## Electrical Test Program - Test

## Preparation for Test:

1. ! CAUTION! Review 22/1
2. Review 20
3. Fuses: F1f21 and F1f22 are OK.
4. Battery voltage $11-14 \mathrm{~V}$

| $\Rightarrow$ | 㒔 | Test scope | Test connection |  | Test condition | Nominal value | Possible cause/Remedy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1.0 |  | Left/right front ESA switch (S22/S23) Voltage supply $\square$ <br> Test X55/3 for left seat, test X55/4 for right seat | $\begin{array}{r} \mathrm{X} 55 / 3 \\ \mathrm{X} 55 / 4 \\ 3 \longrightarrow(\underline{\mathrm{~V}})^{+}+ \end{array}$ | $,-4$ | Disconnect connector 5 at X55/3 (left seat) or connector 5 at X55/4 (right seat). <br> Circuit 15R: ON $\square$ <br> See 20 | 11-14V | Wiring, <br> Fuses: F1f21, F1f22, CF Relay Module (K24) |
| 2.0 |  | Left front power seat fore/aft motor (M25m1) Voltage supply | $3-\quad \begin{aligned} & \mathrm{M} 25 \mathrm{~m} 1 \\ & -(\mathrm{v})^{+} \end{aligned}$ | )-2 | Voltage supply to S22 OK, Disconnect blue connector at M25m1, Circuit 15R: ON <br> Press seat fore/aft switch: Forward <br> Backward | $\begin{aligned} & -11 \text { to }-14 \mathrm{~V} \\ & 11 \text { to } 14 \mathrm{~V} \end{aligned}$ | S22 |

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| 3.0 |  | Fore/aft motor (M25m1) Resistance | 1 - | M25m1 <br> $\rightarrow-(\Omega+$ | Disconnect connector (blue) at M25m1 (motor). | 0.5-5 | M25m1 |
| 4.0 |  | Front raise/lower motor (M25m3) Voltage supply | $1-$ | $\begin{aligned} & \mathrm{M} 25 \mathrm{~m} 3 \\ & -\left(\underline{\mathrm{v}}{ }^{+}\right. \end{aligned}$ | Voltage supply to S22 OK, Disconnect white connector at M25m3, Circuit 15R: ON <br> Press front raise/lower switch: <br> Up <br> Down | $\begin{aligned} & -11 \text { to }-14 \mathrm{~V} \\ & 11 \text { to } 14 \mathrm{~V} \end{aligned}$ | S22 |
| 5.0 |  | Front raise/lower motor (M25m3) <br> Resistance | 1 | M25m3 $\sim_{\Omega}^{-} \xrightarrow{+}$ | Disconnect connector (white) at M25m3 (motor). | 0.5-5 | M25m3 |
| 6.0 |  | Rear raise/lower motor (M25m2) Voltage supply | $1-$ | $\begin{aligned} & \text { M25m2 } \\ & -(\underline{v})^{ \pm} \end{aligned}$ | Voltage supply to S22 OK, <br> Disconnect connector at M25m2, <br> Circuit 15R: ON <br> Press Rear raise/lower <br> switch: <br> Up <br> Down | $\begin{aligned} & -11 \text { to }-14 \mathrm{~V} \\ & 11 \text { to } 14 \mathrm{~V} \end{aligned}$ | S22 |

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| 7.0 |  | Rear raise/lower motor (M25m2) Resistance | $11=\stackrel{M 25 m 2}{-\Omega} \xrightarrow{ \pm}=12$ | Disconnect connector at M25m2 (motor). | 0.5-5 | M25m2 |
| 8.0 |  | Backrest fore/aft motor (M25m5) Voltage supply | $1-\stackrel{\begin{array}{l} \text { M25m5 } \\ -(\underline{V})^{ \pm} \end{array},-2}{ }$ | Voltage supply to S22 OK, Disconnect (black) connector at M25m2, Circuit 15R: ON Press backrest fore/aft switch: Forward <br> Backward | $\begin{aligned} & 11-14 \mathrm{~V} \\ & -11 \text { to }-14 \mathrm{~V} \end{aligned}$ | S22 |
| 9.0 |  | Backrest fore/aft motor (M25m5) Resistance | $1-\quad \begin{aligned} & \text { M25m5 } \\ & 1-\Omega)^{ \pm} \quad-2 \end{aligned}$ | Disconnect black connector at M25m5 (motor). | $0.5-5 \Omega$ | M25m5 |

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10.0 |  | Fore/aft motor (M26m1) Voltage supply | 1 - | M26m1 $\rightarrow(\underline{V})^{+}$ | )-2 | Voltage supply to S23 OK, Disconnect (blue) connector at M26m1, Circuit 15R: ON <br> Press seat fore/aft switch (S23s3): <br> Forward <br> Backward | $\begin{aligned} & 11 \text { to } 14 \mathrm{~V} \\ & -11 \text { to }-14 \mathrm{~V} \end{aligned}$ | S23 |
| 11.0 |  | Front raise/lower motor (M26m5) Resistance | 1 | M26m5 <br> $\rightarrow$ - ${ }^{+}+$ | $-2$ | Disconnect black connector at M26m5 (motor). | 0.5-5 | M26m5 |
| 12.0 |  | Front raise/lower motor (M26m3) Voltage supply | $1-$ | M26m3 $-(\underline{v})^{+}$ | )-2 | Voltage supply to S 23 OK , Disconnect (white) connector at M26m3, Circuit 15R: ON <br> Press seat height, front switch (S23s2): Up <br> Down | $\begin{aligned} & 11 \text { to } 14 \mathrm{~V} \\ & -11 \text { to }-14 \mathrm{~V} \end{aligned}$ | S23 |

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13.0 |  | Front raise/lower motor (M26m3) Resistance | $1-\quad \begin{aligned} & \mathrm{M} 26 \mathrm{~m} 3 \\ & -\Omega(\Omega) \quad-2 \end{aligned}$ | Disconnect white connector at M26m3 (motor). | 0.5-5 | M26m3 |
| 14.0 |  | Rear raise/lower motor (M26m2) <br> Voltage supply |  | Voltage supply to S 23 OK , Disconnect (white) connector at M26m2, <br> Circuit 15R: ON <br> Press seat height, rear switch (S23s4): <br> Up <br> Down | $\begin{aligned} & -11 \text { to }-14 \mathrm{~V} \\ & 11 \text { to } 14 \end{aligned}$ | S23 |
| 15.0 |  | Rear raise/lower motor (M26m2) Resistance | $1=\quad \stackrel{\mathrm{M} 26 \mathrm{~m} 2}{ } \quad-\Omega+{ }^{ \pm} \quad-2$ | Disconnect connector at M26m2 (motor). | 0.5-5 $\Omega$ | M26m2 |

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 16.0 |  | Seatback fore/aft motor (M26m5) <br> Voltage supply | $1-\quad \stackrel{\begin{array}{l} \text { M26m5 } \\ -(\underline{V})^{+} \\ \rightarrow \end{array},-2}{ }$ | Voltage supply to S23 OK, Disconnect (black) connector at M26m5, Circuit 15R: ON <br> Press backrest switch (S23s5): <br> Foreward <br> Backward | $\begin{aligned} & 11-14 \mathrm{~V} \\ & -11 \text { to }-14 \mathrm{~V} \end{aligned}$ | S23 |
| 17.0 |  | Seatback fore/aft motor (M26m5) Resistance | $1-\quad \stackrel{\text { M26m5 }}{\sim}$ | Disconnect black connector at M26m5 (motor). | $0.5-5 \Omega$ | M26m5 |

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18.0 |  | CF relay module (K24) <br> Voltage supply <br> (Circuit 30) |  | Ignition: OFF K24 removed (disconnected) | $11-14 \mathrm{~V}$ | Wiring to X4 and W29 or W29/2 <br> If values are OK: $\Rightarrow 18.1$ |
| 18.1 |  | Voltage supply Circuit 15R | $6 \rightarrow \quad \stackrel{\text { K24 }}{-(\underline{V})^{+}} \quad,-4$ | Circuit 15R: ON K24 removed (disconnected) | $11-14 \mathrm{~V}$ | Wiring to X4/18 and W29 or W29/2 <br> If values are OK: <br> If there continues to be no voltage at left/right front ESA switches, check: <br> Fuses: F1f21, F1f22, <br> Wiring to the seats, K24 |

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| $\Rightarrow$ | $0$ | Test scope | Test connection | Test condition | Nominal value | Possible cause/Remedy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19.0 |  | Left door switch (S17/3) | $6 \rightarrow \stackrel{\text { K24 }}{-\left(V^{+}{ }^{+} \quad,-1\right.}$ | Ignition: OFF K24 removed (disconnected) <br> Left door: Open <br> Left door: Closed | $<1 \mathrm{~V}$ $>5 \mathrm{~V}$ | Wiring, <br> S17/3 <br> If values are OK: <br> If CF function via S17/3 is still faulty: <br> K24 <br> If CF function via S17/4 is still faulty: $\Rightarrow 19.1$ |
| 19.1 |  | Right door switch (S17/4) | $6 \rightarrow \stackrel{\text { K24 }}{-\left(V^{+}{ }^{+} \quad,-1\right.}$ | Ignition: OFF K24 removed (disconnected) Right door: Open <br> Right door: Closed | $<1 \mathrm{~V}$ $>5 \mathrm{~V}$ | Wiring, <br> S17/4 <br> If values are OK: <br> If CF function via S17/4 is still faulty: <br> K24 |

