

ZEXEL Ass'y No.	104740-7102
Bosch Ass'y No.	9 460 612 874
Bosch Typecode	
Engine Type	TD27-T
Manufacturer	NISSAN DIESEL
Edition date	11.04.02

1 Adjustment conditions

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
	Test oil		ISO4113orSAEJ967 d				
		1404 Test oil					
P	Test oil temperature	degC	45	45	50		
	Nozzle		105000-2010				
	Bosch type code		NP-DN12SD12TT				
	Nozzle holder		105780-2080				
P	Opening pressure	MPa	14.7	14.7	15.19		
P	Opening pressure	kgf/cm2	150	150	155		
P	Injection pipe	mm	2-6-840				
		Inside diameter - outside diameter - length (mm)					
P	Transfer pump pressure	kPa	20	20	20		
P	Transfer pump pressure	kgf/cm2	0.2	0.2	0.2		
	Direction of rotation (viewed from drive side)		R				
		Right					

2 Adjustment specification**2.1 Full load delivery**

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100	1100	1100		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
S	Average injection quantity	mm3/st.	62.3	61.8	62.8		
S	Difference in delivery	mm3/st.	3		3		
P	Basic		*				
	Remarks	Full					

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	850	850	850		
P	Boost pressure	kPa	33.35	32	34.7		
P	Boost pressure	mmHg	250	240	260		
S	Average injection quantity	mm3/st.	58.9	58.4	59.4		
P	Basic		*				
	Remarks	CBS					

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	2500	2500	2500		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Average injection quantity	mm3/st.	16.4	11.9	20.9		

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	2250	2250	2250		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Average injection quantity	mm3/st.	42.8	40.3	45.3		

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	2150	2150	2150		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Average injection quantity	mm3/st.	50.5	48	53		

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	2000	2000	2000		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Average injection quantity	mm3/st.	53.3	50.8	55.8		

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100	1100	1100		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Average injection quantity	mm3/st.	62.3	61.3	63.3		

Remarks							
		Full					
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100	1100	1100		
P	Boost pressure	kPa	0	0	0		
P	Boost pressure	mmHg	0	0	0		
C	Average injection quantity	mm ³ /st.	49.5	47	52		
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	850	850	850		
P	Boost pressure	kPa	33.35	32	34.7		
P	Boost pressure	mmHg	250	240	260		
C	Average injection quantity	mm ³ /st.	58.9	57.9	59.9		
Remarks							
		CBS					

2.2 Governing

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	2250	2250	2250		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
S	Average injection quantity	mm ³ /st.	42.8	40.8	44.8		
P	Basic		*				
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	2700	2700	2700		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Average injection quantity	mm ³ /st.	3		3		

2.3 Idle

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	375	375	375		
P	Boost pressure	kPa	0	0	0		
P	Boost pressure	mmHg	0	0	0		
S	Average injection quantity	mm ³ /st.	8.4	6.4	10.4		
S	Difference in delivery	mm ³ /st.	2		2		
P	Basic		*				
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	375	375	375		
P	Boost pressure	kPa	0	0	0		
P	Boost pressure	mmHg	0	0	0		
C	Average injection quantity	mm ³ /st.	8.4	6.4	10.4		
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	450	450	450		
P	Boost pressure	kPa	0	0	0		
P	Boost pressure	mmHg	0	0	0		
C	Average injection quantity	mm ³ /st.	5		5		

2.4 Start

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	100	100	100		
P	Boost pressure	kPa	0	0	0		
P	Boost pressure	mmHg	0	0	0		
S	Average injection quantity	mm ³ /st.	62.5	45	80		
P	Basic		*				

2.5 Stop

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	375	375	375		
P	Boost pressure	kPa	0	0	0		
P	Boost pressure	mmHg	0	0	0		
C	Average injection quantity	mm ³ /st.	0	0	0		
Remarks							
		Magnet OFF					

2.6 Overflow

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100	1100	1100		
P	Boost pressure	kPa	0	0	0		
P	Boost pressure	mmHg	0	0	0		
C	Overflow quantity	cm ³ /min	390	258	522		

2.7 Pump chamber pressure

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100	1100	1100		

P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
S	Pressure	kPa	421.5	392	451		
S	Pressure	kgf/cm2	4.3	4	4.6		
P	Basic		*				

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100	1100	1100		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Pressure	kPa	421.5	392	451		
C	Pressure	kgf/cm2	4.3	4	4.6		

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1700	1700	1700		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Pressure	kPa	598.5	569	628		
C	Pressure	kgf/cm2	6.1	5.8	6.4		

2.8 Timer

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100	1100	1100		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
S	Timer stroke	mm	2.3	2.1	2.5		
P	Basic		*				

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100	1100	1100		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Timer stroke	mm	2.3	2	2.6		

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1700	1700	1700		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Timer stroke	mm	4.7	4.2	5.2		

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	2500	2500	2500		
P	Boost pressure	kPa	56	54.7	57.3		
P	Boost pressure	mmHg	420	410	430		
C	Timer stroke	mm	6.9	6.4	7.4		

2.9 Magnet

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
C	Max. applied voltage	V	8	8	8		
P	Test voltage	V	13	12	14		

2.10 Additional device adjustment

2.10.1 Additional device 1

Name	POTENTIOMETER ADJUSTMENT																				
N1=750r/min Q1=17.8+-1.0cm ³ /1,000st V1=4.0+-0.03V V2=(2.0+-0.4)V V3=(10.0)V a=-deg	<table border="1"> <thead> <tr> <th>N</th> <th>Q</th> <th>V</th> <th>C</th> <th></th> </tr> </thead> <tbody> <tr> <td>N1</td> <td>Q1</td> <td>V1</td> <td>a</td> <td>A</td> </tr> <tr> <td>Q1</td> <td></td> <td>V2</td> <td></td> <td>B</td> </tr> <tr> <td>C2</td> <td></td> <td>V3</td> <td></td> <td>B</td> </tr> </tbody> </table>	N	Q	V	C		N1	Q1	V1	a	A	Q1		V2		B	C2		V3		B
N	Q	V	C																		
N1	Q1	V1	a	A																	
Q1		V2		B																	
C2		V3		B																	
V1=4.0+-0.03V P1=0kPa P2=0mmHg Vi=10V	Potentiometer adjustment 1. Applied voltage: Vi 2. Boost pressure = P1kPa {P2 mmHg} 3. Set the control lever at the adjusting point. Position the dummy bolt against the lever and fix. 4. Assemble the potentiometer to obtain output voltage V1 (V) at the fixed position. 5. After mounting the potentiometer, remove the dummy bolt. N: Pump speed Q: Injection quantity V: Output voltage A: Performance standards B: ON, OFF switch standard C: Angle of the control lever D: OFF-->ON E: OFF-->ON F: Adjusting point G: Checking point C1: Idle C2: Full-speed																				

3 Assembly dimension

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
S	K dimension	mm	3.3	3.2	3.4		
S	KF dimension	mm	5.8	5.7	5.9		
S	MS dimension	mm	0.9	0.8	1		
S	BCS stroke	mm	3.5	3.4	3.6		
S	Control lever angle alpha	deg.	10	6	14		
S	Control lever angle beta	deg.	36	31	41		