FORKLIFT

# SERVICE MANUAL

## *15, 18, 20LCA-7*

HYUNDAI

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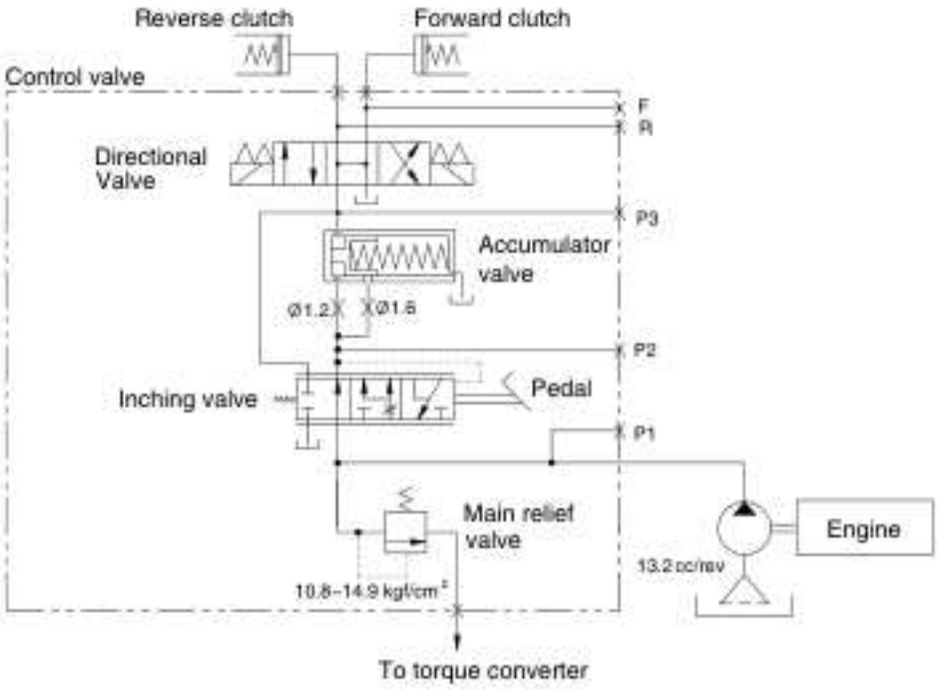
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## 2) HYDRAULIC CIRCUIT




## 3) OPERATION

The control valve mainly consists of the main relief valve, inching valve, accumulator valve and directional valve.

The discharged oil from the gear pump enters main relief valve of the control valve and its pressure is adjusted 10.8~14.9kgf/cm² (153.6~211.9psi).

The oil sent from the main relief valve flows into the torque converter. The main relief valve is built into the torque converter to prevent excessively raising the oil pressure in the converter due to oil viscosity rising when cold.

Pressure adjusted oil passes through pressure detecting valve, inching valve and directional valve, and operates the forward or reverse hydraulic clutch.

The pressure detecting valve and built in accumulator provide a soft plugging when changing gears. The pressure detecting valve allows the accumulator to absorb the small shocks of rapid pressure build-up and quick release during gear changes. When full pressure builds up, the pressure detecting valve shuts the accumulator off and allows it to empty so it is ready to function again during gear change.

The inching control is actuated through the inching pedal. This permits the clutch to partially disengage, so that engine rpm can be increased for lifting while travel speed remains low.



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# SECTION 4 BRAKE SYSTEM

## GROUP 1 STRUCTURE AND FUNCTION

### 1. OUTLINE

There are two brake systems, the foot brake system and the hand brake system.

In the foot brake system, oil pressure is generated in the master cylinder by treading on the brake pedal. This pressure causes the wheel cylinder pistons to extend, expanding the brake shoes and pressing them against the brake drums to attain braking force.

In the hand brake system, the brake shoes are expanded by operating the brake lever.
Force from the lever is transmitted to the brake shoes through the hand brake cables and a lever arm in each wheel brake assembly.

The wheel brake is the duo-servo type. With force applied to both the primary and secondary shoes, this type provides a large amount of brake force.
In addition, the brake equipped with automatic adjusters which constantly adjust the clearance between the shoe and the drum, compensation for wear due to the shoe friction and thus keeping the clearance constant.

### 2. SPECIFICATION

#### 1) WHEEL BRAKE

| Item | | Specification |
|---|---|---|
| Type | | Front wheel, duo-servo & auto adjustment type |
| Brake shoe size | | 254 × 48.5mm |
| Wheel cylinder bore diameter | | 22.22mm |
| Master cylinder diameter | | 15.87mm |
| Pedal adjustment | Free height | 174–184mm |
| | Pedal play | 10–15mm |
| Brake drum diameter | Normal | 255mm |
| Wheel cylinder installation torque | | 0.8–1.2kgf · m |
| Backing plate installation torque | | 15–21kgf · m |
| Brake oil | | Only use for brake fluid DOT3 |

#### 2) PARKING BRAKE

| Item | Specification |
|---|---|
| Type | Rachet, internal expanding mechanical type |
| Parking lever stroke | 12.1˚ |
| Parking cable stroke | 11.5mm |



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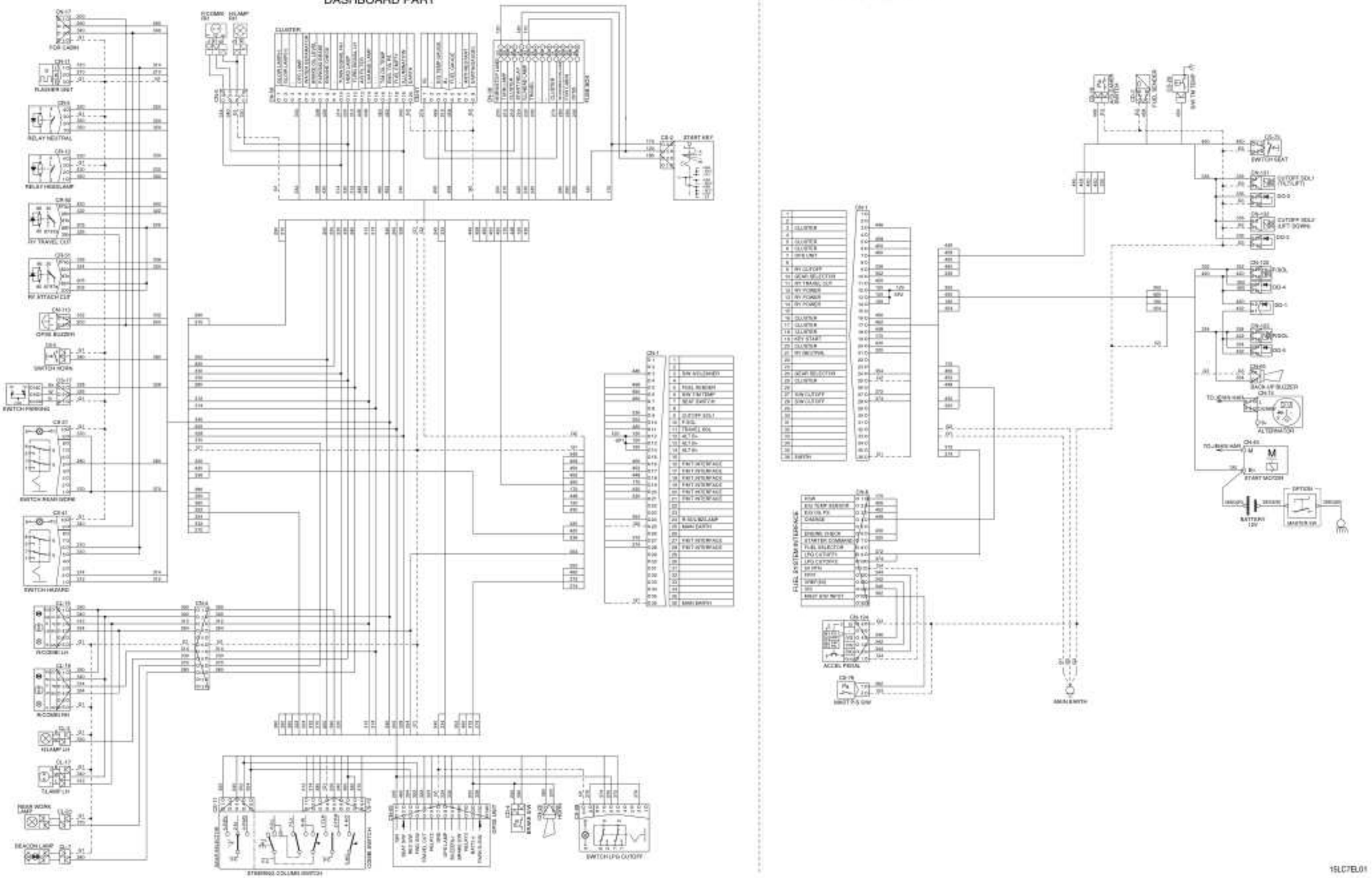
| Trouble symptom | Probable cause | Remedy |
|---|---|---|
| Lamps dimming even at maximum engine speed. | · Faulty wiring. | · Check for loose terminal and disconnected wire. |
| Lamps flicker during engine operation. | · Improper belt tension. | · Adjust belt tension. |
| Charge lamp does not light during normal engine operation. | · Charge lamp defective.<br>· Faulty wiring. | · Replace.<br>· Check and repair. |
| Alternator makes abnormal sounds. | · Alternator defective. | · Replace |
| Starting motor fails to run. | · Faulty wiring.<br>· Insufficient battery voltage. | · Check and repair.<br>· Recharge battery. |
| Starting motor pinion repeats going in and out. | · Insufficient battery voltage. | · Recharge battery. |
| Excessively low starting motor speed. | · Insufficient battery voltage.<br>· Starting motor defective. | · Recharge battery.<br>· Replace |
| Starting motor comes to a stop before engine starts up. | · Faulty wiring.<br>· Insufficient battery voltage. | · Check and repair.<br>· Recharge battery. |
| Heater signal does not become red. | · Faulty wiring.<br>· Glow plug damaged. | · Check and repair.<br>· Replace |
| Engine oil pressure caution lamp does not light when engine is stopped (with starting switch left in "ON" position). | · Caution lamp defective.<br>· Caution lamp switch defective. | · Replace<br>· Replace |



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DASHBOARD PART

FRAME / ENGINE PART



1SLC7EL01



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