PART NO. WJBM-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX

870-5A
870LC-5A
890H-5A
890LCH-5A

Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TOJBM-EN
Technical Manual (Troubleshooting)	: Vol. No.TTJBM-EN
Workshop Manual	: Vol. No.WJBM-EN

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Safety Alert Symbol and Headline Notations

In this manual, the following safety alert symbol and signal words are used to alert the reader to the potential for personal injury of machine damage.

⚠ This is the safety alert symbol. When you see this symbol, be alert to the potential for personal injury.
Never fail to follow the safety instructions prescribed along with the safety alert symbol.
The safety alert symbol is also used to draw attention to component/part weights.
To avoid injury and damage, be sure to use appropriate lifting techniques and equipment when lifting heavy parts.

⚠ **CAUTION:**
Indicates potentially hazardous situation which could, if not avoided, result in personal injury or death.

IMPORTANT:
Indicates a situation which, if not conformed to the instructions, could result in damage to the machine.

NOTE:
Indicates supplementary technical information or know-how.

Units Used

SI Units (International System of Units) are used in this manual. MKSA system units and English units are also indicated in parentheses just behind SI units.

Example: 24.5 MPa (250 kgf/cm², 3560 psi)

A table for conversion from SI units to other system units is shown below for reference purposes.

Quantity	To Convert From	Into	Multiply By
Length	mm	in	0.03937
	mm	ft	0.003281
Volume	L	US gal	0.2642
	L	US qt	1.057
	m^3	yd^3	1.308
Weight	kg	lb	2.205
Force	N	kgf	0.10197
	N	lbf	0.2248
Torque	N·m	kgf·m	0.10197
Pressure	MPa	kgf/cm^2	10.197
	MPa	psi	145.0
Power	kW	PS	1.360
	kW	HP	1.341
Temperature	°C	°F	°C×1.8+32
Velocity	km/h	mph	0.6214
	min^{-1}	rpm	1.0
Flow rate	L/min	US gpm	0.2642
	mL/rev	cc/rev	1.0

NOTE: The numerical value in this manual might be different from the above-mentioned table.

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Master Bushing



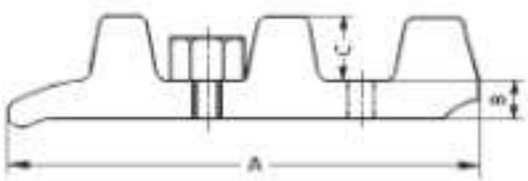
W105-03-07-023

Unit: mm (in)

	Standard	Allowable Limit	Remedy
A	204.15 (8.0)	-	Replace
B	57.65 (2.27)	[60.7 (2.4)]	
C	85.35 (3.36)	[80.4 (3.2)]	

NOTE: Values in [ ] are just for reference.

Grouser Shoe



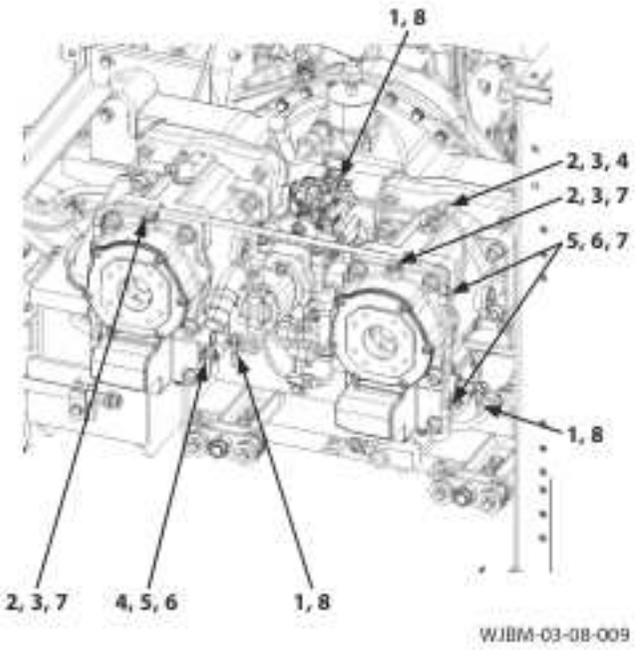
W105-03-07-024

Unit: mm (in)

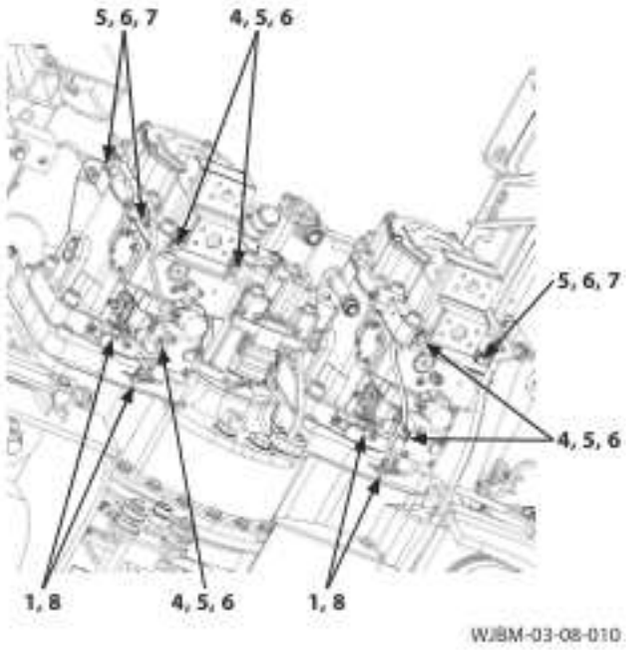
Shoe Size	650, 750, 900 mm Grouser Shoe		
	Standard	Allowable Limit	Remedy
A	302 (11.89)	-	Replace
B	20 (0.79)	-	
C	50 (1.97)	[24 (0.95)]	

NOTE: Values in [ ] are just for reference.

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WJBM-03-08-009



WJBM-03-08-010

27. Connect connectors (1) (7 used). Secure the harness with clips (8) (7 used)
28. Install clamps (4) (6 used) and clamps (7) (5 used) with washers (6) (11 used) and bolts (5) (11 used).

    : 17 mm

    : 50 N·m
29. Install clamp (4) and clamps (7) (2 used) with washers (3) (3 used) and bolts (2) (3 used).

    : 19 mm

    : 90 N·m

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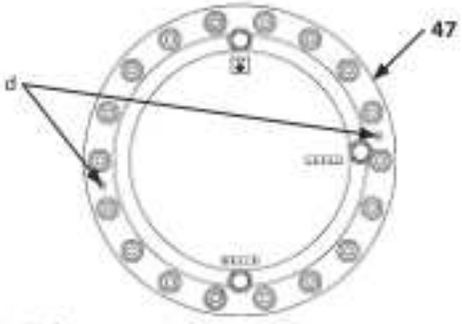
CAUTION: Travel reduction gear weight: 950 kg (2100 lb)

3. Attach a nylon sling onto the body of drum (10) and ring gear (43). Hoist the travel reduction gear. Place the travel reduction gear on a workbench with the cover (47) side up.

CAUTION: Cover (47) weight: 40 kg (90 lb)

4. Put the matching marks on cover (47) and ring gear (43). Remove bolts (49) (18 used) and spring washers (48) (18 used) from cover (47). Evenly install bolts (M12, Pitch 1.75 mm) (2 used) to bolt holes (d) (2 places) on cover (47). Float cover (47). Install eyebolts (M12, Pitch 1.75 mm) (2 used) to lifting holes (d) (2 places) on cover (47). Attach a nylon sling onto the eyebolts. Hoist and hold cover (47). Remove cover (47) from ring gear (43).

: 22 mm



d - Lifting Hole

WJBC-04-02-001

CAUTION: Ring gear (43) weight: 130 kg (290 lb)

5. Put the matching marks on ring gear (43) and drum (10). Install eyebolts (M14, Pitch 2.0 mm) (2 used) to the bolt (49) holes (2 places) of ring gear (43). Attach a nylon sling onto the eyebolts. Hoist and hold ring gear (43).

6. Remove socket bolts (44) (30 used) from ring gear (43). Remove ring gear (43) from drum (10). Remove O-ring (12) from drum (10).

: 17 mm

CAUTION: The first stage carrier (31) assembly weight: 30 kg (67 lb)

7. Remove shaft (42) from first stage carrier (31). Remove the first stage carrier (31) assembly and second stage sun gear (24) from second stage carrier (22).

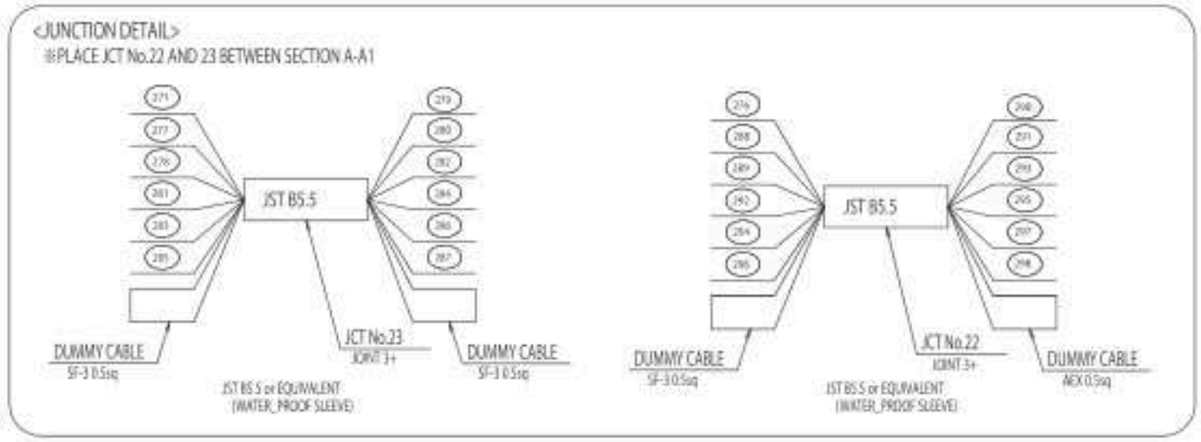
CAUTION: The second stage carrier (22) assembly weight: 50 kg (115 lb)

8. Attach nylon slings (2 used) onto second stage carrier (22). Hoist second stage carrier (22). Remove the second stage carrier (22) assembly and third stage sun gear (21) from third stage carrier (19).

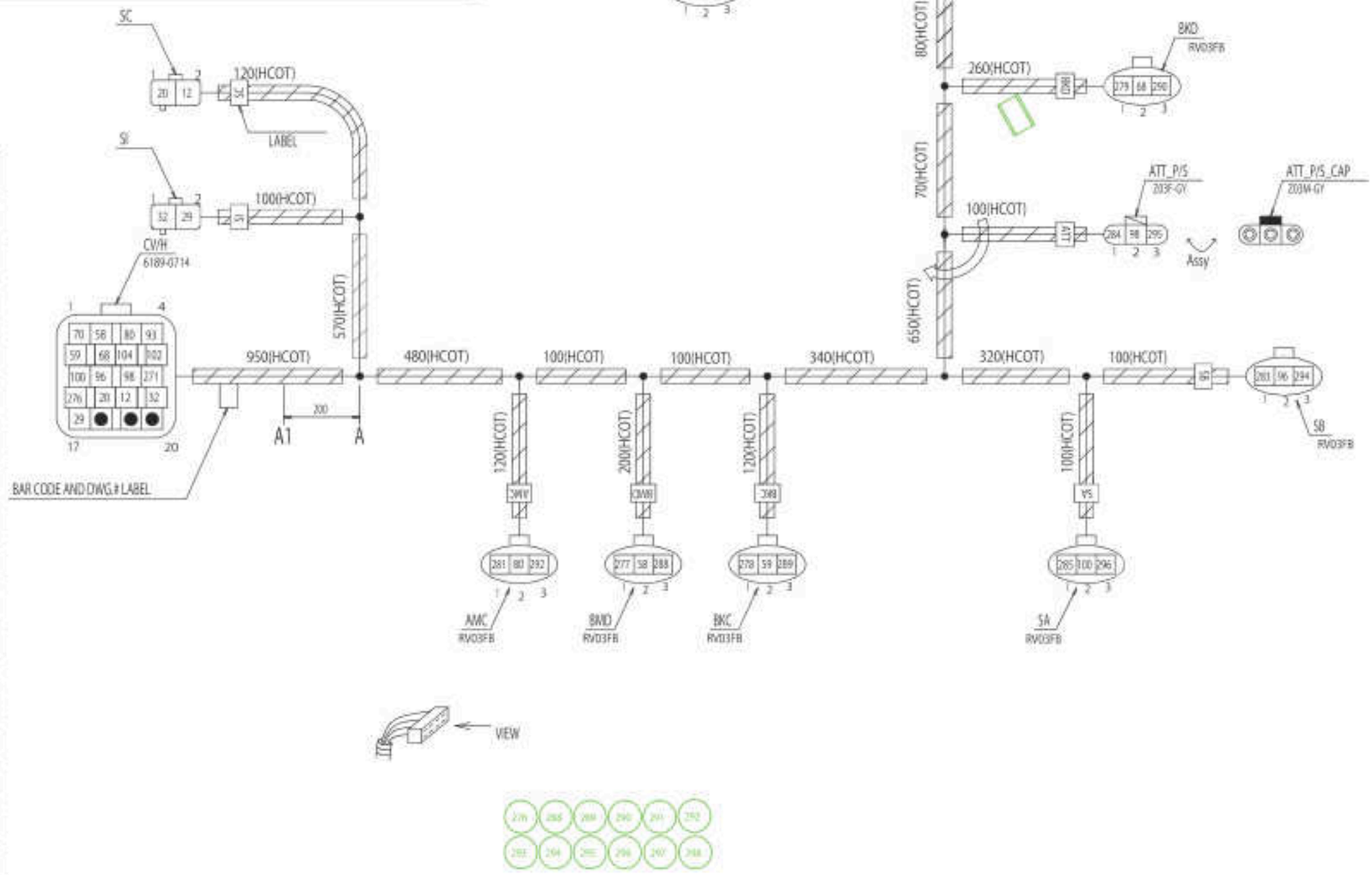
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Attach to Part No. : TTJBM-EN-00

ZX870-5A • 870LC-5A • 890H-5A • 890LCH-5A CONTROL VALVE HARNESS



⚠ CAUTION: Parts numbers on the drawing are provided only for reference purpose.
To order parts on the drawing, be sure to consult the Parts Catalog.



NO.	SIZE	COL.	CIRCUIT				KIND	COMMENT
			FROM		TO			
12	0.5	L	SC	2	CV/H	15	SF-3	
20	0.5	P	SC	1	CV/H	14	SF-3	
29	0.5	Y	SI	2	CV/H	17	SF-3	
32	0.5	Gy	SI	1	CV/H	16	SF-3	
58	0.5	Br	BMD	2	CV/H	2	SF-3	
59	0.5	G	BKC	2	CV/H	5	SF-3	
68	0.5	O	BKD	2	CV/H	6	SF-3	
70	0.5	L	BMU	2	CV/H	1	SF-3	
80	0.5	P	AMC	2	CV/H	3	SF-3	
93	0.5	W	AMD	2	CV/H	4	SF-3	
96	0.5	G	SB	2	CV/H	10	SF-3	
98	0.5	O	ATT_P/S	2	CV/H	11	SF-3	
100	0.5	Br	SA	2	CV/H	9	SF-3	
102	0.5	Y	TR	2	CV/H	8	SF-3	
104	0.5	Gy	S3	2	CV/H	7	SF-3	
271	0.5	R	JOINT_3+		CV/H	12	SF-3	JCT No.23
276	0.5	B	JOINT_3-		CV/H	13	SF-3	JCT No.22
277	0.5	R	BMD	1	JOINT_3+		SF-3	JCT No.23
278	0.5	R	BKC	1	JOINT_3+		SF-3	JCT No.23
279	0.5	R	BKD	1	JOINT_3+		SF-3	JCT No.23
280	0.5	R	BMU	1	JOINT_3+		SF-3	JCT No.23
281	0.5	R	AMC	1	JOINT_3+		SF-3	JCT No.23
282	0.5	R	AMD	1	JOINT_3+		SF-3	JCT No.23
283	0.5	R	SB	1	JOINT_3+		SF-3	JCT No.23
284	0.5	R	ATT_P/S	1	JOINT_3+		SF-3	JCT No.23
285	0.5	R	SA	1	JOINT_3+		SF-3	JCT No.23
286	0.5	R	TR	1	JOINT_3+		SF-3	JCT No.23
287	0.5	R	S3	1	JOINT_3+		SF-3	JCT No.23
288	0.5	B	BMD	3	JOINT_3-		SF-3	JCT No.22
289	0.5	B	BKC	3	JOINT_3-		SF-3	JCT No.22
290	0.5	B	BKD	3	JOINT_3-		SF-3	JCT No.22
291	0.5	B	BMU	3	JOINT_3-		SF-3	JCT No.22
292	0.5	B	AMC	3	JOINT_3-		SF-3	JCT No.22
293	0.5	B	AMD	3	JOINT_3-		SF-3	JCT No.22
294	0.5	B	SB	3	JOINT_3-		SF-3	JCT No.22
295	0.5	B	ATT_P/S	3	JOINT_3-		SF-3	JCT No.22
296	0.5	B	SA	3	JOINT_3-		SF-3	JCT No.22
297	0.5	B	TR	3	JOINT_3-		SF-3	JCT No.22
298	0.5	B	S3	3	JOINT_3-		SF-3	JCT No.22

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