

# ISO 15031-5:2011-04 (E)

## Road vehicles - Communication between vehicle and external equipment for emissions-related diagnostics - Part 5: Emissions-related diagnostic services

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>2</b>
<b>3</b>	<b>Terms, definitions and abbreviated terms .....</b>	<b>3</b>
3.1	Terms and definitions .....	3
3.2	Abbreviated terms .....	5
<b>4</b>	<b>Conventions .....</b>	<b>6</b>
<b>5</b>	<b>Document overview .....</b>	<b>6</b>
<b>6</b>	<b>Technical requirements .....</b>	<b>6</b>
6.1	General requirements .....	6
6.2	Diagnostic service requirements .....	7
6.3	Diagnostic message format .....	34
6.4	Byte Order Convention .....	38
6.5	Allowance for expansion and enhanced diagnostic services .....	38
6.6	Definition of PIDs for services 0x01 and 0x02 .....	39
6.7	Format of data to be displayed .....	39
<b>7</b>	<b>Diagnostic service definition for ISO 9141-2, ISO 14230-4, and SAE J1850 .....</b>	<b>39</b>
7.1	Service 0x01 -- Request current powertrain diagnostic data .....	39
7.2	Service 0x02 -- Request powertrain freeze frame data .....	44
7.3	Service 0x03 -- Request emission-related diagnostic trouble codes .....	48
7.4	Service 0x04 -- Clear/Reset emission-related diagnostic information .....	53
7.5	Service 0x05 -- Request oxygen sensor monitoring test results .....	55
7.6	Service 0x06 -- Request On-board monitoring test results for Specific monitored systems .....	60
7.7	Service 0x07 -- Request emission-related diagnostic trouble codes detected during current or last completed driving cycle .....	65
7.8	Service 0x08 -- Request control of on-board system, test or component .....	66
7.9	Service 0x09 -- Request vehicle information .....	69
8.1	Service 0x01 -- Request current powertrain diagnostic data .....	83
8.2	Service 0x02 -- Request powertrain freeze frame data .....	89
8.3	Service 0x03 -- Request emission-related diagnostic trouble codes .....	95
8.4	Service 0x04 -- Clear/Reset emission-related diagnostic information .....	98
8.5	Service 0x05 -- Request oxygen sensor monitoring test results .....	100
8.6	Service 0x06 -- Request on-board monitoring test results for specific monitored systems .....	100
8.7	Service 0x07 -- Request emission-related diagnostic trouble codes detected during current or last completed driving cycle .....	110
8.8	Service 0x08 -- Request control of on-board system, test or component .....	111
8.9	Service 0x09 -- Request vehicle information .....	115
8.10	Service 0x0A -- Request emission-related diagnostic trouble codes with permanent status .....	127
Bibliography .....		129