

ZEXEL Ass'y No.	101491-9530
Bosch Ass'y No.	
Bosch Typecode	
Engine Type	SL-T/C
Manufacturer	MAZDA
Edition date	21.12.04 (3)

1 Adjustment conditions

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
	Test oil		ISO4113 or (SAEJ96 7d)				
		1404 Test oil					
P	Test oil temperature	degC	40	40	45		
	Nozzle and nozzle holder		105780-8140				
	Bosch type code		EF8511/9A				
	Nozzle		105780-0000				
	Bosch type code		DN12SD12T				
	Nozzle holder		105780-2080				
	Bosch type code		EF8511/9				
P	Opening pressure	MPa	17.2				
P	Opening pressure	kgf/cm2	175				
	Injection pipe	mm	6-2-600				
		Outer diameter - inner diameter - length (mm)					
	Overflow valve		131424-3420				
P	Overflow valve opening pressure	kPa	255	221	289		
P	Overflow valve opening pressure	kgf/cm2	2.6	2.25	2.95		
P	Tester oil delivery pressure	kPa	157	157	157		
P	Tester oil delivery pressure	kgf/cm2	1.6	1.6	1.6		
	Direction of rotation (viewed from drive side)		R				
		Right					

2 Adjustment specification**2.1 Injection timing adjustment**

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Direction of rotation (viewed from drive side)		R				
		Right					
P	Injection order		1-3-4-2				
S	Pre-stroke	mm	3.2	3.15	3.25		
P	Beginning of injection position		NO.1				
		Drive side					
S	Difference between angles 1	deg.	90	89.5	90.5		
		Cal 1-3					
S	Difference between angles 2	deg.	180	179.5	180.5		
		Cal 1-4					
S	Difference between angles 3	deg.	270	269.5	270.5		
		Cyl.1-2					

2.2 Injection quantity adjustment

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Adjusting point		-				

P	Rack position		12.77+-0.02				
P	Pump speed	r/min	1000	1000	1000		
S	Average injection quantity	mm ³ /st.	73.2	72.7	73.7		
S	Max. variation between cylinders	%	0	-2.5	2.5		
P	Basic		*				
P	Fixing the rack		*				
P	Standard for adjustment of the maximum variation between cylinders		*				

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Adjusting point		-				
P	Rack position		10.1+-0.5				
P	Pump speed	r/min	340	340	340		
S	Average injection quantity	mm ³ /st.	10	8	12		
S	Max. variation between cylinders	%	0	-14	14		
P	Fixing the rack		*				
P	Standard for adjustment of the maximum variation between cylinders		*				
	Remarks						

Adjust only variation between cylinders; adjust governor according to governor specifications.

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Adjusting point		A				
P	Rack position		12.77+-0.5				
P	Pump speed	r/min	1000	1000	1000		
S	Average injection quantity	mm ³ /st.	73.2	72.7	73.7		
P	Basic		*				
P	Fixing the lever		*				
P	Boost pressure	kPa	21.3	21.3			
P	Boost pressure	mmHg	160	160			

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Adjusting point		B				
P	Rack position		12.91+-0.5				
P	Pump speed	r/min	1600	1600	1600		
S	Average injection quantity	mm ³ /st.	83.7	81.7	85.7		
P	Fixing the lever		*				
P	Boost pressure	kPa	21.3	21.3			
P	Boost pressure	mmHg	160	160			

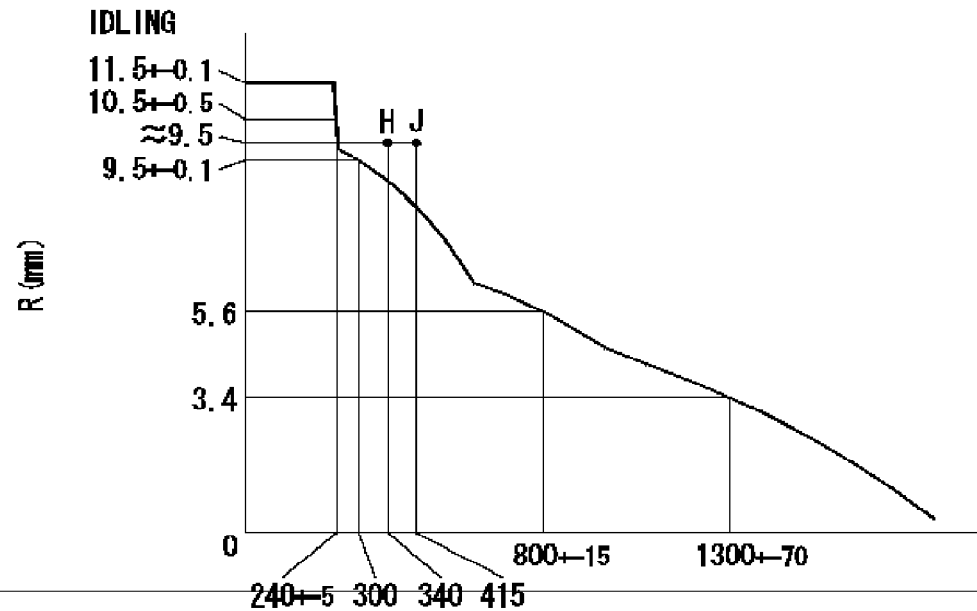
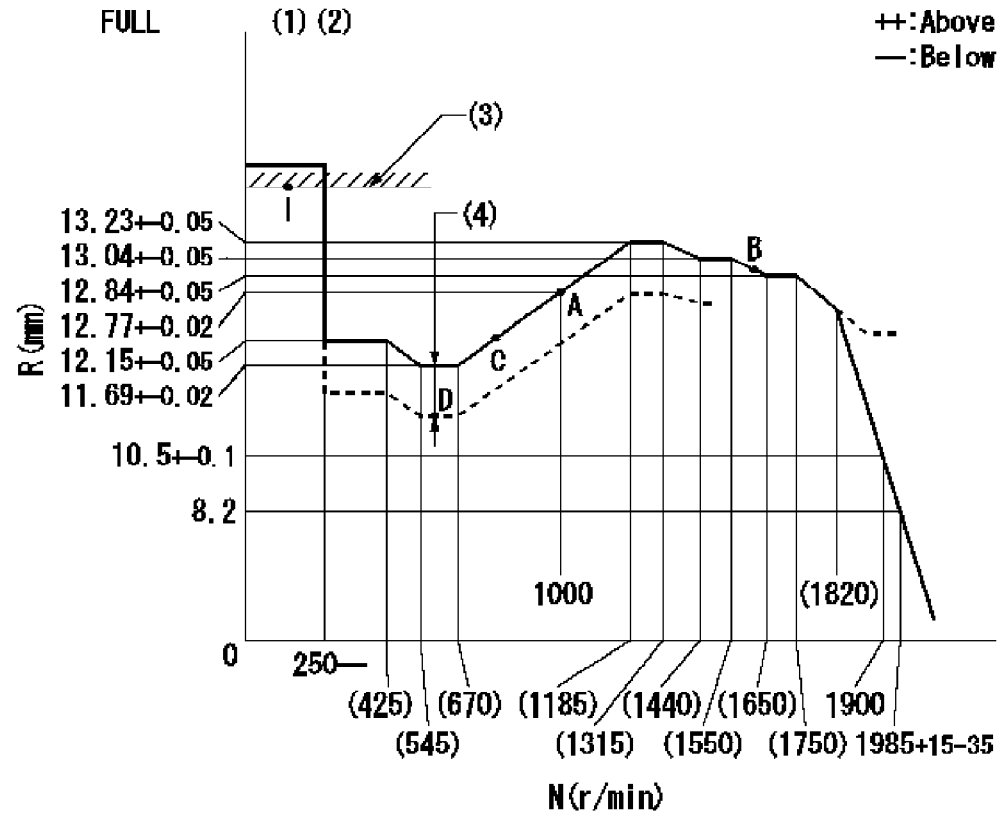
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Adjusting point		C				
P	Rack position		11.97+-0.5				
P	Pump speed	r/min	750	750	750		
S	Average injection quantity	mm ³ /st.	49.3	47.3	51.3		
P	Fixing the lever		*				
P	Boost pressure	kPa	21.3	21.3			
P	Boost pressure	mmHg	160	160			

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Adjusting point		I				
P	Rack position		-				
P	Pump speed	r/min	100	100	100		
S	Average injection quantity	mm ³ /st.	75	70	85		

P	Fixing the lever		*				
P	Rack limit		*				

2.3 Governor adjustment

Name	
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T1=C60 R1=+-0.02mm N1=+-3r/min BCL=1.2+-0.1mm	N:Pump speed R:Rack position (mm) (1)Torque cam stamping: T1 (2)Tolerance for racks not indicated: R1 , speed N1 (3)RACK LIMIT (4)Boost compensator stroke: BCL
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2.4 Boost compensator adjustment

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	600	600	600		
P	Rack position		10.49+-0.05				
S	Boost pressure	kPa	2	2	4.7		
S	Boost pressure	mmHg	15	15	35		

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	600	600	600		
P	Rack position		11.69+-0.02				
S	Boost pressure	kPa	12	9.3	14.7		
S	Boost pressure	mmHg	90	70	110		

2.5 Timer adjustment

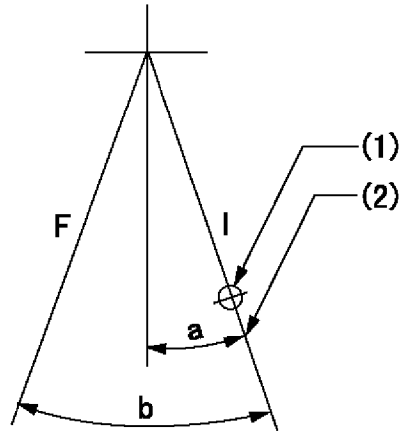
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1500+-25				
S	Advance angle	deg.	0	0	0		
	Remarks						
		Start					

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1750				
S	Advance angle	deg.	3	2.7	3.3		
	Remarks						
		Finish					

2.6 Speed control lever angle

Name

a=20deg+-5deg
b=43deg+-3deg



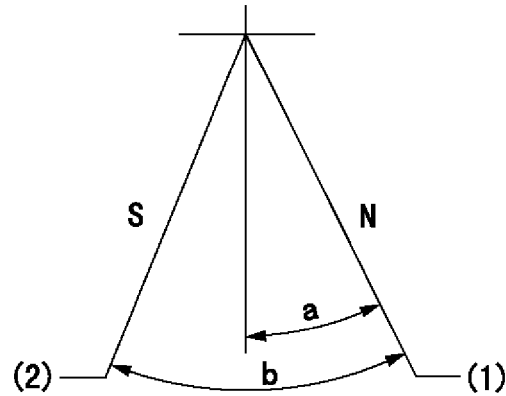
aa=36mm

F:Full speed
I:Idle
(1)Use the hole at R = aa
(2)Stopper bolt set position 'H'

2.7 Stop lever angle

Name

a=14deg+-5deg
b=(29deg)+-5deg



aa=39mm

N:Pump normal
S:Engine stop
(1)Use the hole at R = aa
(2)Set the stop adjuster screw

2.8 Additional device adjustment

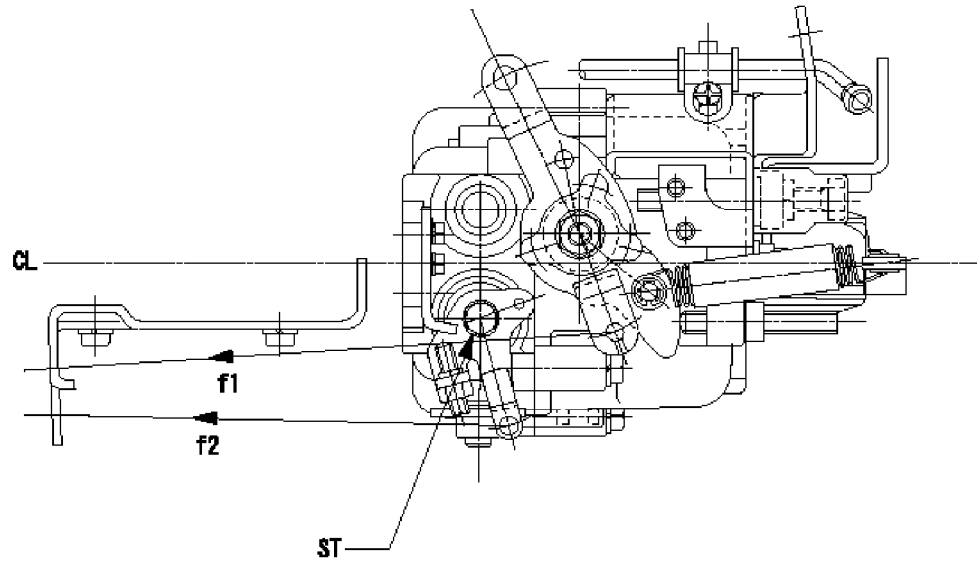
S = Setting value, C = Check value)
OT = Outside Tolerance (X is set)

2.8.1 Additional device 1

Name	GOV RACK POSITION CONFIRM																						
Na=1000r/min Nb=625r/min Nc=1700r/min Nd=1500r/min Ne=1250r/min Nf=400r/min Ra=12.77+-0.02mm Rb=11.69+-0.02mm Rc=12.84+-0.05mm Rd=13.04+-0.05mm Re=13.23+-0.05mm Rf=12.15+-0.05mm	<table border="1"> <thead> <tr> <th data-bbox="506 204 722 274">(N)</th> <th data-bbox="728 204 1001 274">(R)</th> <th data-bbox="1008 204 1283 274">(C)</th> </tr> </thead> <tbody> <tr> <td data-bbox="506 279 722 349">Na</td> <td data-bbox="728 279 1001 349">Ra</td> <td data-bbox="1008 279 1283 349">(A)</td> </tr> <tr> <td data-bbox="506 354 722 423">Nb</td> <td data-bbox="728 354 1001 423">Rb</td> <td data-bbox="1008 354 1283 423">(B)</td> </tr> <tr> <td data-bbox="506 428 722 498">Nc</td> <td data-bbox="728 428 1001 498">Rc</td> <td data-bbox="1008 428 1283 498">(B)</td> </tr> <tr> <td data-bbox="506 503 722 573">Nd</td> <td data-bbox="728 503 1001 573">Rd</td> <td data-bbox="1008 503 1283 573">(B)</td> </tr> <tr> <td data-bbox="506 578 722 647">Ne</td> <td data-bbox="728 578 1001 647">Re</td> <td data-bbox="1008 578 1283 647">(B)</td> </tr> <tr> <td data-bbox="506 652 722 691">Nf</td> <td data-bbox="728 652 1001 691">Rf</td> <td data-bbox="1008 652 1283 691">(B)</td> </tr> </tbody> </table>		(N)	(R)	(C)	Na	Ra	(A)	Nb	Rb	(B)	Nc	Rc	(B)	Nd	Rd	(B)	Ne	Re	(B)	Nf	Rf	(B)
(N)	(R)	(C)																					
Na	Ra	(A)																					
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Ne	Re	(B)																					
Nf	Rf	(B)																					
	Confirm the governor adjustment rack position. (N): Speed of the pump (R) Rack position (mm) Standard point A (B) Confirmation Remarks C																						

2.8.2 Additional device 2

Name LEVER



Na=1825r/min
 Nb=340r/min
 Ra=5.3-0.5mm

CL:Center line of camshaft

ST:Stop adjuster screw

f1:Direction for pulling the speed lever

f2:Direction for pulling the stop lever

1. Stop lever adjustment outline

(1)After completing all adjustments, confirm that the lever angle is within the specifications in the normal position.

(2)Set the speed lever in the full speed position.

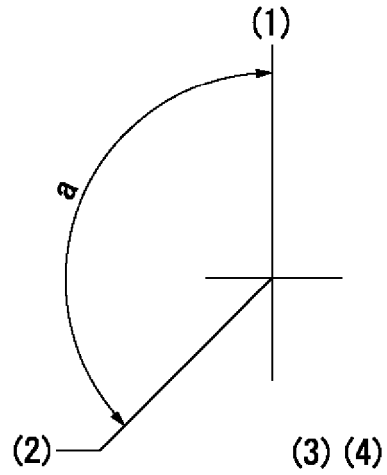
(3)At pump speed Na, position the rack at non-injection position Ra.

(4)Set the stop adjusting screw to fix the speed lever in the idling position.

(5)Confirm that there is no injection at pump speed Nb.

2.9 Timing settingName

a=(130deg)



- (1) Pump vertical direction
(2) Position of gear mark 'CC' at No 1 cylinder's beginning of injection
(3)-
(4)-