



**1t-3.5t R Series Internal Combustion
Counterbalanced Forklift Truck**

OPERATION AND MAINTENANCE MANUAL



Original Instruction

HANGCHA GROUP CO., LTD.

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FOREWORD

This operation manual is the explanations that how to use 1t-3.5t R series forklift truck correctly. It will instruct you how to operate safety and precautionary maintenance. To ensure safety and exert the truck's potential, all the personnel that in charge of operation, maintenance and management must read this manual thoroughly before starting work with the forklift.

Compared with 1t-3.5t N series internal combustion forklift truck, 1t-3.5 t R series forklift truck has the following strengths: enhancing the power, improving the outline, using buffer steering axle, in addition, besides the TCM and NISSAN main transmission are configured in our trucks, we also configure Okamura main transmission in our trucks. And there is different between masts of import and export trucks, N series masts are used in the import trucks, R series masts are used in export trucks.

This manual also applies to container forklift truck and forklift truck assembled attachments.

Our product design will update and perform better, so the content in this manual may be not the same as the forklift you owned.

If you have any questions please keep touches with HANGCHA GROUP CO., LTD.

sales department or let the agents know.

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1. General Rules

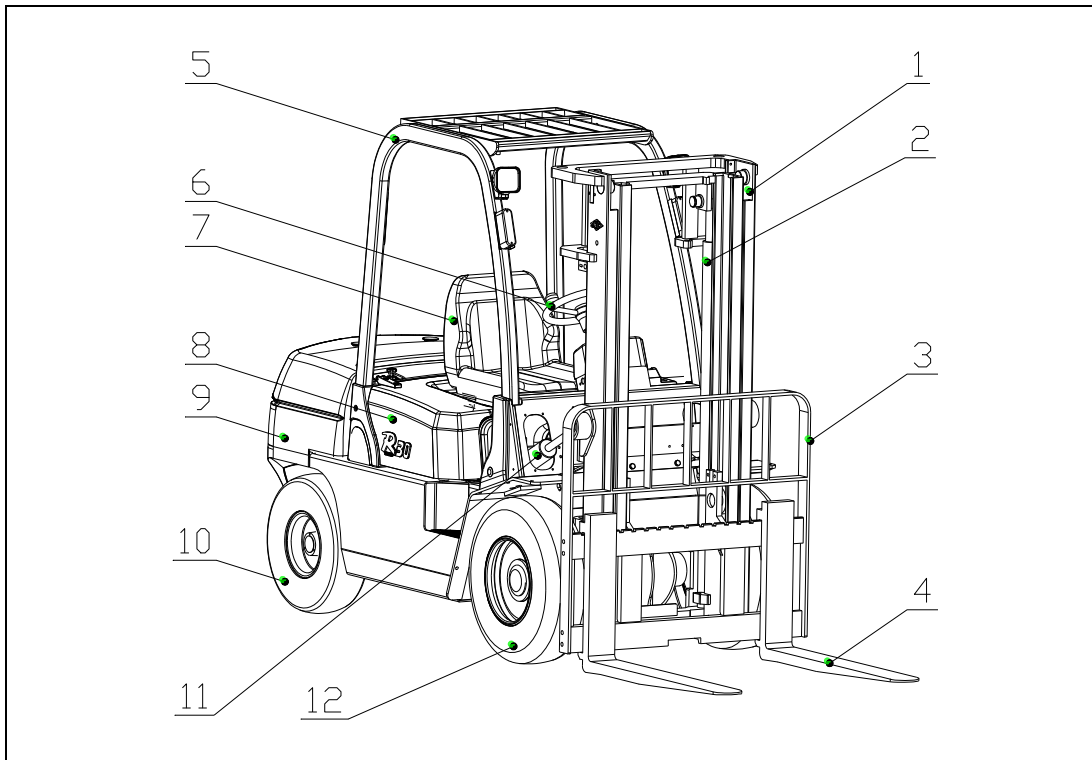
To make the truck and you safety, operator should obey these rules below:

1. Only trained and authorized operator shall be permitted to operate the truck.
2. Before start truck you should check all control and alarm device, if there are any damaged or objection, you could not operate it until repaired it.
3. When carry the load, the weight should not much overload. The fork shall insert in the load entirely and well proportioned. It is not permitted use only one fork to load.
4. You should operate the truck smoothly when start, turning, travel, brake and parking. On a slick or wet road, you should decrease speed when turning.
5. Load travel should lower the goods down and tilt the mast backwards.
6. Be carefully when traveled on a grade. If the slope angle is bigger than 10%, travel forward up slope and backward down slope. Never turn sideways and stack load on an incline.
7. Notice the foot passenger, barrier, pothole and the clearance upside.
8. It is prohibit picking up a man or standing on the fork.
9. No permitted to stand or walk under the fork.
10. No permitted to operate the truck or attachment on other position except the operator's seats.
11. Do not carry the load unpackaged. Be carefully to carry these goods with large size.
12. Notice the load not drop from the load bracket for those trucks that overall maximum lift height is higher than 3 meters. If necessary, make some protective measure.
13. Travel with load as low as possible and tilt back the mast.
14. Before driving over a dock-board or bridge-plate, be sure that it is properly secured and strong enough to sustain the weight.
15. Make sure that there is no naked flame near the area, never smoke. The driver should not remain seated when adding fuel.
16. The truck with attachments should be treated as a loaded truck.
17. When leave the truck, you should let the fork down, make the shift lever neutral shut down the engine and cut the power. Parking on a grade, make sure to tighten the brake lever. If necessary, use a block when parking on a grade for a long time.
18. If the truck suddenly get out of order, or for leakage of electrolyte, hydraulic oil or brake oil, when lifting goods or grade climbing, it needs to rush to repair and let the truck be in safe state, then connect with maintainer or sales representative.
19. In the process of install and assemble, it will be noise and libration. Please choose the right tool and assembly method. Depress the noise and libration as soon as possible to reduce the noise pollute to circumstance.
20. The work road surface for forklift should be stability and unknit, cement, blacktop or beton. If there are snows, ice, water or other eyewinker, bar. Eliminate all, and then work. Otherwise the truck will be out of control and lead the safety accident.
21. Move the truck to the place which respects traffic when it anchors. If the reason is brake or turn system, move it by a suitable truck (Reference the part of truck move); Other reasons, use a suitable truck to traipse, tie the cord outside of truck. Please abide by the traffic regulations when traipse the truck on calzada.
22. After take-down the hood, water tank cover board, overhead, backrest of mast, unallowed to operate the truck or load cargo.
23. There are enough light at truck work ground. At night, open the head lamp to

collocate enough lamp-house.

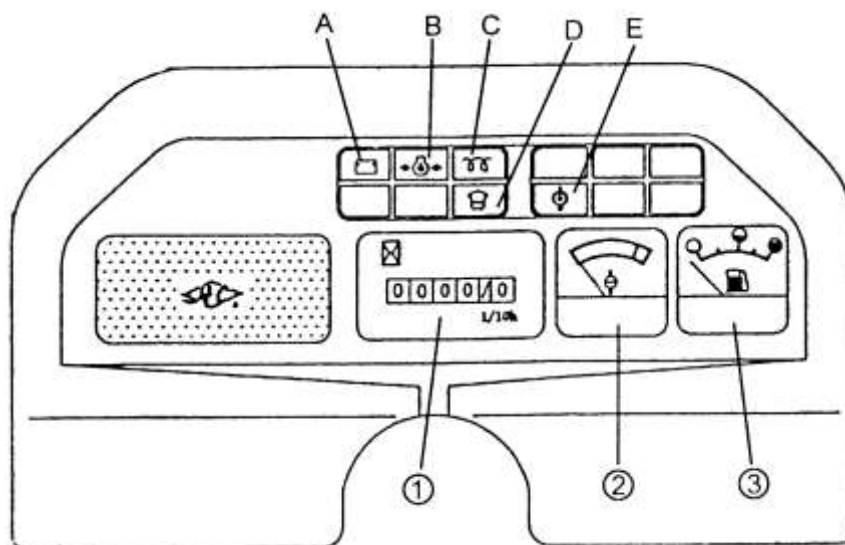
24. Only in the event that the truck manufacturer is no longer in business and there is no successor in the interest to the business, the user may arrange for a modification or alteration to a powered industrial truck provided, however, that the user shall:
- a) Arrange for the modification or alteration to be designed, tested and implemented by an engineer(s) expert in industrial trucks and their safety;
 - b) Maintain a permanent record of the design, test(s) and implementation of the modification or alteration;
 - c) Approve and make appropriate changes to the capacity plate(s), decals, tags and instruction handbook;
 - d) Affix a permanent and readily visible label to the truck stating the manner in which the truck has been modified or altered together with the date of the modification or alteration, and the name and address of the organisation that accomplished the tasks.

2. Name of main parts or component



- | | | | |
|--------------------------|---------------------|----------------------|-----------------|
| 1. Mast | 2. Lifting cylinder | 3. Backrest | 4. Fork |
| 5. Overhead guard | 6. Steering wheel | 7. Seat | 8. Cover hood |
| 9. Counterbalance weight | 10. Rear wheel | 11. Tilting cylinder | 12. Front wheel |

Instruments



Hour meter [1]

This meter measures working time of engine. Use meter to schedule lubrication and maintenance periods.

Water temperature gauge [2]

This gauge indicates the oil temperature in the torque converter transmission box. In normal status, the pointer is in green zone. (60°C ~115°C)

Caution

If the pointer points red zone, please stop the truck at once. Decrease the engine speed to make the engine cool. Check the cooling fluid if enough and the fan belt's elasticity if fit.

Fuel gauge [3]

The gauge indicates the fuel level in the tank when the key is at | (ON) position.

Charge (A)

This lamp indicates the battery condition of charge. The lamp comes on when the ignition switch is set at "ON", but it goes out as the engine starts and accelerator pedal is pressed.

Caution

If the light continues to stay lit or lights up during operation, the charging rate is low and should be checked immediately.

Oil pressure alert lamp (B)

This lamp indicates the pressure condition of engine lube oil. Although it lights up when the engine switch is set at "ON", once the engine starts up and the accelerator pedal is pressed, this lamp goes out.

Caution

If this light continues to stay lit or lights up during operation, the pressure is lower than 0.05Mpa and should be checked immediately.

Glow indicator (C) [Diesel truck]

Turn the key to "ON" position and the indicator lights up for a moment. After the indicator goes out, turn the key to ➡ "Start" position.

Sedimentor indicator (D) [Use in W9、W13、W15A diesel truck]

In normal state, once the starter is set to ➡ "ON" position, this lamp lights up. After the engine is started up, it goes out.

This lamp lights up when water in sedimentor reaches to a certain level, while the engine is running.

If this lamp continues to stay lit or lights up during the engine running, stopping the engine and discharge water immediately.

Caution

Fuel injection pump will be damaged if continue working when the light is up.

Engine coolant temperature [E]

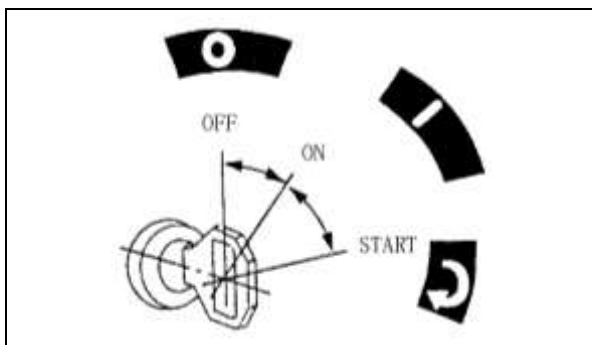
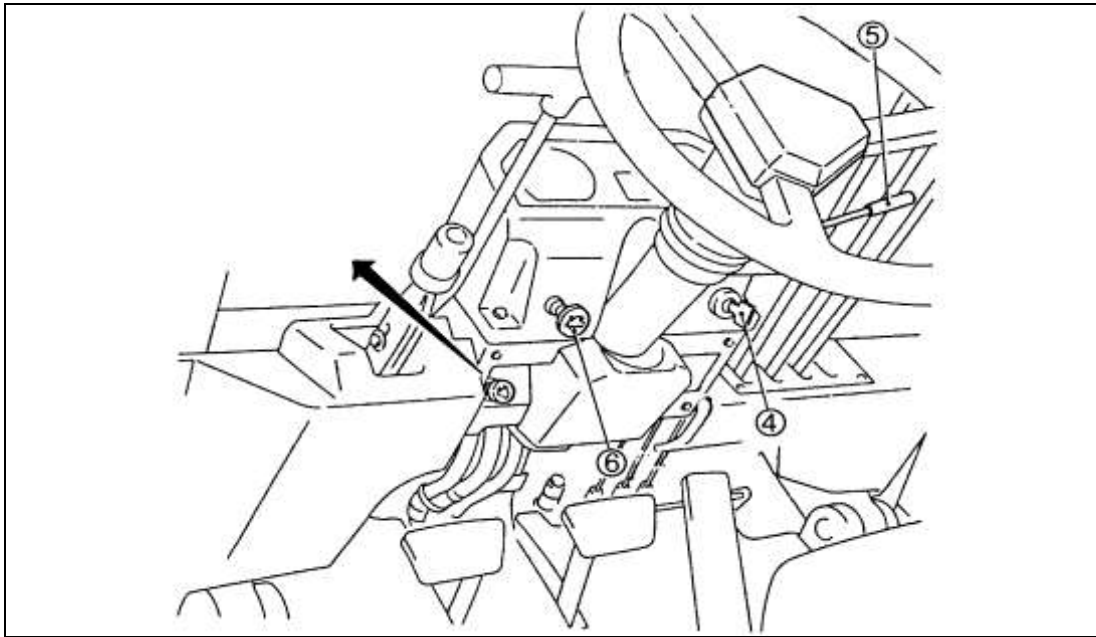
In normal state, once the starter is set to ➡ "ON" position, this lamp lights up. After the engine is started up, it goes out.

During work time if the oil temperature exceed the normal rang (60°C~120°C) the indicator light on.

Caution

If the pointer enters the red range, stop the operation instantly and slow down engine speed to cool the coolant and wait until the pointer goes into the green range, and have a check then.

Switches



Key [4] OFF (O)

This is the position at which the key inserted or drawn out.

Gasoline engine and diesel engine stop at this position.

ON (I)

The electric circuit is closed with the starter switch at "I"(ON). After the engine is started, the key is at this position.

START (R)

As the key is placed in the "START" position, the starter motor is engaged. When removing hand off key, it is automatically returned to the "ON" position by spring force.

Diesel engine

Turn the key to "ON" position and the indicator lights up for a moment. After the indicator goes out, turn the key to "Start" position.

Caution

1. Do not keep the starter switch in the "I"(ON) position while engine is shut down. This result in a discharge battery.
2. With the engine running, do not turn the starter switch into the (START) position, since there is a danger of the starter motor being damaged.
3. Do not keep the starter engaged for more than 5 seconds at a time. Wait about 120 seconds before trying again.

Turn signal lever [5]

Use this lever which is at the right side of turning rod to indicate the turning direction of the truck. **R**-turn right, **N**-neutral, **L**-turn left.

The turn signal level does not automatically return to the neutral position unlike general passenger cars. Reset it by hand.



Light switch [6]

This light switch can be pulled out at two steps.

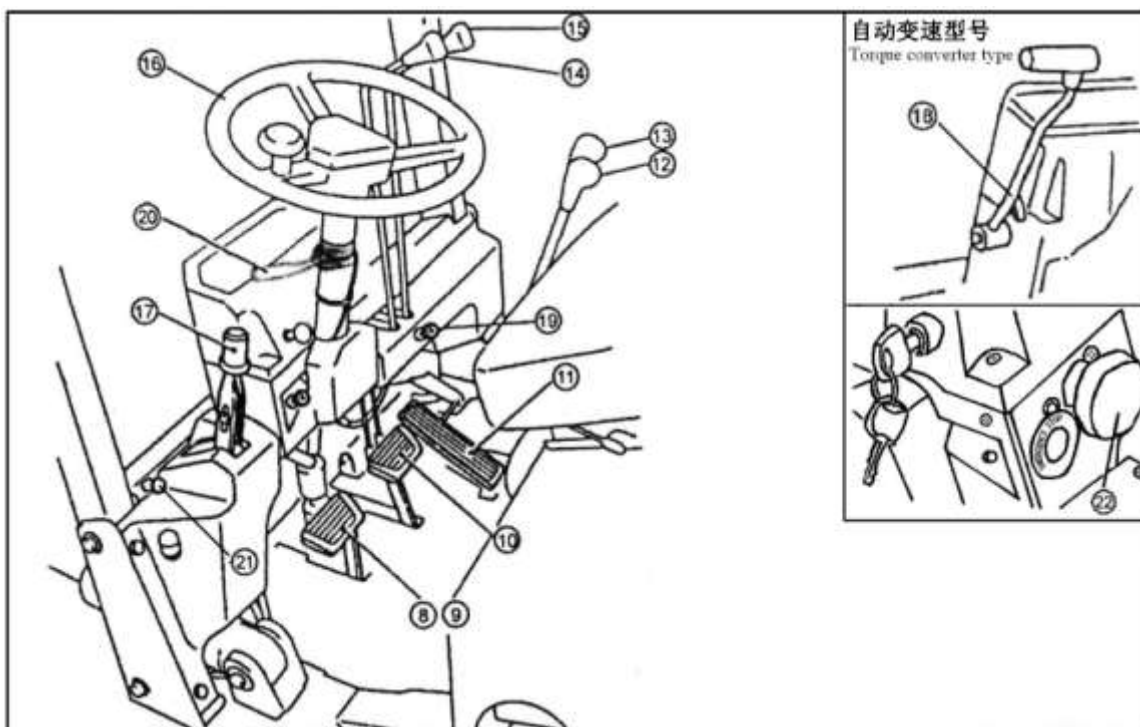
Light Stage	Power	Near light	Far light	Clear -ance
0	x			
1 st	x	x		x
2 nd	x		x	x

(x) means connected

Horn button [7]

Press the rubber cover at the center of steering wheel to sound horn.

Controls



- 8. Clutch pedal (frictional clutch type)
- 9. Inching pedal (torque converter type)
- 10. Brake pedal
- 11. Accelerator pedal
- 12. Forward reverse and Speed select lever (frictional clutch type)
- 13. Shift lever
- 14. Tilt lever
- 15. Lift lever
- 16. Steering hand wheel
- 17. Parking brake lever
- 18. Forward reverse lever (Torque converter type Non-electric-switch)
- 19. Choke
- 20. Forward reverse lever (Torque converter type Switch)
- 21. Guy head
- 22. Emergency Stop Label