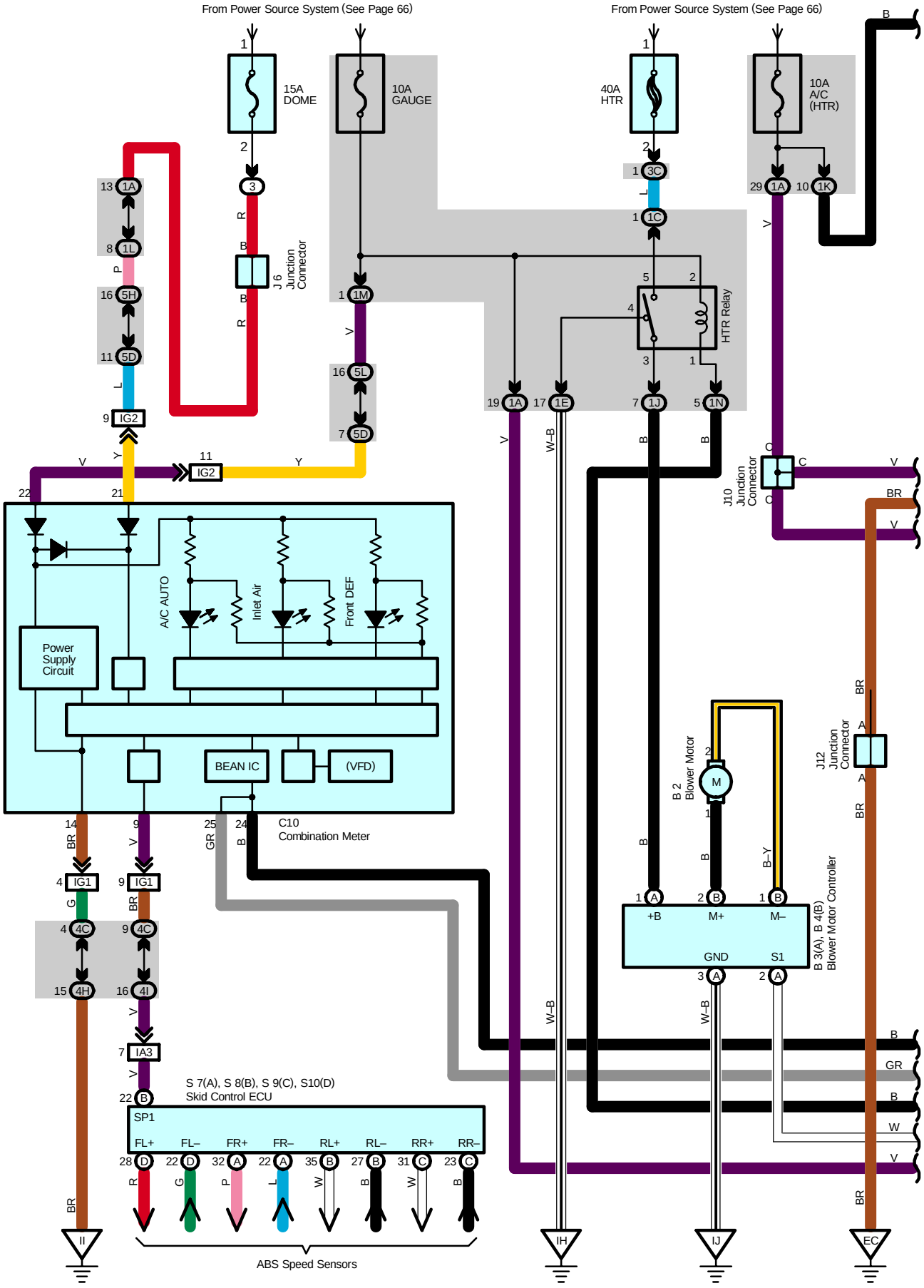
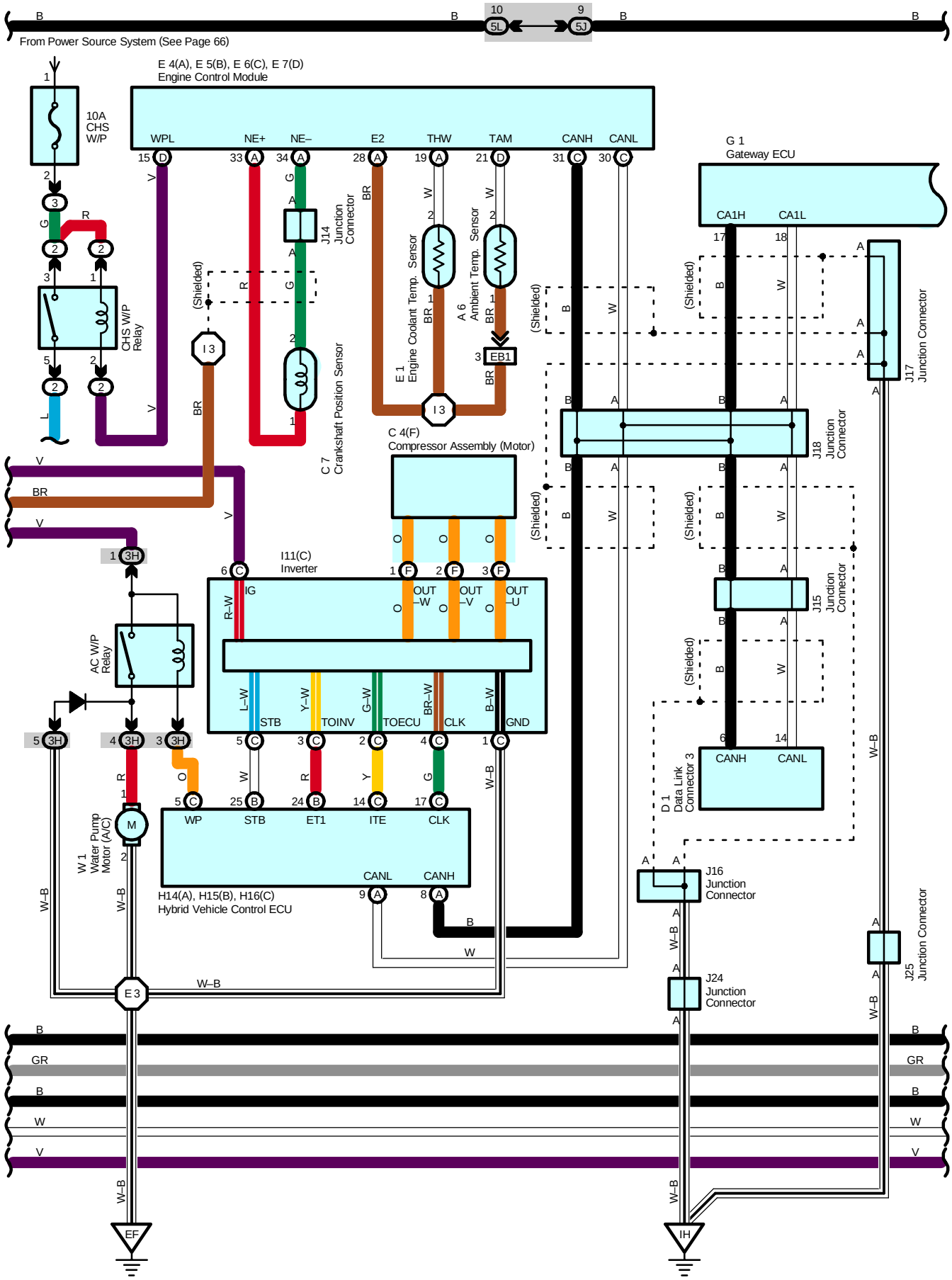
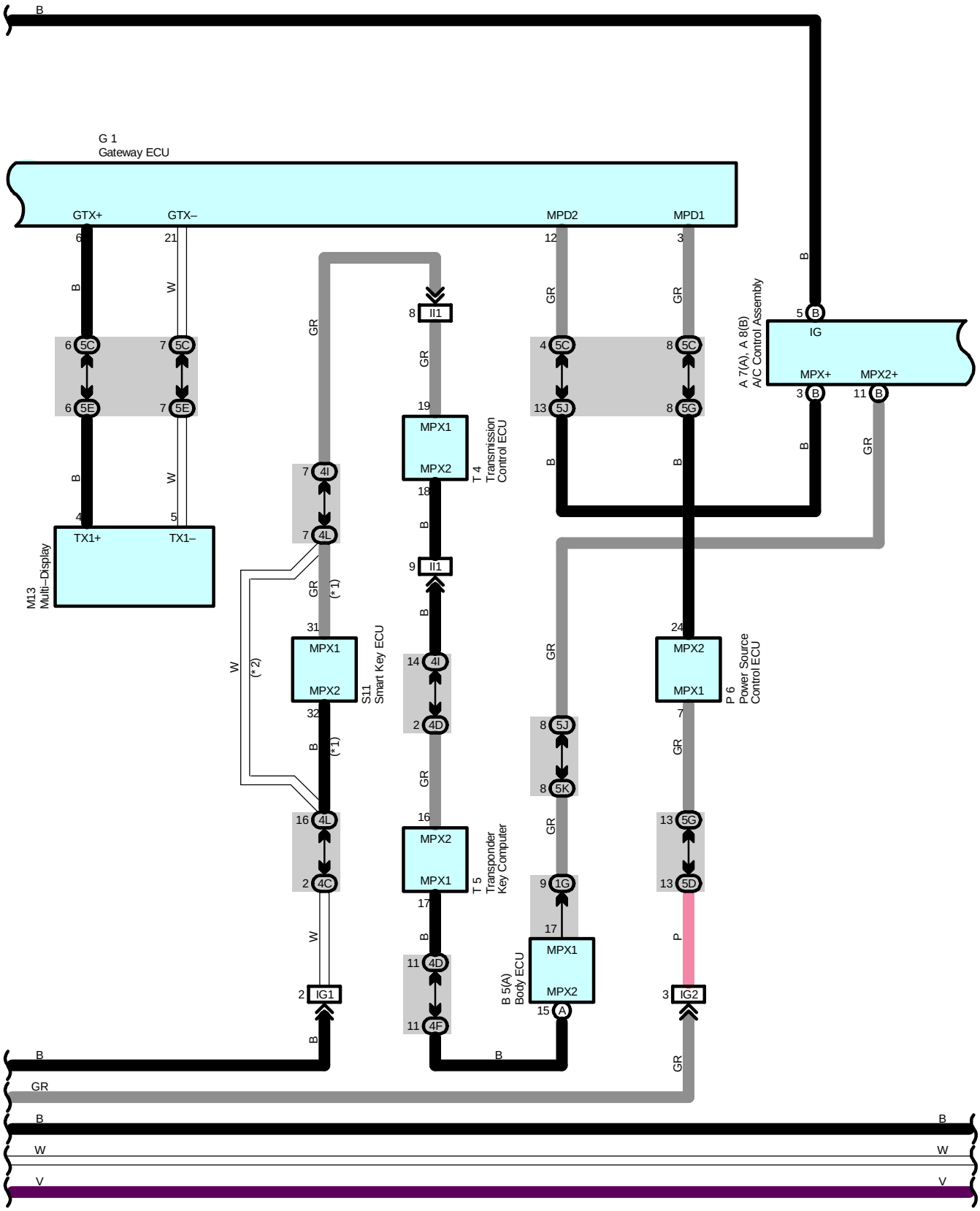
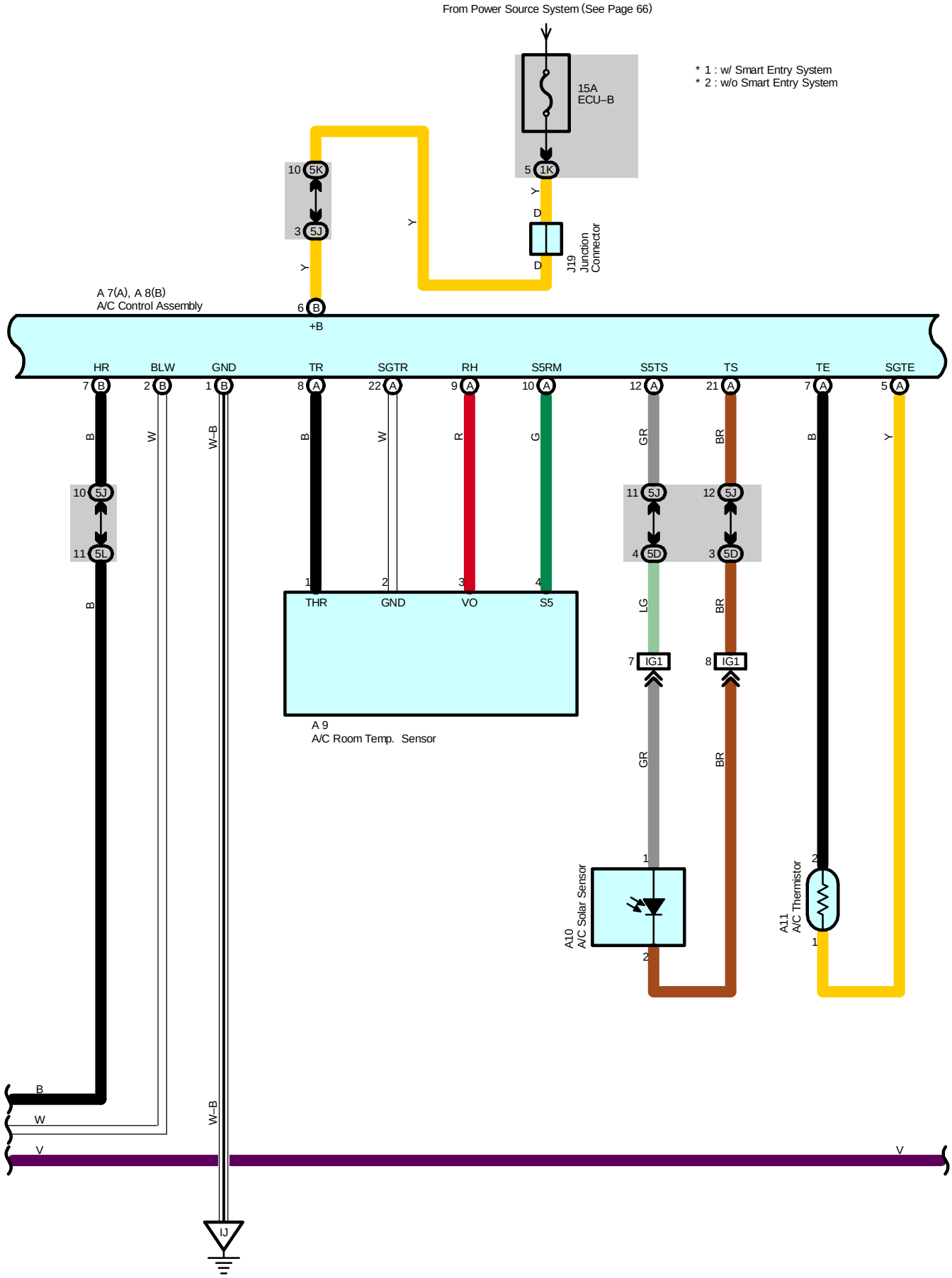
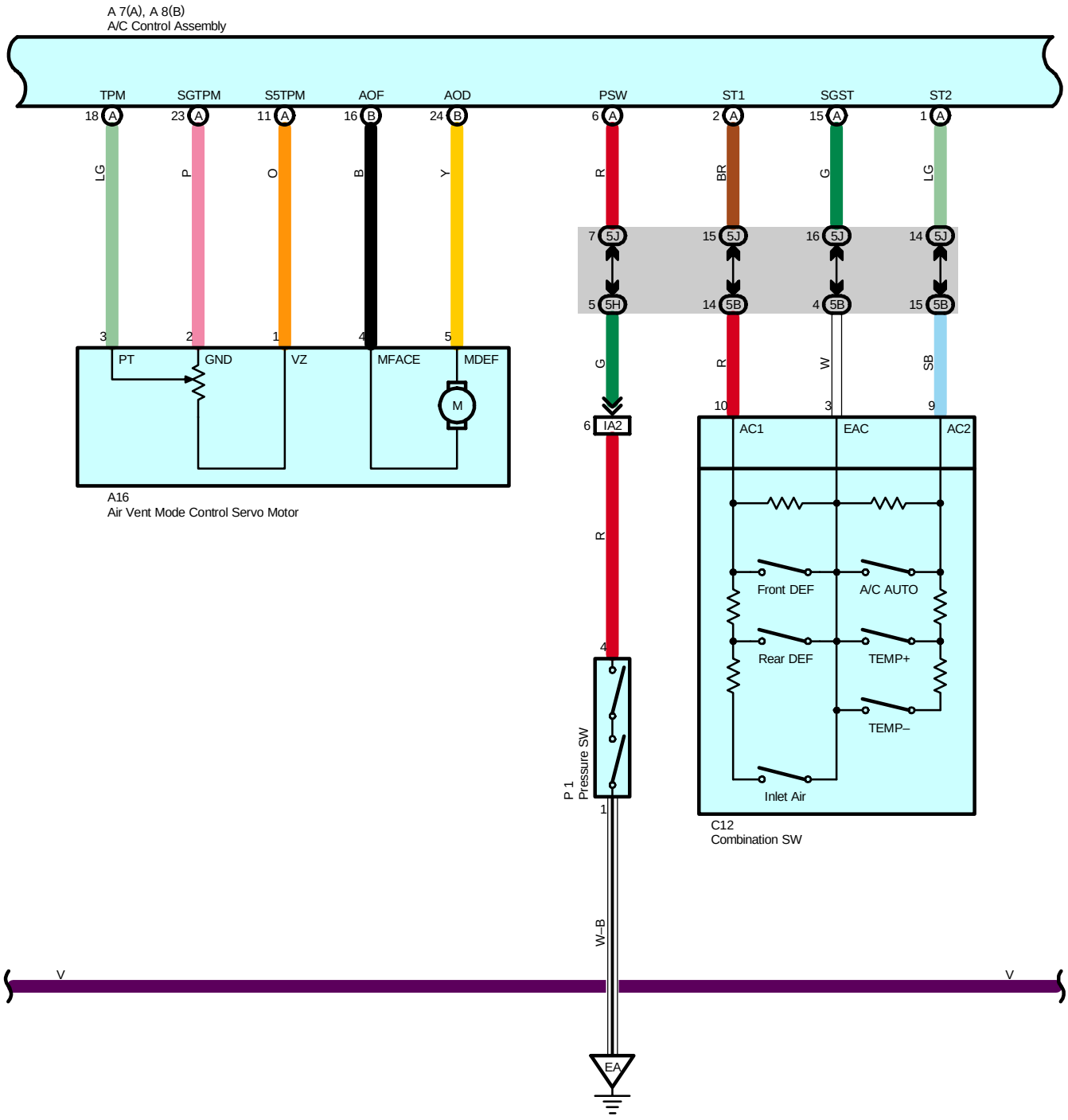
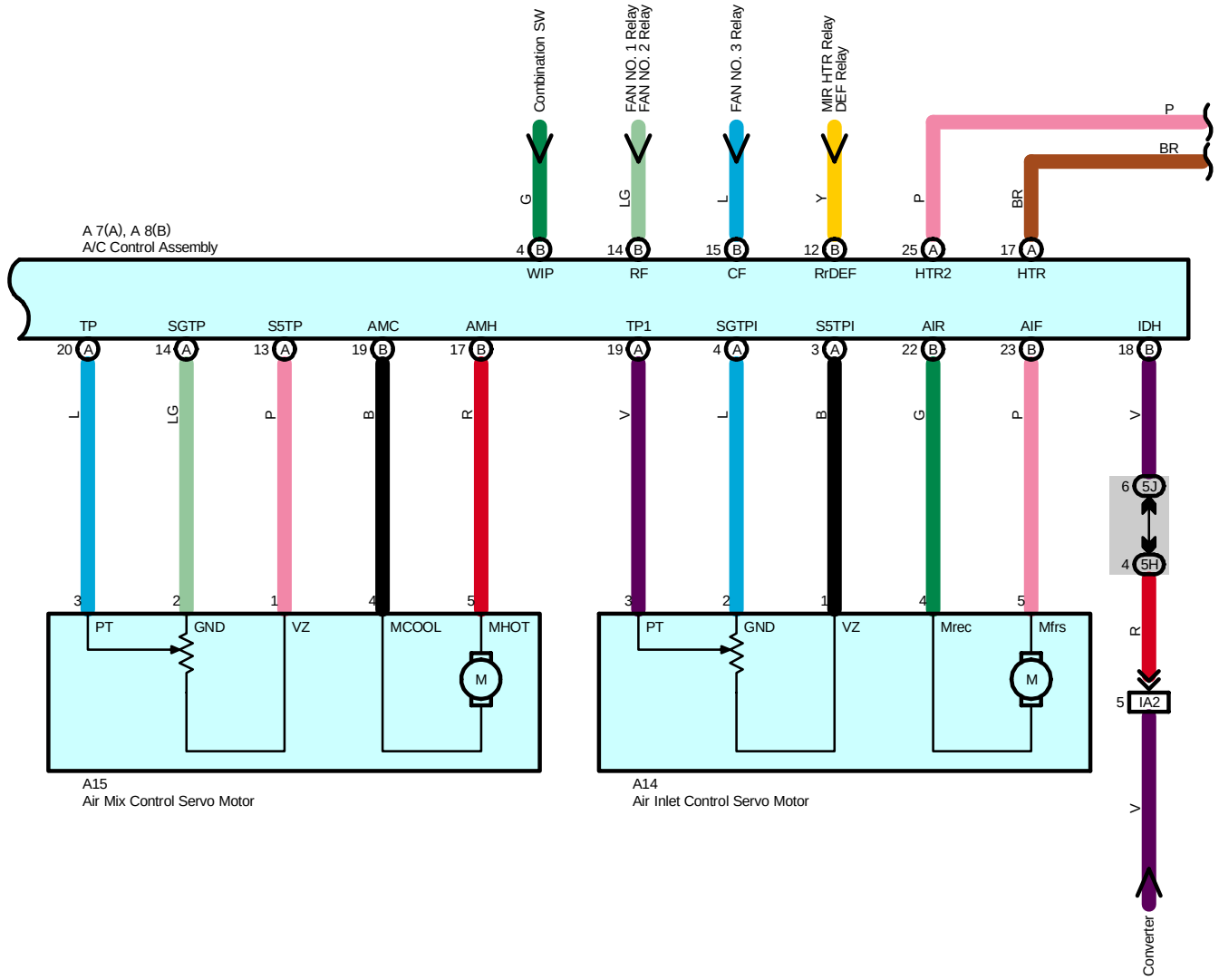

From Power Source System (See Page 66)
From Power Source System (See Page 66)
15A DOME
10A GAUGE
40A HTR
10A A/C (HTR)
J 6 Junction Connector
HTR Relay
J10 Junction Connector
J12 Junction Connector
B 2 Blower Motor
B 3(A), B 4(B) Blower Motor Controller
+B
M+
M–
GND
S1
Power Supply Circuit
A/C AUTO
Inlet Air
Front DEF
BEAN IC
(VFD)
C10 Combination Meter
S 7(A), S 8(B), S 9(C), S10(D) Skid Control ECU
SP1
FL+
FL–
FR+
FR–
RL+
RL–
RR+
RR–
ABS Speed Sensors
IG1
IG2
IA3
II
IH
IJ
EC


From Power Source System (See Page 66)
10
5L
9
5J
E 4(A), E 5(B), E 6(C), E 7(D)
Engine Control Module
10A
CHS
W/P
WPL
NE+
NE–
E2
THW
TAM
CANH
CANL
CHS W/P
Relay
J14
Junction
Connector
E 1
Engine Coolant Temp. Sensor
A 6
Ambient Temp. Sensor
EB1
I 3
C 7
Crankshaft Position Sensor
(Shielded)
G 1
Gateway ECU
CA1H
CA1L
J17
Junction Connector
J18
Junction Connector
J15
Junction Connector
C 4(F)
Compressor Assembly (Motor)
I11(C)
Inverter
IG
OUT –W
OUT –V
OUT –U
STB
TOINV
TOECU
CLK
GND
AC W/P
Relay
W 1
Water Pump
Motor (A/C)
WP
STB
ET1
ITE
CLK
CANL
CANH
H14(A), H15(B), H16(C)
Hybrid Vehicle Control ECU
D 1
Data Link
Connector 3
J16
Junction
Connector
J24
Junction
Connector
J25
Junction Connector
E 3
EF
IH
W–B
GR

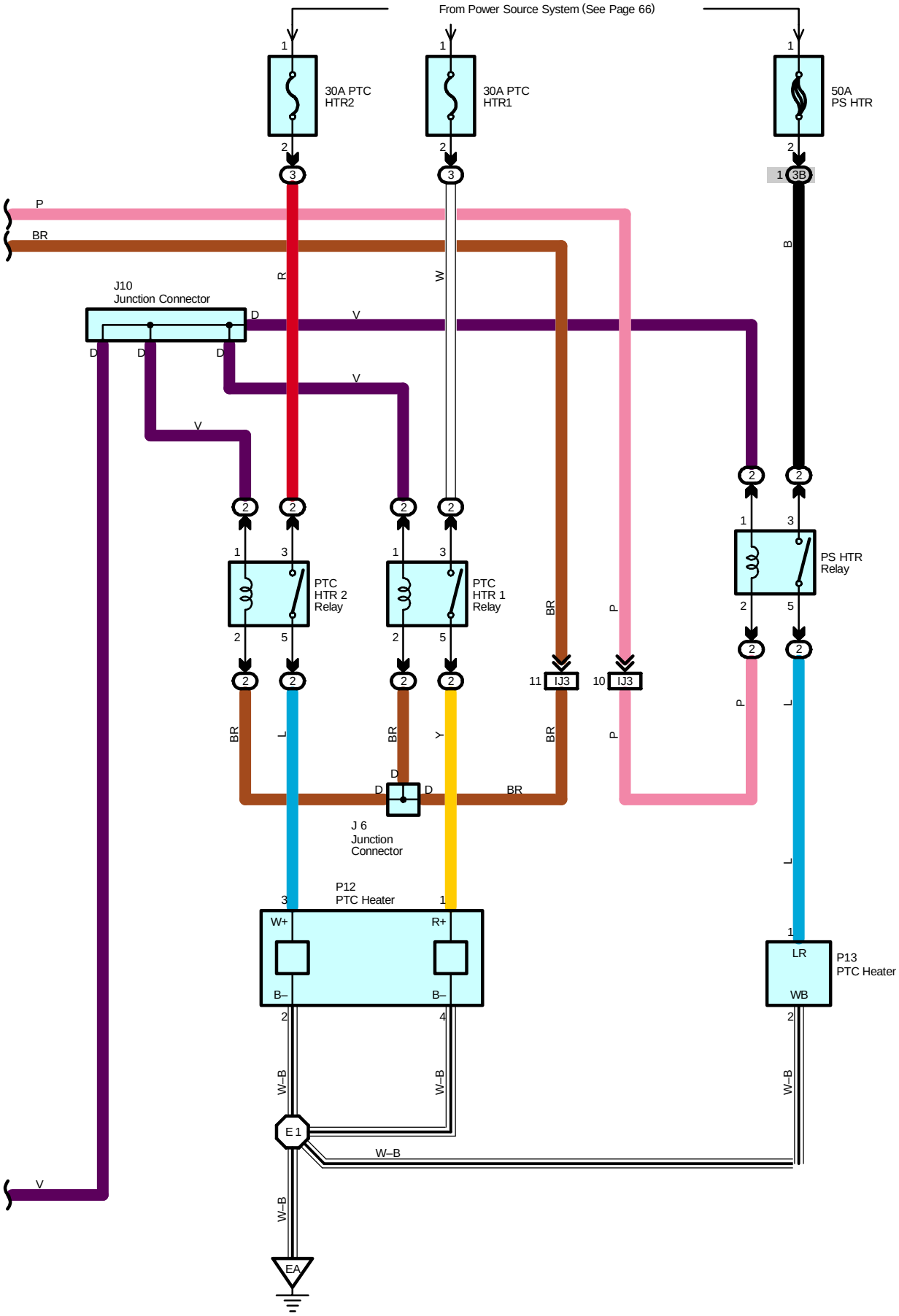

B
G 1
Gateway ECU
GTX+
GTX–
MPD2
MPD1
6
21
12
3
B
W
GR
GR
6 5C
7 5C
4 5C
8 5C
6 5E
7 5E
13 5J
8 5G
B
W
B
B
4
5
TX1+
TX1–
M13
Multi–Display
8 II1
GR
19
MPX1
MPX2
T 4
Transmission
Control ECU
18
B
9 II1
B
7 4I
7 4L
GR
(*1)
31
MPX1
MPX2
S11
Smart Key ECU
W
(*2)
32
B
(*1)
16 4L
2 4C
W
2 IG1
B
14 4I
2 4D
GR
16
MPX2
MPX1
T 5
Transponder
Key Computer
17
B
11 4D
11 4F
B
GR
8 5J
8 5K
GR
9 1G
17
MPX1
MPX2
B 5(A)
Body ECU
15 A
B
24
MPX2
MPX1
P 6
Power Source
Control ECU
7
GR
13 5G
13 5D
P
3 IG2
GR
5 B
IG
A 7(A), A 8(B)
A/C Control Assembly
MPX+
MPX2+
3 B
11 B
B
GR
B
GR
B
W
V
B
W
V


From Power Source System (See Page 66)
15A
ECU–B
* 1 : w/ Smart Entry System
* 2 : w/o Smart Entry System
10 5K
3 5J
5 1K
Y
D
J19
Junction
Connector
A 7(A), A 8(B)
A/C Control Assembly
6 B
+B
HR
BLW
GND
TR
SGTR
RH
S5RM
S5TS
TS
TE
SGTE
7 B
2 B
1 B
8 A
22 A
9 A
10 A
12 A
21 A
7 A
5 A
B
W
W–B
G
GR
BR
Y
10 5J
11 5L
11 5J
12 5J
4 5D
3 5D
LG
7 IG1
8 IG1
1
2
3
4
THR
GND
VO
S5
A 9
A/C Room Temp. Sensor
A10
A/C Solar Sensor
A11
A/C Thermistor
V
IJ


A 7(A), A 8(B)
A/C Control Assembly
TPM
SGTPM
S5TPM
AOF
AOD
PSW
ST1
SGST
ST2
18 A
23 A
11 A
16 B
24 B
6 A
2 A
15 A
1 A
LG
P
O
B
Y
R
BR
G
LG
7 5J
15 5J
16 5J
14 5J
5 5H
14 5B
4 5B
15 5B
3
2
1
4
5
PT
GND
VZ
MFACE
MDEF
M
A16
Air Vent Mode Control Servo Motor
G
R
W
SB
10
3
9
6 IA2
AC1
EAC
AC2
R
Front DEF
A/C AUTO
Rear DEF
TEMP+
TEMP–
Inlet Air
C12
Combination SW
4
P 1
Pressure SW
1
W–B
V
V
EA


Combination SW
FAN NO. 1 Relay
FAN NO. 2 Relay
FAN NO. 3 Relay
MIR HTR Relay
DEF Relay
P
BR
G
LG
L
Y
P
BR
A 7(A), A 8(B)
A/C Control Assembly
4 B WIP
14 B RF
15 B CF
12 B RrDEF
25 A HTR2
17 A HTR
TP
SGTP
S5TP
AMC
AMH
TP1
SGTPI
S5TPI
AIR
AIF
IDH
20 A
14 A
13 A
19 B
17 B
19 A
4 A
3 A
22 B
23 B
18 B
L
LG
P
B
R
V
L
B
G
P
V
6 5J
4 5H
R
5 IA2
V
3
2
1
4
5
PT
GND
VZ
MCOOL
MHOT
M
A15
Air Mix Control Servo Motor
3
2
1
4
5
PT
GND
VZ
Mrec
Mfrs
M
A14
Air Inlet Control Servo Motor
Converter


V
V


From Power Source System (See Page 66)
30A PTC HTR2
30A PTC HTR1
50A PS HTR
3B
P
BR
R
W
B
J10 Junction Connector
D
V
PTC HTR 2 Relay
PTC HTR 1 Relay
PS HTR Relay
IJ3
J 6 Junction Connector
P12 PTC Heater
W+
R+
B–
P13 PTC Heater
LR
WB
L
Y
W–B
E 1
EA

System Outline

Air conditioning system operates when SW of multi–display or that of steering wheel is turned on. Turning on the SW sends signal to A/C control assembly, running the air conditioning system.

1. Heater Blower Operation

Manual operation

When the blower speed is set to a certain level using the blower control SW, the A/C control assembly sends the signals to the blower control to control the blower motor speed.

Auto operation

When the auto SW is pushed, the A/C control assembly calculates necessary blower speed from setting of SWs and input of the sensors and sends the signals to the blower control to automatically control the blower motor speed.

2. Air Inlet Control Servo Motor Control

When the FRESH/RECIRC select SW is set to RECIRC, the air inlet control servo motor starts rotating to move the damper toward the RECIRC side. The damper position is detected by the TERMINAL TPI of the A/C control assembly. The motor continuously rotates until the damper reaches its stop position. When the FRESH/RECIRC select SW is set to FRESH, the air inlet control servo motor starts rotating to move the damper toward the FRESH side. The damper position is detected by the TERMINAL TPI of the A/C control assembly. The motor continuously rotates until the damper reaches its stop position.

In auto mode, A/C control assembly controls the damper to move to the best position for the conditions without operating the mode select SW.

3. Air Vent Mode Control Servo Motor Control

When the mode select SW is pushed, the ECU in the A/C control assembly activates the air vent mode control servo motor. The servo motor rotates to the position (FACE, BI–LEVEL, FOOT, FOOT/DEF, DEF) selected by using the mode select SW, and moves the damper.

In auto mode, A/C control assembly controls the damper to move to the best position for the conditions without operating the mode select SW.

4. Air Mix Control Servo Motor Control

Based on the set temperature by the temperature control SW, the ECU in the A/C control assembly sends a signal to the air mix control servo motor. This signal drives the motor to reach the temperature set by the temperature control SW, and moves the film damper.

5. Humidity Sensor Control

A/C control assembly detects humidity in passenger room when A/C is turned on, with humidity detecting function of A/C room temp. sensor and controls to dehumidify for comfortable condition

6. Air Conditioning Operation

A/C control assembly calculates target cooled temperature from information such as that of operating SWs, room temperature, humidity, ambient temperature and insolation to have target running speed of compressor assembly (Motor). The calculated control signal is sent to inverter to drive compressor assembly (Motor) (Electric motor) with control of inverter, resulting in operating A/C.

Service Hints

P1 Pressure SW

1–4 : Open with the refrigerant pressure at less than approx. 196 kpa (2.0 kgf/cm^2, 28.4 psi) or more than approx. 3140 kpa (32 kgf/cm^2, 455 psi)

A8 (B) A/C Control Assembly

(B) 6–Ground : Always approx. 12 volts
(B) 5–Ground : Approx. 12 volts with the power SW at IG ON position
(B) 1–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A6	44	E1	44	J19	48
A7 A	46	E4 A	47	J24	48
A8 B	46	E5 B	47	J25	48
A9	46	E6 C	47	M13	48
A10	46	E7 D	47	P1	45
A11	46	G1	47	P6	49
A14	46	H14 A	47	P12	49
A15	46	H15 B	47	P13	49
A16	46	H16 C	47	S7 A	49
B2	46	I11 C	45	S8 B	49
B3 A	46	J6	48	S9 C	49
B4 B	46	J10	48	S10 D	49
B5 A	46	J12	48	S11	49
C4 F	44	J14	48	T4	49
C7	44	J15	48	T5	49
C10	47	J16	48	W1	45
C12	47	J17	48		
D1	47	J18	48		

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26	Engine Room R/B No.2 (Right Side of Reserve Tank)
3	22	Engine Room R/B (Engine Compartment Left)

: **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	28	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1C		
1E	28	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1G		
1J		
1K		
1L		
1M		
1N		
3B	22	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3C		
3H		
4C	36	Instrument Panel Wire and Center Connector No.1 (Behind the Combination Meter)
4D		
4F		
4H		
4I		
4L		
5B	40	Instrument Panel Wire and Center Connector No.2 (Instrument Panel Brace RH)
5C		
5D		
5E		
5G		
5H		
5J		
5K		
5L		

: **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB1	54	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B)
IA2	56	Engine Room Main Wire and Instrument Panel Wire (Upper Parts of Front Body Pillar LH)
IA3		
IG1	58	Instrument Panel Wire and Instrument Panel No.2 Wire (Behind the Combination Meter)
IG2		
II1	58	Engine Wire and Instrument Panel Wire (Behind the Glove Box)
IJ3	58	Engine Room Main Wire and Instrument Panel Wire (Behind the Glove Box)

: **Ground Points**

Code	See Page	Ground Points Location
EA	54	Right Side of the Fender Apron
EC	54	Engine Block
EF	54	Left Side of the Suspension Tower
IH	56	Cowl Side Panel LH
II	56	Instrument Panel Brace LH
IJ	56	Instrument Panel Brace RH

 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E1	54	Engine Room Main Wire	I3	58	Engine
E3					