

OPERATORS MANUAL

Starke EcoMaxx Series

FD120



STARKE MATERIAL HANDLING GROUP

402 Allanburg Road • Thorold, ON L2V 1A4 • Canada

TOLL FREE 877-435-4352

www.starkeforklift.com • info@starkeforklift.com

STARKE
ECOMAXX

FOREWORD

The forklift adopt the latest system of wide-view mast, hydraulic transmission, automatic pressure-increasing brake etc. and has the high quality engine and instruments to go with it. So it has the advantages of high performance, convenient operation, wide visibility, flexible steering system, reliable brake system, powerful engine, low noise, environment-friendly emission and cool exterior.

The brochure has the brief introduction of the 12t internal combustion counterbalanced forklift, including parameter, structure of main components, working theory, operation and maintenance. In order to help driver understand the forklift better and get the utmost out of it, please read this brochure carefully before the operation.

Please strictly comply the regulations and notices in the brochure, aboratively operate the forklift and get the utmost out of it.

We reserve the right to make any changes in the specifications without prior notice.

STATEMENT

Vehicles under the manual are special-purpose vehicles for specific places such as factory, tourist attraction, playground etc. according to « Special Equipment Safety Supervision Regulations » .

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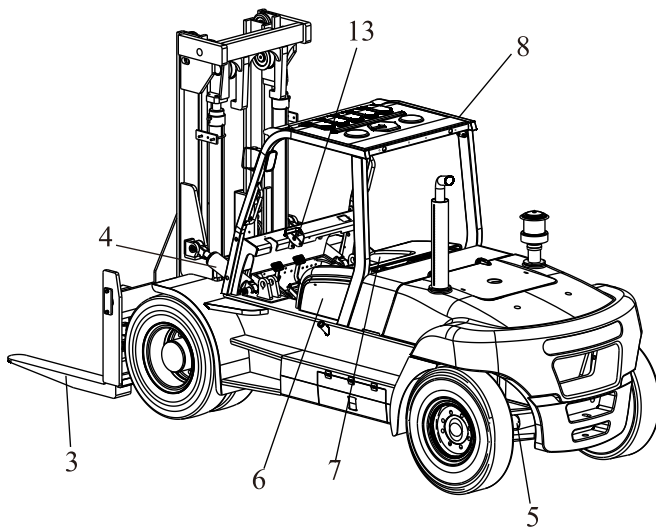
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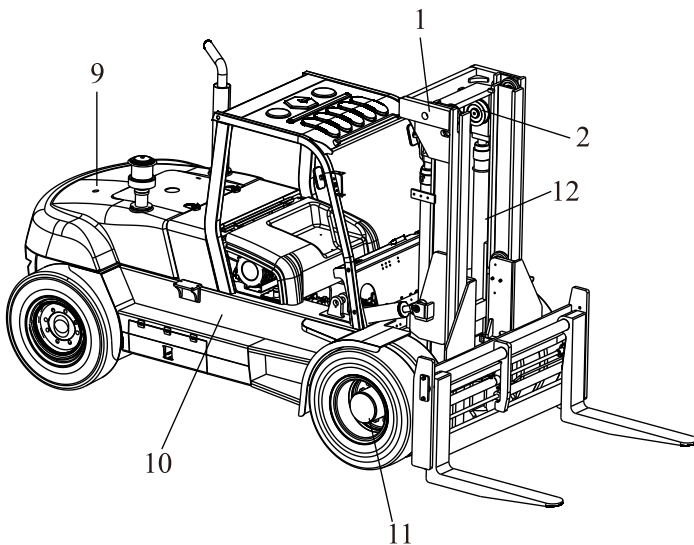
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I . Forklift components description and warning marks

MAIN COMPONENTS

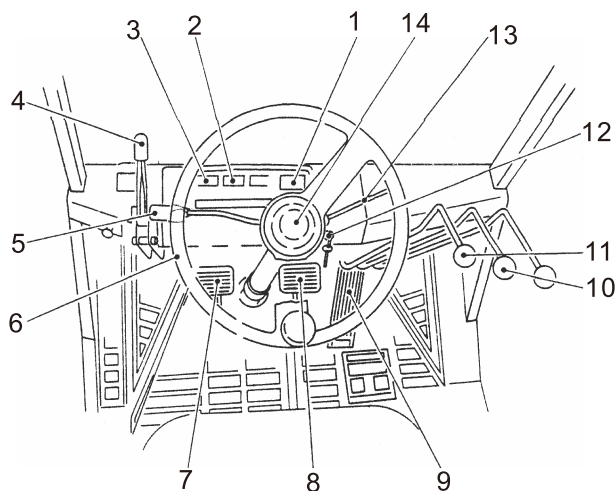


- 1.Mast
- 2.Chain
- 3.Fork
- 4.Tilt cylinder
- 5.Rear axle
- 6.Engine hood
- 7.Oprator's seat
- 8.Head guard



- 9.Counter weight
- 10.Frame
- 11.Drive axle
- 12.Lift cylinder
- 13.Steering wheel

DRIVING CONTROLS AND INSTRUMENT PANEL



1.Hour Meter

3.Fuel Gauge Horn button

5.Forward-reverse lever

7.Inching Pedal

9.Accelerator pedal

11.Lift lever

13.Light control and turn signal switch

2.Coolant Temp Gauge

4.Parking brake lever

6.Steering wheel

8.Brake pedal

10.Tilt lever

12.Ignition switch

14.Horn Button



(1)START

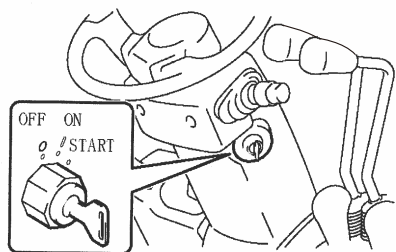
Check method of each warning lamp

Please check if all warning lamps come on when the ignition switch is set ON.

Note:

Use the light control switch to check the meter lighting lamp.

SWITCHES AND LEVERS



Ignition switch

(OFF).....Engine stop position. Key insertion and withdrawal are performed in this position.

(ON) Engine operation position . Located one position clockwise from (OFF) position . The intake heater is preheated before starting in the diesel model .

START.....Engine, start position . Located one position

clockwise from the (ON) position .

After engine starting , release the key and it will return to the (ON) position automatically .

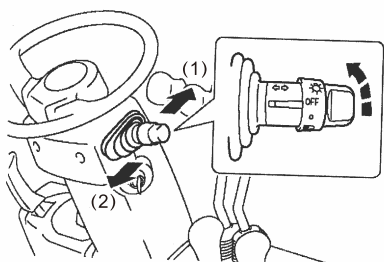
In the torque converter model , the engine does not start unless the control lever is in the neutral position .

Caution

- Never operate the ignition switch without firstly sitting on the seat .Otherwise , the forklift could start to move uncontrolled , causing an accident .
- Do not leave the switch in the (ON) position when the engine is stopped . It may cause over discharge of the battery .
- Do not turn the switch to the START position while the engine is running .
- For the sake of safety it is recommended to always start the engine of a vehicle with the transmission gear shift lever shifted in the neutral position .
- Do not operate the starter motor for more than 30 seconds continuously . Return the switch to the (OFF) position and wait at least 30 seconds prior to attempt restarting .

Caution

- In case of the anti-restart ignition switch (optionally available) , be sure to shift the switch to the (OFF) position before attempting to start the engine again .
- When the ignition switch OFF (engine off) , the fork will not move down even if the lift lever is so operated . However , if you sit in the seat and turn on the ignition switch , you can lower the fork . Do not operate the lift lever before getting on the vehicle and starting the engine . (key off lift lock)
- If the diagnosis lamp does not go off even when the operator sits on the seats , the battery power may be low . In such a case , do not drive the vehicle until the lamp goes off , otherwise the vehicle may not be operated properly . If you are obliged to drive the vehicle , do so with utmost care . Also , stop driving and ask a dealer for inspection if the lamp does not go off 1-2 minutes after the engine starting , or when you race the engine for a while . (For diesel vehicles, the diagnosis lamp may be lighted for a while to warm up the engine after cold starting . This is , however , not engine trouble or failure.)



- (1) Left turn
(2) Right turn

Integrated light and turn signal switch

This switch serves as both two-position light control and turn signal switch .

Light control switch

Irrespective of a key switch position , this switch allows you to turn on and off lighting .This switch has two positions. With the switch at each position , the lamp comes on as shown below.

Lamp name	Step 1	Step 2
Head lamps	-	○
Side clearance lamps, tail lamps	○	○
Meter illumination lamp	○	○

⚠Caution

Do not keep lamps , such as head lamps , on for a long time when the engine is stopped . It may cause over discharge of the battery to make engine starting impossible .

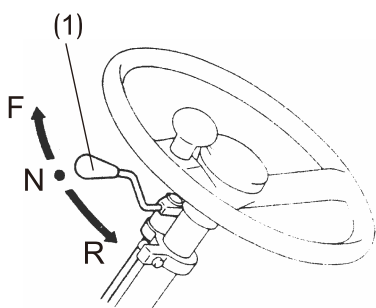
Turn signal switch (Option)

Make the turn signal lamps blink

Left turnPush forward

Right turnPull backward

The signal switch will be operated when the ignition switch is ON .



- (1) Forward-reverse lever

Forward-reverse lever

Lever for shifting between forward and reverse .

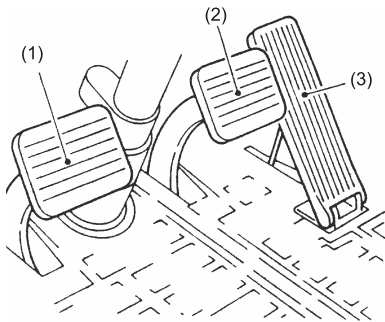
Forward I 、 IIPush the lever forward(F)

Reverse I 、 IIPull the lever backward®

The neutral position(N) is halfway between the forward and reverse positions .

⚠Caution

The engine cannot be started unless the shift lever is at the neutral position .Stop the vehicle before shifting between forward and reverse .



Inching Pedal(1)

As the inching pedal is pressed, the oil pressure in the hydraulic clutch drops accordingly allowing the operator to perform inching operation. Use this pedal to inch the truck while operating the hoist system at a high speed.

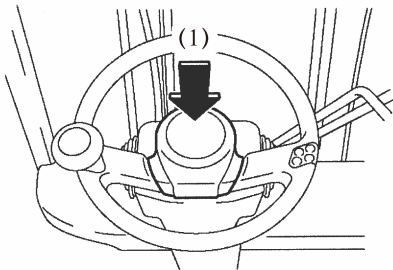
When pressed to the full, this inching pedal serves as a brake pedal.

Accelerator Pedal(3)

The accelerator pedal increases the engine speed. With this pedal released, the engine runs at idle rpm.

Brake Pedal(2)

Press this brake pedal to slow or stop the truck. At the same time, the brake lights come on.

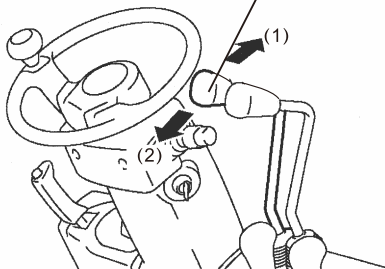
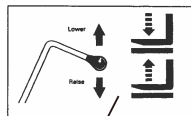


(1) Push

Horn button

Press the button in the center of the steering wheel to sound the horn .

The horn will sound even when the ignition switches off .



(1) Lower
(2) Raise

Lift lever

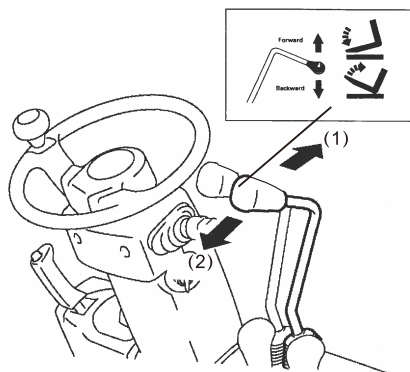
Raise and lower the forks .

Raise.....Pull backward

Lower.....Push forward

The lifting speed can be adjusted by the degrees of accelerator pedal depression and lever operating stroke .

The lowering speed can be adjusted only by the degree of lever operating stroke .



(1)Forward tilting
(2)Backward tilting

Tilt lever

Tilt the mast forward and backward .

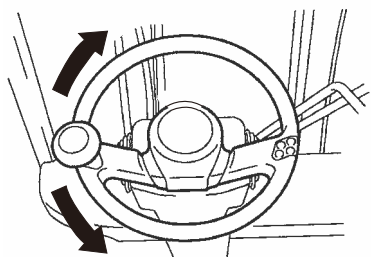
Forward.....Push forward

Backward.....Pull backward

The forward , backward or tilting speed can be adjusted by the degrees of accelerator pedal depression and lever operating stroke .

⚠ Caution

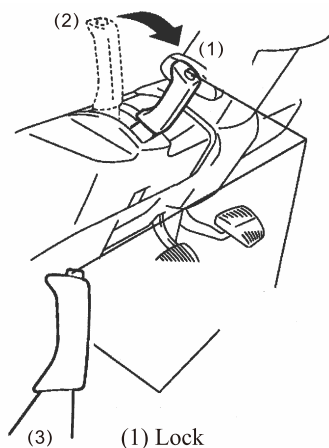
. Always operate the tilt lever from a seated position .



Steering wheel and round handle

The steering wheel controls the direction of turning left or right .

. Use your left hand to operate the round handle .



(1) Lock
(2) Release
(3)Grip

Parking brake lever

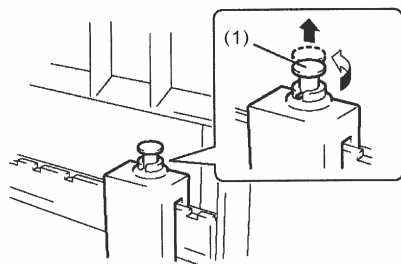
When parking , grasp the grip of the lever and fully pull it towards you . When releasing , grasp the grip of the lever and then push it back . while operating the parking brake lever , keep the brake pedal fully depressed .

⚠ Caution

. Never hold the lever at other than the grip because a finger may be pinched . when releasing the parking brake by holding the lever for starting on a slope , for example, hold the grip at above the protrusion .

. When parking on a slope , apply wheel chocks to the wheels .

. Traveling without releasing the brake will spoil the brake performance .



(1) Fork stopper

Forks

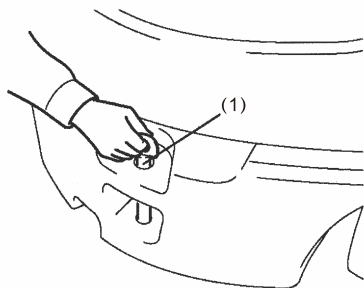
Lift each fork stopper and turn to release so that forks can be shifted left and right .

Adjust the forks in the position most appropriate for the load .

When adjusting the forks , make sure that the center of gravity of the load corresponds to the center of the vehicle . After adjustment , turn the stoppers to lock the forks in place .

⚠ Warning

Make the forks are locked before carrying a load .



(1) Draw bar

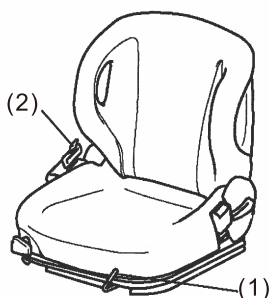
Draw bar

The draw bar is located at the back of the counterweight, and is used to pull the vehicle when its tires drop into a gutter or become stuck in mud .

It can also be used for loading the forklift onto a truck or another vehicle .

⚠ Caution

The draw bar should not be used for towing the forklift or for towing another vehicle using the forklift .



(1) Seat slide lever

(2) Seat belt

Operator's seat

The operator's seat and seat belt are provided for your safety .The seat can be moved back and forth for position adjustment while the adjust lever is pulled upward .

Suspension seat

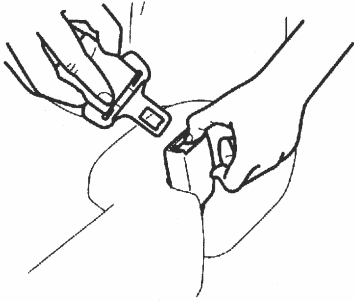
The seat suspension mechanism provides a comfortable seating position according to the weight of the driver . The optimum driving position can be set by using the knob and levers . Elastic seat can reduce the vibration of running forklift .

Seat slide lever

Pull slide lever to left , to adjust the back-and-forth position of the seat . The seat is secured in position when you release the lever .

⚠ Caution

After adjustment , lightly shake the seat forward and backward to confirm that the seat is firmly locked in position .



Seat belt

To fasten your seat belt , pull it out of the retractor and insert the tab into the buckle . You will hear a click when the tab locks into the buckle . Pull on the belt to make sure the buckle is securely latched .The seat belt length can be automatically adjusted to your size .

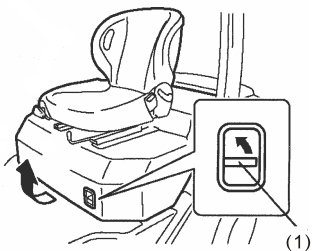
Disconnecting method

Push the release button and allow the belt to retract .

⚠ Warning

. Buckle up . Your seat and seat belt can reduce the risk of serious injury or death in case of a truck tip over . Your chances for avoiding serious injury or death in a tip over are better if you stay with the truck in the operator's compartment.

. Always wear your seat belt when driving the truck . Trucks can be tipped over if operated improperly . To protect operators from the risk of serious injury or death in the event of a tip over , it is best to be held securely in the seat . The seat and seat belt will help to keep you safely within the truck and operator's compartment , in the event of a tip over , don't jump , grip the steering wheel , brace your feet , lean away from the direction of tip over , and stay with the truck .Please always buckle up your seat belt when driving your truck .



(1) Engine hood lock release lever

Engine hood

Opening

1. Pulling up the engine hood lock release lever will release the engine hood lock , and the engine hood will pop up slightly .
2. Lift the engine hood .
3. Keep the engine hood open , then shake the hood slightly to check that the gas spring has been securely fastened before letting go .

Closing

Close the engine hood quietly , and press down the hood until you hear a click sound .

⚠ Caution

Operating the vehicle without firmly locking of the engine hood is very dangerous . Be sure to check firm locking before operating the vehicle .

Warning Marks are attached to a vehicle . Before driving it , please be sure to read them fully .



II . Safe Operation Rules and Daily Maintenance for Forklift

The driver and administrator of the forklift must keep “Safety First ” in mind and conduct the safe and standard operation according to the *Instruction book of utility and maintenance* and *The Driver manual*.

1. Transportation of forklift

Pay attention to the followings when carrying the forklift to the container or the car:

- (1) Brake the brake level.
- (2) Fix the mast and count weight by steel cable both front and rear, the front and rear tire should be cushioned .
- (3) When hanging, according to the instruction of the “anging signal ” lift the loads.

2. Safekeeping of forklift

- (1) No fuel in tank don't let out if the cooling liquid is rustproof and antifreeze liquid.
- (2) Apply the rustproof oil to the nonlacquer surface and apply lubrication to the up-and-down roller hinge.
- (3) Low the bracket to the lowest level.
- (4) Put on the brake shift.
- (5) Cushion the forward and backward wheel.

3. Pre-operation check

Pre-operation checks and weekly inspections are the responsibility of the industrial vehicle users .

Be sure to perform a pre-operation check before beginning working with ensure safety .



Item	Inspection
Previously detected malfunction	Correct
Exterior	Vehicle body , oil leakage , water leakage, loose parts, exterior damage .
Wheels	Tire pressure , wear or damage , rims hub nuts.
Lamps	Lamp condition , damaged lamps .
Hydraulic oil	Oil lever , contamination , consistency .
Radiator	Coolant lever , antifreeze requirement .
Engine	Oil lever , contamination , consistency , noise , exhaust .
Clutch	Engagement , pedal , play .
Brake pedal	Pedal play , braking effect .
Brake fluid	Fluid level.
Parking brake	Operating force , braking effect .
Steering wheel	Looseness , play , vibration , veering .
Horn	Sound .
Instruments	Functioning .
Load handling system	Parts , oil leakage , cracking , looseness .
Fuel	Amount .

(1) Walk around inspection

Vehicle uprightness

Does the vehicle lean to one side or the other ?

If so , check for a tire puncture or a problem of the undercarriage .

(2) Beneath the vehicle

Check for any oil or water leakage on the ground or floor where the vehicle is parked .

Check for loose parts or damage .

If any unusual condition is found , have the vehicle inspected with the help of a dealer .

(3) Tire inspection

Tire pressure inspection

1. Use a tire pressure gauge and measure the inflation pressure .

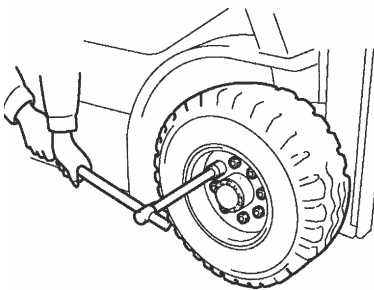
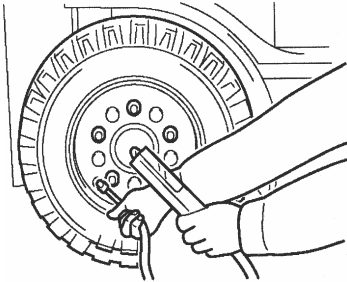
Adjust it to the proper level .

2. After the adjustment , check whether air is leaking from the valve .

Damage , crack and wear of tires and rims

Check the tires for damage and wear , and the rims for bending .

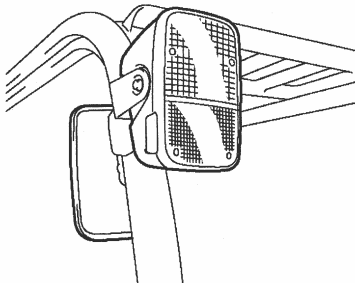
If the tires are damaged , or there is a marked difference in the wearing of tires between the front and rear or between the left and right is perceived , or bent rims are found , ask a dealer for inspection .



(4) Hub nut inspection

Check the tightness of the hub nuts .

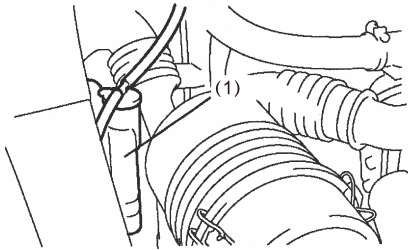
Avoid uneven torque and tighten all of the nuts uniformly .



(5) Lamp inspection

Are the filaments intact ? Is there any lens damage ?

Always keep the lenses clean to ensure proper forward vision .



(1) Reservoir tank

(6) Engine compartment inspection

Engine coolant level check and supply

Level check and supply of engine coolant shall be performed while the coolant is cool .

1. With the engine off , open the engine hood and check the engine coolant level in the reservoir tank .

Note :

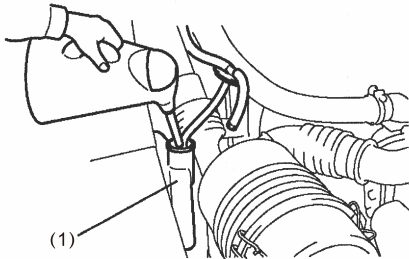
The reservoir tank equipment to the radiator automatically supplies the engine coolant when the coolant quantity in the radiator becomes insufficient .

2. Keep the coolant level between the upper and lower limits . If the level is below the lower limit , adjust coolant to the upper limit .

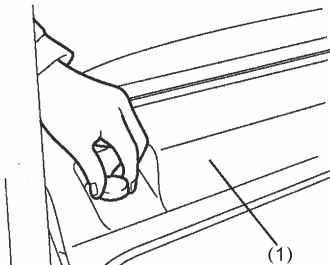
3. The concentration of long life coolant (LLC) in the engine coolant must be 30% (or 50% in a frigid zone .)

Note :

If no engine coolant remains in the reservoir tank . Be sure to check the coolant level in the radiator , too .



(1) Reservoir tank



(1) Radiator cover

(7) Checking the engine coolant level in radiator

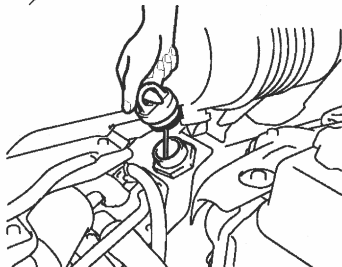
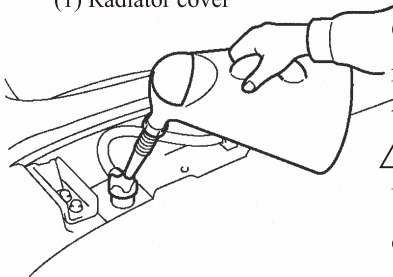
1. Remove the radiator cover .
2. Remove the cap and check the coolant level from the filler port .
3. If the engine coolant is not visible through the filler port , fill appropriately diluted coolant (LLC) into the port .

Note :

Close and tighten the radiator cap , match the pawl on the reverse side of the cap with the notch on the filler port and turn the cap fully clockwise while applying a downward force .

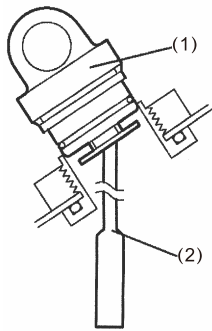
⚠ Warning

When the engine is hot , it is very dangerous to remove the cap. Coolant level check must always be performed when the engine is cold .



(8) Checking hydraulic oil level

Always stop the engine and lower the fork to the ground before checking the level of the hydraulic oil , while the vehicle is on level ground .Oil pollution level should be limited within twelve degrees.



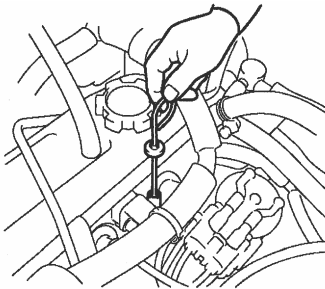
(1) Oil cap
(2) Level identifier

1. Open the engine hood and remove the oil cap .
2. Wipe the level gauge attached to the oil cap with clean cloth, and insert it again into the tank .

Note :

Inspect the oil level by placing the level gauge on the opening of the oil supply inlet without pushing the oil cap in .

3. Extract the level gauge gently and check if the oil adhesion is up to the level line .
4. If the oil level is insufficient , add oil . Spilled and splashed oil must be wiped off thoroughly . Adjust the oil level so that it will fall within a range of 0 thru +10mm from the lift-high mark on the gauge as illustrated on the left side .



(9) Engine oil inspection

1. Park the vehicle on a flat ground . If the vehicle is inclined , the indicated level may be incorrect .
2. The oil level must be checked before starting the engine or at least 3 minutes after the engine is stopped .
3. Extract the oil level gauge and wipe it with clean cloth . Insert it again and check if the oil level is between the F and L levels .
4. If the oil level is below the L line , add oil up to the F line .

(10) Adding engine oil

1. To supply oil , remove the filler cap and pour oil through the filler port . Never let the oil level exceed the F line .
2. The oil supplied must be appropriate for the season .
SAE40 Ambient temperature higher than 30°C
SAE40 Ambient temperature 0°C to 30°C
SAE40 Ambient temperature -10°C to 0°C

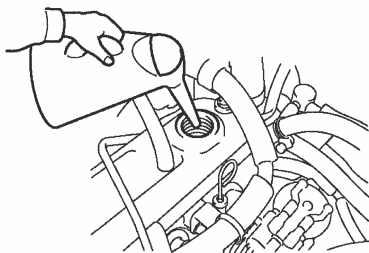
⚠ Caution

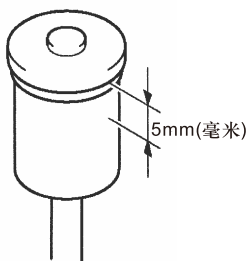
Always use the same brand of oil if possible .

Leakage inspection

Check the engine compartment for any oil or fuel leakage.

Clean the radiator if it is clogged and check if there are any foreign objects, such as paper or others, onto the radiator grill .





(11) Brake fluid inspection

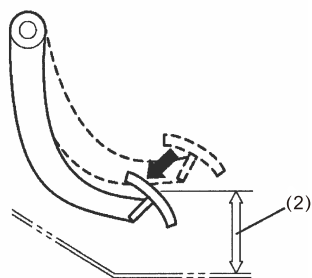
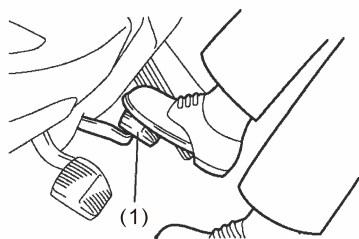
With the engine off , check the level of the brake fluid in the reservoir tank . The level should be within the range shown in the figure . If the level is below the lower limit , add brake fluid up to the proper level . If the decrease in brake fluid is excessive , the brake system may be leaky . Ask a dealer for inspection as early as possible .

⚠ Warning

- Never use any oil other than brake fluid .
- Prevent dirt from getting into the reservoir tank . Even a small amount of dirt in the brake fluid can prevent proper braking .

This is extremely dangerous .

- Check the small vent hole in the reservoir tank cap frequently to make sure that it is not clogged with dirt .



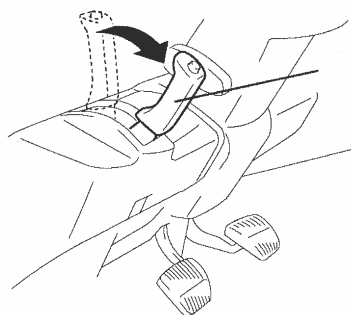
(1) Brake pedal
(2) Brake pedal floor clearance

(12) Brake pedal inspection

1. Depress the brake pedal fully , and check the floor clearance (clearance between the pedal and floor).
2. Make sure that the pedal does not go any further when it is kept depressed .
3. Also check that no abnormality is observed with pedal depression and return .
4. Manually depress the brake pedal to check the play until a resistance is felt .

⚠ Warning

Ask a dealer for inspection if the play is excessive, pedal movement is abnormal or brake performance is improper .



(1) Parking Brake lever

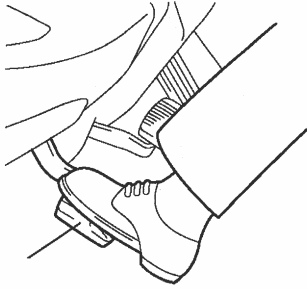
(13) Parking brake inspection

Parking brake lever

Check the operating force required for pulling the parking lever fully .

⚠ Warning

Ask a dealer for inspection if any abnormality is found .



(1) Inching and brake pedal

(14) Inching and brake pedal inspection (hydraulic transmission)

1. Manually depress the inching and brake pedal to check the play until a resistance is felt .
2. Depress the inching and brake pedal and check that there is no destruction or abnormal resistance .

⚠ Caution

Ask a dealer for inspection when any abnormality is found .

(15) Engine inspection

Start the engine and warm it up sufficiently .

1. Check each meter and warning lamp to see there is no abnormality .
2. Check if the engine is generating abnormal sound or vibration .
3. Check the exhaust gas color to see it is normal .

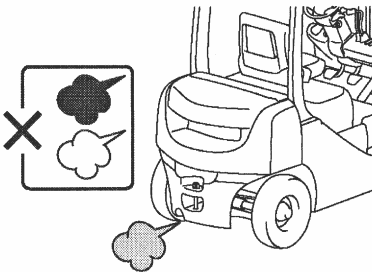
Colorless or light blue exhaust indicates complete combustion ; black exhaust , incomplete combustion ; and white exhaust , burning oil as a result of oil getting into the cylinders .

⚠ Warning

. The exhaust gas is harmful . Before you start the engine inside a building or enclosure , insure a sufficient ventilation .

. The gasoline engine carburetor is equipped with the automatic choke that keeps the engine running at a relatively high speed for a while .

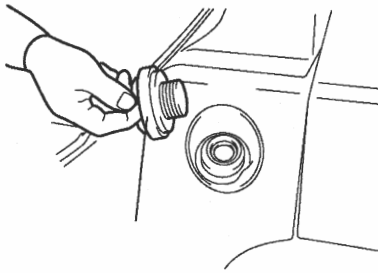
Do not be bothered , however , becomes the engine resumes a normal speed upon warning enough .



(16) Fuel level check and supply

1. Observe the fuel meter to see if the fuel is sufficient .

Note :



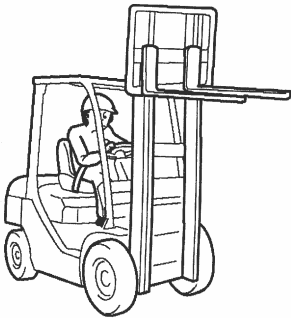
After the end of daily operation , fill the tank with fuel to prevent the moisture of the air out side the tank from mixing with the fuel .

2. When supplying fuel , stop the engine , remove the fuel tank cap by turning it counterclockwise , and pour fuel through the fuel filler neck .

3. After fueling , be sure to tighten the fuel tank cap .

⚠ Caution

- . Always stop the engine and keep any fire source away before and during the fueling operation .
- . Carefully prevent entrance of water and dirt into the tank during fueling .

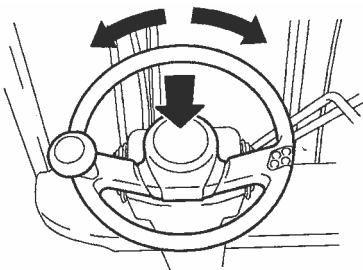


(17) Load handling system

1. Check the fork installation state for cracks and bending .
 2. Check for mast distortion , chain tension and oil leakage from cylinders and piping .
 3. Operate the lift and tilt levers to check their operating state.
- If anything unusual is found , have the vehicle inspected at a dealer .

(18) Steering wheel inspection

Note :



Perform inspection after starting the engine .

1. Check the steering wheel play with the rear wheel and set in the straight traveling direction .
2. Turn the steering wheel in the circumferential direction and also move it up and down to make sure there is no looseness .
3. Push the horn button to see the horn sounds normally .
4. If any abnormality is found , ask a dealer for inspection .

(19) Safety Inspection

Note :

Keep broad safe space when inspection to prevent the sudden movement of forklift .

Parking Brake Inspection :the forklift can not move or lift until the operator leaves the seat .

Checking step :

1. Forklifts should be on the stable and flat ground , and lock the parking brake lever .
2. Set the forward /backward switch on Neutral , starting switch ON and lift the fork 10 cm off ground .
3. Release the brake pedal and the accelerate pedal .
4. Set the forward / backward switch on F or R .
5. Set the starting switch on start shift to check if the starter can work .
6. Close the starting switch .

4. Operation of the forklift

- (1) The driver who has been trained and held the driver license can drive the forklift
- (2) The operator should wear the shoes, hat, clothes and gloves, which can be used as the safety protection during the operation
- (3) Check the control and alarm mechanism before driving .If find the damage or flaw, operate after repair
- (4) The load should not surpass the standard value during the transportation , the fork should completely insert fully below the goods and put the goods on the fork evenly ,using single fork to lift the goods is not allowed
- (5)Successfully start the machine , turn around , steer , brake and stop . Drive slowly when turning around on dankish or slippy road surface .
- (6) Tilt the mast backward , and lower goods when running .
- (7) Carefully driving , when running on the ramp which lean degree more than tenth ,steering forward when up to the ramp , drive reverse when down to the ramp . Forbid turning around , loading and unloading when up or down to the ramp .
- (8) Paying attention to passerby , barrier , pothole during the running , also the space above the forklift .
- (9) Forbid to stand on the fork and not allowed carry people .
- (10) Standing under the forklift and walking under the forklift is not allowed.
- (11) Operating the vehicles and apparatus out of the drive seat is not allowed.
- (12) Pay attention to the goods in case of falling when lifting the forklift more than three meters, when necessary, take the protective action.
- (13) Lean the bracket backward as often as possible in terms of operating the longer lifting fork and the load work should be conducted upward and backward within the minimum range.
- (14) Be more careful and drive slowly when driving on the quay or the interim board.

(15) The driver should not be on the forklift and extinguish the generator when adding the fuel and don't lit fire when checking the battery or the position of the oil tank.

(16) When operating the empty forklift, operate it like the loading forklift.

(17) Don't carry unfixed or loose goods and carry the bigger goods more carefully.

(18) The fork should lay groundly, and make the handle on the neutral gear, cut off the power when leaving the forklift; Pull the parking brake when stopping on the slope or flat ground, if would stop for a long time, cushion the tire.

(19) Don't open the lid of the water tank when the generator is very hot.

(20) The pressure of relief valve of control valve and the steering unit has already been set after production, Don't adjust randomly during the operation so as to avoid to destroy the whole hydraulic system or the hydraulic components because of the pressure is too high.

(21) Charging the tire should follow the "Tire pressure " signal.

(22) Forklift noise on the operator seat is measured by sound pressure level while around the operator is measured by sound power level. The noise in the operator seat is not more than 98dB(A), radiated noise is not more than 114dB(A). Vibration pass to operator is less than 5m/s^2 .

(23) In order to move the extra-wide goods, the users can choose "The super-long fork". What should be mention is that the loading capacity of the super- long fork should comply with the loading curve. Within the standard loading criteria, its loading capacity should be equal to that of the standard forks, the loading center should be moved forward while downloading the work, but using the tip of fork or colliding the goods are not allowed. Attach great importance to safety when driving or twisting.

(24) Check the chain regularly in the process of using in order to guarantee the good lubricating condition between the chains; the degree of loosening and tightening of the left and right hinge is the same. If the chain has the phenomenon of being damaged in the process of using. When the change values of hinge distance vary from the 2% of the standard volume, the chains must be changed so as to guarantee the safety.

(25) Get protection from the accidental fires and personal injury . The position of fire extinguisher and fire aid boxes should be checked and usage of them should be familiar .

(26) Operate on the rough ground , arouse noise and strengthened vibration could be result in hurting body , such as back pain . Please operate the forklift on the flat road or ground .

(27) Do not dismount the overhead guard and backrest ! Install them for protecting operators from the falling objects . Overhead safeguard meet the safety standard .

(28) Forbid to maintain the forklift at a high position .

(29) Forbid to do dismantlement of forklift privately, if indeed demanded , please contact sale agent and after service department first .

(30) Please strictly choose preparative articles and spare parts . we will not take any corresponding responsibility if you don't normally use appointed preparative articles and spare parts .

(31) Pay special attention to the disposal of rejectament in case of polluting environment. Waste liquid should be poured into appointed container . Strictly abide rules and prescribe when dealing with deleterious matters , e.g. sump , impregnant , battery , refrigeration oil .

(32) Please repair the forklift in time when there is something wrong with the forklift . Except some parts which are prescribed in the manual can be repaired by oneself ,please contact the appointed sale agent or dealers in time when the forklift should be repair urgently or rush to repair .

(33) Forbid to install or change attachment privately , if in demand , please contact sale agent or dealers .

(34) Forbid to operate the forklift in the gale weather . The forklift may have the danger of turning over when loading the super big bulk goods in gale weather .

(35) Must check the emission value after maintenance.

5. Operating Cautions:

(1) In the process of using the forklift, if encountering the “boiling of the pot” of the radiator or the high temperature of the cooling water, don't open the radiator immediately. In order to find the reason, open the lid and let the engine run at the middle speed and then twist the radiator lid slowly, put the generator lid away again after a while to prevent the cooling liquid spurting and hurting the operators. While twisting the radiator lid, twist in the right position; otherwise cannot establish the standard pressure system.

(2) To the radiator which use the pure water as the cooling fluid, the water of the radiator can be discharged only when the water will be frozen in the cold weather . The radiator should be removed and be washed in the boiling soda water so as to eliminate the pollutants and sediments of the radiator.

(3) To the radiator of which the cooling liquid often uses the rustproof or antifreeze liquid (model FD-2 minor 35), the different kind of antifreeze liquid and water can't be added randomly. The same type of the rustproof and antifreeze liquid should be added when the antifreeze liquid is leaking or evaporating. The antifreeze liquid can be used both in summer and winter and doesn't need to be changed for a whole year. Generally, it should be discharged and be filtered, then continue to use.

(4) According to the different working conditions, the dust on the surface of the generators should be removed regularly with detergents or the condensed air or high-pressure water (the pressure is less than 4kg/cm) .

6. The oil of lift fork

Name		Brand and temp. of using				
Gasoline		93# or 97#				
Diesel		Brand(diesel)	0#	-10#	-20#	-35#
		Temp. of using	≥4	≥-5	≥-5~-14	≥-14~-29
Gear oil (gasoline,SF) Electric injection(SG)	Chang cheng	Sticky grade	5W/30	10W/40	10W/30	15W/40
		Temp. of using	-30~+30	-25~+40	-25~+30	-20~+40
Gear oil (diesel,CD)	Chang cheng	Sticky grade	5W/30	10W/30	15W/40	20W/50
		Temp. of using	-30~+30	-25~+30	-20~+40	-15~+50
Hydraulic oil	Chang cheng	Sticky grade	L-HM32 wearable hydraulic oil		L-HV32 low temp. wearable oil	
		Temp. of using	≥-5		≥-20(cold region)	
Torque converter oil	Haipai	6# Tor-con oil				
Brake fluid	Chong qing yi ping	4604 compound brake fluid Gb12981 HZY4				
Lubricating oil	Haipai	3# lithium base grease (-20℃~120℃)				
Gear oil of heavy-laden vehicle	Haipai	Sticky grade	85W/90GL-5		80W/90GL-5	
		Temp. of using	-15~+49		-25~+49	
Antifreeze fluid	Jin bai	Number	FD-1	FD-2	FD-2A	FD-3A
		Temp. of using	≥-25	≥-35	≥-45	≥-50

Hydraulic Oil Suggestion: "Shell" sea capable or lux high quality hydraulic oil



STARKE MATERIAL HANDLING GROUP
402 Allanburg Road • Thorold, ON L2V 1A4 • Canada
TOLL FREE 877-435-4352
www.starkeforklift.com • info@starkeforklift.com

