

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
0,02	520192	2	Amber Warning Flashing Digital input 0 - pin A15: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 0 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
1,02	520193	2	Amber Warning Flashing Digital input 1 - pin A17: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 1 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
2,02	520194	2	Amber Warning Flashing Digital input 2 - pin A19: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 2 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
3,02	520195	2	Amber Warning Flashing Digital input 3 - pin A21: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 3 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
4,02	520196	2	Amber Warning Flashing Digital input 4 - pin B11: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 4 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
5,02	520197	2	Amber Warning Flashing Digital input 5 - pin B13: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 5 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
6,02	520198	2	Amber Warning Flashing Digital input 6 - pin B15: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 6 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
7,02	520199	2	Amber Warning Flashing Digital input 7 - pin B17: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 7 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
8,02	520200	2	Amber Warning Flashing Digital input 8 - pin A25: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 8 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
9,02	520201	2	Amber Warning Flashing Digital input 9 - pin B12: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the digital input 9 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
0F,02	520207	2	Stop Lamp Flashing Wake input - pin A13: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the key contact input will not be able to be interpreted by the controller. It will not be possible to power down the controller in a normal way, the battery contact will need to be used (cycled to restart the controller).	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
10,02	520208	2	Amber Warning Solid Analog voltage type 2B input 0 - pin A9: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 0 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
10,03	520208	3	Amber Warning Solid Analog voltage type 2B input 0 - pin A9: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 0 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - refer to the other reported errors to identify the affected analogue input function.
10,04	520208	4	Amber Warning Solid Analog voltage type 2B input 0 - pin A9: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 0 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
10,0D	520208	13	Amber Warning Solid Analog voltage type 2B input 0 - pin A9: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 0 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
10,10	520208	16	Amber Warning Solid Analog voltage type 2B input 0 - pin A9: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 0 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.

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10,12	520208	18	Amber Warning Solid Analog voltage type 2B input 0 - pin A9: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 0 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
11,02	520209	2	Amber Warning Solid Analog voltage type 2B input 1 - pin A11: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 1 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
11,03	520209	3	Amber Warning Solid Analog voltage type 2B input 1 - pin A11: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting	The measured value of analogue input 1 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
11,04	520209	4	Amber Warning Solid Analog voltage type 2B input 1 - pin A11: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 1 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
11.0D	520209	13	Amber Warning Solid Analog voltage type 2B input 1 - pin A11: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 1 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
11,10	520209	16	Amber Warning Solid Analog voltage type 2B input 1 - pin A11: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 1 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
11,12	520209	18	Amber Warning Solid Analog voltage type 2B input 1 - pin A11: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 1 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
12,02	520210	2	Amber Warning Solid Analog voltage type 2B input 2 - pin B3: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 2 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
12,03	520210	3	Amber Warning Solid Analog voltage type 2B input 2 - pin B3: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 2 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
12,04	520210	4	Amber Warning Solid Analog voltage type 2B input 2 - pin B3: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 2 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
12.0D	520210	13	Amber Warning Solid Analog voltage type 2B input 2 - pin B3: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 2 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
12,10	520210	16	Amber Warning Solid Analog voltage type 2B input 2 - pin B3: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 2 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.

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12,12	520210	18	Amber Warning Solid Analog voltage type 2B input 2 - pin B3: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 2 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
13,02	520211	2	Amber Warning Solid Analog voltage type 2B input 3 - pin B5: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 3 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
13,03	520211	3	Amber Warning Solid Analog voltage type 2B input 3 - pin B5: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 3 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
13,04	520211	4	Amber Warning Solid Analog voltage type 2B input 3 - pin B5: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 3 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
13.0D	520211	13	Amber Warning Solid Analog voltage type 2B input 3 - pin B5: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 3 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
13,10	520211	16	Amber Warning Solid Analog voltage type 2B input 3 - pin B5: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 3 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
13,12	520211	18	Amber Warning Solid Analog voltage type 2B input 3 - pin B5: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 3 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
14,02	520212	2	Amber Warning Solid Analog voltage type 2B input 4 - pin A10: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 4 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
14,03	520212	3	Amber Warning Solid Analog voltage type 2B input 4 - pin A10: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 4 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
14,04	520212	4	Amber Warning Solid Analog voltage type 2B input 4 - pin A10: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 4 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
14.0D	520212	13	Amber Warning Solid Analog voltage type 2B input 4 - pin A10: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 4 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
14,10	520212	16	Amber Warning Solid Analog voltage type 2B input 4 - pin A10: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 4 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
14,12	520212	18	Amber Warning Solid Analog voltage type 2B input 4 - pin A10: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 4 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.

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15,02	520213	2	Amber Warning Solid Analog voltage type 2C input 0 - pin A16: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 5 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
15,03	520213	3	Amber Warning Solid Analog voltage type 2C input 0 - pin A16: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 5 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
15,04	520213	4	Amber Warning Solid Analog voltage type 2C input 0 - pin A16: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 5 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
15.0D	520213	13	Amber Warning Solid Analog voltage type 2C input 0 - pin A16: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 5 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
15,10	520213	16	Amber Warning Solid Analog voltage type 2C input 0 - pin A16: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 5 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
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16,02	520214	2	Amber Warning Solid Analog voltage type 2C input 1 - pin A18: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 6 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
16,03	520214	3	Amber Warning Solid Analog voltage type 2C input 1 - pin A18: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 6 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
16,04	520214	4	Amber Warning Solid Analog voltage type 2C input 1 - pin A18: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 6 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
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16,10	520214	16	Amber Warning Solid Analog voltage type 2C input 1 - pin A18: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 6 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
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17,02	520215	2	Amber Warning Solid Analog voltage type 2C input 2 - pin B4: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 7 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error

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DANA	SAE J1939						
	SPN	FMI					
17,03	520215	3	Amber Warning Solid Analog voltage type 2C input 2 - pin B4: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 7 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
17,04	520215	4	Amber Warning Solid Analog voltage type 2C input 2 - pin B4: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 7 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
17.0D	520215	13	Amber Warning Solid Analog voltage type 2C input 2 - pin B4: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 7 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
17,10	520215	16	Amber Warning Solid Analog voltage type 2C input 2 - pin B4: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 7 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
17,12	520215	18	Amber Warning Solid Analog voltage type 2C input 2 - pin B4: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 7 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
18,02	520216	2	Amber Warning Solid Analog voltage type 2C input 3 - pin B8: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 8 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
18,03	520216	3	Amber Warning Solid Analog voltage type 2C input 3 - pin B8: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 8 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
18,04	520216	4	Amber Warning Solid Analog voltage type 2C input 3 - pin B8: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 8 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
18.0D	520216	13	Amber Warning Solid Analog voltage type 2C input 3 - pin B8: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 8 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
18,10	520216	16	Amber Warning Solid Analog voltage type 2C input 3 - pin B8: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 8 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
18,12	520216	18	Amber Warning Solid Analog voltage type 2C input 3 - pin B8: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 8 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
19,02	520217	2	Amber Warning Solid Analog voltage type 2C input 4 - pin B20: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 9 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
19,03	520217	3	Amber Warning Solid Analog voltage type 2C input 4 - pin B20: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 9 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
19,04	520217	4	Amber Warning Solid Analog voltage type 2C input 4 - pin B20: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 9 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
19,0D	520217	13	Amber Warning Solid Analog voltage type 2C input 4 - pin B20: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 9 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
19,10	520217	16	Amber Warning Solid Analog voltage type 2C input 4 - pin B20: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 9 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
19,12	520217	18	Amber Warning Solid Analog voltage type 2C input 4 - pin B20: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 9 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
1A,02	520218	2	Amber Warning Solid Resistive input 0 - pin A22: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 10 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
1A,03	520218	3	Amber Warning Solid Resistive input 0 - pin A22: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 10 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
1A,04	520218	4	Amber Warning Solid Resistive input 0 - pin A22: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 10 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
1A,0D	520218	13	Amber Warning Solid Resistive input 0 - pin A22: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 10 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
1A,10	520218	16	Amber Warning Solid Resistive input 0 - pin A22: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 10 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
1A,12	520218	18	Amber Warning Solid Resistive input 0 - pin A22: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 10 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
1B,02	520219	2	Amber Warning Solid Resistive input 1 - pin B32: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the analogue input 11 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
1B,03	520219	3	Amber Warning Solid Resistive input 1 - pin B32: Voltage Above Normal, or Shorted To High Source	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 11 is above the maximum allowed range. The input is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.
1B,04	520219	4	Amber Warning Solid Resistive input 1 - pin B32: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The measured value of analogue input 11 is below the minimum allowed range. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this analog input. - Check installation and operation of the device connected. - Refer to the other reported errors to identify the affected analogue input function.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
1B.0D	520219	13	Amber Warning Solid Resistive input 1 - pin B32: Out of Calibration	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	An analogue input function that needs to be calibrated is activated on analogue input 11 and it has not been calibrated yet.	- Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
1B.10	520219	16	Amber Warning Solid Resistive input 1 - pin B32: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 11 has exceeded the maximum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
1B.12	520219	18	Amber Warning Solid Resistive input 1 - pin B32: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Perform a calibration of the connected device.	The measured value of analogue input 11 has dropped below the minimum calibrated value. Either the device is faulty or there is a problem with the installation of it.	- Check for installation problems of the connected device. - Perform a calibration of the connected device. - Refer to the other reported errors to identify the affected analogue input function.
1C.02	520220	2	Stop Lamp Solid Low side output 0 - pin A5: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the low side power output 0 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
1C.03	520220	3	Stop Lamp Solid Low side output 0 - pin A5: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 0 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1C.04	520220	4	Stop Lamp Solid Low side output 0 - pin A5: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 0 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1C.05	520220	5	Stop Lamp Solid Low side output 0 - pin A5: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 0 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1C.06	520220	6	Stop Lamp Solid Low side output 0 - pin A5: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 0 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1C.0B	520220	11	Stop Lamp Solid Low side output 0 - pin A5: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of low side power output 0 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
1C.0C	520220	12	Stop Lamp Solid Low side output 0 - pin A5: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of low side power output 0 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1D.02	520221	2	Stop Lamp Solid Low side output 1 - pin A8: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the low side power output 1 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
1D.03	520221	3	Stop Lamp Solid Low side output 1 - pin A8: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 1 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1D.04	520221	4	Stop Lamp Solid Low side output 1 - pin A8: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 1 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1D.05	520221	5	Stop Lamp Solid Low side output 1 - pin A8: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 1 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1D.06	520221	6	Stop Lamp Solid Low side output 1 - pin A8: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 1 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1D.0B	520221	11	Stop Lamp Solid Low side output 1 - pin A8: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of low side power output 1 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1D.0C	520221	12	Stop Lamp Solid Low side output 1 - pin A8: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of low side power output 1 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1E.02	520222	2	Stop Lamp Solid Low side output 2 - pin A14: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the low side power output 2 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
1E.03	520222	3	Stop Lamp Solid Low side output 2 - pin A14: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 2 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1E.04	520222	4	Stop Lamp Solid Low side output 2 - pin A14: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 2 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1E.05	520222	5	Stop Lamp Solid Low side output 2 - pin A14: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 2 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1E.06	520222	6	Stop Lamp Solid Low side output 2 - pin A14: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 2 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1E.0B	520222	11	Stop Lamp Solid Low side output 2 - pin A14: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of low side power output 2 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1E.0C	520222	12	Stop Lamp Solid Low side output 2 - pin A14: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of low side power output 2 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1F.02	520223	2	Stop Lamp Solid Low side output 3 - pin B6: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the low side power output 3 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
1F.03	520223	3	Stop Lamp Solid Low side output 3 - pin B6: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 3 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
1F.04	520223	4	Stop Lamp Solid Low side output 3 - pin B6: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 3 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1F.05	520223	5	Stop Lamp Solid Low side output 3 - pin B6: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 3 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1F.06	520223	6	Stop Lamp Solid Low side output 3 - pin B6: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of low side power output 3 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1F.0B	520223	11	Stop Lamp Solid Low side output 3 - pin B6: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of low side power output 3 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
1F.0C	520223	12	Stop Lamp Solid Low side output 3 - pin B6: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of low side power output 3 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this low side power output. - Check installation and operation of the connected actuator.
20.02	520224	2	Stop Lamp Solid High side output 0 - pin B19: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 0 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
20.03	520224	3	Stop Lamp Solid High side output 0 - pin B19: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 0 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
20.04	520224	4	Stop Lamp Solid High side output 0 - pin B19: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 0 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
20,05	520224	5	Stop Lamp Solid High side output 0 - pin B19: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 0 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
20,06	520224	6	Stop Lamp Solid High side output 0 - pin B19: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 0 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
20.0B	520224	11	Stop Lamp Solid High side output 0 - pin B19: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 0 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
20.0C	520224	12	Stop Lamp Solid High side output 0 - pin B19: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 0 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
21,02	520225	2	Stop Lamp Solid High side output 1 - pin B30: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 1 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
21,03	520225	3	Stop Lamp Solid High side output 1 - pin B30: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 1 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
21,04	520225	4	Stop Lamp Solid High side output 1 - pin B30: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 1 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
21,05	520225	5	Stop Lamp Solid High side output 1 - pin B30: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 1 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
21,06	520225	6	Stop Lamp Solid High side output 1 - pin B30: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 1 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
21.0B	520225	11	Stop Lamp Solid High side output 1 - pin B30: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 1 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
21.0C	520225	12	Stop Lamp Solid High side output 1 - pin B30: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 1 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
22,02	520226	2	Stop Lamp Solid High side output 2 - pin B25: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 2 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
22,03	520226	3	Stop Lamp Solid High side output 2 - pin B25: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 2 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
22,04	520226	4	Stop Lamp Solid High side output 2 - pin B25: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 2 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
22,05	520226	5	Stop Lamp Solid High side output 2 - pin B25: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 2 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
22,06	520226	6	Stop Lamp Solid High side output 2 - pin B25: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 2 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.

ERROR CODE			DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939							
	SPN	FMI						
22.0B	520226	11	Stop Lamp Solid	High side output 2 - pin B25: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 2 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
22.0C	520226	12	Stop Lamp Solid	High side output 2 - pin B25: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 2 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
23.02	520227	2	Stop Lamp Solid	High side output 3 - pin B14: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 3 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
23.03	520227	3	Stop Lamp Solid	High side output 3 - pin B14: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 3 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
23.04	520227	4	Stop Lamp Solid	High side output 3 - pin B14: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 3 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
23.05	520227	5	Stop Lamp Solid	High side output 3 - pin B14: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 3 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
23.06	520227	6	Stop Lamp Solid	High side output 3 - pin B14: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 3 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
23.0B	520227	11	Stop Lamp Solid	High side output 3 - pin B14: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 3 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
23.0C	520227	12	Stop Lamp Solid	High side output 3 - pin B14: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 3 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
24.02	520228	2	Stop Lamp Solid	High side output 0 (I-feedback) - pin B22: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 4 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
24,03	520228	3	Stop Lamp Solid High side output 0 (I-feedback) - pin B22: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 3 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
24,04	520228	4	Stop Lamp Solid High side output 0 (I-feedback) - pin B22: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 4 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
24,05	520228	5	Stop Lamp Solid High side output 0 (I-feedback) - pin B22: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 4 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
24,06	520228	6	Stop Lamp Solid High side output 0 (I-feedback) - pin B22: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 4 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
24.0B	520228	11	Stop Lamp Solid High side output 0 (I-feedback) - pin B22: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 4 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
24.0C	520228	12	Stop Lamp Solid High side output 0 (I-feedback) - pin B22: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 4 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
25,02	520229	2	Stop Lamp Solid High side output 1 (I-feedback) - pin B18: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 5 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
25,03	520229	3	Stop Lamp Solid High side output 1 (I-feedback) - pin B18: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 5 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
25,04	520229	4	Stop Lamp Solid High side output 1 (I-feedback) - pin B18: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 5 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
25,05	520229	5	Stop Lamp Solid High side output 1 (I-feedback) - pin B18: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 5 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
25,06	520229	6	Stop Lamp Solid High side output 1 (I-feedback) - pin B18: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 5 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
25.0B	520229	11	Stop Lamp Solid High side output 1 (I-feedback) - pin B18: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 5 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
25.0C	520229	12	Stop Lamp Solid High side output 1 (I-feedback) - pin B18: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 5 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
26,02	520230	2	Stop Lamp Solid High side output 2 (I-feedback) - pin B31: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 6 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
26,03	520230	3	Stop Lamp Solid High side output 2 (I-feedback) - pin B31: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 6 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
26,04	520230	4	Stop Lamp Solid High side output 2 (I-feedback) - pin B31: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 6 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
26,05	520230	5	Stop Lamp Solid High side output 2 (I-feedback) - pin B31: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 6 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
26,06	520230	6	Stop Lamp Solid High side output 2 (I-feedback) - pin B31: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 6 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
26.0B	520230	11	Stop Lamp Solid High side output 2 (I-feedback) - pin B31: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 6 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
26.0C	520230	12	Stop Lamp Solid High side output 2 (I-feedback) - pin B31: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 6 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
27,02	520231	2	Stop Lamp Solid High side output 3 (I-feedback) - pin A1: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 7 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
27,03	520231	3	Stop Lamp Solid High side output 3 (I-feedback) - pin A1: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 7 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
27,04	520231	4	Stop Lamp Solid High side output 3 (I-feedback) - pin A1: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 7 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
27,05	520231	5	Stop Lamp Solid High side output 3 (I-feedback) - pin A1: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 7 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
27,06	520231	6	Stop Lamp Solid High side output 3 (I-feedback) - pin A1: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 7 detected the output is most likely in open circuit (loose connection).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
27.0B	520231	11	Stop Lamp Solid High side output 3 (I-feedback) - pin A1: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 7 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
27.0C	520231	12	Stop Lamp Solid High side output 3 (I-feedback) - pin A1: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 7 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
28,02	520232	2	Stop Lamp Solid High side output 4 (I-feedback) - pin B21: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the power output 8 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
28,03	520232	3	Stop Lamp Solid High side output 4 (I-feedback) - pin B21: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 8 detected the output is most likely shorted to battery plus (high source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
28,04	520232	4	Stop Lamp Solid High side output 4 (I-feedback) - pin B21: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 8 detected the output is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
28,05	520232	5	Stop Lamp Solid High side output 4 (I-feedback) - pin B21: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 8 detected the output is most likely in open circuit (loose connection).	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
28,06	520232	6	Stop Lamp Solid High side output 4 (I-feedback) - pin B21: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	Dynamic checking by the ECON.A of power output 8 detected the output is most likely in open circuit (loose connection).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
28.0B	520232	11	Stop Lamp Solid High side output 4 (I-feedback) - pin B21: Root Cause Not Known	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 8 detected the output is unknown.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
28.0C	520232	12	Stop Lamp Solid High side output 4 (I-feedback) - pin B21: Bad Intelligent Device or Component	ECON.A will revert to transmission shutdown mode and stay in shutdown. The vehicle will be stuck in neutral until the ECON.A is restarted and the error is inactive.	Contact maintenance for troubleshooting	Dynamic checking by the ECON.A of power output 8 detected the output is most likely protected for safety reasons.	- Check the wiring between the ECON.A and the device connected to this power output. - Check installation and operation of the connected actuator.
2A.02	520234	2	Amber Warning Solid Speed sensor input 0 - pin A3: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the speed input 0 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
2A.03	520234	3	Amber Warning Solid Speed sensor input 0 - pin A3: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. The reduced operation will depend on the speed function assigned to the input	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	The measured current in the speed sensor circuit is below normal. The input most likely has a loose connection or it is shorted to battery plus (high source).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2A.04	520234	4	Amber Warning Solid Speed sensor input 0 - pin A3: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. The reduced operation will depend on the speed function assigned to the input	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	The measured current in the speed sensor circuit is above normal. The input is most likely shorted to ground (low source).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2A.05	520234	5	Amber Warning Solid Speed sensor input 0 - pin A3: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The measured current in the speed sensor circuit is below normal. The input most likely has a loose connection or it is shorted to battery plus (high source).	- Check the wiring between the ECON.A and the sensor connected to this speed input. - Check installation and operation of the connected sensor. - Refer to the other reported errors to identify the affected speed function.
2A.06	520234	6	Amber Warning Solid Speed sensor input 0 - pin A3: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The measured current in the speed sensor circuit is above normal. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the sensor connected to this speed input. - Check installation and operation of the connected sensor. - Refer to the other reported errors to identify the affected speed function.
2B.02	520235	2	Amber Warning Solid Speed sensor input 1 - pin A6: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the speed input 1 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
2B.03	520235	3	Amber Warning Solid Speed sensor input 1 - pin A6: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. The reduced operation will depend on the speed function assigned to the input	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	The measured current in the speed sensor circuit is below normal. The input most likely has a loose connection or it is shorted to battery plus (high source).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
2B.04	520235	4	Amber Warning Solid Speed sensor input 1 - pin A6: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. The reduced operation will depend on the speed function assigned to the input	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	The measured current in the speed sensor circuit is above normal. The input is most likely shorted to ground (low source).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2B.05	520235	5	Amber Warning Solid Speed sensor input 1 - pin A6: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The measured current in the speed sensor circuit is below normal. The input most likely has a loose connection or it is shorted to battery plus (high source).	- Check the wiring between the ECON.A and the sensor connected to this speed input. - Check installation and operation of the connected sensor. - Refer to the other reported errors to identify the affected speed function.
2B.06	520235	6	Amber Warning Solid Speed sensor input 1 - pin A6: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The measured current in the speed sensor circuit is above normal. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the sensor connected to this speed input. - Check installation and operation of the connected sensor. - Refer to the other reported errors to identify the affected speed function.
2C.02	520236	2	Amber Warning Solid Speed sensor input 2 - pin B27: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the speed input 2 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
2C.03	520236	3	Amber Warning Solid Speed sensor input 2 - pin B27: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. The reduced operation will depend on the speed function assigned to the input	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	The measured current in the speed sensor circuit is below normal. The input most likely has a loose connection or it is shorted to battery plus (high source).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2C.04	520236	4	Amber Warning Solid Speed sensor input 2 - pin B27: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. The reduced operation will depend on the speed function assigned to the input	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	The measured current in the speed sensor circuit is above normal. The input is most likely shorted to ground (low source).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2C.05	520236	5	Amber Warning Solid Speed sensor input 2 - pin B27: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The measured current in the speed sensor circuit is below normal. The input most likely has a loose connection or it is shorted to battery plus (high source).	- Check the wiring between the ECON.A and the sensor connected to this speed input. - Check installation and operation of the connected sensor. - Refer to the other reported errors to identify the affected speed function.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
2C.06	520236	6	Amber Warning Solid Speed sensor input 2 - pin B27: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The measured current in the speed sensor circuit is above normal. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the sensor connected to this speed input. - Check installation and operation of the connected sensor. - Refer to the other reported errors to identify the affected speed function.
2D.02	520237	2	Amber Warning Solid Speed sensor input 3 - pin B29: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission restricted mode, because the speed input 3 will not be able to be interpreted by the controller.	Contact maintenance for troubleshooting	An internal ECU failure has been detected, probably something wrong with the working of the BSP.	- Check installation and operation of the device connected. - Refer to the other reported errors to get more information about the this error
2D.03	520237	3	Amber Warning Solid Speed sensor input 3 - pin B29: Voltage Above Normal, or Shorted To High Source	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. The reduced operation will depend on the speed function assigned to the input	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	The measured current in the speed sensor circuit is below normal. The input most likely has a loose connection or it is shorted to battery plus (high source).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2D.04	520237	4	Amber Warning Solid Speed sensor input 3 - pin B29: Voltage Below Normal, or Shorted To Low Source or Open Circuit	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. The reduced operation will depend on the speed function assigned to the input	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode .	The measured current in the speed sensor circuit is above normal. The input is most likely shorted to ground (low source).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2D.05	520237	5	Amber Warning Solid Speed sensor input 3 - pin B29: Current Below Normal, or Open Circuit, or Shorted to Battery+	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The measured current in the speed sensor circuit is below normal. The input most likely has a loose connection or it is shorted to battery plus (high source).	- Check the wiring between the ECON.A and the sensor connected to this speed input. - Check installation and operation of the connected sensor. - Refer to the other reported errors to identify the affected speed function.
2D.06	520237	6	Amber Warning Solid Speed sensor input 3 - pin B29: Current Above Normal, or Grounded Circuit	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this may alter to transmission limphome mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The measured current in the speed sensor circuit is above normal. The input is most likely shorted to ground (low source).	- Check the wiring between the ECON.A and the sensor connected to this speed input. - Check installation and operation of the connected sensor. - Refer to the other reported errors to identify the affected speed function.
30,09	520240	9	Amber Warning Solid Digital input function: Declutch: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function declutch not received within the expected timeframe.	- Check if CAN message containing the digital input function declutch value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
30,13	520240	19	Amber Warning Solid Digital input function: Declutch: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function declutch received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function declutch for requesting a valid value.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
31,09	520241	9	Amber Warning Solid Digital input function: Automatic/manual selection: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Automatic/Manual Shift not received within the expected timeframe.	- Check if CAN message containing the digital input function Automatic/Manual Shift value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
31,13	520241	19	Amber Warning Solid Digital input function: Automatic/manual selection: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Automatic/Manual Shift received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Automatic/Manual Shift for requesting a valid value.
32,09	520242	9	Amber Warning Solid Digital input function: Kickdown: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Kickdown not received within the expected timeframe.	- Check if CAN message containing the digital input function Kickdown value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
32,13	520242	19	Amber Warning Solid Digital input function: Kickdown: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Kickdown received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Kickdown for requesting a valid value.
33,09	520243	9	Amber Warning Solid Digital input function: Neutral lock reset: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Neutral Lock Reset not received within the expected timeframe.	- Check if CAN message containing the digital input function Neutral Lock value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
33,13	520243	19	Amber Warning Solid Digital input function: Neutral lock reset: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Neutral Lock Reset received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Neutral Lock for requesting a valid value.
34,02	520244	2	Amber Warning Solid Digital input function: Throttle pedal idle position: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	With a digital throttle idle and throttle full signal wired to the ECON.A, both signals are recognised as active on the same time.	Check the wiring between the ECON.A and the connected digital throttle pedal signals. Check installation and operation of the connected digital input signals.
34,09	520244	9	Amber Warning Solid Digital input function: Throttle pedal idle position: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Throttle Idle not received within the expected timeframe.	- Check if CAN message containing the digital input function Throttle Idle value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
34,13	520244	19	Amber Warning Solid Digital input function: Throttle pedal idle position: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Throttle Idle received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Throttle Idle for requesting a valid value.
35,02	520245	2	Amber Warning Solid Digital input function: Throttle pedal full position: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	With a digital throttle idle and throttle full signal wired to the ECON.A, both signals are recognised as active on the same time.	Check the wiring between the ECON.A and the connected digital throttle pedal signals. Check installation and operation of the connected digital input signals.
35,09	520245	9	Amber Warning Solid Digital input function: Throttle pedal full position: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Throttle Full not received within the expected timeframe.	- Check if CAN message containing the digital input function Throttle Full value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
35,13	520245	19	Amber Warning Solid Digital input function: Throttle pedal full position: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Throttle Full received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Throttle Full for requesting a valid value.
39,09	520249	9	Amber Warning Solid Digital input function: Parking brake: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Parking Brake not received within the expected timeframe.	- Check if CAN message containing the digital input function Parking Brake value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
39,13	520249	19	Amber Warning Solid Digital input function: Parking brake: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Parking Brake received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Parking Brake for requesting a valid value.
3A.09	520250	9	Amber Warning Solid Digital input function: Loaded/not loaded: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Loaded/Not Loaded not received within the expected timeframe.	- Check if CAN message containing the digital input function Start in 1st/2nd value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
3A.13	520250	19	Amber Warning Solid Digital input function: Loaded/not loaded: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Loaded/Not Loaded received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Start in 1st/2nd for requesting a valid value.
3B.09	520251	9	Amber Warning Solid Digital input function: Disconnect (4WD/2WD): Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Disconnect (4WD/2WD) not received within the expected timeframe.	- Check if CAN message containing the digital input function Disconnect value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
3B.13	520251	19	Amber Warning Solid Digital input function: Disconnect (4WD/2WD): Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Disconnect (4WD/2WD) received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Disconnect for requesting a valid value.
3C.09	520252	9	Amber Warning Solid Digital input function: High/Low range: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function High/Low Range not received within the expected timeframe.	- Check if CAN message containing the digital input function Low/High Speed Reduction value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
3C.13	520252	19	Amber Warning Solid Digital input function: High/Low range: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function High/Low Range received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Low/High Speed Reduction for requesting a valid value.
3D.09	520253	9	Amber Warning Solid Digital input function: Redundant neutral: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Redundant Neutral not received within the expected timeframe.	- Check if CAN message containing the digital input function Redundant Neutral value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
3D.13	520253	19	Amber Warning Solid Digital input function: Redundant neutral: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Redundant Neutral received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Redundant Neutral for requesting a valid value.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
3E.01	520254	1	Amber Warning Solid Digital input function: System pressure: Data Valid but Below Normal Operational Range - Most Severe	ECON.A will continue normal operation. Low system pressure can result in reduced vehicle performance (slipping clutches) and continuing normal vehicle operation can permanently damage the transmission.	Contact maintenance for troubleshooting	The digital input function System Pressure indicated there is no system pressure present (or low value) while the application expects to have normal pressure value.	Check oil level. Check functioning of system pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
3E.09	520254	9	Amber Warning Solid Digital input function: System pressure: Abnormal Update Rate	ECON.A will continue normal operation. Low system pressure can result in reduced vehicle performance (slipping clutches) and continuing normal vehicle operation can permanently damage the transmission.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function System Pressure not received within the expected timeframe.	- Check if CAN message containing the digital input function System Pressure value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
3E.13	520254	19	Amber Warning Solid Digital input function: System pressure: Received Network Data in Error	ECON.A will continue normal operation. Low system pressure can result in reduced vehicle performance (slipping clutches) and continuing normal vehicle operation can permanently damage the transmission.	Contact maintenance for troubleshooting	The expected value for the digital input function System Pressure received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function System Pressure for requesting a valid value.
3F.09	520255	9	Amber Warning Solid Digital input function: Brake pedal pressed: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Brake Pedal Pressed not received within the expected timeframe.	- Check if CAN message containing the digital input function Brake Pedal Pressed value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
3F.13	520255	19	Amber Warning Solid Digital input function: Brake pedal pressed: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Brake Pedal Pressed received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Brake Pedal Pressed for requesting a valid value.
40.09	520256	9	Amber Warning Solid Digital input function: Operator present protection: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Operator Presence not received within the expected timeframe.	- Check if CAN message containing the digital input function Operator Present value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
40.13	520256	19	Amber Warning Solid Digital input function: Operator present protection: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Operator Presence received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Operator Present for requesting a valid value.
41.09	520257	9	Amber Warning Solid Digital input function: Seat orientation: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Seat Orientation not received within the expected timeframe.	- Check if CAN message containing the digital input function Seat Orientation value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
41.13	520257	19	Amber Warning Solid Digital input function: Seat orientation: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Seat Orientation received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Seat Orientation for requesting a valid value.
42.09	520258	9	Amber Warning Solid Digital input function: Inhibit shifting: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Inhibit shift not received within the expected timeframe.	Check if CAN message containing the digital input function Inhibit shift value is sent correctly on the CAN bus. Check if the repetition rate of the CAN message is fast enough.
42.13	520258	19	Amber Warning Solid Digital input function: Inhibit shifting: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Inhibit shift received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function Inhibit shift for requesting a valid value.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
44,00	520260	0	Amber Warning Solid Digital input function: Oil temperature: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will continue normal operation. High oil temperature may result in reduced vehicle performance and continuing normal vehicle operation can permanently damage the transmission (oil and/or clutch burning).	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Oil Temperature not received within the expected timeframe.	Check if CAN message containing the digital input function oil temperature value is sent correctly on the CAN bus. Check if the repetition rate of the CAN message is fast enough.
44,02	520260	2	Amber Warning Solid Digital input function: Oil temperature: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. High oil temperature may result in reduced vehicle performance and continuing normal vehicle operation can permanently damage the transmission (oil and/or clutch burning).	Contact maintenance for troubleshooting	The digital input function Oil Temperature expects a valid digital input signal but received an invalid one.	Check the wiring between the ECON.A and the connected digital Oil Temperature input. Check installation and operation of the connected digital input signals.
44,09	520260	9	Amber Warning Solid Digital input function: Oil temperature: Abnormal Update Rate	ECON.A will continue normal operation. High oil temperature may result in reduced vehicle performance and continuing normal vehicle operation can permanently damage the transmission (oil and/or clutch burning).	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Oil Temperature not received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function oil temperature for requesting a valid value.
44,13	520260	19	Amber Warning Solid Digital input function: Oil temperature: Received Network Data in Error	ECON.A will continue normal operation. High oil temperature may result in reduced vehicle performance and continuing normal vehicle operation can permanently damage the transmission (oil and/or clutch burning).	Contact maintenance for troubleshooting	The expected value for the digital input function Oil Temperature received by the corresponding CAN message contains an invalid or unavailable value.	refer to the other reported errors to get more information about the nature of the configuration problem solve the configuration problem by activating a working configuration or manually correcting the faulty one
45,09	520261	9	Amber Warning Solid Digital input function: Lockup enable: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Lockup Enable not received within the expected timeframe.	Check if CAN message containing the digital input function lockup enable value is sent correctly on the CAN bus. Check if the repetition rate of the CAN message is fast enough.
45,13	520261	19	Amber Warning Solid Digital input function: Lockup enable: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Lockup Enable received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function lockup enable for requesting a valid value.
46,09	520262	9	Amber Warning Solid Digital input function: Exhaust brake: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Exhaust Brake not received within the expected timeframe.	Check if CAN message containing the digital input function exhaust brake value is sent correctly on the CAN bus. Check if the repetition rate of the CAN message is fast enough.
46,13	520262	19	Amber Warning Solid Digital input function: Exhaust brake: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Exhaust Brake received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function exhaust brake for requesting a valid value.
47,09	520263	9	Amber Warning Solid Digital input function: Retarder brake: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Retarder Brake not received within the expected timeframe.	Check if CAN message containing the digital input function retarder brake value is sent correctly on the CAN bus. Check if the repetition rate of the CAN message is fast enough.
47,13	520263	19	Amber Warning Solid Digital input function: Retarder brake: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Retarder Brake received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function retarder brake for requesting a valid value.
48,09	520264	9	Amber Warning Solid Digital input function: High idle: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function High Idle not received within the expected timeframe.	Check if CAN message containing the digital input function high idle value is sent correctly on the CAN bus. Check if the repetition rate of the CAN message is fast enough.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
48,13	520264	19	Amber Warning Solid Digital input function: High idle: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function High Idle received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function high idle for requesting a valid value.
54,02	520276	2	Amber Warning Solid Limit gear position: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The function Limit Gearpos expects a valid digital or CAN input signal but received an invalid one.	Check the wiring between the ECON.A and the connected input (digital or CAN). Check installation and operation of the connected digital input signals. Verify the configset parameter Limit Gearpos is configured correctly
54,09	520276	9	Amber Warning Solid Limit gear position: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function Limit gearpos not received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function limit gearpos for requesting a valid value.
54,13	520276	19	Amber Warning Solid Limit gear position: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function Limit Gearpos received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function limit gearpos for requesting a valid value.
55,09	520277	9	Amber Warning Solid Digital input function: Custom function 1: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 1, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 1 for requesting a valid value.
55,13	520277	19	Amber Warning Solid Digital input function: Custom function 1: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 1, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 1 for requesting a valid value.
56,09	520278	9	Amber Warning Solid Digital input function: Custom function 2: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 2, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 2 for requesting a valid value.
56,13	520278	19	Amber Warning Solid Digital input function: Custom function 2: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 2, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 2 for requesting a valid value.
57,09	520279	9	Amber Warning Solid Digital input function: Custom function 3: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 3, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 3 for requesting a valid value.
57,13	520279	19	Amber Warning Solid Digital input function: Custom function 3: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 3, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 3 for requesting a valid value.
58,09	520280	9	Amber Warning Solid Digital input function: Custom function 4: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 4, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 4 for requesting a valid value.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
58,13	520280	19	Amber Warning Solid Digital input function: Custom function 4: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 4, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 4 for requesting a valid value.
59,09	520281	9	Amber Warning Solid Digital input function: Custom function 5: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 5, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 5 for requesting a valid value.
59,13	520281	19	Amber Warning Solid Digital input function: Custom function 5: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 5, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 5 for requesting a valid value.
5A,09	520282	9	Amber Warning Solid Digital input function: Custom function 6: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 6, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 6 for requesting a valid value.
5A,13	520282	19	Amber Warning Solid Digital input function: Custom function 6: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 6, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 6 for requesting a valid value.
5B,09	520283	9	Amber Warning Solid Digital input function: Custom function 7: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 7, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 7 for requesting a valid value.
5B,13	520283	19	Amber Warning Solid Digital input function: Custom function 7: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 7, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 7 for requesting a valid value.
5C,09	520284	9	Amber Warning Solid Digital input function: Custom function 8: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 8, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 8 for requesting a valid value.
5C,13	520284	19	Amber Warning Solid Digital input function: Custom function 8: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 8, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 8 for requesting a valid value.
5D,09	520285	9	Amber Warning Solid Digital input function: Custom function 9: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 9, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 9 for requesting a valid value.
5D,13	520285	19	Amber Warning Solid Digital input function: Custom function 9: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 9, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 9 for requesting a valid value.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
5E.09	520286	9	Amber Warning Solid Digital input function:Custom function 10: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	CAN message containing value for the digital input function, assigned to the Custom Function 10, received within the expected timeframe.	Check the source signal from the CAN message containing the digital input function assigned to custom function 10 for requesting a valid value.
5E.13	520286	19	Amber Warning Solid Digital input function:Custom function 10: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting	The expected value for the digital input function, assigned to the Custom Function 10, received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the digital input function assigned to custom function 10 for requesting a valid value.
5F.02	520287	2	Stop Lamp Solid Shiftablever: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission shutdown mode, when the vehiclespeed is low enough, this will alter to transmission limphome mode. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted.	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Driver cannot operate the vehicle in transmission shutdown mode.	With a shiftablever wired to the ECON.A, an undefined input pattern is detected on the relevant inputs.	Check the wiring between the ECON.A and the connected shiftablever signals. Check installation and operation of the connected digital input signals.
5F.09	520287	9	Stop Lamp Solid Shiftablever: Abnormal Update Rate	ECON.A will revert to transmission shutdown mode, when the vehiclespeed is low enough, this will alter to transmission limphome mode. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted.	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Driver cannot operate the vehicle in transmission shutdown mode.	CAN message containing value for the shiftablever function not received within the expected timeframe.	- Check if CAN message containing the shiftablever function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
5F.13	520287	19	Stop Lamp Solid Shiftablever: Received Network Data in Error	ECON.A will revert to transmission shutdown mode, when the vehiclespeed is low enough, this will alter to transmission limphome mode. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted.	Contact maintenance for troubleshooting. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation). Driver cannot operate the vehicle in transmission shutdown mode.	The expected value for the shiftablever function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the shiftablever function for requesting a valid value.
60.02	520288	2	Amber Warning Solid Analog input function: Throttle pedal: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	With the Transmission Throttle Pedal signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the Throttle Pedal signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the Throttle Pedal sensor on the relevant analog input. - Check installation and operation of the sensor connected.
60.09	520288	9	Amber Warning Solid Analog input function: Throttle pedal: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Throttle Pedal function not received within the expected timeframe.	- Check if CAN message containing the Throttle Pedal function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
60.13	520288	19	Amber Warning Solid Analog input function: Throttle pedal: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Throttle Pedal function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Throttle Pedal function for requesting a valid value.
61.02	520289	2	Amber Warning Solid Analog input function: Brake pedal: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	With the Transmission Brake Pedal signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the Brake Pedal signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the Brake Pedal sensor on the relevant analog input. - Check installation and operation of the sensor connected.
61.09	520289	9	Amber Warning Solid Analog input function: Brake pedal: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Brake Pedal function not received within the expected timeframe.	- Check if CAN message containing the Brake Pedal function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
61,13	520289	19	Amber Warning Solid Analog input function: Brake pedal: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Brake Pedal function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Brake Pedal function for requesting a valid value.
62,00	520290	0	Amber Warning Solid Analog input function: Transmission sump temperature: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will revert to neutral direction. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, neutral has to be selected first, in order to select a new direction.	Immediately decrease intensity of use of vehicle until fault disappears to avoid permanent damage to the transmission. If the fault does not disappear, contact maintenance for troubleshooting.	Transmission Sump Temperature exceeded the alarm limit for some time, probably due to extremely intensive usage of the vehicle or to a problem with the hydraulic cooling unit, possibly in combination with high temperature climate	- probably no servicing action needed, just temporary reduction of vehicle usage intensity to allow transmission to cool down. - if problem persists, Check functioning of transmission cooler.
62,02	520290	2	Amber Warning Solid Analog input function: Transmission sump temperature: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to neutral direction. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, neutral has to be selected first, in order to select a new direction.	Contact maintenance for troubleshooting	With the Transmission Sump Temperature signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the Transmission Sump Temperature signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the Transmission Sump Temperature sensor on the relevant analog input. - Check installation and operation of the sensor connected.
62,09	520290	9	Amber Warning Solid Analog input function: Transmission sump temperature: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Transmission Sump Temperature function not received within the expected timeframe.	- Check if CAN message containing the Transmission Sump Temperature function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
62,10	520290	16	Amber Warning Solid Analog input function: Transmission sump temperature: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Decrease intensity of use of vehicle until warning disappears. If the warning does not disappear, contact maintenance for troubleshooting.	Transmission Sump Temperature exceeded the warning limit for some time, probably due to extremely intensive usage of the vehicle or to a problem with the hydraulic cooling unit, possibly in combination with high temperature climate	- probably no servicing action needed, just temporary reduction of vehicle usage intensity to allow transmission to cool down. - if problem persists, Check functioning of transmission cooler.
62,13	520290	19	Amber Warning Solid Analog input function: Transmission sump temperature: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Transmission Sump Temperature function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Transmission Sump Temperature function for requesting a valid value.
63,00	520291	0	Stop Lamp Solid Analog input function: Transmission converter out temperature: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will revert to neutral direction. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, neutral has to be selected first, in order to select a new direction.	Immediately decrease intensity of use of vehicle until fault disappears to avoid permanent damage to the transmission. If the fault does not disappear, contact maintenance for troubleshooting.	Transmission Cooler In Temperature exceeded the alarm limit, probably due to extremely intensive usage of the vehicle or to a problem with the hydraulic cooling unit, possibly in combination with high temperature climate	- probably no servicing action needed, just temporary reduction of vehicle usage intensity to allow transmission to cool down. - if problem persists, Check functioning of transmission cooler.
63,02	520291	2	Stop Lamp Solid Analog input function: Transmission converter out temperature: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to neutral direction. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, neutral has to be selected first, in order to select a new direction.	Contact maintenance for troubleshooting	With the Transmission Cooler In Temperature signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the Transmission Cooler In Temperature signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the Transmission Cooler In Temperature sensor on the relevant analog input. - Check installation and operation of the sensor connected.
63,09	520291	9	Stop Lamp Solid Analog input function: Transmission converter out temperature: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Transmission Cooler In Temperature function not received within the expected timeframe.	- Check if CAN message containing the Transmission Cooler In Temperature function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
63,10	520291	16	Stop Lamp Solid Analog input function: Transmission converter out temperature: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is a warning indication. High oil temperature may result in reduced vehicle performance and continuing normal vehicle operation can permanently damage the transmission (oil and/or clutch burning).	Decrease intensity of use of vehicle until warning disappears. If the warning does not disappear, contact maintenance for troubleshooting.	Transmission Cooler In Temperature exceeded the warning limit, probably due to extremely intensive usage of the vehicle or to a problem with the hydraulic cooling unit, possibly in combination with high temperature climate	- probably no servicing action needed, just temporary reduction of vehicle usage intensity to allow transmission to cool down. - if problem persists, check functioning of transmission cooler.
63,13	520291	19	Stop Lamp Solid Analog input function: Transmission converter out temperature: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Transmission Cooler In Temperature function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Transmission Cooler In Temperature function for requesting a valid value.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
65,01	520293	1	Stop Lamp Solid Analog input function: System pressure: Data Valid but Below Normal Operational Range - Most Severe	ECON.A will continue normal operation. Low system pressure can result in reduced vehicle performance (slipping clutches) and continuing normal vehicle operation can permanently damage the transmission.	Immediately decrease use of vehicle until fault disappears to avoid permanent damage to the transmission. If the fault does not disappear, contact maintenance for troubleshooting as soon as possible	System Pressure dropped below the alarm limit while the application expects to have normal pressure value.	Check oil level. Check functioning of system pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
65,02	520293	2	Amber Warning Solid Analog input function: System pressure: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. Low system pressure can result in reduced vehicle performance (slipping clutches) and continuing normal vehicle operation can permanently damage the transmission.	Contact maintenance for troubleshooting	With the Transmission System Pressure signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the System Pressure signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the System Pressure sensor on the relevant analog input. - Check installation and operation of the sensor connected.
65,09	520293	9	Stop Lamp Solid Analog input function: System pressure: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the System Pressure function not received within the expected timeframe.	- Check if CAN message containing the System Pressure function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
65,13	520293	19	Stop Lamp Solid Analog input function: System pressure: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the System Pressure function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the System Pressure function for requesting a valid value.
66,02	520294	2	Amber Warning Solid Analog input function: Forward clutch pressure: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	With the Transmission Forward Clutch Pressure signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the Forward Clutch Pressure signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the Forward Clutch Pressure sensor on the relevant analog input. - Check installation and operation of the sensor connected.
66,09	520294	9	Amber Warning Solid Analog input function: Forward clutch pressure: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Forward Clutch Pressure function not received within the expected timeframe.	- Check if CAN message containing the Forward Clutch Pressure function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
66,13	520294	19	Amber Warning Solid Analog input function: Forward clutch pressure: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Forward Clutch Pressure function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Forward Clutch Pressure function for requesting a valid value.
67,02	520295	2	Amber Warning Solid Analog input function: Reverse clutch pressure: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	With the Transmission Reverse Clutch Pressure signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the Reverse Clutch Pressure signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the Reverse Clutch Pressure sensor on the relevant analog input. - Check installation and operation of the sensor connected.
67,09	520295	9	Amber Warning Solid Analog input function: Reverse clutch pressure: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Reverse Clutch Pressure function not received within the expected timeframe.	- Check if CAN message containing the Reverse Clutch Pressure function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
67,13	520295	19	Amber Warning Solid Analog input function: Reverse clutch pressure: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Reverse Clutch Pressure function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Reverse Clutch Pressure function for requesting a valid value.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
68,02	520296	2	Amber Warning Solid Analog input function: Forward High clutch pressure: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	With the Transmission Forward High Clutch Pressure signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the Forward High Clutch Pressure signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the Forward High Clutch Pressure sensor on the relevant analog input. - Check installation and operation of the sensor connected.
68,09	520296	9	Amber Warning Solid Analog input function: Forward High clutch pressure: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Forward high Clutch Pressure function not received within the expected timeframe.	- Check if CAN message containing the Forward high Clutch Pressure function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
68,13	520296	19	Amber Warning Solid Analog input function: Forward High clutch pressure: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Forward high Clutch Pressure function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Forward high Clutch Pressure function for requesting a valid value.
69,00	520297	0	Amber Warning Solid Analog input function: 1st clutch pressure: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	1st Clutch pressure is above the alarm limit while the application expects to have normal pressure value.	Check oil level. Check functioning of 1st Clutch pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
69,02	520297	2	Amber Warning Solid Analog input function: 1st clutch pressure: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	Therefore the ECON.A can not determine the 1st Clutch Pressure signal value.	Refer to the other reported errors to get more information about the problem Check the wiring between the ECON.A and the 1st Clutch pressure sensor on the relevant analog input. Check installation and operation of the sensor connected.
69,09	520297	9	Amber Warning Solid Analog input function: 1st clutch pressure: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the 1st Clutch Pressure function not received within the expected timeframe.	- Check if CAN message containing the 1st Clutch Pressure function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
69,10	520297	16	Amber Warning Solid Analog input function: 1st clutch pressure: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is a warning indication. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	1st Clutch pressure is above the warning limit while the application expects to have normal pressure value.	Check oil level. Check functioning of 1st Clutch pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
69,13	520297	19	Amber Warning Solid Analog input function: 1st clutch pressure: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the 1st Clutch Pressure function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the 1st Clutch Pressure function for requesting a valid value.
6A.00	520298	0	Amber Warning Solid Analog input function: 2nd clutch pressure: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	2nd Clutch pressure is above the alarm limit while the application expects to have normal pressure value.	Check oil level. Check functioning of 2nd Clutch pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
6A.02	520298	2	Amber Warning Solid Analog input function: 2nd clutch pressure: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	Therefore the ECON.A can not determine the 2nd Clutch Pressure signal value.	Refer to the other reported errors to get more information about the problem Check the wiring between the ECON.A and the 2nd Clutch pressure sensor on the relevant analog input. Check installation and operation of the sensor connected.
6A.09	520298	9	Amber Warning Solid Analog input function: 2nd clutch pressure: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the 2nd Clutch Pressure function not received within the expected timeframe.	- Check if CAN message containing the 2nd Clutch Pressure function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
6A.10	520298	16	Amber Warning Solid Analog input function: 2nd clutch pressure: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is a warning indication. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	2nd Clutch pressure is above the warning limit while the application expects to have normal pressure value.	Check oil level. Check functioning of 2nd Clutch pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
6A.13	520298	19	Amber Warning Solid Analog input function: 2nd clutch pressure: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the 2nd Clutch Pressure function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the 2nd Clutch Pressure function for requesting a valid value.
6B.00	520299	0	Amber Warning Solid Analog input function: 3rd clutch pressure: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	3rd Clutch pressure is above the alarm limit while the application expects to have normal pressure value.	Check oil level. Check functioning of 3rd Clutch pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
6B.02	520299	2	Amber Warning Solid Analog input function: 3rd clutch pressure: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	Therefore the ECON.A can not determine the 3rd Clutch Pressure signal value.	Refer to the other reported errors to get more information about the problem Check the wiring between the ECON.A and the 3rd Clutch pressure sensor on the relevant analog input. Check installation and operation of the sensor connected.
6B.09	520299	9	Amber Warning Solid Analog input function: 3rd clutch pressure: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the 3rd Clutch Pressure function not received within the expected timeframe.	- Check if CAN message containing the 3rd Clutch Pressure function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
6B.10	520299	16	Amber Warning Solid Analog input function: 3rd clutch pressure: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is a warning indication. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	3rd Clutch pressure is above the warning limit while the application expects to have normal pressure value.	Check oil level. Check functioning of 3rd Clutch pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
6B.13	520299	19	Amber Warning Solid Analog input function: 3rd clutch pressure: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the 3rd Clutch Pressure function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the 3rd Clutch Pressure function for requesting a valid value.
6C.00	520300	0	Amber Warning Solid Analog input function: 4th clutch pressure: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	4th Clutch pressure is above the alarm limit while the application expects to have normal pressure value.	Check oil level. Check functioning of 4th Clutch pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
6C.02	520300	2	Amber Warning Solid Analog input function: 4th clutch pressure: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	Therefore the ECON.A can not determine the 4th Clutch Pressure signal value.	Refer to the other reported errors to get more information about the problem Check the wiring between the ECON.A and the 4th Clutch pressure sensor on the relevant analog input. Check installation and operation of the sensor connected.
6C.09	520300	9	Amber Warning Solid Analog input function: 4th clutch pressure: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the 4th Clutch Pressure function not received within the expected timeframe.	- Check if CAN message containing the 4th Clutch Pressure function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
6C.10	520300	16	Amber Warning Solid Analog input function: 4th clutch pressure: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is a warning indication. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	4th Clutch pressure is above the warning limit while the application expects to have normal pressure value.	Check oil level. Check functioning of 4th Clutch pressure switch. If problem persists, check transmission system pressure for mechanical/hydraulic problem
6C.13	520300	19	Amber Warning Solid Analog input function: 4th clutch pressure: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the 4th Clutch Pressure function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the 4th Clutch Pressure function for requesting a valid value.
6D.02	520301	2	Amber Warning Solid Analog input function: Forward Reverse Lever 1 Positive: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	Therefore the ECON.A can not determine the Forward Reverse Lever 1 signal value.	Refer to the other reported errors to get more information about the problem Check the wiring between the ECON.A and the Forward Reverse Lever 1 sensor on the relevant analog input. Check installation and operation of the sensor connected.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
6D.09	520301	9	Amber Warning Solid Analog input function: Forward Reverse Lever 1 Positive: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Forward Reverse Lever 1 function not received within the expected timeframe.	- Check if CAN message containing the Forward Reverse Lever 1 function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
6D.13	520301	19	Amber Warning Solid Analog input function: Forward Reverse Lever 1 Positive: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Forward Reverse Lever 1 function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Forward Reverse Lever 1 function for requesting a valid value.
6E.02	520302	2	Amber Warning Solid Analog input function: Forward Reverse Lever 1 Negative: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	Therefore the ECON.A can not determine the Forward Reverse Lever 1 signal value.	Refer to the other reported errors to get more information about the problem Check the wiring between the ECON.A and the Forward Reverse Lever 1 sensor on the relevant analog input. Check installation and operation of the sensor connected.
6E.09	520302	9	Amber Warning Solid Analog input function: Forward Reverse Lever 1 Negative: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Forward Reverse Lever 1 function not received within the expected timeframe.	- Check if CAN message containing the Forward Reverse Lever 2 function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
6E.13	520302	19	Amber Warning Solid Analog input function: Forward Reverse Lever 1 Negative: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Forward Reverse Lever 1 function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Forward Reverse Lever 2 function for requesting a valid value.
6F.02	520303	2	Amber Warning Solid Analog input function: Forward Reverse Lever 2 Positive: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	Therefore the ECON.A can not determine the Forward Reverse Lever 2 signal value.	Refer to the other reported errors to get more information about the problem Check the wiring between the ECON.A and the Forward Reverse Lever 2 sensor on the relevant analog input. Check installation and operation of the sensor connected.
6F.09	520303	9	Amber Warning Solid Analog input function: Forward Reverse Lever 2 Positive: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Forward Reverse Lever 2 function not received within the expected timeframe.	- Check if CAN message containing the Forward Reverse Lever 2 function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
6F.13	520303	19	Amber Warning Solid Analog input function: Forward Reverse Lever 2 Positive: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Forward Reverse Lever 2 function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Forward Reverse Lever 2 function for requesting a valid value.
70.02	520304	2	Amber Warning Solid Analog input function: Forward Reverse Lever 2 Negative: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting	Therefore the ECON.A can not determine the Forward Reverse Lever 2 signal value.	Refer to the other reported errors to get more information about the problem Check the wiring between the ECON.A and the Forward Reverse Lever 2 sensor on the relevant analog input. Check installation and operation of the sensor connected.
70.09	520304	9	Amber Warning Solid Analog input function: Forward Reverse Lever 2 Negative: Abnormal Update Rate	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	CAN message containing value for the Forward Reverse Lever 2 function not received within the expected timeframe.	- Check if CAN message containing the Forward Reverse Lever 2 function value is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
70.13	520304	19	Amber Warning Solid Analog input function: Forward Reverse Lever 2 Negative: Received Network Data in Error	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting	The expected value for the Forward Reverse Lever 2 function received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the Forward Reverse Lever 2 function for requesting a valid value.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
7A.02	520314	2	Stop Lamp Solid Speed sensor input function: Engine speed: Data Erratic, Intermittent, or Incorrect	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp-home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp-home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp-home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	With the engine speed signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the engine speed signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the engine speed sensor on the relevant speed input. - Check installation and operation of the sensor connected.
7A.09	520314	9	Stop Lamp Solid Speed sensor input function: Engine speed: Abnormal Update Rate	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp-home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp-home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp-home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	CAN message containing value for the engine speed signal not received within the expected timeframe.	- Check if CAN message containing the engine speed signal is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
7A.13	520314	19	Stop Lamp Solid Speed sensor input function: Engine speed: Received Network Data in Error	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp-home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp-home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp-home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The expected value for the engine speed signal received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the engine speed signal for sending a valid value.
7B.02	520315	2	Amber Warning Solid Speed sensor input function: Turbine speed: Data Erratic, Intermittent, or Incorrect	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. The vehicle will be stuck in neutral ; When the fault has disappeared, the ECON.A must be restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting	With the turbine speed signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the turbine speed signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the turbine speed sensor on the relevant speed input. - Check installation and operation of the sensor connected.
7B.09	520315	9	Amber Warning Solid Speed sensor input function: Turbine speed: Abnormal Update Rate	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp-home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp-home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp-home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	CAN message containing value for the turbine speed signal not received within the expected timeframe.	- Check if CAN message containing the turbine speed signal is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
7B.13	520315	19	Amber Warning Solid Speed sensor input function: Turbine speed: Received Network Data in Error	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp-home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp-home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp-home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The expected value for the turbine speed signal received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the turbine speed signal for sending a valid value.
7C.02	520316	2	Amber Warning Solid Speed sensor input function: Drum speed: Data Erratic, Intermittent, or Incorrect	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function : the vehicle will be stuck in neutral ; when the vehiclespeed is low enough, ECON.A may only operate in transmission limp-home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp-home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	With the drum speed signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the drum speed signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the drum speed sensor on the relevant speed input. - Check installation and operation of the sensor connected.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
7C.09	520316	9	Amber Warning Solid Speed sensor input function: Drum speed: Abnormal Update Rate	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	CAN message containing value for the drum speed signal not received within the expected timeframe.	- Check if CAN message containing the drum speed signal is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
7C.13	520316	19	Amber Warning Solid Speed sensor input function: Drum speed: Received Network Data in Error	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The expected value for the drum speed signal received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the drum speed signal for sending a valid value.
7D.02	520317	2	Stop Lamp Solid Speed sensor input function: Output speed: Data Erratic, Intermittent, or Incorrect	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function : the vehicle will be stuck in neutral ; the vehicle must come to a standstill, and the ECON.A will need to be restarted. After restart, the vehicle will only operate in transmission limp home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	With the drum speed signal wired to the ECON.A, an electrical problem is detected. Therefore the ECON.A can not determine the drum speed signal value.	- refer to the other reported errors to get more information about the electrical problem - Check the wiring between the ECON.A and the drum speed sensor on the relevant speed input. - Check installation and operation of the sensor connected.
7D.09	520317	9	Stop Lamp Solid Speed sensor input function: Output speed: Abnormal Update Rate	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	CAN message containing value for the output speed signal not received within the expected timeframe.	- Check if CAN message containing the output speed signal is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
7D.13	520317	19	Stop Lamp Solid Speed sensor input function: Output speed: Received Network Data in Error	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function. When the vehiclespeed is low enough, this will alter to transmission limp home mode : the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp home mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	In transmission limp home mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible.	The expected value for the output speed signal received by the corresponding CAN message contains an invalid or unavailable value.	Check the source signal from the CAN message containing the output speed signal for sending a valid value.
7E.00	520318	0	Stop Lamp Solid Engine limit speed: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will trigger the warning lamp.	Immediately decrease intensity of use of vehicle until fault disappears to avoid permanent damage to the transmission. If the fault does not disappear, contact maintenance for troubleshooting.	Engine limit speed exceeded the alarm limit for some time, probably due to extremely intensive usage of the vehicle .	- probably no servicing action needed, just temporary reduction of vehicle usage intensity to allow transmission to cool down.
7E.10	520318	16	Stop Lamp Solid Engine limit speed: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will trigger the warning lamp.	Immediately decrease intensity of use of vehicle until fault disappears to avoid permanent damage to the transmission. If the fault does not disappear, contact maintenance for troubleshooting.	Engine limit speed exceeded the alarm limit for some time, probably due to extremely intensive usage of the vehicle .	- probably no servicing action needed, just temporary reduction of vehicle usage intensity to allow transmission to cool down.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
7F.00	520319	0	Stop Lamp Solid Engine limit torque: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will revert to neutral direction. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, neutral has to be selected first, in order to select a new direction.	Immediately decrease intensity of use of vehicle until fault disappears to avoid permanent damage to the transmission. If the fault does not disappear, contact maintenance for troubleshooting.	Engine limit torque exceeded the alarm limit for some time, probably due to extremely intensive usage of the vehicle .	- probably no servicing action needed, just temporary reduction of vehicle usage intensity to allow transmission to cool down.
7F.10	520319	16	Stop Lamp Solid Engine limit torque: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will trigger the warning lamp.	Immediately decrease intensity of use of vehicle until fault disappears to avoid permanent damage to the transmission. If the fault does not disappear, contact maintenance for troubleshooting.	Engine limit torque exceeded the alarm limit for some time, probably due to extremely intensive usage of the vehicle .	- probably no servicing action needed, just temporary reduction of vehicle usage intensity to allow transmission to cool down.
90.00	520336	0	Stop Lamp Flashing APC permanent power supply line - pin A7: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Permanent Power Supply exceeded the alarm limit. Correct operation of ECON.A is not guaranteed anymore, so transmission shutdown mode is activated.	Check permanent power supply for abnormal values
90.01	520336	1	Stop Lamp Flashing APC permanent power supply line - pin A7: Data Valid but Below Normal Operational Range - Most Severe	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Permanent Power Supply has dropped below the alarm limit. Correct operation of ECON.A is not guaranteed anymore, so transmission shutdown mode is activated.	Check permanent power supply for abnormal values
90.02	520336	2	Amber Warning Solid APC permanent power supply line - pin A7: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Permanent Power Supply is unknown	Check permanent power supply for abnormal values
90.10	520336	16	Amber Warning Solid APC permanent power supply line - pin A7: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC Permanent Power Supply exceeded the warning limit.	Check permanent power supply for abnormal values
90.12	520336	18	Amber Warning Solid APC permanent power supply line - pin A7: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC Permanent Power Supply has dropped below the warning limit.	Check permanent power supply for abnormal values
91.00	520337	0	Stop Lamp Flashing APC switched power supply line 1- pin A2 - A4: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Switched Power Supply exceeded the alarm limit. Correct operation of ECON.A is not guaranteed anymore, so transmission shutdown mode is activated.	Check switched power supply for abnormal values
91.01	520337	1	Stop Lamp Flashing APC switched power supply line 1- pin A2 - A4: Data Valid but Below Normal Operational Range - Most Severe	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Switched Power Supply has dropped below the alarm limit. Correct operation of ECON.A is not guaranteed anymore so ECON.A shutdown mode is activated.	Check switched power supply for abnormal values
91.02	520337	2	Amber Warning Solid APC switched power supply line 1- pin A2 - A4: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Switched Power Supply is unknown	Check switched power supply for abnormal values
91.10	520337	16	Amber Warning Solid APC switched power supply line 1- pin A2 - A4: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC Switched Power Supply exceeded the warning limit.	Check switched supply for abnormal values
91.12	520337	18	Amber Warning Solid APC switched power supply line 1- pin A2 - A4: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC Switched Power Supply has dropped below the warning limit.	Check switched power supply for abnormal values
92.00	520338	0	Stop Lamp Flashing APC switched power supply line 2- pin B7 - B9: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Switched Power Supply exceeded the alarm limit. Correct operation of ECON.A is not guaranteed anymore, so transmission shutdown mode is activated.	Check switched power supply for abnormal values
92.01	520338	1	Stop Lamp Flashing APC switched power supply line 2- pin B7 - B9: Data Valid but Below Normal Operational Range - Most Severe	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Switched Power Supply has dropped below the alarm limit. Correct operation of ECON.A is not guaranteed anymore so ECON.A shutdown mode is activated.	Check switched power supply for abnormal values
92.02	520338	2	Amber Warning Solid APC switched power supply line 2- pin B7 - B9: Data Erratic, Intermittent, or Incorrect	ECON.A will revert to transmission shutdown mode. After the fault has disappeared, the ECON.A has to be restarted in order to select a new direction.	Contact maintenance for troubleshooting. Driver cannot operate the vehicle in transmission shutdown mode.	APC Switched Power Supply is unknown	Check switched power supply for abnormal values

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
92,10	520338	16	Amber Warning Solid APC switched power supply line 2- pin B7 - B9: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC Switched Power Supply exceeded the warning limit.	Check switched supply for abnormal values
92,12	520338	18	Amber Warning Solid APC switched power supply line 2- pin B7 - B9: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC Switched Power Supply has dropped below the warning limit.	Check switched power supply for abnormal values
93,00	520339	0	Stop Lamp Flashing APC external sensor reference power supply 5V line - pin A12 - B10: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting.	APC External Sensor Reference Power Supply exceeded the alarm limit.	- Refer to the other reported errors to identify the affected analogue input functions. - Check the wiring between the ECON.A and all devices connected to this supply line. - Check installation and operation of all connected devices.
93,01	520339	1	Stop Lamp Flashing APC external sensor reference power supply 5V line - pin A12 - B10: Data Valid but Below Normal Operational Range - Most Severe	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting	APC External Sensor Reference Power Supply has dropped below the alarm limit. Typically the load on this supply line is too high.	- Refer to the other reported errors to identify the affected analogue input functions. - Check that the maximum current of this supply line is not exceeded (too much load). - Check the wiring between the ECON.A and all devices connected to this supply line. - Check installation and operation of all connected devices.
93,02	520339	2	Amber Warning Solid APC external sensor reference power supply 5V line - pin A12 - B10: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting	APC External Sensor Reference Power Supply is unknown	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.
93,10	520339	16	Amber Warning Solid APC external sensor reference power supply 5V line - pin A12 - B10: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC External Sensor Reference Power Supply exceeded the warning limit.	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.
93,12	520339	18	Amber Warning Solid APC external sensor reference power supply 5V line - pin A12 - B10: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC External Sensor Reference Power Supply has dropped below the warning limit.	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.
95,00	520341	0	Stop Lamp Flashing APC internal sensor reference power supply 12V line: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting.	APC Internal Sensor Reference Power Supply exceeded the alarm limit.	- Refer to the other reported errors to identify the affected analogue input functions. - Check the wiring between the ECON.A and all devices connected to this supply line. - Check installation and operation of all connected devices.
95,01	520341	1	Stop Lamp Flashing APC internal sensor reference power supply 12V line: Data Valid but Below Normal Operational Range - Most Severe	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting	APC Internal Sensor Reference Power Supply has dropped below the alarm limit. Typically the load on this supply line is too high.	- Refer to the other reported errors to identify the affected analogue input functions. - Check that the maximum current of this supply line is not exceeded (too much load). - Check the wiring between the ECON.A and all devices connected to this supply line. - Check installation and operation of all connected devices.
95,02	520341	2	Amber Warning Solid APC internal sensor reference power supply 12V line: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting	APC Internal Sensor Reference Power Supply is unknown	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.
95,10	520341	16	Amber Warning Solid APC internal sensor reference power supply 12V line: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting.	APC Internal Sensor Reference Power Supply exceeded the warning limit.	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
95,12	520341	18	Amber Warning Solid APC internal sensor reference power supply 12V line: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC Internal Sensor Reference Power Supply has dropped below the warning limit.	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.
96,00	520342	0	Stop Lamp Flashing APC internal sensor reference power supply 8V line: Data Valid but Above Normal Operational Range - Most Severe	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting.	APC Internal Sensor Reference Power Supply exceeded the alarm limit.	- Refer to the other reported errors to identify the affected analogue input functions. - Check the wiring between the ECON.A and all devices connected to this supply line. - Check installation and operation of all connected devices.
96,01	520342	1	Stop Lamp Flashing APC internal sensor reference power supply 8V line: Data Valid but Below Normal Operational Range - Most Severe	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting	APC Internal Sensor Reference Power Supply has dropped below the alarm limit. Typically the load on this supply line is too high.	- Refer to the other reported errors to identify the affected analogue input functions. - Check that the maximum current of this supply line is not exceeded (too much load). - Check the wiring between the ECON.A and all devices connected to this supply line. - Check installation and operation of all connected devices.
96,02	520342	2	Amber Warning Solid APC internal sensor reference power supply 8V line: Data Erratic, Intermittent, or Incorrect	ECON.A will continue normal operation, but all analogue input functions that use this supply line for the sensors cannot be measured correctly anymore. This may result in reduced operation of the vehicle.	Contact maintenance for troubleshooting	APC Internal Sensor Reference Power Supply is unknown	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.
96,10	520342	16	Amber Warning Solid APC internal sensor reference power supply 8V line: Data Valid but Above Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting.	APC Internal Sensor Reference Power Supply exceeded the warning limit.	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.
96,12	520342	18	Amber Warning Solid APC internal sensor reference power supply 8V line: Data Valid but Below Normal Operational Range - Moderately Severe	ECON.A will continue normal operation. This is just a warning indication.	Contact maintenance for troubleshooting	APC Internal Sensor Reference Power Supply has dropped below the warning limit.	- Check the wiring between the ECON.A and any device connected to this External Sensor Reference Power Supply. - Check installation and operation of any of the devices connected.
9A.0C	520346	12	Stop Lamp Flashing APC Critical data flash corrupt: Bad Intelligent Device or Component	ECON.A will revert to ECON.A shutdownmode. No operation of the vehicle is possible.	Perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	During initialization the ECON.A detected that the flashsector 4 and/or 9 definitions-check or datacontents-check does not correspond with what is expected. This might be due to a firmware upgrade, or due to a flash chip defect.	A controlled power down of the ECON.A should be performed. If the error still persists, activate a working APT with the APT SOH (sector 4) and/or GDE MAINT (sector 9). If the error still persists, the ECON.A is probably damaged : replace the ECON.A
C1.09	520385	9	Amber Warning Flashing CAN message CVC_to_TC_1: Abnormal Update Rate	ECON.A will continue normal operation, but all the input functions contained in this CAN message will not be available. Refer to the other reported errors to see which functions are missing. These will determine the appropriate action taken by the ECON.A.	Contact maintenance for troubleshooting	The CAN message is not received within the expected timeframe.	- Check if the CAN message is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
C2.09	520386	9	Amber Warning Flashing CAN message CVC_to_TC_2: Abnormal Update Rate	ECON.A will continue normal operation, but all the input functions contained in this CAN message will not be available. Refer to the other reported errors to see which functions are missing. These will determine the appropriate action taken by the ECON.A.	Contact maintenance for troubleshooting	The CAN message is not received within the expected timeframe.	- Check if the CAN message is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.

ERROR CODE			DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939							
	SPN	FMI						
C3.09	520387	9	Amber Warning Flashing	CAN message CVC_to_TC_3: Abnormal Update Rate	ECON.A will continue normal operation, but all the input functions contained in this CAN message will not be available. Refer to the other reported errors to see which functions are missing. These will determine the appropriate action taken by the ECON.A.	Contact maintenance for troubleshooting	The CAN message is not received within the expected timeframe.	- Check if the CAN message is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
C8.09	520392	9	Amber Warning Flashing	CAN message EEC1: Abnormal Update Rate	ECON.A will continue normal operation, but all the input functions contained in this CAN message will not be available. Refer to the other reported errors to see which functions are missing. These will determine the appropriate action taken by the ECON.A.	Contact maintenance for troubleshooting	The CAN message is not received within the expected timeframe.	- Check if the CAN message is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
C9.09	520393	9	Amber Warning Flashing	CAN message EEC2: Abnormal Update Rate	ECON.A will continue normal operation, but all the input functions contained in this CAN message will not be available. Refer to the other reported errors to see which functions are missing. These will determine the appropriate action taken by the ECON.A.	Contact maintenance for troubleshooting	The CAN message is not received within the expected timeframe.	- Check if the CAN message is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
CA.09	520394	9	Amber Warning Flashing	CAN message EC: Abnormal Update Rate	ECON.A will continue normal operation, but all the input functions contained in this CAN message will not be available. Refer to the other reported errors to see which functions are missing. These will determine the appropriate action taken by the ECON.A.	Contact maintenance for troubleshooting	The CAN message is not received within the expected timeframe.	- Check if the CAN message is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
CB.09	520395	9	Amber Warning Flashing	CAN message TC1: Abnormal Update Rate	ECON.A will continue normal operation, but all the input functions contained in this CAN message will not be available. Refer to the other reported errors to see which functions are missing. These will determine the appropriate action taken by the ECON.A.	Contact maintenance for troubleshooting	The CAN message is not received within the expected timeframe.	- Check if the CAN message is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
CC.09	520396	9	Amber Warning Flashing	CAN message CCVS: Abnormal Update Rate	ECON.A will continue normal operation, but all the input functions contained in this CAN message will not be available. Refer to the other reported errors to see which functions are missing. These will determine the appropriate action taken by the ECON.A.	Contact maintenance for troubleshooting	The CAN message is not received within the expected timeframe.	- Check if the CAN message is sent correctly on the CAN bus. - Check if the repetition rate of the CAN message is fast enough.
F0.XX	520432	XX	Stop Lamp Flashing	DANA configuration error - non-standard failure mode indicator: DANA reserved code	Action will depend on the type of configuration error, but in most cases ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Stop the vehicle, perform a controlled powerdown and restart the vehicle. If the problem persists, contact maintenance for troubleshooting	An unexpected event occurred that was detected by the ECON.A firmware.	Take note of the reported error code and contact a DANA representative.
F1.XX	520433	XX	Stop Lamp Flashing	DANA configuration error - non-standard failure mode indicator: DANA reserved code	Action will depend on the type of configuration error, but in most cases ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Stop the vehicle, perform a controlled powerdown and restart the vehicle. If the problem persists, contact maintenance for troubleshooting	An unexpected event occurred that was detected by the ECON.A firmware.	Take note of the reported error code and contact a DANA representative.
F2.XX	520434	XX	Stop Lamp Flashing	DANA configuration error - non-standard failure mode indicator: DANA reserved code	Action will depend on the type of configuration error, but in most cases ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Stop the vehicle, perform a controlled powerdown and restart the vehicle. If the problem persists, contact maintenance for troubleshooting	An unexpected event occurred that was detected by the ECON.A firmware.	Take note of the reported error code and contact a DANA representative.
F3.XX	520435	XX	Stop Lamp Flashing	DANA configuration error - non-standard failure mode indicator: DANA reserved code	Action will depend on the type of configuration error, but in most cases ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Stop the vehicle, perform a controlled powerdown and restart the vehicle. If the problem persists, contact maintenance for troubleshooting	An unexpected event occurred that was detected by the ECON.A firmware.	Take note of the reported error code and contact a DANA representative.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
00.1F	520192	31	Amber Warning Flashing Digital input 0 - pin A15: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 0.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
01.1F	520193	31	Amber Warning Flashing Digital input 1 - pin A17: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 1.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
02.1F	520194	31	Amber Warning Flashing Digital input 2 - pin A19: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 2.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
03.1F	520195	31	Amber Warning Flashing Digital input 3 - pin A21: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 3.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
04.1F	520196	31	Amber Warning Flashing Digital input 4 - pin B11: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 4.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
05.1F	520197	31	Amber Warning Flashing Digital input 5 - pin B13: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 5.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
06.1F	520198	31	Amber Warning Flashing Digital input 6 - pin B15: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 6.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
07.1F	520199	31	Amber Warning Flashing Digital input 7 - pin B17: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 7.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
08.1F	520200	31	Amber Warning Flashing Digital input 8 - pin A25: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 8.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
09.1F	520201	31	Amber Warning Flashing Digital input 9 - pin B12: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation).	During intialization of the ECON.A, a configuration problem is detected related to digital input 9.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
10.1F	520208	31	Amber Warning Solid Analog voltage type 2B input 0 - pin A9: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 0.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
11.1F	520209	31	Amber Warning Solid Analog voltage type 2B input 1 - pin A11: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in transmission limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 1.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
12.1F	520210	31	Amber Warning Solid Analog voltage type 2B input 2 - pin B3: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 2.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
13.1F	520211	31	Amber Warning Solid Analog voltage type 2B input 3 - pin B5: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 3.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
14.1F	520212	31	Amber Warning Solid Analog voltage type 2B input 4 - pin A10: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 4.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
15.1F	520213	31	Amber Warning Solid Analog voltage type 2C input 0 - pin A16: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 5.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
16.1F	520214	31	Amber Warning Solid Analog voltage type 2C input 1 - pin A18: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 6.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
17.1F	520215	31	Amber Warning Solid Analog voltage type 2C input 2 - pin B4: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 7.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE			DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939							
	SPN	FMI						
18.1F	520216	31	Amber Warning Solid	Analog voltage type 2C input 3 - pin B8: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 8.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
19.1F	520217	31	Amber Warning Solid	Analog voltage type 2C input 4 - pin B20: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 9.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
1A.1F	520218	31	Amber Warning Solid	Resistive input 0 - pin A22: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 10.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
1B.1F	520219	31	Amber Warning Solid	Resistive input 1 - pin B32: Failure Condition Exists	ECON.A will continue normal operation, or, in some cases, the ECON.A will revert to transmission shutdown mode. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input functions.	Contact maintenance for troubleshooting, or activate a correct configuration in het ECON.A. Driver can still operate the vehicle in limphome mode (reduced vehicle operation)	During intialization of the ECON.A, a configuration problem is detected related to analogue input 11.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
1C.1F	520220	31	Stop Lamp Solid	Low side output 0 - pin A5: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to low side power output 0.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
1D.1F	520221	31	Stop Lamp Solid	Low side output 1 - pin A8: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persisits ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to low side power output 1.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
1E.1F	520222	31	Stop Lamp Solid Low side output 2 - pin A14: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to low side power output 2.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
1F.1F	520223	31	Stop Lamp Solid Low side output 3 - pin B6: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned low side power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to low side power output 3.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
20.1F	520224	31	Stop Lamp Solid High side output 0 - pin B19: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 0.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
21.1F	520225	31	Stop Lamp Solid High side output 1 - pin B30: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 1.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
22.1F	520226	31	Stop Lamp Solid High side output 2 - pin B25: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 2.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
23.1F	520227	31	Stop Lamp Solid High side output 3 - pin B14: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 3.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
24.1F	520228	31	Stop Lamp Solid High side output 0 (I-feedback) - pin B22: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a working configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 4.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
25.1F	520229	31	Stop Lamp Solid High side output 1 (I-feedback) - pin B18: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a working configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 5.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
26.1F	520230	31	Stop Lamp Solid High side output 2 (I-feedback) - pin B31: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 6.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
27.1F	520231	31	Stop Lamp Solid High side output 3 (I-feedback) - pin A1: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 7.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
28.1F	520232	31	Stop Lamp Solid High side output 4 (I-feedback) - pin B21: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned power output has a critical function. For this latter, when the vehiclespeed is low enough, this will alter to transmission limphome mode : the vehicle will be stuck in neutral while the fault persists ; when the fault disappears, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the assigned power output function.	In transmission limphome mode, the driver can still operate the vehicle (reduced vehicle operation). Return to a service center for troubleshooting as soon as possible. Driver cannot operate the vehicle in transmission shutdown mode . Activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to power output 8.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2A.1F	520234	31	Amber Warning Solid Speed sensor input 0 - pin A3: Failure Condition Exists	ECON.A may revert to transmission limphome mode if the assigned speed signal has a critical function : the vehicle will be stuck in neutral ; when the vehiclespeed is low enough, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During intialization of the ECON.A a configuration problem is detected related to speed input 0.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
2B.1F	520235	31	Amber Warning Solid Speed sensor input 1 - pin A6: Failure Condition Exists	ECON.A may revert to transmission limp mode if the assigned speed signal has a critical function : the vehicle will be stuck in neutral ; when the vehiclespeed is low enough, ECON.A will only operate in transmission limp mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to speed input 1.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2C.1F	520236	31	Amber Warning Solid Speed sensor input 2 - pin B27: Failure Condition Exists	ECON.A may revert to transmission limp mode if the assigned speed signal has a critical function : the vehicle will be stuck in neutral ; when the vehiclespeed is low enough, ECON.A will only operate in transmission limp mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to speed input 2.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2D.1F	520237	31	Amber Warning Solid Speed sensor input 3 - pin B29: Failure Condition Exists	ECON.A may revert to transmission limp mode if the assigned speed signal has a critical function : the vehicle will be stuck in neutral ; when the vehiclespeed is low enough, ECON.A will only operate in transmission limp mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to speed input 3.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
2E.1F	520238	31	Amber Warning Flashing Speedo meter - pin B33: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be no visual feedback regarding the vehicle speed.	Contact maintenance for troubleshooting	During initialization of the ECON.A a configuration problem is detected related to the speedo output function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
30.1F	520240	31	Amber Warning Flashing Digital input function: Declutch: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function declutch.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
31.1F	520241	31	Amber Warning Flashing Digital input function: Automatic/manual selection: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Automatic/Manual Shift.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
32.1F	520242	31	Amber Warning Flashing Digital input function: Kickdown: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Kickdown.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
33.1F	520243	31	Amber Warning Flashing Digital input function: Neutral lock reset: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Neutral Lock Reset.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
34.1F	520244	31	Amber Warning Flashing Digital input function: Throttle pedal idle position: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Throttle Idle.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
35.1F	520245	31	Amber Warning Flashing Digital input function: Throttle pedal full position: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Throttle Full.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
39.1F	520249	31	Amber Warning Flashing Digital input function: Parking brake: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Parking Brake.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
3A.1F	520250	31	Amber Warning Flashing Digital input function: Loaded/not loaded: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Loaded/Not Loaded.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
3B.1F	520251	31	Amber Warning Flashing Digital input function: Disconnect (4WD/2WD): Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Disconnect (4WD/2WD).	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
3C.1F	520252	31	Amber Warning Flashing Digital input function: High/Low range: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function High/Low Range.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
3D.1F	520253	31	Amber Warning Flashing Digital input function: Redundant neutral: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Redundant Neutral.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
3E.1F	520254	31	Amber Warning Flashing Digital input function: System pressure: Failure Condition Exists	ECON.A will continue normal operation. Low system pressure can result in reduced vehicle performance (slipping clutches) and continuing normal vehicle operation can permanently damage the transmission.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function System Pressure.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
3F.1F	520255	31	Amber Warning Flashing Digital input function: Brake pedal pressed: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Brake Pedal Pressed.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
40.1F	520256	31	Amber Warning Flashing Digital input function: Operator present protection: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Operator Presence.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
41.1F	520257	31	Amber Warning Flashing Digital input function: Seat orientation: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Seat Orientation.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
42.1F	520258	31	Amber Warning Flashing Digital input function: Inhibit shifting: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function Inhibit shift.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
44.1F	520260	31	Amber Warning Flashing Digital input function: Oil temperature: Failure Condition Exists	ECON.A will continue normal operation. High oil temperature may result in reduced vehicle performance and continuing normal vehicle operation can permanently damage the transmission (oil and/or clutch burning).	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function oil temperature.	refer to the other reported errors to get more information about the nature of the configuration problem solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE			DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939							
	SPN	FMI						
5B.1F	520283	31	Amber Warning Flashing	Digital input function: Custom function 7: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function assigned to the Custom Function 7	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
5C.1F	520284	31	Amber Warning Flashing	Digital input function: Custom function 8: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function assigned to the Custom Function 8	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
5D.1F	520285	31	Amber Warning Flashing	Digital input function: Custom function 9: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function assigned to the Custom Function 9	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
5E.1F	520286	31	Amber Warning Flashing	Digital input function: Custom function 10: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned digital input function.	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function assigned to the Custom Function 10	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
5F.1F	520287	31	Stop Lamp Solid	Shiftlever: Failure Condition Exists	ECON.A will revert to transmission shutdown mode, when the vehiclespeed is low enough, this will alter to transmission limp home mode. As a consequence the vehicle will be stuck in neutral while the fault persists. When the fault disappears, ECON.A will only operate in transmission limp home mode after selecting neutral, until the ECON.A is restarted.	Contact maintenance for troubleshooting, or activate a correct configuration in the ECON.A. Driver can still operate the vehicle in transmission limp home mode (reduced vehicle operation). Driver cannot operate the vehicle in transmission shutdown mode.	During initialization of the ECON.A a configuration problem is detected related to the shiftlever function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
60.1F	520288	31	Amber Warning Solid	Analog input function: Throttle pedal: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Throttle Pedal analogue input function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
61.1F	520289	31	Amber Warning Solid	Analog input function: Brake pedal: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Brake Pedal analogue input function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
62.1F	520290	31	Amber Warning Solid	Analog input function: Transmission sump temperature: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Transmission Sump Temperature input function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
63.1F	520291	31	Stop Lamp Solid	Analog input function: Transmission converter out temperature: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Transmission Cooler In Temperature input function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
65.1F	520293	31	Stop Lamp Solid	Analog input function: System pressure: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the System Pressure Function function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
66.1F	520294	31	Amber Warning Flashing	Analog input function: Forward clutch pressure: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Forward clutch Pressure Function function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE			DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939							
	SPN	FMI						
67.1F	520295	31	Amber Warning Flashing	Analog input function: Reverse clutch pressure: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Reverse clutch Pressure Function function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
68.1F	520296	31	Amber Warning Flashing	Analog input function: Forward High clutch pressure: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Forward highclutch Pressure Function function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
69.1F	520297	31	Amber Warning Flashing	Analog input function: 1st clutch pressure: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the 1st Clutch Pressure Function function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
6A.1F	520298	31	Amber Warning Flashing	Analog input function: 2nd clutch pressure: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the 2nd Clutch Pressure Function function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
6B.1F	520299	31	Amber Warning Flashing	Analog input function: 3rd clutch pressure: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the 3rd Clutch Pressure Function function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
6C.1F	520300	31	Amber Warning Flashing	Analog input function: 4th clutch pressure: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the 4th Clutch Pressure Function function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
6D.1F	520301	31	Amber Warning Flashing	Analog input function: Forward Reverse Lever 1 Positive: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Forward Reverse Lever 1 analogue input function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
6E.1F	520302	31	Amber Warning Flashing	Analog input function: Forward Reverse Lever 1 Negative: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Forward Reverse Lever 1 analogue input function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
6F.1F	520303	31	Amber Warning Flashing	Analog input function: Forward Reverse Lever 2 Positive: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Forward Reverse Lever 2 analogue input function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
70.1F	520304	31	Amber Warning Flashing	Analog input function: Forward Reverse Lever 2 Negative: Failure Condition Exists	ECON.A will continue normal operation. In any case, there may be reduced operation of the vehicle. This reduced operation will depend on the assigned analog input function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the Forward Reverse Lever 2 analogue input function.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
7A.1F	520314	31	Stop Lamp Solid	Speed sensor input function: Engine speed: Failure Condition Exists	ECON.A may revert to transmission limphome mode if the assigned speed signal has a critical function : the vehicle will be stuck in neutral ; when the vehiclespeed is low enough, ECON.A will only operate in transmission limphome mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting or Activate a working configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to engine speed input function. The cause might be : dual speed function assignment, speed function assignment to speed channel type 'off', or speed function assignment to speed channel type 'can' for other than engine speed sensor. ECON.A is stuck in shutdown mode until this is solved	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
7B.1F	520315	31	Amber Warning Solid Speed sensor input function: Turbine speed: Failure Condition Exists	ECON.A will continue normal operation. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting or Activate a working configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to turbine speed input function. The cause might be : dual speed function assignment, speed function assignment to speed channel type 'off', or speed function assignment to speed channel type 'can' for other than engine speed sensor. ECON.A is stuck in shutdown mode until this is solved	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
7C.1F	520316	31	Amber Warning Solid Speed sensor input function: Drum speed: Failure Condition Exists	ECON.A will continue normal operation. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting or Activate a working configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to drum speed input function. The cause might be : dual speed function assignment, speed function assignment to speed channel type 'off', or speed function assignment to speed channel type 'can' for other than engine speed sensor. ECON.A is stuck in shutdown mode until this is solved	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
7D.1F	520317	31	Stop Lamp Solid Speed sensor input function: Output speed: Failure Condition Exists	ECON.A may revert to transmission shutdown mode if the assigned speed signal has a critical function : the vehicle will be stuck in neutral ; the vehicle must come to a standstill, and the ECON.A will need to be restarted. After restart, the vehicle will only operate in transmission limp mode after selecting neutral, until the ECON.A is restarted and the fault has disappeared. In any case reduced operation of the vehicle will be the result. This reduced operation will depend on the speed function assigned to the input.	Contact maintenance for troubleshooting or Activate a working configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to output speed input function. The cause might be : dual speed function assignment, speed function assignment to speed channel type 'off', or speed function assignment to speed channel type 'can' for other than engine speed sensor. ECON.A is stuck in shutdown mode until this is solved	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
80.1F	520320	31	Stop Lamp Flashing APC failure over temperature: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limp mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
81.1F	520321	31	Stop Lamp Flashing APC failure over current: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limp mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
82.1F	520322	31	Stop Lamp Flashing APC failure init voltage: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limp mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
83.1F	520323	31	Stop Lamp Flashing APC failure ADC: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limp mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
84.1F	520324	31	Stop Lamp Flashing APC failure Ground: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limp mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limp mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
85.1F	520325	31	Stop Lamp Flashing APC failure over power warning: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limphome mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
86.1F	520326	31	Stop Lamp Flashing APC failure SPI: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limphome mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
87.1F	520327	31	Stop Lamp Flashing APC failure IO Sync: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limphome mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
88.1F	520328	31	Stop Lamp Flashing APC failure safe state enter: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limphome mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
89.1F	520329	31	Stop Lamp Flashing APC failure jump to bootloader: Failure Condition Exists	ECON.A will revert to transmission restricted mode, because the controller will not be able to jump to bootloader.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
8A.1F	520330	31	Stop Lamp Flashing APC failure LIN: Failure Condition Exists	ECON.A will revert to transmission restricted mode, because the controller will not be able to use the LIN bus.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
8B.1F	520331	31	Stop Lamp Flashing APC failure CAN init: Failure Condition Exists	ECON.A will revert to transmission restricted mode, because the controller will not be able to use the CAN bus.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
8C.1F	520332	31	Stop Lamp Flashing APC failure CAN communication: Failure Condition Exists	ECON.A will revert to transmission shutdown mode. When the vehiclespeed is low enough, this will alter to transmission limphome mode: the vehicle will be stuck in neutral ; ECON.A will only operate in transmission limphome mode after selecting neutral. In any case reduced operation of the vehicle will be the result.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
8D.1F	520333	31	Stop Lamp Flashing APC failure memory: Failure Condition Exists	ECON.A will revert to transmission restricted mode, because the controller will not be able to use its memory.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
9A.1F	520346	31	Stop Lamp Flashing APC Critical data flash corrupt: Failure Condition Exists	ECON.A will revert to ECON.A shutdownmode. No operation of the vehicle is possible.	Perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	During intialization the ECON.A detected that the flashsector 4 and/or 9 definitions-check do not correspond with what is expected. This might be due to a firmware upgrade.	This error should only occur right after performing a firmware upgrade. To make this error disappear, a controlled power down of the ECON.A should be performed. There might be a mix of recovered flashdata and ROM defaults (due to upgrade). Consequently, there might be reduced vehicle operation. This will depend on the affected parameters.
9B.1F	520347	31	Stop Lamp Flashing APC Application data flash corrupt: Failure Condition Exists	Refer to the other reported errors to get more information about the ECON.A action.	Perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	During intialization the ECON.A detected that the flashsector 0 and/or 1 datacontents-check does not correspond with what is expected. This might be due to a flash chip defect.	A controlled power down of the ECON.A should be performed. If the error still persists, activate a working APT with the appropriate Dana tool. If the error still persists, the ECON.A is probably damaged : replace the ECON.A.

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
9C.1F	520348	31	Stop Lamp Flashing APC Logging data flash corrupt: Failure Condition Exists	ECON.A will continue normal operation.	Perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	During initialization the ECON.A detected that the flashsector 10 and/or 11 datacontents-check does not correspond with what is expected. This might be due to a firmware upgrade, or due to a flash chip defect.	A controlled power power down of the ECON.A should be performed. There might be a mix of recovered flashdata and ROM defaults. Consequently, there might be reduced vehicle operation. If the error still persists, the ECON.A is probably damaged: replace the ECON.A.
9D.1F	520349	31	Stop Lamp Flashing APC Application software failure: Failure Condition Exists	ECON.A will revert to transmission restricted mode, because this function is critical for the operation of the application.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
9E.1F	520350	31	Stop Lamp Flashing APC Application hardware failure: Failure Condition Exists	ECON.A will revert to transmission restricted mode, because this function is critical for the operation of the application.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.
A0.1F	520352	31	Stop Lamp Flashing Configuration error: incompatible firmware: Failure Condition Exists	ECON.A will revert to transmission restricted mode, because the firmware is not compatible so nothing can be done	Contact maintenance for troubleshooting or Activate a working configuration in the ECON.A	During initialization the ECON.A detected that the firmware present is not compatible with this ECON.A. ECON.A is stuck in restricted mode until this is solved	- download a valid and compatible firmware file (XML file) with the correct corresponding DANA tool. - download a valid and compatible APT configuration file with the correct corresponding DANA tool. - if the problem persists, the program and/or dataflash in the ECON.A is defective: replace the ECON.A.
A1.1F	520353	31	Stop Lamp Flashing Configuration error: incompatible data file: Failure Condition Exists	Refer to the other reported errors to get more information about the ECON.A action.	Perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	During initialization the ECON.A detected that the flashsector 0 and/or 1 definitions-check does not correspond with what is expected. This might be due to a firmware upgrade.	A controlled power down of the ECON.A should be performed. If the error still persists, activate a working APT with the appropriate Dana tool, and perform a controlled power down again. If the error still persists, the ECON.A is probably damaged : replace the ECON.A. Refer to the other reported errors to get more information about the nature of the problem.
A2.1F	520354	31	Amber Warning Flashing Configuration error: I/O double function assignment: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected functions	Contact maintenance for troubleshooting or Activate a working configuration in the ECON.A	During initialization of the ECON.A, a configuration problem is detected because 2 or more different functions are assigned to the same in- or output.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
A3.1F	520355	31	Amber Warning Flashing Configuration error: unavailable I/O function assignment: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected because a function is assigned to an in- or output that is not available on this ECON.A.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
A4.1F	520356	31	Amber Warning Flashing Configuration error: impossible function combination assignment: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected functions.	Contact maintenance for troubleshooting or Activate a working configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected due to an impossible combination of different function assignments.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
AA.1F	520362	31	Amber Warning Flashing Digital input function: Emergency Reverse: Failure Condition Exists	ECON.A will revert to ECON.A shutdown mode	Contact maintenance for troubleshooting or activate a correct configuration in the ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital input function assigned to the Custom Function 6	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B0.1F	520368	31	Amber Warning Flashing Digital output function: Parking brake: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Parking Brake.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B1.1F	520369	31	Amber Warning Flashing Digital output function: Retarder: Failure Condition Exists	ECON.A will revert to ECON.A shutdown mode	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Retarder. ECON.A is stuck in shutdown mode until this is solved	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B2.1F	520370	31	Amber Warning Flashing Digital output function: Exhaust brake: Failure Condition Exists	ECON.A will revert to ECON.A shutdown mode	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Exhaust Brake. ECON.A is stuck in shutdown mode until this is solved	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one

ERROR CODE		DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939						
	SPN	FMI					
B3.1F	520371	31	Amber Warning Flashing Digital output function: Disconnect 4WD/2WD: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Disconnect.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B4.1F	520372	31	Amber Warning Flashing Digital output function: High / Low range selector: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Range Selector.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B5.1F	520373	31	Amber Warning Flashing Digital output function: Engine throttle reduction: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Throttle Reduction.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B6.1F	520374	31	Amber Warning Flashing Digital output function: Neutral engine start: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Neutral Engine Start.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B7.1F	520375	31	Amber Warning Flashing Digital output function: Brake Valve: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Warning lamp.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B8.1F	520376	31	Amber Warning Flashing Digital output function: Lockup: Failure Condition Exists	ECON.A will revert to transmission limp mode. In any case reduced operation of the vehicle will be the result.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A. Driver can still operate the vehicle in transmission limp mode (reduced vehicle operation).	During initialization of the ECON.A a configuration problem is detected related to the digital output function Lockup.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
B9.1F	520377	31	Amber Warning Flashing Digital output function: Gear dependent output: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Gear dependant.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
BB.1F	520379	31	Amber Warning Flashing Digital output function: Custom function 1: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Gear dependant.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
BC.1F	520380	31	Amber Warning Flashing Digital output function: Custom function 2: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Gear dependant.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
BD.1F	520381	31	Amber Warning Flashing Digital output function: Custom function 3: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Gear dependant.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
BE.1F	520382	31	Amber Warning Flashing Digital output function: Custom function 4: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Gear dependant.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
BF.1F	520383	31	Amber Warning Flashing Digital output function: Custom function 5: Failure Condition Exists	ECON.A will continue normal operation. There may be reduced operation of the vehicle. This reduced operation will depend on the affected function.	Contact maintenance for troubleshooting or Activate a working configuration in het ECON.A	During initialization of the ECON.A a configuration problem is detected related to the digital output function Gear dependant.	- refer to the other reported errors to get more information about the nature of the configuration problem - solve the configuration problem by activating a working configuration or manually correcting the faulty one
E1.1F	520417	31	Protection Lamp Solid Exceed direction change vehicle speed: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Slow down the vehicle to decrease the speed until the requested direction change is allowed.	An operational limit was exceeded during normal operation. The corresponding exceed code is reported to indicate this situation to the driver.	none

ERROR CODE			DM Lamp	ERROR DESCRIPTION	ECON.A ACTION	DRIVER ACTION	FAILURE CAUSE	TROUBLESHOOTING
DANA	SAE J1939							
	SPN	FMI						
E2.1F	520418	31	Protection Lamp Solid	Exceed direction change engine speed: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Lower the engine speed until the requested direction change is allowed.	An operational limit was exceeded during normal operation. The corresponding exceed code is reported to indicate this situation to the driver.	none
E3.1F	520419	31	Protection Lamp Solid	Exceed downshift limit: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Slow down the vehicle to decrease the speed until the requested downshift is allowed.	An operational limit was exceeded during normal operation. The corresponding exceed code is reported to indicate this situation to the driver.	none
E4.1F	520420	31	Protection Lamp Solid	Exceed vehicle speed limit: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Lower the vehicle speed until it is lower than the maximum vehicle speed.	An operational limit was exceeded during normal operation. The corresponding exceed code is reported to indicate this situation to the driver.	none
E5.1F	520421	31	Protection Lamp Solid	Exceed transmission overspeeding or near overspeeding: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Slow down the vehicle to decrease the speed until the transmission speed is lower than the maximum limit.	An operational limit was exceeded during normal operation. The corresponding exceed code is reported to indicate this situation to the driver.	none
E6.1F	520422	31	Protection Lamp Solid	Exceed Forward Reverse request: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Put the shiftlever in Neutral and release the Forward or Reverse selection buttons to come in to the default normal state	The function Forward Reverse Request detected an issue with the request.	none
E7.1F	520423	31	Protection Lamp Solid	Exceed engine speed emergency reverse: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Make sure the engine speed is lower than the limit	The function emergency reverse detected an issue with the request related to engine speed limit.	none
E8.1F	520424	31	Protection Lamp Solid	Exceed time emergency reverse: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Make sure the parking brake is not activated so that the vehicle can drive in reverse direction	The function emergency reverse detected an issue with the request related to timeout of vehicle speed in requested direction reverse	none
E9.1F	520425	31	Protection Lamp Solid	Exceed vehicle speed emergency reverse: Failure Condition Exists	No special action taken by the ECON.A. Normal application logics are active to handle the situation.	Make sure the vehicle speed is lower than the limit	The function emergency reverse detected an issue with the request related to vehicle speed limit.	none
F8.1F	520440	31	Stop Lamp Flashing	DANA configuration error - non-standard failure mode indicator: Failure Condition Exists	DANA Reserved - Not used	DANA Reserved - Not used	DANA Reserved - Not used	DANA Reserved - Not used
FE.1F	520446	31	Stop Lamp Flashing	DANA configuration error - non-standard failure mode indicator: Failure Condition Exists	ECON.A will go to restricted mode, and stay in restricted mode. All SOH Config 14 errors will lead to the confirmation of error 9D.1F which is causing restricted mode to be selected.	Stop the vehicle, perform controlled power down and restart the vehicle. If the problem persists, contact maintenance for troubleshooting.	A critical part of the firmware detected a problem. BSP call was not successful or incorrect.	A thorough investigation and simulation of the problem should be performed.