CRAWLER EXCAVATOR

SERVICE MANUAL

R80-7

HYUNDAI

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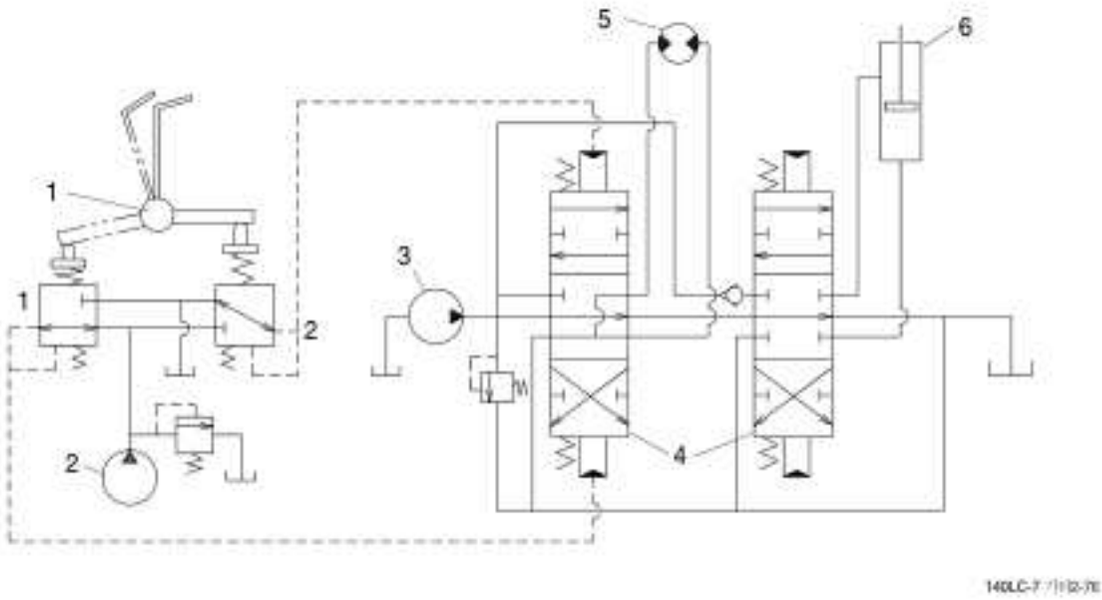
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3) OPERATION

The operation of the pilot valve will be described on the basis of the hydraulic circuit diagram shown below ant the attached operation explanation drawing.

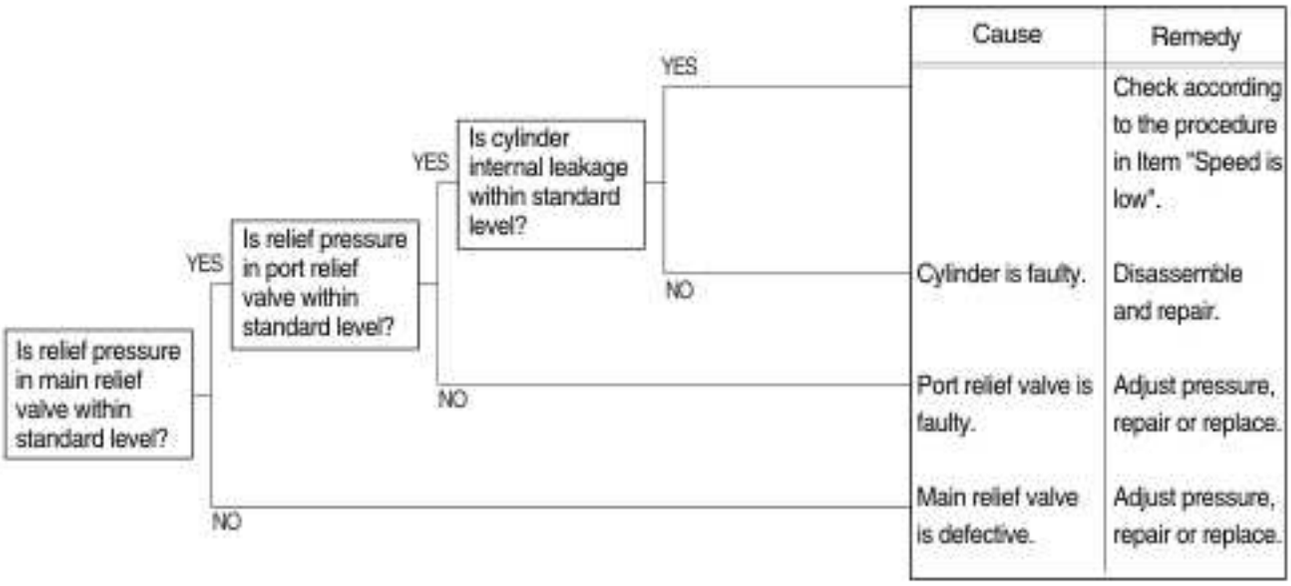
The diagram shown below is the typical application example of the pilot valve.



1	Pilot valve	3	Main pump	5	Hydraulic motor
2	Pilot pump	4	Main control valve	6	Hydraulic cylinder

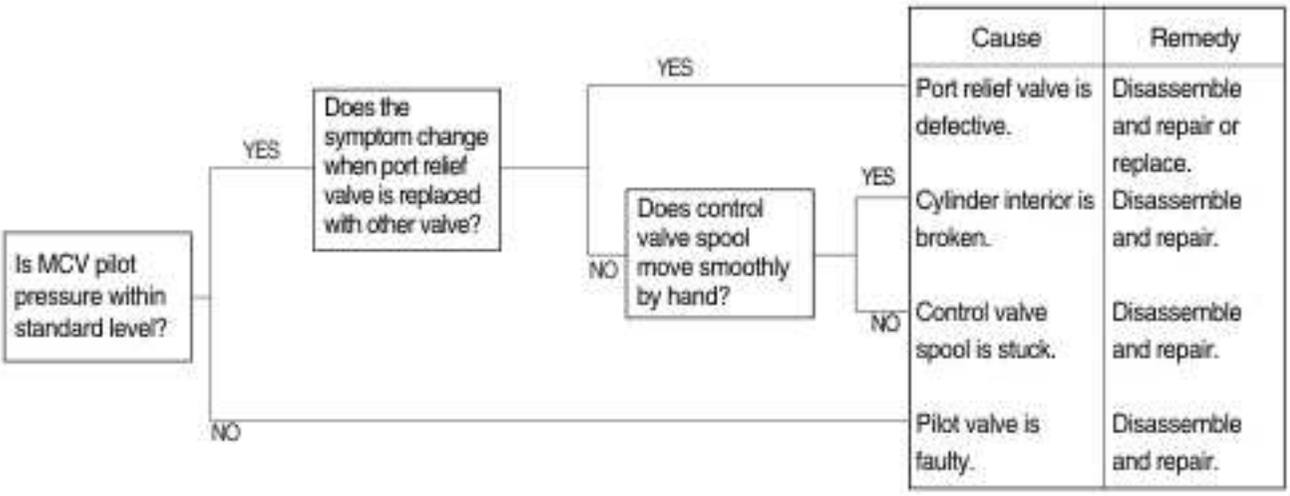
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4) BOOM, ARM OR BUCKET POWER IS WEAK



Cause	Remedy
	Check according to the procedure in Item "Speed is low".
Cylinder is faulty.	Disassemble and repair.
Port relief valve is faulty.	Adjust pressure, repair or replace.
Main relief valve is defective.	Adjust pressure, repair or replace.

5) ONLY BUCKET OPERATION IS TOTALLY IMPOSSIBLE



Cause	Remedy
Port relief valve is defective.	Disassemble and repair or replace.
Cylinder interior is broken.	Disassemble and repair.
Control valve spool is stuck.	Disassemble and repair.
Pilot valve is faulty.	Disassemble and repair.

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10) DIG FUNCTION DRIFT CHECK

(1) Measure dig function drift, which can be caused by oil leakage in the control valve and boom, standard arm, and standard bucket cylinders, with the loaded bucket.
When testing the dig function drift just after cylinder replacement, slowly operate each cylinder to its stroke end to purge air.

(2) Preparation

① Load bucket fully. Instead of loading the bucket, weight(W) of the following specification can be used.

· $W=M^3 \times 1.5$

Where :

M^3 = Bucket heaped capacity(m^3)

1.5 = Soil specific gravity

② Position the arm cylinder with the rod 20 to 30mm extended from the fully retracted position.

③ Position the bucket cylinder with the rod 20 to 30mm retracted from the fully extended position.

④ With the arm rolled out and bucket rolled in, hold the bucket so that the height of the bucket pin is the same as the boom foot pin.

⑤ Keep the hydraulic oil temperature at 50±5°C.



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(3) Measurement

① Stop the engine.

② Five minutes after the engine has been stopped, measure the changes in the positions of the boom, arm and bucket cylinders.

③ Repeat step ② three times and calculate the average values.

(4) The measured drift should be within the following specifications.

Unit : mm / 5min

Model	Drift to be measured	Standard	Maximum allowable	Remarks
R80-7	Boom cylinder	10 below	20	
	Arm cylinder	10 below	20	
	Bucket cylinder	40 below	50	

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⑮ Disassembling steel ball(7) from shaft casing(1).



(3) Rear cover

① Disassembling valve plate(13) from rear cover(22).



② Using plier jig, disassembling in order snap ring(27), stopper(26), spring(25), spool(24) from rear cover(22) and then disassembling snap ring(32), seat(30), spring(29), check(28) same procedure.



③ Using L-wrench, disassembling plug(45) from rear cover(22) and then relief valve assembly(43) (left, right is symmetry).



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(5) Test

① **Motor water pressure test**

-Check the oil leak for one minute by appearance test at air pressure 5kgf/cm².



② **Performance test**

-Pour the gear oil(80W-90) by beaker at the reduction gear.

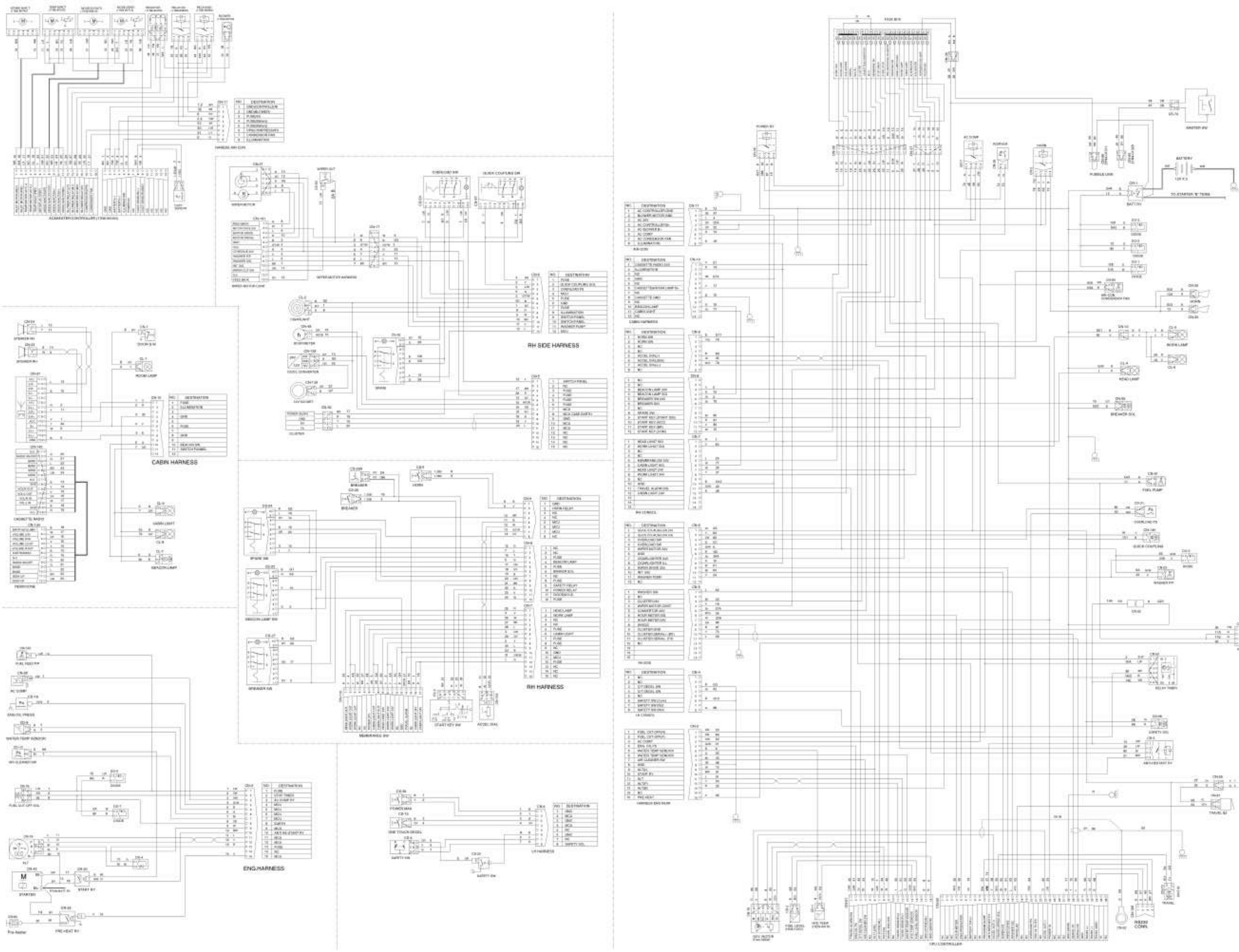


③ **Test bench mounting**

-Partially performance test by mounting motor test bench.



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