

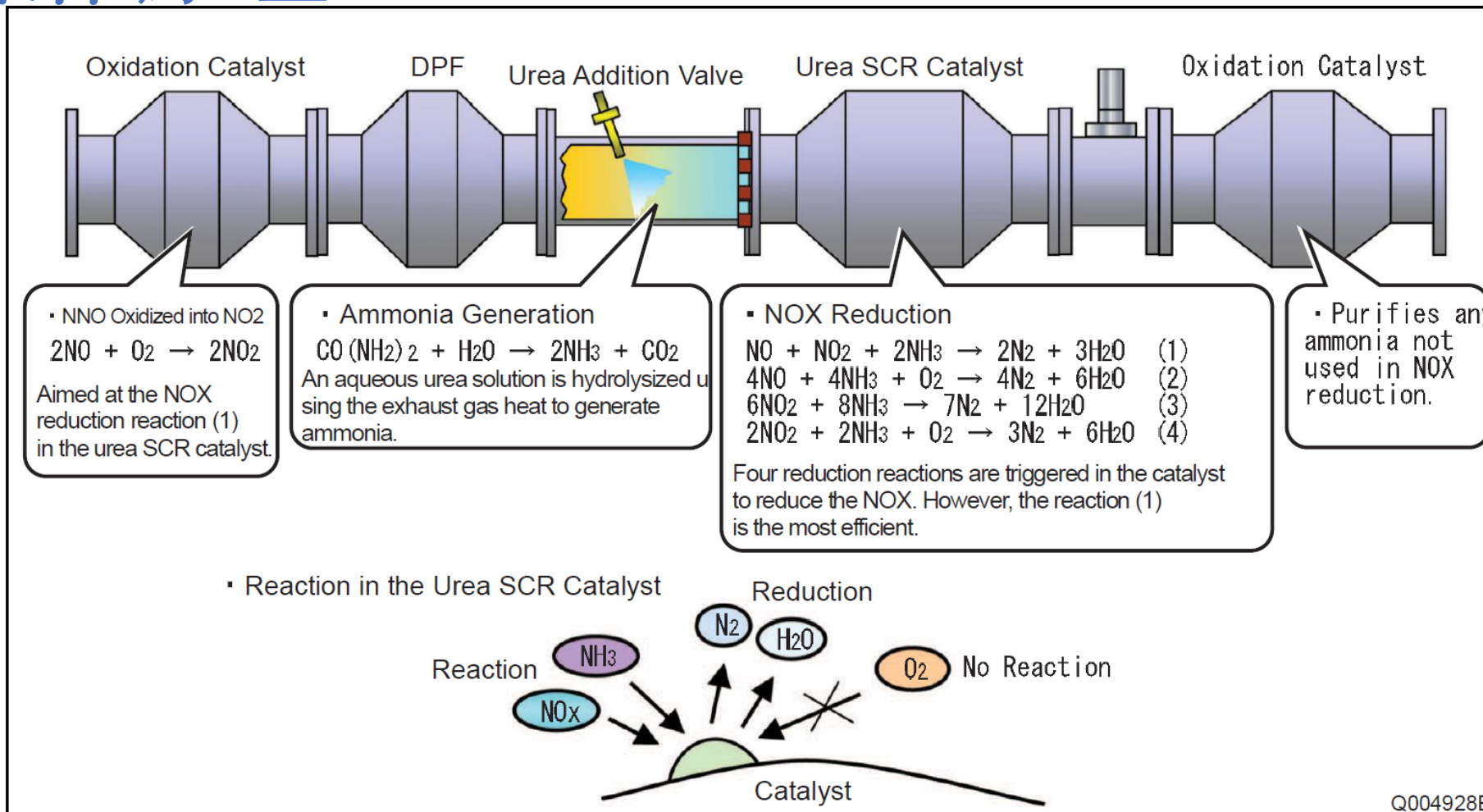


香港商用車維修業協會
Hong Kong Commercial Vehicle Maintenance Association

Inspection and Maintenance of DPD System

柴油微粒過濾裝置的 檢查和維護

Operating principle 操作原理



Q004928E



DPD Common Problems 常見問題

Operation Problems 操作問題

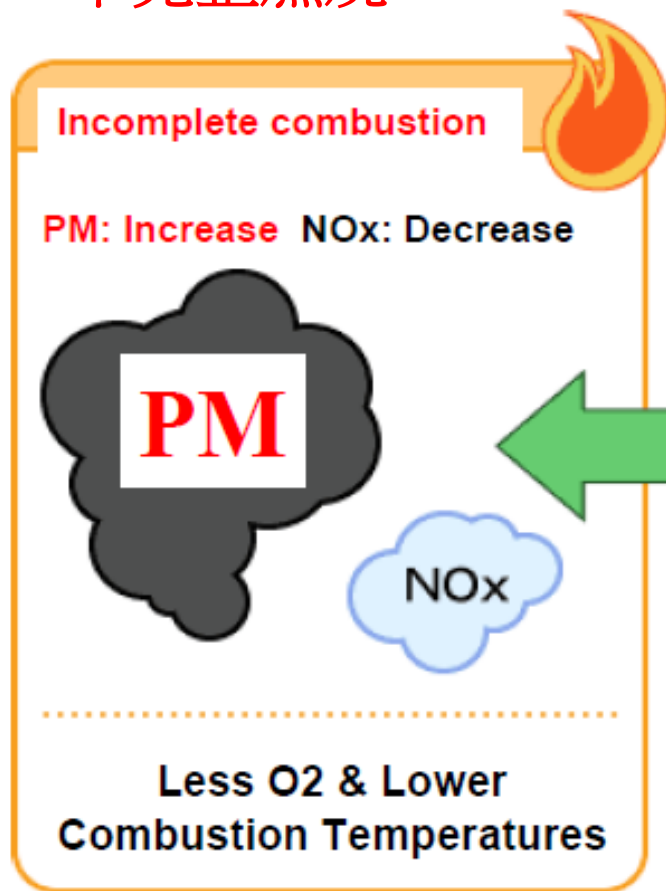
- DPD PM Over Loading / Prolong Idling DPD PM超負荷 / 長時間怠速
- Improper / Incomplete Regeneration 不完整再生
- Incorrect application of Fuel or Lubricant 使用錯誤柴油和機油

Consequences 後果

- High Soot rate and High Back Pressure 高炭黑和高背壓
- Thermal Stress of DPD 熱應力
- Sticky EGR Valve EGR 閥門阻塞
- Turbocharger failure 渦輪增壓損壞
- Fuel line and Nozzle damage 燃油油路及噴嘴損壞

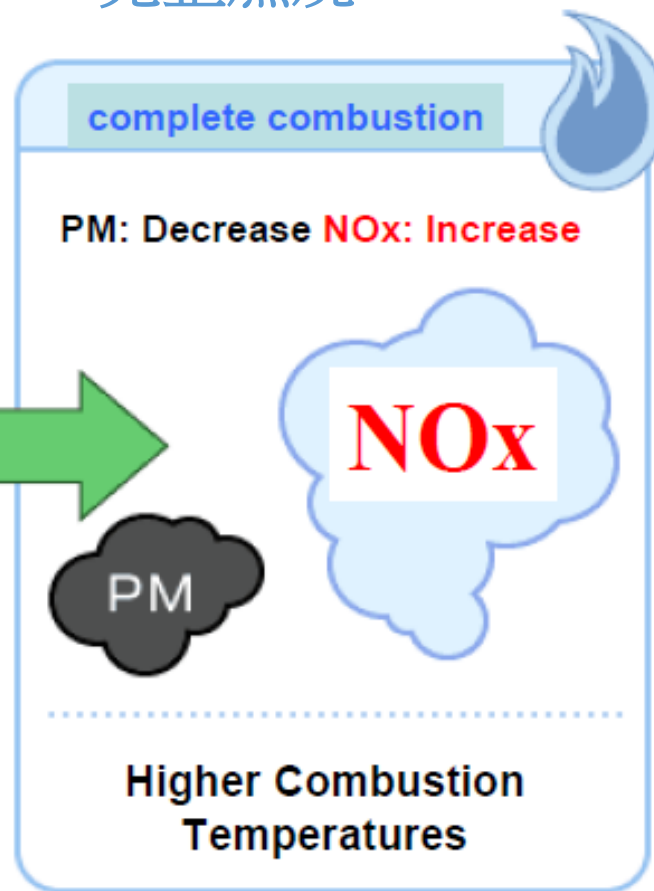
PM和NOx的關係

不完整燃燒



少氧和較低燃燒溫度

完整燃燒



高燃燒溫度



Inspection and Maintenance 檢查和維修

- Diagnostic Trouble Code 錯誤碼表
- DPD Check List 微粒過濾裝置檢查表
- Diagnostic tools 電腦檢測工具



Diagnostic Trouble Code 錯誤碼

DTC	Detection Item	檢測項目
P000F	Rail pressure too low	共軌壓力太低
P0016	Crankshaft position-intake camshaft position correlation bank 1	曲軸位置進氣凸輪軸位置相關庫1
P0027	Exhaust brake valve stick	排氣製動閥粘
	Exhaust throttle valve stick	排氣節流閥粘
P003A	Variable Geometry Turbo (VGT) module wiping too wide error	可變幾何渦輪 (VGT) 模塊擦拭太寬錯誤
P0045	VGT module motor circuit short and GND short/position control abnormal/power supply voltage high error	VGT模塊電機短路和GND短路/位置控制異常/電源電壓偏高
	VGT module control response abnormal	VGT模塊控制響應異常
P006E	VGT module power supply voltage low error	VGT模塊電源電壓偏低
P0079	Exhaust throttle GND short	排氣節流閥GND短路
P007C	Charge Air Cooler (CAC) out temperature sensor circuit low voltage	充氣冷卻器 (CAC) 輸出溫度傳感器電路低電壓
P007D	CAC out temperature sensor circuit high voltage	CAC輸出溫度傳感器電路高電壓
P0080	Exhaust throttle +B short	排氣節氣門+ B短路
P0087	Rail pressure low during power enrichment	功率提升期間的共軌壓力較低
P0088	Rail pressure too high	共路壓力太高
	Fuel pressure regulator 1 performance	燃油壓力調節器1性能
P0089	Rail pressure exceeds high upper limit	共軌壓力超過上限
P0091	Rail fuel pressure regulator solenoid 1 control circuit	共軌燃油壓力調節器電磁閥1控制電路
P0092	Rail fuel pressure regulator solenoid 1 control circuit	共軌燃油壓力調節器電磁閥1控制電路
P0093	Rail fuel pressure low during idle or deceleration fuel cut-off	在怠速或減速燃油切斷期間，燃油壓力低
P0097	Intake manifold temperature sensor 2 circuit low	進氣歧管溫度傳感器2電路低
P0098	Intake manifold temperature sensor 2 circuit high	進氣歧管溫度傳感器2電路高
P00AF	VGT module memory access abnormal	VGT模塊內存訪問異常
P0101	Mass Air Flow (MAF) meter rationality low	空氣質量流量 (MAF) 計量合理性低值
	MAF meter rationality high	MAF儀表合理性高值
P0102	MAF meter circuit low	MAF電錶電路低值
P0103	MAF meter circuit high	MAF儀表電路高值
P0112	Intake air temperature sensor circuit low	進氣溫度傳感器電路低
P0113	Intake air temperature sensor circuit high	進氣溫度傳感器電路高值
P0116	Engine coolant temperature sensor performance	引擎冷卻液溫度傳感器性能
P0117	Engine coolant temperature sensor circuit low	引擎冷卻液溫度傳感器電路低值
P0118	Engine coolant temperature sensor circuit high	引擎冷卻液溫度傳感器電路高值
P011C	CAC temperature outlet sensor surveillance	CAC溫度出口傳感器監視
P0126	Engine coolant temperature insufficient for stable operation	引擎冷卻液溫度不足以穩定運行
P0128	Engine coolant temperature below thermostat regulating temperature	引擎冷卻液溫度低於恆溫器調節溫度
P0171	Injector quantity lean performance	噴油咀噴注量貧
P0172	Injector quantity rich performance	噴油咀噴注量豐
P0181	Fuel temperature sensor intermediate hold	燃料溫度傳感器維持中間值
P0182	Fuel temperature sensor A circuit low	燃油溫度傳感器電路低值
P0183	Fuel temperature sensor A circuit high	燃油溫度傳感器電路高值
P018B	Rail pressure sub-sensor signal keeping the middle range	共軌壓力分傳感器信號保持中間範圍
	Rail pressure sub-sensor performance 1	共軌壓力分傳感器的性能1
	Rail pressure sub-sensor performance 2	共軌壓力分傳感器性能2



Diagnostic Trouble Code 錯誤碼

P018C	Rail pressure sub-sensor circuit low voltage	共軌壓力分傳感器電路電壓低
P018D	Rail pressure sub-sensor circuit high voltage	共軌壓力分傳感器電路電壓高
P0191	Rail pressure sensor signal keeping the middle range	共軌壓力傳感器信號保持在中間範圍
	Rail pressure sensor performance 1	共軌壓力傳感器的性能1
	Rail pressure sensor performance 2	共軌壓力傳感器的性能2
P0192	Rail pressure sensor circuit low voltage	共軌壓力傳感器電路電壓低
P0193	Rail pressure sensor circuit high voltage	共軌壓力傳感器電路電壓高
P0201	TWV 1 output open load injector#1 coil open	TWV 1輸出開式負載噴油器 # 1線圈斷路
P0202	TWV 4 output open load injector#2 coil open	TWV 4輸出開式負載噴油器 # 2線圈斷路
P0203	TWV 2 output open load injector#3 coil open	TWV 2輸出開式負載噴油器 # 3線圈斷路
P0204	TWV 3 output open load injector#4 coil open	TWV 3輸出開式負載噴油器 # 4線圈斷路
P020A	Injector #1 quantity increase failure	燃油噴咀 # 1噴量增加失敗
	Injector #1 quantity decrease failure	燃油噴咀 # 1噴量減少失敗
P020B	Injector #2 quantity increase failure	燃油噴咀 # 2噴量增加失敗
	Injector #2 quantity decrease failure	燃油噴咀 # 2噴量減少失敗
P020C	Injector #3 quantity increase failure	燃油噴咀 # 3噴量增加失敗
	Injector #3 quantity decrease failure	燃油噴咀 # 3噴量減少失敗
P020D	Injector #4 quantity increase failure	燃油噴咀 # 4噴量增加失敗
	Injector #4 quantity decrease failure	燃油噴咀 # 4噴量減少失敗
P0219	Engine overrun	引擎超速
	Engine overrun 2	引擎超速2
P0234	Turbo/supercharger engine overboost	渦輪/增壓器引擎過度增壓
P0237	Turbo/supercharger boost sensor A circuit low	渦輪/增壓器升壓傳感器電路低值
P0238	Turbo/supercharger boost sensor A circuit high	渦輪/增壓器升壓傳感器電路高值
P0261	Injector #1 (TWV 1) load short (coil short/terminal short)	燃油噴咀 # 1 (TWV 1) 負載短路 (線圈短路/終端短路)
P0264	Injector #4 (TWV 4) load short (coil short/terminal short)	燃油噴咀 # 4 (TWV 4) 負載短路 (線圈短路/終端短路)
P0267	Injector #2 (TWV 2) load short (coil short/terminal short)	燃油噴咀 # 2 (TWV 2) 負載短路 (線圈短路/終端短路)
P0270	Injector #3 (TWV 3) load short (coil short/terminal short)	燃油噴咀 # 3 (TWV 3) 負載短路 (線圈短路/終端短路)
P0299	Turbo/supercharger engine underboost	渦輪/增壓器引擎低度增壓
P02E2	THR DC motor output open load motor open load	THR 直流電機輸出空載電機開路負載
P02E3	THR DC motor output short to battery/short to GND motor short	THR 直流電機輸出短路至電池/短路至GND電機短路
P02E7	Intake throttle stuck closed	進氣油門卡住-關閉
	Intake throttle stuck open	進氣油門卡住-打開
	Intake throttle open learning error	進氣節氣門打開訊息傳遞錯誤
	Intake throttle closed learning error	進氣節氣門關閉訊息傳遞錯誤
P02E8	Intake throttle position too low	進氣節氣門位置太低
P02E9	Intake throttle position too high	進氣節氣門位置太高
P0300	Engine misfire detected	檢測到引擎失火
P0301	Cylinder 1 misfire detected	檢測到氣缸1失火
P0302	Cylinder 2 misfire detected	檢測到氣缸2失火
P0303	Cylinder 3 misfire detected	檢測到氣缸3失火
P0304	Cylinder 4 misfire detected	檢測到氣缸4失火
P0335	Crankshaft position sensor A circuit	曲軸位置傳感器 A 電路



Diagnostic Trouble Code 錯誤碼

P0336	Crankshaft position sensor A performance	曲軸位置傳感器 A 性能
P0340	Intake camshaft position sensor circuit bank 1	進氣凸輪軸位置傳感器電路匯流排1
P0341	Intake camshaft position sensor performance bank 1	進氣凸輪軸位置傳感器性能匯流排1
P0381	Wait to start light control module internal circuit (short to BATT) Wait to start light control module internal circuit (open load/short to GND)	等待啟動燈光控制模塊內部電路 (對電池短路) 等待啟動燈光控制模塊的內部電路 (開路負載/接地短路)
P0401	MAF meter performance (Exhaust Gas Recirculation [EGR] negative deviation)	MAF儀表性能 (廢氣再循環[EGR]負偏差)
P0402	MAF meter performance (EGR positive deviation)	MAF儀表性能 (EGR正偏差)
P0403	EGR duty error EGR brushless motor circuit too high EGR brushless motor circuit too low EGR brushless motor circuit too open	EGR工作任務錯誤 EGR無刷電機電路過高 EGR無刷電機電路太低 EGR無刷電機電路常斷
P0404	EGR open position performance	EGR打開位置性能
P0405	EGR brushless motor position sensor signal invalid low	EGR無刷電機位置傳感器信號無效-低值
P0406	EGR brushless motor position sensor signal invalid high	EGR無刷電機位置傳感器信號無效-高值
P040B	EGR gas sensor performance	EGR氣體傳感器性能
P040C	EGR gas temperature too low	EGR氣體溫度太低
P040D	EGR gas temperature too high	EGR氣體溫度過高
P041B	EGR gas sensor 2 performance	EGR氣體傳感器2的性能
P041C	EGR gas temperature 2 too low	EGR氣體溫度2太低
P041D	EGR gas temperature 2 too high	EGR氣體溫度2太高
P0420	DPF deterioration 2	DPF老化2
P042E	EGR closed position performance	EGR關閉位置表現
P046C	EGR closed learning	EGR關閉訊息傳遞
P0500	Vehicle speed sensor circuit	車速傳感器電路
P0506	Low target idle speed	低目標怠速
P0507	High target idle speed	高目標怠速
P0512	Starter switch short to BATT	啟動器開關切換擊短路到電池 BATT
P0522	Oil pressure sensor signal too low	油壓傳感器信號太低
P0523	Oil pressure sensor signal too high	油壓傳感器信號太高
P0545	Exhaust gas temperature before oxidation catalyst too low	氧化催化器之前的排氣溫度太低
P0546	Exhaust gas temperature before oxidation catalyst too high	氧化催化器之前的排氣溫度太高
P0562	System low voltage status determination	系統低電壓狀態確定
P0563	System high voltage status determination	系統高電壓狀態確定
P0567	Cruise control resume switch determination	巡航控制恢復開關確定
P0568	Cruise control set switch determination	巡航控制設置開關確定
P0571	Cruise control brake switch determination	巡航控制制動開關的確定
P0602	QR code error	QR碼錯誤
P0606	Engine ECU processor (main CPU fault) Engine ECU processor (watchdog IC fault)	引擎ECU處理器 (主CPU故障) 引擎ECU處理器 (監察器IC故障)
P062F	Control module long term memory performance	控制模塊長期記憶性能
P0642	Battery 5 V reference 1 circuit low	電池5 V參考1電路低
P0643	Battery 5 V reference 1 circuit high	電池5 V參考1電路高
P064C	Glow plug module control circuit Glow plug module INTST Glow plug module MEEPST	電熱塞模塊控制電路 電熱塞模塊INTST 電熱塞模塊MEEPST



Diagnostic Trouble Code 錯誤碼

P0650	Malfunction Indicator Lamp (MIL) control circuit monitoring (short to BATT) MIL control circuit monitoring (open load/short to GND)	故障指示燈 (MIL) 控制電路監控 (對BATT短路) MIL控制電路監視 (開路負載/短接GND)
P0652	Battery 5 V reference 2 circuit low	電池5 V參考2電路低
P0653	Battery 5 V reference 2 circuit high	電池5 V參考2電路高
P0671	Cylinder 1 glow plug circuit	氣缸1預熱塞電路
P0672	Cylinder 2 glow plug circuit	氣缸2預熱塞電路
P0673	Cylinder 3 glow plug circuit	氣缸3預熱塞電路
P0674	Cylinder 4 glow plug circuit	汽缸4預熱塞電路
P0687	Main relay diagnostics; main relay stuck closed	主繼電器診斷;主繼電器卡住了
P0698	Battery 5 V reference 3 circuit low	電池5 V參考3電路低
P0699	Battery 5 V reference 3 circuit high	電池5 V參考3電路高
P0700	Transmission control module requested MIL illumination monitoring	動力傳輸控制模塊請求MIL照明監控
P1072	Compressor outlet temperature sensor circuit low voltage	壓縮機出口溫度傳感器電路電壓低
P1073	Compressor outlet temperature sensor circuit high voltage	壓縮機出口溫度傳感器電路高電壓
P1076	CAC in temperature sensor circuit low voltage	CAC在溫度傳感器電路中低電壓
P1077	CAC in temperature sensor circuit high voltage	CAC在溫度傳感器電路中高電壓
P1078	CAC temperature inlet sensor surveillance	CAC溫度入口傳感器監視
P1085	Supply pump protection Supply pump exchange	燃油供應泵保護 燃油供應泵交換
P1102	Rail pressure sensor performance (correlation abnormal)	共軌壓力傳感器性能 (相關異常)
P1125	Accelerator Pedal Position (APP) system	加速踏板位置 (APP) 系統
P113A	O2 signal of NOx sensor rationality	NOx傳感器合理性的O2信號
P1236	CAC performance	CAC表現
P1259	Rail fuel pressure low during power enrichment	在增強功率期間共軌燃料壓力低
P1261	Capacitor charge-up circuit malfunction (insufficient charge) Capacitor charge-up circuit malfunction (excessive charge)	電容器充電電路故障 (電量不足) 電容器充電電路故障 (過度充電)
P1463	DeNOx-DS error for SVS lighting request	SVS照明請求的DeNOx-DS錯誤
P1470	DPF exhaust presser performance	DPF排氣壓力機性能
P1471	DPF regeneration insufficiency	DPF再生不足
P160B	Q DATA cross check error	Q DATA交叉檢查錯誤
P2002	DPF deterioration (II)	DPF老化 (II)
P2032	Exhaust gas temperature before DPF too low	DPF之前的排氣溫度太低
P2033	Exhaust gas temperature before DPF too high	DPF之前的排氣溫度太高
P20C9	DeNOx-DS error for MIL lighting request	針對MIL照明請求的DeNOx-DS錯誤
P20CB	Exhaust injector circuit GND short/open load	排氣噴油器電路GND短路/開路負載
P20CC	Exhaust injector circuit BATT short Exhaust injector circuit load short	排氣噴油器電路BATT短路 排氣噴油器電路負載短路
P20CF	Exhaust injector performance	排氣噴油器性能
P20DE	Exhaust injector pressure sensor performance high Exhaust injector pressure sensor performance low	排氣噴油器壓力傳感器性能高 排氣噴油器壓力傳感器性能低
P20DF	Exhaust injector pressure sensor circuit low voltage	排氣噴油器壓力傳感器電路電壓過低
P20E0	Exhaust injector pressure sensor circuit high voltage	排氣噴油器壓力傳感器電路高電壓
P20E2	Exhaust gas temperature sensor surveillance	排氣溫度傳感器監視
P2122	Accelerator pedal position sensor no. 1 low range	油門踏板位置傳感器編號1低範圍
P2123	Accelerator pedal position sensor no. 1 high range	油門踏板位置傳感器編號1高範圍
P2127	Accelerator pedal position sensor no. 2 low range	油門踏板位置傳感器編號2低範圍




Diagnostic Trouble Code 錯誤碼

P2128	Accelerator pedal position sensor no.2 high range	油門踏板位置傳感器編號2高範圍
P2138	Accelerator pedal position sensor no. 1 & 2 correlation check	油門踏板位置傳感器編號1和2相關性檢查
P2146	COM 1 output open load; Both TWV 1 and 3 (and 5) open load	COM 1輸出開路負載; TWV 1和3 (和5) 開路負載
P2147	COM 1 output short to GND; TWV 1 or 3 (or 5) output short to GND	COM 1輸出短路到GND; TWV 1或3 (或5) 輸出短路到GND
P2148	COM 1 output short to BATT; TWV 1 or 3 (or 5) output short to BATT	COM 1輸出短路到BATT; TWV 1或3 (或5) 輸出短路到BATT
P2149	COM 2 output open load; Both TWV 2 or 4 (or 6) open load	COM 2輸出開路負載; TWV 2或4 (或6) 開路負載
P2150	COM 2 output short to GND; TWV 2 or 4 (or 6) output short to GND	COM 2輸出短路到GND; TWV 2或4 (或6) 輸出短路到GND
P2151	COM 2 output short to BATT; TWV 2 or 4 (or 6) output short to BATT	COM 2輸出短路到BATT; TWV 2或4 (或6) 輸出短路到BATT
P2199	THA-THA 2 sensor surveillance	THA-THA 2傳感器監控
P2227	Barometric pressure (BARO) sensor performance	氣壓 (BARO) 傳感器性能
P2228	Barometric pressure (BARO) sensor circuit low voltage	氣壓 (BARO) 傳感器電路電壓低
P2229	Barometric pressure (BARO) sensor circuit high voltage	氣壓 (BARO) 傳感器電路高電壓
P2262	Turbo/supercharger engine underboost	渦輪/增壓器引擎低度增壓
P2263	VGT slow response up side	VGT反應緩慢 - 高端
	VGT slow response down side	VGT反應遲緩 - 低端
P226B	Turbo/supercharger engine overboost	渦輪/增壓器引擎過度增壓
P2413	EGR slow response ON	EGR反應慢ON (開放)
	EGR slow response OFF	EGR反應慢OFF (關閉)
P2428	Exhaust gas temperature sensor before oxidation catalyst too high	氧化催化器之前的排氣溫度傳感器過高
	Exhaust gas temperature sensor before oxidation catalyst too low	氧化催化器之前的排氣溫度傳感器太低
P244B	DPF PM over accumulation	DPF PM過度積累
P244C	DPF deterioration	DPF老化
P244D	Exhaust gas temperature sensor before DPF too high	DPF之前的排氣溫度傳感器太高
	Exhaust gas temperature sensor before DPF too low	DPF之前的排氣溫度傳感器太低
P2453	DPF pressure sensor performance	DPF壓力傳感器的性能
P2454	Exhaust gas pressure reference too low	排氣壓力參考值過低
P2455	Exhaust gas pressure reference too high	排氣壓力參考值過高
P2457	EGR cooler inferiority	EGR冷卻器的劣勢
P2459	DPF regeneration excessive frequency	DPF再生頻率過高
P2463	DPF trip over accumulation	DPF工作行程過度積累
P254C	Auxiliary engine RPM sensor circuit low	輔助發動機轉速傳感器電路低
P254D	Auxiliary engine RPM sensor circuit high	輔助發動機轉速傳感器電路高
P2564	VGT hole IC sensor circuit low	VGT孔IC傳感器電路低
P2565	VGT hole IC sensor circuit high	VGT孔IC傳感器電路高
P256C	Idle Air Control (IAC) valve control circuit low voltage	怠速空氣控制 (IAC) 閥門控制電路低電壓
P256D	IAC valve control circuit high voltage	IAC閥門控制電路高壓
P268A	QR code not programmed	QR碼未編程
U0001	CAN bus 2 reset counter overrun	CAN總線2復位計數器溢出
U0073	CAN bus reset counter overrun	CAN總線復位計數器溢出
U0101	Lost CAN communication (CAN SOH) with TM control system	與TM控制系統丟失CAN通信 (CAN SOH)
U0106	Glow plug module communication failure	電熱塞模塊通訊失敗
U010C	VGT module communication failure	VGT模塊通訊失敗
U010E	DeNOx-DS communication time-out	DeNOx-DS通訊超時
U0121	CAN ABS SOH diagnostic	CAN ABS SOH診斷
U0307	GPCM engine ID diagnostic	GPCM引擎ID診斷






DPD Check List 微粒過濾裝置檢查表



香港商用車維修業協會
Hong Kong Commercial Vehicle Maintenance Association



DTC Failure Record 故障記錄

Lin No.車號: _____
 Chassis No.底身編號: _____
 Engine No.引擎編號: _____
 Date日期: _____
 Mileage車數: _____
 Fuel Source燃油來源: _____

DTC Code 故障碼	

DTC Failure Record DTC 故障記錄			
SN	Data Description 數據描述	Reading 讀數	Unit 單位
1	Calculated Engine Load 計算的引擎負荷	%	%
2	Coolant Temperature 冷卻液溫度	Deg C	Deg C
3	Boost Pressure 提升壓力	kPa	kPa
4	Engine Speed 引擎速度	RPM	RPM
5	Vehicle Speed 車速	Kmh	Kmh
6	Intake Air Temperature 進氣溫度	Deg C	Deg C
7	Engine Runtime 引擎運行時間	Seconds	Seconds
8	Distance While MIL is Active MIL 燈亮時的距離	Km	Km
9	Fuel Rail Pressure 燃料供軌壓力	Mpa	Mpa
10	Barometric Pressure 氣壓	kPa	kPa
11	Engine Runtime with MIL MIL 燈亮運行時間	Min	Min
12	Slow Plug Index Command (ON/OFF) 電熱線電磁指令 (開/關)	----	----
13	Exhaust Throttle Status (ON/OFF) 排氣節流門狀態 (開/關)	----	----
14	Fuel Filter Switch (ON/OFF) 燃油濾清器開關 (ON / OFF)	----	----
15	Lamp(s) Voltage 燈火電壓	V	V
16	Battery Voltage 電池電壓	V	V
17	Accelerator Position Output 加速位置輸出	%	%
18	Fuel Temperature 燃料溫度	Deg C	Deg C
19	MAP (Man Air Flow) MAP (空氣質量測量)	gPsi	gPsi
20	ECR Position 1 EGR 位置1	%	%
21	ECR Position 2 EGR 位置2	%	%
22	Exhaust Temperature 2 排氣溫度2	Deg C	Deg C
23	Exhaust Temperature 1 排氣溫度1	Deg C	Deg C
24	Exhaust Differential Pressure 排氣壓力差	kPa	kPa
25	FRP Regulator Command FRP 調節器指令	%	%
26	FRP Regulator Feedback FRP 調節器反饋	mA	mA
27	Fuel Compensation Ch1.1 燃油補償Ch1.1	rpm/kmh	rpm/kmh
28	Fuel Compensation Ch1.2 燃油補償Ch1.2	rpm/kmh	rpm/kmh
29	Fuel Compensation Ch1.3 燃油補償Ch1.3	rpm/kmh	rpm/kmh
30	Fuel Compensation Ch1.4 燃油補償Ch1.4	rpm/kmh	rpm/kmh
31	Fuel Compensation Ch1.5 燃油補償Ch1.5	rpm/kmh	rpm/kmh
32	Fuel Compensation Ch1.6 燃油補償Ch1.6	rpm/kmh	rpm/kmh
33	Desired Idle Speed 所需的怠速	RPM	RPM
34	Injection Start Offset 燃油噴射開始延遲	Deg CA	Deg CA
35	FRP Regulator Command FRP 調節器指令	mA	mA
36	Desired Intake Throttle 所需的進氣節流門	%	%
37	Desired Turbocharger Position 所需的渦輪增壓器位置	%	%
38	Desired EGR Position 所需的EGR位置	%	%
39	DPD Total Diesel Particulate DPD 總柴油微粒	mg/l	mg/l
40	DPD Trip DPD 行程	Km	Km
41	DPD Distance Status DPD 距離狀態	----	----
42	DPD Idle/Lean Range DPD 怠速/稀薄	----	----
43	DPD Acceptable Range DPD 可接受的範圍	----	----
44	Engine Runtime Status 引擎運行狀態	Running	Running
45	Desired Boost Pressure 所需的提升壓力	kPa	kPa
46	DPD Acceleration Status DPD 加速狀態	----	----
47	DPD Mode DPD 模式	----	----
48	Exhaust Gas Temperature 排氣溫度	Deg C	Deg C
49	DPD LLDR Condition (Particulate) DPD LLDR 條件 (微粒)	----	----
50	ECR BLDC Value 1 2em Pos. Step EGR BLDC 值1單位 + 步	Count	Count
51	ECR BLDC Value 2 2em Pos. Step EGR BLDC 值2單位 + 步	Count	Count

Engine Warning and MIL read Check
引擎故障燈讀數檢查

1. Is Engine Malfunction Light ON / No
2. BCM Software Version BCM 軟件代號: _____
New Version 新代號: _____

Symptoms of Visual Inspection / Check 目視檢查時發現的狀況





DPD Check List 微粒過濾裝置檢查表

Engine Warning and Oil Level Check 引擎警告和機油油量檢查





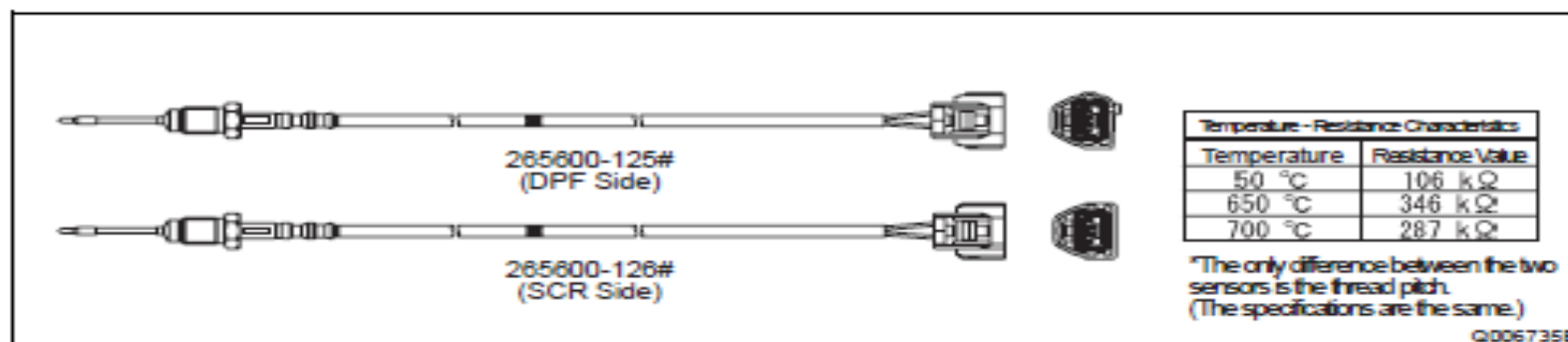
DPD Check List 微粒過濾裝置檢查表

DTC Failure Record DTC 故障記錄				
SN	Data Description	數據描述	Reading 讀數	Unit 單位
1	Calculated Engine Load	計算的引擎負荷		%
2	Coolant Temperature	冷卻液溫度		Deg C
3	Boost Pressure	提升壓力		kPa
4	Engine Speed	引擎速度		RPM
5	Vehicle Speed	車速		Kmh
6	Intake Air Temperature	進氣溫度		Deg C
7	Engine Runtime	引擎運行時間		Seconds
8	Distance While MIL is Active	MIL激活時的距離		Km
9	Fuel Rail Pressure	燃料共軌壓力		Mpa
10	Barometric Pressure	氣壓		kPa
11	Engine Runtime with MIL	MIL引擎運行時間		Mins
12	Glow Plug Relay Command (ON/OFF)	電熱塞繼電器命令 (開/關)		----
13	Exhaust Throttle Status (ON/OFF)	排氣節氣門狀態 (開/關)		----
14	Fuel Filter Switch (ON/OFF)	燃油濾清器開關 (ON / OFF)		----
15	Ignition Voltage	點火電壓		V
16	Battery Voltage	電池電壓		V
17	Acceleration Position Output	加速位置輸出		%
18	Fuel Temperature	燃料溫度		Deg C
19	MAF (Mass Air Flow)	MAF (空氣質量流量)		g/cyl
20	EGR Position 1	EGR位置1		%
21	EGR Position 2	EGR位置2		%
22	Exhaust Temperature 2	排氣溫度2		Deg C
23	Exhaust Temperature 1	排氣溫度1		Deg C
24	Exhaust Differential Pressure	排氣壓力差		kPa
25	FRP Regulator Command	FRP調節器命令		%

26	FRP Regulator Feedback	FRP調節器反饋		mA
27	Fuel Compensation Cyl.1	燃油補償Cyl.1		mm3/stk
28	Fuel Compensation Cyl.2	燃油補償Cyl.2		mm3/stk
29	Fuel Compensation Cyl.3	燃油補償Cyl.3		mm3/stk
30	Fuel Compensation Cyl.4	燃油補償Cyl.4		mm3/stk
31	Fuel Compensation Cyl.5	燃油補償Cyl.5		mm3/stk
32	Fuel Compensation Cyl.6	燃料補償Cyl.6		mm3/stk
33	Desired Idle Speed	所需的怠速		RPM
34	Injection Start Offset	燃油噴注開始偏移		Deg CA
35	FRP Regulator Commanded	FRP調節器命令		m3/s
36	Desired Intake Throttle	所需的進氣節流閥門		%
37	Desired Turbocharger Position	期望的渦輪增壓器位置		%
38	Desired EGR Position	所需的EGR位置		%
39	DPD Total Diesel Particulate	DPD總柴油顆粒		mg/l
40	DPD Trip	DPD行旅路程		Km
41	DPD Distance Status	DPD距離狀態		----
42	DPD Insufficient Regen	DPD再生不足		----
43	DPD Incomplete Regen	DPD不完整的再生		----
44	Engine Runtime Status	引擎運行狀態	Running	----
45	Desired Boost Pressure	期望的增壓壓力		kPa
46	DPD Accumulation Status	DPD積累狀態		----
47	DPD Mode	DPD模式		----
48	Exhaust Gas Temperature	排氣溫度		Deg C
49	DPD LLIR Condition (Particulate)	DPD LLIR條件 (微粒)		
50	EGR BLDC Value 1 Zero Pos. Step	EGR BLDC值1零位。步		Count
51	EGR BLDC Value 2 Zero Pos. Step	EGR BLDC值2零位。步		Count

Exhaust Temp Sensor and differential pressure sensor

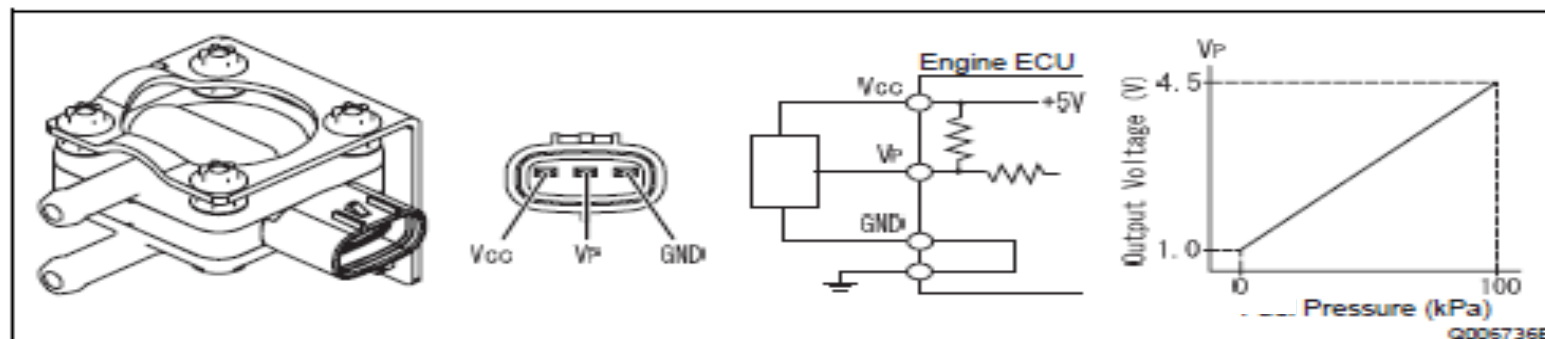
廢氣溫度感應器和背壓差感應器



Temperature - Resistance Characteristics	
Temperature	Resistance Value
50 °C	10.6 kΩ
650 °C	346 kΩ
700 °C	287 kΩ

*The only difference between the two sensors is the thread pitch.
(The specifications are the same.)

Q006735E

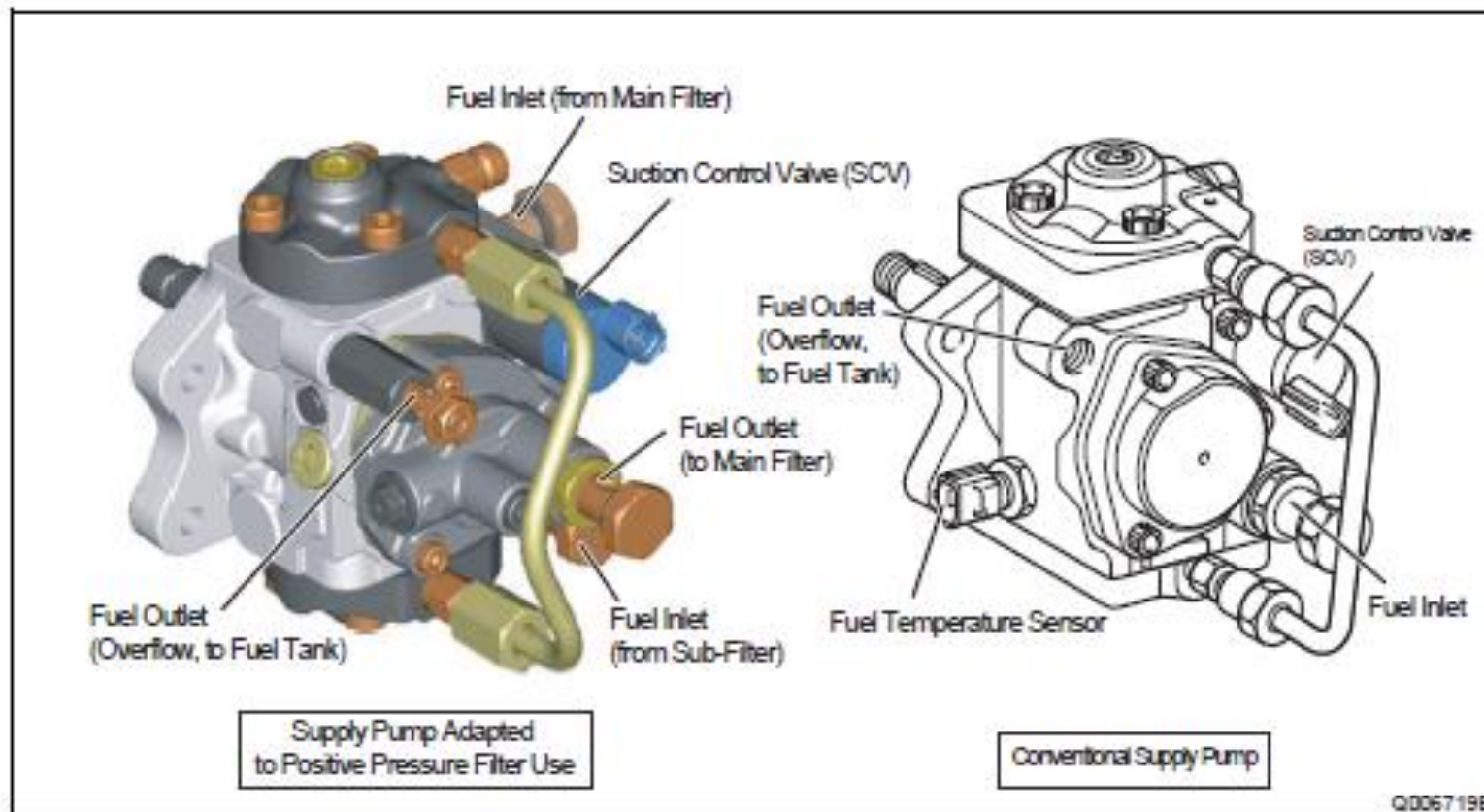


Output Voltage (V)

Pressure (kPa)

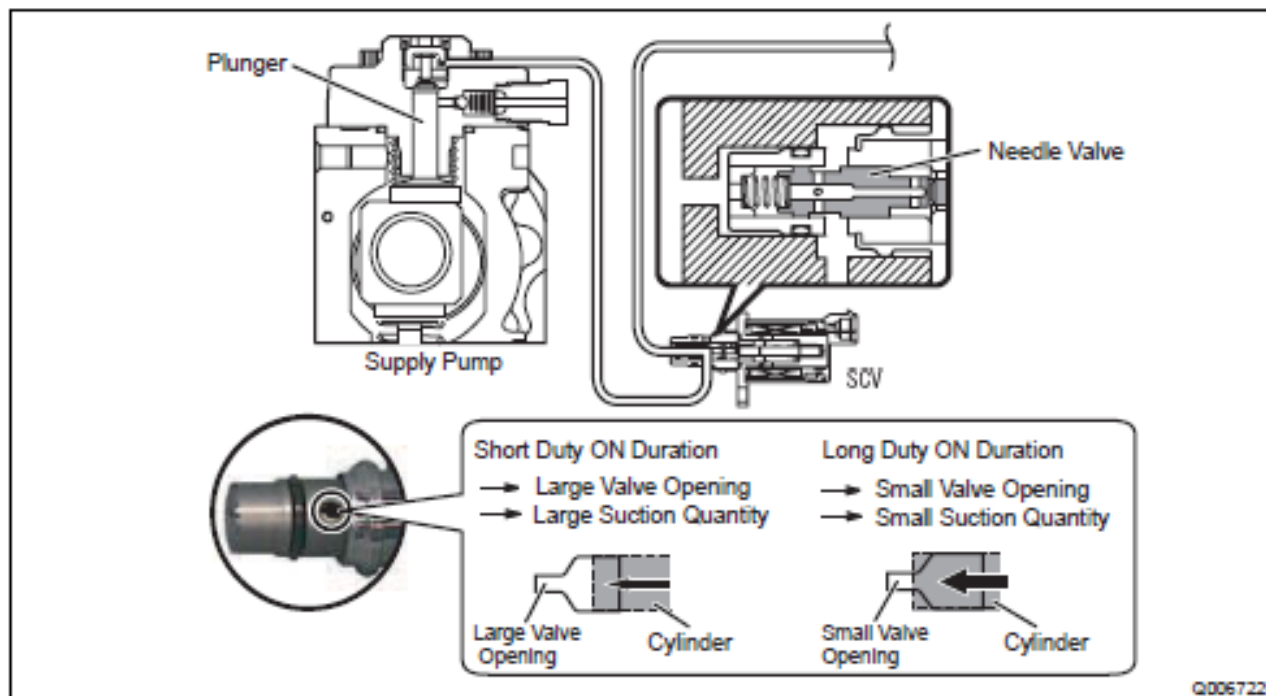
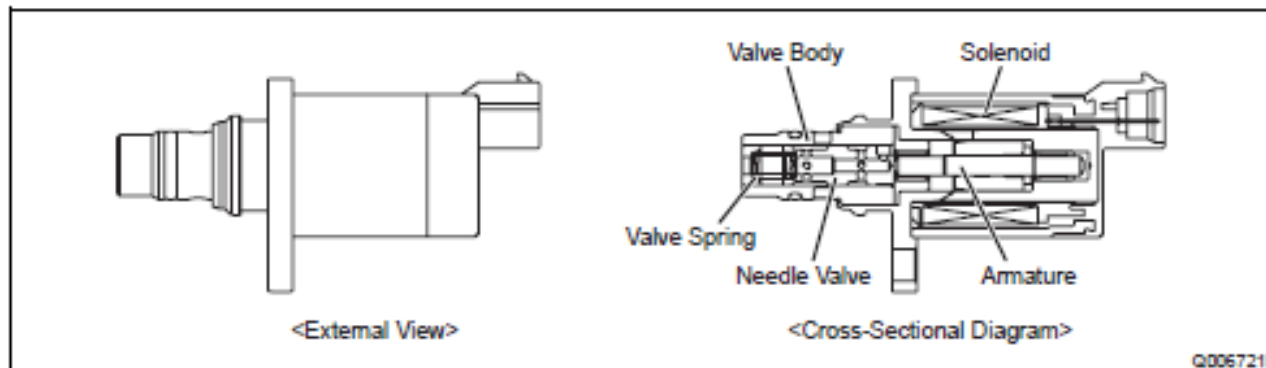
Q006736E

Supply Pump 柴油泵



Suction Control Valve

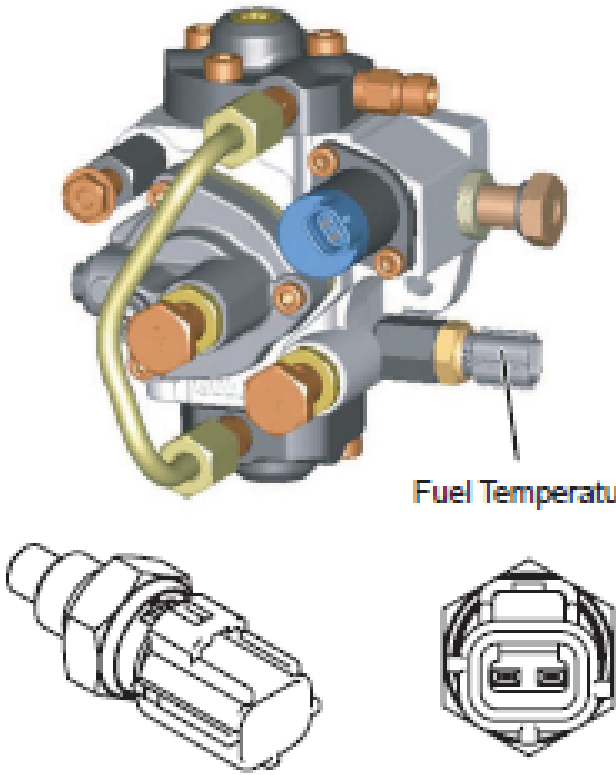
吸入控制閥



Operation Concept Diagram

Fuel Temperature Sensor

燃料溫度感應器



Fuel Temperature Sensor

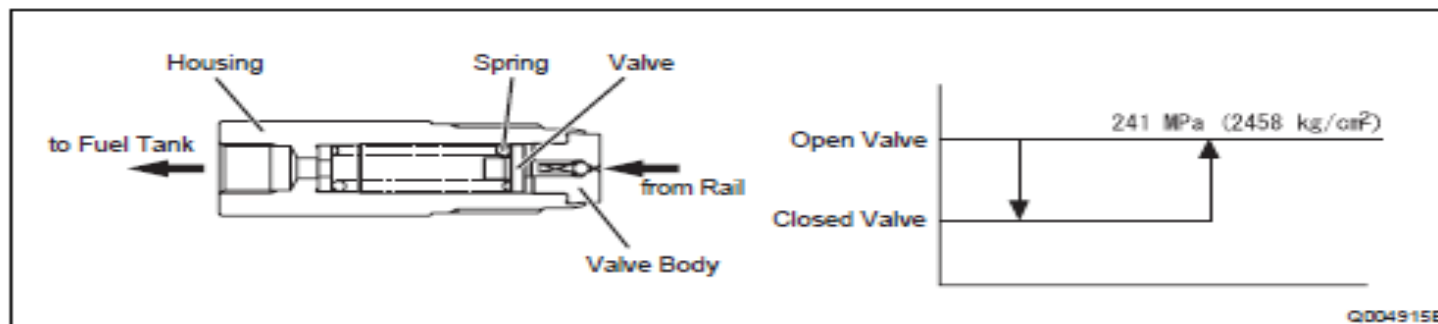
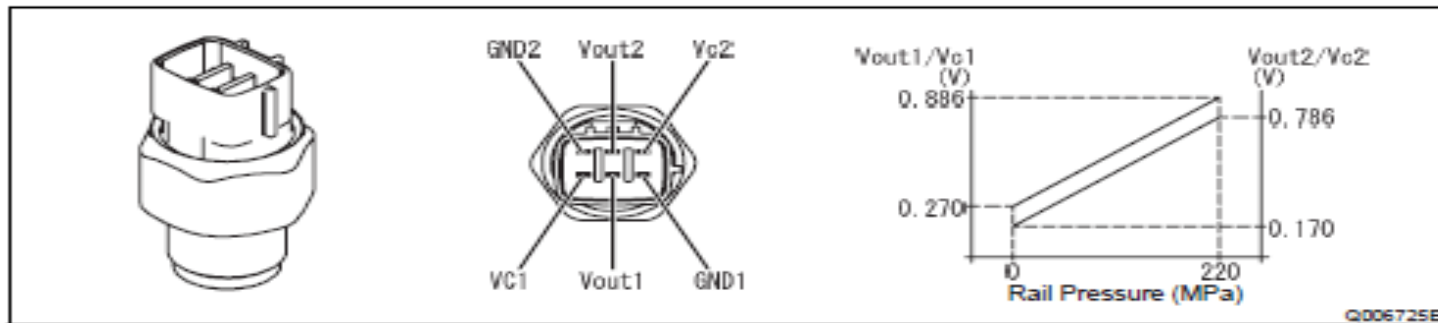
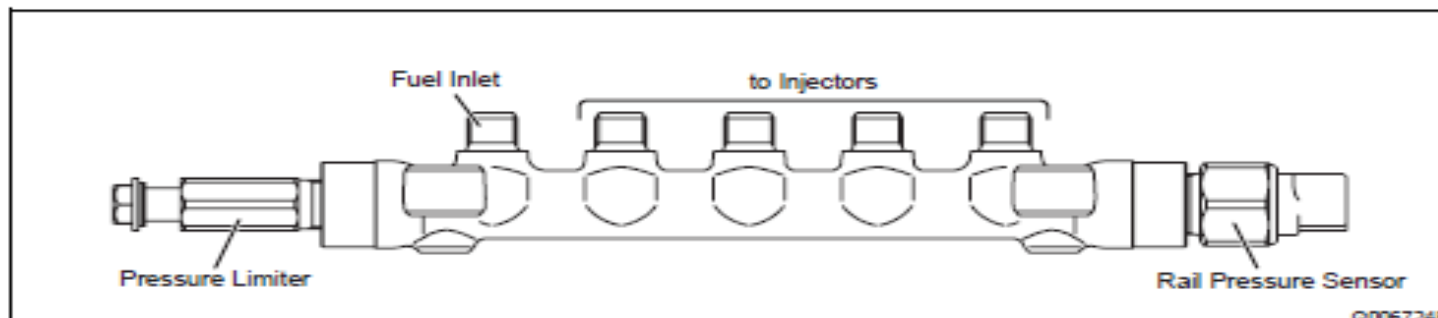
<Reference: Temperature/Resistance Characteristics>

Temperature (°C)	Resistance (kΩ)
-30	25.40
-20	15.04
-10	9.16
0	5.74
10	3.70
20	2.45
30	1.66
40	1.15
50	0.811
60	0.584
70	0.428
80	0.318
90	0.240
100	0.1836
110	0.1417
120	0.1108

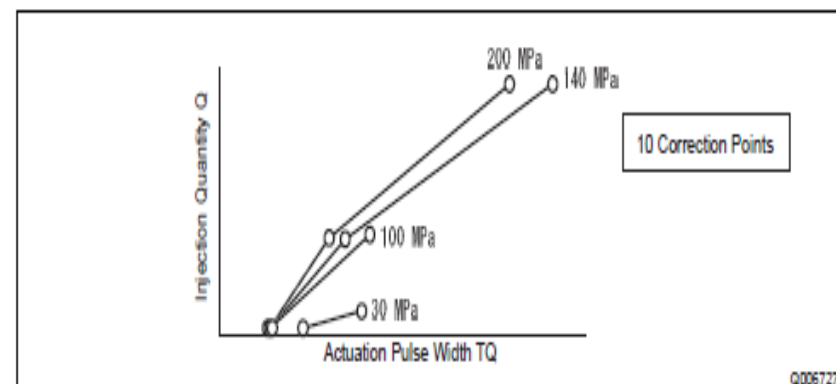
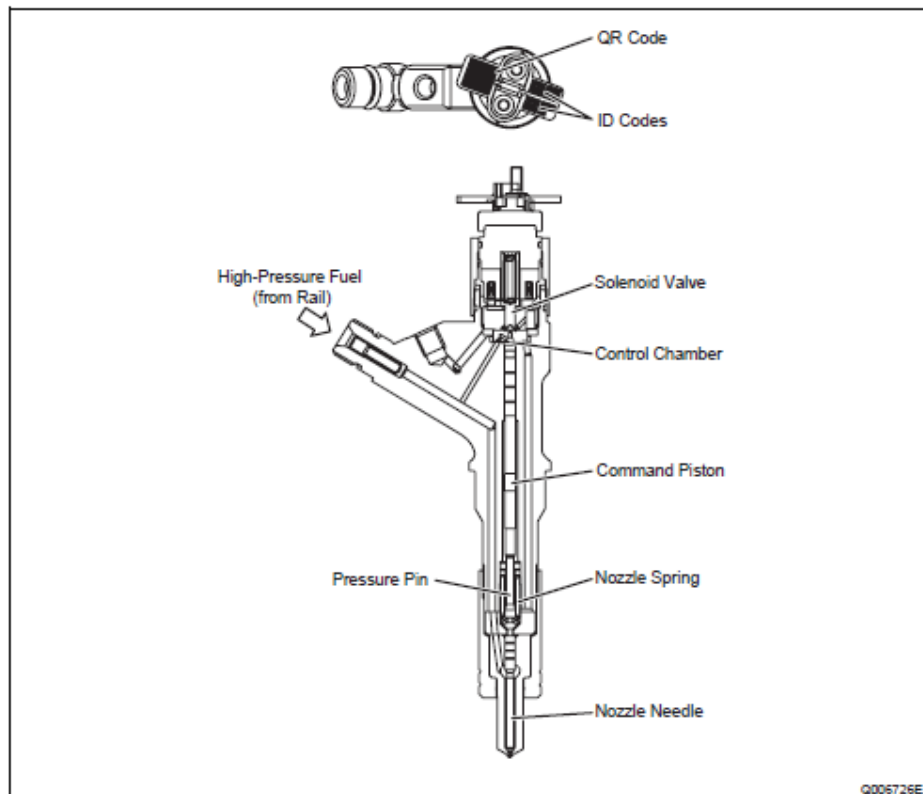
Q006723E

Rail Pressure sensor and limiter

共軌壓力感應器和限制閥

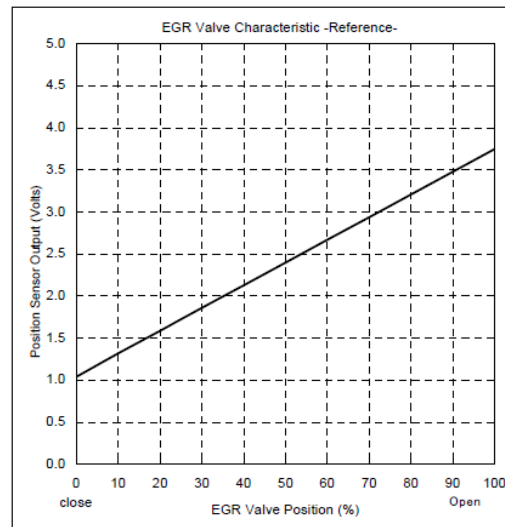
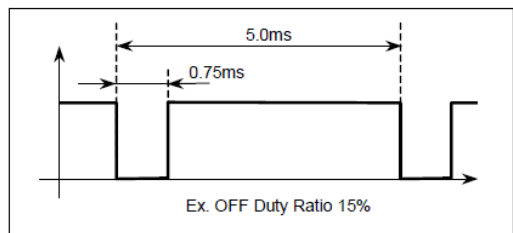
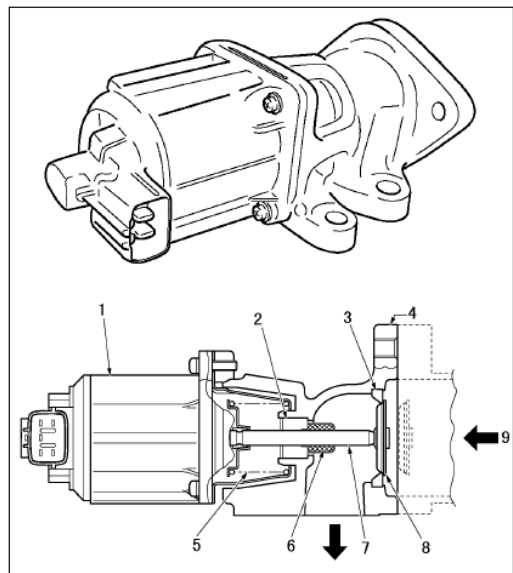


Nozzle 噴嘴



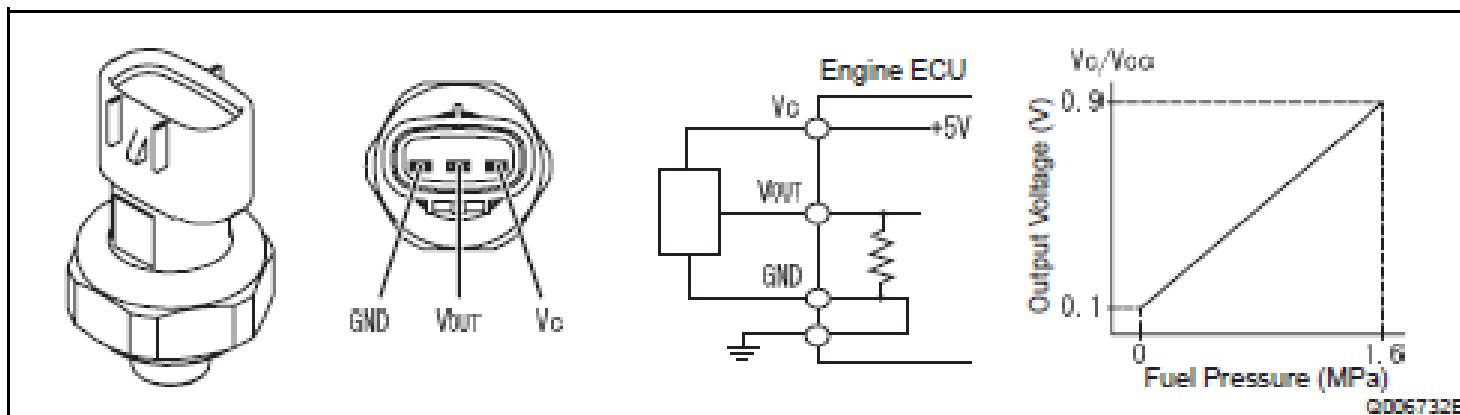
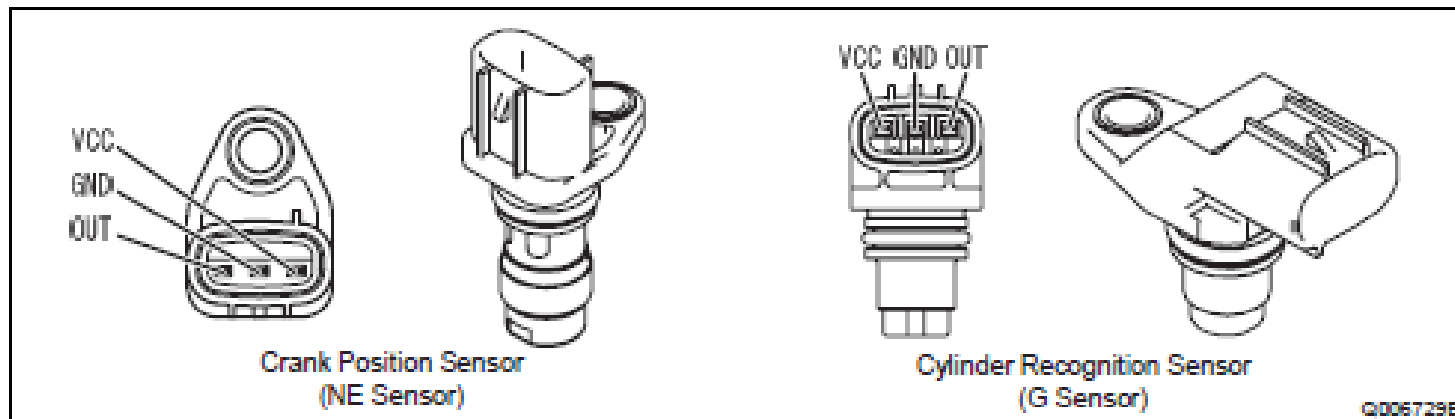
Correction Points Using QR Codes

EGR Valve 廢氣循環閥

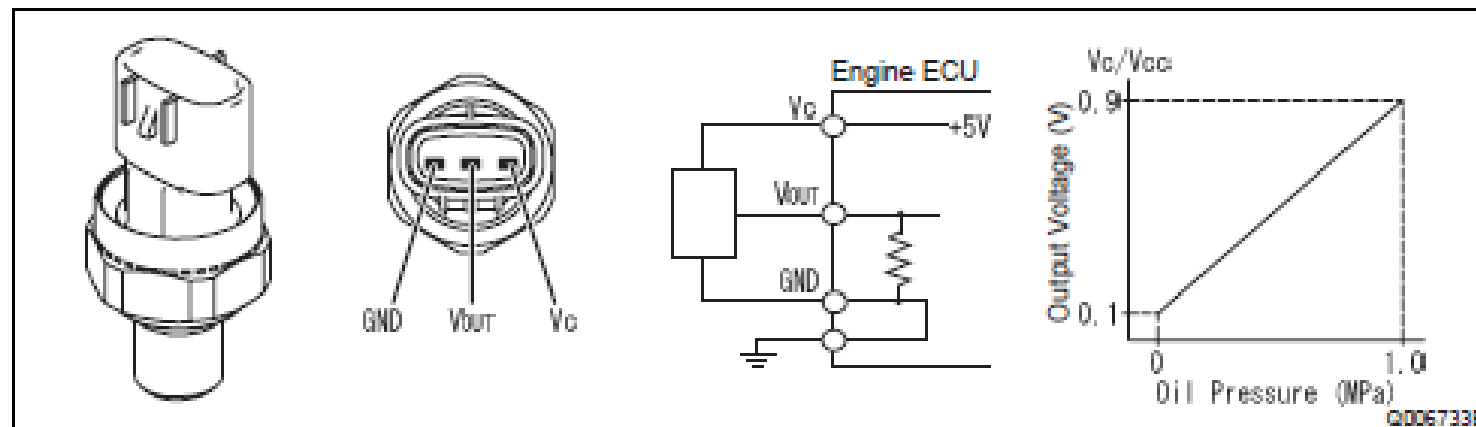


Position (%)	Volts
0	1.0
10	1.3
20	1.6
30	1.9
40	2.1
50	2.4
60	2.7
70	2.9
80	3.2
90	3.5
100	3.7

Various Sensors 各種感應器



Various Sensor 各種感應器





Workshop Actions

維修工作

Exh Pressure Difference 廢氣氣壓差 (kPa)	Ave MAF 平均空氣質量流量 (g/s)	
Initial DPD Pressure 起始 DPD 壓力		
DPD Trip DPD 行程 (Km)		
DPD DIL Trip DPD 稀釋行程 (Km)		

****Perform SLOW Regen if Pressure > 11.9kPa**

SLOW Regen 慢燒再生

Normal Regen 正常再生

Exh Pressure Difference 廢氣氣壓差 (kPa)	Ave MAF 平均空氣質量流量 (g/s)	
After Regen 再生後		
After Ash Removal 清洗後		

***Measured at Temp of & Ref kPa (Ref AMAF)**

量度溫度和背壓

Workshop Action 工作選項

	Cleaned 清潔	Replaced 更換
DPD Filter DPD 柴油微粒過濾器		
DOC 催化器		
INJ Nozzle 燃油噴咀		
EGR 廢氣循環		
Front Brake Valve 前剎車門閥		
Rear Throttle Valve 後氣節氣門閥		

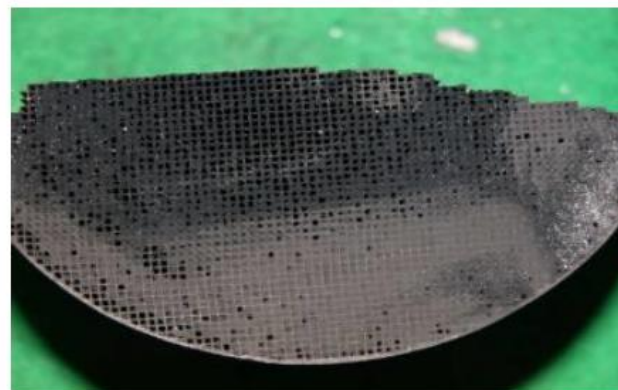
Improper Handling or Cleaning 不當處理或清洗

應用風吹及特製焗爐清潔裝置！
勿用水洗！



Cleaning is not possible!

For particulate filters which have mechanical damage such as fusion through overheating, the particulate filter must be replaced



Cleaning is possible!

If the diesel particulate filter is fouled as in this example, this can be cleaned with the system.



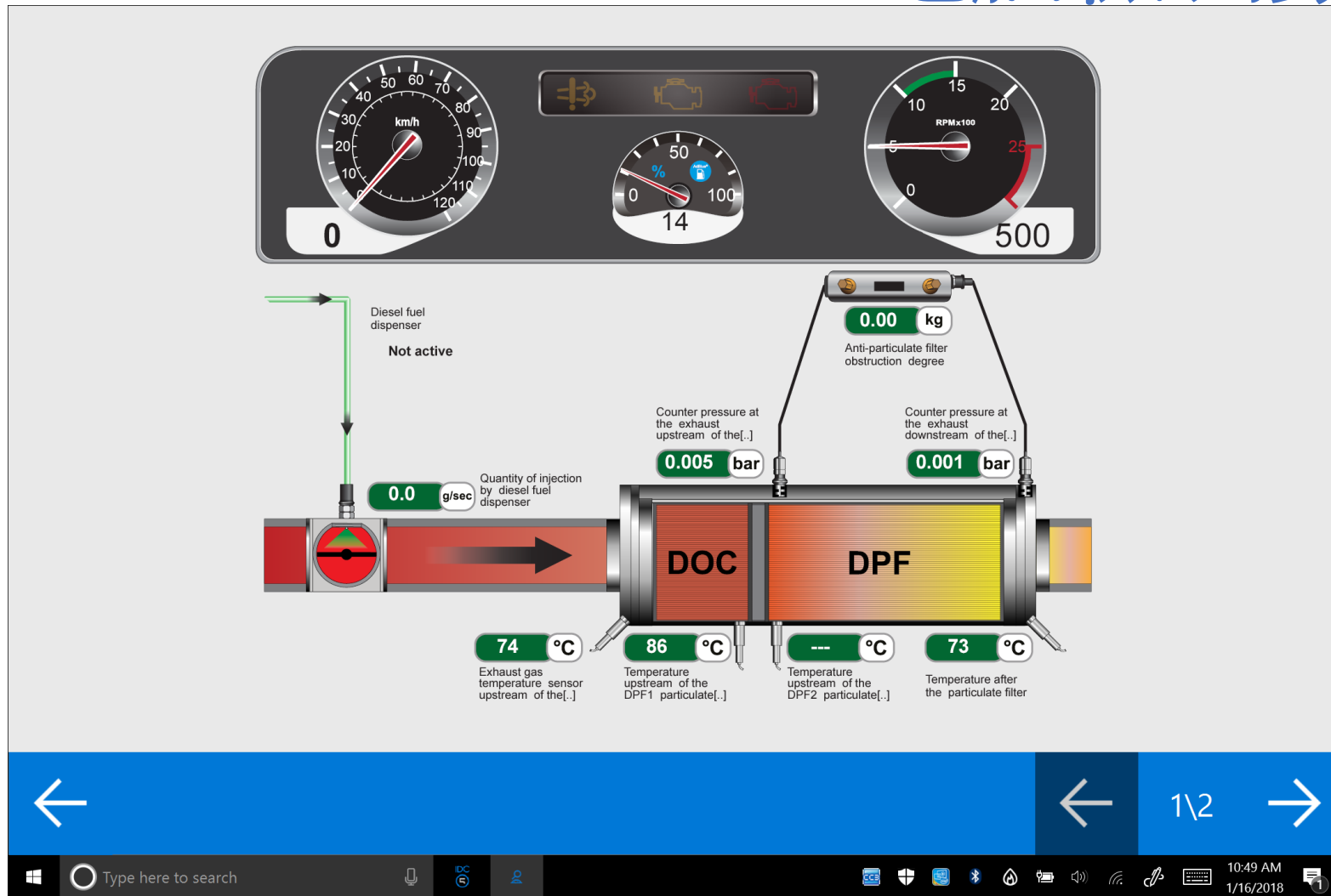
Diagnostic Tools 電腦檢測工具

TEXA Self-diagnosis X

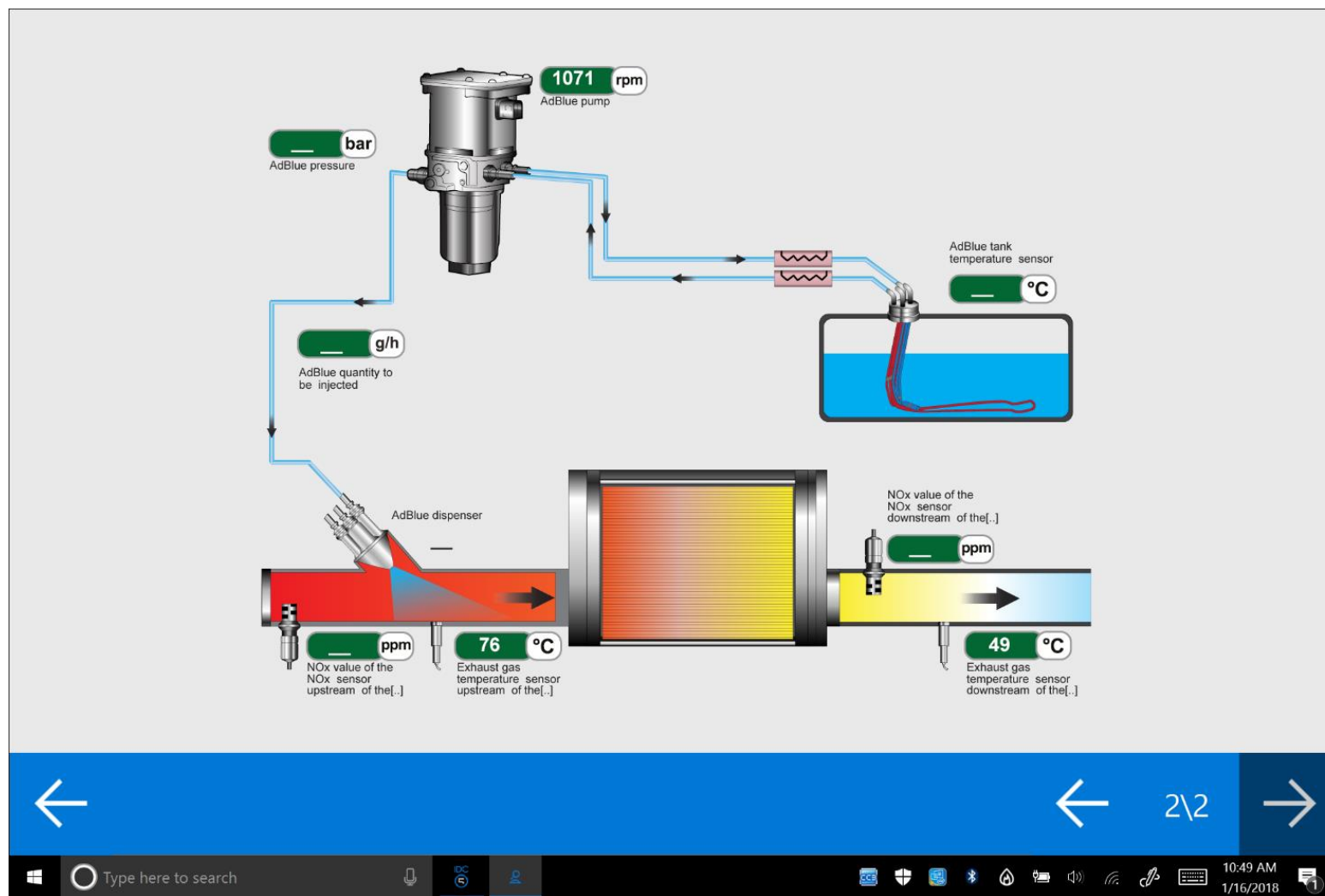
MERCEDES-BENZ/Actego Euro 6 (967)/.../14-NDiesel injection
Conti Tecnic/ACM Exhaust gas after treatment \\. \.

PARAMETERS 12/116	FAULTS	ECU INFO	ACTIVATIONS	SETTINGS
Time elapsed since the elimination of the fault			0 min	?
Time since DTC's cleared			284 h	?
Exhaust gas temperature upstream the catalyzer			84 °C	?
Exhaust gas temperature upstream the catalyzer			0.62 V	?
Temperature upstream of the DPF1 particulate filter (top)			0.63 V	?
Temperature upstream of the DPF2 particulate filter (bottom)			3.00 V	?
Exhaust gas temperature sensor downstream of the particulate filter			0.62 V	?
Exhaust gas temperature sensor downstream of the SCR catalyst			49 °C	?
Exhaust gas temperature sensor downstream of the SCR catalyst			0.58 V	?
Ambient air temperature sensor			35 °C	?
Ambient air temperature sensor			3.00 V	?
Exhaust gas pressure sensor upstream of the particulate filter			0.53 V	?
Exhaust pressure sensor at particulate filter outlet			0.52 V	?
AdBlue intake duct heater			Not active	?
AdBlue inlet pipe heater			Not active	?
AdBlue return pipe heater			Not active	?

Diagnostic Tools Data Flow 電腦檢測數據流



Diagnostic Tools Data Flow 電腦檢測數據流





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Question & Answer

歡迎發問



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Thank you!
多謝!