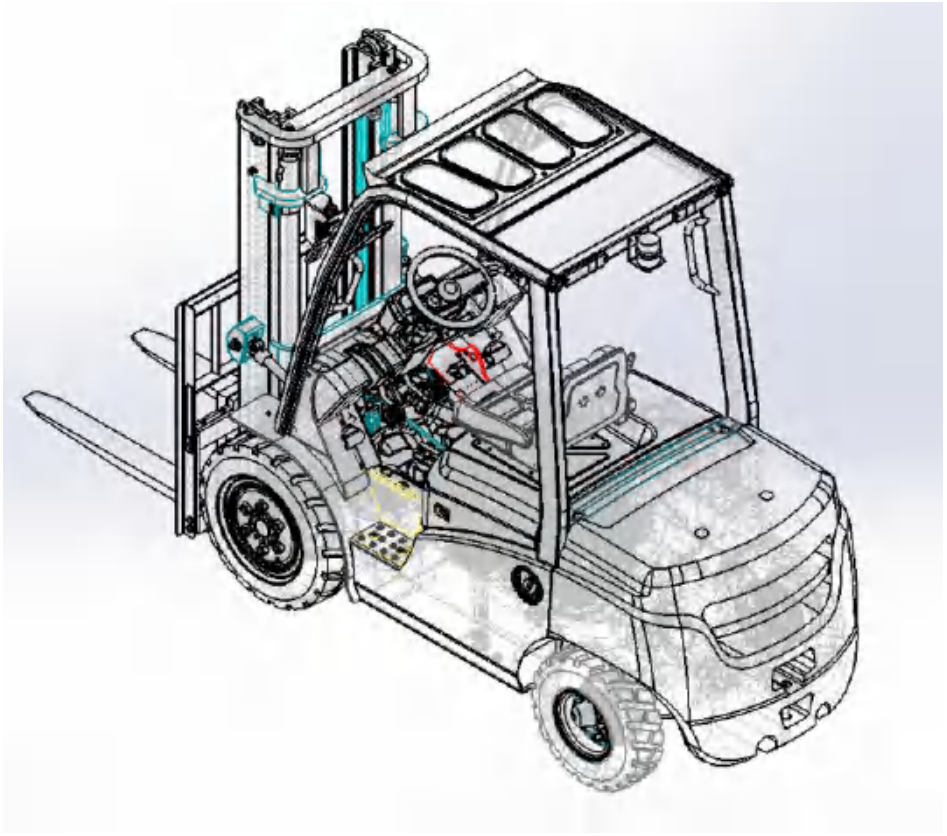
T8 Series Forklift
CPC(Q)D15/18/20/25/30/35T8

Operation and Maintenance Manual



E-P EQUIPMENT CO., LTD

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CONTENT

Internet address and QR code of Parts manual

By entering the address http://www.ep-care.com in a web browser or by scanning the QR code, Login after registration, Select "Parts purchase" function and input part number or model **name to find the truck.**

Note: After registration, please send email to info@ ep-care.com to activate your account

Notice

This manual describes how to operate, maintain and check the Forklift Truck for industrial use. Even if you have known well about the trucks, please do read this manual thoroughly, as it contains some special information of this series. And it is written on the basis of standard forklift truck. If you have any problem or suggestion, please contact with our agents.

1. Safety instructions

Safety is your responsibility. Before operating truck, you have to read and understand the Safety Instructions.

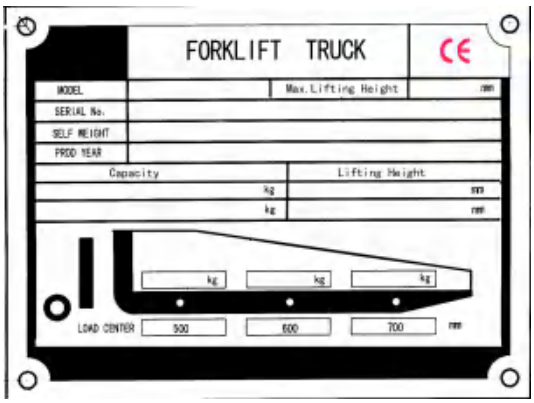
(1) Get Permission

Only trained and authorized operator shall be permitted to operate the truck.

(2) Know Your Truck

It is necessary to understand the “Load Capacity Chart” and “Specification Plate”.

1). Specification Plate



✧ Rated Capacity

The rated capacity is based on 3000mm lifting height. It will be reduced when lifting height is higher than 3000mm or load center is more than 500mm, please carefully check **Load Capacity Chart** before loading the goods. It will also be reduced when the truck has attachment.

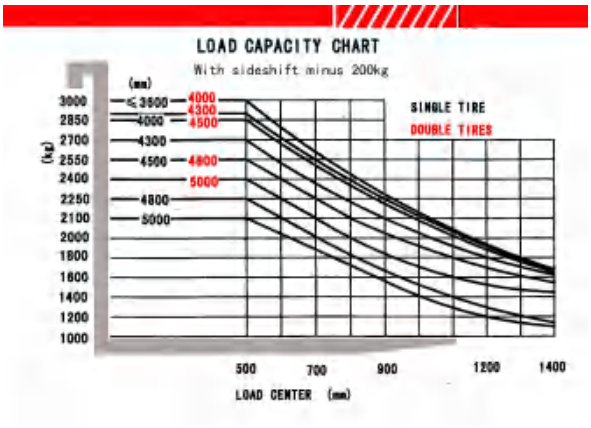
✧ Self Weight

Check the Self Weight before lifting or moving the truck using other equipment.

✧ Serial Number

The Serial Number is marked in the Frame and Specification Plate. When you want to inquire about your truck, please always tell the Serial Number.

2). Load Capacity Chart



Load Capacity Chart of FD30T

You have to understand the weight of lifting goods according to the chart. The capacity can be changed with different lifting height and load center.

(3) Avoid Fire Hazard

✧ Do not drive the truck near flammable materials**,** suck as dry lawn and waste paper. Park the truck at least 300mm away from wood, veneer, paper and something like that.

✧ Don’t use an open flame when checking level, or for leakage, of fuel, electrolyte or cooling water.

✧ Never smoke while inspecting the battery, handling fuel or working on the fuel system. Otherwise, explosion may happen.

✧ Never fill the fuel tank with the engine running.

(4) Warming-up and Cooling-down

✧ Warm up and cool down the truck for about 5 minutes before and after work.

✧ When using your truck in a closed space, make sure there is enough ventilation. If needed, use a ventilation fan.

✧ Don’t open the radiator cap while the engine is hot.

(5) Mount Properly

✧ Don’t mount or dismount the moving truck. Use the safety steps and safety grip facing the truck when mounting or dismounting the truck.

(6) Never Move Controls Unless Properly Seated

✧ Never attempt to work the controls unless properly seated.

✧ Before starting, adjust the seat so you can control the truck easily.

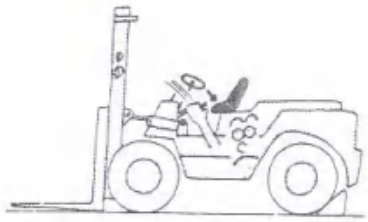
(7) Start Safely

✧ Before starting up, make sure that:

- ➢ The parking brake lever is applied securely.
- ➢ The forward-reverse lever is in neutral.
- ➢ The side view mirrors are in proper position.

✧ Don't keep the starter switch engaged for more than 10 seconds at a time. Wait about 20 seconds before trying again.

✧ Before starting, make sure no one is under, on and close to the truck.



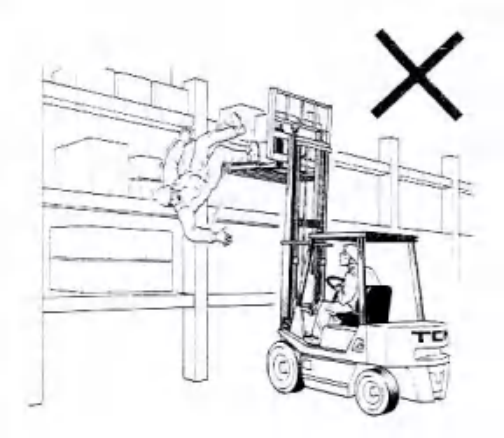
(8) Parking Properly

✧ Park the truck on a level surface and apply the parking brake securely. When parking on a grade, be sure to block the wheels.

✧ Put the forks on the ground or floor and tilt a little forward. Shut down the engine and remove the key.

(9) Don't Offer Rides to Others

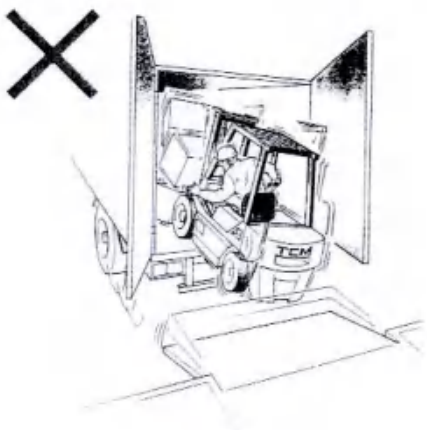
✧ Never allow other persons to ride on the forks, pallets or the truck.



(10) Driving Over a Dockboard or Bridge-Plate

✧ Before driving over a dockboard or bridge-plate, be sure that it is properly secured and strong enough to sustain the weight. Check the ground or floor condition of working area in advance.

✧ Have parking brake set and wheel blocks in place to prevent movement of trucks, trailers, or railroad cars while loading, unloading or transporting. Fixed jacks may be necessary to support a semi-trailer during loading, unloading or transporting when the trailer is not coupled to a tractor.

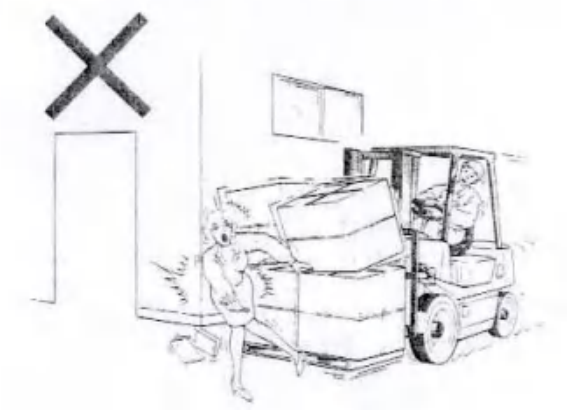


(11) Watch for Door Ways

✧ Watch for branches, cables, door ways, or overhangs. Use caution when working in congested areas.

(12) Slow Down at Corners

✧ Slow down and sound horn at cross aisles and other locations where vision is restricted.



(13) Watch Your Assets

- ✧ Be especially careful when traveling in reverse and turning. Be alert to prevent striking anything with fork tips.
- ✧ Due to rear wheel, the rear of the truck swings outwards when turning. Use caution when going round corners.
- ✧ The lift truck with an attachment for long-sized loads requires larger turning radius.
- ✧ Make sure your load is well stacked and evenly positioned across both forks. Use extreme caution when traveling on a bad ground or floor condition.

(14) Keep Flammables Away

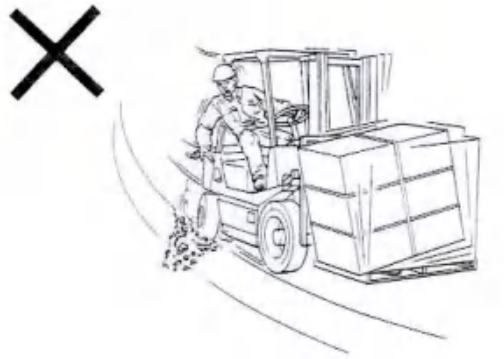
- ✧ Keep fluid cans, cotton bale, paper or chemicals away from the truck during operation since there is a danger of their igniting or exploding due to exhaust gas from the muffler.
- ✧ Never approach overhead power cables with any part of your truck.

(15) Slow Down At Night

- ✧ The operator is likely to have a illusion for distance or unevenness of the ground. Travel at a speed that will permit the truck to be brought to a stop in a safe manner.
- ✧ Use head lights and required work light and clearance lights.

(16) Check Work Area

- ✧ Inspect the surface over which you will run. Look for holes, drop-offs, obstacles. And look for rough spots. Look for anything that might cause you to lose control, bog down or upset.
- ✧ Clear away trash and debris. Pick up anything that might puncture a tire or let the load lose balance.
- ✧ Slow down for wet and slippery roads. Stay away from the edge of the road. If unavoidable, use extreme caution.



(17) Carry the Load Low

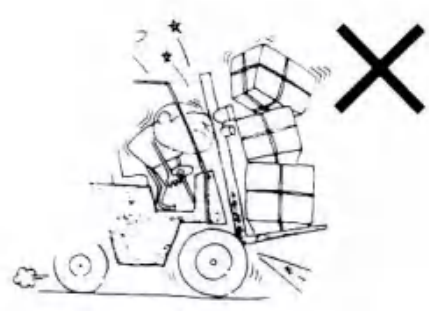
- ✧ It is dangerous to travel with forks higher than proper height regardless of whether loaded or not. Keep good traveling posture. (when traveling, the forks should be 15 to 30cm or 6 to 12 inches above the ground or floor)
- ✧ Do not operate the side shift mechanism, if equipped, when the forks are raised and loaded, since this will cause the truck to be unbalanced.

(18) Tilt Backward When Loaded

- ✧ Travel with load as low as possible and tilt back. If operating with steel pallet or something like that, be sure to tilt back the mast to prevent it from slipping off the forks.
- ✧ On trucks with a bucket, hinged forks, dumping forks, or logger, the attachment control is placed in “UP” position when loaded.

(19) Avoid Braking Too Sharply

- ✧ Avoid braking too sharply or descending on a grade at a high speed. There is danger of loads falling down or the truck turning over.



(20) Stop, Then Back Up

✧ Always brake to end before reversing travel direction.

(21) Precautions on Grade

✧ When running down on a grade, use engine as a brake (Frictional clutch type). While, don't operate directional and speed control levers. If the truck exceeds the gear speed range, use the brake pedal.

(22) Back Down & Drive Up

✧ When operating loaded truck, have the rear end of your machine pointed down-hill. When climbing grades, use forward gears, and when descending, use reverse gears.

✧ Never turn sideways on an incline. There is danger of the truck turning over.

(23) Don't Lift Unstable Loads

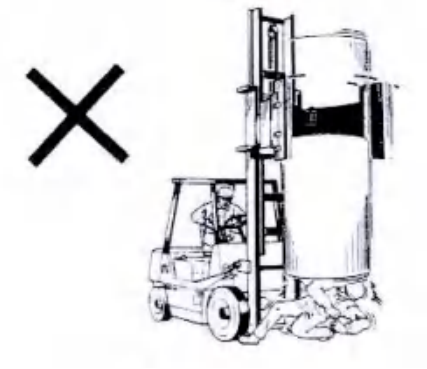
✧ Make certain that your load is well stacked and evenly positioned across both forks. Don't attempt to load with only one fork.

✧ Once the truck with an attachment such as a load grab, make certain that the load is securely and correctly grabbed, and pull the loading control lever to full (increase to relief pressure.)

✧ When using the truck with a side shift or an attachment for long-sized load such as spreader, pole carrier, wide finger bar, hinged fork or logger, be especially careful of load deflection. (The center of gravity of the load should be aligned with the center of the truck as much as possible.)

(24) Never Lift a Load Over Anyone

✧ Never permit anyone to stand or walk under upraised forks or other attachments. If unavoidable, use a safety stand or block to prevent the forks or attachments falling down or moving unexpectedly.



(25) Don’t Tilt the Mast With Load High

- ✧ Use minimum forward and reverse tilt when stacking and unstacking loads. Never tilt forward unless load is over stack or at low lift height.
- ✧ When stacking loads on a high place, once make the mast vertical at a height of 15 to 20cm (6 to 8 inch) above the ground and then lift the load farther. Never attempt to tilt the mast beyond vertical when the load is raised high.
- ✧ To unstack loads from a high place, insert forks into the pallet, lift slightly and drive backwards, then lower the load. Tilt the mast backwards after lowering. Never attempt to tilt the mast with the load raised high.

(26) Don’t Stack Load Too High On Forks

- ✧ Don’t stack loads on forks in such a way that the top of loads exceeds the load backrest height. If unavoidable, make the load stable securely. When handling bulky loads which restrict your vision, operate the truck in reverse or have a guide.

2. Specification Sheet

2.1

Model			Unit	CPCD15T8-NE92	CPCD15T8-F2	CPCD18T8-NE92	CPCD18T8-F2	CPCD20T8-S4S	CPCD20T8-NE92
Power type				Diesel	Gasoline	Diesel	Gasoline	Diesel	Diesel
Rated capacity			kg	1500	1500	1800	1800	2000	2000
Load center			mm	500	500	500	500	500	500
Lift height			mm	3000	3000	3000	3000	3000	3000
Free lift height			mm	120	120	120	120	120	120
Fork size		L×W×T	mm	920×100×35	920×100×35	920×100×35	920×100×35	1070×120×40	1070×120×40
Mast tilt range		F/R	deg	6/12	6/12	6/12	6/12	6/12	6/12
Fork overhang (Wheel center to fork face)			mm	420	420	420	420	476	476
Rear overhang			mm	420	420	420	420	485	485
Overall dimensions	Length to face of fork		mm	2230	2230	2270	2270	2530	2530
	Overall width		mm	1080	1080	1080	1080	1150	1150
	Mast lowered height		mm	1995	1995	1995	1995	1995	1995
	Mast extended height		mm	3960	3960	3960	3960	4200	4200
	Overhead guard height		mm	2070	2070	2070	2070	2130	2130
Turning radius (outside)			mm	1995	1995	2035	2035	2170	2170
Min. right angle stacking aisle width (Add load length and clearance)			mm	2400	2400	2440	2440	2680	2680
Speed	Travel	Full load	km/h	15	15	15	15	17.5	17.5
		Full load	km/h	20	20	20	20	20	20
	Lifting	Full load	mm/s	460	460	460	460	450	450
		Full load	mm/s	600	600	600	600	550	550
	Lowering	Full load	mm/s	450	450	450	450	450	450
		Full load	mm/s	550	550	550	550	520	520
Max Drawbar Pull (Full load)			N	17500	17500	17500	17500	17500	17500
Max Gradeability(Full load)			%	20	20	20	20	20	20
Tyres		Front	mm	6.50-10-10 PR	6.50-10-10 PR	6.50-10-10 PR	6.50-10-10 PR	7.00-12-12PR	7.00-12-12PR
		Rear	mm	5.00-8-10 PR	5.00-8-10 PR	5.00-8-10 PR	5.00-8-10 PR	6.00-9-10PR	6.00-9-10PR
Tread		Front	mm	920	920	920	920	970	970
		Rear	mm	920	920	920	920	970	970

Wheelbase			**mm**	**1430**	**1430**	**1430**	**1430**	**1600**	**1600**
Ground clearance		**Lowest**	**mm**	**110**	**110**	**110**	**110**	**120**	**120**
Self weight			**kg**	**2700**	**2700**	**2900**	**2900**	**3570**	**3570**
Weight Distribution	**Full load**	**Front**	**kg**	**3570**	**3570**	**3995**	**3995**	**4460**	**4460**
		Rear	**kg**	**630**	**630**	**705**	**705**	**720**	**720**
	No load	**Front**	**kg**	**1215**	**1215**	**1305**	**1305**	**1428**	**1428**
		Rear	**kg**	**1485**	**1485**	**1595**	**1595**	**2142**	**2142**
Battery	**Voltage/Capacity(20HR)**		**V/Ah**	**12⁄60**	**12⁄54**	**12⁄60**	**12⁄54**	**12⁄60**	**12⁄60**
Engine	**Modal**			**4TNE92**	**F2(2.2L)**	**4TNE92**	**F2(2.2L)**	**S4S**	**4TNE92**
	Manufacture			**Yanmar**	**Mazda**	**Yanmar**	**Mazda**	**Mitsubishi**	**Yanmar**
	Rated output/r.p.m		**Kw/rpm**	**33⁄2450**	**37.2⁄2700**	**33⁄2450**	**37.2⁄2700**	**34.4/2250**	**33⁄2450**
	Rated Torque/r.p.m		**N.m/rpm**	**136⁄1600**	**142⁄1800**	**136⁄1600**	**142⁄1800**	**165/1700**	**136⁄1600**
	No.of cylinder			**4**	**4**	**4**	**4**	**4**	**4**
	Bore*Stroke		**mm**	**92*100**	**86*94**	**92*100**	**86*94**	**94×120**	**92*100**
	Displacement		**cc**	**2659**	**2184**	**2659**	**2184**	**3331**	**2659**
	Fuel tank capacity		**L**	**50**	**50**	**50**	**50**	**60**	**60**
Transmissions		**Type**		Electronical	Electronical	Electronical	Electronical	Electronical	Electronical
Operating pressure		For attachments	Mpa	17.5	17.5	17.5	17.5	17.5	17.5

2.2

Model		Unit	CPCD20T8-C490	CPCD20T8-K21	CPCD25T8-S4S	CPCD25T8-NE92	CPCD25T8-C490	CPCD25T8-K21
Power type			Diesel	Gasoline	Diesel	Diesel	Diesel	Gasoline
Rated capacity		kg	2000	2000	2500	2500	2500	2500
Load center		mm	500	500	500	500	500	500
Lift height		mm	3000	3000	3000	3000	3000	3000
Free lift height		mm	120	120	120	120	120	120
Fork size	L×W×T	mm	1070×120×40	1070×120×40	1070×120×40	1070×120×40	1070×120×40	1070×120×40
Mast tilt range	F/R	deg	6⁄12	6⁄12	6⁄12	6⁄12	6⁄12	6⁄12
Fork overhang (Wheel center to fork face)		mm	476	476	476	476	476	476
Rear overhang		mm	485	485	550	550	550	550
Overall dimensions	Length to face of fork	mm	2530	2530	2600	2600	2600	2600
	Overall width	mm	1150	1150	1150	1150	1150	1150
	Mast lowered height	mm	1995	1995	1995	1995	1995	1995

	Mast extended height		mm	4200	4200	4200	4200	4200	4200
	Overhead guard height		mm	2130	2130	2130	2130	2130	2130
Turning radius (outside)			mm	2170	2170	2240	2240	2240	2240
Min. right angle stacking aisle width (Add load length and clearance)			mm	2680	2680	2750	2750	2750	2750
Speed	Travel	Full load	km/h	17.5	17.5	17.5	17.5	17.5	17.5
		Full load	km/h	20	20	20	20	20	20
	Lifting	Full load	mm/s	450	450	450	450	450	450
		Full load	mm/s	550	550	550	550	550	550
	Lowering	Full load	mm/s	450	450	450	450	450	450
		Full load	mm/s	520	520	520	520	520	520
Max Drawbar Pull (Full load)			N	17500	17500	17500	17500	17500	17500
Max Gradeability(Full load)			%	20	20	20	20	20	20
Tyres		Front	mm	7.00-12-1 2PR	7.00-12-1 2PR	7.00-12-1 2PR	7.00-12-1 2PR	7.00-12-1 2PR	7.00-12-1 2PR
		Rear	mm	6.00-9-10 PR	6.00-9-10 PR	6.00-9-10 PR	6.00-9-10 PR	6.00-9-10 PR	6.00-9-10 PR
Tread		Front	mm	970	970	970	970	970	970
		Rear	mm	970	970	970	970	970	970
Wheelbase			mm	1600	1600	1600	1600	1600	1600
Ground clearance		Lowest	mm	120	120	120	120	120	120
Self weight			kg	3570	3570	3900	3900	3900	3900
Weight Distribution	Full load	Front	kg	4460	4460	5568	5568	5568	5568
		Rear	kg	720	720	832	832	832	832
	No load	Front	kg	1428	1428	1560	1560	1560	1560
		Rear	kg	2142	2142	2340	2340	2340	2340
Battery	Voltage/Capacity(20HR)		VAH	12/80	12/60	12/60	12/60	12/80	12/60
Engine	Modal			C490BPG	K21	S4S	4TNE92	C490BPG	K21
	Manufacture			China	Nissan	Mitsubishi	**Yanmar**	China	Nissan
	Rated output/r.p.m		Kw/rpm	37/2650	31.2/2250	34.4/2250	33/2450	37/2650	31.2/2250
	Rated Torque/r.p.m		N.m/rpm	148/1600	143.7/1600	165/1700	136/1600	148/1600	143.7/1600
	No.of cylinder			4	4	4	4	4	4
	Bore*Stroke		mm	90*100	89×83	94×120	92*100	90*100	89×83
	Displacement		cc	2540	2065	3331	2659	2540	2065
	Fuel tank capacity		L	60	60	60	60	60	60
Transmissions		Type		Electronical	Electronical	Electronical	Electronical	Electronical	Electronical

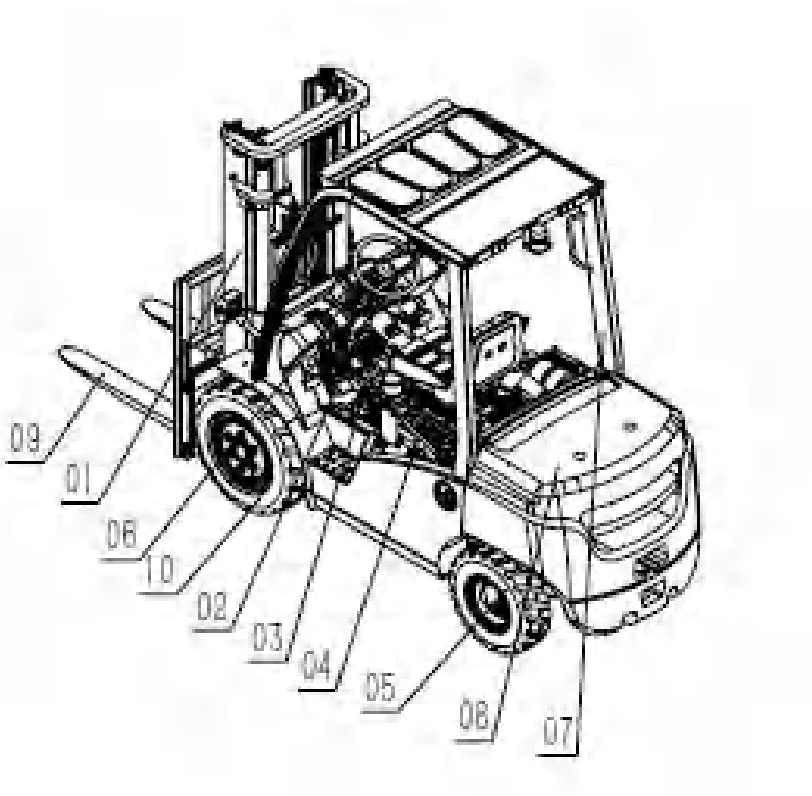
Operating pressure	For attachments	Mpa	17.5	17.5	17.5	17.5	17.5	17.5

2.3

Model			Unit	CPCD30T 8-S4S	CPCD30T 8-C490	CPCD30T 8-K25	CPCD30T 8-NE98	CPCD35T 8-S4S	CPCD35T 8-NE98
Power type				Diesel	Diesel	Gasoline	Diesel	Diesel	Diesel
Rated capacity			kg	3000	3000	3000	3000	3500	3500
Load center			mm	500	500	500	500	500	500
Lift height			mm	3000	3000	3000	3000	3000	3000
Free lift height			mm	120	120	120	120	120	120
Fork size		L×W×T	mm	1070×130 ×45	1070×130 ×45	1070×130 ×45	1070×130 ×45	1070×130 ×45	1070×130 ×45
Mast tilt range		F/R	deg	6/12	6/12	6/12	6/12	6/12	6/12
Fork overhang (Wheel center to fork face)			mm	481	481	481	481	481	481
Rear overhang			mm	590	590	590	590	590	590
Overall dimensions	Length to face of fork		mm	2730	2730	2730	2730	2790	2790
	Overall width		mm	1250	1250	1250	1250	1250	1250
	Mast lowered height		mm	2017	2017	2017	2017	2017	2017
	Mast extended height		mm	4210	4210	4210	4210	4210	4210
	Overhead guard height		mm	2180	2180	2180	2180	2180	2180
Turning radius (outside)			mm	2450	2450	2450	2450	2510	2510
Min. right angle stacking aisle width (Add load length and clearance)			mm	2950	2950	2950	2950	3050	3050
Speed	Travel	Full load	km/h	16	16	16	16	16	16
		Full load	km/h	18.5	18.5	18.5	18.5	18.5	18.5
	Lifting	Full load	mm/s	400	400	400	400	400	400
		Full load	mm/s	500	500	500	500	500	500
	Lowering	Full load	mm/s	400	400	400	400	400	400
		Full load	mm/s	500	500	500	500	500	500
Max Drawbar Pull (Full load)			N	21000	21000	21000	21000	21000	21000
Max Gradeability(Full load)			%	20	20	20	20	20	20
Tyres		Front	mm	28×9-15-12PR	28×9-15-12PR	28×9-15-12PR	28×9-15-12PR	28×9-15-12PR	28×9-15-12PR
		Rear	mm	6.50-10-10PR	6.50-10-10PR	6.50-10-10PR	6.50-10-10PR	6.50-10-10PR	6.50-10-10PR
Tread		Front	mm	1010	1010	1010	1010	1010	1010
		Rear	mm	980	980	980	980	980	980
Wheelbase			mm	1700	1700	1700	1700	1760	1760

Ground clearance		Lowest	mm	140	140	140	140	140	140
Self weight			kg	4450	4450	4450	4450	4650	4650
Weight Distribution	Full load	Front	kg	6488	6488	6488	6488	7350	7350
		Rear	kg	962	962	962	962	1070	1070
	No load	Front	kg	1810	1810	1810	1810	1900	1900
		Rear	kg	2640	2640	2640	2640	2750	2750
Battery	Voltage/Capacity(20HR)		VAH	12⁄60	12⁄80	12⁄60	12⁄60	12⁄60	12⁄60
Engine	Modal			S4S	C490BPG	K25	4TNE98	S4S	4TNE98
	Manufacture			Mitsubishi	China	Nissan	**Yanmar**	Mitsubishi	**Yanmar**
	Rated output/r.p.m		Kw/rpm	44⁄2500	37⁄2650	37.4/2300	44⁄2500	44⁄2500	44⁄2500
	Rated Torque/r.p.m		N.m/rpm	172⁄1600	148⁄1600	176.5/1600	189⁄1800	172⁄1600	189⁄1800
	No.of cylinder			4	4	4	4	4	4
	Bore*Stroke		mm	96*92	90*100	89×100	98*102	96*92	98*102
	Displacement		cc	2663	2540	2488	3153	2663	3153
	Fuel tank capacity		L	65	65	65	65	65	65
Transmissions		Type		Electronical	Electronical	Electronical	Electronical	Electronical	Electronical
Operating pressure		For attachments	Mpa	17.5	17.5	17.5	17.5	17.5	17.5

3. Main parts



01 Mast 02 Hydraulic Torque Converter 03 Hydraulic Transmission 04 Engine
05 Steering Axle 06 Controller and Panel 07 Safe Guard 08 Counter Weight
09 Fork 10 Driving Axle

3.1 Meters

The panel light is designed to lighten the panel at night. Set the light switch to “ON”, and the light will brighten up.

1. Timer
2. Warning indicator for oil pressure
3. Warning indicator for deposition cup（for type of diesel engine）
4. Warm-up indicator
5. Charge indicator
6. Water thermometer
7. Fuel meter
8. Temperature alert indicator for torque converter oil

(1) Timer

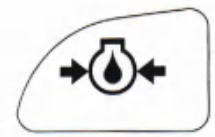
It works only when the key switch is turned on. And it displays the total working hours of truck. From left to right the unit of last digit is 1/10 Hour. It is used to record the working time and remind users of periodic

maintenance time.

(2) Warning indicator for oil pressure

When engine is at work it shining indicates that the oil pressure is too low.

1. At normal condition, it will shine when key switch is turned on and go out when engine is started up.

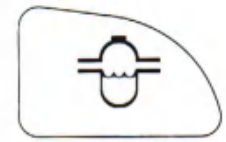


2. When the engine works well and this indicator is not lit up, the truck may be short of oil or something is wrong with lubricant system. Then stop the truck and check and repair.

(3) Warning indicator for deposition cup

Deposition cup is used to separate water from the fuel.

1. When the engine is working and the water in deposition cup goes up to the fixed level, this indicator will shine.



2. In normal case, it will shine when turning on the key switch and go out when engine is started up.

3． If the engine is working and the indicator shines, drain the water from the deposition cup right away. (For drainage, please refer to Repair by yourself.)

(4) Warm-up indicator

It indicates that the ingoing-air heater is warming up.

1. Turn on the key switch and this indicator will shine. That means warming up begins. And this indicator will go out when warming up is over. Then the engine will be easy to start up.

2. The time of warm-up changes with the temperature of engine coolant If the temperature of engine coolant is too low or in winter, the warm-up will cost a little longer time.

Caution

When the engine is running, and if this indicator can not go out, there may be something wrong with the ingoing-air heater, please check it.

(5) Charge indicator

1. When the engine is running it indicates that the charge system is abnormal.

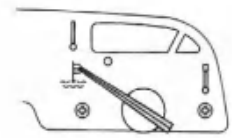
2. In normal case, it will shine when the key switch is turned on and then go out when the engine is started up.

3. If the engine is running and this indicator shines, stop working and check if the fan belt becomes broken or slack. After adjusting restart the engine to work.

If this indicator can not go out, something may be wrong with the charge system. Then please make the truck checked and repaired by agents.

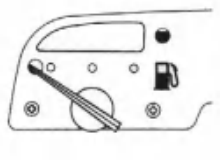
(6) Water thermometer

It indicates the temperature of cooling water of engine.



1. It begins to work when the key switch is turned on.
2. In normal case, its hand moves within the central green parts.
3. If the hand points at the red parts, it indicates that the engine is too hot. Then park the truck at a safe place and let the engine run speed down, when the hand moves lower, stop the engine.
4. Water leakage, slack fan belt or something abnormal of the cooling system can make engine temporary hot. If it happens, check the cooling system.

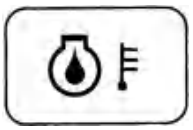
(7) Fuel gauge



It indicates the fuel level in fuel box.
After adding fuel and turning the key switch on, it needs a while for the hand to get steady going.
Caution
When driving the truck on uneven road, as the correct fuel lever cannot be pointed, the driver should operate with carefulness.
When the hand approaches the red line, the fuel box should be filled with fuel. Especially for diesel type, once the engine is short of fuel, the fuel supply system should be dealt with exhaust. So please make sure to add fuel before the engine stops.

(8) Temperature alert indicator for torque converter oil

It indicates the temperature of torque converter.

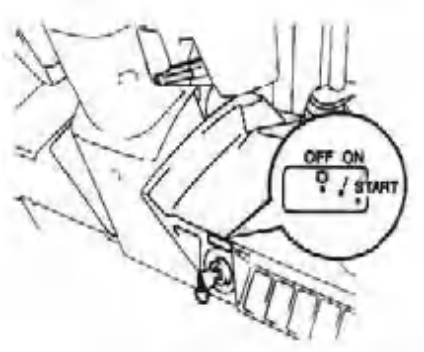


1. If the temperature of fuel is normal, this indicator will not shine.
2. If this indicator lights up, stop operating and check the oil level to find if it needs filling with oil. (For check and filling means, please refer to check for oil level of torque converter oil.)

3.2 Switches and levers

(1) Key switch

Insert the key.



[OFF]……it is position in which the engine stops. In this position, the key may insert and draw out.
[ON]……it is position in which the engine is working. From [OFF] position turn the key to [ON]

position.

For diesel type, before starting the engine first let air in and warm up, till the warm-up indicator goes out.

[START]……it is position in which the engine starts up. Clockwise rotate the key from [ON] position to start the engine. And then release the key and it will go back to [ON] position.

For torque converter vehicle type, only if control lever is in neutral gear position, the engine can start.

Caution

When the engine is not at work, do not place the key to [ON] position to prevent the battery from discharging excessively.

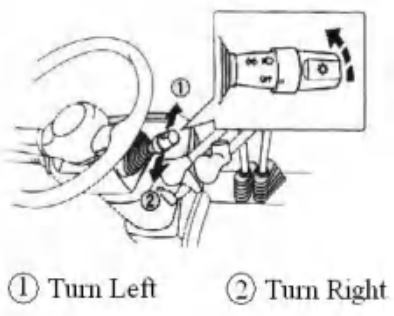
When the engine runs, do not change the switch to [START] position, which will damage the starting motor.

Do not let the starting motor continuously work for over 30 seconds, turn the switch back to [OFF] position and at least 30 seconds later try to start again.

(2) Concentrated light switch and turning signal switch

These two switches are used to control the light and turning signal.

- Light control switch



No matter which position the key switch is in, can this switch open or shut down light. This switch has two positions, in different position, the lamp shines as picture shows.

Caution

When the engine stops, do not light the lamp for long time. That will result in discharging the battery too much and the engine can not be started again.

- Turning signal switch

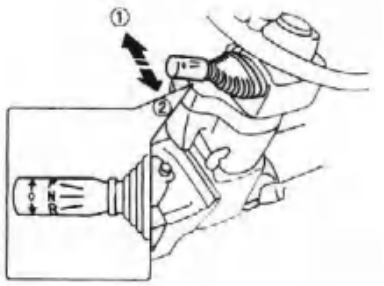
How to make the turning lamp flash:

Left ……..push forward

Right ……pull backward

After direction has been changed, the turning signal lever will return to the original position.

- Control lever



① Forward Lever
② Reverse Lever

It is used for switching between forward and backward moves.

Forward……push forward

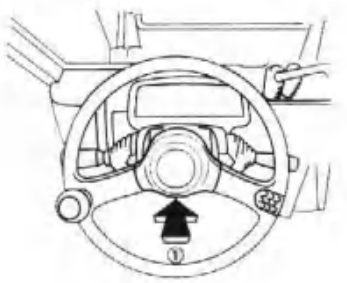
Reverse…….pull backward

Neutral position is in the middle of Forward and Reverse.

Caution

Only when the Control lever is in Neutral position, the engine can be started. When switching between Forward and Reverse, first sop the truck.

- Horn button



① Press

Press the horn button at the center of the steering wheel to make the horn ring.

No matter whether the key switch is turned on or not, press it and the horn will ring.

- Lift lever

① *Raise*
② *Lower*

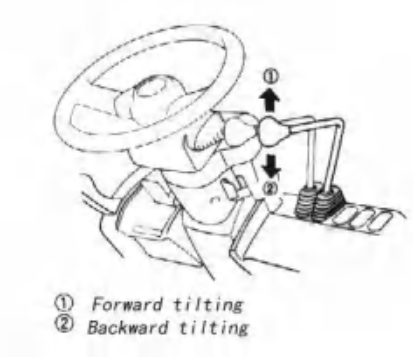
It is used to raise and lower the forks.

Raise ……pull backward

Lower ……push forward

Lifting speed can be adjusted by controlling the lever and accelerator pedal while lowering speed can be adjusted only by controlling the lever.

- Tilt lever



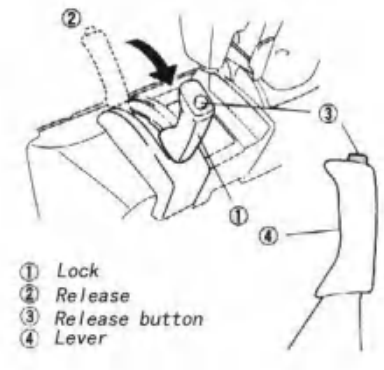
The mast can be tilted by operating this lever.

Forward ……push forward

Backward……pull backward

Tilting speed can be adjusted by controlling the lever。

- Parking brake lever

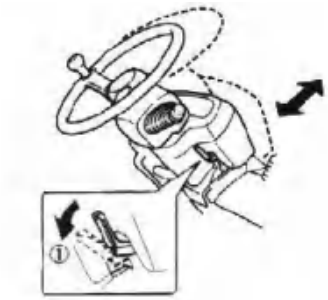


Pull this lever at full tilt to brake the truck. To release the parking brake, press the release button. When operating on this lever, step on the brake pedal.

Warning

Make sure not to grip any parts but the handle in order to avoid clamp the finger. For example, when starting at slope and releasing the parking brake, grip the upper protuberant part of the handle. And when parking at slope, the wheel should be blocked by the triangle wedge brick.

- Tilting turning lever



1. When this lever is lowered, the steering wheel's position can be adjusted backward and forward.
2. Place the lever at a proper position and fix the steering wheel at this position.
3. After adjustment, move the steering wheel to check if it has been fixed.

Caution

First adjust the steering wheel's position before starting the truck. Make sure not to make adjustment while moving. From right to left, they are accelerator pedal, brake pedal and inching pedal.

3.3 Body parts

(1) Driver's seat

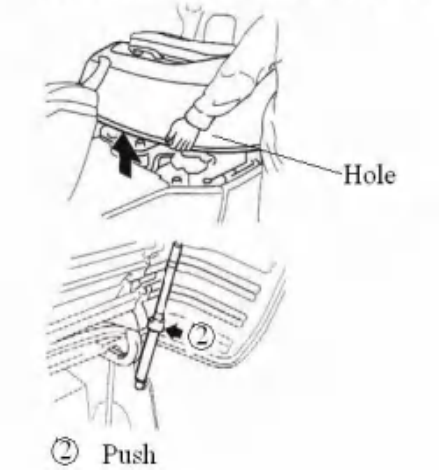
The drive's seat and safety belt is supplied to ensure safety (Safety belt is option). Pull up the adjusting lever and the seat can be moved forward and backward. Draw out the safety belt and fix it tightly.

Caution

After adjustment, move forwards and backwards to make sure the seat has been fixed tightly.

Warning

When driving the truck, the driver must be fastened with the safety belt in the driver's seat. In order to protect the driver in overturned truck accident, the best method is to closely fix the driver on the seat. The seat and safety belt can help protect the personnel's security. If overturn accident happens, do not attempt to get out of the truck, but just grasp the steering wheel part your legs, lean toward the turnover direction, and stay in the forklift truck.



Engine cover

Open

1. Pull back the lock&release lever for engine cover, and the turning pole will tilt forward, and then the engine cover will open.
2. Bring the engine cover up by holding the hole**.**
3. Open the cover entirely, and make the support cylinder locked.

Close

First push the lock, then press the engine cover till it sounds like “ka, ka”.

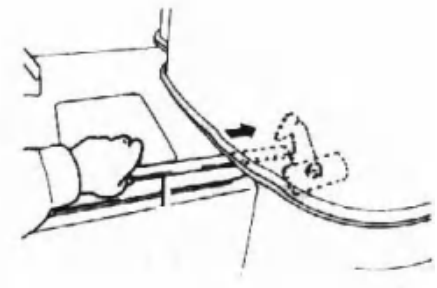
Then pull back the steering wheel to its original position.

Caution

① Make sure that the lock of support cylinder is pushed before closing the engine cover.

② Make sure that the engine cover is locked well before driving the truck, for driving the truck without locking the engine cover is very dangerous.

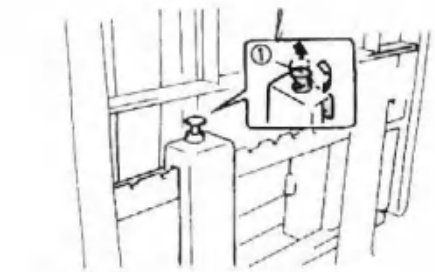
(2) Open at emergency



If the engine cover can not be opened by the means described as above, you can open it in this way:

1. Lower the turning lever and make the turning pole tilt forward. (Please see the figure below)
2. Put a flat to clearance between the engine cover and baseboard. Push the pothook to open the lock.
3. Insert you hand and bring up the cover.

(3) Fork shelf



① lock of fork

Lift all the lock of fork shelf and release them, to make the fork shelf can be moved right and left. Adjust the fork shelf to the position which is most suitable for load.

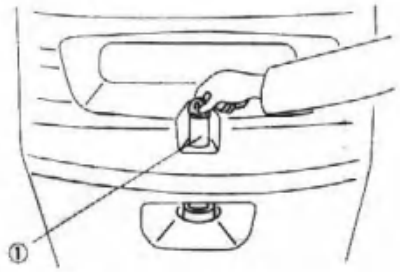
Make the gravity of load just be the gravity of whole truck.

After adjustment, turning the lock to make the fork shelf locked.

Warning

Make sure that the fork shelf is locked before loading goods.

(4) Traction lever



① Traction lever

It is located behind the load and is used to pull the truck when the wheels get into a groove, and also when you want to load the truck onto another vehicle.

Caution

Traction lever can not be used to pull other trucks or vehicles.

(5) How to raise the truck

As the figure shows, raise the truck by pulling the hole in the front and the counter weight.

4. Check before use

Make sure to check before operation and make periodic maintenance, in order to prevent sudden trouble, improve the efficiency and ensure its safe working state.

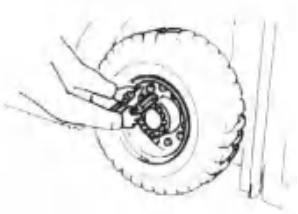
(1) Check the whole truck

If the truck is upstanding:

- Check if the truck leans to one side or another. If it is, then check if the tyres have broken and the walkie system has something wrong.
- Check if there is oil or water leakage where the truck has passed.
- Check if spare parts are loose or damaged.

(2) Check the tyres

Measure the inflation pressure by tyre press meter and adjust it to a proper level.



Standard tyre pressure

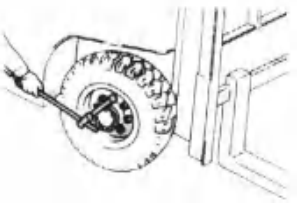
15T/18T: Front—700Kpa Rear—700Kpa

20T/25T: Front—700Kpa Rear—700Kpa

30T: Front—800Kpa Rear—700Kpa

2. After that, check if there is air leaking.

Check if the tyre is damaged, and the wheel is bended.



(3) Check the nut of hub

Check the tightness degree of nut. Screw down the nut and avoid asymmetric torque.

Tight torque: 15T/18T: Front—150-200N·m

Rear—150-200N·m

20T/25T: Front—250-300N·m

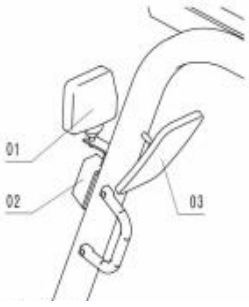
Rear—150-200N·m

30T/35T: Front—450-600N·m

Rear—150-200N·m

(4) Check the lights

Check if the filament and light glass are all in good condition and keep the lights clean.



(5) Check and add the engine coolant

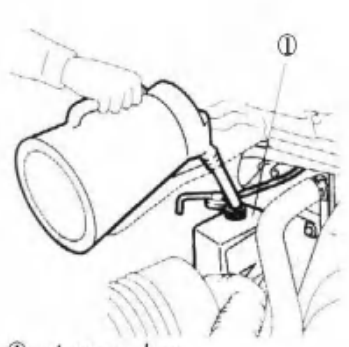
This should be carried through after the engine coolant is cooling.

- Stop the engine, open its cover, check the coolant level in the storage box.

Note: if the radiator falls short of coolant, the radiator with the storage box will supply with the coolant.

- The coolant level can lie between upper limit and lower limit. When the level is below the lower limit, add the coolant to the upper limit.
- The concentration of long life coolant (shorten as LLC) in engine coolant must be kept 50%.

Note: if there is no engine coolant in the storage box, the coolant level in the radiator also needs to be checked.



① storage box

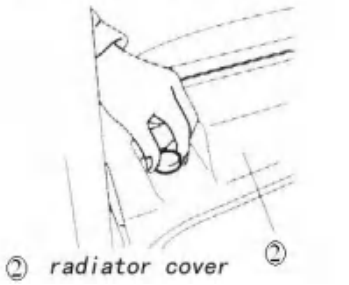
- How to check the coolant level in the radiator.

1). Take off the radiator cover.

2). Check the coolant level from the fluid adding hole.

3). If the coolant cannot be seen from the fluid adding hole, add some dilute LLC.

Note: when shutting and screwing down the radiator cover, make the thorn in the rear side of the cover aim at the gap of the fluid adding hole, press down and at the same time, revolve clockwise to the end.



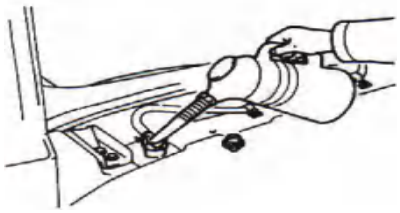
② radiator cover

Warning

When the engine cover is hot, it is dangerous to take off the cover. Check the coolant when the engine is cooling down.

(6) Check the hydraulic oil level

To check the hydraulic oil level, first park the truck on the flat, stop the engine and lower the fork shelf to the ground.

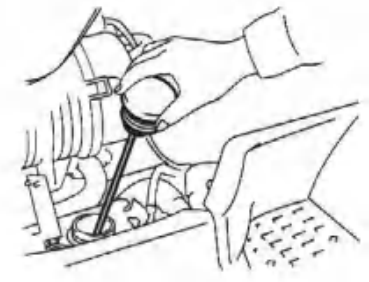


1). Open the engine cover and take off the oil lid.

2). Wipe the oil meter in the oil lid and put it into oil box.

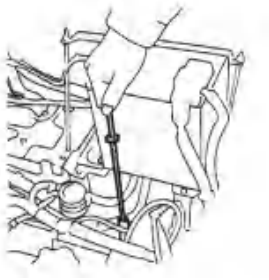
Note: put the oil lid entirely to check the oil level.

3). Draw out the oil meter gently, and see if the adherent oil is above the set line.



Note: the full mark on the oil meter and capacity are different according to different model.

4). If the hydraulic oil is not enough, add to the mark scale, and wipe out the spilled oil.



(7) Check the oil level

1). Park the truck on the flat. Otherwise, the reading is not correct.

2). Make sure that the engine is not working when checking oil level.

3). Draw out the oil meter and wipe out, insert and draw out again to see if the oil is between F line and L line.

4). If the oil is below L line, add more to get F line.

Adding oill

1). Uncover the oil lid, and add oil from the oil adding hole. Make sure not to let the oil exceed F line.

2). Use different type of oil in different season.

SAE No.30: above16℃

SAE No.20: below 16℃

Caution: If possible, it is better to use oil of the same trademark.

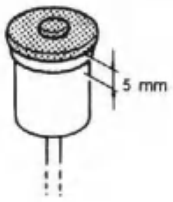
Check of leakage

Check the engine to make sure there is no leakage of water or oil.

(8) Check of brake liquid

Stop the engine and check the level of the brake liquid, which is supposed to lie within the range showed as the figure.

Make sure the brake liquid is upper than the lower limit, and if the truck consumes the brake liquid too fast, make it checked to see if there is leakage matter in the brake system.



Warning

Do not use any type of oil except for brake liquid.

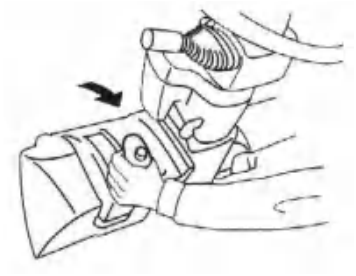
Do not let any impurity enter the storage box. For it is very dangerous that only a little impurity can influence the truck's brake.

(9) Check of brake pedal

1). Step the brake pedal on to check the floor clearance (clearance between the pedal and floor)
2). Make sure that in brake state, the brake pedal which is stepped will not slip downwards.
3). Make sure the pedal can be stepped down and revert normally.

4). To check the free extent of the pedal, press the pedal by your hand till feeling the resistance.

(10) Check of handle brake



Check the force needed for pulling the handle brake to end by hand. (standard force: 250—300N·m)

Warning

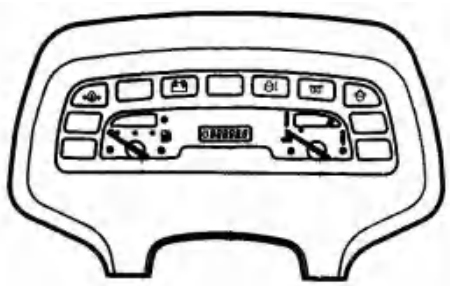
If you find something abnormal, please make it checked by our agents.

(11) Inching and brake pedal (for torque converter type truck)

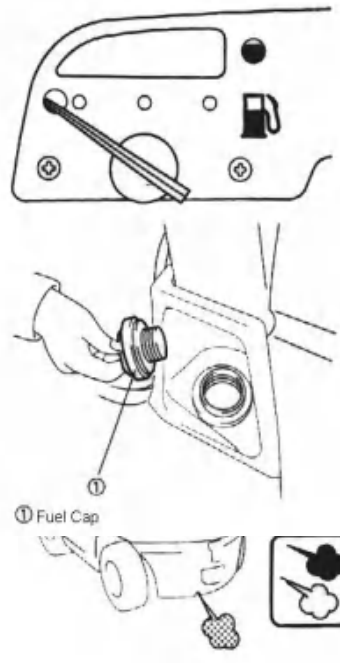
1. Press the Inching and brake pedal by your hand till feeling the resistance in order to check the free extent.
2. Step down the Inching and brake pedal and check if there is something wrong.

(12) Check of meters

Start the engine and make sure the meters are all right.



(13) Check of fuel's level and Adding



1). Look over the fuel meter to check if the fuel is enough.
2). To add fuel, first stop the engine, screw counter-clockwise the lid and add the fuel.
3). After adding fuel, be sure to screw down the lid.

Caution

Before and during adding fuel, smoke and fire are strictly prohibited.

And during adding fuel, be careful not to make water or dirt go into the oil box**.**

(14) Check of engine

Start the engine to warm it up.

1). Check all the meters and indicators.

2). Check if the engine makes any abnormal noise or vibration.

3). Check if the color of exhaust is normal:

Achromatic or baby blue exhaust means complete burning; black exhaust means incomplete burning and white exhaust means that the oil is burned together with the fuel.

Warning

The exhaust is harmful. So when using the truck indoors, make the ventilation in good condition.

(15) Loading and unloading system

1). Check if the fork shelf has any crack or bending.

2). Check if there is distortion of poles, if the chain is too tight, and if the oil leakage happens.

3). Check the lifting lever and tilt lever by operating them.

(16) Check of steering wheel

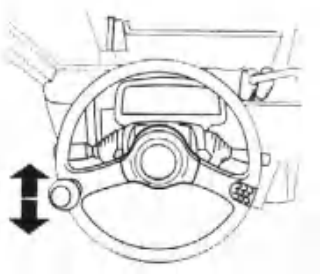
Note: after starting the engine, check by the following procedure:

1). Make the rear wheel go straight, and check the free extent of the steering wheel. (standard free extent: 30mm or less)

2). Turn the steering wheel and move it up and down to check if it is loose.

3). Press the horn button to check if the horn sound is normal.

4). Inspection of Hydraulic pressure



- Verify that the fluid level in the hydraulic fluid tank is appropriate and remove the plug from the control valve port.
- Install pressure gauge to port.
- Start the engine. Turn the steering wheel left and right by two or three rotations.
- Run engine at idling, turn steering wheel fully right or left, and then apply power in the turning direction.
- Read the pressure gauge and return the steering wheel to the straight-ahead position. Check that the measured hydraulic pressure is within the specified range. Standard [Mpa (kg/cm^2)]:17.5

When driving at a low speed (for truck of torque converter type)

Step on inching pedal to check the joggle state of clutch.

Caution

After confirming the levers are all right, make the above check at a low speed.

(17) Brake effect

Step on the brake pedal to check if there is something abnormal or single-side operation. Pull the handle brake to check if the truck can stop and return to the stop state.

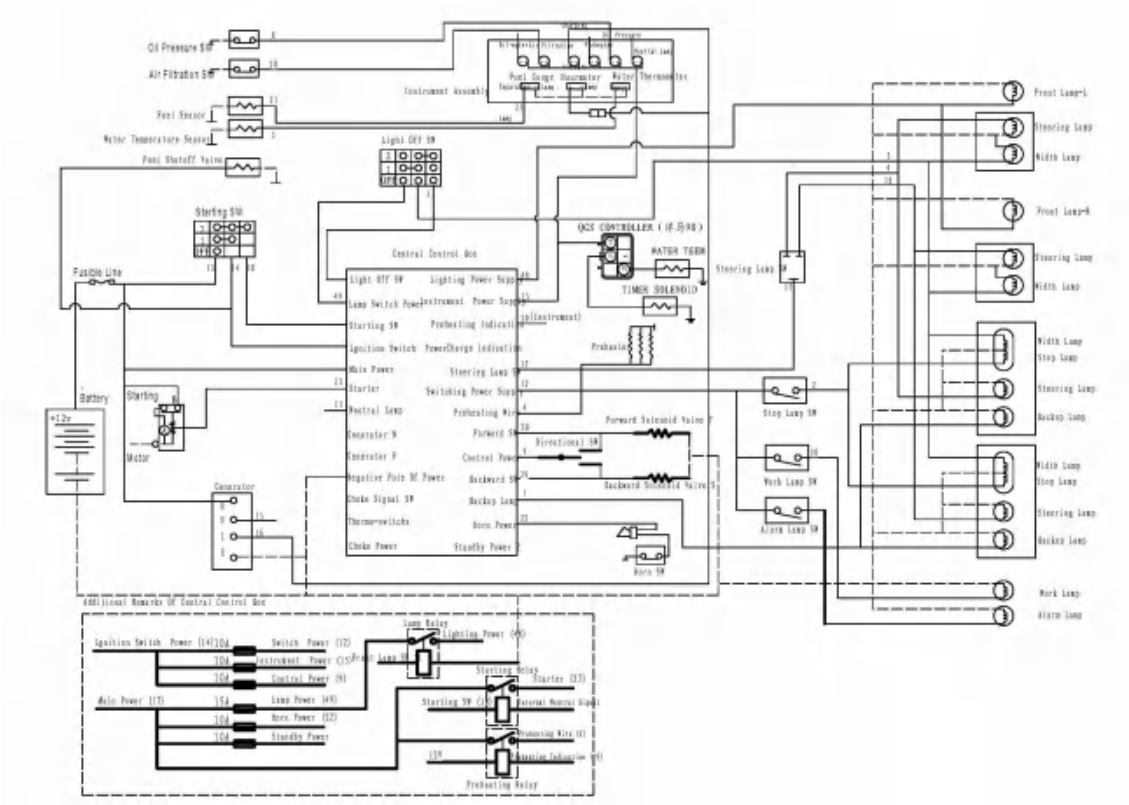
At a safe place drive the truck at a low speed to check if the steering wheel is good.

5. Electrical

Warning

Before checking or servicing electrical system, you have to turn off switch and disconnect the battery.

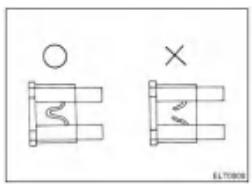
(1) Electrical diagram



In the electrical diagram, Meters are:

1. Warning indicator for oil pressure
2. Charge indicator
3. Temperature alert indicator for torque converter oil
4. Warm-up indicator
5. Warning indicator for deposition cup
6. Water thermometer
7. Fuel meter
8. Timer

(2) Inspection / Replacement of Fuses



Check and replace the fuses as necessary by referring to the figure. If the fuse looks like “NO”, replace with a new one. The new fuse should

be of the same specification as listed.

	Description	Capacity
1	Head Lamp	15A
2	Horn	10A
3	Instrument	10A
4	Panel Power	10A
5	Control Light	10A
6	Spare Fuse	10A

(3) Replacement of Bulbs

When replacing any burnt bulb, refer to the table below.

Lamp Type	**Capacity**
Head lamp	12V/18W
Front Turning lamp	 12V/21W
Rear lamp	12V/3W
Instrument Warning lamp	 12V/3W

6. Lifting Mechanism

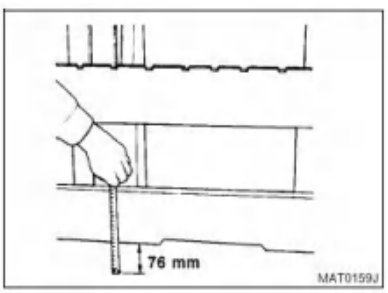
6.1. Inspection of Fork

• Visually inspect the fork and replace it if cracked or damaged. (To identify minute cracks, use the dye penetrant method.)

• If the fork is worn by 3 mm or more compared to a new one, replace it. (The grounding face at the fork base is prone to wear.)

6.2. Inspection /Adjustment of Carriage Height

(1). Set the mast upright and fully lower the carriage.



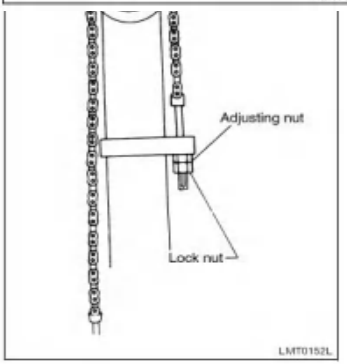
CAUTION:

• Before inspecting and adjusting the carriage height, remove the fork or park the vehicle in a place where the fork will not be grounded.

(2). Measure the distance from the ground level to the carriage bottom end to see if it fulfills the following criterion.

[**Standard (mm): 76**]

(3). If not as specified, loosen the lock nut and adjust with the lift chain adjusting nut.



6.3. Inspection / Adjustment of Lift Chain Tension

CAUTION:

• Before this maintenance work, always ensure that the carriage height is appropriate.

(1). Set the mast upright and raise the fork by 20 to 30 mm from the ground level.

(2). For the 2W mast, pull the lift chain at the middle point and check the deflection. For the 2F and 3F masts, press the lift chain at the middle point and check the deflection.

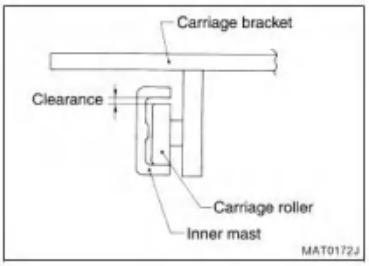
[**Standard (mm): 25 – 30**]

(3). If the deflection is outside the specified range, loosen the lock nut and adjust the chain tension with the lift chain adjusting nut.

CAUTION:

• Ensure that equivalent tension is applied to the left side and right side of the lift chain.

• After adjustment, always check the carriage operation for smoothness.



6.4. Inspection of Carriage Roller

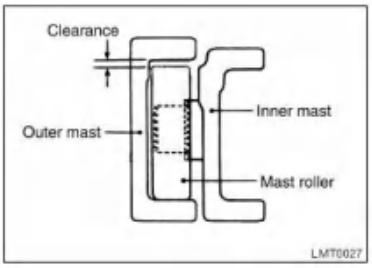
• If the carriage roller doesn't operate smoothly or has undergone deformation, stepped wear or damage, replace it.

• Check the clearance between the carriage roller rolling face and the inner mast. If the clearance is outside the specified range, replace the carriage roller with a new one with an appropriate size. [**Standard(mm): 0.1 – 0.6**]

6.5. Inspection of Mast Roller

• If the mast roller does not operate smoothly or has undergone deformation, stepped wear or damage, replace it.

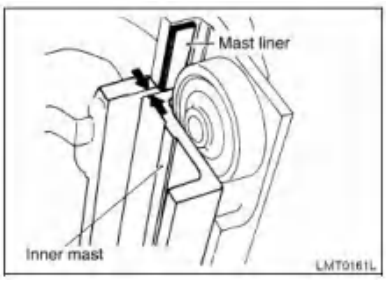
• Check the clearance between the mast roller rolling face and the mast rail. If the clearance is outside the specified range, replace the mast roller with a new one with an appropriate size. [**Standard (mm): 0.1 - 0.8**]



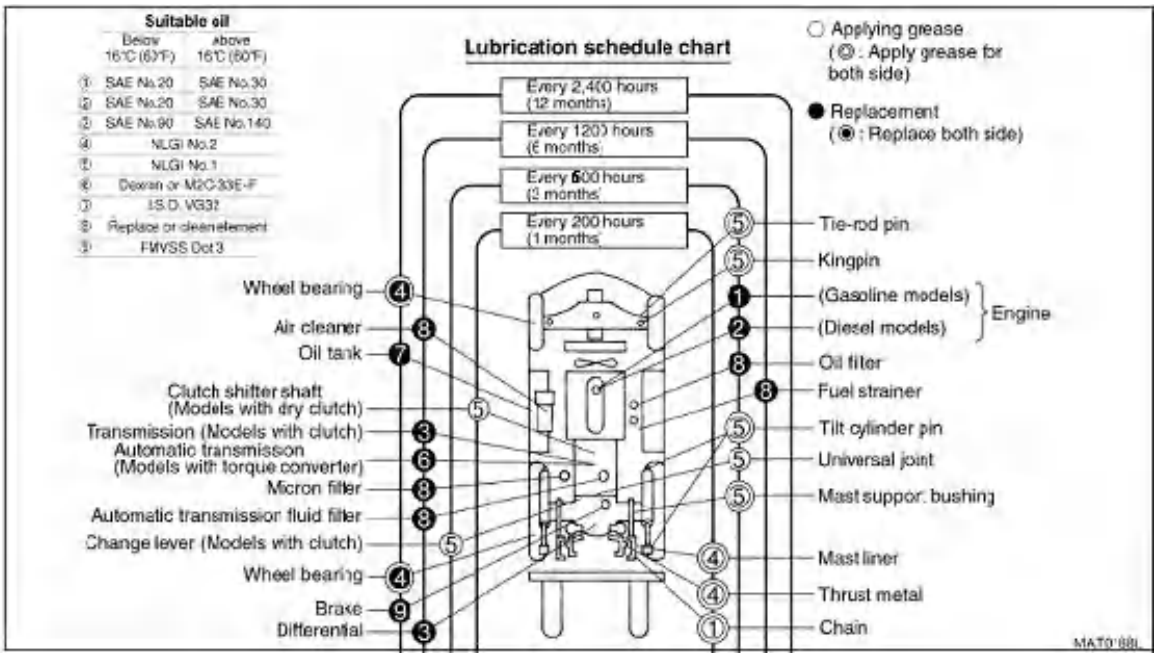
6.6. Adjustment of Mast Roller Clearance

(1). Visually inspect the mast liner. Replace it if worn excessively or damaged.

(2). Check the clearance between the mast liner and the inner mast. If not as specified, adjust the clearance using the shims. [**Standard (mm): 0.1 - 0.6**]



7. Lubricating chart



8. Weekly maintenance

Caution: do not neglect any small abnormal cases, which can result in serious accident.

In operation, if something abnormal happens, immediately stop working and check the truck.

Besides, the following items should be checked, too.

Weekly (every 40 hours) check items

Air cleaner--------clean

Fan belt----------check

Oil level of torque converter----------check

Bolt and nut---------retighten

Cylinder and turning lever---------lubricate

Chain---------lubricated by oil

8.1 How to clean the air cleaner

① filter core

Take out the filter core by removing the three buckles.

Clean the filter core

(1). Tap the filter paper without making any breakage or blow off the dirt by compressed air (7kg/cm2 or below).

(2). Then get rid of the dirt in the vacuum valve.

Note:

1). If the filter paper has been torn or broken, replace it with a new one.

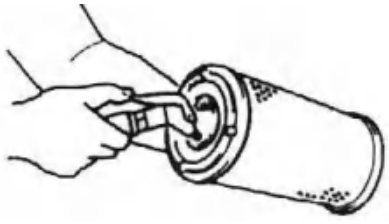
2). Clean the filter core if it has been stained much.

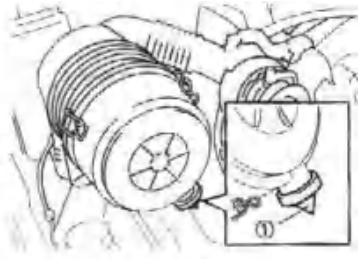
8.2 How to clean the filter core

(1). Soak the filter core in the water with neutral scour about 30 minutes and then clean it.

(2). Rinse out the filter core by clean water (hydraulic pressure is lower than 8kg/cm)**.**

(3). Make it dry naturally or by cool wind from a blower, but not by compressed air or fire.

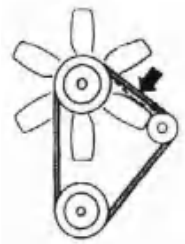




① vacuum valve

Note:

Replace the filter core after 6 times of cleaning or using for one year. And it is very important to replace the inner and outer filter cores together.



8.3 Check of fan belt

Check if the fan belt is broken and tight.

8.4 Check oil of torque converter

(1). Park the truck on the flat， put the lever in neutral gear, and start the engine at a high speed, and then check the oil of torque converter.

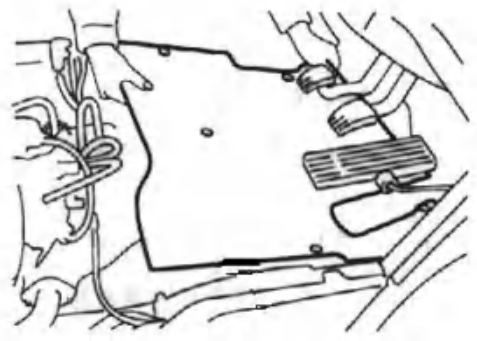
Caution: when checking, pull on the parking brake lever and put the fork shelf on the ground.

(2). Open the engine cover and take out front floor board.

(3). Take out the oil meter and wipe it out.

(4). Put it back and take out again to see if the oil gets to the scale line.

(5). If the oil just approaches or lies under the scale line, add more oil up to the scale line.



8.5 Re-tighten the bolts and nuts

Every blot and nut in the chassis and loading and unloading system needs to be tightened again.

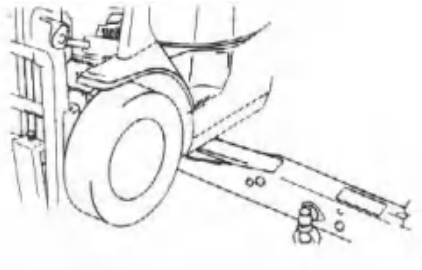
8.6 Lubricate the cylinder and turning lever

Please follow the lubricating table.

Caution: before lubricating, clean the sharp-tongue of lubricator, and after lubricating, wipe off the overflowed lubricant.

9. Repair by users

9.1 Replace the tyres



Take proper safety measures to prop up the truck by a jack. Do not get under the truck or the fork shelf.

If the rim is removable, before loosening the nut and the bolt be sure to eject the air from the tyre.

If the tyre pressure is too high, it is easy to make rim distorted or broken, so don't exceed the right tyre pressure.

(1) Front wheels

- Unload the truck and park it on the flat.
- Pull on the parking brake, and block up the truck by Putting a triangle wedge brick under a front wheel, and insert the jack there. And make sure that the jack is positioned well.
- Jack the truck till the wheel is leaving the ground, and loosen the nut.
- Ejecting the air in the tyre, screw up the nut and take off the wheel.
- After replacement, install the wheel by the opposite sequence.
- Check and adjust the air pressure of the tyre.

(2) Rear wheels

- Park the truck on the flat**.**
- Pull on the parking brake, and block up the truck by putting a triangle wedge brick under a rear wheel, and insert the jack there.

Caution

If the rim is removable, before loosening the nut and taking off the tyre, be sure to eject the air from the tyre first.

- Loosen the nut when the wheel is leaving the ground.
- Ejecting the air in the tyre , screw up the nut and take off the wheel
- After replacement of the tyre, install the wheel by the opposite sequence.
  Note: place the jack just under the load.
  Screw down the nut by the same sequence as the front wheel.
- Check and adjust the air pressure of the tyre.

9.2 Replace the fuse

If the lights or indicator or electric devices can not work properly, check if some fuses are burned out. The fuse case is in left front of the engine room.

Note: for the fuses and their corresponding devices, please refer to the electric diagram.

Replace the fuse by the following sequence:

(1). Turn the key switch to OFF position.

(2). Uncover the fuse case and take the clamp.

(3). Clamp the fuse and get it out.

(4). If the fuse is broken, replace it with a new one.

Caution: the new fuse should be of the same specification as the old one. See Electrical Data.

9.3 Clean the air of fuel system

Clean the air by the following sequence when the fuel has been used up or maintaining the fuel system.

(1). Open the engine cover.

(2). Operate the pump to make the air go out.

9.4 Drainage of the deposition cup

(for diesel engine type)

Deposition cup separate the water from the fuel and is integrated together with the fuel filter.

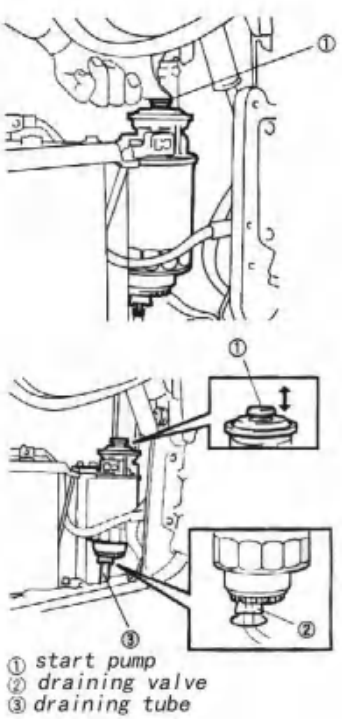
If the indicator for deposition cup lights up, it means that the water in deposition cup has exceeds the set level and should be drained.

(1). The water will be drained from the drainage tube under the fuel filter.

(2). Turn the drainage valve one or two round and operate the pump to make the water draining.

(3). When the oil begins to get out, screw down the drainage vlave.

Caution: Wipe off the oil around.



9.5 Maintenance of the battery

(1). Loose and corroded terminal will cause bad connection. If there is white powder on the terminal, get rid of the powder by splashing hot water to dissolve them and then lubricate the terminal by grease.

(2). If the terminal is corroded seriously, take it from the battery and get rid of the corrosion by sand paper or steel wire. Then connect the terminal to the battey and coat with grease.

Note: disconnect the cathode terminal before doing with other terminals.

Caution

1).Stop the engine before doing with the battery and terminals.

2).Fix the cover tightly, and do not let anything enter the battery.

3).Do not short circuit the battery and keep any fire away, as the gas sent out from the battery is flammable.

4).Do not touch the electrolyte. If the electrolyte spatters into eyes or onto skin, clean with lots of water at once.

5).In well ventilated place, take off the lid and charge the battery.

6).Wash the places where the electrolyte has spilled.

10.LPG Operation

LPG fuel system consists of LPG cylinder, petrol solenoid valve，LPG solenoid valve with filter, LPG vaporizer，adapter，LPG-petrol select switch and level indication. passing through the combination valve, the high-pressured pipe, the filter，and the solenoid valve in sequence，enters the LPG vaporizer to vaporize，then mix with air in certain proportion in the adapter, and combust in the engine cylinder to drive the forklift truck to work

10.1 LPG filling & replacing

Replace the LPG cylinder when fuel in it is used up as following: shut off the outpouring valve，disconnect the female body from the LPG cylinder，cover a dust cap on the valve tie-in （H2-63）, and get the LPG cylinder away from the truck to a LPG filling station to refill the LPG. Fill LPG as following: Lay the LPG cylinder flat, and set the charging limit valve upward(the level indication is exactly 60°to the horizontal line), then screw off the dust cap on the charging valve，plug the filling connector, open the limit charging valve to charge LPG till 80% rated volume of the container is full (the charging device is automatically closed when 80% rated volume of the container is full)，take out the filling connector，screw down the dust cap and the charging limit valve。Secondly，install the LPG cylinder to the truck by a certain angle (the level indication is exactly 60°to the horizontal line)，connect the female body，open the outpouring valve，check and eliminate it if there is any leak before starting the truck. Close the outpouring valve after every task。

10.2 Operating the select switch

(1). Switch to the GAS position，the fuel for the engine is LPG。

(2). Switch to the PET position，the fuel for the engine is petrol。

(3). Switch to the neutral position，neither is in use。

10.3 Starting up the engine

(1). By petrol

Shut off LPG，switch on the petrol switch for several seconds，after petrol is flowing into the floater room of the carburetor，turn the ignition key to start the motor-----the engine is started by petrol。

(2). By LPG

a. Starting up when there is no petrol in the carburetor：If there is no petrol in the carburetor before starting-up，you could start up the engine directly by LPG，that is，to shut off the petrol

switch，but switch on the LPG switch for several seconds，turn the ignition key to start the motor-----the engine is started by LPG。

b. Starting up when there is petrol in the carburetor：It is some difficult to start up when there is petrol in the carburetor，you should switch the select switch to the neutral position，start up the engine by petrol。After petrol in the carburetor is used up and the engine is halted，switch on the LPG switch，turn the ignition key to start the motor-----the engine is started.

10.4 Change fuel during the engine runs

a. Change from LPG to petrol:

Switch the select switch from GAS position to PET position directly, then the engine use the petrol as fuel instead of LPG.

b. Change from petrol to LPG

Switch the select switch from the petrol position to the neutral position, when the petrol in the Carburetor nearly finished, and the engine speed decline, then select the switch to the LPG position swiftly, and the engine use the LPG as fuel.

10.5 If there is LPG leak during operation，shut off the LPG switch and the outpouring valve at once，check every part and all connection to see if there is leak or loose，and get rid of it in time。Fuel by petrol before malfunction is removed。

10.6 Choose 90# petrol or LPG special for vehicle as fuel for the truck。Otherwise it may affect the ignition veracity and decline the motive performance。

10.7 If there is 10 minutes halt，you should shut off the LPG switch and the outpouring valve.

10.8 It is suitable to keep water in the radiator in the range 70^0C~85^0C during operation.

11. Periodical maintenance

Periodical replacement schedule

Replacement term (by the total hours or months of operation, make the prior standard)	6Weeks 200	3 600	6 1200	12Month 2400H
Engine oil		●	●	●
Oil filter		●	●	●
Cooling water (LLC once every two years)				●
Air cleaner		●	●	●
Fuel cleaner		●	●	●
Oil of torque converter		●	●	
Torque converter filter			●	●
Oil of Speed difference gear			●	●
Hydraulic oil			●	●
Hydraulic oil filter			●	●
Brake fluid				●
Dynamic turning hose				2years
Dynamic turning spare rubber parts				2years
Hydraulic hose				2years
Standby oil box hose				2years
Fuel hose				2years
Torque converter rubber hose				2years
chains				2years

Periodical maintenance schedule

Inspection / Service Item	6Weeks 200	3 600	6 1200	12Month 2400H
Inspection of cylinder head tightening				●
Inspection of manifold tightening				●
Inspection /adjustment of valve clearance				●
Compression pressure inspection				●
Inspection/adjustment of fan belt	●	●	●	●
Inspection of engine oil level	●	●	●	●
Inspection of coolant level	●	●	●	●
Radiator inspection	●	●	●	●
Radiator cap inspection				●
Draining of fuel filter (diesel)	●	●	●	●

Inspection/adjustment of fuel injection nozzle for injection pressure (diesel)				●
Inspection of fuel injection nozzle for injection status (diesel)				●
Inspection of fuel injection timing (diesel)				●
Inspection/adjustment of idling speed	●			●
Inspection / adjustment of maximum rpm under loaded and unloaded conditions	●			●

Checking terms (by the total hours or months of operation, make the prior standard)	6 weeks 200	3 600	6 1200	2months 2400 **H**
Transmission				
Torque converter and transmission				
1．Leakage of engine oil	●	●	●	●
2．Function and looseness of the operation device	●	●	●	●
3．Function of control valve and clutch	●	●	●	●
4．Function of inching valve	●	●	●	●
Driving system				
Wheels				
1. Tyre pressure	●	●	●	●
2. The chopping mark, damage and asymmetrical pattern of the tyres	●	●	●	●
3. Looseness of rim and nut bolt	●	●	●	●
4. Deepness of the tyre pattern	●			
5. Sheet metal, stones, and other dirt in the tyre	●	●	●	●
6. Damage of rim, side ring, and plate-style wheel	●	●	●	●
7. Abnormal noise and looseness of front wheel axle	●	●	●	●
8. Abnormal noise and looseness of rear wheel axle	●	●	●	●
Front axle				
9. Break and damage of axle cover	●	●	●	●
Steering system				
Check the following items of steering wheel				
1．Free extent and looseness	●	●	●	●
2．Working state	●	●	●	●
3. Steering valve	●	●	●	●
4. Leakage of oil	●	●	●	●
5．Assembly looseness	●	●	●	●

6. Turning section	●	●	●	●
7．Looseness of main pin of the turning section	●	●	●	●
8．break and distortion	●	●	●	●
Brake system				
Brake pedal				
1．Free extent and floor clearance	●	●	●	●
2．Brake effect	●	●	●	●
Parking brake				
3．Operation force	●	●	●	●
4．Brake effect	●	●	●	●
5．Looseness and damage of the shaft and cable	●	●	●	●
Brake pipe and hose				
6．Leakage, break, and assembly condition	●	●	●	●
Brake oil				
7．Brake oil level	●	●	●	●
Main pump and wheel brake pump				
8．Function, damage, and assembly looseness			●	
Brake drum and brake shoe				
9. Clearance between brake drum and frictional patch			●	
10. Slip of brake shoe and wear of frictional patch			●	
11． Wear and damage of the brake drum			●	
12. Working state of brake shoe			●	
13. Rust of anchor pin			●	
14. Wear of return spring			●	
15. Automatic adjustment for functions			●	
Bear plate				
16.deformation, crack and damage	●	●	●	●
17.Assembly looseness	●	●	●	●
Loading and unloading system				
Fork shelf				
1.State of fork shelf and anchor pin	●	●	●	●
2. Uniformity of the left and right fork shelfs	●	●	●	●
3. Crack of the fork shelf base and jointing part	●	●	●	●
Cylinder and lifting shelf				
4. Deformation, damage and crack of jointing part	●	●	●	●
5. looseness of cylinder and lifting shelf	●	●	●	●
6. Wear and damage of cylinder’s lining	●	●	●	●

7. Wear, damage, and rotating condition of roller	●	●	●	●
8. Wear and damage of the roller pin	●	●	●	●
9. Wear and damage of the cylinder's slideway	●	●	●	●
Chain and chain wheel				
10. Chain's tension, deformation and damage	●	●	●	●
11. lubricating the chain	●	●	●	●
12. Condition of the chain's foot bolt	●	●	●	●
13. Wear, damage, and rotating condition of the chain wheel	●	●	●	●
Hydraulic system				
Hydraulic cylinder				
1. looseness and damage of hydraulic cylinder	●	●	●	●
2. Distortion and damage of piston shaft and bolt	●	●	●	●
3. Working of the hydraulic cylinder	●	●	●	●
4. Naturally falling and pitching	●	●	●	●
5. Leakage of oil	●	●	●	●
6..Wear and damage of the bolt and cylinder's bearing bracket	●	●	●	●
7.lifting speed	●	●	●	●
8.Asymmetrical movement	●	●	●	●
Oil pump				
9.Abnormal noise and leakage of oil	●	●	●	●
Hydraulic oil box				
10. Oil level and impurity	●	●	●	●
11. oil filter of oil box	●	●	●	●
12. leakage of oil	●	●	●	●
Control lever				
13.Looseness of shaft	●	●	●	●
14. Working state	●	●	●	●
Oil control valve				
15.oil leakage	●	●	●	●
16.Decompression measure	●	●	●	●
17.Function of decompression valve and tilt lock valve	●	●	●	●
Oil pressure pipe				
18.oil leakage	●	●	●	●
19.Distortion and damage	●	●	●	●
20.Looseness of shaft	●	●	●	●

Electrical system (Checking the following items)				
Starter system				
1. Crack of implements cover	●	●	●	●
2. Burn of spark plug			●	
3. burn of the side terminal	●	●	●	●
4.wear and damage of crosshead on implements cover	●	●	●	●
5. Disconnection inside the plug wire	●	●	●	●
6. Ignition timing	●	●	●	●
Starter				
7. Joggle of pinion		●	●	●
Charger				
8. Charging effect	●	●	●	●
Battery				
9. Cable connecting looseness	●	●	●	●
10. leakage	●	●	●	●
Electric circuit				
11. damage of the wire	●	●	●	●
12.Fuse	●	●	●	●
Warmer				
13.Crack of the warmer' resistance coil	●	●	●	●
14. open circuit in the air-in heater	●	●	●	●
Safe installation				
Head protector				
1.crack of jointing parts	●	●	●	●
2. Distortion and damage	●	●	●	●
Lighting system				
3.Working state	●	●	●	●
Horn				
4.Working state	●	●	●	●
Direction indicator(optional)				
5.Working state	●	●	●	●
Meters				
6.Their working state	●	●	●	●
Buzzer(optional)				
7.Working state	●	●	●	●
Driver's seat				
8.Looseness and damage	●	●	●	●

9. Damage of the seat belt	●	●	●	●
Body of the truck				
10.damage and crack of the frame and beams	●	●	●	●
11.Looseness of the bolts	●	●	●	●
Rearview mirror				
12. Damage and dirt on it	●	●	●	●
13.Reflection of rear view	●	●	●	●

Note: in heavy operation condition, check the truck every 170 hours or every month.