WEBM006400

SHOP MANUAL

CK20-1

CRAWLER SKID-STEER LOADER

SERIAL NUMBER

CK20-1 F00003 and up

KOMATSU®

Utility

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ELECTRIC

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In the wiring diagrams various colour and symbols are employed to indicate the thickness of wires.
This wire code table will help you understand WIRING DIAGRAMS.
Example: R–N 1.5 indicates a cable having a nominal number 1.5 and red coating with black stripe.

CLASSIFICATION BY THICKNESS

Nominal number	Copper wire			Cable O.D. (mm)	Current rating (A)
	Numberstrands	Ø of strands(mm)	Cross section(mm)		
0.5	16	0.20	0.35	1.55	3.5
1	14	0.30	0.99	2.80	11
1.5	21	0.30	1.48	3.35	14
2.5	35	0.30	2.47	3.80	20
4	56	0.30	3.95	4.60	28
6	84	0.30	5.93	5.20	37

CLASSIFICATION BY COLOUR AND CODE

	Primary	Auxiliary									
Code	A	A-B	A/B	A-G		A-N	A/N	A-R		A-V	A/V
Colour	Light Blue	Light Blue – White		Light Blue–Yellow		Light Blue–Black		Light Blue–Red		Light Blue–Green	
Code	B	B-G		B-N	B/N	B-R	B/R				
Colour	White	White–Yellow		White–Black		White–Red					
Code	C	C-B	C/B	C-L		C-N	C/N				
Colour	Orange	Orange–White		Orange–Blue		Orange–Black					
Code	G	G-N	G/N		G/R						
Colour	Yellow	Yellow–Black		Yellow–Red							
Code	H	H-G		H-L		H-N		H-R	H/R		
Colour	Grey	Grey–Yellow		Grey–Blue		Grey–Black		Grey–Red			
Code	L		L/B	L-G	L/G	L-N	L/N	L-R	L/R		
Colour	Blue	Blue–White		Blue–Yellow		Blue–Black		Blue–Red			
Code	M	M-B	M/B	M-N		M-V					
Colour	Brown	Brown–White		Brown–Black		Brown–Green					
Code	N										
Colour	Black										
Code	R	R-G		R-N	R/N	R-V					
Colour	Red	Red–Yellow		Red–Black		Red–Green					
Code	S	S-G		S-N	S/N						
Colour	Pink	Pink–Yellow		Pink–Black							
Code	V	V-B	V/B	V-N							
Colour	Green	Green–White		Green–Black							
Code	Z	Z-B		Z-N	Z/N						
Colour	Violet	Violet–White		Violet–Black							

COMPOSITION OF THE COLOURS

The coloration of two-colour wires is indicated by the composition of the symbol listed.
Example: G–V = Yellow-Green with longitudinal colouring
G/V = Yellow-Green with transversal colouring

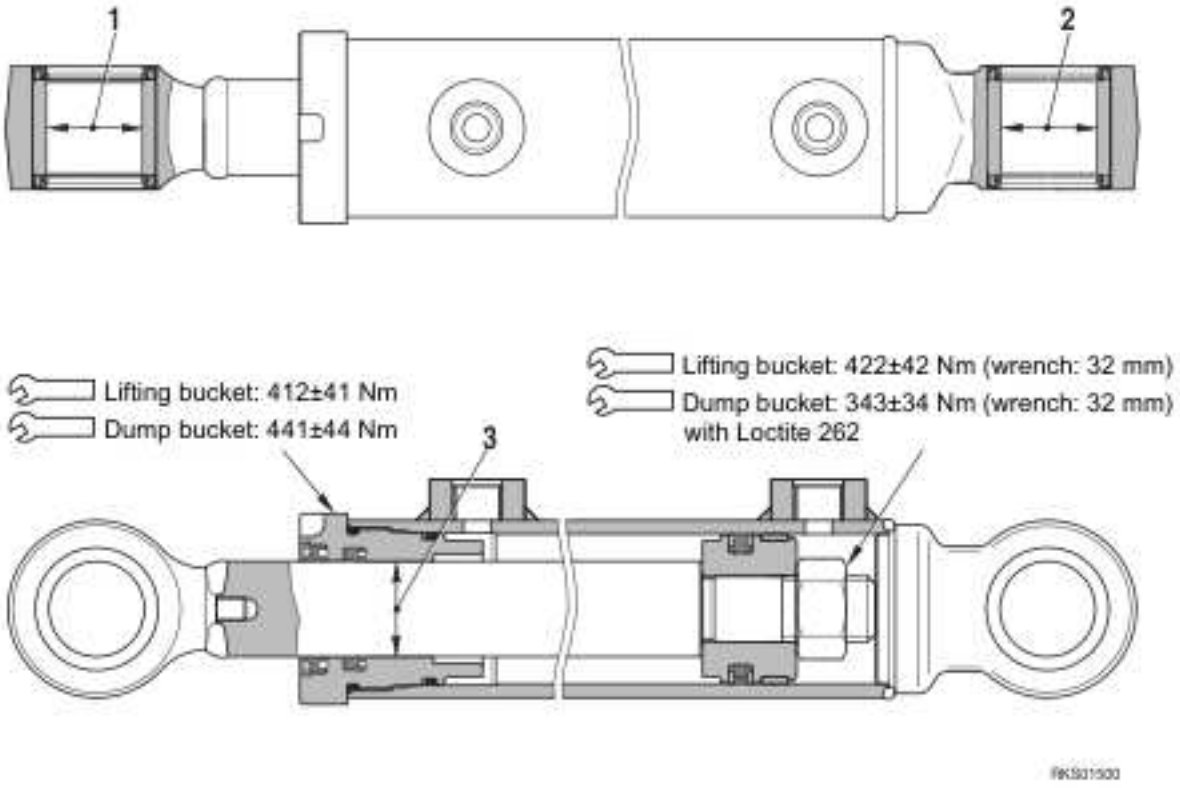
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FOR MACHINE

Machine model				CK20-1	
Classification	Check item	Test conditions	Unit	Standard value	Permissible value
Hydraulic pressure	Control valve	• Engine speed: ±50 rpm • Oil temperature: 45–55 °C	bar	206	196–211
	Travel motors (forward)	• Engine speed: 2500±10 rpm • Oil temperature: 45–55 °C • Parking brake: • nd speed		348	336–360
	Travel motors (backward)	• Engine speed: 2500±10 rpm • Oil temperature: 45–55 °C • Parking brake: • nd speed		348	336–360
	Servocontrol	• Engine speed: 2500±10 rpm • Oil temperature: 45–55 °C		27	25–29
	AS Valve	• Machine raised from grouns • Oil temperature: 45–55 °C • Travel levers: forward Low idling		11.8± 0.5	7.8–12.7
		at 2500±30 rpm		15± 0.5	11.1–16.5
	Charge safety valve	• Engine speed: max. • Oil temperature: 45–55 °C • Travel levers: at neutral		25.5±29.4	19.6–29.4
Pilot system and secondary circuit pressures	Pilot system travel forward (start-up)*	• Engine speed: 2500±10 rpm • Oil temperature: 45–55 °C • Machine raised from grouns *Pressure of wheels starting rotation	bar	–	–
	Pilot system travel (maximum)			16.5± 0.5	16–17
	Pilot system travel reverse (start-up) *			–	–
	Pilot system travel reverse (maximum)			16.5± 0.5	16–17
	Pilot system travel to right or left (start-up) *			–	–
	Pilot system travel to right or left (maximum)			16.5± 0.5	16–17
	Pilot system with parking brake disengaged			25	min. 25
Engine speed (with load)	With travel pumps in stall	• Engine speed: max. • Oil temperature: 45–55 °C • nd speed • Travel lever: at full stroke • Parking brake: applied	rpm	2600	2500–2700
	With travel pumps in stall and equipment at max. pressure	• Engine speed: max. • Oil temperature: 45–55 °C • nd speed • Travel lever: at full stroke • Parking brake: applied • Raise: at end of stroke		2300	2200–2400

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CYLINDERS

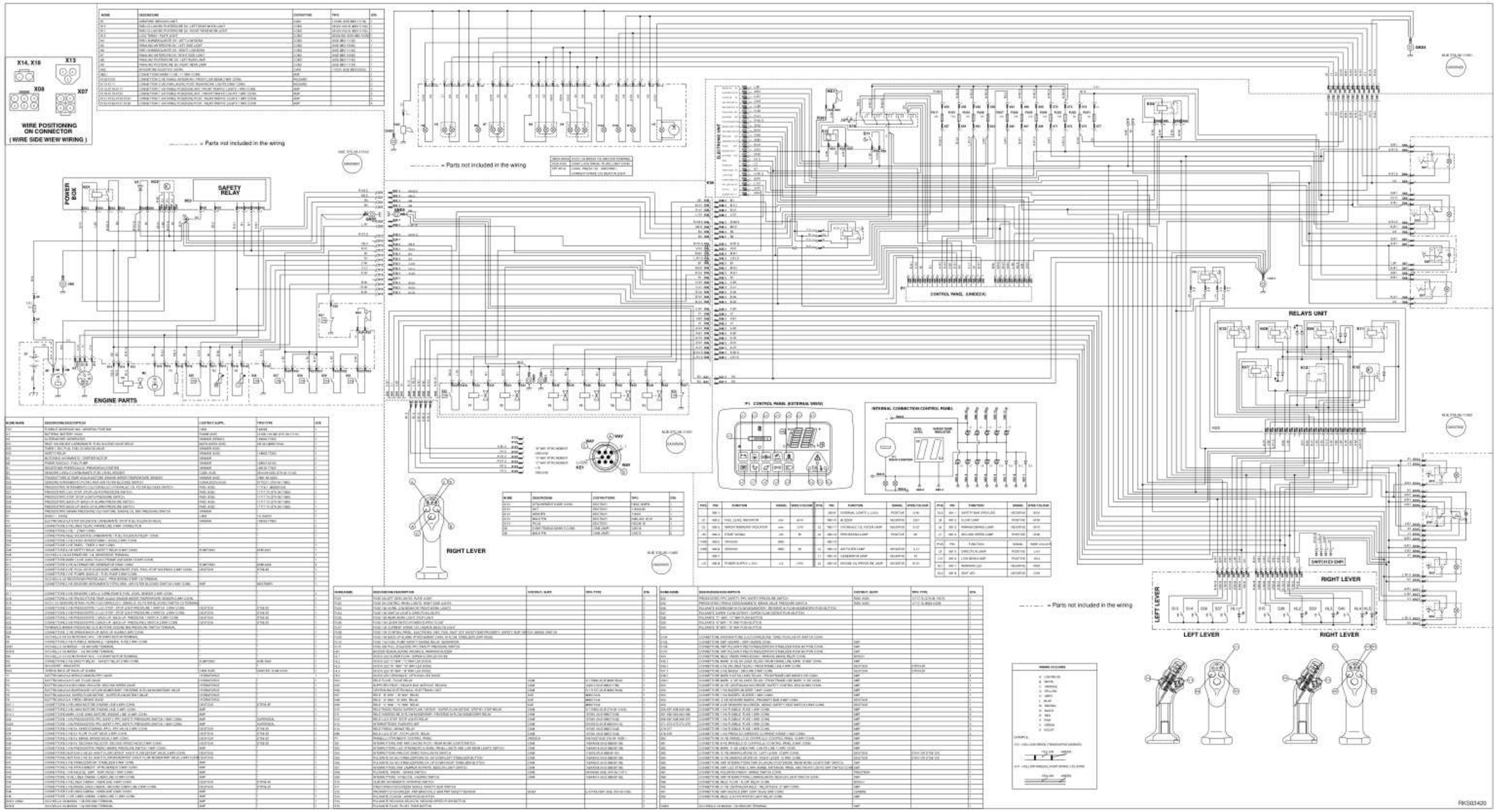


Unit: mm

No.	Check item	Cylinder	Criteria					Remedy
			Standard size	Tolerance		Minimum clearance	Clearance limit	
				Shaft	Hole			
1	Tolerance between bushing and piston rod mounting pin	Lifting bucket	35	−0.01 −0.05	+0.072 +0.134	0.082–0.184	1.0	Replace bushing
		Bucket dump	35	−0.01 −0.05	+0.072 +0.134	0.082–0.184	1.0	
2	Tolerance between bushing and cylinder mounting pin	Lifting bucket	35	−0.01 −0.05	+0.072 +0.134	0.082–0.184	1.0	
		Bucket dump	35	−0.01 −0.05	+0.072 +0.134	0.082–0.184	1.0	
3	Tolerance between piston rod and cylinder head	Lifting bucket	35	−0.025 −0.087	+0.039 +0	0.025–0.126	0.426	Replace head
		Bucket dump	30	−0.020 −0.072	+0.033 +0	0.020–0.105	0.405	

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ELECTRICAL DIAGRAM (OPTIONAL)



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