

ZEXEL Ass'y No.	101421-4950
Bosch Ass'y No.	F 01G 09U 01G
Bosch Typecode	
Engine Type	C190
Manufacturer	ISUZU
Edition date	19.08.05 (1)

**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)					
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)		L				
		Left					

**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)		L				
		Left					
P	Injection order		1-3-4-2				
S	Pre-stroke	mm	1.75	1.7	1.8		
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					

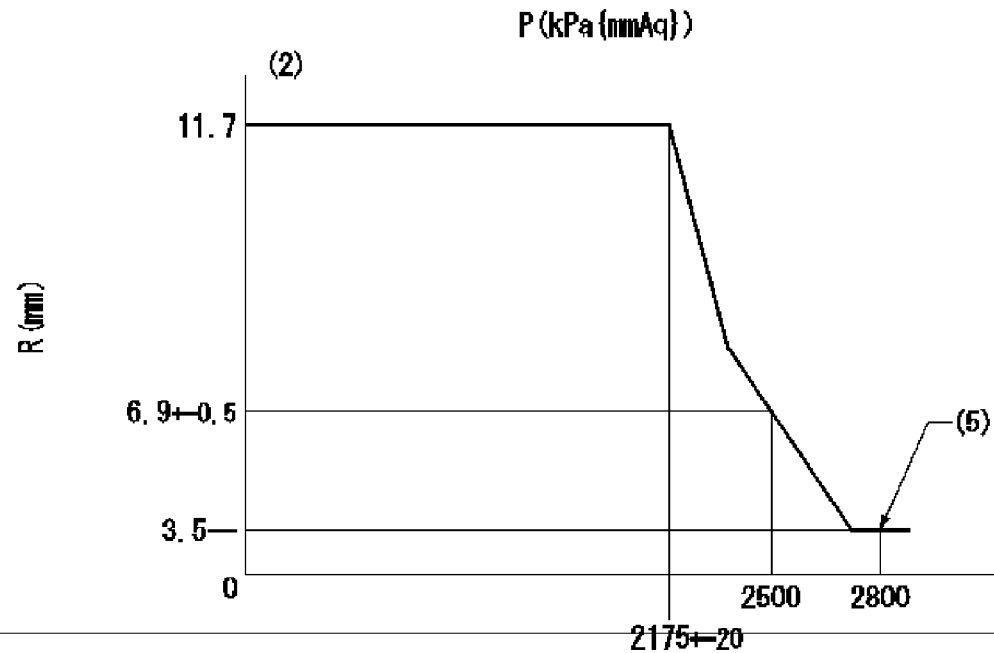
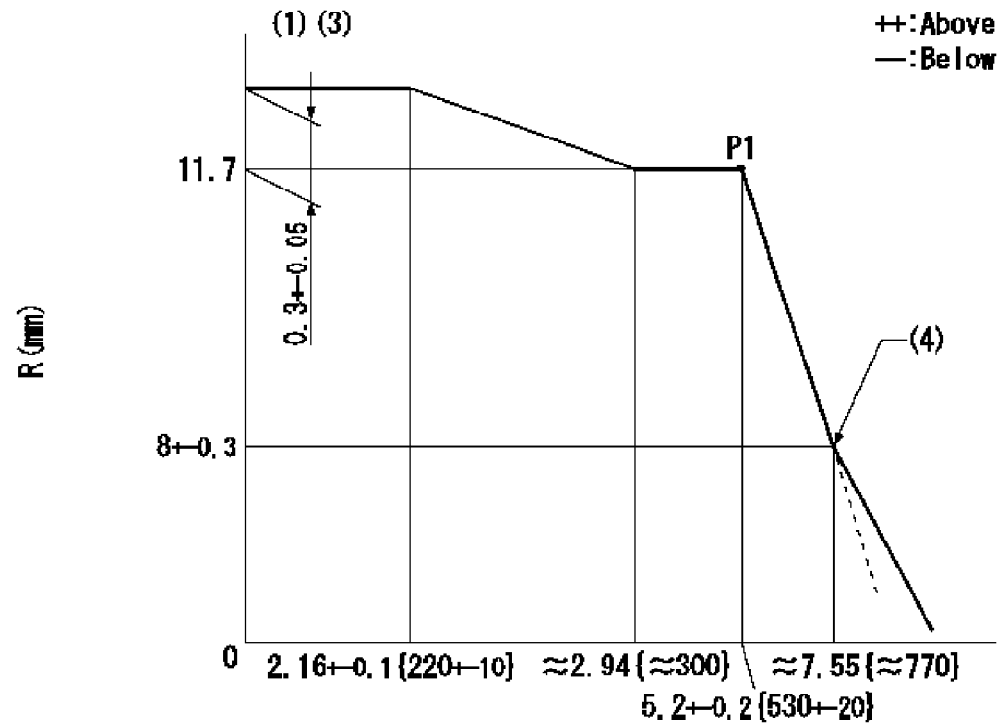
**2.2 Injection quantity adjustment**

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Adjusting point		D				
P	Rack position		11.7				
P	Pump speed	r/min	1800	1800	1800		
S	Average injection quantity	mm3/st.	37	36.1	37.9		

S	Max. variation between cylinders	%	0	-2.5	2.5		
P	Basic		*				
P	Fixing the rack		*				
<b>CAT</b>	<b>Designation</b>	<b>Unit</b>	<b>Set value</b>	<b>min.</b>	<b>max.</b>	<b>Actual values</b>	<b>OT</b>
P	Adjusting point		F				
P	Rack position		6.5				
P	Pump speed	r/min	300	300	300		
S	Average injection quantity	mm <sup>3</sup> /st.	7	5.9	8.1		
S	Max. variation between cylinders	%	0	-14	14		
P	Fixing the rack		*				
<b>CAT</b>	<b>Designation</b>	<b>Unit</b>	<b>Set value</b>	<b>min.</b>	<b>max.</b>	<b>Actual values</b>	<b>OT</b>
P	Adjusting point		G				
P	Rack position		-				
P	Pump speed	r/min	150	150	150		
S	Average injection quantity	mm <sup>3</sup> /st.	52	52			
P	Fixing the rack		*				
	Remarks						
		Excess fuel for starting.					
<b>CAT</b>	<b>Designation</b>	<b>Unit</b>	<b>Set value</b>	<b>min.</b>	<b>max.</b>	<b>Actual values</b>	<b>OT</b>
P	Adjusting point		-				
P	Rack position		-				
P	Pump speed	r/min	1800	1800	1800		
S	Average injection quantity	mm <sup>3</sup> /st.	37	36.5	37.5		
	Remarks						
		Smoke setting: 4.41 kPa {450 mmAq}					

### 2.3 Governor adjustment

Name	
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L1=8+-0.3mm Q1=3mm <sup>3</sup> /st	N:Pump speed R:Rack position (mm) P:Negative pressure (1)Pneumatic governor (2)Mechanical governor (3)Acting negative pressure: P1 (4)Beginning of idle sub spring operation: L1 (5)Injection quantity Q = Q1 or less
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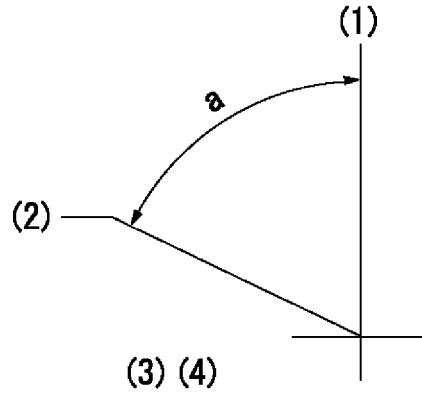
**2.4 Timer adjustment**

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	800+-50				
S	Advance angle	deg.	0	0	0		
	Remarks						
		Start					
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1100				
S	Advance angle	deg.	1.7	1.2	2.2		
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1500				
S	Advance angle	deg.	4	3.3	4.7		
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	1900				
S	Advance angle	deg.	5.3	4.6	6		
CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Pump speed	r/min	2250				
S	Advance angle	deg.	6.5	6	7		
	Remarks						
		Finish					

## 2.5 Timing setting

Name 

a=(60deg)



aa=18deg

- (1) Pump vertical direction
- (2) Gear mark Z for the No. 4 cylinder's beginning of injection
- (3) B.T.D.C.: aa
- (4) -