ZEXEL Ass'y No.	101606-0370
Bosch Ass'y No.	9 400 612 749
Bosch Typecode	
Engine Type	6HL1-N
Manufacturer	ISUZU
Edition date	11.10.06

1 Adjustment conditions

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
	Test oil		ISO4113 or {SAEJ967d}				
		1404 Test oil					
P	Test oil temperature	degC	40	40	45		
	Nozzle and nozzle holder		105780-8310				
	Nozzle		105780-0120				
	Bosch type code		1 688 901 990				
	Nozzle holder		105780-2240				
P	Opening pressure	MPa	18				
P	Opening pressure	kgf/cm2	184				
	Injection pipe	mm	6-2-600				
		Outer diameter - inner diameter - length (mm)					
	Overflow valve		131424-8620				
P	Overflow valve opening pressure	kPa	206	172	240		
P	Overflow valve opening pressure	kgf/cm2	2.1	1.75	2.45		
P	Tester oil delivery pressure	kPa	255	255	255		
P	Tester oil delivery pressure	kgf/cm2	2.6	2.6	2.6		
	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		1-5-3-6-2-4				
S	Pre-stroke	mm	3.8	3.75	3.85		
S	Rack position		R=A				
		Point A					
P	Beginning of injection position		NO.1				
		Governor side					
S	Difference between angles 1	deg.	60	59.5	60.5		
		Cal 1-5					
S	Difference between angles 2	deg.	120	119.5	120.5		
		Cal 1-3					
S	Difference between angles 3	deg.	180	179.5	180.5		
		Cal 1-6					
S	Difference between angles 4	deg.	240	239.5	240.5		
		Cyl.1-2					
S	Difference between angles 5	deg.	300	299.5	300.5		
		Cal 1-4					

2.2 Injection quantity adjustment

CAT	Designation	Unit	Set value	min.	max.	Actual values	OT
P	Adjusting point		-				
P	Rack position		14.2				
P	Pump speed	r/min	850	850	850		
S	Average injection quantity	mm3/st.	65	63.4	66.6		
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		Z				
P	Rack position		9.7+-0.5				
P	Pump speed	r/min	295	295	295		
S	Average injection quantity	mm3/st.	13	11.7	14.3		

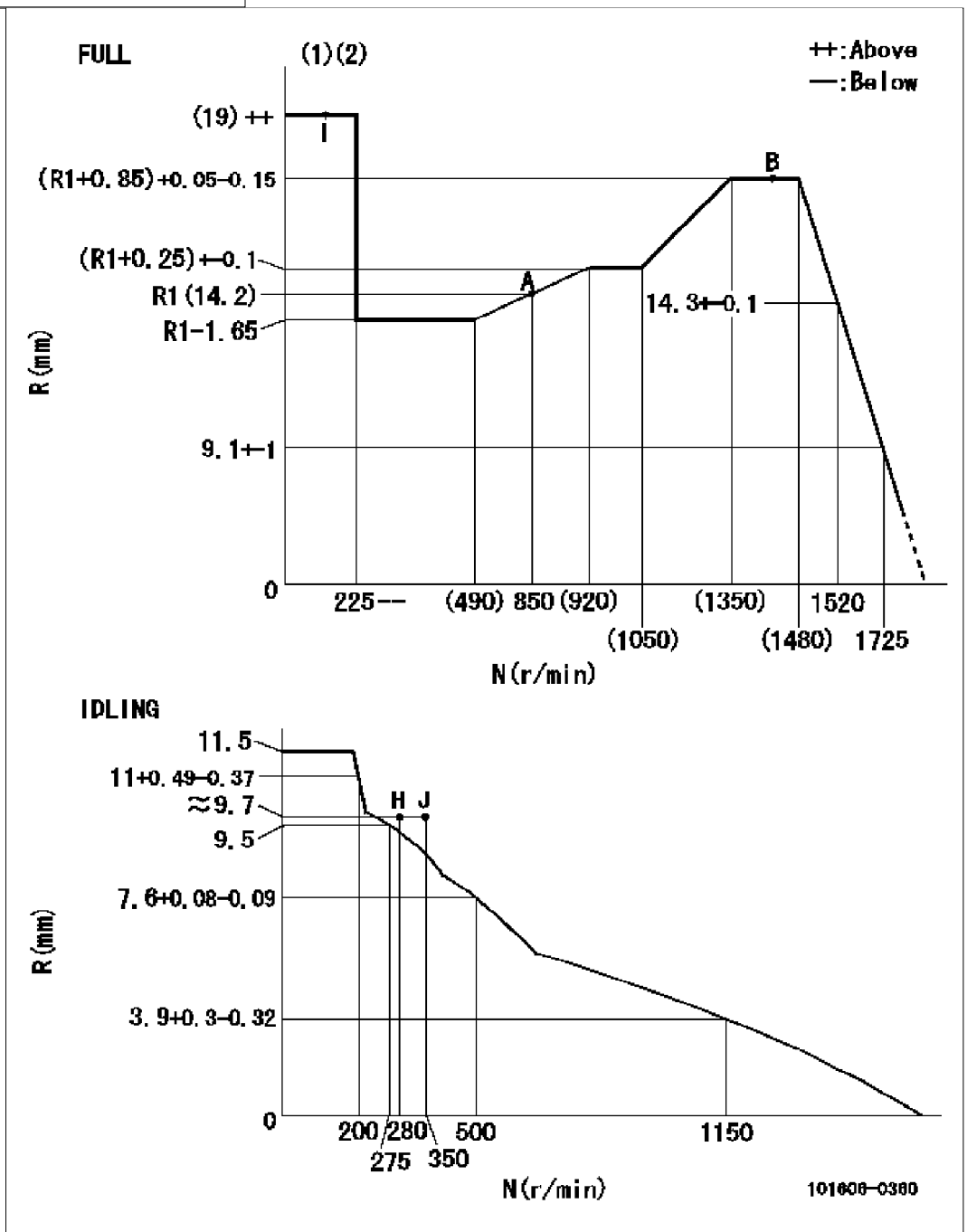
S = Setting value, C = Check value)
OT = Outside Tolerance (X is set)

S	Max. variation between cylinders	%	0	-14	14		
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		A				
P	Rack position		R1(14.2)				
P	Pump speed	r/min	850	850	850		
S	Average injection quantity	mm3/st.	65	64	66		
P	Basic		*				
P	Fixing the lever		*				

2.3 Governor adjustment

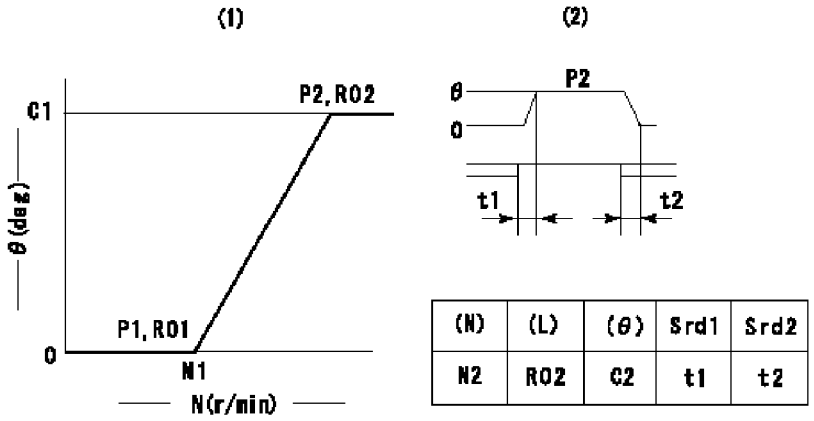
Name	



T1=P02	N:Pump speed R:Rack position (mm) (1)Torque cam stamping: T1 (2)Tolerance for racks not indicated: +-0.05mm.

2.4 Timer adjustment

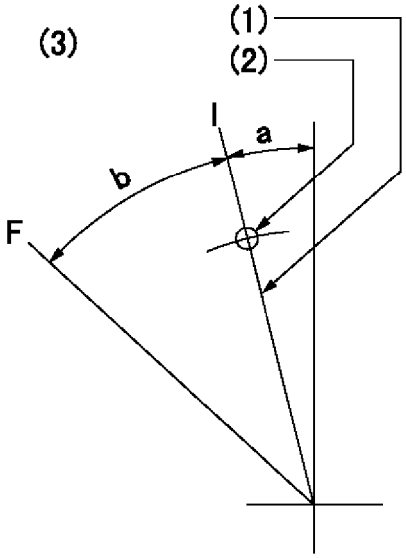
Name	

N1=1300++r/min P1=0kPa(0kgf/cm2) P2=392kPa(4kgf/cm2) C1=8+-0.3deg R01=0/4load R02=4/4load	
L=1.5+-0.2mm N2=800r/min C2=(8)deg t1=2--sec. t2=2--sec.	(1)Adjusting range (2)Step response time (N): Speed of the pump (L): Load (theta) Advance angle (Srd1) Step response time 1 (Srd2) Step response time 2 1. Adjusting conditions for the variable timer (1)Adjust the clearance between the pickup and the protrusion to L.

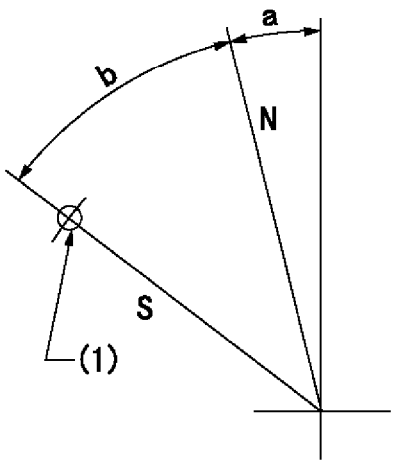
(N)	(L)	(θ)	Srd1	Srd2
N2	R02	C2	t1	t2

2.5 Speed control lever angle

Name	

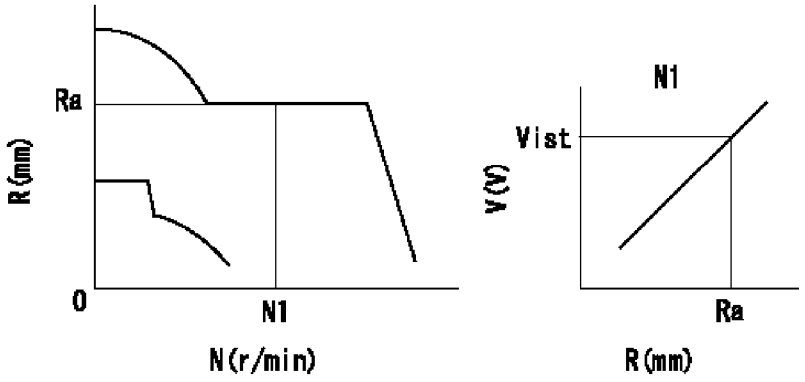
a=11deg+-5deg b=40deg+-3deg	
aa=35mm	F:Full speed I:Idle (1)Stopper bolt set position 'H' (2)Use the pin at R = aa (3)Viewed from feed pump side.

2.6 Stop lever angle

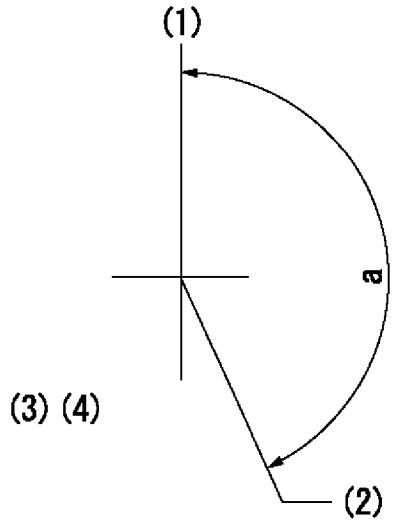
Name	
a=12.5deg+-5deg b=40deg+-5deg	
aa=45mm	N:Pump normal S:Stop the pump. (1)Use the pin at R = aa

2.7 Additional device adjustment

2.7.1 Additional device 1

Name	RACK SENSOR
	
V1=5+-0.01V N1=850r/min Ra=R1(14.2)mm Vist=3.49+-0.28V	Rack sensor adjustment 1. Flange type rack sensor (rack sensor adjustment -5*20) (1)These types of rack sensors do not need adjustment. Confirm the performance with the followi ng procedures. (2)Mount the rack sensor main body to the pump main body. (3)Fix the pump lever at full. (4)At supply voltage V1, pump speed N1 and rack position Ra, confirm that the amp's output volta ge is Vist. (5)Move the pump lever two or three times. (6)Set again to full. (7)Confirm that the amplifier output voltage is Vist. (8)Fix the caution plate to the upper part of the rack sensor. (For those without the caution plate instructions, make sure the nameplate of the rack sensor carr ies the "Don't hold here" caution.) (9)Apply red paint to the rack sensor mounting bolts (2 places).

2.8 Timing setting

Name	
a=(160deg)	
aa=6deg	(1)Pump vertical direction (2)Positions of coupling's threaded installation holes at No 1 cylinder's beginning of injection (3)B.T.D.C.: aa (4)-