

DOOSAN CC

Service Letter

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Bulletin:	40004
Date:	07 April 2009 Revised (10-12)
Product:	Compressors
Subject:	Yanmar Diagnostic Tool

COMPRESSORS AFFECTED:

MODELS	
7-51 / 7-71 / 12-56	

GENERAL INFORMATION:

This release concerns the diagnostic tool and checker harness for the Yanmar electronic engines.

PARTS:

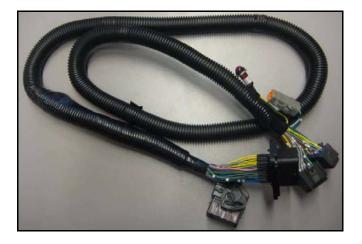
DiagnosticTool

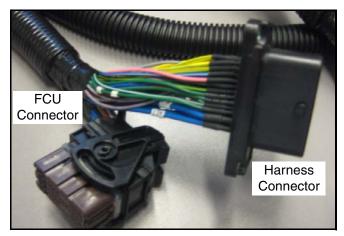
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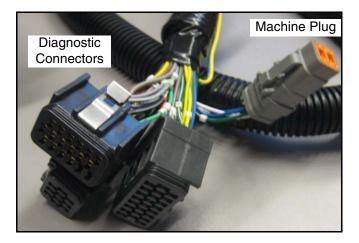
Hardware + CD-rom



Harness







INSTRUCTION:

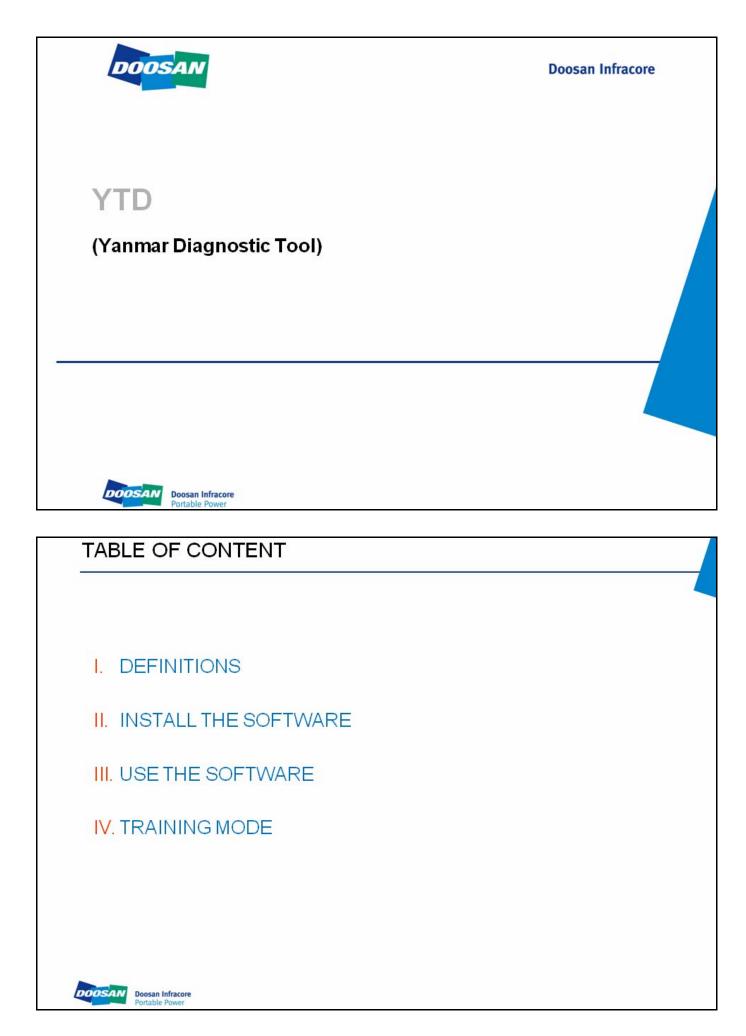
This Diagnostic tool can be used to check engine configuration and faultcodes and to write data to ecm when replacing that ecm – pump or injectors.

Without the diagnostic tool some engine repairs or troubleshooting will be beyond your capabilities and the local Yanmar dealer will have to be consulted.

The checker harness is used when uploading new software to a ecm without that ecm connected to a compressor. It is also meant to be used as a troubleshooting tool since it will temporarily be installed between the ecm and the engine wiring harness, measurements can be carried out on the connectors present in the checker harness to determine fault location.

NOTE:

Consult the supplied instruction to install the diagnostic software on your laptop and as a reference for diagnostic tool use.



DEFINITIONS

- YDT: Yanmar Diagnostic Tool (same as « Insite » of Cummins & « e-Doctor » of Doosan).
- E-ECU: Electronic Engine Control Unit
- FIP / FOP: 'Fuel Injection Pump' also called 'Fuel (Diesel) Oil Pump'
- DATA STRUCTURE IN ECU: Control software + MAP + TRIM DATA
- MAP: Tables of fuel injection quantity belonging to t°, load, ...
- TRIM DATA: Data recorded in the ECU and related to a specific FIP
- DTC: Diagnostic (errors) Tool Code (not the same as a flash lamp codes)
- FFD: Freeze Frame Data



INSTALL THE SOFTWARE

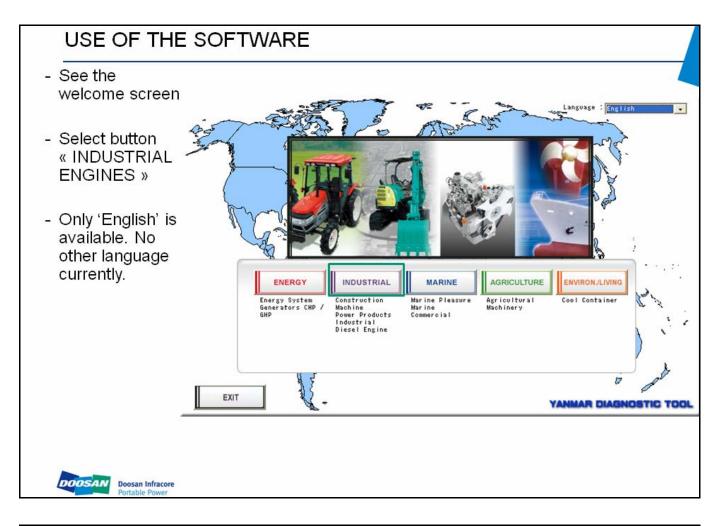
- INSTALL THE SOFTWARE
- 1. Serial Number Written on cd box decal
- 2. License Number Written on cd box decal

NOTICE THAT CAPITALS & SMALL LETTER ARE USED (case sensitive)

ENTER A USER ID & Password – your choice, these are not pre determined

- A TYPICAL WORK SESSION STARTS:
- 1. Log in with the chosen ID & Password : see a login session welcome screen

ANMAR Diag	gnostic Too	bl
Jser ID	1	
Password		
	Login	Cancel



USE OF THE SOFTWARE

- Key In the ID & Password
- Expert Mode can be accessed when connected to a machine through a gateway module (install the USB driver before first connection-see Yanmar user manual)
- Speed rate shall be 500K & address shall be engine
- Training Mode shall be used for software operation when not connected to an ECU
- Flash-ROM is for up-load of ZIP files in « service ECU »

Portable Power	DOOSAN	Doosan Infracore Portable Power
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A	10 F 1	
ANMAR Diagno	stic Iool	
ser ID		
assword		
Lo	gin Cancel	1
rt Menu	(Expert Mode)	
rt Menu		
urt Menu Start	[Expert Mode]	
rt Menu Start Data Rate	(Expert Mode) ^ 250k	
rt Menu Start Data Rate ECU Address	(Expert Mode) ^ 250k	
ut Menu Start Data Rate ECU Address Flash-R	(Expert Mode) C 250k © 500k 0:engine OM Programming	
rt Menu Start Data Rate ECU Address Flash-R Detail Settin	(Expert Mode) C 250k · 500k D:engine ·	
rt Menu Start Data Rate ECU Address Flash-R	(Expert Mode) C 250k © 500k 0:engine OM Programming	

TRAINING MODE

- File:

- 1. Exit: stop session
- 2. Menu: Back to form screen

- View:

- 1. Shows the 8 menus also available from the left side screen menu (system information, ...)
- 2. Development mode: not used

- Operation:

1. Gives access to the top bar menu. Varie for each menu selected with « View »



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1

- 2
- 3

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	R DIAGNOSTIC TOC			
the second s	V) Operation(O) Tool(T)	Data Drash Grach Param Fiter	ornel Discort Versio	
System Informatio				
Diagnosti Code				
Freeze Frame Data				
Diagnostie Test				
Data Logging Historical				
Data				
System				
Installation				
			- Engine Type:4TNV98-ZXX	

Tool:	
System settings: do not modify User set: add more user name with own priority level, ID & Password Option: Select units. Choose « TNV » in section Training Mode Set up »	Yankar DIAGNOSTIC TOOL Fields View(V) Operation(O) Tool(T) Version(V) Fields
Version: Gives the software version	System notalaco
	STANDAR Baudrate : Engine Type:4TNV98-2XX/SNo.54: Training

TRAINING MODE

- TRAINING MODE

Data Rate C 250k 500k ECU Address 0:engine C Adjustment Session Flash-ROM Programming Change License Detail Setting / Additional Function Training Mode Language Setup English Version Exit	ECU Address O:engine Adjustment Session Development Session Flash-ROM Programming Change License Detail Setting / Additional Function Training Mode Language Setup English
Detail Setting / Additional Function Language Setup English Edit Communication Settings	Detail Setting / Additional Function Language Setup English
Language Setup English	Language Setup English
English Edit Communication Settings	English Edit Communication Settings
Version Exit Close	Version Exit Close

System System Digroth Code	
Dea ECU Sorten Informatio Diagnosti Code Fresze Frane Data Diagnosti Test	

TRAINING MODE

 TRAINING MODE 	-	TRA	NING	MODE
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Temperature	∝Celsius(degC)	C Eabranhait(deg	-)
Pressure		 RPa 	· /
Training Mode Present Setup TNV When you Please TNV Mode"" f CX KMH	Setup LY3 ■ ed model ing again.	English Set	Cance I

TR	AINING M	100	DE-System	Information	า		
	info loaded I memory:						
1. ECU F	7/N & S/N		MAR DIAGNOSTIC TO	01			
2. FOP P	/N & S/N		View(V) Operation(O) Tool(T				
3. Engine	еТуре	-	Refres Acto	Cotion Trippel Sampli Da	ta Graph Graph Param Fit Lop Botton Set Se	er Conne Discor Versia	
		System Informatio	System Information - S	vstem Information			
- DTC:		Diagnostic Code	System Group	Detail	Value	Unit	
1. Active unreso	code: ol∨ed errors	Freeze Frame Data	Engine	Type Rated RPM SNo	4TNV98-ZXXX 2000.00 54321	r/min	
- 1997 - NETRONA TADA T	d code: is	Diagnostic Test		Manufacturing Test Date Run Hr	080520 200.00	h	
	ed errors	Data Logging	Fuel System	Type Part No. Sno.	2GECO_MP_TNV 729938-51XXX 080528Z321		
Filese	00	Historical Data	ECU	Part No. SNo.	1R1992-00XXX** 0852754321		
- File sa		ECU					
Sa∨er datain	umerical a file	System					
uatam	ame	Instance					Diag Code
- Screer	n BMP save:						Active DTC : 0 Logged DTC : 0
lt is a p	orint screen						
DOOS	Doosan Infracore						1

TRAINING M	ODE-Diagnostic Codes
 Active DTC cluster: 1. Informes on current errors 	Pile(F) View(V) Operation(0) Tool(T) Version(V)
2. Provides action guidance	Image: Second Backson in the second
 Logged cluster: 1. Gather both active & resolved errors (red buttons for actives errors) 2. Provides action guidance 	Code Description Probable cause P0217 Engine Coolant Temperature (1)Engine overheating, (2)Shortage of engine coolant water. P1242 Cold Start Device : Circuit (1)Poor connection of the connector, (2)"Cold Start Device" Diagnoster Test Diagnoster (1)Poor connection of the connector, (2)"Cold Start Device" Diagnoster Test Diagnoster (1)Poor connection of the connector, (2)"Cold Start Device" Diagnoster System (1)Poor connection of the connector, (2)"Cold Start Device"
Doosan Infracore Portable Power	Probable cause : (1)Engine overheating, (2)Shortage of engine coolant water, (3)Engine cooling system failure, (4)Engine coolant temperature sensor failure. Action : Check the Engine Cooling System. Check the connector, wire-harness, Engine Coolant Temperature Sensor. Power-off for a few times. Then check if DTC code is generated again. SPN : 110

TRAINING MODE-Diagnostic Codes - DTC information cluster: 1. SPN of no use A YANMAR DIAGNOSTIC TOOL File(F) View(V) Operation(O) Tool(T) Version(V) for Doosan Refere Refere Deter Tragen Senol Data Drach Data Paren Filter Corre Decor Versa 2. FMI of no use for Active DTC Logged DTC DTC Information List Doosan Diagnostic Code - DTC Information List 3. Search function: Description Search Search works with Code Description P0117 Engine Cools Description Engine Coolant Temperature Sensor : Shorted to low ... Engine Coolant Temperature Sensor : Shorted to high... Engine Coolant Temperature Sensor : Intermittent fault Accelerator Pedal Position Sensor ""A"" : Shorted t... Accelerator Pedal Position Sensor ""A"" : Shorted t... Accelerator Pedal Position Sensor ""A"" : Intermit... Engine Seed : Over speed Condition Accelerator Pedal Position Sensor ""B"" : Shorted t... Accelerator Pedal Position Sensor ""B" : Shorted t... Engine Fuel Injection Pump Speed Sensor : Shorted t... Exstew Yoltage : Too Low System Yoltage : Too Low System Yoltage : Too High E-ECU internal fault : EERROM ReadWrite fault E-ECU internal fault : FlashROM Check Sum Error (Ma... SPN FMI Freeze Frame strings not 110 P0118 110 Data P0119 P0122 P0123 numbers of 110 91 Diagn Test errors 91 P0124 91 Data P0217 P0219 110 190 Logging P0222 29 29 Search i.e: could Historic: Data -P0223 P0224 P0340 P0562 29 1078 give information ECU Identifica 158 on all errors P0563 158 System P0601 P0605 630 628 12 affecting « accelerator » DOOSAN Doosan Infracore

TRAINING MO	DE-Freeze Frame Data	
 FFD is usefull when an ECU fails and causes the engine to stop (3 cases): Speed sensor error Over speed 	File(F) View(V) Operation(0) Tool(T) Version(V) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T) Image: Tool (T	FFD List
3. Rack actuator	Diagnosti No. Time ECT(D) ES(D) ACTRP(D) BV(D) ERSF(D)	CLEAR FFD
 Recorded Data cluster: Select data where information are needed by pressing « Data set » button on top bar menu 	Freezu Frane Diagnoste Test Dute Logang Historical Dute ECU Bertificat	No. DTC Time 1 P0219 30.0 2 P1222 60.0 3 P1212 90.0
(Makes table header) 2. Click on a DTC number to see values BEFORE failure occurs (sec)	ECT : ENGINE COOLANT TEMPERATURE ES : ENGINE SPEED ACTRP : ACTUAL RACK POSITION BV : BATTERY VOLTAGE ERSF : REQUEST ENGINE SPEED(FINAL)	

TRAINING MODE-Freeze Frame Data

- Trend Graph cluster:

- 1. Select up to 4 parameters as well as top & bottom graph scales by pressing « Graph Top » button on top bar menu
- 2. Select up to 4 parameters as well as top & bottom graph scales by pressing « Graph bottom » button on top bar menu
- Click on GRAPH itself to see real recorded values in top right side of the screen under title « cursor Value »

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//ew(V) Operation(O) Tool(T) Version(V)	Colas Graph Graph Even Filter Conno Dascol Veras
Freeze Frame Data - Trend Graph	Cursor Value
101 80- 1000- 81 100 60- 61 600- 41 500 22 200- 20- 200- 101 100 102 100- 103- 100- 104- 100- 105- 100- 105- 100- 106- 100- 107- 10	Graph Cursor Informa Position Time 00:0 Graph Top ERH BV EET Graph Bottom Graph Bottom
ERH : ENGINE RUN HOURS(unit:h) BV : BATTERY VOLTAGE EET : ECU TEMPERATURE	Expand Diag Code Active DTC : 0 Logged DTC : 0
	STANDAR Baudrate : Engine Type:4TNV98-ZXXX/SNo.54: T

TRAINING MODE-Diagnostic Test

D test -

- is usefull for making -'Remote control', detect seized 'Rack actuator' by graph, get values of parameters, . . .
- Pulse/Analog cluster:
- 1. Press 'Refresh' or 'Auto Refresh' to get updated data for the parameters
- 2. Click on the black square from top bar menu to stop records

ormatio gnosti	Pulse/Analog etc Digital(ON/OFF) I Diagnostic Test - Pulse/Analog etc		al (UN/UF)	r) UUI ACTIVE	control Active control	(uraph) Hysteresis #
agnostic cde						
~	Description	Value	Unit	Raw Data	Notes	
	ENGINE SPEED	1450	r/min	1450	Parameter	1 C C C C C C C C C C C C C C C C C C C
	AUXILIARY ROTATION SPEED SENSO	1450	r/min	1450		
	LOADER REQUEST ROTATION SPEE	1448	r/min	1448		
and the second	REQUEST ENGINE SPEED	1448	r/min		Parameter	
est (CAMSHAFT ROTATION SPEED	725	r/min		Pulse Input	
	RACK ACTUATOR OUTPUT DUTY	96			PWM Output	
	ENGINE LOAD MONITOR	62	%	62		
	ACTUAL EGR VALVE CONTROL VALUI	32			Parameter	
	RACK POSITION SENSOR VOLTAGE	307		307		
	ACCELERATOR PEDAL Position	40.4	%	101		
20 112	RACK ACTUATOR CURRENT	3.20	A	64		
	ECU TEMPERATURE	47.00	degC	10240		
and an a	BATTERY VOLTAGE	12.25	V	245		
stallation	SENSOR SOURCE VOLTAGE	5.00	V	100		
						Diag Code Active DTC : 0 Logged DTC : 0

Measure

TRAINING MODE-Diagnostic Test

Digital IN cluster:

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		AY 🖧	NMAR DIAGNOSTIC TOOL				
		File(F)	View(V) Operation(O) Tool(T) Version(V)				
	It gi∨es the switch	-			aph Graph Baran Fiter C	Discor Versic	
	acti∨ation or de-	System	Pulse/Analog etc Digital(ON/OFF) IN et	c Digital(ON/	OFF) OUT Active Cont	rol Active Control(Gra	ph) Hysteresis Measure
	acti∨ation status	Informatio	Diagnostic Test - Digital(ON/OFF) INPU	T Bit Status,	Control Flag		
		Diagnosti	Description	On/Off	Notes		
	recorded by design in	Code	DROOP MODE SW	OFF			
	the ECU	Freeze	RMAX SELECT SW1	OFF			
		Frame	EMERGENCY STOP SW	OFF	Discrete Input		
2.	Switches can not be	-	RMAX SELECT SW2	OFF			
	modified.	Diagnosti Test	ENGINE SPEED SELECT 1	OFF			
	mounieu.		ENGINE SPEED SELECT 2	OFF			
3	It allows to better	Deta	REVERSE DROOP MODE SW	OFF			
			ENGINE SPEED SELECT PERMISSION	OFF			
	understand the	Historical Data	IGNITION SW1	OFF	Discrete Input		
	machine beha∨ior	Data	ENGINE STARTER	OFF	Discrete Input		
	machine benavior	ECU	Engine Start State Status	OFF	Parameter		
		Identificat					
		System					
		Installation					
							Diag Code
							-
							Active DTC : 0
							Logged DTC : 0
							1
							1
							1
							1
							1
							1
				5	STANDAR Baudrate :-	- Engine Type:4TNV98-	ZXXX / SNo.54: Training
				in the second	STANDAR Baudrate : -	- Engine Type:4TNV98-	ZXXX / SNo.54: Training

TRAINING MODE-Diagnostic Test

Digital OUT cluster:

- It gives the switch activation or deactivation status recorded in ECU as a result of current machine state (preheat completed or not, ...)
- 2. Switches can be modified for making REMOTE CONTROL (force machine beha∨ior) by clicking in 'On/Off' column
- Changes are validated by entering your ID & Password

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	View(V) Operation(O) Tool(T) Version(V)	yan Sama Data	rach Drach Farm Eter Corre Discor	
em Instia	Pulse/Analog etc Digital(ON/OFF) IN	etc Digital(ON,		e Control(Graph) Hysteresis M
_	Diagnostic Test - Digital(ON/OFF) OU	I		
ghostir Se	T Active Control Mode			
_	Description	On/Off	Notes	
eeze ame	ECU MAIN RELAY	OFF	Discrete Output	
da da	INTAKE AIR HEATER RELAY1	OFF	Discrete Output	
agnosti	PRE-HEATER Lamp	OFF		
nt	Engine Warning Indicator	OFF	Discrete Output	
¢a	ENGINE STARTER Interlock RELAY	OFF	Discrete Output	
gging	ECO MODE Lamp	OFF		
_	EGR Step MOTOR(A)	OFF		
storical da	EGR STEP MOTOR(B)	OFF		
	EGR STEP MOTOR(C)	OFF		
υ	EGR STEP MOTOR(D)	OFF		
entificat	CSD SOLENOID VALVE	OFF		
stem	FUEL RACK ACTUATOR RELAY	OFF	Discrete Output	
stelletion				
	Notes :			Diag Code Active DTC : 0 Logged DTC : 0

TRAINING MODE-Diagnostic Test

- Active Control cluster:

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- It allows to remote control the machine by forcing numerical values (i.e. engine RPM, ...)
- Press 'RUN' to start the remote control of a parameter
- Should a graph record be selected, the graph shall be available to see with 'Active Control Graph' cluster. The button is red in 'Graph' column.
- Line 3 allow to see seized rack behavior on 'Hyst. Meas.' cluster

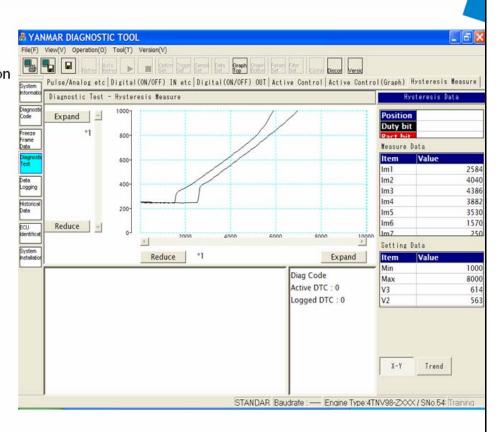
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Fuise/	Analog etc Di		IN etc Digital(ON/OFF) OUT				Hyste	resis M
Diagno	ostic Test - A	tive Control						
stie	Control		Description	NG Ru	Measured	Desired	Unit	Graph
Manu								
0			IGINE RPM CONTROL	req	702		r/min	0
0			CK POSITION CONTROL	not	50 0:0	50		0
Ö			RACK POSITION AUTO TUNING	reg	0.0		-	0
ő			RACK POSITION AUTO TUNING	req				-
0			R VALVE CONTROL	not		0		
ŏ			AD MONITOR OUTPUT	not		16		
-						Di	ag Coc	le
						1.00	iag Coc	
Notes :						A	tive D	
Notes :						A	tive D	rc : 0
Notes :						A	tive D	rc : 0
Notes :						A	tive D	rc : 0
Notes :						A	tive D	rc : 0
Notes :						A	tive D	rc : 0

TRAINING MODE-Diagnostic Test

- Hysteresis cluster:
- 1. X-Y is the one to select
- 2. Y is 'Rack bit': Rack proportional valve position
- 3. X is 'Duty bit': current signal given to the proportional valve
- The curve must be smooth as shown because the postion is proportional to the input signal.
- 5. Failure is shown by:

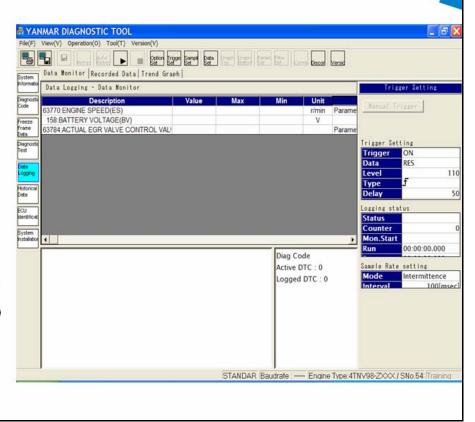




TRAINING MODE-Data Logging

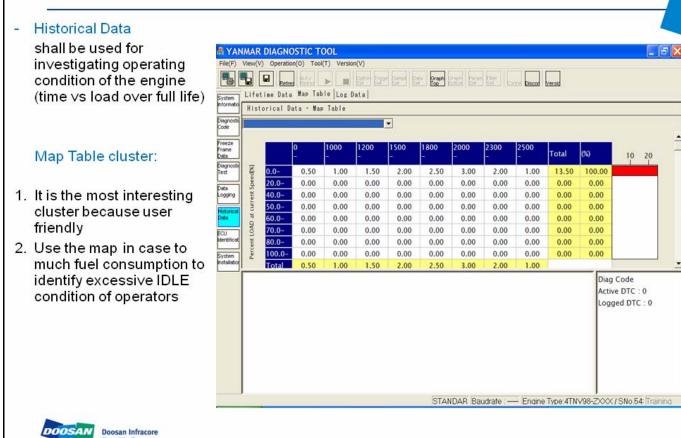
- DLogging is useful for recording data on a running machine (Freeze Frame is when machine cannot start)
- Data Monitor cluster:
- Press 'Data set' for selecting data to be recorded
- Press 'Sampling set' to select sampling rate (default is 100ms)
- Press 'Trigger set' to select the parameter generating a record (Delay: qty records before trig, storage: full qty of records-including delay !!!)

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TRAINING MODE-Historical Data



TRAINING MODE-ECU identification

- ECU Identification: gives same data as 'System Information' but with much more details
- All clusters:
- 1. Analog channels shows for each parameter the range of allowed values, units zero value (offset), sensor precision (resolution)
- 2. ECU ID Information gives P/N information
- ECU data Saved: gives engine & pump Trim Data (CS: check sum for correct imput of Trim [power comp.])

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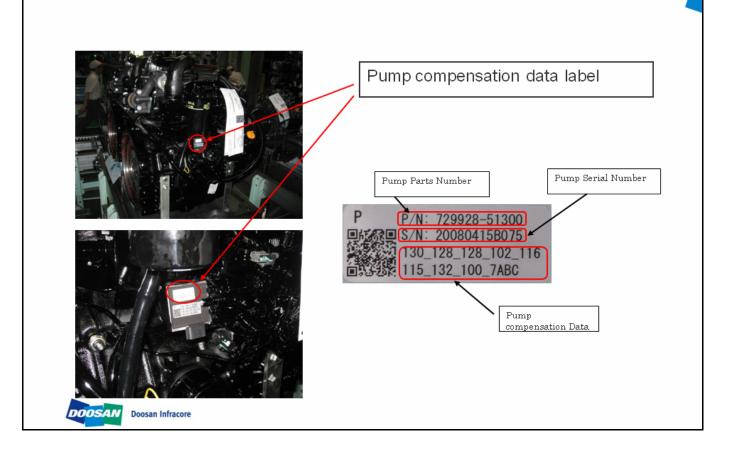
costa 25 26 28 28 20 20 20 20 20 20 20 20	63619 RACK POSITION 91 ACCELERATOR F 63618 RACK ACTUATOR 1136 ECU TEMPERATU	ION Acron SENSOR V RPS PEDAL Pos APP R CURREN RAC	V 2	Resolution 1 0.4	Offset 0	Unit	Range 0 to 1023	
25 26 28 20 20 20 20 20	63619 RACK POSITION 91 ACCELERATOR F 63618 RACK ACTUATOR 1136 ECU TEMPERATU	SENSOR V RPS PEDAL Pos APF R CURREN RAC	V 2	1	0	Unit		
* 26 28 20 20 20 20 20 20	91 ACCELERATOR F 63618 RACK ACTUATOR 1136 ECU TEMPERATU	PEDAL Pos APP R CURREN RAC	2 1				0 to 1023	8
28 20 20 20 20 20	63618 RACK ACTUATOR 1136 ECU TEMPERATU	R CURREN RAC		0.4				
osti 20 20 20 20 20	1136 ECU TEMPERATU				0.0	%	0 to 100	8
2D 2E				0.05	0.00	A	-1600 to 1612.75	
2E				0.03			-273 to 1,735	
				0.05	0.00	V	0 to 3212.75	1
				0.05	0.00	٧	0 to 3212.75	3
	63744 REQUEST RACK 63779 Engine Stop Warn			1	0		0 to 1023 0 to 65,535	3
	63786 ENGINE MODE	ESVV		1	0		0 to 65,535 0 to 255	
ical 32				1		deal	-40 to 210	
and the second se	63787 Starter Restraint S				-40	degu	0 to 255	
	63787 Starter Restraint S 63788 Starter Restraint F			1	0		0 to 255 0 to 65,535	-
31	03/00 Statter Restraint P	actor Shr	2		0	_	01005,555	
m ation								
								Diag Code
								Active DTC : 0
								Logged DTC : 0

TRAINING MODE-ECU identification

- System Installation: gives		NMAR DIAGNOSTIC TOOL				
the possiblity to enter	and the second se	$View(\underline{V})$ Operation(<u>Q</u>) Tool(<u>T</u>) Version(<u>V</u>)				لها يك يك
				Louis Front Front Front		
TRIM DATA, when a FIP		Entres Auto		Los Bottos Set Set	Cornel Discor Versid	
or ECU should be	System	Configuration Calibration Tuning				
replaced by a new one.	nformatio	System Setting - Configuration				
	Diagnostic Code	Exchanges				
		Description	Value	Notes		
 All clusters: 	Freeze Frame	IMMOBILIZER UNIT ID CLEAR		0:Clear		
4. Described (Each second)	Data	DROOP LIMIT SPEED	1890			
 Press the 'Exchanges' 	Diagnosti Test	ISOCHRONOUS LIMIT SPEED DROOP LIMIT SPEED2	1890		-	
button		ISOCHRONOUS LIMIT SPEED2	1695			
	Data Logging	HOLD SPEED1	1800			
Choose FIP or ECU		HOLD SPEED2	1500			
3. When replacing FIP:	Historical Data	SLOW DOWN SPEED	1500			
		SLOW DOWN RATE1	85			
select Manual (enter 9	ECU Identificat	SLOW DOWN RATE2	70		_	
codes) or insert the 'ZIP		AUTO DECELERATION WAIT TIME	4			
file' pro∨ided by Bobcat	System	DROOP CONTROL SELECT ENGINE STOP DELAY TIME	30	0:ISOCHRONOUS		•
		ENGINE STOP DELAT TIME				
4. If change ECU: transfer		1				Diag Code
ECU to PC or PC to ECU		1				Active DTC : 0
		1				Logged DTC : 0
		1				
		1				
		1				
		1				
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		1				
		1				
		,		STANDAR Baudrate	- Engine Type:4TNVS	8-ZXXX / SNo.54: Training
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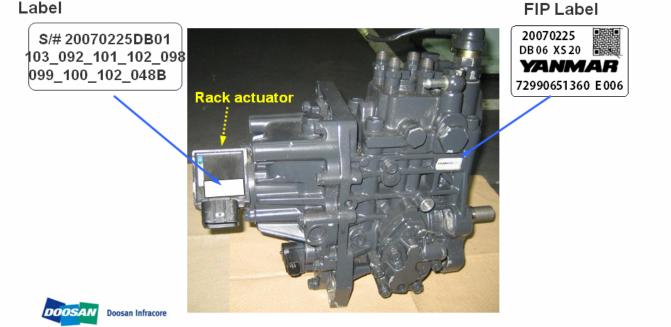
Pump Data



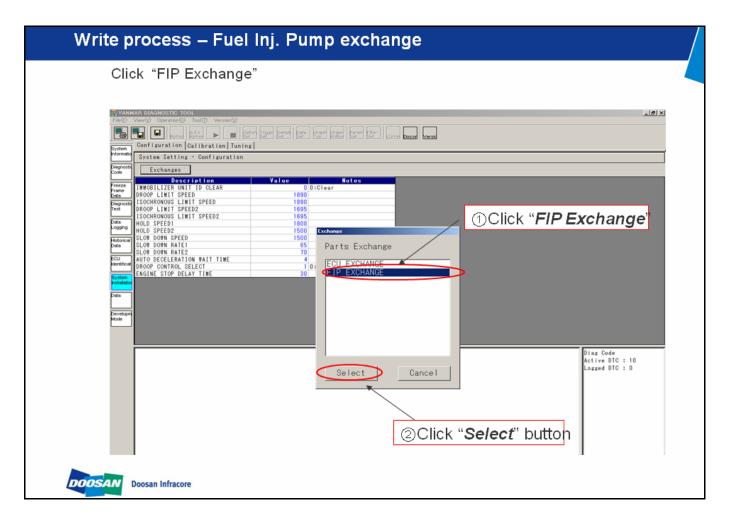
Pump Data

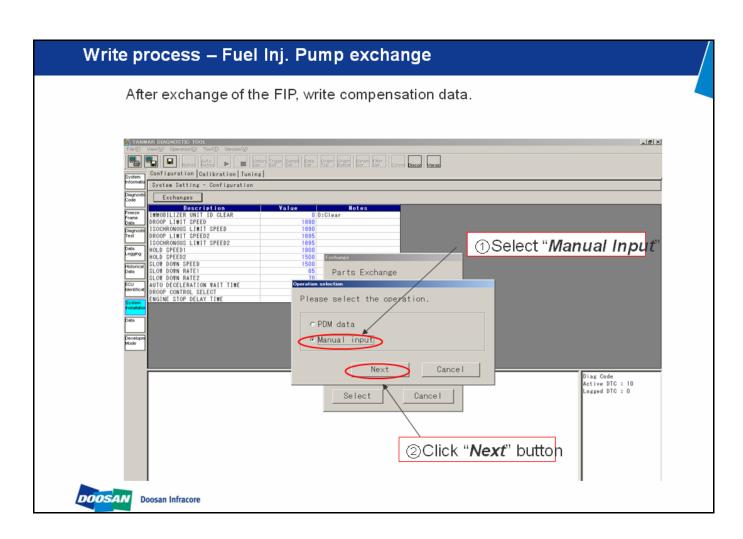
If pump has been exchanged, pump compensation data must be re-entered in ecu. Correct pump compensation data is printed on the label attached to rack actuator.

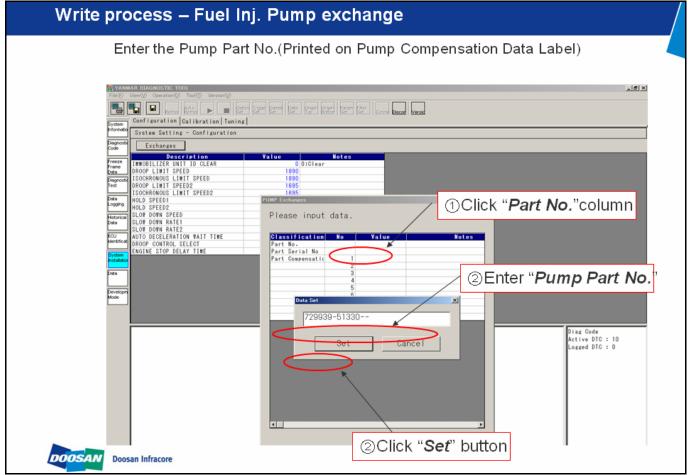
Compensation Data Label



Write process
At first, click "Exchange" button and select "FIP exchange"
Image: Second
Description O Select "Configuration" tab Preset Preset SLOP DOW RATE Preset SLOP DOW RATE Preset Preset Preset Preset <td< td=""></td<>
① Click "System Installation" Diaz Code Active DIC : 10 Lozzed DIC : 0 Doosan Infracore Doosan Infracore







	Imp exchange Pump compensation data and check-sum data. ation data Label) . Apply "Write" button.
Please input	•• No Yalu 729938-51 200709218
DOOSAN Doosan Infracore	Write Cancel

Write process – Fuel Inj. Pump exchange					
Enter the Pump C	compensation data				
Warden Didensitie To the second of the se	Engine Serial No Engine Coupensation 5 6 7 0 Column 0 ata Name ENGINE POWER COMPENSATION 1 2 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	"Compensation data" Pump compensation el			

Write process – Fi	uel Inj. Pump exchange	
Enter the Pump of the second of the secon	COlocabage Please input data.	©Click " No.9 " Column ②Enter " <i>Check-sum data</i> " Refer to Pump compensation Data label

FIGE WWW.Q Operation(2) To			outton.	
System Hormado Diegnotif Code	ID CLEAR D D T SPEED 22 T SPEED2 N WALT TIME LECT ECT ECC ECC ECC ECC ECC ECC ECC ECC	ou want to write this data NO Yalue 41W98-27H8 42785 196 296 396 4107 5100 6100 7100 6100 7100 9100	Notes	ser Password
DOOSAN Doosan Infracore		Set Cancel	Active	pde DTC : 9 DTC : 4