CRAWLER EXCAVATOR

SERVICE MANUAL

R140LC-9 (India)

HYUNDAI

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7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 105 × ø 75 × 1075 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø 115 × ø 80 × 1138 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 100 × ø 70 × 840 mm
	Cushion	Extend only

- Discoloration of cylinder rod can occur when the friction reduction additive of lubrication oil spreads on the rod surface.
- Discoloration does not cause any harmful effect on the cylinder performance.

8) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
R140LC-9	Standard	600 mm (24")	0.36 kgf/cm² (5.12 psi)	46	2600 mm (8' 6")
	Option	500 mm (20")	0.43 kgf/cm² (6.11 psi)	46	2500 mm (8' 2")
		700 mm (28")	0.31 kgf/cm² (4.41 psi)	46	2700 mm (8' 10")

9) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R140LC-9	Standard	0.65 m³ (0.85 yd³)	0.55 m³ (0.72 yd³)	5	1110 mm (43.7")	1210 mm (47.6")
	Option	0.52 m³ (0.68 yd³)	0.45 m³ (0.59 yd³)	5	935 mm (36.8")	1035 mm (40.8")
		0.72 m³ (0.93 yd³)	0.60 m³ (0.78 yd³)	5	1205 mm (47.4")	1305 mm (51.4")

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GROUP 4 CONNECTORS

1. CONNECTOR DESTINATION

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	AMP	6	I/conn (Frame harness-Pump PS harness)	S816-006002	S816-106002
CN-2	AMP	15	I/conn (Frame harness-Engine harness)	2-85262-1	S816-112002
CN-3	AMP	6	I/conn (Frame harness-Engine harness)	S816-006002	S816-106002
CN-4	AMP	16	I/conn (Console harness LH-Frame harness)	368047-1	S816-116002
CN-5	DEUTSCH	15	I/conn (Side harness RH-Frame harness)	2-85262-1	368301-1
CN-6	AMP	12	I/conn (Side harness RH-Frame harness)	S816-012002	S816-112002
CN-7	AMP	16	I/conn (Console harness RH-Frame harness)	S816-016002	S816-116002
CN-8	AMP	12	I/conn (Console harness RH-Frame harness)	S816-012002	S816-112002
CN-10	DEUTSCH	12	I/conn (Cab harness-Frame harness RH)	DT06-12S-EP06	DT04-12P-BE02
CN-11	DEUTSCH	8	I/conn (Frame harness-Aircon harness)	DT06-8S-EP06	-
CN-12	DEUTSCH	2	I/conn (Frame harness-Boom wire harness)	DT06-2S-EP06	DT04-2P-E005
CN-17	DEUTSCH	8	I/conn (Side harness RH-Wiper harness)	DT06-8S-EP06	DT04-8P
CN-20	MOLEX	2	Horn	36825-0211	-
CN-21	AMP	6	Wiper motor	925276-0	-
CN-21A	AMP	6	Wiper motor	S816-006202	-
CN-22	KET	2	Washer pump	MG640605	-
CN-23	KET	2	Speaker-LH	MG610070	-
CN-24	KET	2	Speaker-RH	MG610070	-
CN-25	MOLEX	2	Horn	36825-0211	-
CN-27	AMP	14	Cassette & radio	173852	-
CN-28	KUM	1	Aircon compressor	NMWP01F-B	-
CN-29	KET	2	Receiver dryer	MG640795	-
CN-36	-	-	Fuse & relay box	21Q7-10901	-
CN-45	RING-TERM	-	Starter motor B+	R8-10	-
CN-48	KET	1	Hour meter	GP890469	-
CN-51	DEUTSCH	36	MCU	341111-1	-
CN-52	DEUTSCH	36	MCU	341111-1	-
CN-56	DEUTSCH	4	Cluster	-	DT04-4P-E004
CN-60	AMP	2	Fusible link	21N4-01320	S813-130201
CN-61	DEUTSCH	2	Fuel filler pump	DT06-2S-EP06	-
CN-66	DEUTSCH	2	Breaker solenoid	DT06-2S-EP06	-
CN-68	DEUTSCH	2	Safety solenoid	DT06-2S-EP06	-
CN-70	DEUTSCH	2	Travel high solenoid	DT06-2S-EP06	-

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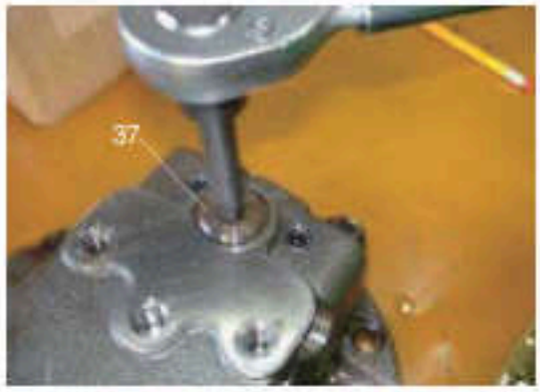
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(11) Put spring (36), two speed control spool (35) into valve casing (25) in regular sequence and assemble plug (37) into valve casing (25) using a torque wrench.

· Tighten torque : 10 kgf-m (72.3 lbf-ft)



145ZWA8TM70



145ZWA8TM71

(12) Assemble check (30), spring (29), plug (27) into main spool (26) in regular sequence.



145ZWA8TM72



145ZWA8TM73



145ZWA8TM74



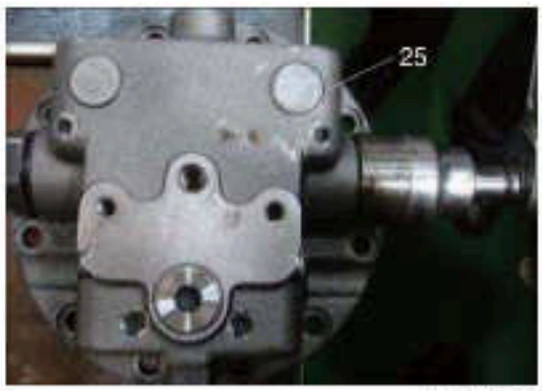
145ZWA8TM75

(13) Put the main spool (26) into valve casing (25) and assemble plate (31), spring (29) into it. Tighten main spool plug (32) using a torque wrench.

· Tighten torque : 45 kgf-m (325.5 lbf-ft)



145ZWA8TM76



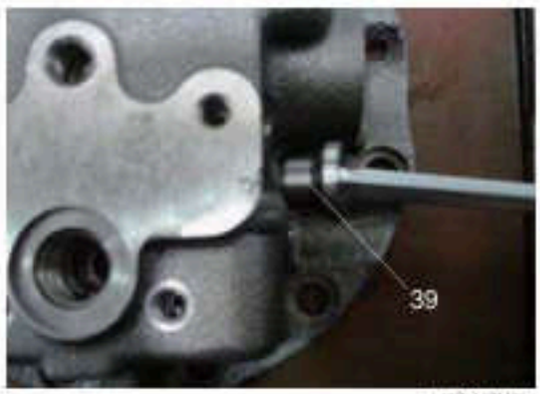
145ZWA8TM77

(14) Put relief valve damping piston (38) into valve casing (25) and assemble plug (39) into valve casing (25).

· Tighten torque : 6 kgf-m (43.4 lbf-ft)



145ZWA8TM78

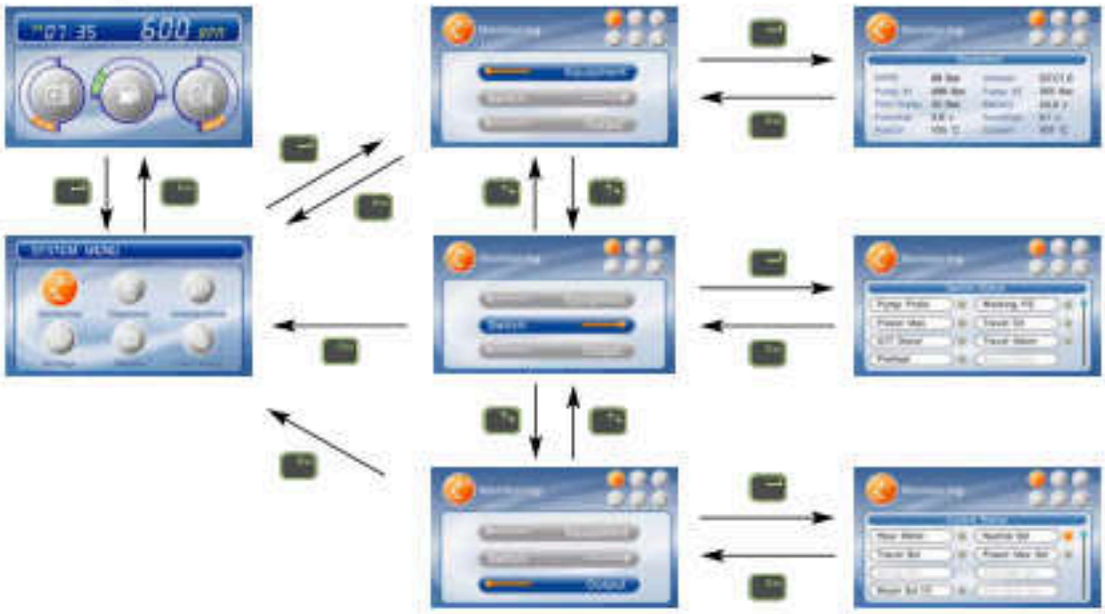


145ZWA8TM79

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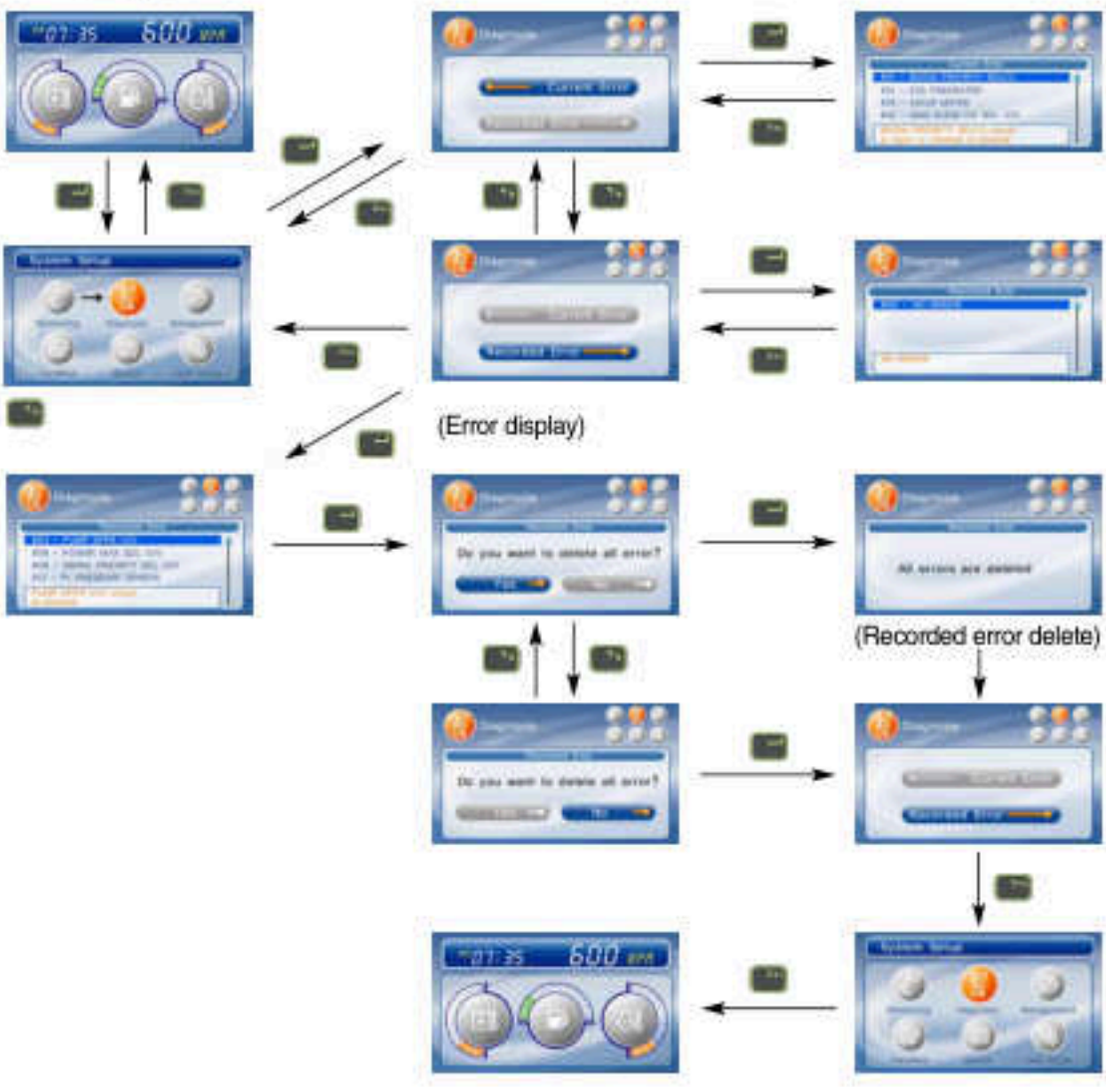
(2) Display map

① Monitoring

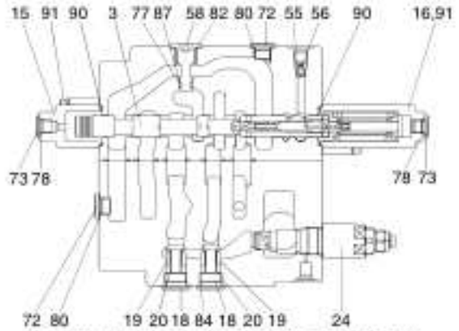


② Diagnosis

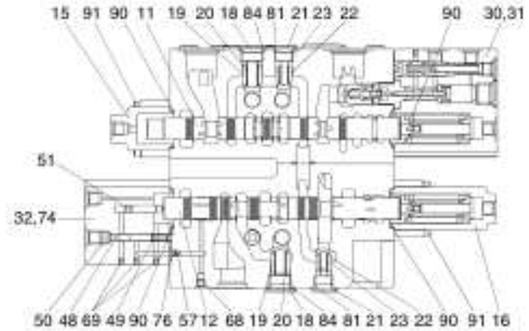
a. Protocol type 1



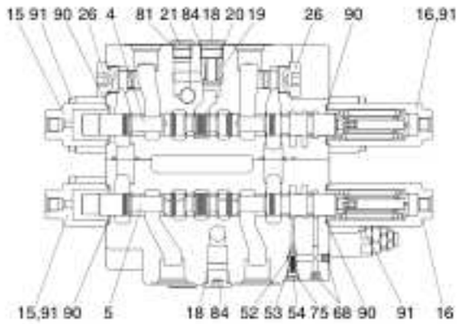
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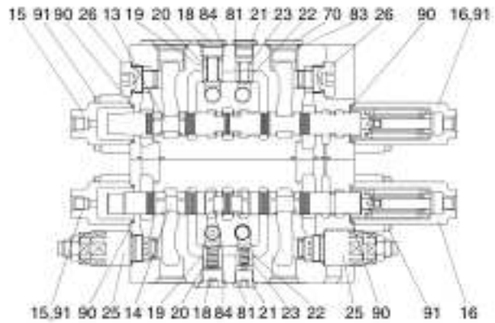
A - A (STRAIGHT-TRAVEL & SUPPLY)



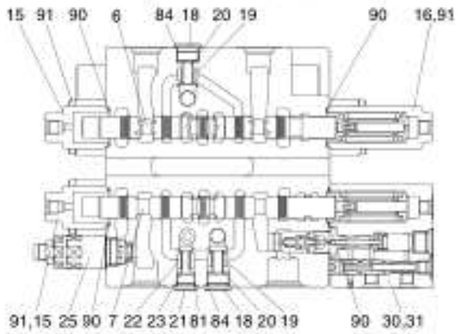
E - E (ARM & ARM REGENERATION /BREAKER)



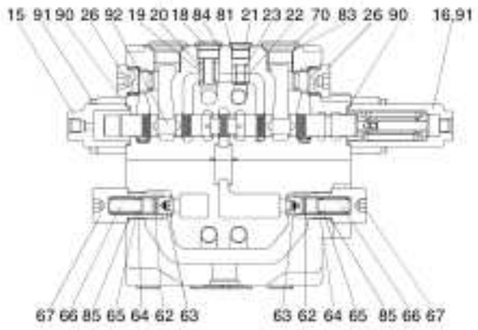
B - B (TRAVEL RIGHT & LEFT)



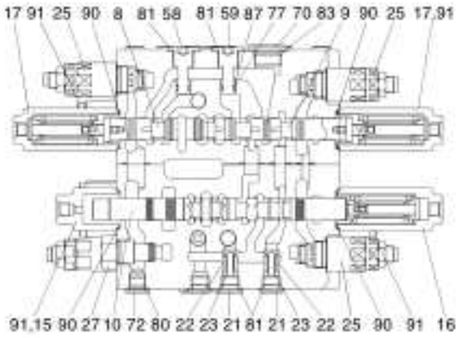
F - F (OPTION & BUCKET)



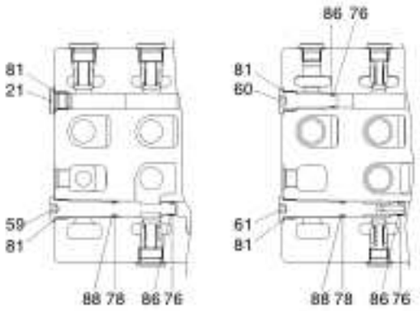
C - C (SWING & BOOM1)

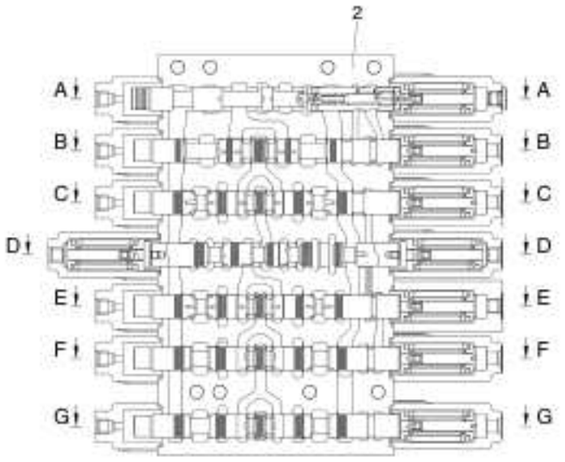


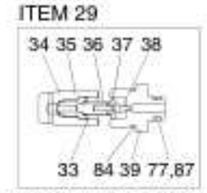
G - G (OPTION & NEGATIVE CONTROL)



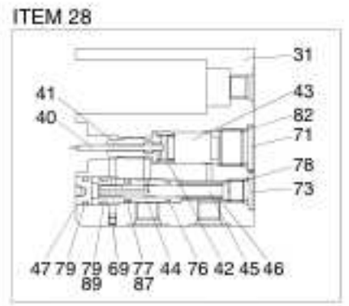
D - D (SWING PRIORITY & BOOM2 & ARM)







LOCK VALVE - B KIT (BOOM & ARM)



LOCK VALVE - A KIT(BOOM & ARM)

1407A2MC02A

1	Housing-P2	47	Stopper-lock valve
2	Housing-P1	48	Spool-regen selector
3	Spool-straight travel	49	Spring-regeneration
4	Spool-travel 1-RH	50	Stopper-regeneration
5	Spool-travel 2-LH	51	Piston-cut off
6	Spool-swing	52	Poppet-signal
7	Spool-boom1	53	Spring-signal
8	Spool-swing priority	54	Plug
9	Spool-boom2	55	Orifice-signal
10	Spool-arm 2	56	Coin type filter
11	Spool-arm 1	57	Orifice-plug
12	Spool-arm regeneration & breaker	58	Plug
		59	Plug
13	Spool-option	60	Plug
14	Spool-bucket	61	Plug-orifice
15	Cover-pilot A	62	Poppet-negative control
16	Cover-pilot B1	63	Coin type filter
17	Cover-Pilot B2	64	Spring seat
18	Plug	65	Spring-negative control
19	Poppet1-check valve	66	Piston-negative control
20	Spring-check valve	67	Socket-negative control
21	Plug	68	Plug
22	Poppet2-check valve	69	Plug
23	Spring-check valve	70	Plug
24	Main relief valve	71	Plug
25	Over load relief valve	72	Plug
26	Plug	73	Plug
27	Plug	74	Socket head bolt
28	Lock valve kit A	75	O-ring
29	Lock valve kit B	76	O-ring
30	Socket-head bolt	77	O-ring
31	Block-holding	78	O-ring
32	Block-regeneration	79	O-ring
33	O-ring	80	O-ring
34	Poppet-lock valve	81	O-ring
35	Restrictor-lock valve	82	O-ring
36	Spring-lock valve pilot	83	O-ring
37	Guide-poppet	84	O-ring
38	Poppet pilot	85	O-ring
39	Seat poppet	86	Back-up ring
40	Piston 1	87	Back-up ring
41	Guide-piston	88	Back-up ring
42	Spring 1-lock valve	89	Back-up ring
43	Piston 2	90	O-ring
44	Sleeve	91	Bolt with washer
45	Spool-lock valve	92	Socket head bolt
46	Spring-lock valve		

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