

**MID 130 - Eaton AC-AS1**

Eaton AC-AS1

PID/SID	FMI	Fault Code	Fault Description
18	2, 4, 5 & 12	14	Shift Lever
	14	83	Shift Lever Missing
		91	CAN_HI or LO shorted
		92	Framing Error
34	2	53	Reverse Ball Switch
36	3, 4 & 5	43	Range Solenoid Coil
37	4 & 5	46	Splitter LO Solenoid Coil
39	5 & 6	61	Rail Select Motor
40	5 & 6	63	Gear Select Motor
53	3, 4 & 5	44	Inertia Brake Solenoid Coil
54	7	74	Failed to Engage Starting Gear
56	7	41	Range Failed to Engage
58	7	73	Failed to Engage Gear
59	2	52	Gear Select Sensor
	7	72	Failed to Select a Rail
60	2	51	Rail Select Sensor
	7	71	Stuck Engaged
61	7	42	Splitter Failed to Engage
62	3, 4, & 5	31	Engine Brake Relay Coil
160	2	57	Mainshaft Speed Sensor
161	2	56	Input Speed Sensor
168	4	33	Battery/SystemVoltage
191	2	58	Output Shaft Speed Sensor
231	14	35	J1939 Data Link
		93	Loss of J1939 Communication from the Engine
		94	No Incoming traffic
		95	Bus off for at least 5 seconds
		96	Bus off for 200 mSeconds
233	12	12	Transmission ECU (Controller #2)
236	4 & 5	13	Power Connect Relay Coil

Eaton AC-AS1 (Continued)

PID/SID	FMI	Fault Code	Fault Description
237	3, 4	17	Start Enable Relay Coil
248	2	16	Eaton Proprietary Data Link (EPL)
251	4	65	Low Motor Voltage
254	12	11	ECU (Controller #1)

**MID 130 - Eaton AS2-ASX**

Eaton AS2-ASX

PID/SID	FMI	Fault Code	Fault Description
18	2, 4, 5 & 12	14	Shift Lever
	14	83	Shift Lever Missing
34	2	53	Reverse Ball Switch
36	3, 4 & 5	43	Range Solenoid Coil
37	4 & 5	46	Splitter LO Solenoid Coil
39	5 & 6	61	Rail Select Motor
40	5 & 6	63	Gear Select Motor
53	3, 4 & 5	44	Inertia Brake Solenoid Coil
54	7	74	Failed to Synchronize
56	7	41	Range Failed to Engage
58	7	73	Failed to Engage Gear
59	2	52	Gear Select Sensor
	7	72	Failed to Select a Rail
60	2	51	Rail Select Sensor
	7	71	Stuck Engaged
61	7	42	Splitter Failed to Engage
62	4	32	Switched System Voltage
160	2	57	Mainshaft Speed Sensor
161	2	56	Input Speed Sensor
168	4	33	Battery/System Voltage
	14	92	Weak System battery Voltage
191	2	58	Output Shaft Speed Sensor
231	2	35	J1939 Data Link
	14	93	Loss of J1939 Communication from the Engine
233	12	12	Transmission ECU (Controller #2)
237	3, 4	17	Start Enable Relay Coil
248	2	16	Eaton Proprietary Data Link (EPL)
251	4	65	Low Logic Voltage
254	12	11	ECU (Controller #1)

Eaton AS2-ASX (Continued)

PID/SID	FMI	Fault Code	Fault Description
-	-	25	System OK

**MID 130 - Eaton ASW**

Eaton ASW

PID/SID	FMI	Fault Code	Fault Description
18	2, 4, 5 & 12	14	Shift Lever
	14	83	Shift Lever Missing
34	2	53	Reverse Ball Switch
36	3, 4 & 5	43	Range Solenoid Coil
37	4 & 5	46	Splitter LO Solenoid Coil
39	5 & 6	61	Rail Select Motor
40	5 & 6	63	Gear Select Motor
52	3, 4, 5 & 7	28	Clutch System Fault
53	3, 4 & 5	44	Inertia Brake Solenoid Coil
54	7	74	Failed to Synchronize
56	7	41	Range Failed to Engage
58	7	73	Failed to Engage Gear
59	2	52	Gear Select Sensor
	7	72	Failed to Select a Rail
60	2	51	Rail Select Sensor
	7	71	Stuck Engaged
61	7	42	Splitter Failed to Engage
62	4	32	Switched System Voltage
160	2	57	Mainshaft Speed Sensor
161	2	56	Input Speed Sensor
168	4	33	Battery/System Voltage
	14	92	Weak System battery Voltage
191	2	58	Output Shaft Speed Sensor
231	2	35	J1939 Data Link
	14	93	Loss of J1939 Communication from the Engine
233	12	12	Transmission ECU (Controller #2)
237	3, 4	17	Start Enable Relay Coil
248	2	16	Eaton Proprietary Data Link (EPL)
251	4	65	Low Logic Voltage

Eaton ASW (Continued)

PID/SID	FMI	Fault Code	Fault Description
254	12	11	ECU (Controller #1)
-	-	25	System OK

**MID 130 - Eaton CEEMAT**

Eaton CEEMAT

PID/SID	FMI	Fault Code	Fault Description
18	2, 4, 5 & 12	14	Shift Lever
	12	82	Multiple Non-Adjacent Sensor
	14	81	Invalid Shift Lever at Start
83		Shift Lever Missing	
36	3, 4 & 5	43	Range Solenoid Coil
39	3, 4 & 5	61	Autoshifter Solenoid 1 Coil
40	3, 4 & 5	63	Autoshifter Solenoid 3 Coil
43	3, 4 & 5	21	Interrupt Solenoid Coil
44	3, 4 & 5	22	Lockup Solenoid Coil
45	4 & 5	54	HI Range Sensor
46	4 & 5	55	LO Range Sensor
47	4 & 5	52	Neutral Sensor
48	4 & 5	53	Gear Engaged Sensor
49	4 & 5	51	Center Rail Sensor
50	3, 4 & 5	62	Autoshifter Solenoid 2 Coil
51	2 & 7	34	Throttle Position Sensor
	3, 4 & 5	64	Autoshifter Solenoid 4 Coil
53	3, 4 & 5	32	De-Fuel Solenoid Coil
		44	Disc/Inertia Brake Solenoid Coil
54	3, 4 & 5	45	Band/Engine Boost Solenoid Coil
	7	74	Failed to Synchronize
56	7	41	Range Failed to Engage
57	2	15	Shift Lever Data Link
58	7	73	Failed to Engage Gear
59	7	72	Failed to Select a Rail
60	7	71	Stuck Engaged
62	3, 4, & 5	31	Engine Brake Relay Coil
127	7	24	Hydraulic System Fault
160	2	57	Output shaft Speed Sensor
161	2	56	Input Speed Sensor
168	4	33	Battery/SystemVoltage

Eaton CEEMAT (Continued)

PID/SID	FMI	Fault Code	Fault Description
190	2	23	Engine Speed Sensor
249	2	35	J1922 Data Link
254	12	11	ECU (Controller #1)

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**MID 130 - Eaton CEMT**

## Eaton CEMT

PID/ SID	FMI	Fault Code	Fault Description
44	3, 4 & 5	22	Bypass/Lockup Solenoid Coil
53	3, 4 & 5	15	Inertia Brake Solenoid Coil
160	2	57	Output Shaft Speed Sensor
161	2	56	Input Shaft Speed Sensor
168	4	33	System Voltage
190	2	23	Engine Speed Sensor
254	12	13	Power Relay Coil

**MID 130 - Eaton DM2**

Eaton DM2

PID/SID	FMI	Fault Code	Fault Description
18	2, 4, 5 & 12	14	Shift Lever
	14	83	Shift Lever Missing
34	2	53	Reverse Ball Switch
36	3, 4 & 5	43	Range Solenoid Coil
37	4 & 5	46	Splitter LO Solenoid Coil
39	5 & 6	61	Rail Select Motor
40	5 & 6	63	Gear Select Motor
53	3, 4 & 5	44	Inertia Brake Solenoid Coil
54	7	74	Failed to Synchronize
55	7	27	Clutch Disengagement
	10	26	Clutch Slip
56	7	41	Range Failed to Engage
58	7	73	Failed to Engage Gear
59	2	52	Gear Select Sensor
	7	72	Failed to Select a Rail
60	2	51	Rail Select Sensor
	7	71	Stuck Engaged
61	7	42	Splitter Failed to Engage
62	4	32	Switched System Voltage
160	2	57	Mainshaft Speed Sensor
161	2	56	Input Speed Sensor
168	4	33	Battery/System Voltage
	14	92	Weak System battery Voltage
191	2	58	Output Shaft Speed Sensor
218	3, 4 & 5	31	Ignition Interrupt Relay Coil
231	2	35	J1939 Data Link
	14	93	Loss of J1939 Communication from the Engine
233	12	12	Transmission ECU (Controller #2)
237	3, 4	17	Start Enable Relay Coil

Eaton DM2 (Continued)

PID/SID	FMI	Fault Code	Fault Description
248	2	16	Eaton Proprietary Data Link (EPL)
251	4	65	Low Logic Voltage
254	12	11	ECU (Controller #1)
-	-	25	System OK

## MID 130 - Eaton Lightning

### Eaton Lightning

PID/SID	FMI	Fault Code	Fault Description
14	7	74	Engine/Transmission Missed Synchronization
35	2, 4 & 5	48	High Ranger Shift Solenoid
36	2, 4 & 5	43	Low Range Shift Solenoid
37	2, 4 & 5	46	Splitter Shift Solenoid
38	7	71	Splitter or Ranger Stuck in Gear
39	7	71	Splitter or Ranger Stuck in Gear
48	2	36	Shift Lever Position
49	2	36	Shift Lever Position
56	7	71	Splitter or Ranger Stuck in Gear
58	7	73	Transmission Missed Synchronization
58	11	66	Unconfirmed Torque Path
158	3, 4	33	Battery/System Voltage
168	3, 4	33	Battery/System Voltage
191	8	58	Output Speed Sensor
231	12	35	J1939 Data Link
254	12	11	ECU (Controller #1)
-	-	25	No Fault Code

## MID 130 - Meritor FreedomLin

Meritor FreedomLin

PID/SID	FMI	Fault Code	Fault Description
20	-	14	Output ADVP Fault (wakeup control signal for ZMTEC and voltage supply doubler and voltage supply to output shaft speed sensor #1)
21	-	15	ECU Temperature Too High or ECU Temperature Sensor Fault
31	-	1F	Range Position Sensor Fault
32	-	20	Splitter Position Sensor Self Fault
33	-	21	Clutch Actuator Fault
34	-	22	Clutch Actuator Solenoid Fault
35	-	23	High Range Solenoid (Y9) Fault
36	-	24	Low Range Solenoid (Y8) Fault
37	-	25	Splitter Direct Solenoid (Y2) Fault
38	-	26	Splitter Indirect Solenoid (Y3) Fault
39	-	27	Rail Select #1 Solenoid (Y4) Fault
40	-	28	Gear Engage #1 Solenoid (Y6) Fault
43	-	2B	Error on "Ignition Lock" Signal (terminal 15)
48	-	30	Gear Engage Position Sensor Fault
50	-	32	Rail Select #2 Solenoid (Y5) Fault
51	-	33	Gear Engage #2 Solenoid (Y7) Fault
54	-	36	Inertia Brake Solenoid (Y1) Fault
55	-	37	Clutch Engage/Disengage Fault
56	-	38	Range Shift Engagement/Disengage Fault
57	-	39	Shift Lever Fault or Private CAN Fault
58	-	3A	Main Transmission Engagement/Disengage Fault
59	-	3B	Rail Select Cylinder Engagement/Disengage Fault
60	-	3C	Rail Select Position Sensor Fault
61	-	3D	Splitter Cylinder Engagement Disengage Fault
63	-	3F	Error on Output Speed Signal 2

Meritor FreedomLin (Continued)

PID/SID	FMI	Fault Code	Fault Description
106	-	6A	Pressure Reduction Valve Fault or Pressure Sensor Signal Fault
150	-	96	PTO Fault
151	-	97	Plausibility Error Between Transmission Input Speed and Output Speed
152	-	98	Main Solenoid (Y1) Fault
153	-	99	Error ISO 14230 Communication Line
154	-	9A	Error on Both Output Shaft Speed Sensors
161	-	A1	Input Shaft Speed Sensor Fault
177	-	B1	Oil Temperature Sensor Fault
191	-	BF	Output Shaft Speed Sensor #1 (the lower one) Fault
230	-	E6	Permanent Idle Signal
231	-	E7	SAE J-1939 Bus Fault
248	-	F8	Output SD to Display Fault. The Display will Read "EE"
251	-	FB	Voltage Supply Fault
253	-	FD	EOL EEPROM Fault
254	-	FE	Cut-off Relay in ECU Does Not Switch Off



## MID 130 - Meritor SureShift

### Meritor SureShift

PID/ SID	FMI	Fault Code	Fault Description
31	-	1F	Transmission Range Position Sensor
35	-	23	High Ranger Solenoid
36	-	24	Low Ranger Solenoid
39	-	27	X-Y Rail Select Solenoid #1
40	-	28	X-Y Engage Fork Solenoid #1
48	-	30	X-Y Engage Fork Position Sensor
50	-	32	X-Y Rail Select Solenoid #2
51	-	33	X-Y Engage Fork Solenoid #2
56	-	38	Auxiliary Section Mechanical System
57	-	39	Shift Lever Assembly Communication
58	-	3A	Main Box Shift Engagement System
59	-	3B	Main Box Shift Selection System
60	-	3C	X-Y Rail Select Position Sensor
151	-	97	Speed Sensor Plausibility
152	-	98	Shift Lever Box Supply Output
153	-	99	Limp Home Disable Output
154	-	9A	Limp Home System/function
161	-	A1	Main Countershaft Speed Sensor
191	-	BF	Transmission Output Shaft Speed Sensor
194	-	C2	No Codes
227	-	E3	Oil Temperature Out of Limits or Sensor
231	-	E7	SAE J-1939 Data Link
238	-	EE	Diagnostic Lamp
251	-	FB	Power Supply
252	-	FC	Transmission Calibration Routine
253	-	FD	Transmission Calibration Memory
254	-	FE	Transmission Controller