WHEELED EXCAVATOR

# SERVICE MANUAL

## *R200W-7A*

HYUNDAI

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## 2) CONTROL VALVE TROUBLE SHOOTING

| Phenomenon | Possible cause | Remedy |
|---|---|---|
| When pilot control lever is operated for cylinder hoisting, the cylinder initially falls. | · Load check valve malfunctions<br>- Dirt is jammed between poppet and casing.<br>- Poppet is stuck.<br>- Spring is broken or fatigued. | <br>- Disassemble poppet and clean parts<br>- Correct stuck section with oilstone.<br>- Replace spring. |
| Bucket, boom and arm only do not work. Action is slow(Insufficient force) or response is slow. | · Main spool malfunctions.<br>- Clearance between casing and spool is excessive.<br>- Dirt is jammed between casing and spool.<br>- Spool is stuck.<br>- Return spring is broken or fatigued.<br>- Pilot line is clogged with dirt.<br>· Main relief valve malfunctions.<br>· Port relief valve malfunctions. | · Disassemble poppet and clean parts<br>- Replace spool.<br>- Disassemble valve and clean parts.<br>- Correct stuck section with oilstone.<br>- Replace spring.<br>- Remove dirt.<br>· Measure pressure of main relief valve.<br>· Measure pressure of main relief valve. |
| Main boom and arm confluence does not function. | · Each confluence valve malfunctions.<br>- Spool is stuck.<br>- Spring is broken or fatigued.<br>- Clearances between casing A and casing B and spool are excessive. | · Measure pilot pressure.<br>- Correct stuck section with oilstone.<br>- Replace spring.<br>- Replace spool. |
| Negative control does not function and minimum flow cannot be obtained when lever is in neutral. | · Low pressure relief valve malfunctions.<br>- Dirt is jammed between poppet and casing.<br>- Spring is broken or fatigued.<br>- Restriction in poppet is clogged. | · Measure pressure of low pressure relief valve.<br>- Disassemble valve and clean parts. Replace assembly, if damaged severely.<br>- Replace spring.<br>- Disassemble valve and clean parts. Remove dirt. |



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## 4. AUTO DECEL SYSTEM DOES NOT WORK

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

### 1) INSPECTION PROCEDURE

Check resistance between CN-51 (1)-GND

SPEC :
Actuator operating : 11~13V
Actuator stop : 0~2V
See TEST 6

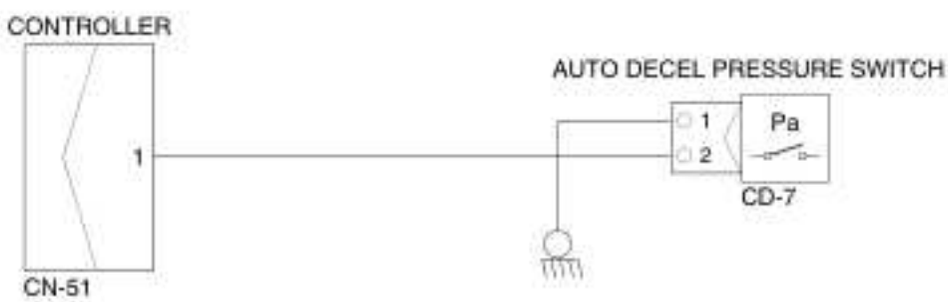
YES → Defective CPU controller — Replace

NO → Short circuit or poor connection between CN-51(1)- pressure switches — Replace or repair

NO → Defective auto decel pressure switch — Replace

| Cause | Remedy |
|---|---|
| Defective CPU controller | Replace |
| Short circuit or poor connection between CN-51(1)- pressure switches | Replace or repair |
| Defective auto decel pressure switch | Replace |

Wiring diagram






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※ However, the required backlash is decisive for the shim(s) to be used.

| | |
|---|---|
| (S) Driver | 5870 058 051 |
| (S) Grip | 5870 260 002 |

(11) Insert pre-assembled differential.


17W748RA111

(12) Place bearing outer ring.

※ Locate the bearing outer ring on the bearing inner ring, until all rollers are located without any play.

For this purpose rotate differential and bearing outer ring several times in both directions - roller setting.

※ A correct positioning of bearing outer ring and differential is imperative for the following measuring operation.


17W748RA112

(13) Determine dimension I, from mounting face of axle drive housing to bearing contact.

Dimension I e. g. ..... 18.10mm

| | |
|---|---|
| (S) Digital depth gauge | 5870 200 072 |
| (S) Gauge blocks | 5870 200 066 |
| (S) Straightedge | 5870 200 022 |

※ Make measurement on several points and calculate mean value.


17W748RA113

(14) Determine dimension II, from mounting face of axle housing / part II to contact face / bearing outer ring.

Dimension II e. g. ..... 17.20mm

CALCULATION EXAMPLE :

Dimension "I" e. g. ..... 18.10mm
Dimension "II" e. g. ..... -17.20mm
Difference ..... = 0.90mm
Requ. bearing preload ..... + 0.13mm
(0.10 ~ 0.15mm)
Result ..... = 1.03mm
Required shim S ..... = 1.05mm

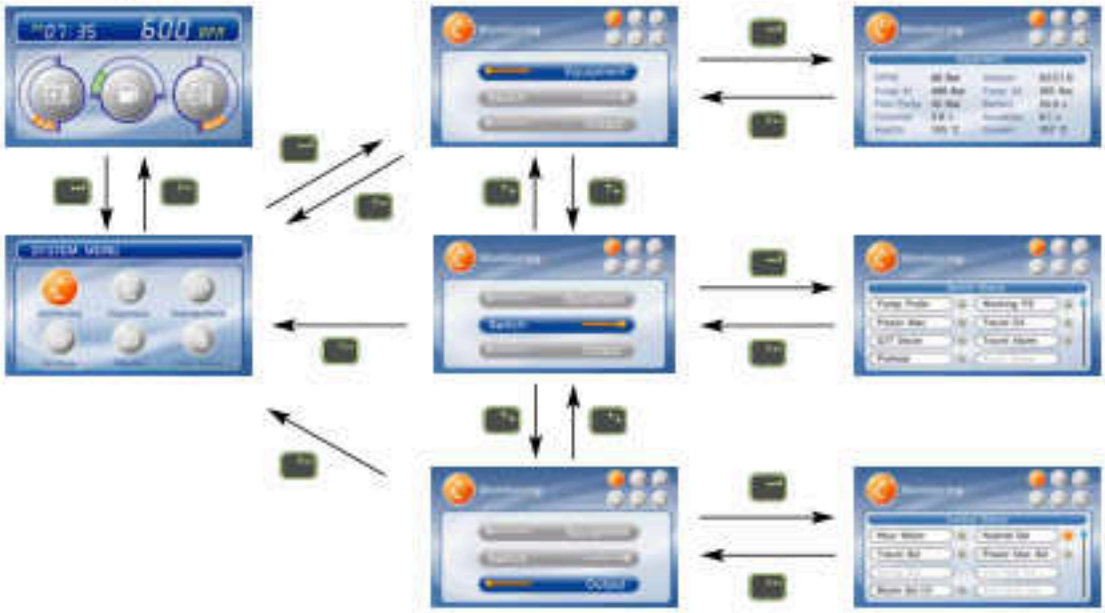

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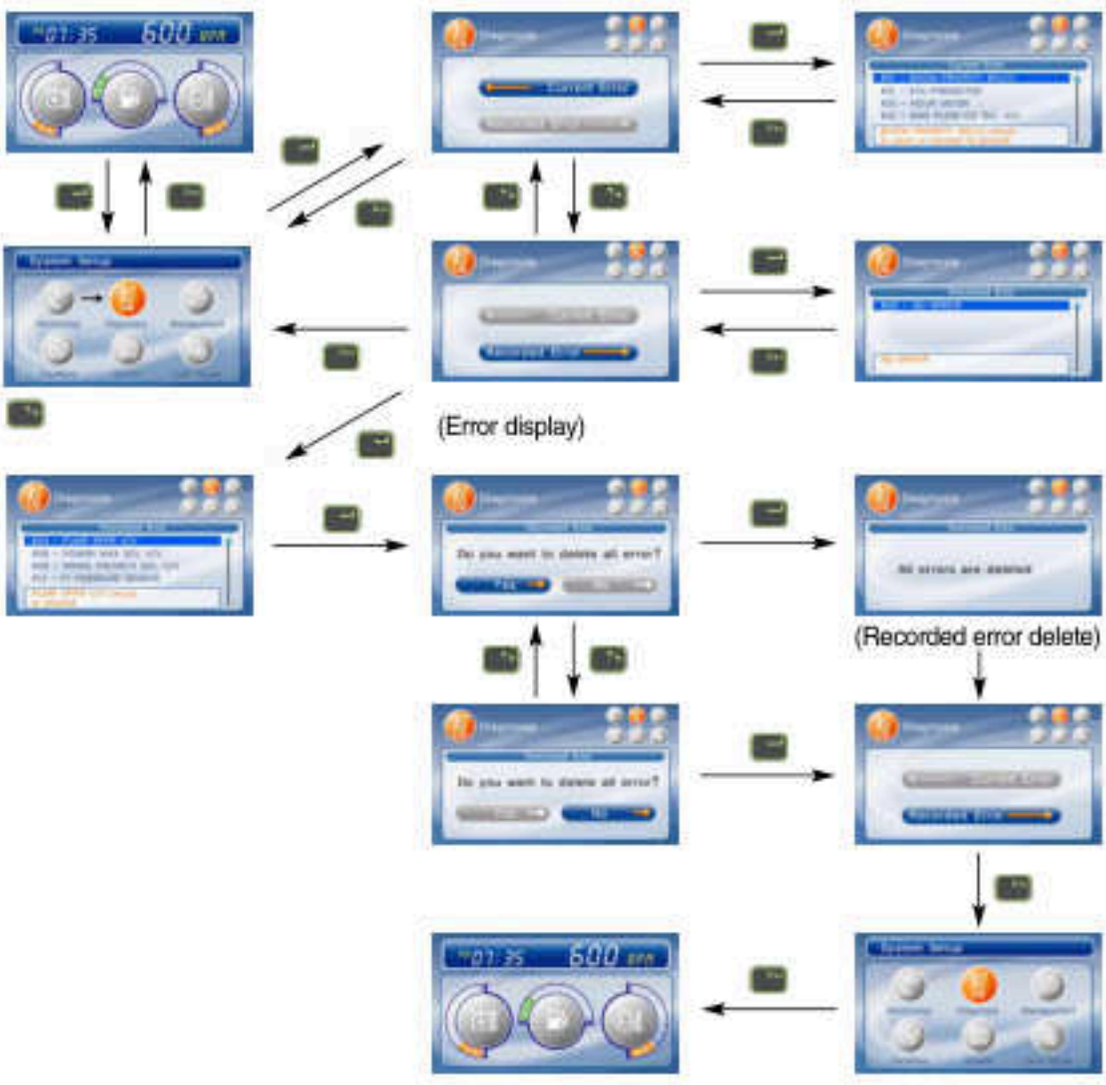
(2) Display map

① Monitoring



② Diagnosis

a. Protocol type 1






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(9) Fit tilting bushing (214) of swash plate (212) to tilting pin (531) and fit swash plate to swash plate support (251) correctly.

※ Take care not to mix up parts of drive shaft side with those of driven shaft side.

※ Even after fitting, swash plate (212) comes off from swash plate support (251), in some cases. They do not come off easily if grease is applied to the sliding surfaces.

※ Confirm with fingers of both hands that swash plate can be moved smoothly.



210N78MP17

(10) Assemble piston cylinder subassembly [cylinder (141), piston subassembly (151, 152), set plate (153), spherical bushing (156), cylinder spring (157)]. Fit spline phases of spherical bush and cylinder and insert piston cylinder subassembly into pump casing with respect to drive shaft (111) and driven shaft (113).

※ Take care not to mix up parts of drive shaft side with those of driven shaft side.

※ Confirm that swash plate (212) is not off from swash plate support (251) and from tilting pin (531), before inserting them.



210N78MP25

(11) Fit valve plates (313, 314) to valve cover, entering valve plate pin (885) into pin hole.

※ Take care not to mistake suction/delivery directions of valve plate.

※ Apply grease to matching surface in contact with valve cover (312) because valve plates (313, 314) tend to come off.



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(12) Insert check valve subassemblies (541, 543, 545) and needle bearings (124) to valve cover (312).

※ Insert check valve subassemblies into valve cover in correct order.

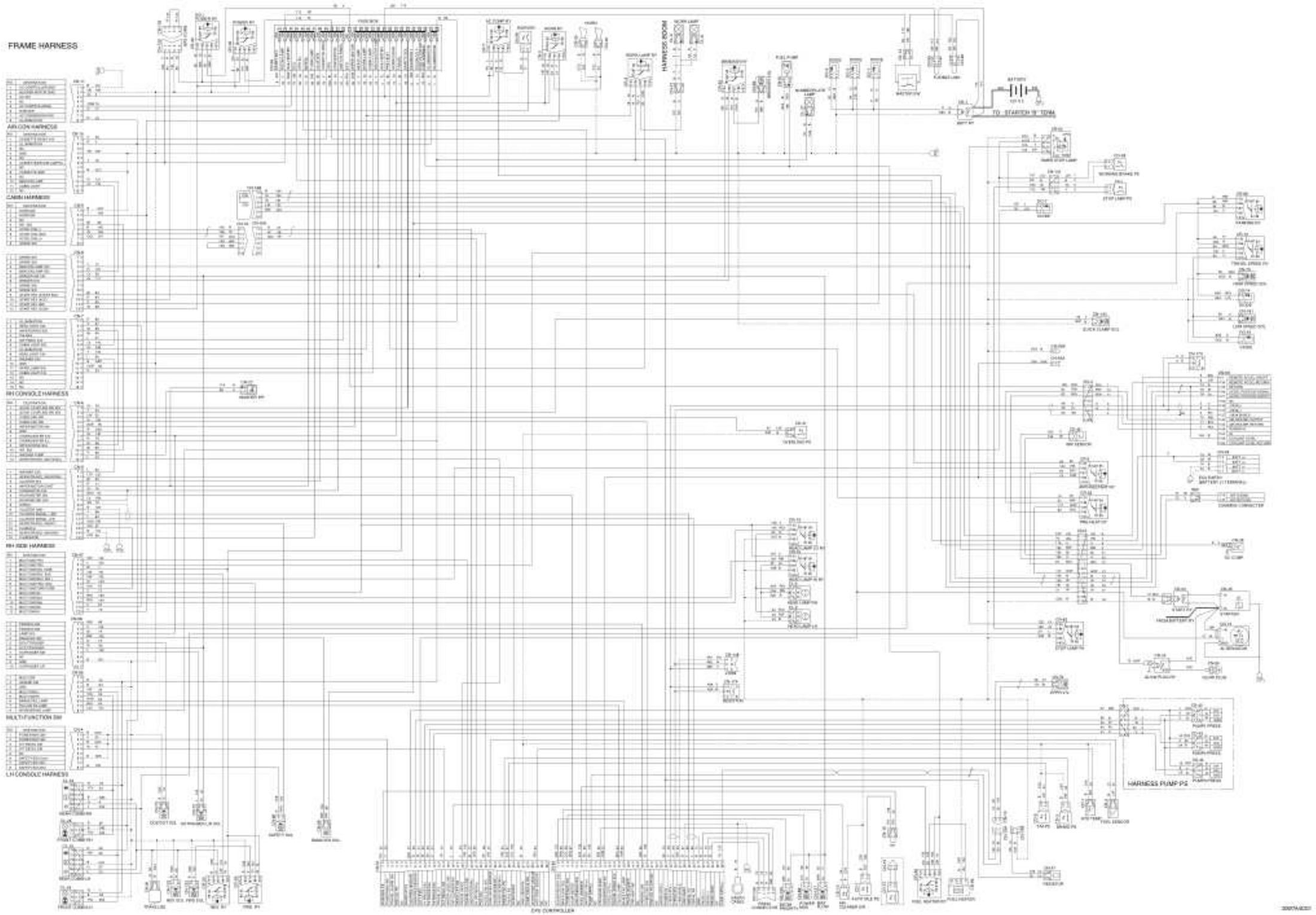
※ Since check valve subassembly tends to come off, apply grease to matching part of valve cover (312).



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