# MID 136 - Bendix Tractor ABS

#### **Bendix Tractor ABS**

PID/ SID	FMI	Fault Code	Fault Description
1	0	2-1	Left Steer Air Gap too Large
	2	2-8	Left Steer Sensor Configuration Error
	8	2-2	Left Steer Air Gap too Lager or Sensor Shorted
		2-4	Left Steer Wheel Lock Excessive During ABS Cycle
		2-5	Left Steer Excessive Rate of Wheel Decel or Sensor Shorted
	10	2-3	Left Steer Sensor Signal is Noisy
	12	2-6	Left Steer Sensor Shorted or Open
		2-7	Left Steer Internal Sensor Port Error
2	0	3-1	Right Steer Air Gap too Large
	2	3-8	Right Steer Sensor Configuration Error
	8	3-2	Right Steer Air Gap too Lager or Sensor Shorted
		3-4	Right Steer Wheel Lock Excessive During ABS Cycle
		3-5	Right Steer Excessive Rate of Wheel Decel or Sensor Shorted
	10	3-3	Right Steer Sensor Signal is Noisy
	12	3-6	Right Steer Sensor Shorted or Open
		3-7	Right Steer Internal Sensor Port Error
3	0	4-1	Left Rear Air Gap too Large
	2	4-8	Left Rear Sensor Configuration Error
	8	4-2	Left Rear Air Gap too Lager or Sensor Shorted
		4-4	Left Rear Wheel Lock Excessive During ABS Cycle
		4-5	Left Rear Excessive Rate of Wheel Decel or Sensor Shorted
	10	4-3	Left Rear Sensor Signal is Noisy
	12	4-6	Left Rear Sensor Shorted or Open
		4-7	Left Rear Internal Sensor Port Error
4	0	5-1	Right Rear Air Gap too Large

## Bendix Tractor ABS (Continued)

PID/ SID	FMI	Fault Code	Fault Description
4	2	5-8	Right Rear Sensor Configuration Error
	8	5-2	Right Rear Air Gap too Lager or Sensor Shorted
		5-4	Right Rear Wheel Lock Excessive Dur- ing ABS Cycle
		5-5	Right Rear Excessive Rate of Wheel Decel or Sensor Shorted
	10	5-3	Right Rear Sensor Signal is Noisy
	12	5-6	Right Rear Sensor Shorted or Open
		5-7	Right Rear Internal Sensor Port Error
5	0	6-1	Left Rear Rear Air Gap too Large
	2	6-8	Left Rear Rear Sensor Configuration Error
	8	6-2	Left Rear Rear Air Gap too Lager or Sensor Shorted
		6-4	Left Rear Rear Wheel Lock Excessive During ABS Cycle
		6-5	Left Rear Rear Excessive Rate of Wheel Decel or Sensor Shorted
	10	6-3	Left Rear Rear Sensor Signal is Noisy
	12	6-6	Left Rear Rear Sensor Shorted or Open
		6-7	Left Rear Rear Internal Sensor Port Error
6	0	7-1	Right Rear Rear Air Gap too Large
	2	7-8	Right Rear Rear Sensor Configuration Error
	8	7-2	Right Rear Rear Air Gap too Lager or Sensor Shorted
		7-4	Right Rear Rear Wheel Lock Excessive During ABS Cycle
		7-5	Right Rear Rear Excessive Rate of Wheel Decel or Sensor Shorted
	10	7-3	Right Rear Rear Sensor Signal is Noisy
	12	7-6	Right Rear Rear Sensor Shorted or Open
		7-7	Right Rear Rear Internal Sensor Port Error

## Bendix Tractor ABS (Continued)

PID/	FMI	Fault	Fault
SID		Code	Description
7	0	8-1	Left Steer Short to Voltage on Release Solenoid Wire
	2	8-8	Left Steer Valve Configuration Error
	8	8-2	Left Steer Short to Ground on Release Solenoid Wire
		8-4	Left Steer Open Circuit on Common Wire
		8-5	Left Steer Short to Voltage or Open Circuit on Hold Solenoid Wire
	10	8-3	Left Steer Open Circuit on Release Solenoid Wire
	12	8-6	Left Steer Short to Ground on Hold Solenoid Wire
		8-7	Left Steer Open Circuit on Hold Wire
8	2	9-8	Right Steer Valve Configuration Error
	3	9-1	Right Steer Short to Voltage on Release Solenoid Wire
		9-5	Right Steer Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	9-2	Right Steer Short to Ground on Release Solenoid Wire
		9-6	Right Steer Short to Ground on Hold Solenoid Wire
	5	9-3	Right Steer Open Circuit on Release Solenoid Wire
		9-4	Right Steer Open Circuit on Common Wire
		9-7	Right Steer Open Circuit on Hold Wire
9	2	10-8	Left Rear Valve Configuration Error
	3	10-1	Left Rear Short to Voltage on Release Solenoid Wire
		10-5	Left Rear Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	10-2	Left Rear Short to Ground on Release Solenoid Wire
		10-6	Left Rear Short to Ground on Hold Solenoid Wire
	5	10-3	Left Rear Open Circuit on Release Sole- noid Wire

#### Bendix Tractor ABS (Continued)

PID/ SID	FMI	Fault Code	Fault Description
9	5	10-4	Left Rear Open Circuit on Common Wire
		10-7	Left Rear Open Circuit on Hold Wire
10	2	11-8	Right Rear Valve Configuration Error
	3	11-1	Right Rear Short to Voltage on Release Solenoid Wire
		11-5	Right Rear Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	11-2	Right Rear Short to Ground on Release Solenoid Wire
		11-6	Right Rear Short to Ground on Hold Solenoid Wire
	5	11-3	Right Rear Open Circuit on Release Solenoid Wire
		11-4	Right Rear Open Circuit on Common Wire
		11-7	Right Rear Open Circuit on Hold Wire
11	2	12-8	Left Rear Rear Valve Config. Error
	3	12-1	Left Rear Rear Short to Voltage on Release Solenoid Wire
		12-5	Left Rear Rear Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	12-2	Left Rear Rear Short to Ground on Release Solenoid Wire
		12-6	Left Rear Rear Short to Ground on Hold Solenoid Wire
	5	12-3	Left Rear Rear Open Circuit on Release Solenoid Wire
		12-4	Left Rear Rear Open Circuit on Com- mon Wire
		12-7	Left Rear Rear Open Circuit on Hold Wire
12	2	13-8	Right Rear Rear Valve Config. Error
	3	13-1	Right Rear Rear Short to Voltage on Release Solenoid Wire
		13-5	Right Rear Rear Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	13-2	Right Rear Rear Short to Ground on Release Solenoid Wire

## Bendix Tractor ABS (Continued)

PID/ SID	FMI	Fault Code	Fault Description
12	4	13-6	Right Rear Rear Short to Ground on Hold Solenoid Wire
	5	13-3	Right Rear Rear Open Circuit on Release Solenoid Wire
		13-4	Right Rear Rear Open Circuit on Common Wire
		13-7	Right Rear Rear Open Circuit on Hold Wire
13	3	17-1	Retarder Relay Short to Voltage or Open Circuit
	4	17-2	Retarder Relay Short to Ground
14	3	10-9	Common Side of Valves - Stray Voltage Detected
		10-10	Common Side of Valves Shorted High
		11-9	Common Side of Valves - Stray Voltage Detected
		11-10	Common Side of Valves Shorted High
	4	10-11	Common Side of Valves - Shorted to Ground
		11-11	Common Side of Valves - Shorted to Ground
18	2	14-8	ATC Valve Configuration error
	3	14-5	ATC Valve Solenoid Shorted to Voltage
	4	14-6	ATC Valve Solenoid Shorted to Ground
	5	14-7	ATC Valve Solenoid Open Circuit
23	14	17-10	ABS Warning Light Shorted or Open (2X only)
151	14	8	Inter-axle Differential Control Circuit
		17-12	Sensor Fault bit set. Drive Vehicle to Clear
231	2	14-12	ATC Engine Data Link Error, J1939
		17-3	ATC Engine Data Link Error, J1939
		17-4	ATC Engine Data Link Error, J1939
L	12	15-9	ECU Internal Fault
249	2	14-12	ATC Engine Data Link Error, J1922
		17-3	ATC Engine Data Link Error, J1922
		17-4	ATC Engine Data Link Error, J1922

## Bendix Tractor ABS (Continued)

PID/ SID	FMI	Fault Code	Fault Description
251	2	16-11	High Differential Voltage Between Diagonals
	3	16-2	Low Voltage on Diagonal 1
		16-6	Low Voltage on Diagonal 2
		16-10	Low Voltage on Switched Ignition Input
	4	16-1	Excessive Voltage on Diagonal 1
		16-5	Excessive Voltage on Diagonal 2
		16-9	High Voltage on Switched Ignition Input
	5	16-3	No Voltage Found on Diagonal 1
		16-4	No Ground Found on Diagonal 1
		16-7	No Voltage Found on Diagonal 2
		16-8	No Ground Found on Diagonal 2
253	12	15-2	ECU Internal Fault
		15-4	ECU Internal Fault
	13	15-3	ECU Internal Fault
		15-8	ECU Internal Fault
		17-5	Tire Size Front to Rear Out of Ranger
		17-6	Tire Size Out of Ranger or Parameter Fault
254	0	15-5	ECU Internal Fault
	2	15-6	ECU Internal Fault
		15-7	ECU Internal Fault
	12	15-1	ECU Internal Fault
		15-10	ECU Internal Fault
		15-11	ECU Internal Fault
-	-	1-1	System OK
		17-7	Brake Switch not Pushed at the Power Cycle
		17-8	ATC System Disable for Dynamometer Test

# **MID 136 - Eaton Tractor ABS**

#### **Eaton Tractor ABS**

PID/ SID	FMI	Fault Code	Fault Description
1	0	2-1	Left Steer Air Gap too Large
	2	2-8	Left Steer Sensor Configuration Error
	8	2-2	Left Steer Air Gap too Lager or Sensor Shorted
		2-4	Left Steer Wheel Lock Excessive During ABS Cycle
		2-5	Left Steer Excessive Rate of Wheel Decel or Sensor Shorted
	10	2-3	Left Steer Sensor Signal is Noisy
	12	2-6	Left Steer Sensor Shorted or Open
		2-7	Left Steer Internal Sensor Port Error
2	0	3-1	Right Steer Air Gap too Large
	2	3-8	Right Steer Sensor Configuration Error
	8	3-2	Right Steer Air Gap too Lager or Sensor Shorted
		3-4	Right Steer Wheel Lock Excessive During ABS Cycle
		3-5	Right Steer Excessive Rate of Wheel Decel or Sensor Shorted
	10	3-3	Right Steer Sensor Signal is Noisy
	12	3-6	Right Steer Sensor Shorted or Open
		3-7	Right Steer Internal Sensor Port Error
3	0	4-1	Left Rear Air Gap too Large
	2	4-8	Left Rear Sensor Configuration Error
	8	4-2	Left Rear Air Gap too Lager or Sensor Shorted
		4-4	Left Rear Wheel Lock Excessive During ABS Cycle
		4-5	Left Rear Excessive Rate of Wheel Decel or Sensor Shorted
	10	4-3	Left Rear Sensor Signal is Noisy
	12	4-6	Left Rear Sensor Shorted or Open
		4-7	Left Rear Internal Sensor Port Error
4	0	5-1	Right Rear Air Gap too Large

## Eaton Tractor ABS (Continued)

PID/ SID	FMI	Fault Code	Fault
	0		Description
4	2	5-8	Right Rear Sensor Configuration Error
	8	5-2	Right Rear Air Gap too Lager or Sensor Shorted
		5-4	Right Rear Wheel Lock Excessive During ABS Cycle
		5-5	Right Rear Excessive Rate of Wheel Decel or Sensor Shorted
	10	5-3	Right Rear Sensor Signal is Noisy
	12	5-6	Right Rear Sensor Shorted or Open
		5-7	Right Rear Internal Sensor Port Error
5	0	6-1	Left Rear Rear Air Gap too Large
	2	6-8	Left Rear Rear Sensor Configuration Error
	8	6-2	Left Rear Rear Air Gap too Lager or Sensor Shorted
		6-4	Left Rear Rear Wheel Lock Excessive During ABS Cycle
		6-5	Left Rear Rear Excessive Rate of Wheel Decel or Sensor Shorted
	10	6-3	Left Rear Rear Sensor Signal is Noisy
	12	6-6	Left Rear Rear Sensor Shorted or Open
		6-7	Left Rear Rear Internal Sensor Port Error
6	0	7-1	Right Rear Rear Air Gap too Large
	2	7-8	Right Rear Rear Sensor Configuration Error
	8	7-2	Right Rear Rear Air Gap too Lager or Sensor Shorted
		7-4	Right Rear Rear Wheel Lock Excessive During ABS Cycle
		7-5	Right Rear Rear Excessive Rate of Wheel Decel or Sensor Shorted
	10	7-3	Right Rear Rear Sensor Signal is Noisy
	12	7-6	Right Rear Rear Sensor Shorted or Open
		7-7	Right Rear Rear Internal Sensor Port Error

## Eaton Tractor ABS (Continued)

PID/ SID	FMI	Fault Code	Fault Description
7	0	8-1	Left Steer Short to Voltage on Release Solenoid Wire
	2	8-8	Left Steer Valve Configuration Error
	8	8-2	Left Steer Short to Ground on Release Solenoid Wire
		8-4	Left Steer Open Circuit on Common Wire
		8-5	Left Steer Short to Voltage or Open Circuit on Hold Solenoid Wire
	10	8-3	Left Steer Open Circuit on Release Solenoid Wire
	12	8-6	Left Steer Short to Ground on Hold Solenoid Wire
		8-7	Left Steer Open Circuit on Hold Wire
8	2	9-8	Right Steer Valve Configuration Error
	3	9-1	Right Steer Short to Voltage on Release Solenoid Wire
		9-5	Right Steer Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	9-2	Right Steer Short to Ground on Release Solenoid Wire
		9-6	Right Steer Short to Ground on Hold Solenoid Wire
	5	9-3	Right Steer Open Circuit on Release Solenoid Wire
		9-4	Right Steer Open Circuit on Common Wire
		9-7	Right Steer Open Circuit on Hold Wire
9	2	10-8	Left Rear Valve Configuration Error
	3	10-1	Left Rear Short to Voltage on Release Solenoid Wire
	3	10-5	Left Rear Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	10-2	Left Rear Short to Ground on Release Solenoid Wire
		10-6	Left Rear Short to Ground on Hold Solenoid Wire
	5	10-3	Left Rear Open Circuit on Release Solenoid Wire

## Eaton Tractor ABS (Continued)

PID/ SID	FMI	Fault Code	Fault Description
9	5	10-4	Left Rear Open Circuit on Common Wire
		10-7	Left Rear Open Circuit on Hold Wire
10	2	11-8	Right Rear Valve Configuration Error
	3	11-1	Right Rear Short to Voltage on Release Solenoid Wire
		11-5	Right Rear Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	11-2	Right Rear Short to Ground on Release Solenoid Wire
		11-6	Right Rear Short to Ground on Hold Solenoid Wire
	5	11-3	Right Rear Open Circuit on Release Solenoid Wire
		11-4	Right Rear Open Circuit on Common Wire
		11-7	Right Rear Open Circuit on Hold Wire
11	2	12-8	Left Rear Rear Valve Config. Error
	3	12-1	Left Rear Rear Short to Voltage on Release Solenoid Wire
		12-5	Left Rear Rear Short to Voltage or Open Circuit on Hold Solenoid Wire
	4	12-2	Left Rear Rear Short to Ground on Release Solenoid Wire
		12-6	Left Rear Rear Short to Ground on Hold Solenoid Wire
	5	12-3	Left Rear Rear Open Circuit on Release Solenoid Wire
		12-4	Left Rear Rear Open Circuit on Com- mon Wire
		12-7	Left Rear Rear Open Circuit on Hold Wire
12	2	13-8	Right Rear Rear Valve Configuration Error
	3	13-1	Right Rear Rear Short to Voltage on Release Solenoid Wire
		13-5	Right Rear Rear Short to Voltage or Open Circuit on Hold Solenoid Wire

## Eaton Tractor ABS (Continued)

13-2	PID/ SID	FMI	Fault Code	Fault Description
Hold Solenoid Wire    13-3	12	4	13-2	
Release Solenoid Wire			13-6	=
Mon Wire   13-7   Right Rear Rear Open Circuit on Hold Wire   13-7   Right Rear Rear Open Circuit on Hold Wire   14   17-2   Retarder Relay Short to Voltage or Open Circuit   4   17-2   Retarder Relay Short to Ground   10-9   Common Side of Valves Shorted High   10-9   Common Side of Valves Shorted High   11-9   Common Side of Valves Shorted High   11-9   Common Side of Valves - Stray Voltage Detected   11-11   Common Side of Valves - Shorted to Ground   11-11   Common Side of Valves - Shorted to Ground   11-11   Common Side of Valves - Shorted to Ground   11-11   Common Side of Valves - Shorted to Ground   14-5   ATC Valve Configuration error   3   14-5   ATC Valve Solenoid Shorted to Voltage   4   14-6   ATC Valve Solenoid Shorted to Ground   5   14-7   ATC Valve Solenoid Open Circuit   23   14   17-10   ABS Warning Light Shorted or Open (2X only)   151   14   8   Inter-axle Differential Control Circuit   17-12   Sensor Fault bit set. Drive Vehicle to Clear   231   2   14-12   ATC Engine Data Link Error, J1939   17-3   ATC Engine Data Link Error, J1939   17-4   15-9   ECU Internal Fault   17-10   17-		5	13-3	
13   3   17-1   Retarder Relay Short to Voltage or Open Circuit   4   17-2   Retarder Relay Short to Ground   14   3   10-10   Common Side of Valves Shorted High   10-9   Common Side of Valves - Stray Voltage Detected   11-10   Common Side of Valves - Stray Voltage Detected   11-9   Common Side of Valves - Stray Voltage Detected   11-11   Common Side of Valves - Shorted to Ground   11-11   Common Side of Valves - Shorted to Ground   11-11   Common Side of Valves - Shorted to Ground   11-11   Common Side of Valves - Shorted to Ground   14-5   ATC Valve Configuration error   3   14-5   ATC Valve Solenoid Shorted to Voltage   4   14-6   ATC Valve Solenoid Shorted to Ground   5   14-7   ATC Valve Solenoid Open Circuit   23   14   17-10   ABS Warning Light Shorted or Open (2X only)   15-1   4   8   Inter-axle Differential Control Circuit   17-12   Sensor Fault bit set. Drive Vehicle to Clear   17-3   ATC Engine Data Link Error, J1939   17-4   ATC Engine Data Link Error, J1939   12   15-9   ECU Internal Fault   17-10   10-10			13-4	•
Open Circuit  4 17-2 Retarder Relay Short to Ground  14 3 10-10 Common Side of Valves Shorted High 10-9 Common Side of Valves - Stray Voltage Detected 11-10 Common Side of Valves Shorted High 11-9 Common Side of Valves - Stray Voltage Detected  4 10-11 Common Side of Valves - Shorted to Ground 11-11 Common Side of Valves - Shorted to Ground  11-11 Common Side of Valves - Shorted to Ground  11-11 Common Side of Valves - Shorted to Ground  11-12 ATC Valve Configuration error 3 14-5 ATC Valve Solenoid Shorted to Voltage 4 14-6 ATC Valve Solenoid Shorted to Ground 5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit 17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939 17-3 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939			13-7	•
14   3   10-10   Common Side of Valves Shorted High   10-9   Common Side of Valves - Stray Voltage Detected   11-10   Common Side of Valves Shorted High   11-9   Common Side of Valves - Stray Voltage Detected   4   10-11   Common Side of Valves - Shorted to Ground   11-11   Common Side of Valves - Shorted to Ground   11-11   Common Side of Valves - Shorted to Ground   3   14-5   ATC Valve Configuration error   3   14-5   ATC Valve Solenoid Shorted to Voltage   4   14-6   ATC Valve Solenoid Shorted to Ground   5   14-7   ATC Valve Solenoid Open Circuit   23   14   17-10   ABS Warning Light Shorted or Open (2X only)   151   14   8   Inter-axle Differential Control Circuit   17-12   Sensor Fault bit set. Drive Vehicle to Clear   231   2   14-12   ATC Engine Data Link Error, J1939   17-3   ATC Engine Data Link Error, J1939   17-4   ATC Engine Data Link Error, J1939   17-4   ATC Engine Data Link Error, J1939   17-4   ATC Engine Data Link Error, J1939   12   15-9   ECU Internal Fault   14   15   15   15   15   15   15   15	13	3	17-1	
10-9 Common Side of Valves - Stray Voltage Detected  11-10 Common Side of Valves Shorted High 11-9 Common Side of Valves - Stray Voltage Detected  4 10-11 Common Side of Valves - Shorted to Ground 11-11 Common Side of Valves - Shorted to Ground  18 2 14-8 ATC Valve Configuration error 3 14-5 ATC Valve Solenoid Shorted to Voltage 4 14-6 ATC Valve Solenoid Shorted to Ground 5 14-7 ATC Valve Solenoid Open Circuit 23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit 17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939 17-3 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939		4	17-2	Retarder Relay Short to Ground
Detected  11-10 Common Side of Valves Shorted High  11-9 Common Side of Valves - Stray Voltage Detected  4 10-11 Common Side of Valves - Shorted to Ground  11-11 Common Side of Valves - Shorted to Ground  11-11 Common Side of Valves - Shorted to Ground  18 2 14-8 ATC Valve Configuration error  3 14-5 ATC Valve Solenoid Shorted to Voltage  4 14-6 ATC Valve Solenoid Shorted to Ground  5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit  17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939  17-3 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939	14	3	10-10	Common Side of Valves Shorted High
11-9 Common Side of Valves - Stray Voltage Detected  4 10-11 Common Side of Valves - Shorted to Ground  11-11 Common Side of Valves - Shorted to Ground  11-11 Common Side of Valves - Shorted to Ground  18 2 14-8 ATC Valve Configuration error  3 14-5 ATC Valve Solenoid Shorted to Voltage  4 14-6 ATC Valve Solenoid Shorted to Ground  5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit  17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939  17-3 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  17-5 ECU Internal Fault			10-9	
Detected  4 10-11 Common Side of Valves - Shorted to Ground  11-11 Common Side of Valves - Shorted to Ground  18 2 14-8 ATC Valve Configuration error  3 14-5 ATC Valve Solenoid Shorted to Voltage  4 14-6 ATC Valve Solenoid Shorted to Ground  5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit  17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  12 15-9 ECU Internal Fault			11-10	Common Side of Valves Shorted High
Ground  11-11 Common Side of Valves - Shorted to Ground  18 2 14-8 ATC Valve Configuration error  3 14-5 ATC Valve Solenoid Shorted to Voltage  4 14-6 ATC Valve Solenoid Shorted to Ground  5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit  17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  12 15-9 ECU Internal Fault			11-9	
Ground  18 2 14-8 ATC Valve Configuration error  3 14-5 ATC Valve Solenoid Shorted to Voltage  4 14-6 ATC Valve Solenoid Shorted to Ground  5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit  17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  12 15-9 ECU Internal Fault		4	10-11	
3 14-5 ATC Valve Solenoid Shorted to Voltage 4 14-6 ATC Valve Solenoid Shorted to Ground 5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit  17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939  17-3 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  12 15-9 ECU Internal Fault			11-11	
4 14-6 ATC Valve Solenoid Shorted to Ground 5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit 17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 17-5 ECU Internal Fault	18	2	14-8	ATC Valve Configuration error
5 14-7 ATC Valve Solenoid Open Circuit  23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit  17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  17-4 ATC Engine Data Link Error, J1939  12 15-9 ECU Internal Fault		3	14-5	ATC Valve Solenoid Shorted to Voltage
23 14 17-10 ABS Warning Light Shorted or Open (2X only)  151 14 8 Inter-axle Differential Control Circuit 17-12 Sensor Fault bit set. Drive Vehicle to Clear  231 2 14-12 ATC Engine Data Link Error, J1939 17-3 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 17-5 ECU Internal Fault		4	14-6	ATC Valve Solenoid Shorted to Ground
(2X only)  151		5	14-7	ATC Valve Solenoid Open Circuit
231 2 14-12 ATC Engine Data Link Error, J1939 17-3 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 17-4 Engine Data Link Error, J1939 17-4 ECU Internal Fault	23	14	17-10	
231 2 14-12 ATC Engine Data Link Error, J1939 17-3 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 12 15-9 ECU Internal Fault	151	14	8	Inter-axle Differential Control Circuit
17-3 ATC Engine Data Link Error, J1939 17-4 ATC Engine Data Link Error, J1939 12 15-9 ECU Internal Fault			17-12	
17-4 ATC Engine Data Link Error, J1939 12 15-9 ECU Internal Fault	231	2	14-12	ATC Engine Data Link Error, J1939
12 15-9 ECU Internal Fault			17-3	ATC Engine Data Link Error, J1939
			17-4	ATC Engine Data Link Error, J1939
249 2 14-12 ATC Engine Data Link Error .11922		12	15-9	ECU Internal Fault
E 10 E 11 12 MO Engino Data Ellik Elloi, 01322	249	2	14-12	ATC Engine Data Link Error, J1922

#### Eaton Tractor ABS (Continued)

PID/ SID	FMI	Fault Code	Fault Description
249	2	17-3	ATC Engine Data Link Error, J1922
		17-4	ATC Engine Data Link Error, J1922
251	2	16-11	High Differential Voltage Between Diagonals
	3	16-2	Low Voltage on Diagonal 1
		16-6	Low Voltage on Diagonal 2
		16-10	Low Voltage on Switched Ignition Input
	4	16-1	Excessive Voltage on Diagonal 1
		16-5	Excessive Voltage on Diagonal 2
		16-9	High Voltage on Switched Ignition Input
	5	16-3	No Voltage Found on Diagonal 1
		16-4	No Ground Found on Diagonal 1
		16-7	No Voltage Found on Diagonal 2
		16-8	No Ground Found on Diagonal 2
253	12	15-2	ECU Internal Fault
		15-4	ECU Internal Fault
	13	15-3	ECU Internal Fault
		15-8	ECU Internal Fault
		17-5	Tire Size Front to Rear Out of Ranger
		17-6	Tire Size Out of Ranger or Parameter Fault
254	0	15-5	ECU Internal Fault
	2	15-6	ECU Internal Fault
		15-7	ECU Internal Fault
	12	15-1	ECU Internal Fault
		15-10	ECU Internal Fault
		15-11	ECU Internal Fault
-	-	1-1	System OK
		17-7	Brake Switch not Pushed at the Power Cycle
		17-8	ATC System Disable for Dynamometer Test

# **MID 136 - Wabco Pneumatic Tractor ABS**

Wabco Pneumatic Tractor ABS

PID/ SID	FMI	Fault Code	Fault Description
0	1, 8, 10	3+2	Left Front Steer Axle - Adjust Wheel Sensor
1	7	6+2	Left Front Steer Axle - Check for Damaged Tooth Wheel
	1, 8, 10	3+2	Left Front Steer Axle - Adjust Wheel Sensor
	2, 9, 11, 12	5+2	Left Front Steer Axle - Check for Tire Size Mismatch or Tooth Wheel Difference
	3, 4, 5, 6	4+2	Left Front Steer Axle - Check Sensor Resistance
2	1, 8, 10	3+1	Right front Steer Axle - Adjust Wheel Sensor
	2, 9, 11, 12	5+1	Right front Steer Axle - Check for Tire Size Mismatch or Tooth Wheel Difference
	3, 4, 5, 6	4+1	Right front Steer Axle - Check Sensor Resistance
	7	6+1	Right front Steer Axle - Check for Damaged Tooth Wheel
3	1,8, 10	3+4	Left Forward/Rear Tandem Drive Axle - Adjust Wheel Sensor
	2, 9, 11, 12	5+4	Left Forward/Rear Tandem Drive Axle - Check for Tire Size Mis- match or Tooth Wheel Difference
	3, 4, 5, 6	4+4	Left Forward/Rear Tandem Drive Axle - Check Sensor Resistance
	7	6+4	Left Forward/Rear Tandem Drive Axle - Check for Tire Size Mis- match or Tooth Wheel Difference
4	1, 8, 10	3+3	Right Forward/Rear tandem Drive Axle - Adjust Wheel Sensor
	2, 9, 11, 12	5+3	Right Forward/Rear tandem Drive Axle - Check for Tire Size Mis- match or Tooth Wheel Difference
	3, 4, 5, 6	4+3	Right Forward/Rear tandem Drive Axle - Check Sensor Resistance

Wabco Pneumatic Tractor ABS (Continued)

PID/	FMI	Fault	Fault
SID		Code	Description
4	7	6+3	Right Forward/Rear tandem Drive Axle - Check for Damaged Tooth Wheel
5	1, 8, 10	3+6	Left Rear/Rear Tandem Drive Axle - Adjust Wheel Sensor
	2, 9, 11, 12	5+6	Left Rear/Rear Tandem Drive Axle - Check for Tire Size Mismatch or Tooth Wheel Difference
	3, 4, 5, 6	4+6	Left Rear/Rear Tandem Drive Axle - Check Sensor Resistance
	7	6+6	Left Rear/Rear Tandem Drive Axle - Check for Tire Size Mismatch or Tooth Wheel Difference
6	1, 8, 10	3+5	Right Rear/Rear Tandem Drive Axle - Adjust Wheel Sensor
	2, 9, 11, 12	5+5	Right Rear/Rear Tandem Drive Axle - Check for Tire Size Mis- match or Tooth Wheel Difference
	3, 4, 5, 6	4+5	Right Rear/Rear Tandem Drive Axle - Check Sensor Resistance
	7	6+5	Right Rear/Rear Tandem Drive Axle - Check for Tire Size Mis- match or Tooth Wheel Difference
7	3, 5, 6	2+2	Left Front Steer Axle - Check ABS Modulator Valve
8	3, 5, 6	2+1	Right front Steer Axle - Check ABS Modulator Valve
9	3, 5, 6	2+4	Left Forward/Rear Tandem Drive Axle - Check ABS Modulator Valve
10	3, 5, 6	2+3	Right Forward/Rear tandem Drive Axle - Check ABS Modulator Valve
11	3, 5, 6	2+6	Left Rear/Rear Tandem Drive Axle - Check ABS Modulator Valve
12	3, 5, 6	2+5	Right Rear/Rear Tandem Drive Axle - Check ABS Modulator Valve
13	3, 5, 6	7+3	Check Retarder Connection
14, 15	3, 5, 6	8+5	Check all ABS Valve and/or ATC Valve Ground Connections
	4	8+1	Check Vehicle Voltage

# MID 136 - Wabco Pneumatic Tractor ABS

## Wabco Pneumatic Tractor ABS (Continued)

Traboo i noamatio matter ribo (continuou)			
PID/ SID	FMI	Fault Code	Fault Description
14, 15	7	8+3	Verify Accuracy of Blink Code and Clear from ECU Memory
18	3, 5, 6	7+2	Check ATC Valve
19	3, 5, 6	7+6	Verify Accuracy of Blink Code and Clear from ECU Memory
23	5	7+4	Check ABS Indicator Lamp Connections
231	2, 5, 6, 7, 8, 9, 10	7+1	Check for Proper Data Link Con- nection
	12	8+3	Exhaust Retarder May cause Instability
251	3, 14	8+3	Check Vehicle Voltage
253	2, 12	8+4	Verify all ECU Connections
254	8	7+1	Check for Proper Data Link Con- nection
	9	2+1	Right front Steer Axle - Check ABS Modulator Valve
	12	8+3	Internal Error
	13, 14	8+6	RSC, RSA Disabled
-	-	1+1	System OK

# MID 136 - Wabco Hydraulic ABS

#### Wabco Hydraulic ABS

PID/	FMI	Fault	Fault
SID		Code	Description
1	1	3+2	Left Front - Adjust Wheel Sensor
	2	5+2	Left Front - Check for Tire Size Mismatch or Tooth Wheel Differ- ence
	2, 5	4+2	Left Front - Check Sensor Resistance
	7	6+2	Left Front - Check for Damaged Tooth Wheel
2	1	3+1	Right Front - Adjust Wheel Sensor
	2	5+1	Right Front - Check for Tire Size Mismatch or Tooth Wheel Differ- ence
	2, 5	4+1	Right Front - Check Sensor Resistance
	7	6+1	Right Front - Check for Dam- aged Tooth Wheel
3	1	3+4	Left Rear - Adjust Wheel Sensor
	2	5+4	Left Rear - Check for Tire Size Mismatch or Tooth Wheel Differ- ence
	2, 5	4+4	Left Rear - Check Sensor Resistance
	7	6+4	Left Rear - Check for Tire Size Mismatch or Tooth Wheel Differ- ence
4	1	3+3	Right Rear - Adjust Wheel Sensor
	2	5+3	Right Rear - Check for Tire Size Mismatch or Tooth Wheel Differ- ence
	2, 5	4+3	Right Rear - Check Sensor Resistance
			D' 1 D OI 1 C D 1
	7	6+3	Right Rear - Check for Damaged Tooth Wheel

## Wabco Hydraulic ABS (Continued)

PID/	FMI	Fault	Fault
SID	1 1011	Code	Description
23	5	7+4	Check ABS Indicator Lamp Connections
30	3, 5, 6, 7	7+8	Recirculation Pump
42	3, 5, 6	2+2	Left Front - Solenoid Inlet Valve
43	3, 5, 6	2+1	Right Front - Solenoid Inlet Valve
44	3, 5, 6	2+4	Left Rear - Solenoid Inlet Valve
45	3, 5, 6	2+3	Right Rear - Solenoid Inlet Valve
48	3, 5, 6	2+2	Left Front - Solenoid Outlet Valve
49	3, 5, 6	2+1	Right Front - Solenoid Outlet Valve
50	3, 5, 6	2+4	Left Rear - Solenoid Outlet Valve
51	3, 5, 6	2+3	Right Rear - Solenoid Outlet Valve
54	3, 4, 7	7+7	Recirculation Pump
55	2	2+7	Check Ground Connection
251	3	8+2	Check Vehicle Voltage
	4, 5	8+1	Check Vehicle Voltage
253	2	8+4	Tire Parameter
254	12	8+3	Tire Parameter
-	-	1+1	System OK