WHEEL LOADER

SERVICE MANUAL

HL750TM

HYUNDAI

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② Input test

When EGS shiftlever is held in the **forward up** position while power is applied, **input test** mode is activated.

In this mode, driving is not possible, since all EGS outputs remain OFF until the testmode is left.

This test is used to verify operation of the shiftlever and its inputs.

The LED's(Gearposition indicators) on the EGS top cover are used to display test information :

Shift lever position	LED Color	LED Number
Neutral UP DOWN	RED RED RED	4 5 3
FWD FWD & UP FWD & DOWN	GREEN GREEN GREEN	4 5 3
REV REV & UP REV & DOWN	YELLOW YELLOW YELLOW	4 5 3
Wire 14 = GROUND Wire 15 = GROUND	RED GREEN	1 (Together with above LED) 1 (Together with above LED)

※ If wire 14 and wire 15 are grounded simultaneously LED 1 lights up **yellow.**

③ Speed sensor test

When EGS is held in the reverse up position while power is applied, **speed sensor test** mode is activated.

In this mode, driving is possible.

The test begins with a **lamp test** and then displays the speed sensor information.

④ Speed display

The LED corresponding with below table burns to indicate converter turbine speed :

Turbine rpm	LED Number(Green)
0	1 BLINKS
0 - 249	1 ON
250 - 499	2 ON
500 - 749	3 ON
750 - 999	4 ON
1000 -1249	5 ON
1250 - 1499	6 ON
1500 - 1749	7 ON
1750 -1999	8 ON
Above 2000	8 BLINKS

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GROUP 2 OPERATIONAL CHECKS AND TROUBLESHOOTING

1. POWER TRAIN OPERATIONAL CHECKS

This procedure is designed so that the mechanic can make a quick check of the system using a minimum amount of diagnostic equipment. If you need additional information, read **Structure and function**, Group 1.

A location will be required which is level and has adequate space to complete the checks.

The engine and all other major components must be at operating temperature for some checks.

Locate system check in the left column and read completely, following the sequence from left to right. Read each check completely before performing.

At the end of each check, if no problem is found(OK), that check is complete or an additional check is needed. If problem is indicated(NOT OK), you will be given repair required and group location.
If verification is needed, you will be given next best source of information :

Chapter 2 : Troubleshooting
Group 3 : Tests and adjustments

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4. STEERING VALVE LEAKAGE TEST

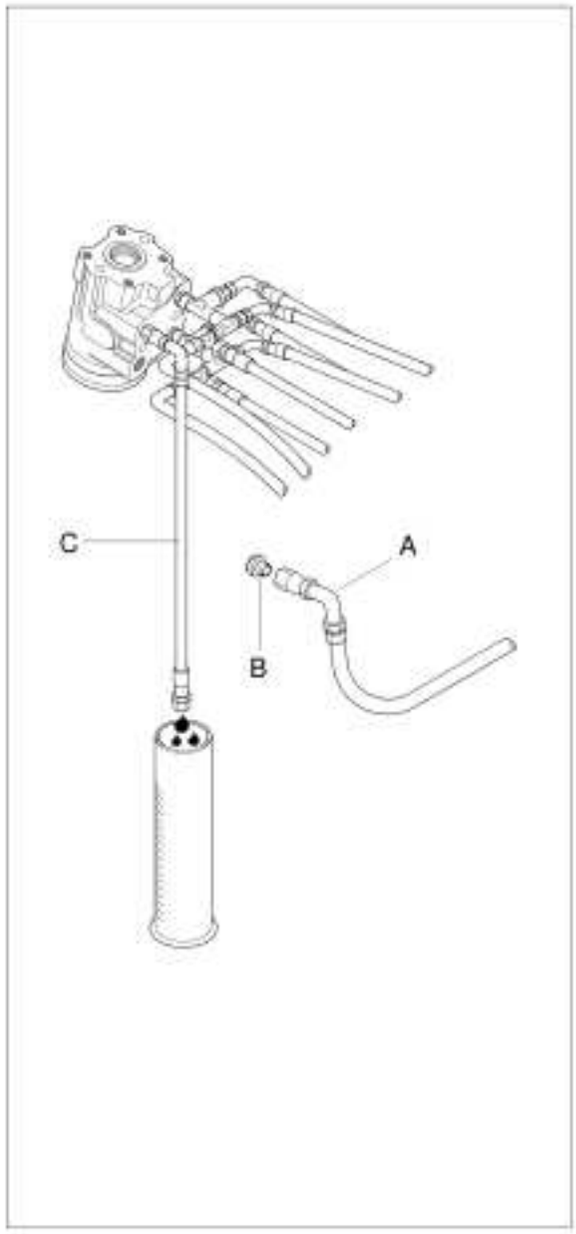
- **SPECIFICATION**

Oil temperature	40±6℃(100±10℉)
Engine speed	High idle
Maximum leakage	7.5 ℓ /min(2gpm)

- **GAUGE AND TOOL**

Temperature reader
Measuring container(Approx 20 ℓ)
Stop watch

1) Install frame locking bar to prevent machine from turning.
2) Install temperature reader.
   (See temperature reader installation procedure in this group.)
3) Heat hydraulic oil to specifications.
   (See hydraulic oil warm up procedure at page 6-52.)
4) Disconnect return hose(A) from steering valve. Install plug(B).
5) Connect line(C) to steering valve.
6) Run engine at specifications. Rotate steering wheel against locking bar using approximately 1.2kg · m of force.
   Measure oil flow from return hose for 1 minute.
7) Leakage is greater than specifications, repair or replace steering valve.



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8. WIPER AND WASHER CIRCUIT

1) OPERATING FLOW

Fuse box (No.7) → Wiper relay [CR-4(1)→(3)] → Front wiper motor [CN-21(1)]
Wiper relay [CR-4(1)→(3)] → Front relay 2 [CR-26(2), (3)]
Fuse box (No.7) → Multi function switch [CS-12(6)]
Fuse box (No.7) → Rear wiper & washer switch [CS-3(1)]
Fuse box (No.7) → Rear wiper motor [CN-102(1)]

(1) Front washer switch ON

① Washer switch ON [CS-12(6)→(2)] → Washer tank [CN-22(2)] → Washer operating
Washer switch ON [CS-12(6)→(2)] → Check unit [CN-58(21)→(15)] → Wiper relay 2 [CR-26(6)→(2)] → [CR-26(1)] → Wiper motor[CN-21(5)] → Wiper motor operating(Low)

(2) Front wiper switch ON

① **INT position**

Wiper switch ON [CS-12(6)→(1)] → Check unit [CN-58(10)→(15)] → Wiper relay [CR-26(4)→(1)] → Wiper motor [CN-21(5)] → Wiper motor intermittently operating

② **Lo position**

Wiper switch ON [CS-12(6)→(4)] → Wiper relay 2 [CR-26(3)→(1)] → Wiper motor [CN-21(5)] → Wiper motor operating (Low)

③ **Hi position**

Wiper switch ON [CS-12(6)→(3)] → Wiper relay [CR-4(2)→(6)] → [CR-4(1)→(4)] → Wiper motor [CN-21(4)] → Wiper motor operating(High)

(3) Auto-parking(When switch OFF)

Switch OFF → Fuse box (No.7) → Wiper relay Hi [CR-4(1)→(3)] → Wiper motor [CN-21(1)→(2)] → Multi function switch [CS-12(5)→(4)] → Wiper relay Lo [CR-26(3)→(1)] → Front wiper motor [CN-21(5)] → Wiper motor stop

(4) Rear wiper and washer switch

① **Wiper switch ON**(1st step)

Wiper switch ON [CS-3(1)→(6)] → Wiper motor [CN-102(5)] → Wiper motor operating
Wiper switch ON [CS-3(1)→(6)] → Rear wiper and washer switch indicator lamp ON

② **Washer switch ON**(2nd step)

Washer switch ON [CS-3(1)→(3)] → Rear washer tank [CN-103(2)] → Washer operating

2) CHECK POINT

Engine	Key switch	Check point	Voltage
Stop	ON	① - GND (Front wiper switch power input) ② - GND (Rear wiper switch power input) ③ - GND (Wiper relay power input) ④ - GND (Front wiper motor Lo power input) ⑤ - GND (Front wiper motor High power input) ⑥ - GND (Wiper relay power input) ⑦ - GND (Front washer power output) ⑧ - GND (Rear washer power output) ⑨ - GND (Front wiper motor power output) ⑩ - GND (Rear wiper motor power output)	20~25V

※ GND : Ground

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