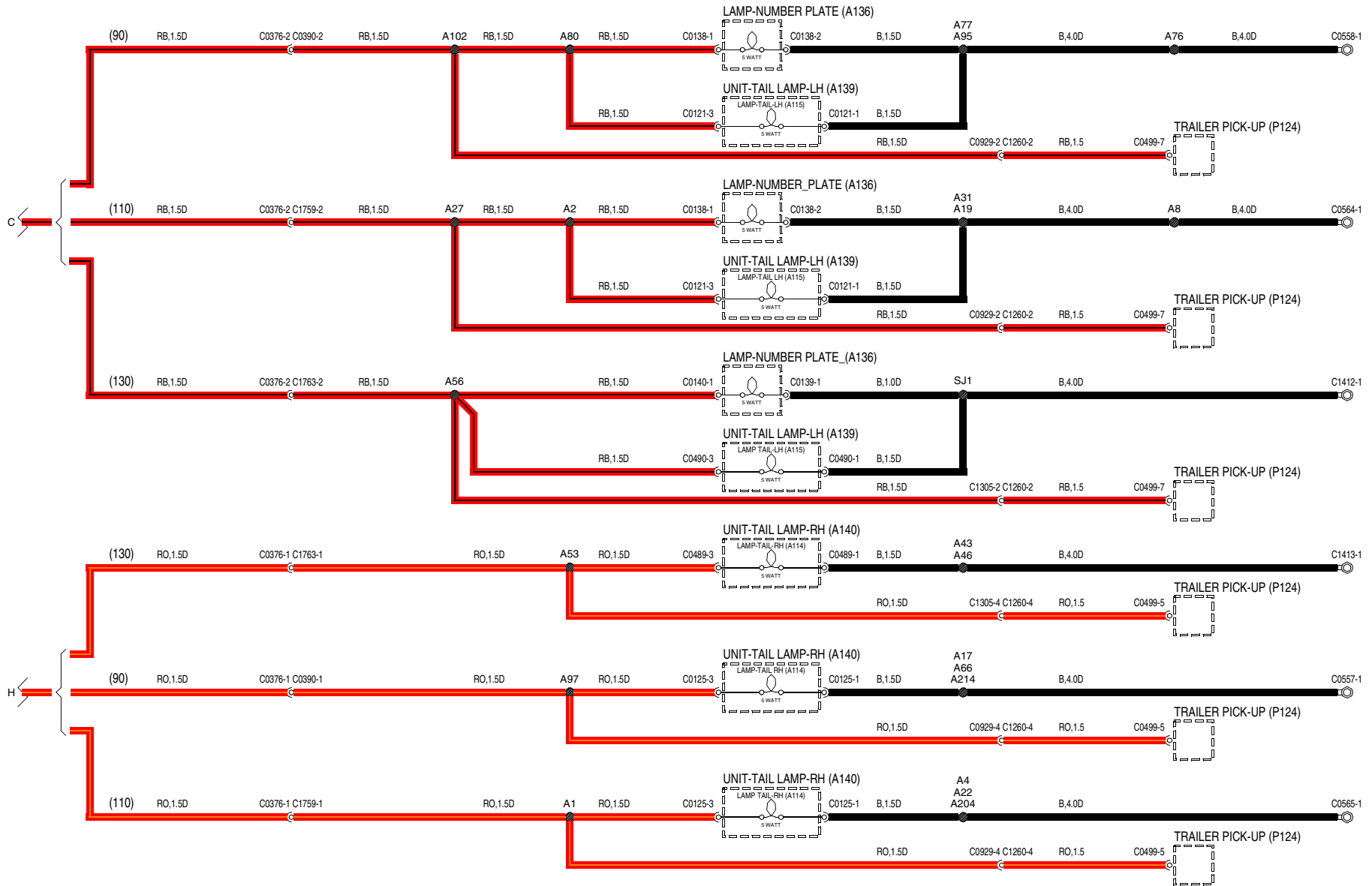


WVR000470-A-02



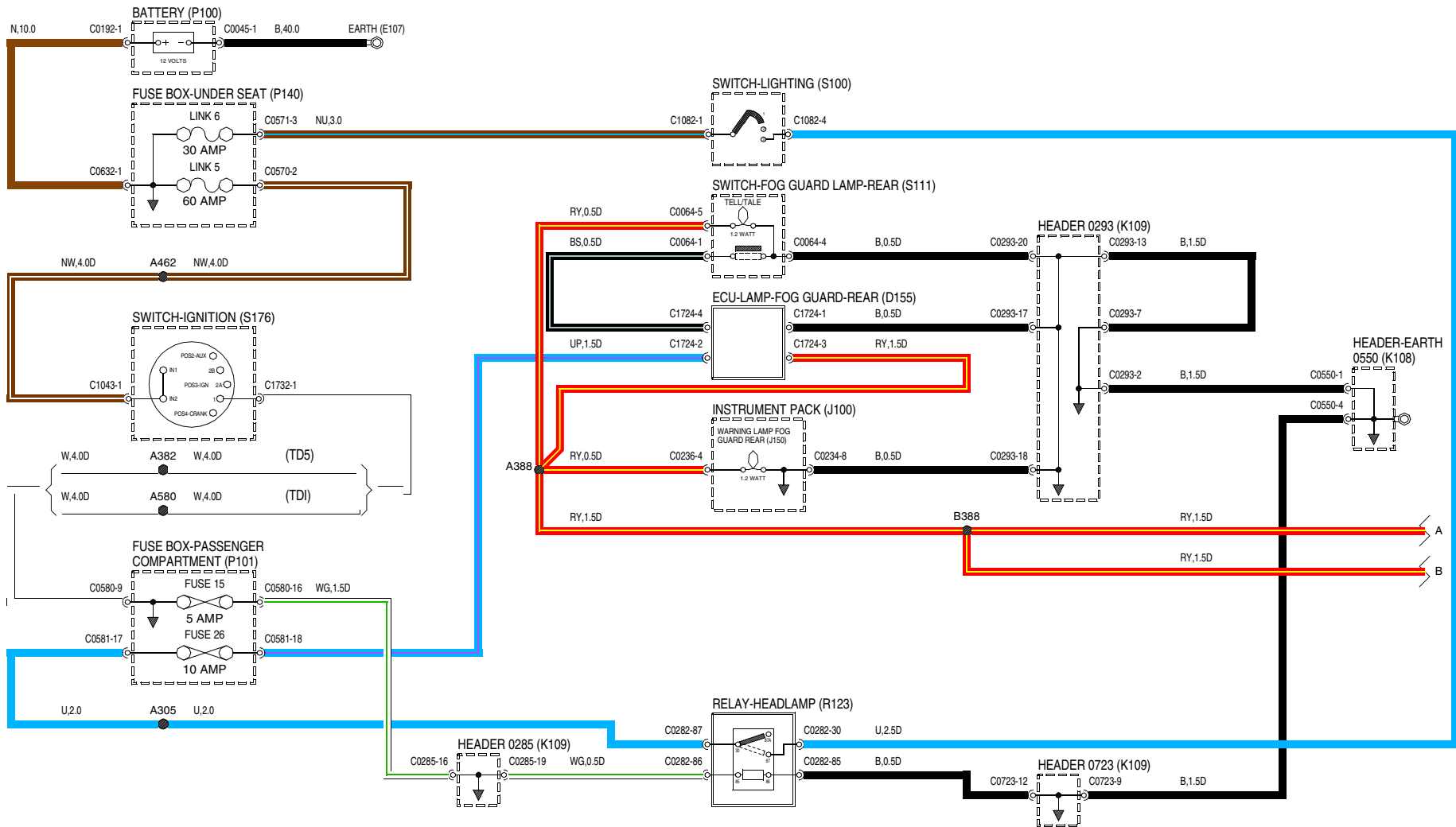
# 43 EXTERIOR LAMPS

Head, side, tail and number plate lamps - Td5

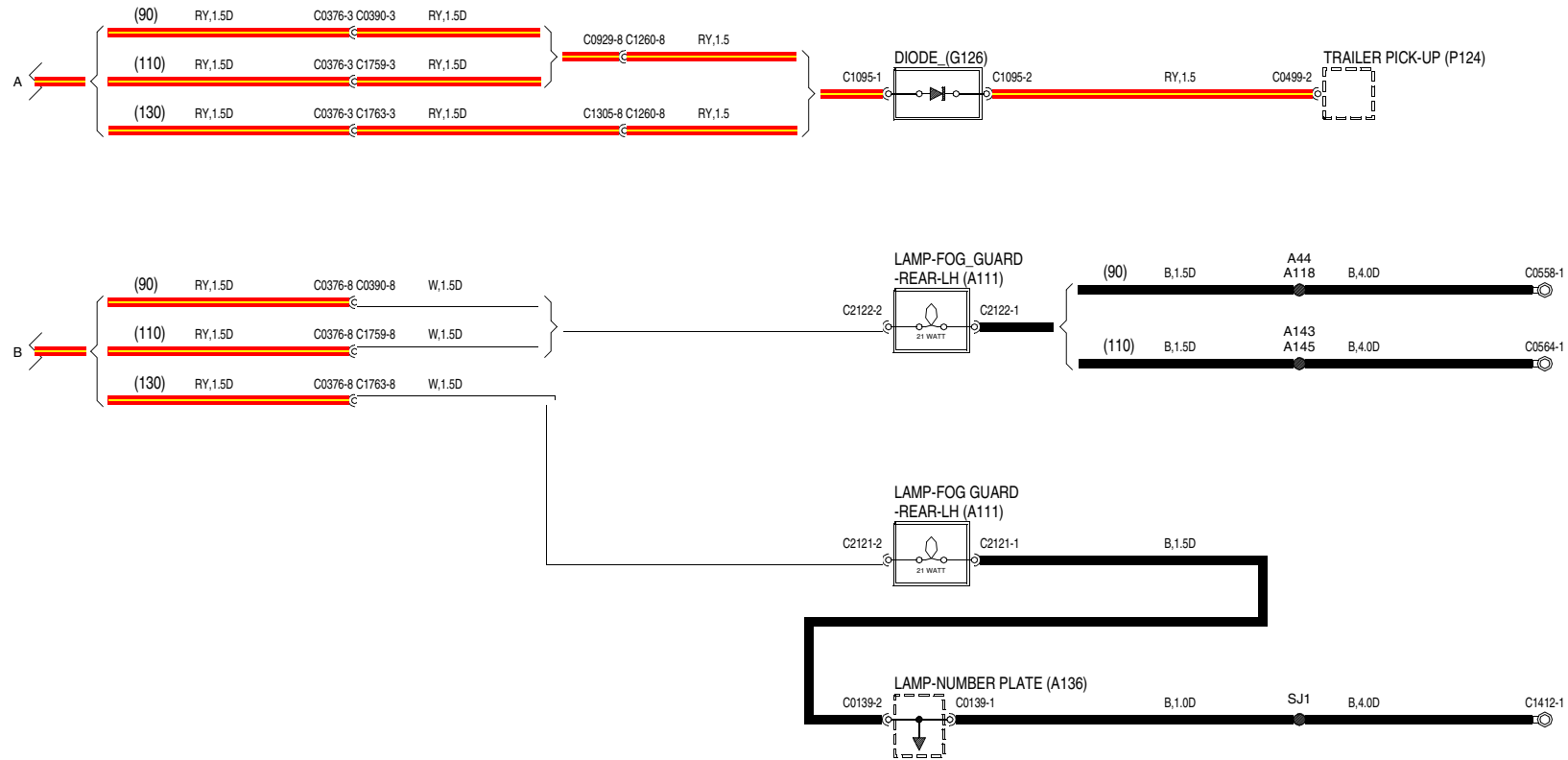


VWR000470-A-03

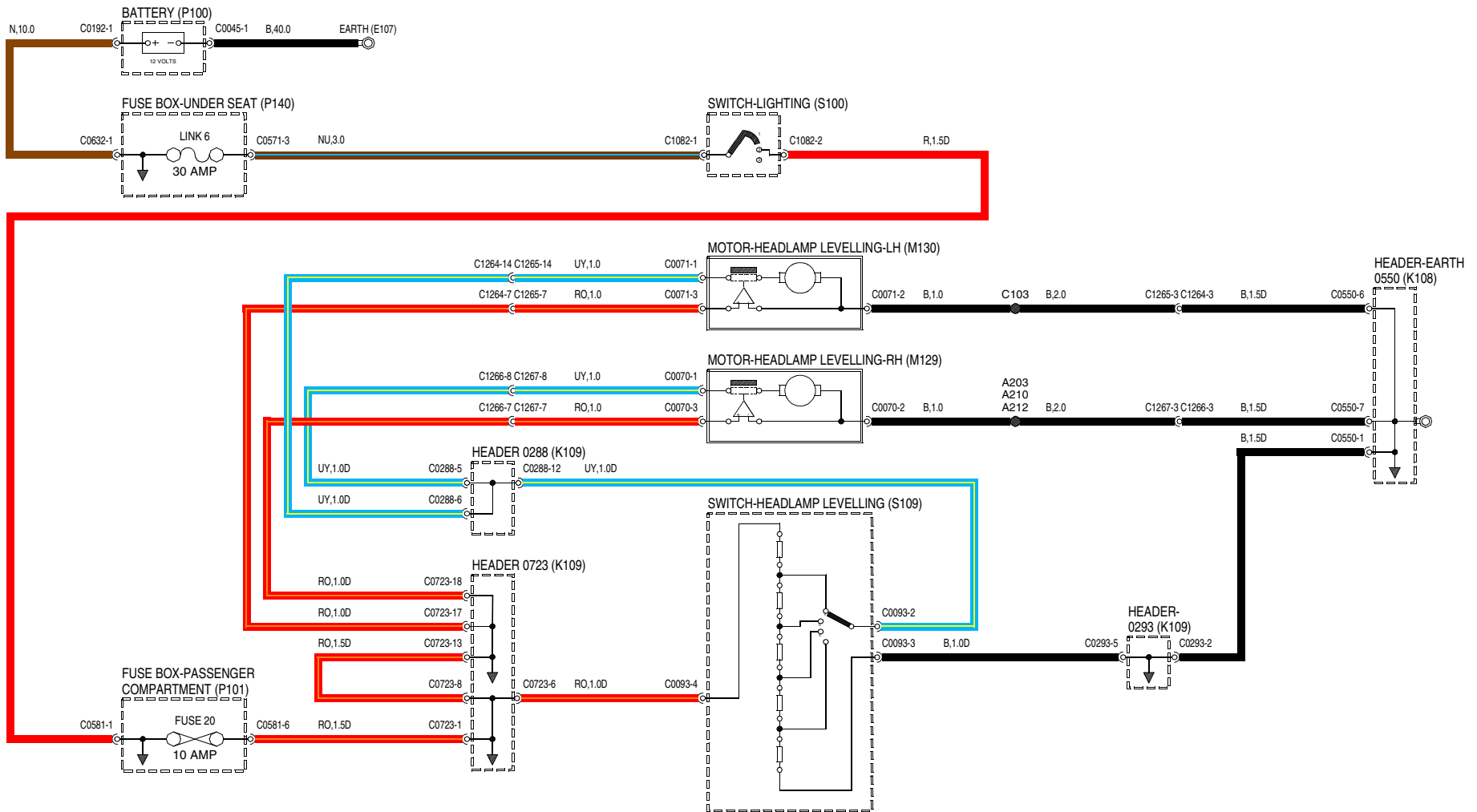




VWR000410-A-01



VWR000410-A-02

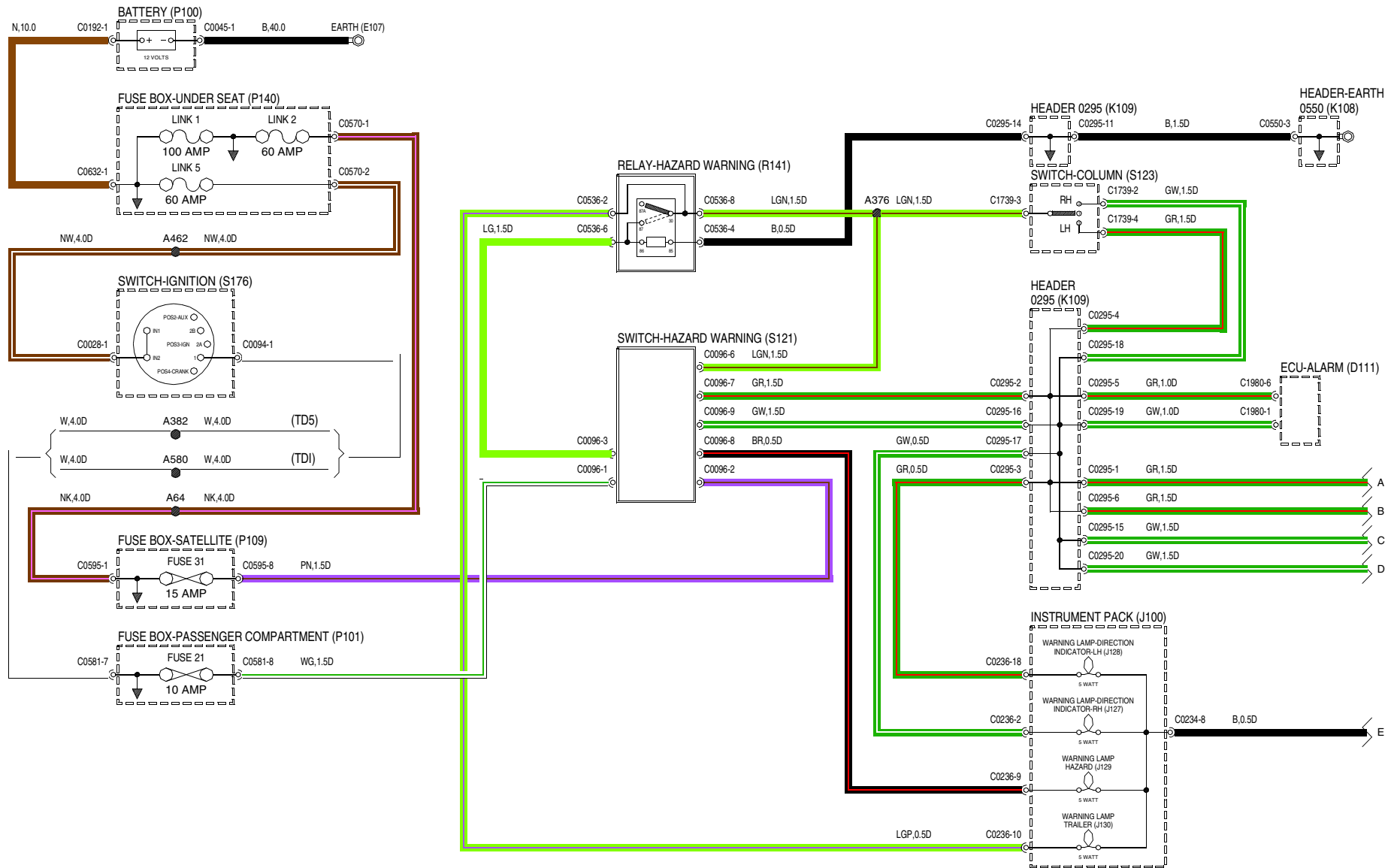


WVR000510-A-01

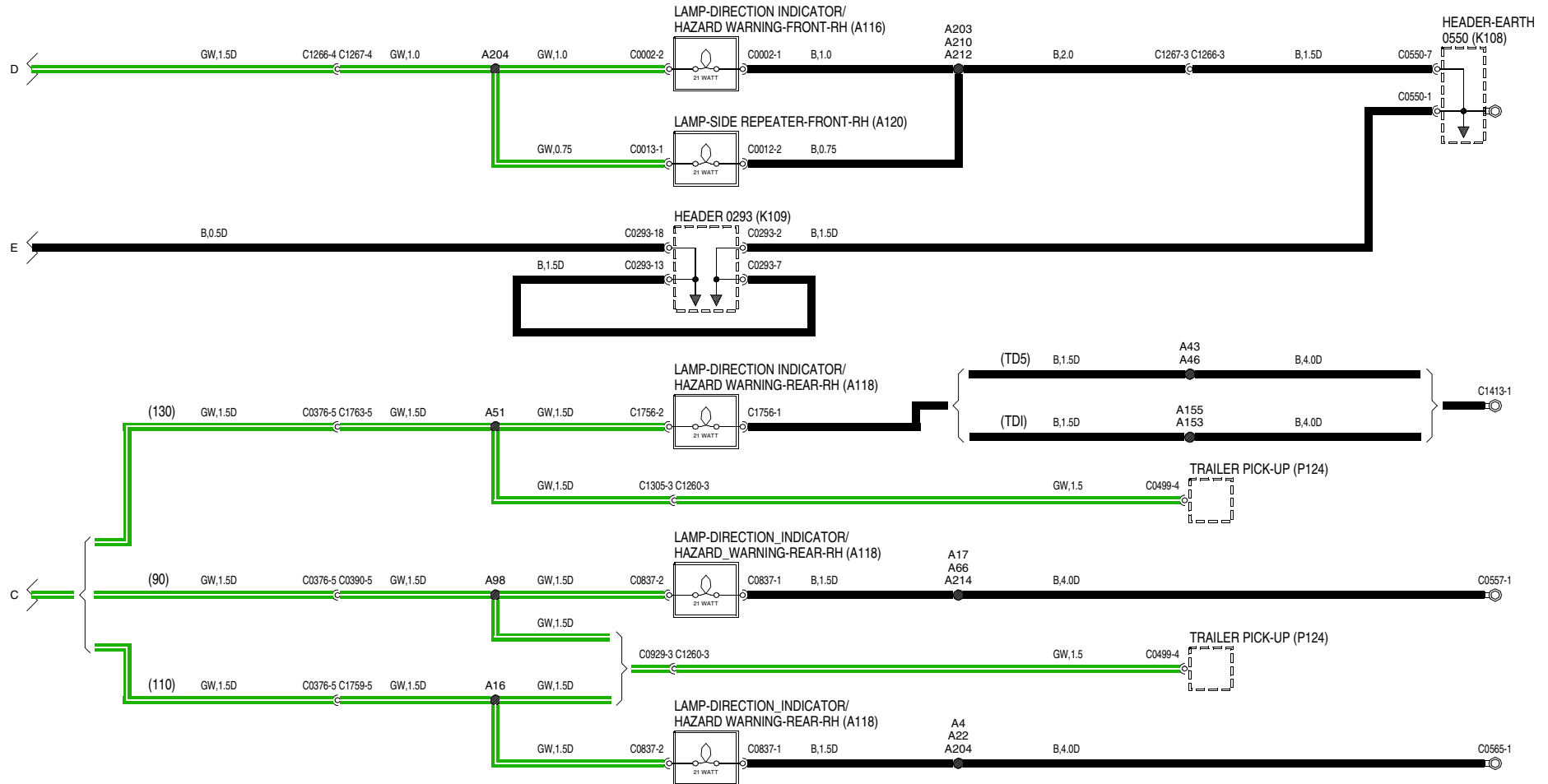


# 43 EXTERIOR LAMPS

## Direction indicator lamps/hazard warning

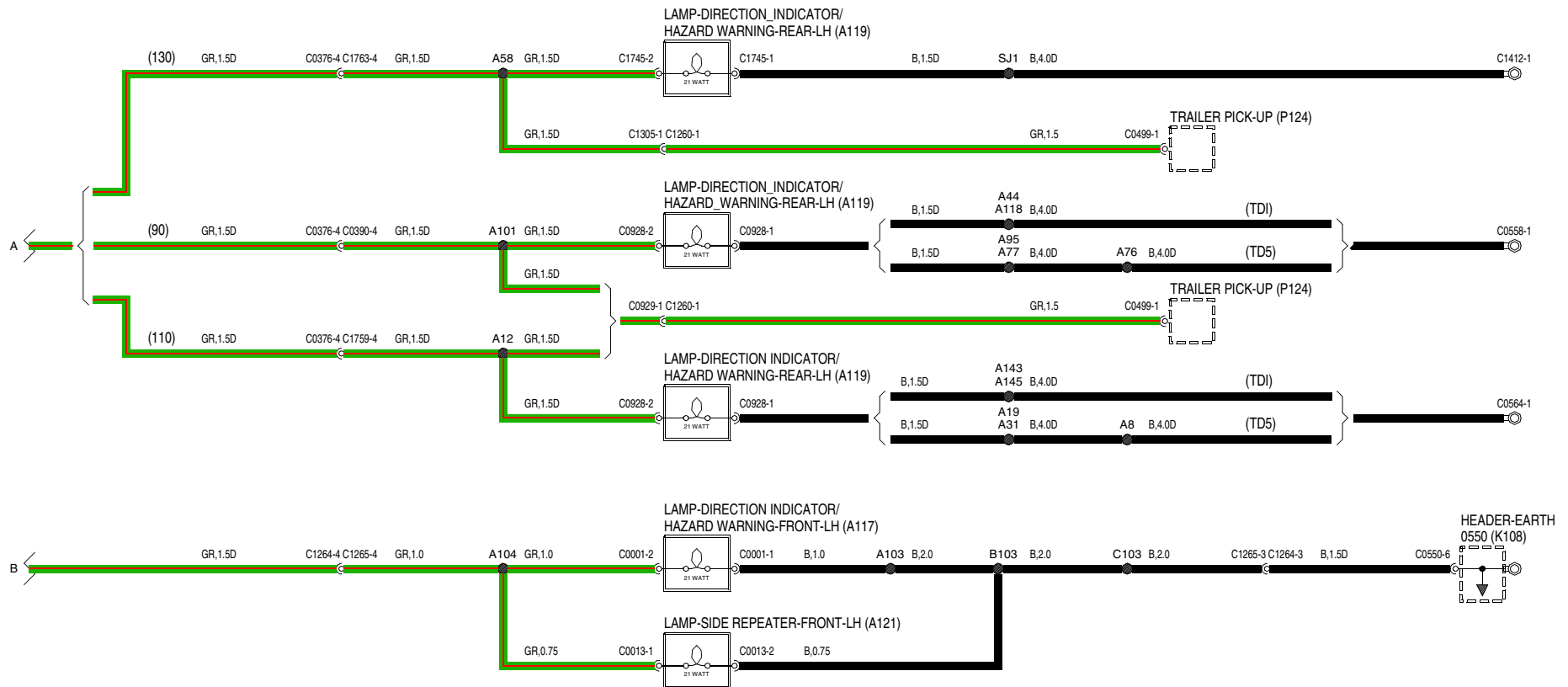


VWR000650-A-01



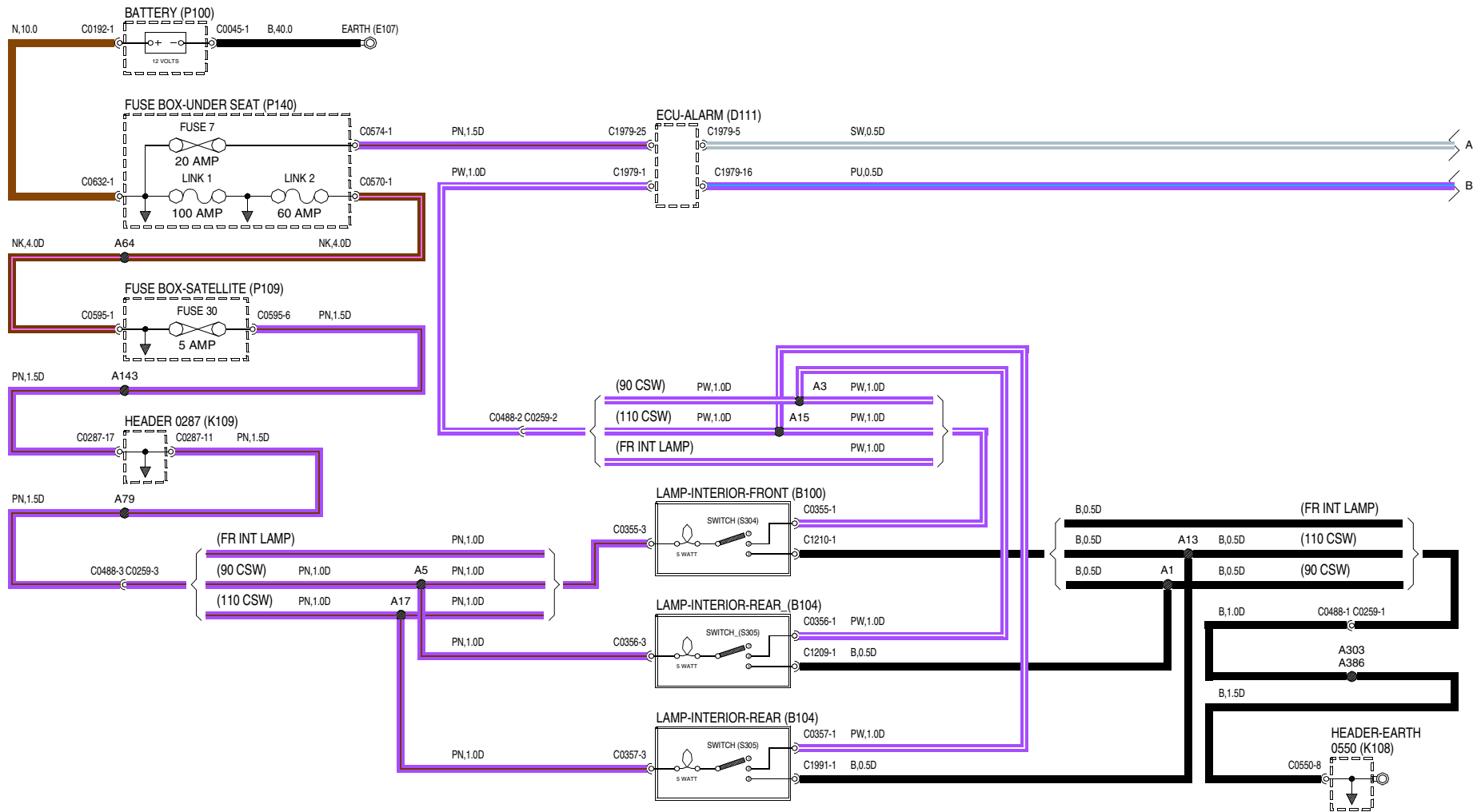
VWR000650-A-02



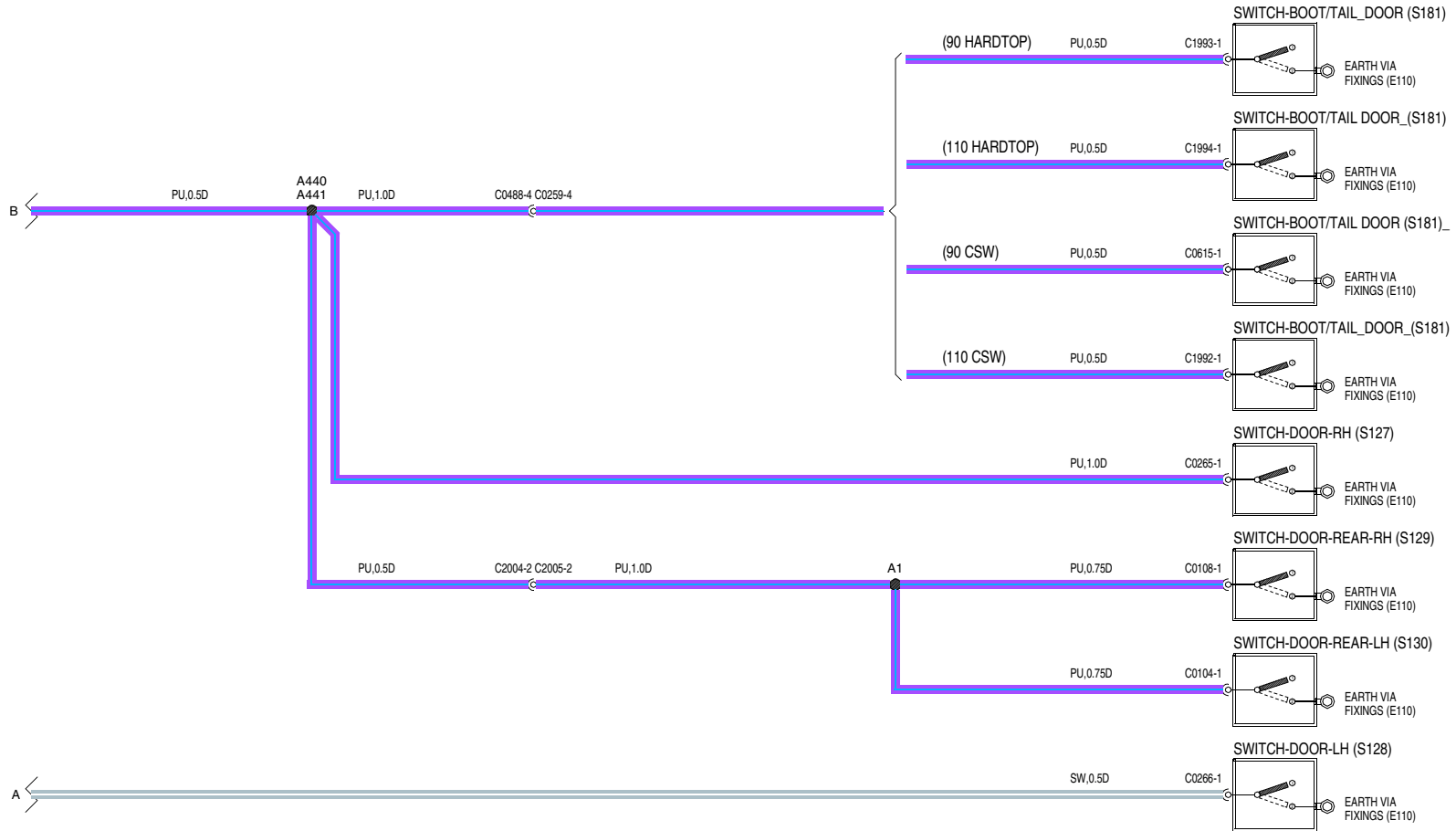


VWR000650-A-03



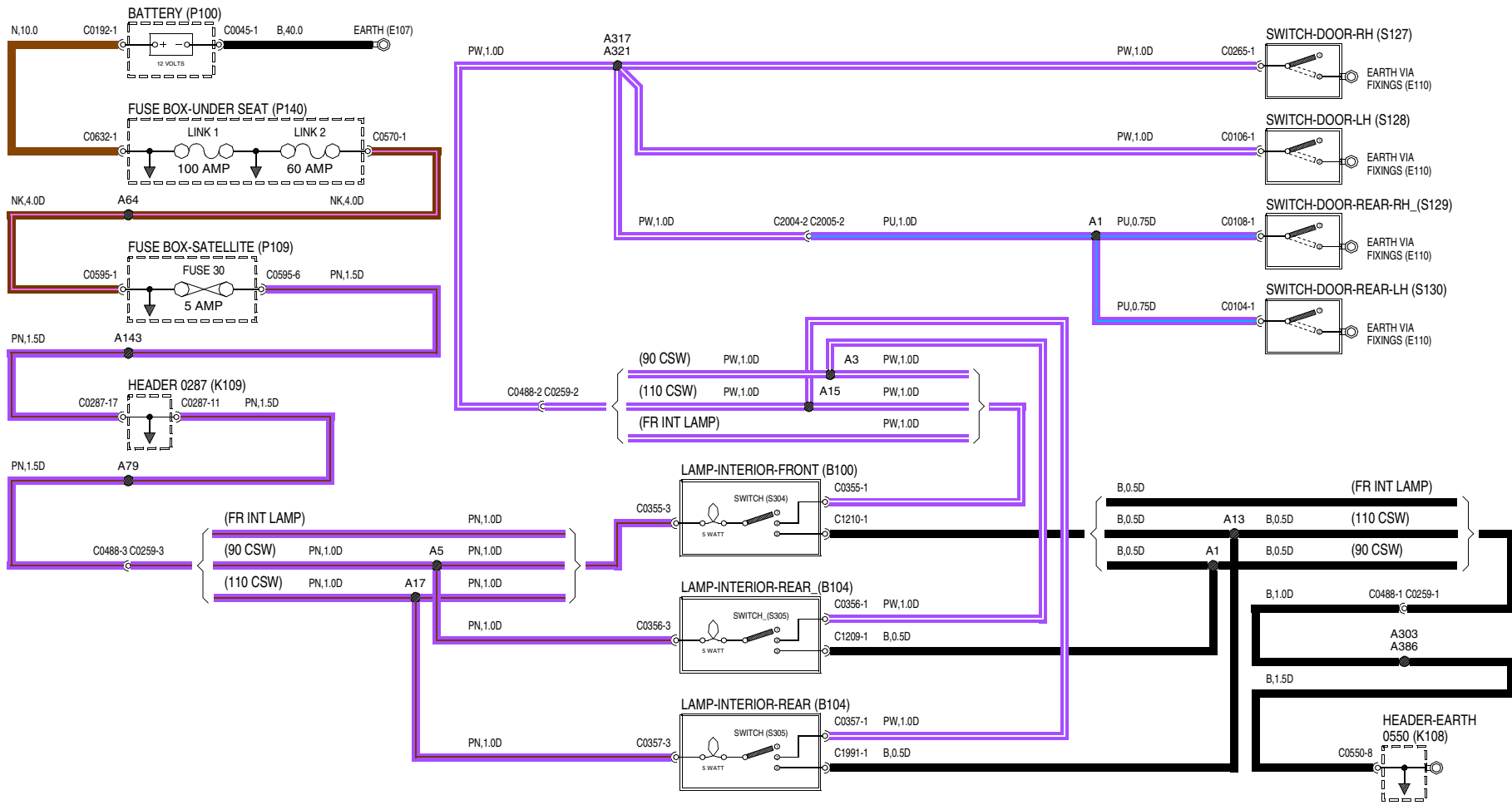


VWR000710-A-01



WVR000710-A-02

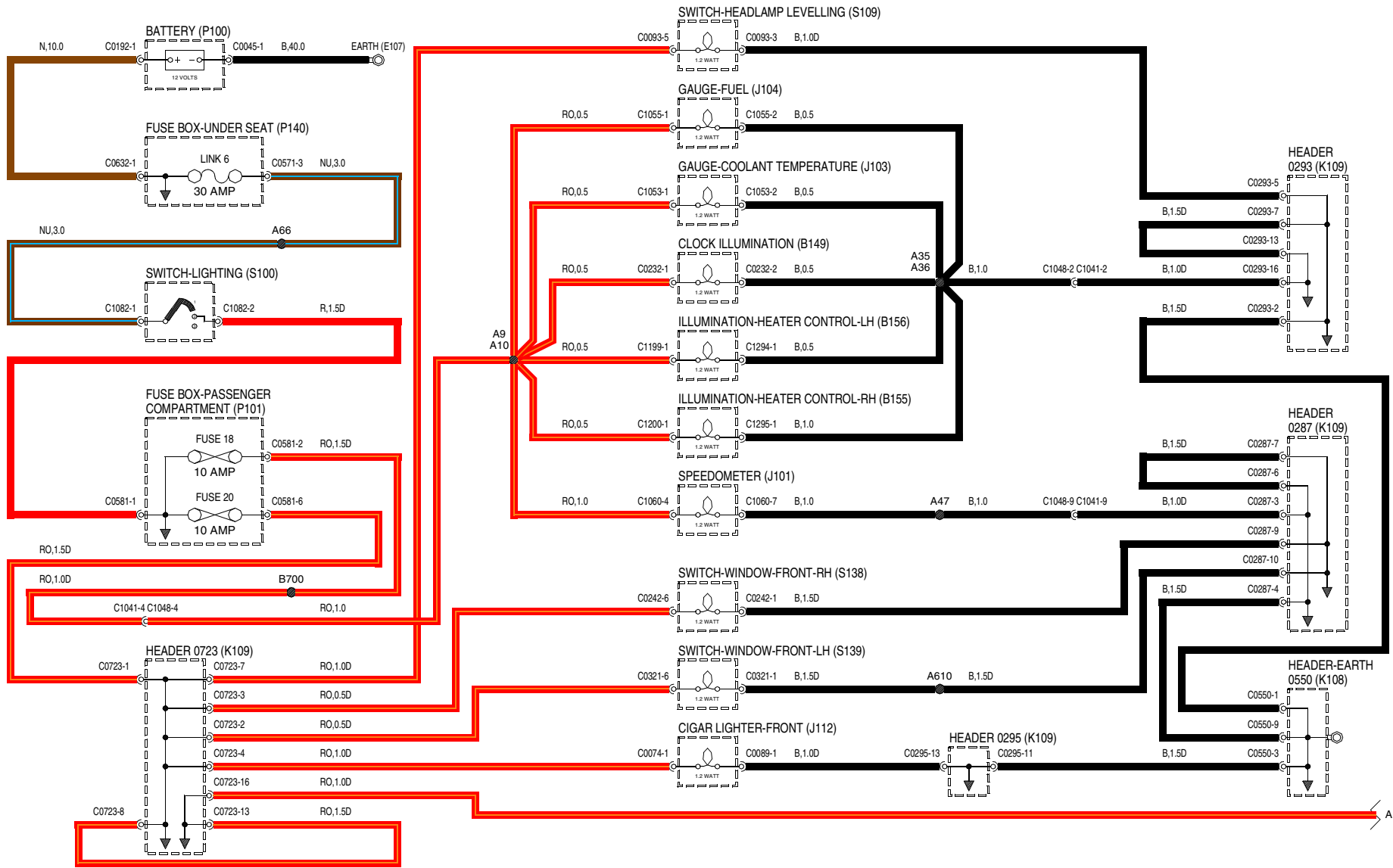
# 44 INTERIOR LAMPS



VWR000730-A-01

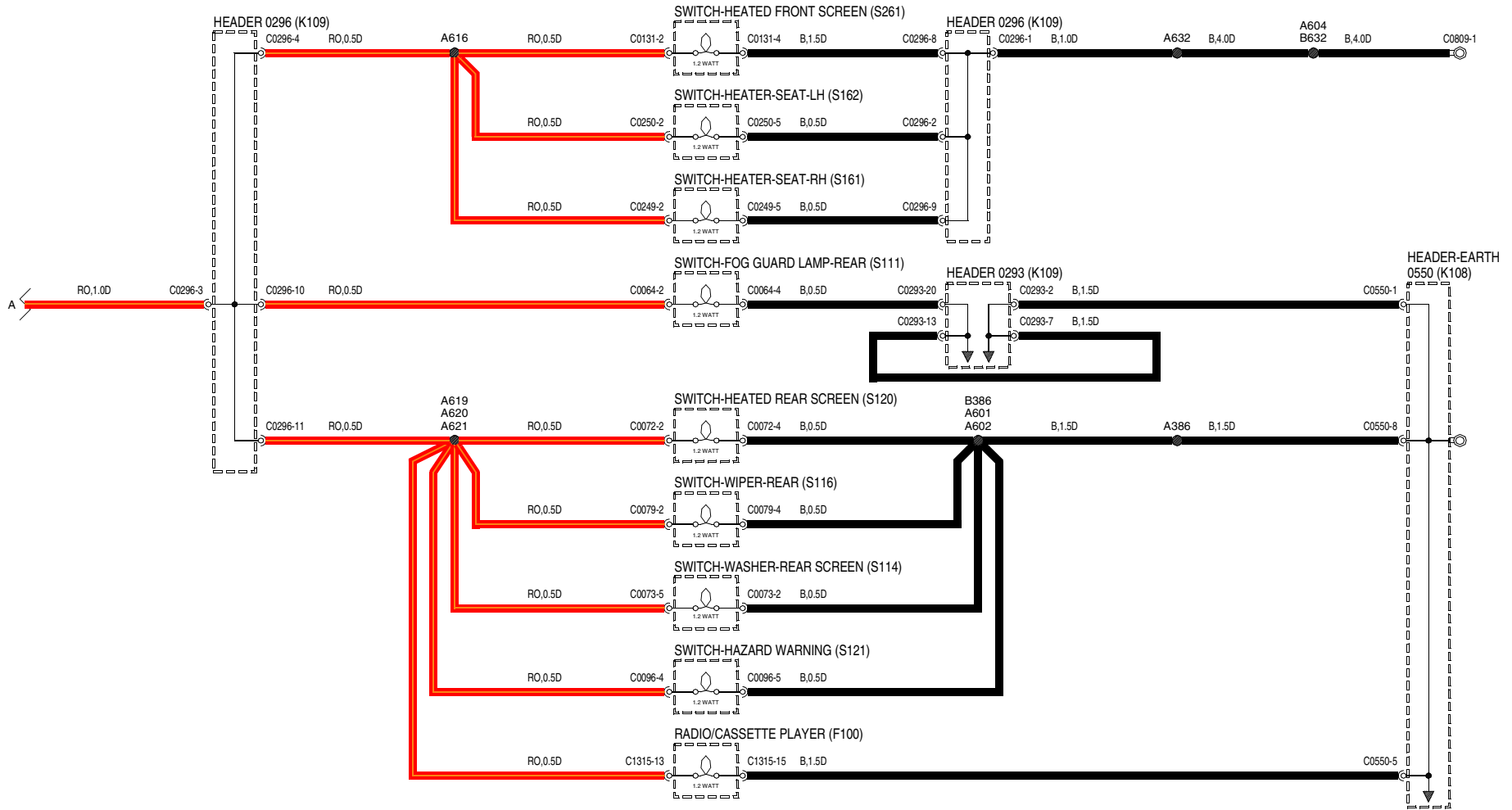


# 46 INTERIOR ILLUMINATION



VWR000690-A-01

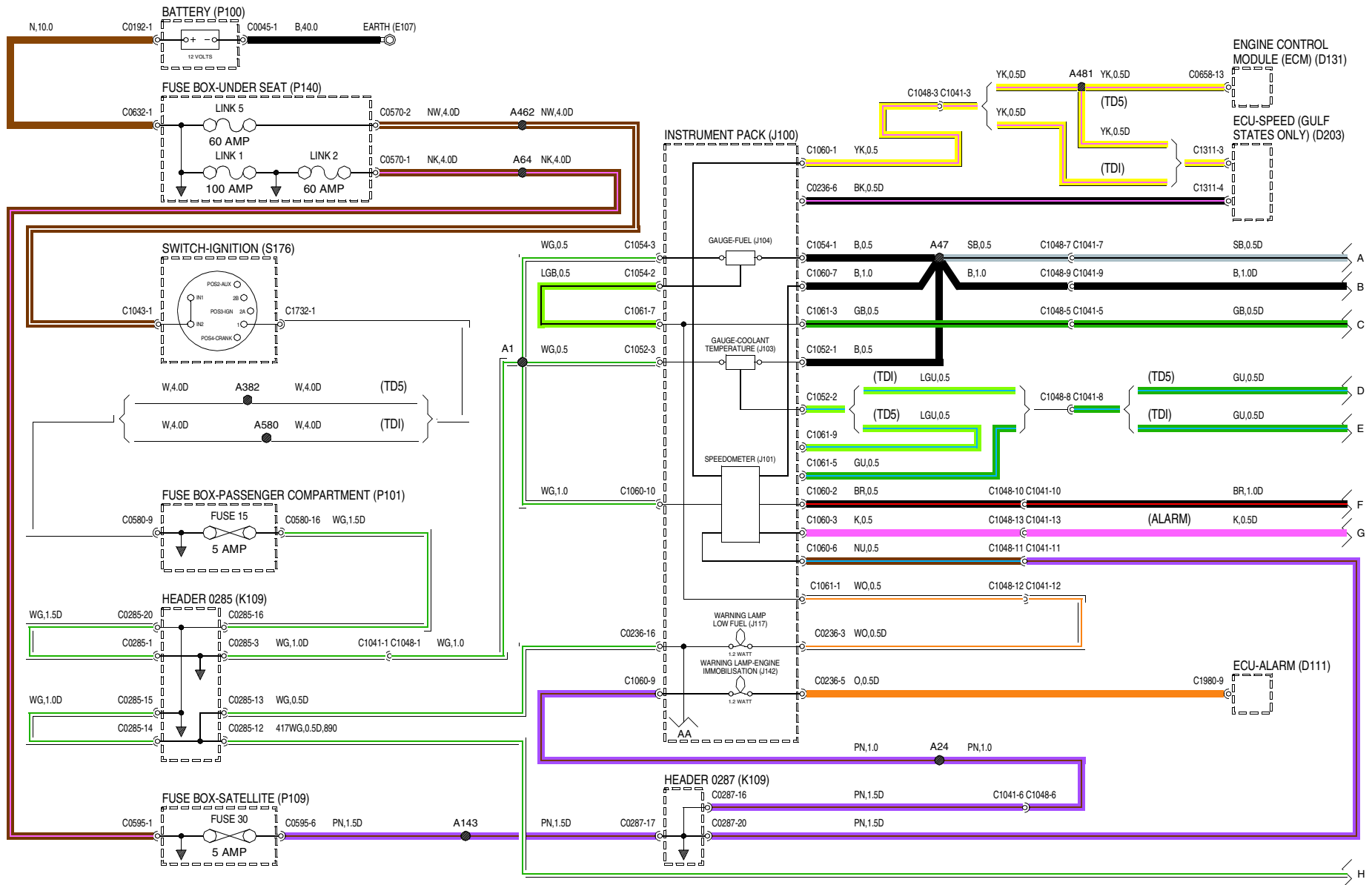
# 46 INTERIOR ILLUMINATION



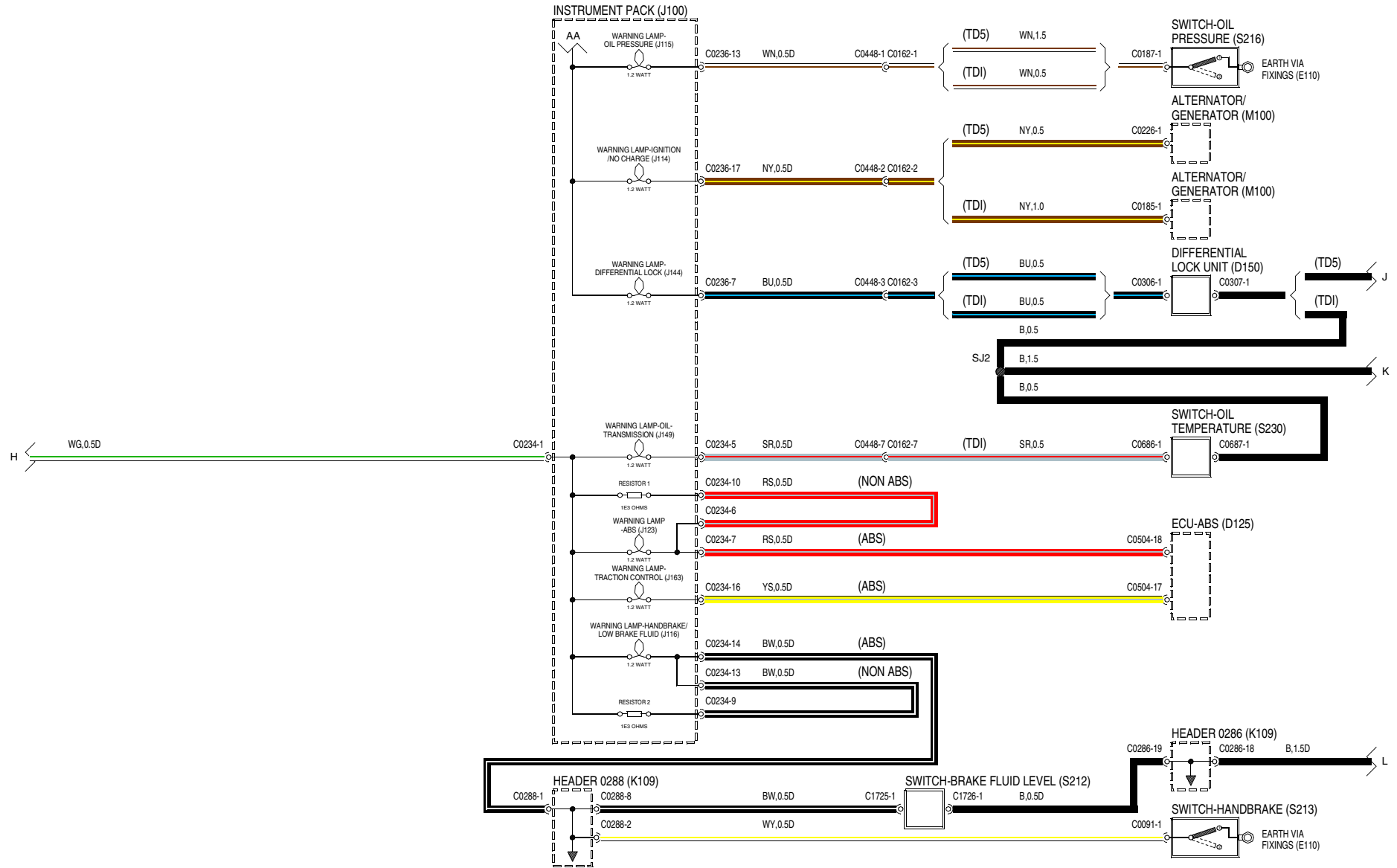
VWR000690-A-02



# 47 INSTRUMENTS

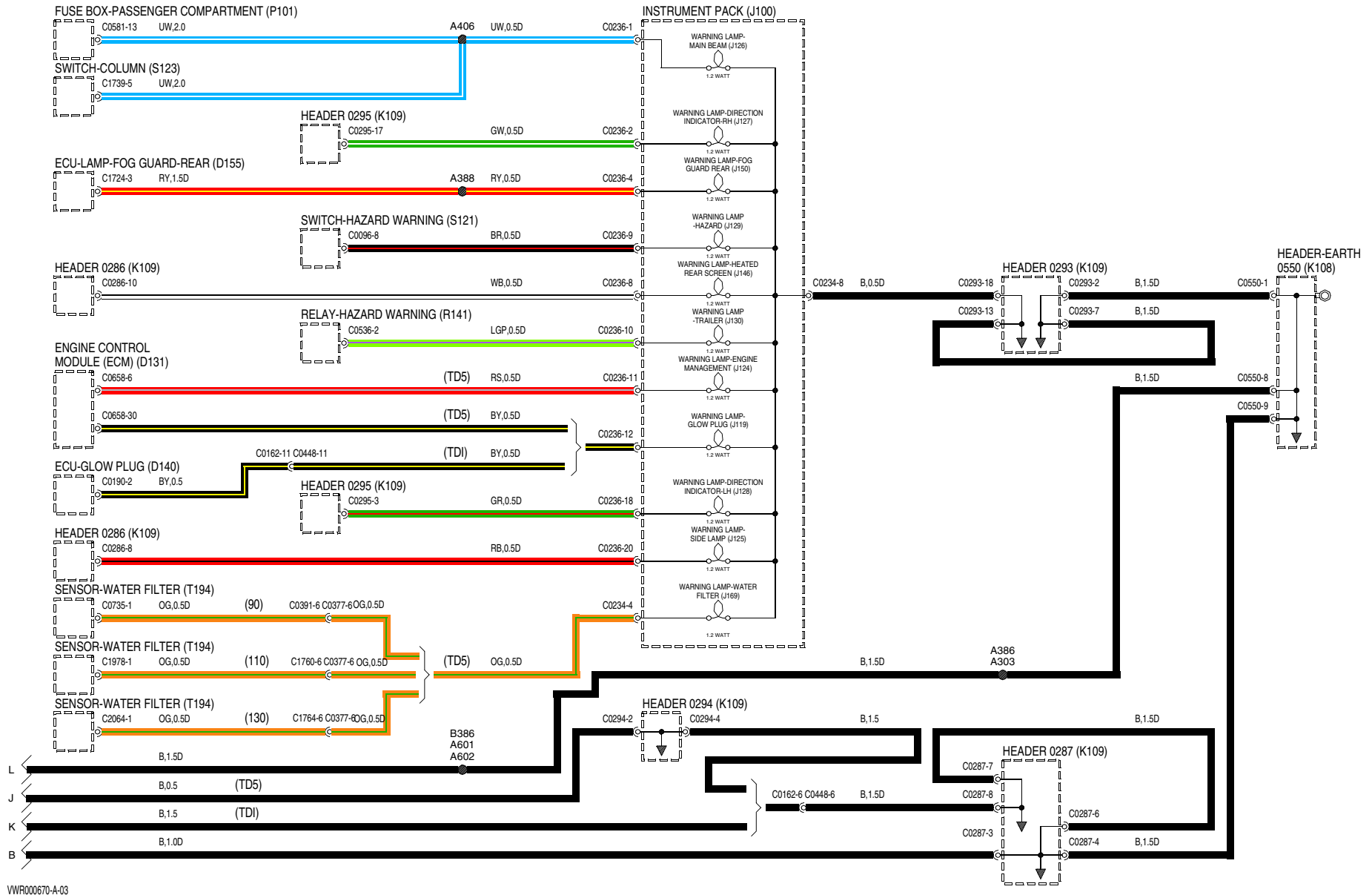


VWR000670-A-01

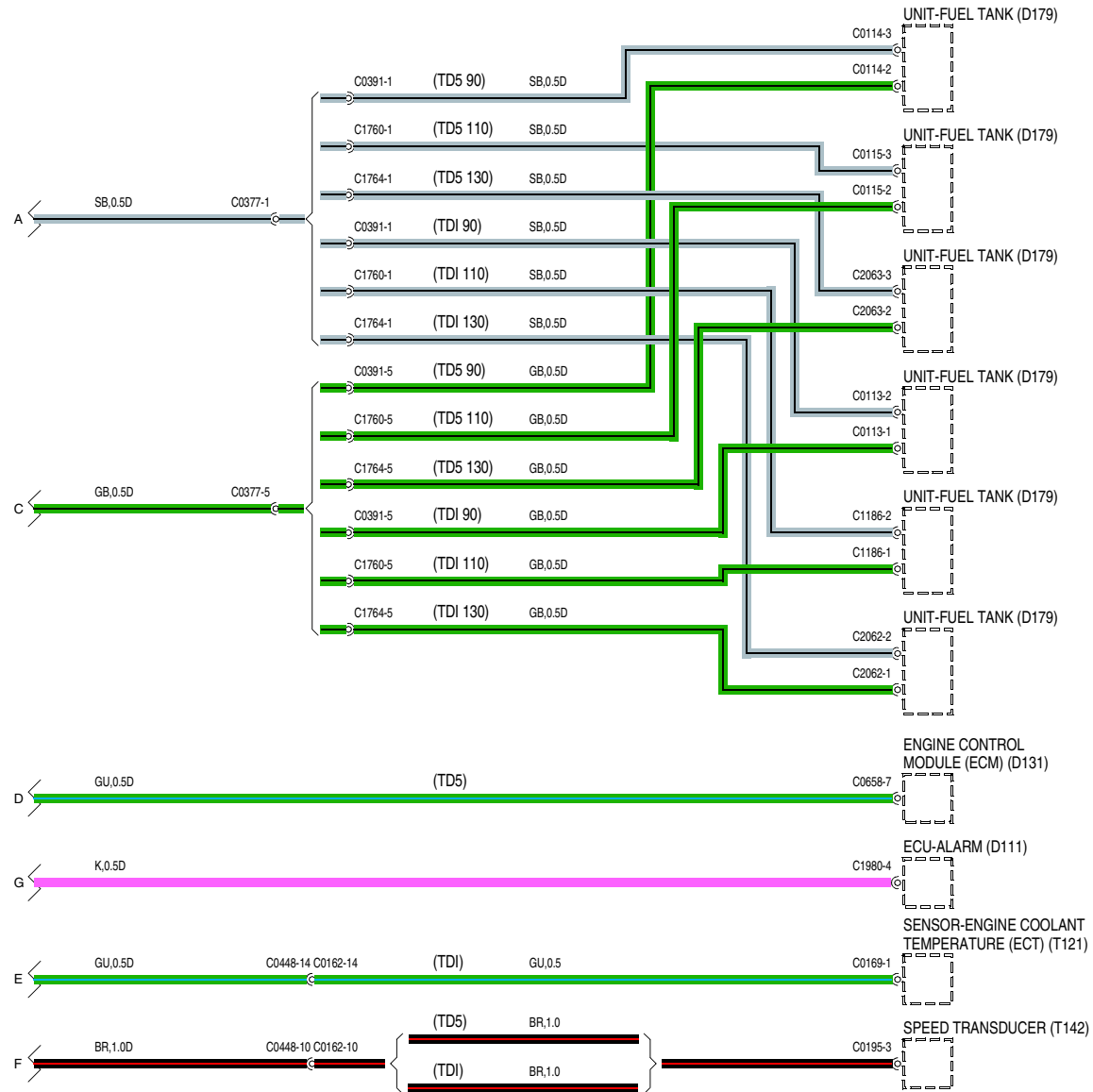


VWR000670-A-02

# 47 INSTRUMENTS

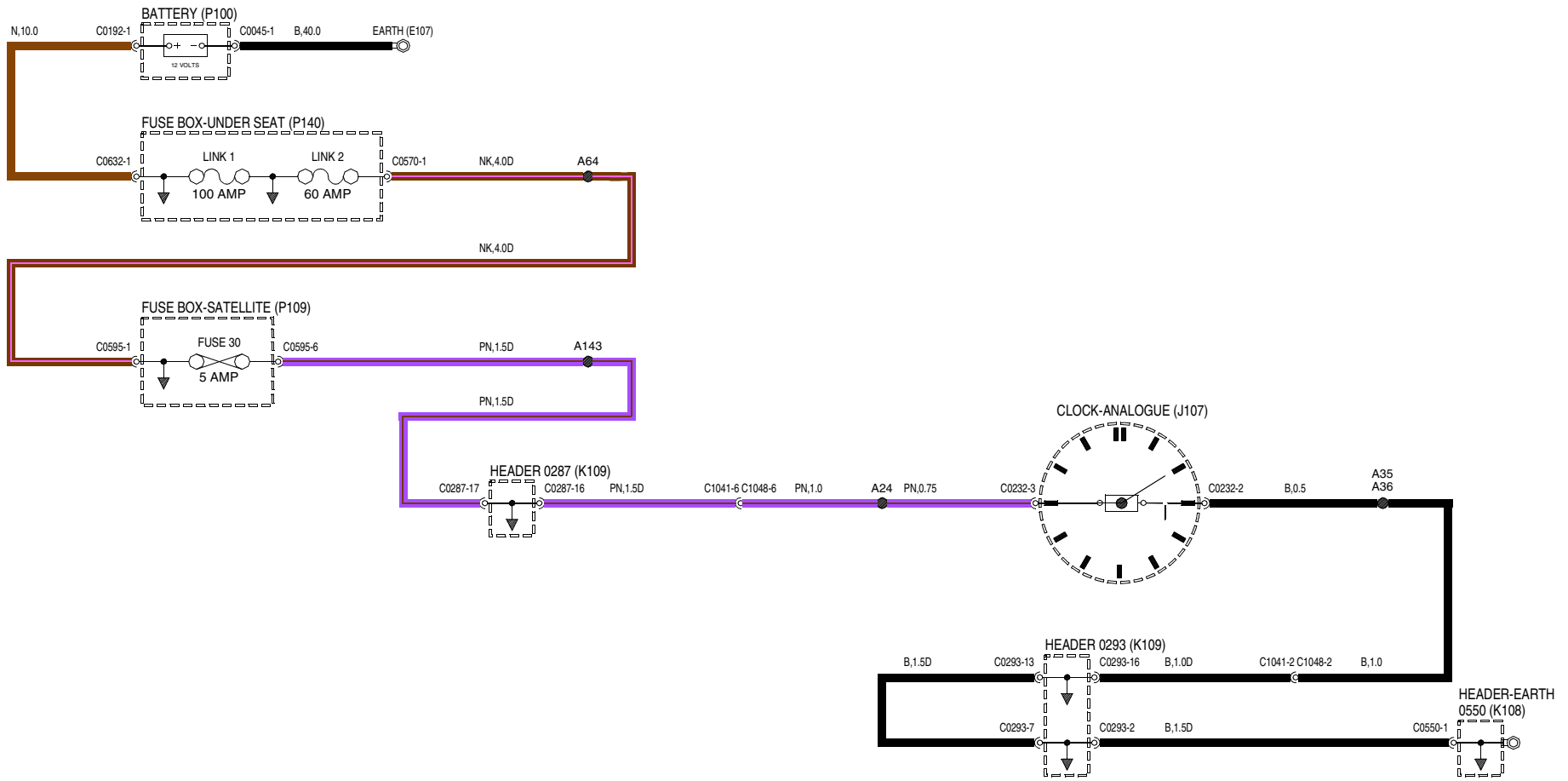


WVR000670-A-03



VWR000670-A-04

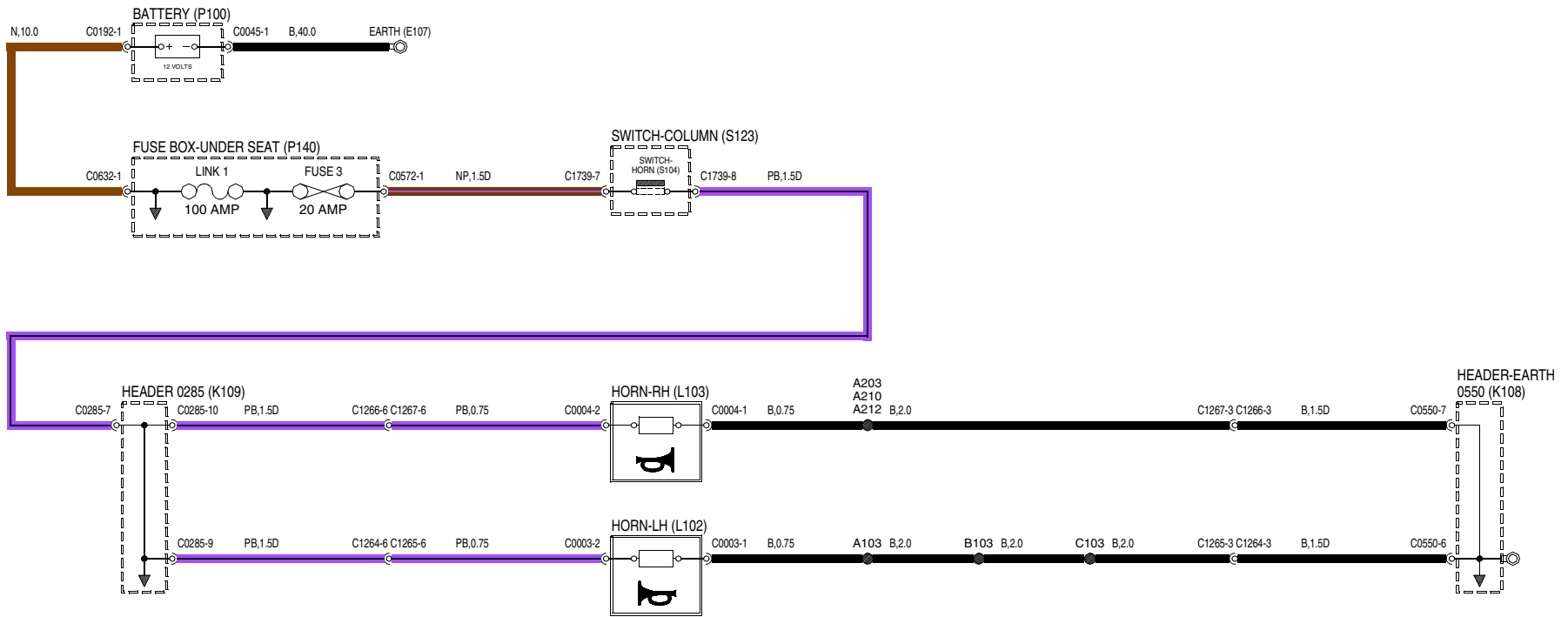
# 48 CLOCK



WVR000270-A-01



# 48 HORN (S)

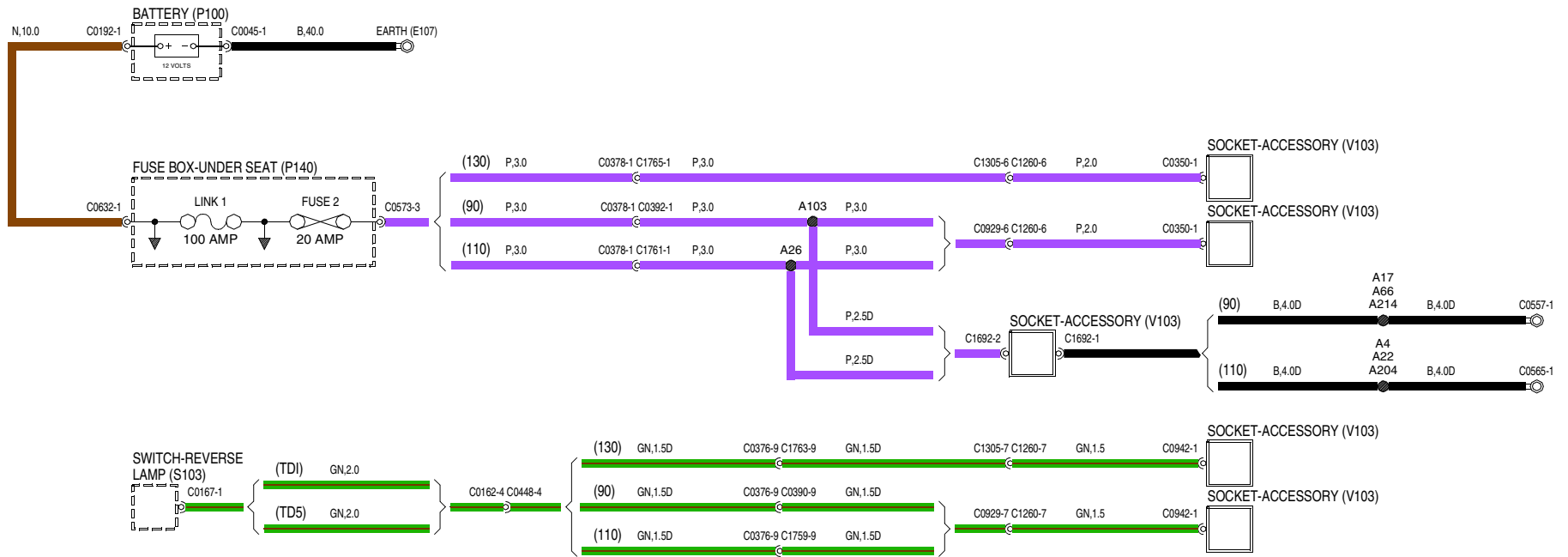


WVR000590-A-01





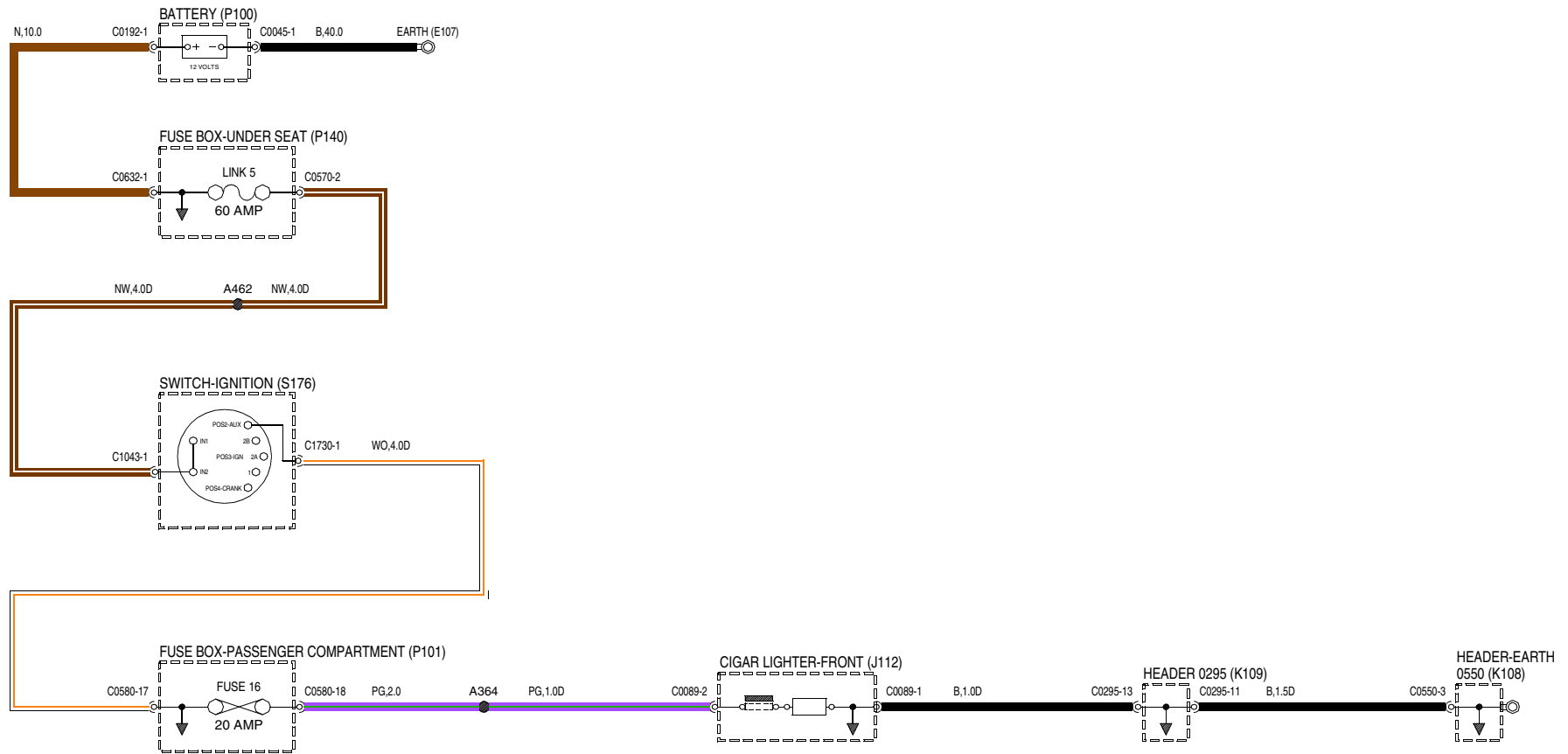
# 49 ACCESSORY SOCKET



VWR000110-A-01



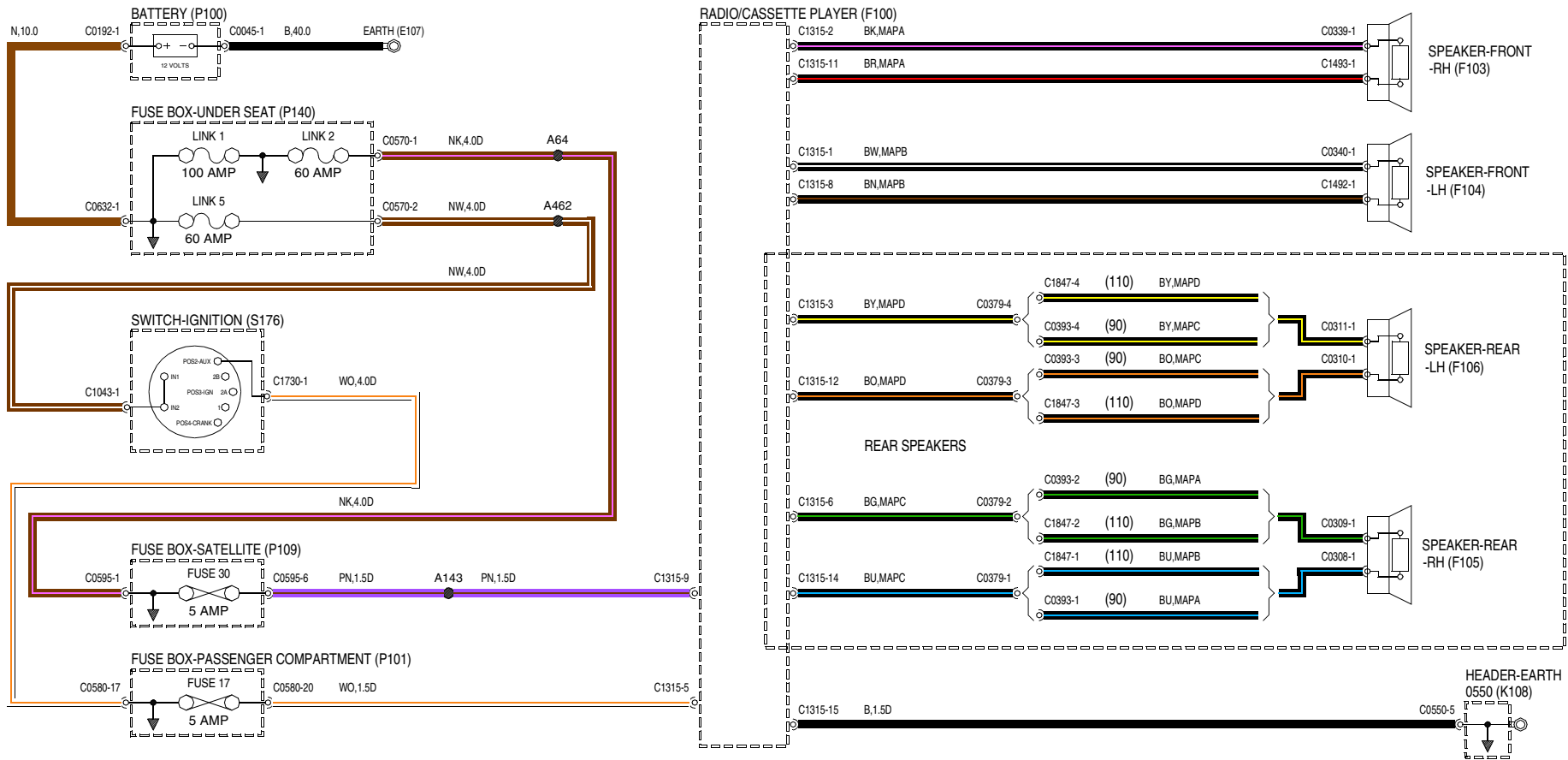
# 49 CIGAR LIGHTER



WVR000250-A-01



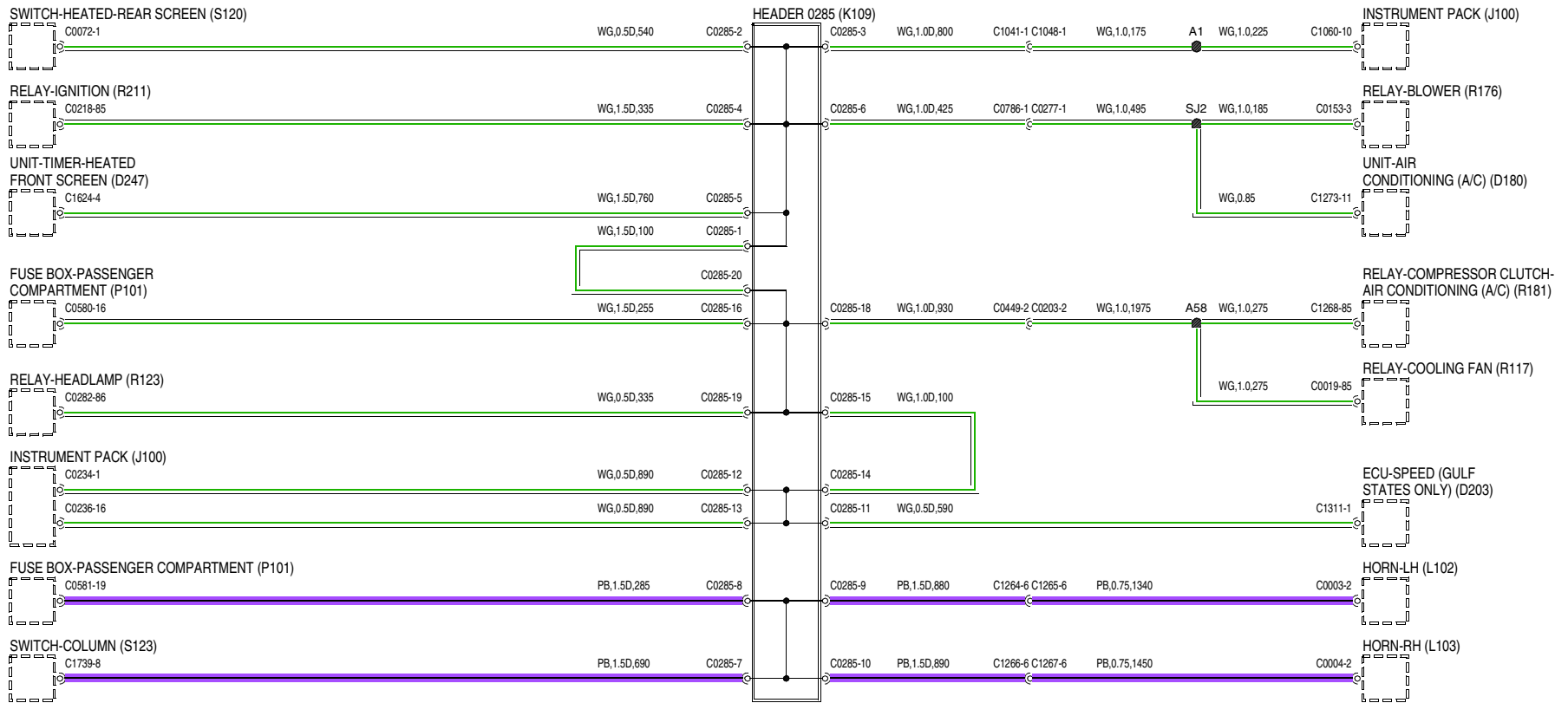
# 50 AUDIO SYSTEMS



WVR000610-A-01

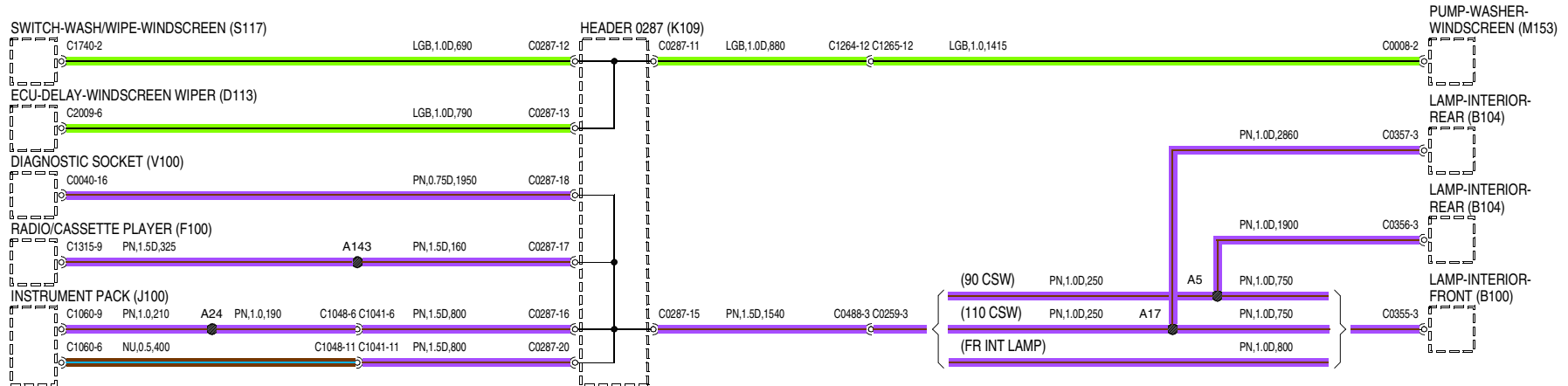
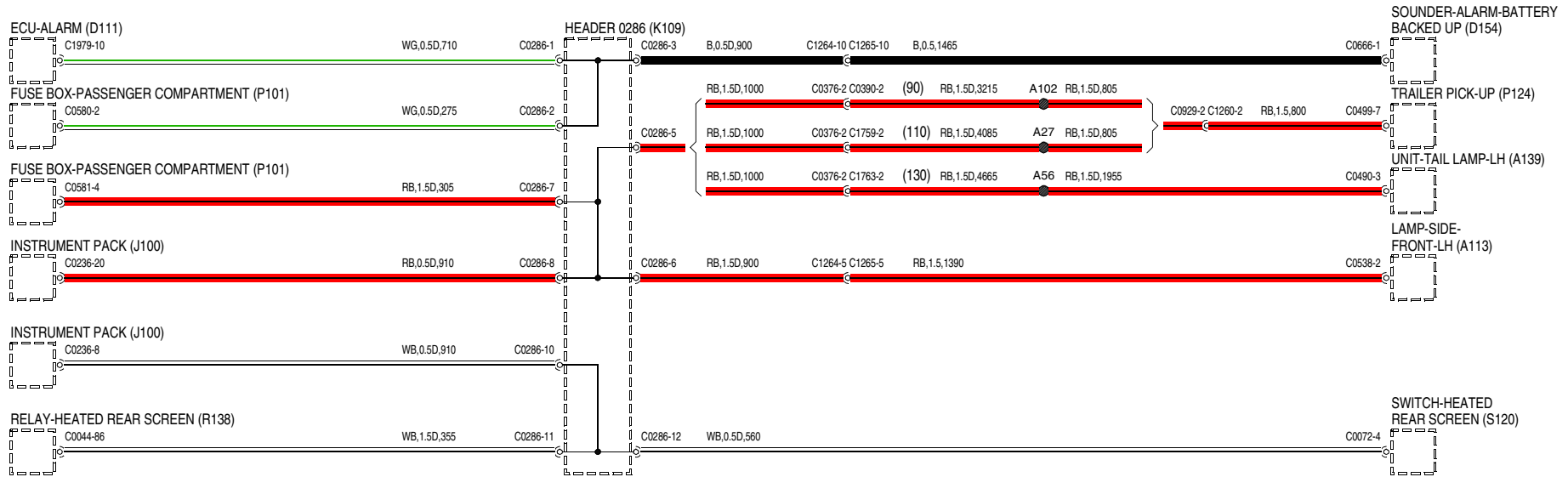


# 60 HEADER JOINTS



VWR000490-A-01

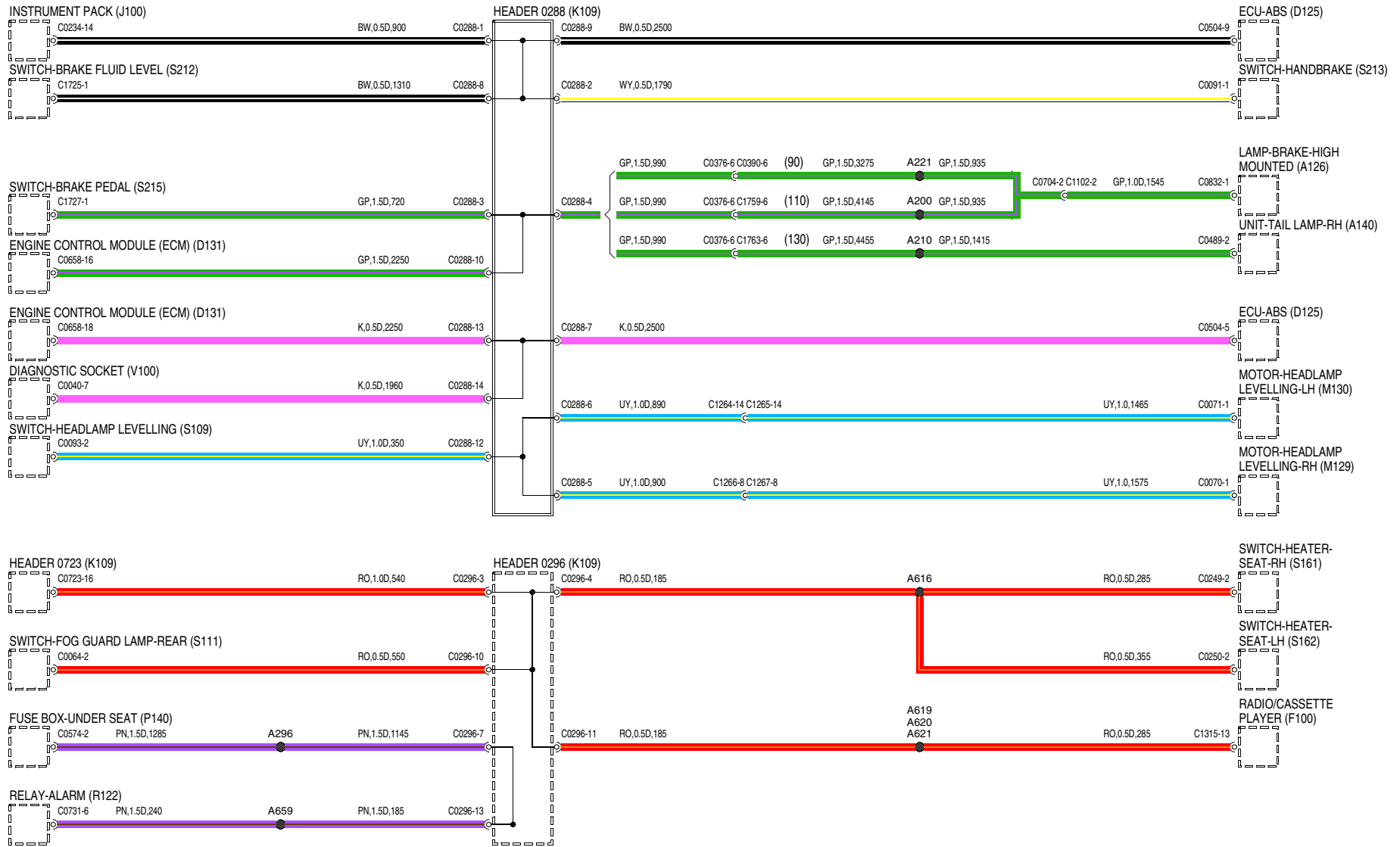
# 60 HEADER JOINTS



WIR000490-A-02

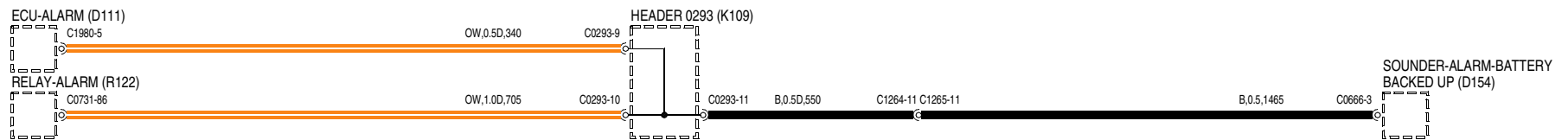
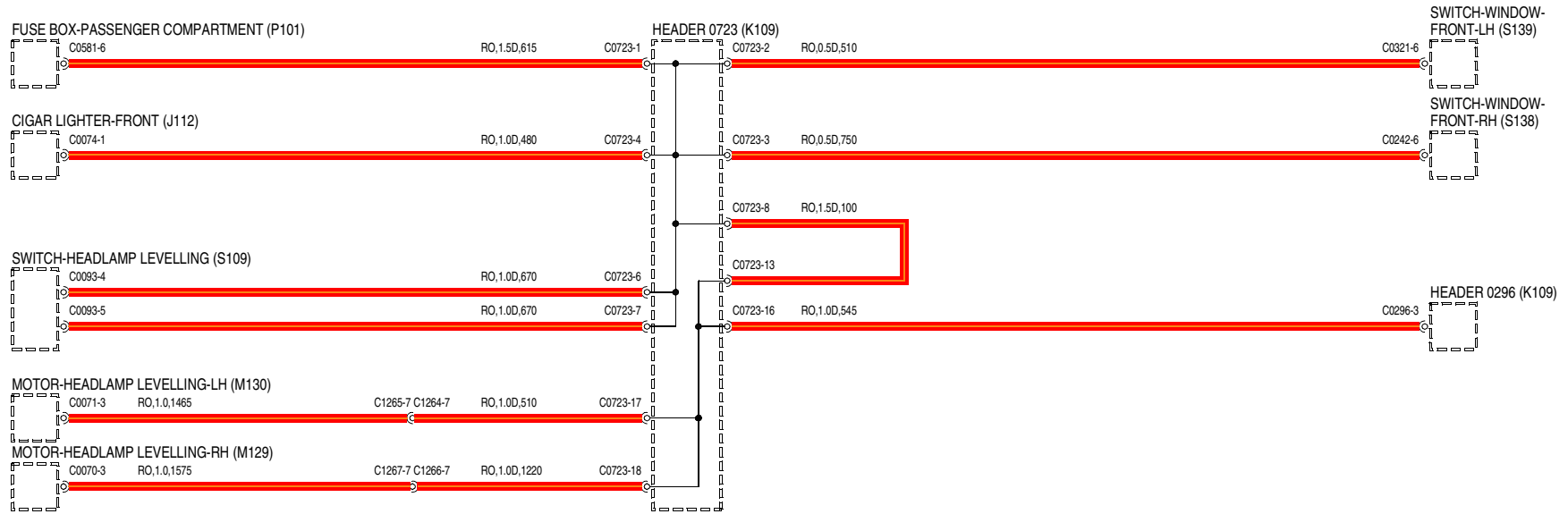


# 60 HEADER JOINTS



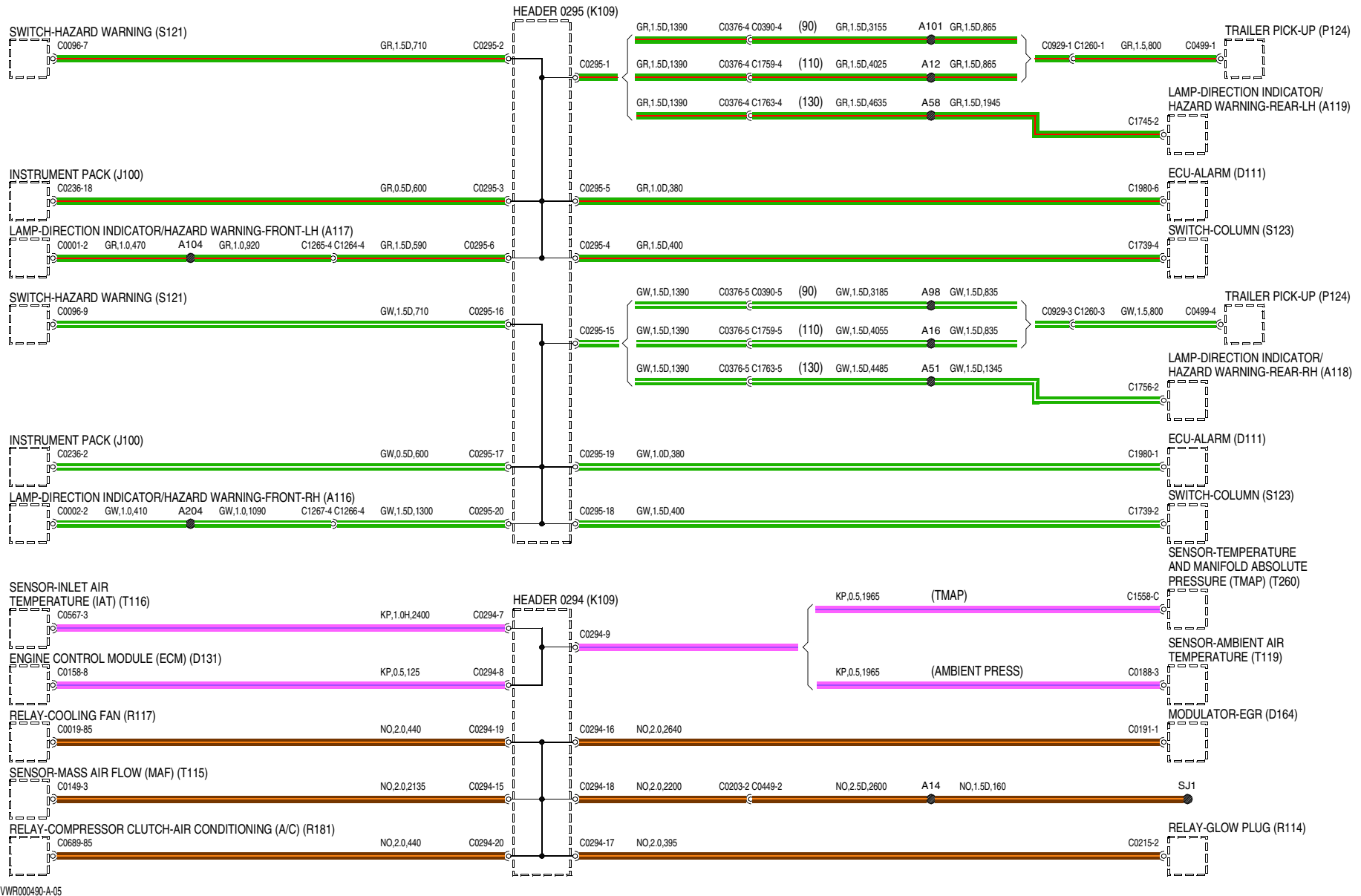
WVR000490-A-03

# 60 HEADER JOINTS



VWR000490-A-04

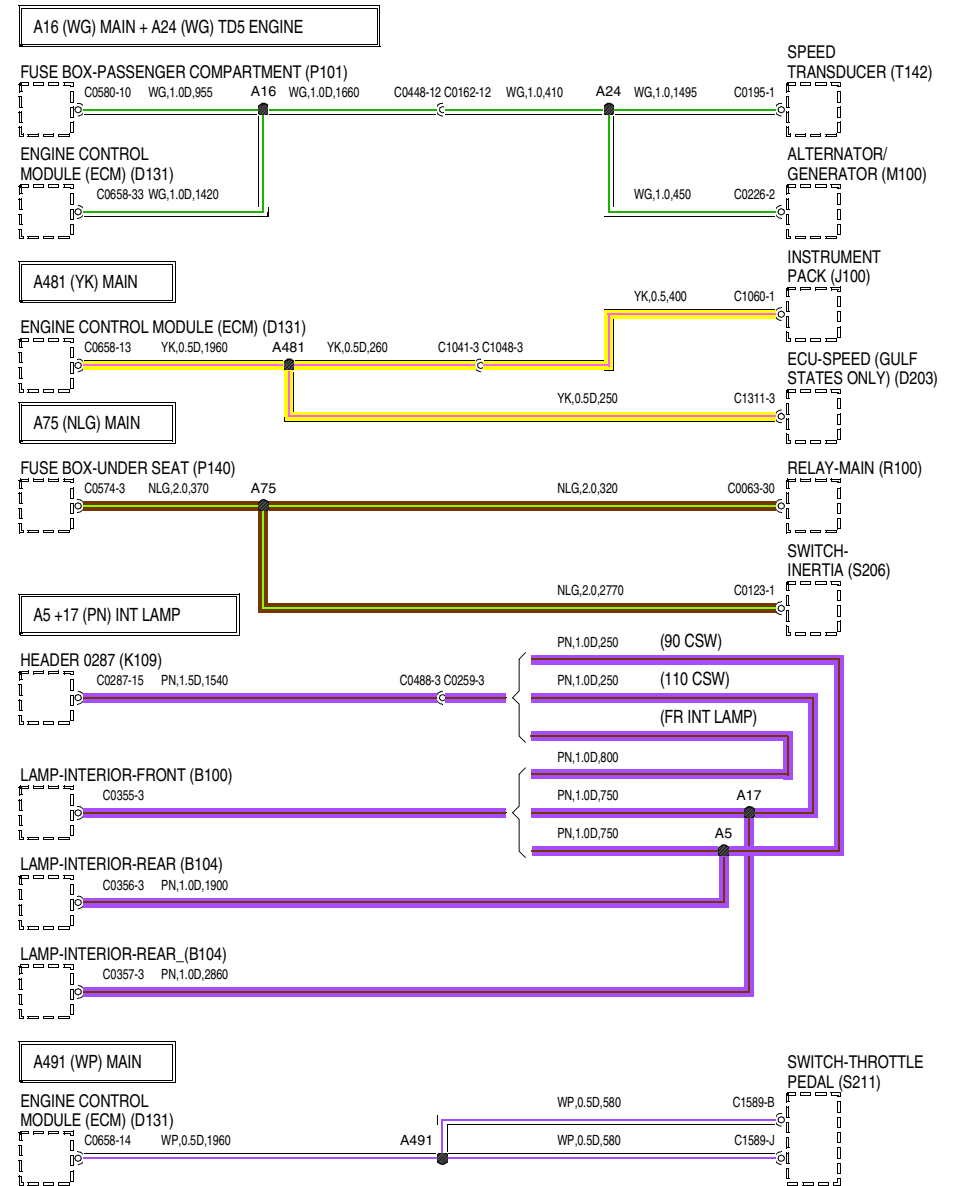
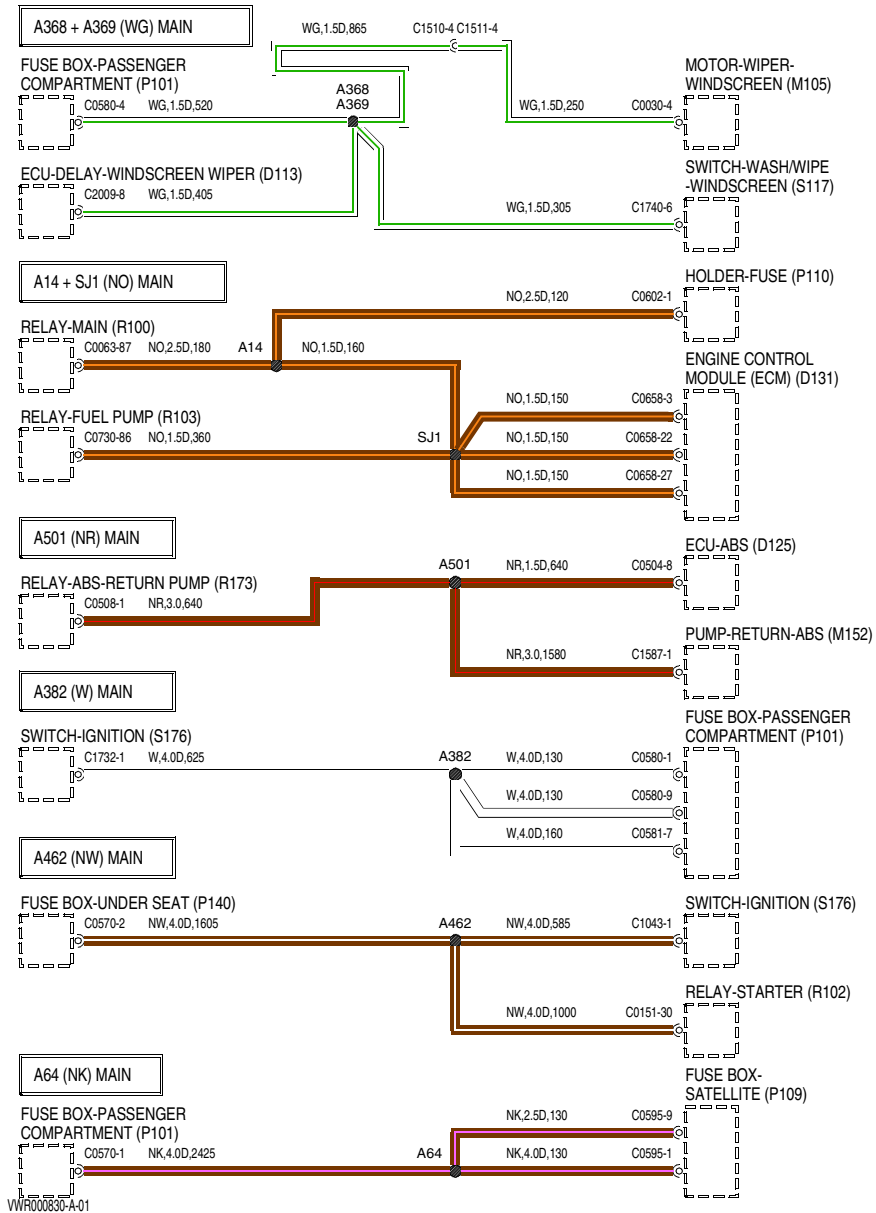
# 60 HEADER JOINTS



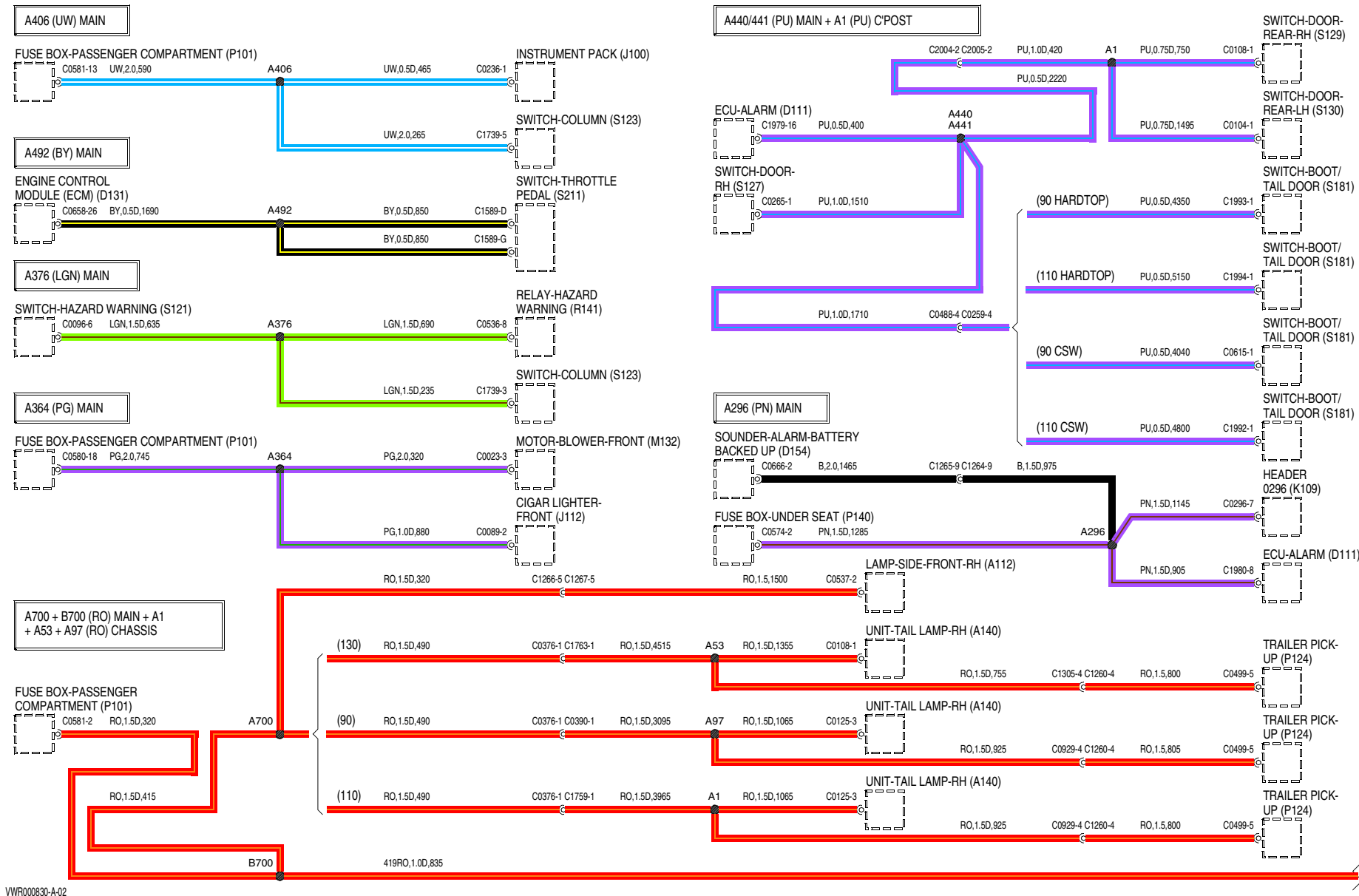
VWR000490-A-05



# 65 SPLICES AND CENTRE TAPS



# 65 SPLICES AND CENTRE TAPS



VWR000830-A-02

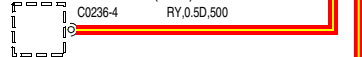
# 65 SPLICES AND CENTRE TAPS

## A388 + B388 (RY) MAIN

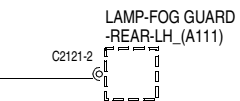
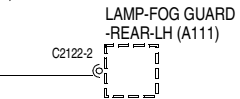
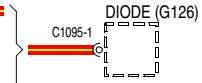
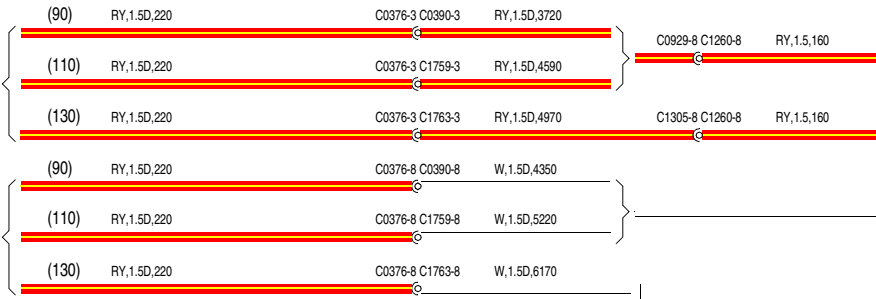
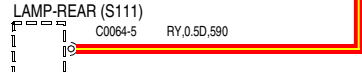
ECU-LAMP-FOG GUARD-REAR (D155)



INSTRUMENT PACK (J100)

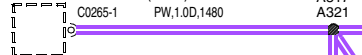


SWITCH-FOG GUARD LAMP-REAR (S111)

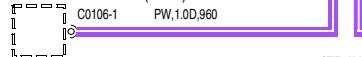


## A317/321 (PU) MAIN + A1 (PU) C'POST + A3 + A15 INT LAMP

SWITCH-DOOR-RH (S127)



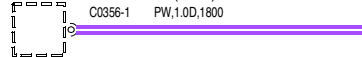
SWITCH-DOOR-LH (S128)



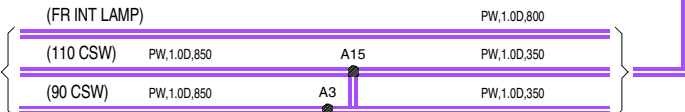
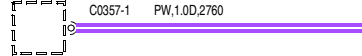
LAMP-INTERIOR-FRONT (B100)



LAMP-INTERIOR-REAR (B104)



LAMP-INTERIOR-REAR (B104)

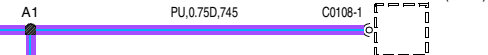


## A299 (PS) MAIN

RELAY-HEATED FRONT SCREEN (R208)



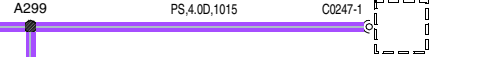
SWITCH-DOOR-REAR-RH (S129)



SWITCH-DOOR-REAR-LH (S130)



HEATED SCREEN-FRONT (H110)

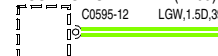


SWITCH-HEATED FRONT SCREEN (S261)

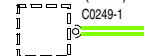


## A325 (LGW) MAIN

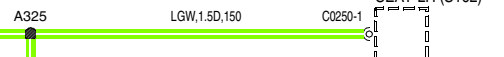
FUSE BOX-SATELLITE (P109)



SWITCH-HEATER-SEAT-RH (S161)

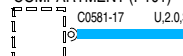


SWITCH-HEATER-SEAT-LH (S162)

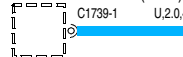


## 305 (U) MAIN

FUSE BOX-PASSENGER COMPARTMENT (P101)



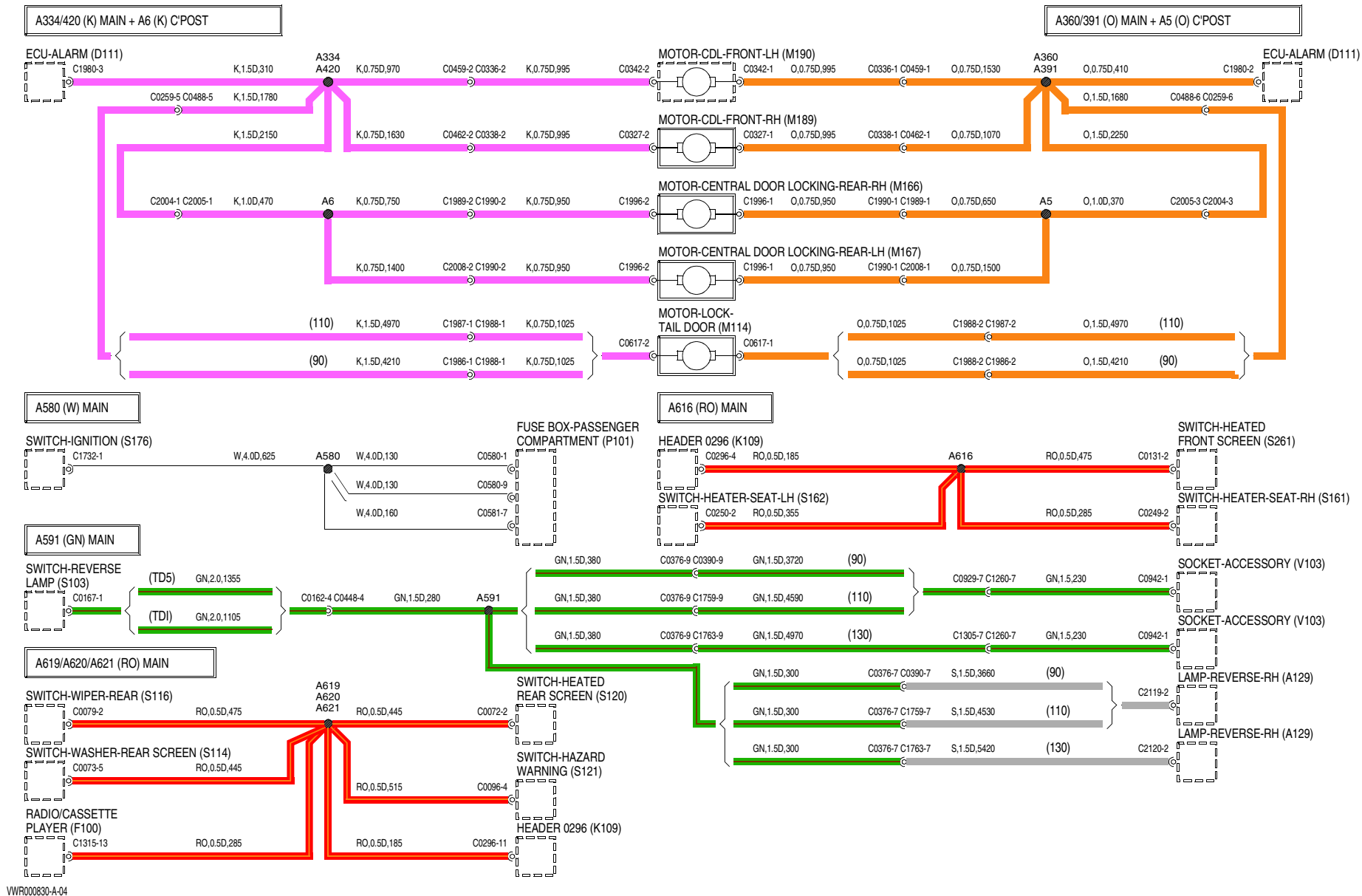
SWITCH-COLUMN (S123)



RELAY-HEADLAMP (R123)



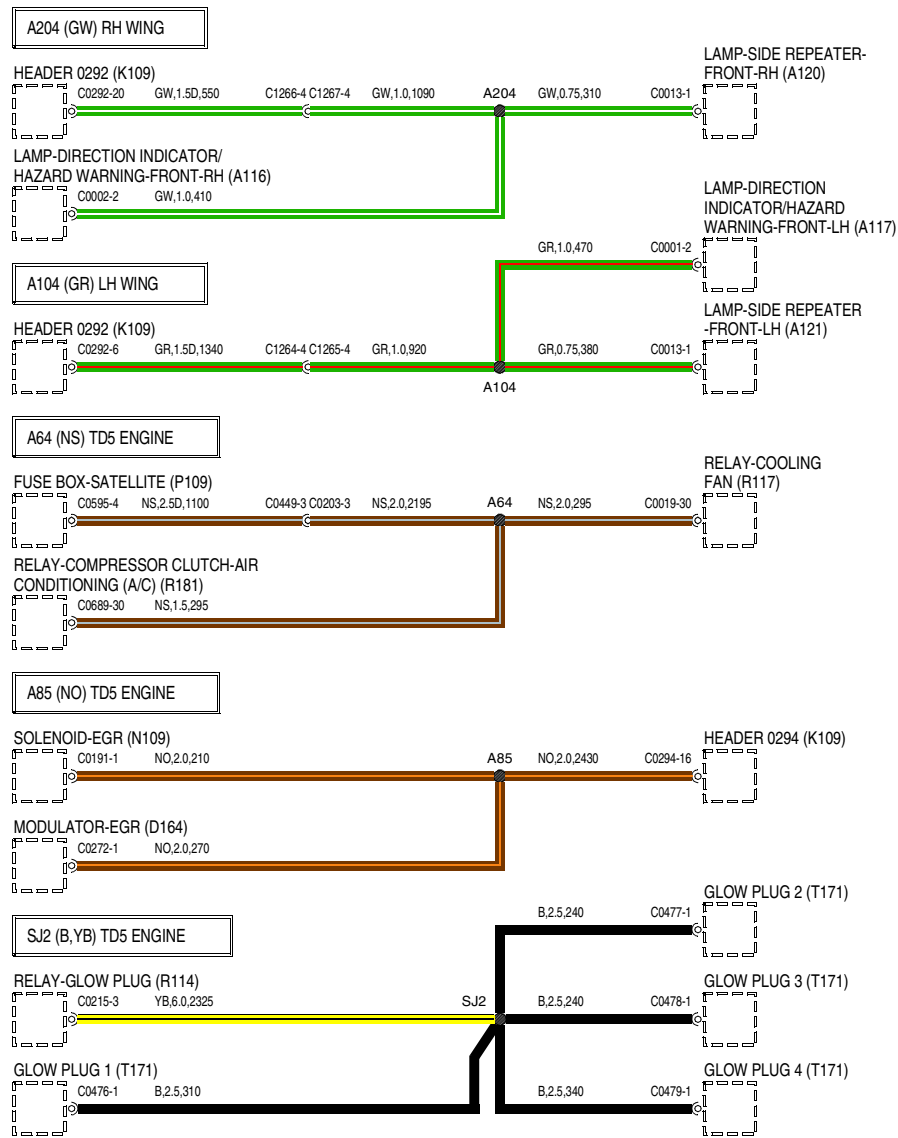
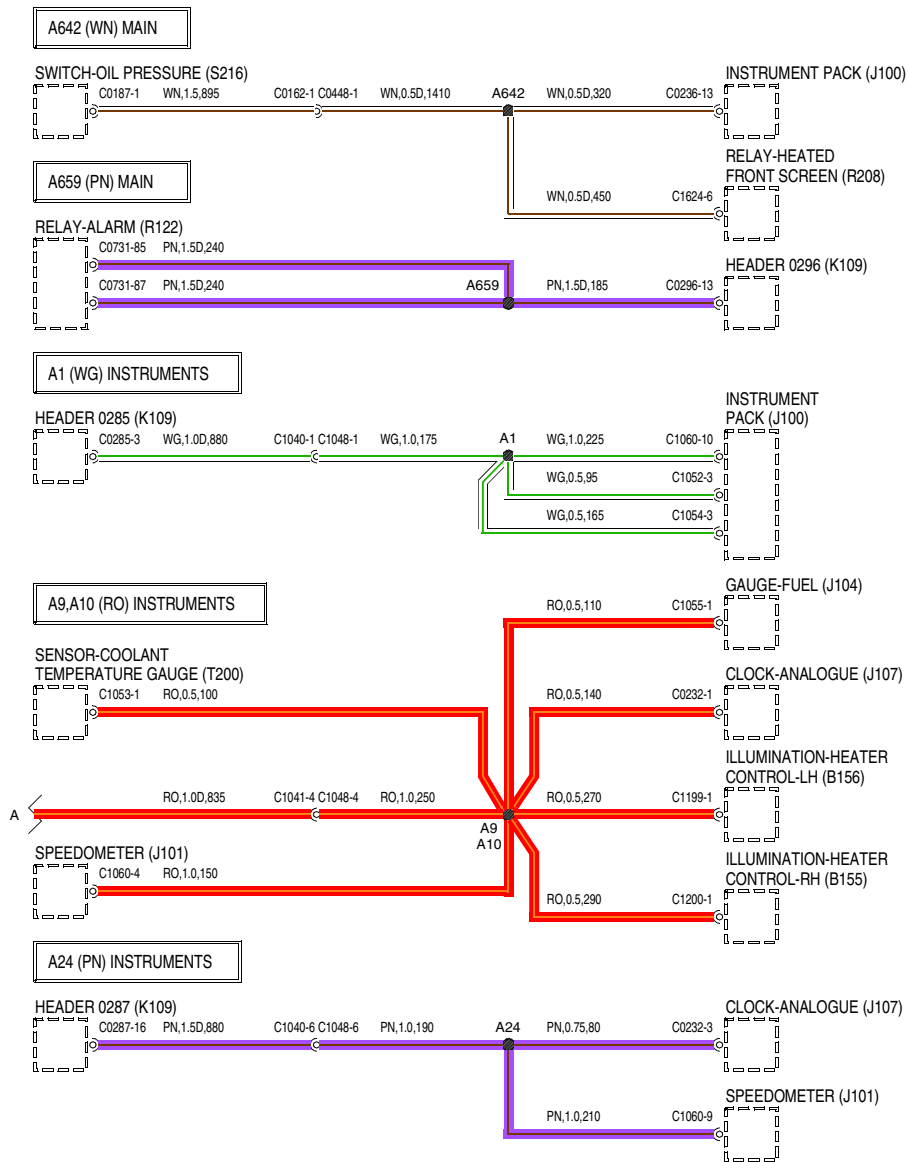
# 65 SPLICES AND CENTRE TAPS



WWR000830-A-04

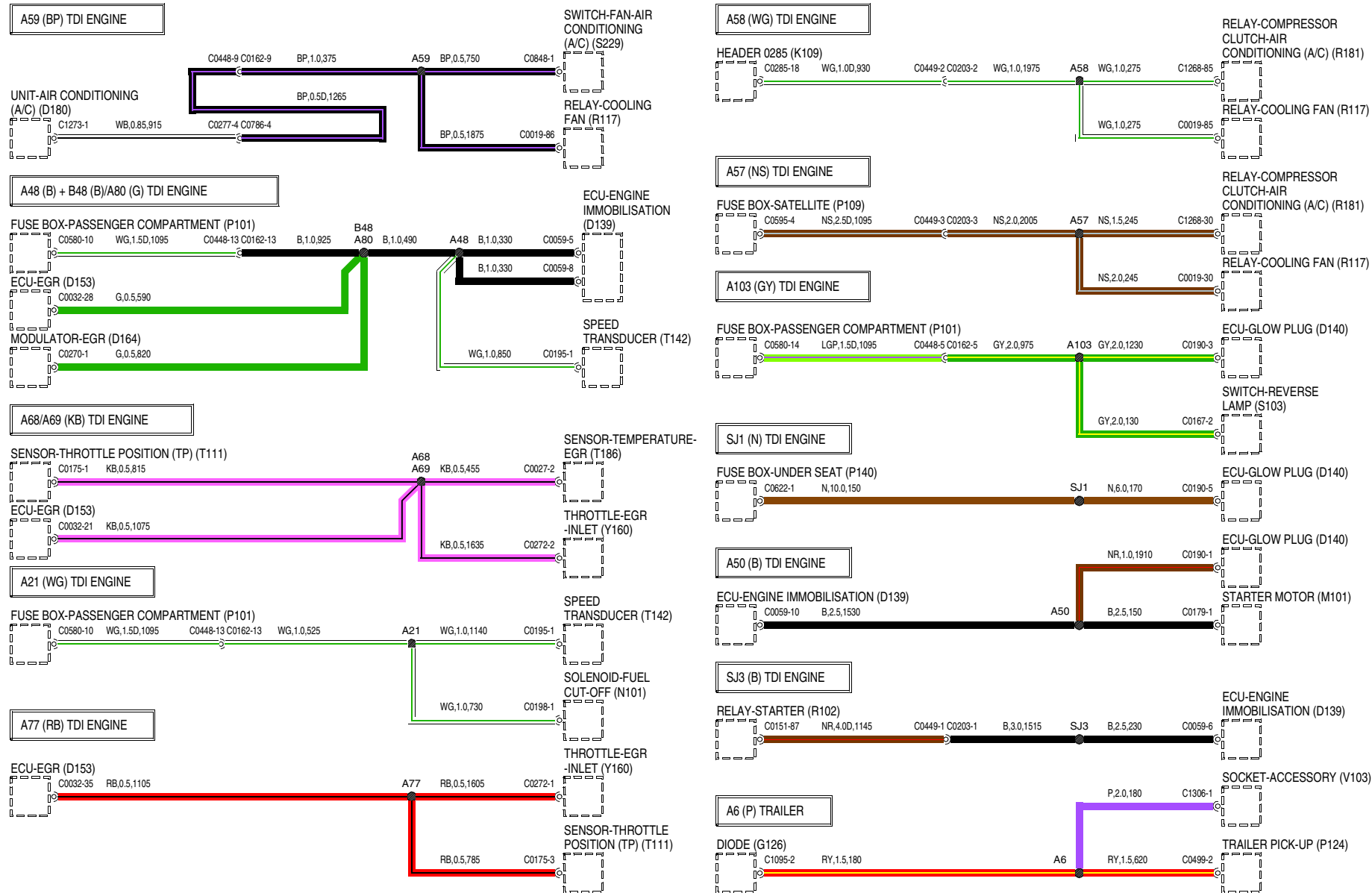


# 65 SPLICES AND CENTRE TAPS



WVR000830-A-05

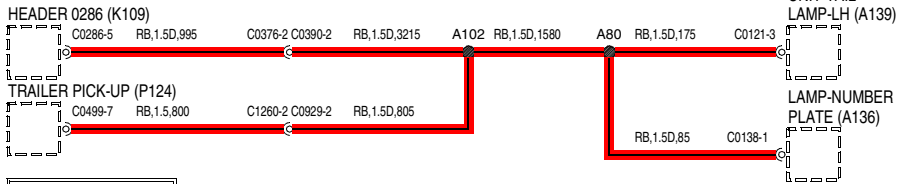
# 65 SPLICES AND CENTRE TAPS



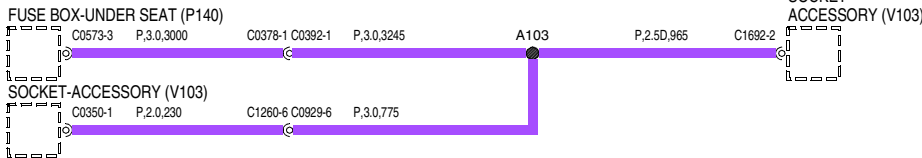
WWR000830-A-06

# 65 SPLICES AND CENTRE TAPS

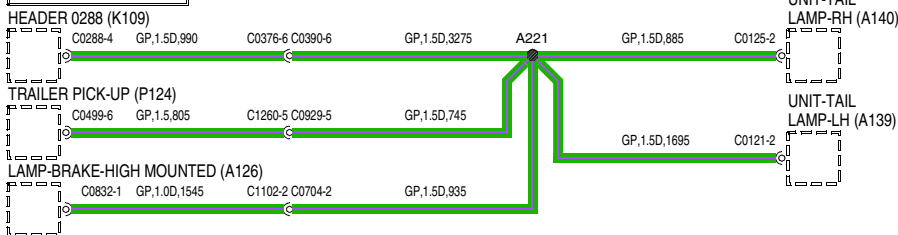
A102 + A80 (RB) CHASSIS



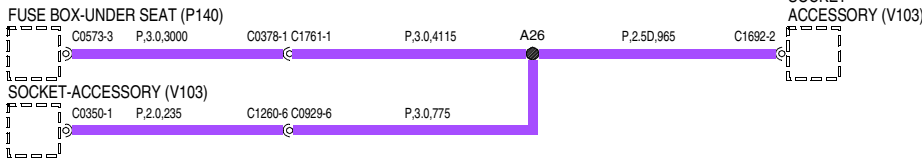
A103 (P) CHASSIS



A221 (GP) CHASSIS



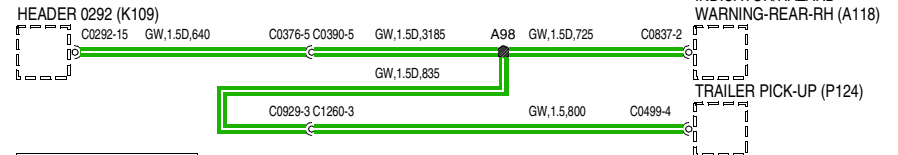
A26 (P) CHASSIS



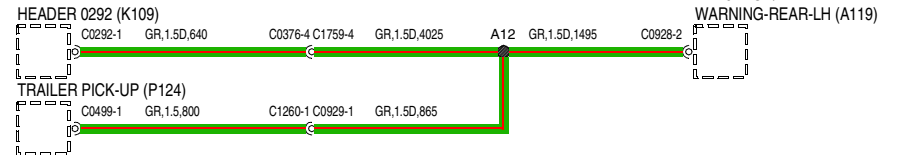
A101 (GR) CHASSIS



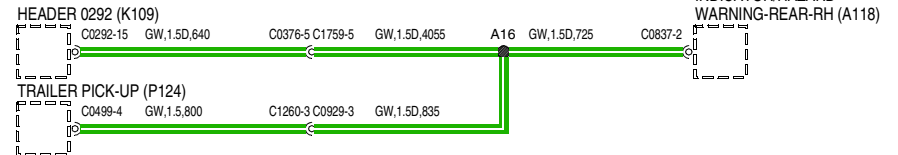
A98 (GW) CHASSIS



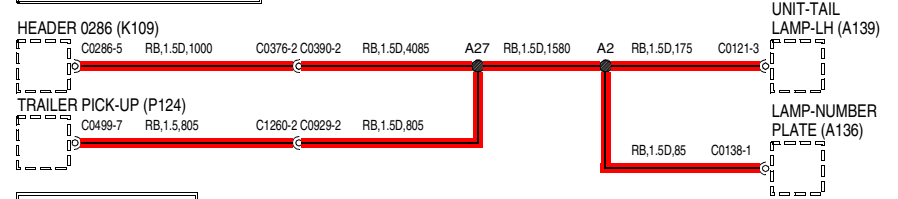
A12 (GR) CHASSIS



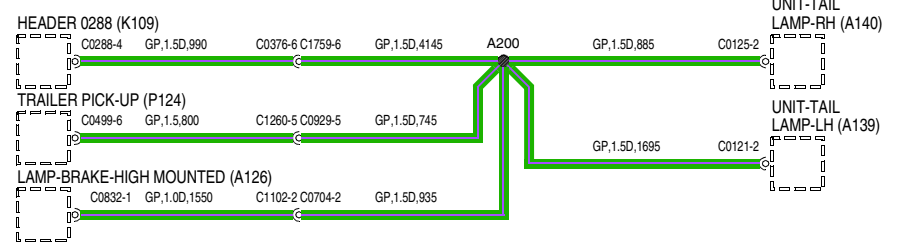
A16 (GW) CHASSIS



A27 + A2 (RB) CHASSIS

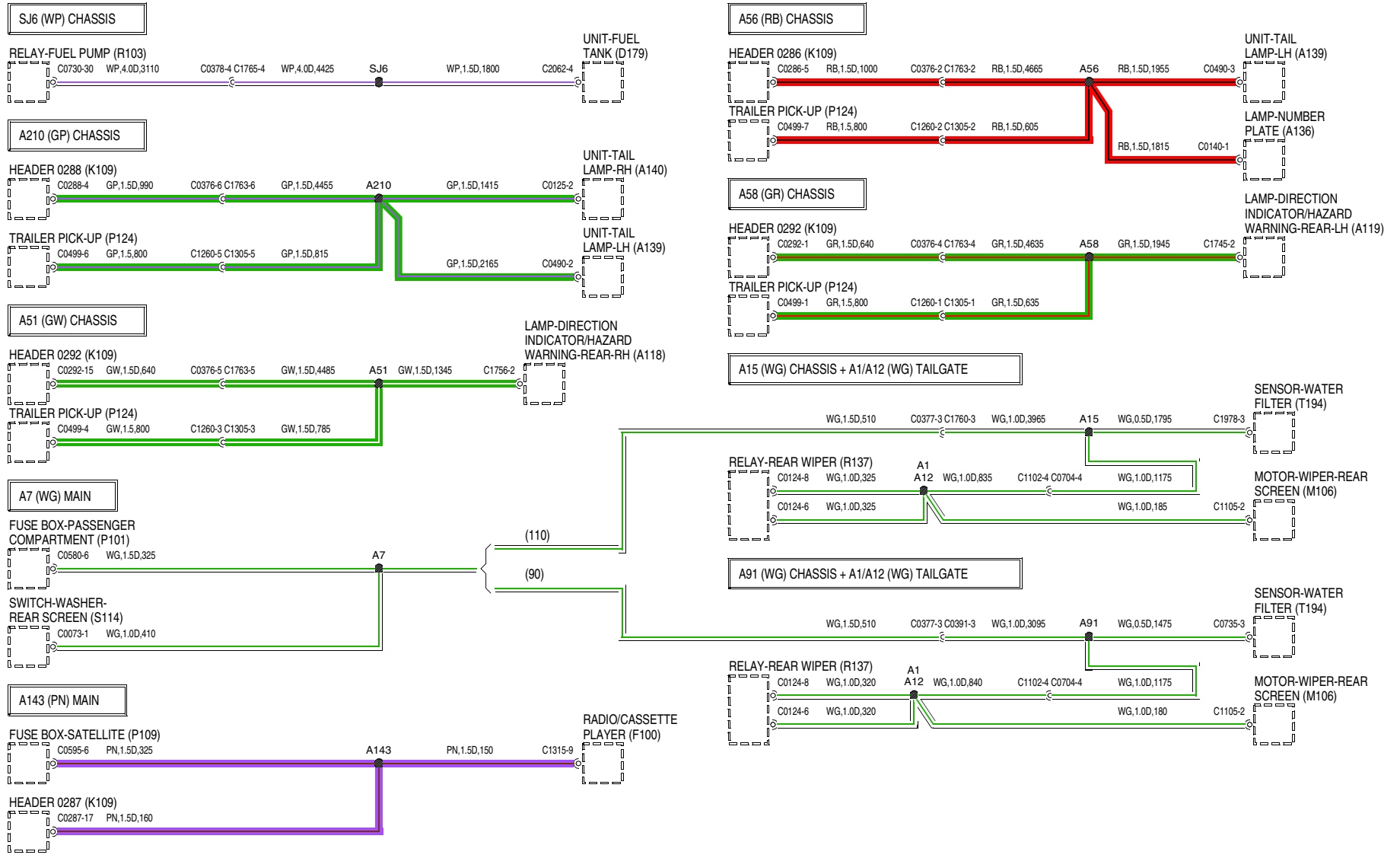


A200 (GP) CHASSIS



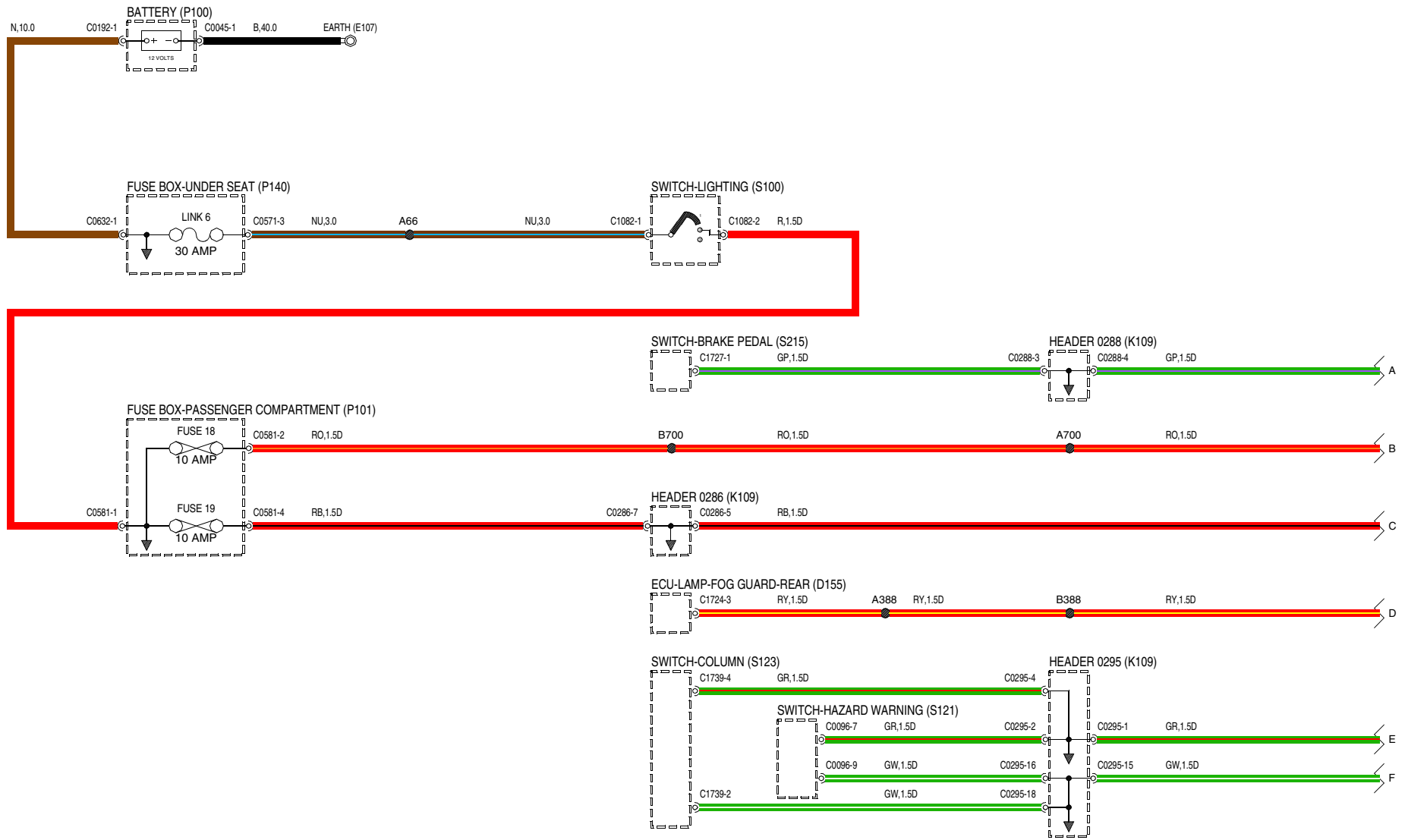
VWR000830-A-07

# 65 SPLICES AND CENTRE TAPS



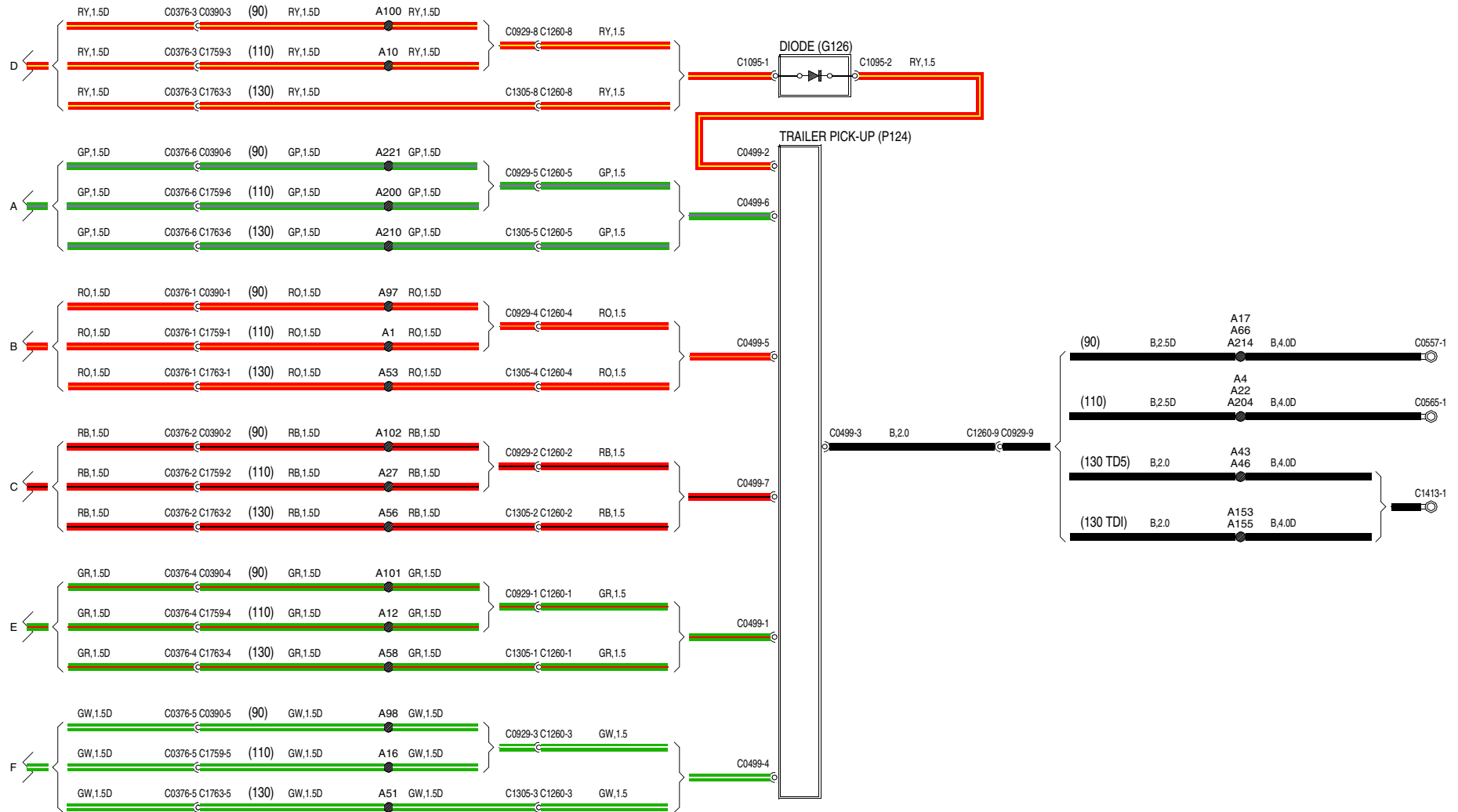
WWR000830-A-08

# 80 TRAILER SOCKET



VWR000970-A-01

# 80 TRAILER SOCKET



WVR000970-A-02