

SERVICE MANUAL

**EXCAVATOR
R130LC-3**

HYUNDAI

CRAWLER TYPE EXCAVATOR [R130LC-3]

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1. STRUCTURE

This service manual has been prepared as an aid to improve the quality of repairs by giving the serviceman an accurate understanding of the product and by showing him the correct way to perform repairs and make judgements. Make sure you understand the contents of this manual and use it to full effect at every opportunity.

This service manual mainly contains the necessary technical information for operations performed in a service workshop.

For ease of understanding, the manual is divided into chapters for each main group of components; these chapters are further divided into the following sections.

SECTION 1 GENERAL

This section explains the safety hints and gives the specification of the machine and major components.

SECTION 2 STRUCTURE AND FUNCTION

This section explains the structure and function of each component. It serves not only to give an understanding of the structure, but also serves as reference material for troubleshooting.

SECTION 3 HYDRAULIC SYSTEM

This section explains the hydraulic circuit, single and combined operation.

SECTION 4 ELECTRICAL SYSTEM

This section explains the electrical circuit, monitoring system and each component. It serves not only to give an understanding electrical system, but also serves as reference material for trouble shooting.

SECTION 5 MECHATRONICS SYSTEM

This section explains the computer aided power optimization system and each component.

SECTION 6 TROUBLESHOOTING

This section explains the troubleshooting charts correlating "problems" to "causes".

SECTION 7 MAINTENANCE STANDARD

This section gives the judgement standards when inspecting disassembled parts.

SECTION 8 DISASSEMBLY AND ASSEMBLY

This section explains the order to be followed when removing, installing, disassembling or assembling each component, as well as precautions to be taken for these operations.

The specifications contained in this shop manual are subject to change at any time and without any advance notice. Contact your HYUNDAI distributor for the latest information.

2. HOW TO READ THE SERVICE MANUAL

DISTRIBUTION AND UPDATING

Any additions, amendments or other changes will be sent to HYUNDAI distributors.

Get the most up-to-date information before you start any work.

FILING METHOD

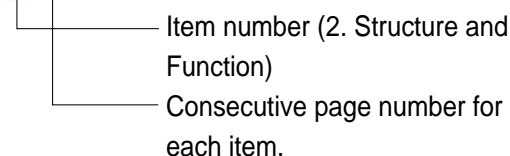
1. See the page number on the bottom of the page.

File the pages in correct order.

2. Following examples shows how to read the page number.

Example 1

2 - 3



3. Additional pages : Additional pages are indicated by a hyphen(-) and number after the page number. File as in the example.

10 - 4

10 - 4 - 1

10 - 4 - 2 } Added pages

10 - 5

REVISED EDITION MARK(①②③...)

When a manual is revised, an edition mark is recorded on the bottom outside corner of the pages.

REVISIONS

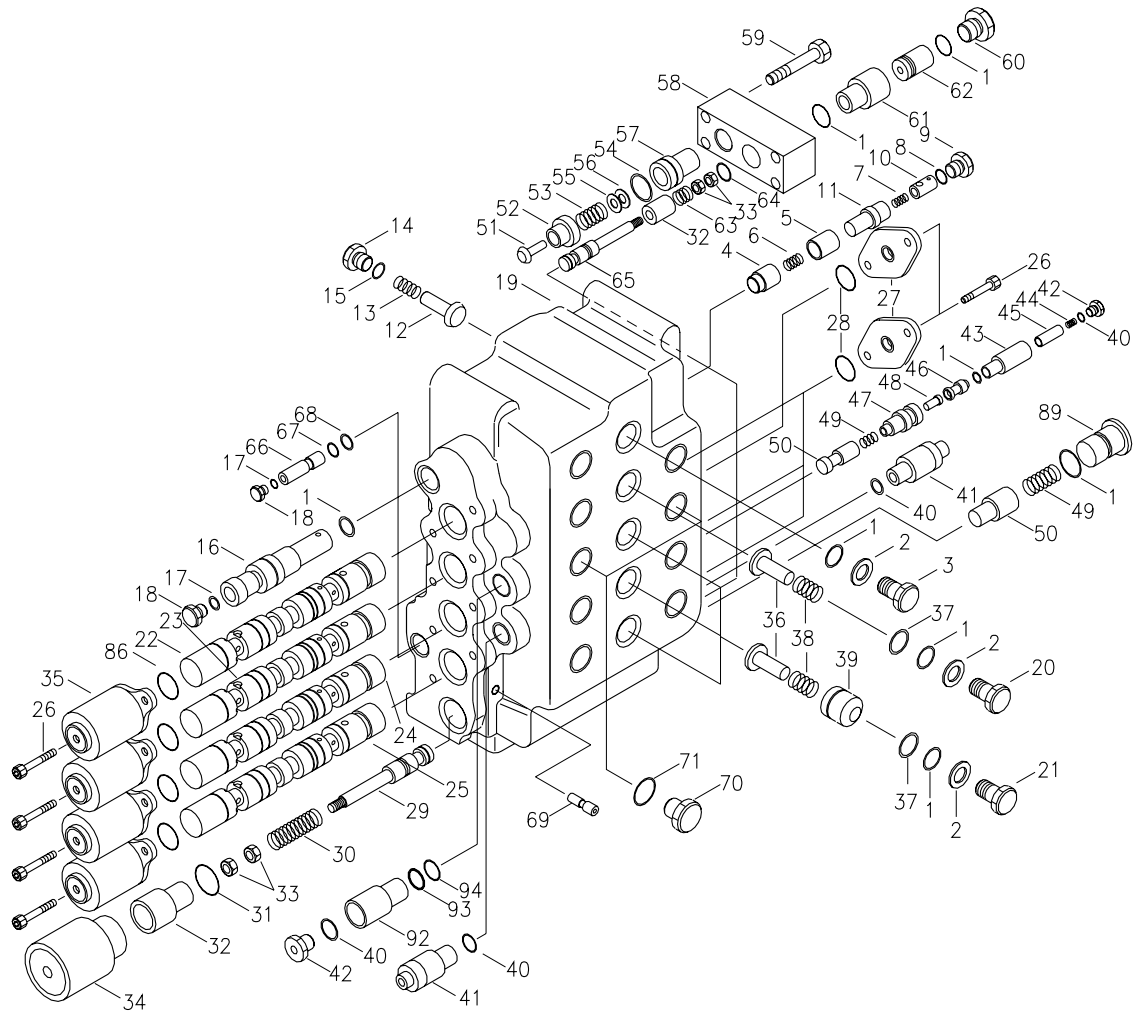
Revised pages are shown at the LIST OF REVISED PAGES on the between the contents page and section 1 page.

SYMBOLS

So that the shop manual can be of ample practical use, important places for safety and quality are marked with the following symbols.

Symbol	Item	Remarks
	Safety	Special safety precautions are necessary when performing the work.
		Extra special safety precautions are necessary when performing the work because it is under internal pressure.
	Caution	Special technical precautions or other precautions for preserving standards are necessary when performing the work.

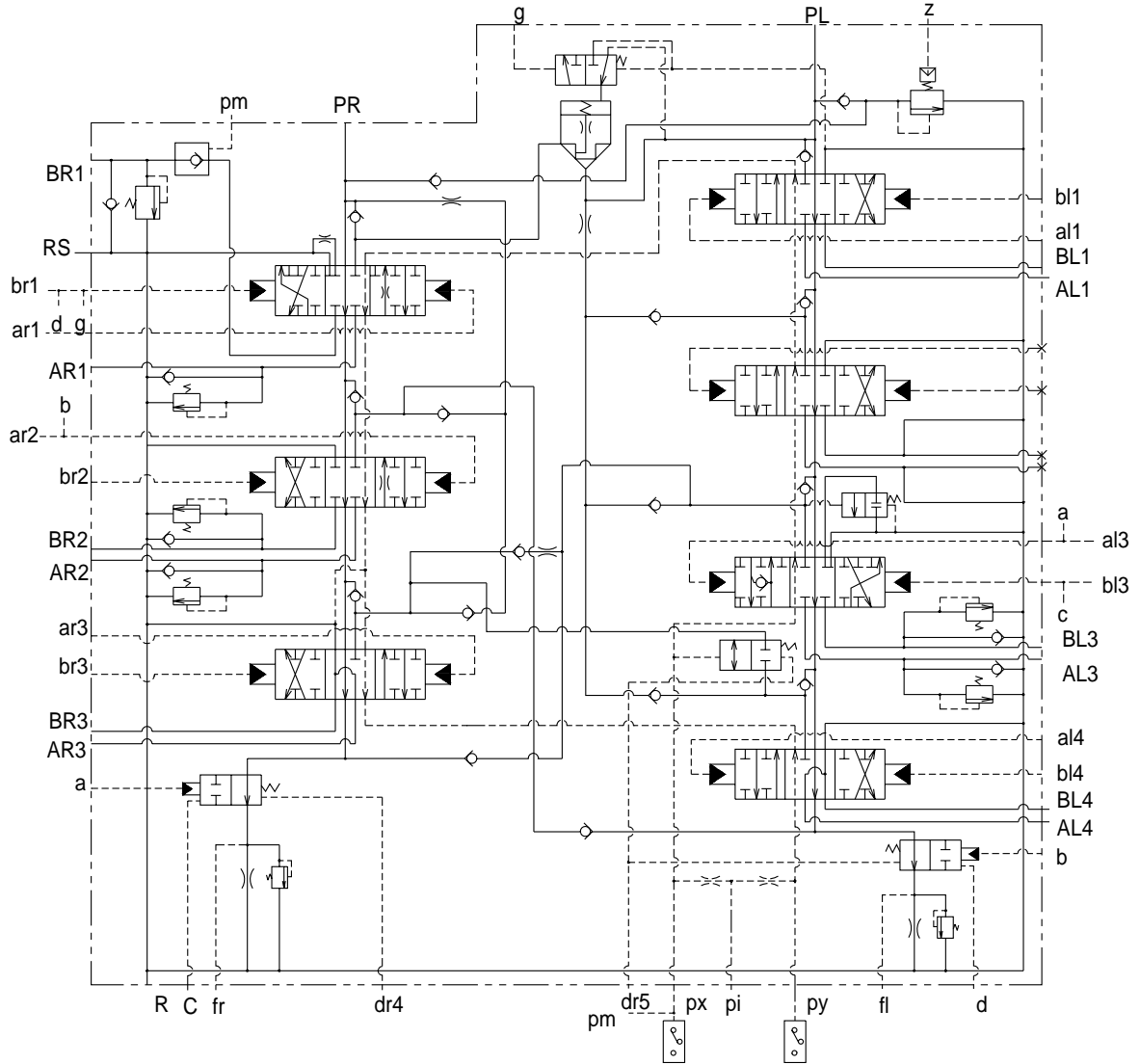
STRUCTURE



- | | | | | | |
|----|----------------------|----|-----------------|----|--------------|
| 61 | Cap | 73 | Spring washer | 85 | Poppet |
| 62 | Piston | 74 | Spring | 86 | O-ring |
| 63 | Spring | 75 | Check | 87 | Spring |
| 64 | O-ring | 76 | Spring | 88 | Check |
| 65 | Spool | 77 | Spool | 89 | Cap |
| 66 | Orifice | 78 | Cap | 90 | Cover assy |
| 67 | O-ring | 79 | Plunger C1 assy | 91 | O-ring |
| 68 | Back-up ring | 80 | Plunger B1 assy | 92 | Plug |
| 69 | Orifice | 81 | Housing | 93 | Back-up ring |
| 70 | Cap | 82 | O-ring | 94 | O-ring |
| 71 | O-ring | 83 | Spring | | |
| 72 | Hex socket head bolt | 84 | O-ring | | |

2. FUNCTION

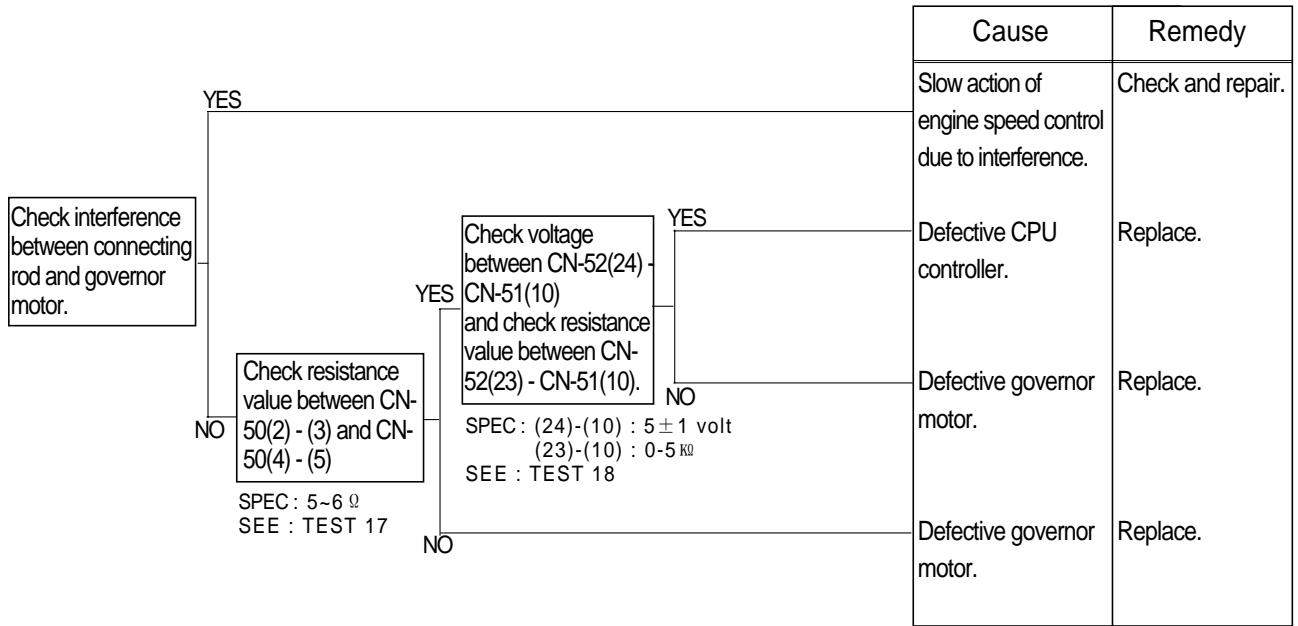
1) HYDRAULIC CIRCUIT DIAGRAM



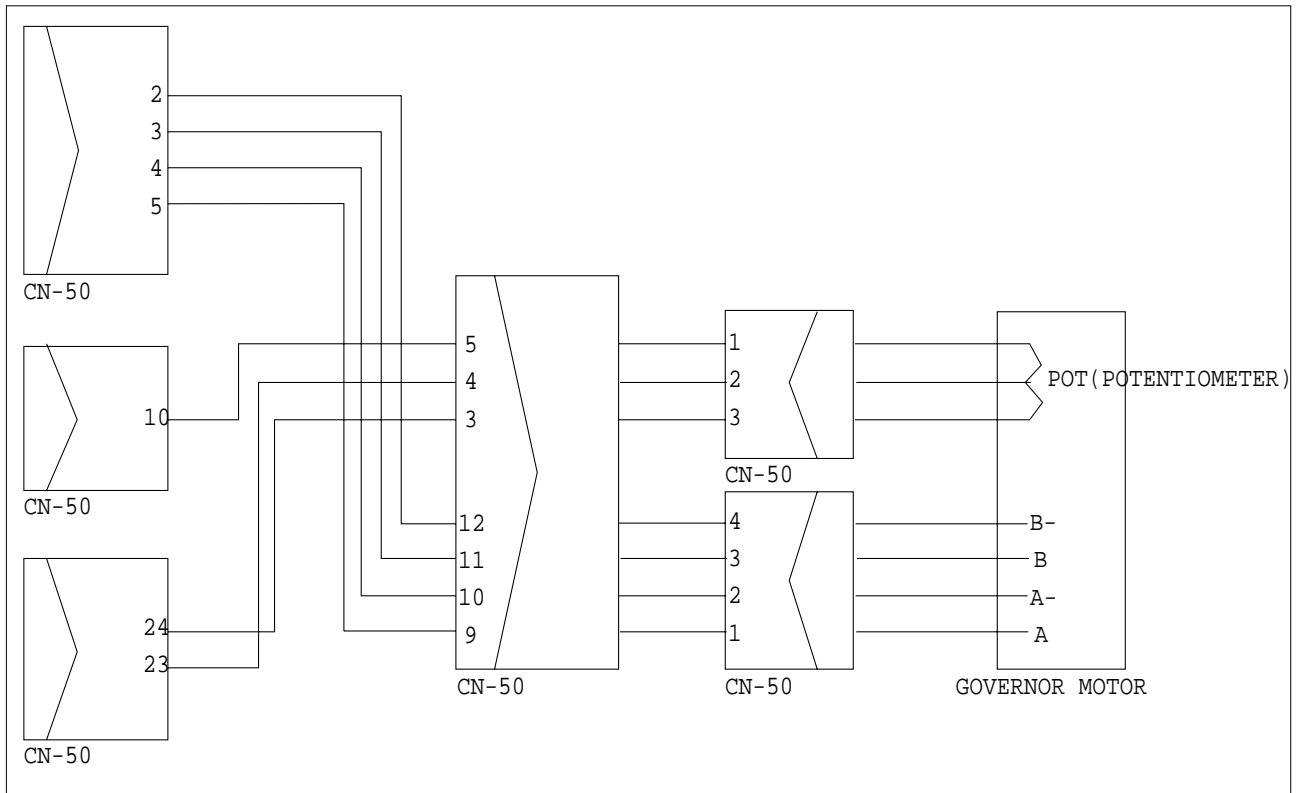
7. SLOW ACTION OF ENGINE SPEED CHANGE WHEN CHANGE THE MODE

※ Before carrying out below procedure, check all the related connectors are properly inserted.

1) INSPECTION PROCEDURE



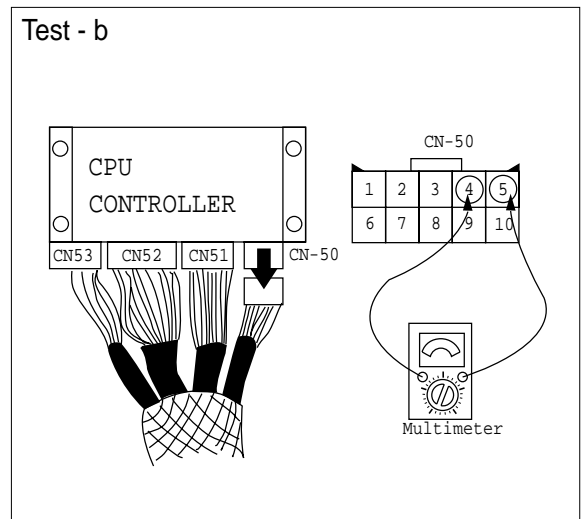
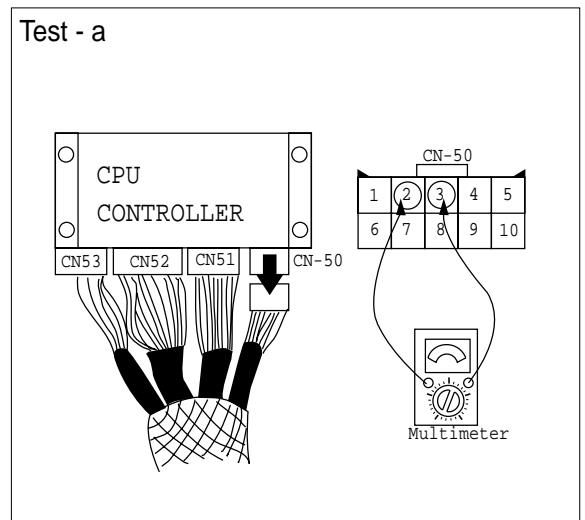
Wiring diagram



2) TEST PROCEDURE

(1) **Test 17** : Check resistance value

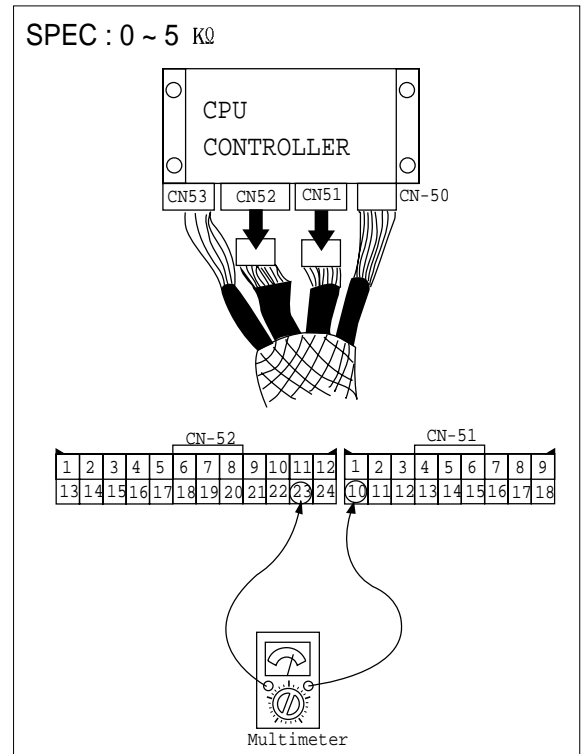
- ① Starting key OFF.
- ② Disconnect connector CN-50 from CPU controller.
- ③ Check resistance value between (2) and (3),(4) and (5) of CN-50 as below.



(2) **Test 18** : Check voltage and resistance value.

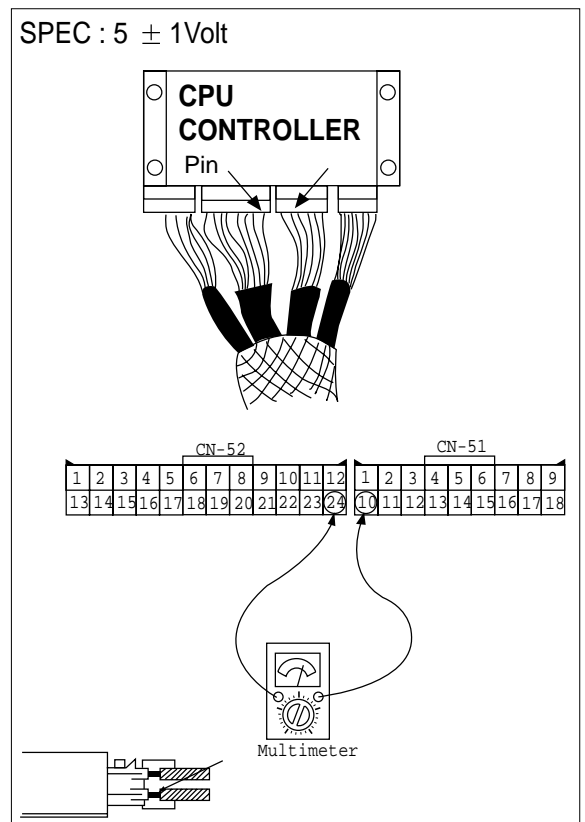
① Check resistance value between (23) of CN-52 and (10) of CN-51.

- Starting key OFF.
- Disconnect connector CN-52 and CN-51 from CPU controller.
- Check resistance value with multimeter as below.



② Check voltage between (24) of CN-52 and (10) of CN-51.

- Prepare 2 pieces of thin sharp pin, steel or copper.
- Starting key ON.
- Insert prepared pins to rear side of connectors :
 - One pin to (24) of CN-52
 - Other pin to (10) of CN-51
- Check voltage.

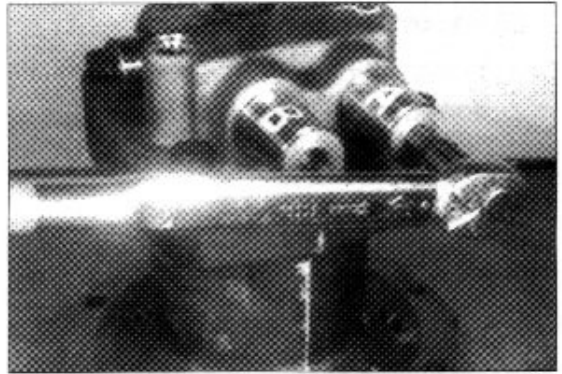


2) DISASSEMBLY

(1) Removal of relief valve assembly

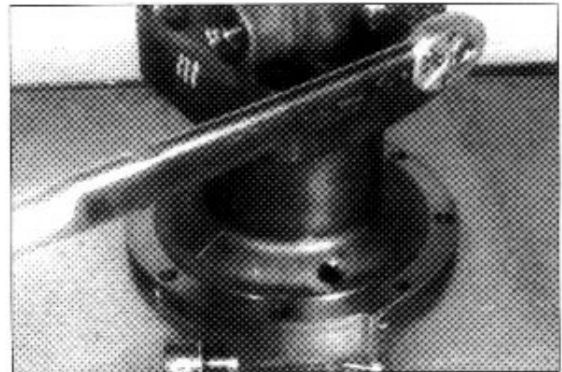
Remove cap of relief valve assembly(34) with 14 mm hexagonal wrench.

※ Assemble removed relief valve assembly (34) to original state when reassembling.



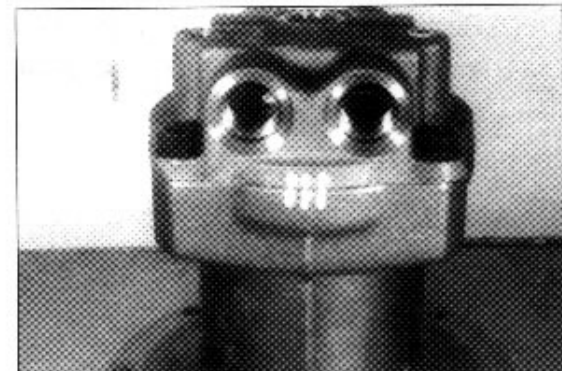
(2) Removal of make up valve

Loosen cap(28) with 14 mm hexagonal wrench, and remove check valve(32) and spring(29).



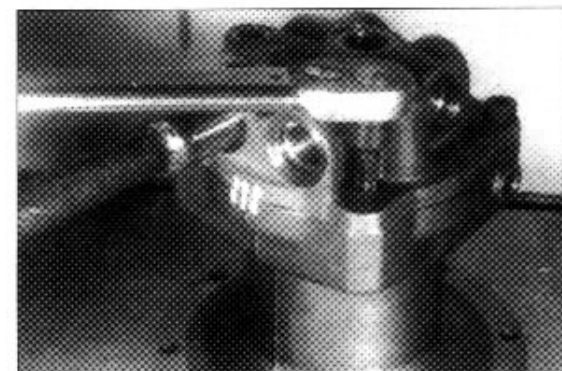
(3) Marking at swing motor

Before disassembling motor, make a matching mark between swing motor and reduction gear for reassembling.



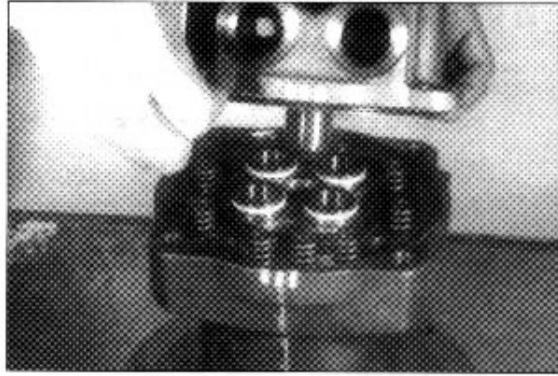
(4) Remove mounting bolts of cover

Loosen cover(33) and housing(26) with 12 mm hexagonal wrench, and remove them.

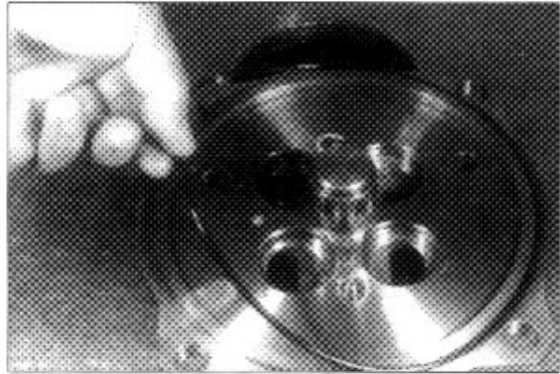


(5) Removal of cover assembly

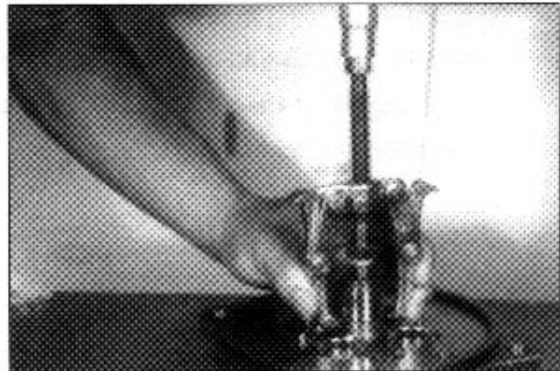
Place shaft of motor assembly to downward and take cover(33) out.



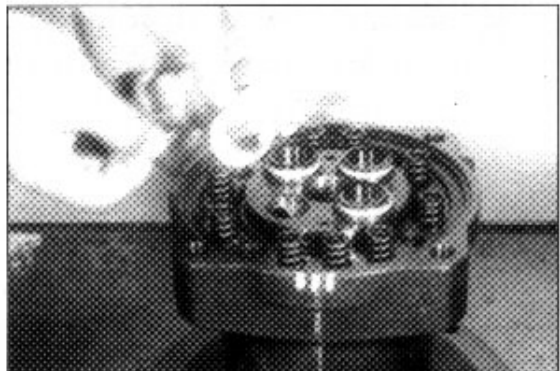
(6) Remove O-ring(13) from cover.



(7) Remove snap ring(24) with steel pointer and remove inner race of needle-bearing(23) by bearing puller.



(8) Remove bushing(21) and cup spring(19) from teflon ring(20).



Diesel Engines

ABS	Agco-Sisu
Akasaka	Baudouin
BMW	Bukh
Caterpillar	CHN 25/34
Cummins	Daihatsu
Detroit	Deutz
Doosan-Daewoo	Fiat
Ford	GE
Grenaa	Guascor
Hanshin	Hatz
Hino	Honda
Hyundai	Isotta
Isuzu	Iveco
John-Deere	Kelvin
Kioti	Komatsu
Kubota	Liebherr
Lister	Lombardini
MAK	MAN B&W
Mercedes	Mercruiser
Mirrlees BS	Mitsubishi
MTU	MWM
Niigata	Paxman
Perkins	Pielstick
Rolls / Bergen	Ruggerini
Ruston	Scania
Shibaura	Sisu-Valmet
SKL	Smit-Bolnes
Sole	Stork
VM-Motori	Volvo
Volvo Penta	Westerbeke
Wichmann	Yanmar

Machinery

ABG	Airman
Akerman	Ammann
Astra	Atlas Copco
Atlas Weyha.	Atlet
Bell	Bendi
Bigjoe	Bobcat
Bomag	BT
Carelift	Case
Caterpillar	Cesab
Challenger	Champion
Claas	Clark
Combilift	Crown
Daewoo-Doosan	Demag
Deutz-Fahr	Dressta

Machinery

Drott	Dynapack
Extec	Faun
Fendt	Fiat
Fiatallis	Flexicoil
Furukawa	Gehl
Genie	Grove-gmk
Halla	Hamm
Hangcha	Hanix
Hanomag	Hartl
Haulpack	Hiab
Hidromek	Hino truck
Hitachi	Hyster
Hyundai	IHI
Ingersoll-rand	JCB
JLG	John-Deere
Jungheinrich	Kalmar
Kato	Kioti
Kleeman	Kobelco
Komatsu	Kramer
Kubota	Lamborghini
Landini	Liebherr
Linde	Link-belt
Manitou	Massey-Ferg.
Mccormick	MDI-Yutani
Mitsubishi	Moxy
Mustang	Neusson
New-Holland	Nichiyu
Nissan	OK
OM-Pimespo	others-tech
Pel-Job	PH-mining
Poclain	Powerscreen
Same	Samsung
Sandvik	Scania
Schaefer	Schramm
Sennebogen	Shangli
Shibaura	Steiger
Steinbock	Steyr
Still	Sumitomo
Super-pac	Tadano
Takeuchi	TCM
Terex	Toyota
Valpadana	Venieri
Versatile	Vogele
Volvo	Weidemann
Wirtgen	Yale
YAM	Yanmar