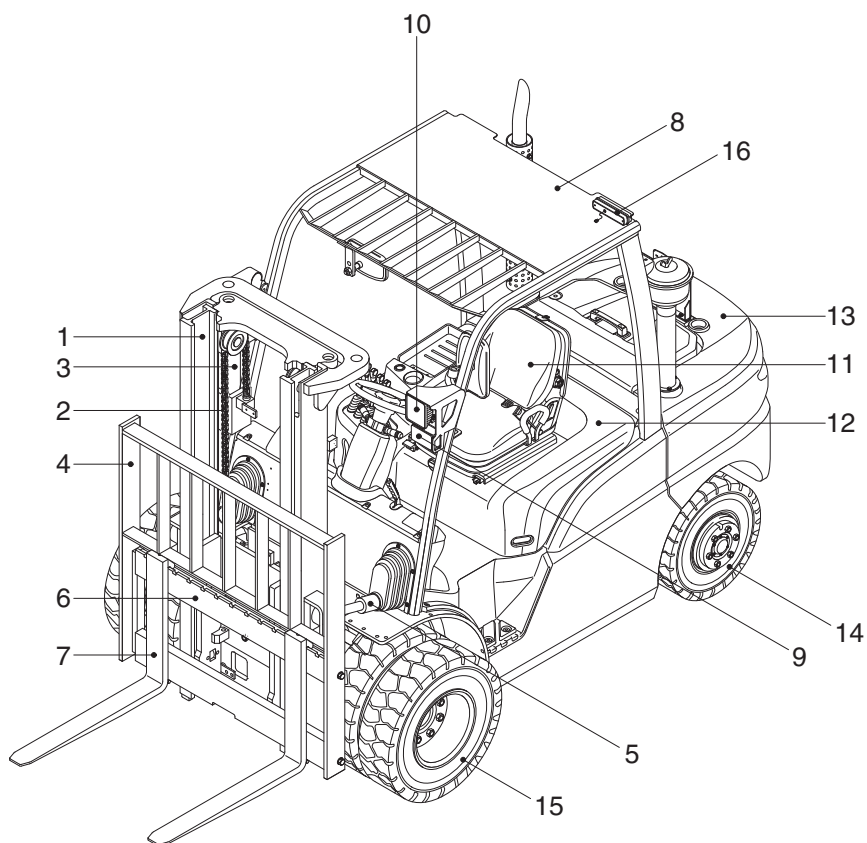


3. KNOW YOUR TRUCK

1. GENERAL LOCATIONS





35D9SOM54

- | | | |
|-----------------|--------------------|--------------------------|
| 1 Mast | 7 Forks | 13 Counterweight |
| 2 Lift chain | 8 Overhead guard | 14 Rear wheel |
| 3 Lift cylinder | 9 Turn signal lamp | 15 Front wheel |
| 4 Backrest | 10 Head lamp | 16 Rear combination lamp |
| 5 Tilt cylinder | 11 Operator's seat | |
| 6 Lift bracket | 12 Bonnet | |

2. DATA/SAFETY PLATES AND DECALS

1) TRUCK DATA AND CAPACITY PLATE

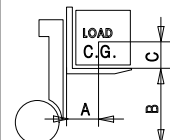



HYUNDAI

CONSTRUCTION EQUIPMENT
75, Yangjae-ro, Jongno-gu, Seoul, 03058, Korea

FROM THE FACTORY THIS TRUCK MEETS ISO 6055

<p>MODEL</p> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<p>TYPE</p> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>
<p>ATTACHMENTS</p> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<p>TRUCK WEIGHT</p> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>
<p>PRODUCT IDENTIFICATION NUMBER</p> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<p>MFG. YEAR</p> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>



	mm	mm
A	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>
B	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>
C	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>
Vertical	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>
Forward Tilt	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>

LOAD CAPACITY

92FT-00423

35D9SOM56

- (1) Truck model number or registered name**

- (2) Truck type**

The type is indicated a type of the truck such as diesel, LPG or battery.

- (3) Truck serial number**

An identification number assigned to this particular truck and should be used when requesting information or ordering service parts for this truck from your authorized HYUNDAI dealer. The serial number is also stamped on the frame.

- (4) Attachment description (If any installed)**

The user must see that the truck is marked to identify the attachment (s), including the weight of the truck/attachment combination and truck capacity with the attachment.

- (5) Capacity rating, load center, and lifting height data**

Shows the maximum load capacity of this truck with relation to load centers and fork heights (See diagram on plate). Personal injury and damage to the truck can occur if these capacities are exceeded.

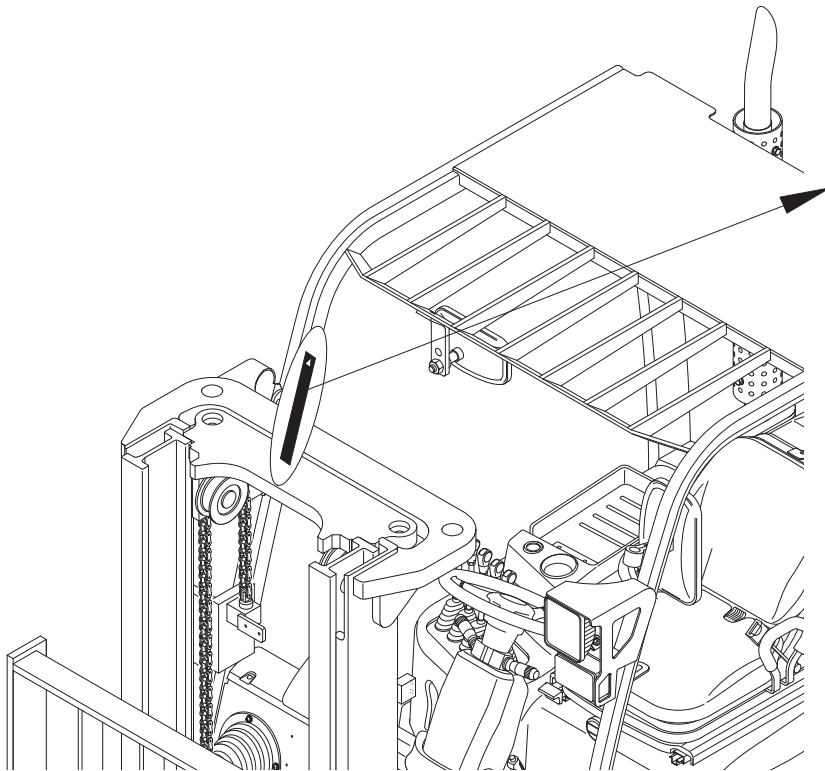
Do not exceed the maximum capacity specified.

- (6) Truck weight**

The approximate weight of the truck without a load on the forks. This weight plus the weight of the load must be considered when operating on elevators, elevated floors, etc. to be sure they are safe.

- ⚠ Before modifications that affect the stability of safety systems are made written approval from HYUNDAI. Contact your authorized HYUNDAI dealer for a new nameplate showing the revised capacity.**

2) OPERATOR SAFETY WARNING DECAL



35D9SOM59K

- ⚠ **Safety and warning decals are placed in conspicuous locations on the truck to remind you of essential procedures or to prevent you from making an error that could damage the truck or possibly cause personal injury. You should know, understand, and follow these instructions. Safety and warning decals. Should be replaced immediately if missing or defaced (Damaged or illegible). Refer to your Service manual for the location of all decals.**

⚠ **Operator/Tip-over warning decal**

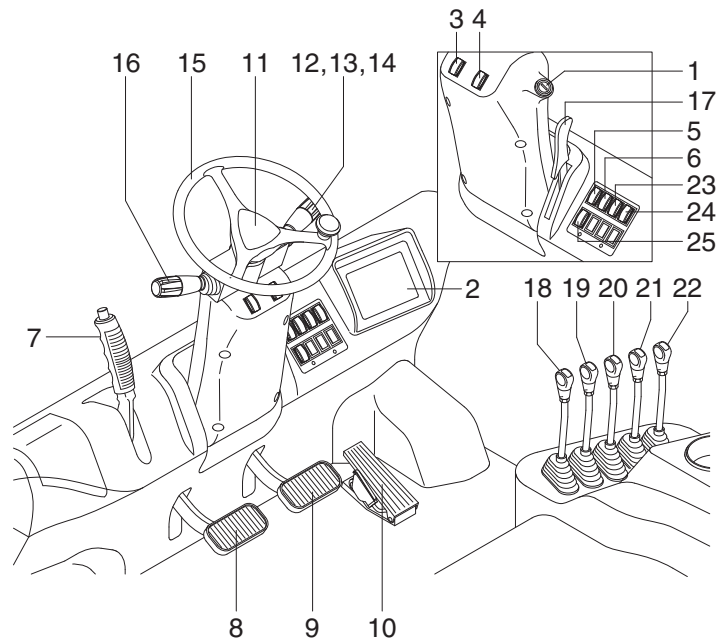
This decal is located on the front right hand leg of the driver's overhead. Its purpose is to remind the operator that staying in the seat provides the best chance of avoiding injury in the event of a truck-tipping or driving off a dock mishap.

Lift trucks can be tipped over if operated improperly. Experience with lift truck accidents has shown that the driver cannot react quickly enough to jump clear of the truck and overhead guard as the truck tips. To protect operators from severe injury or death in the event of a tip over, it is best to be held securely in the seat. So, please, always buckle up when driving your lift truck.



35D9SOM09A

3. INSTRUMENTS AND CONTROLS



35D9AOM64

- | | | |
|-------------------------------|---------------------------------|------------------------------------|
| 1 Start switch | 10 Accelerator pedal | 19 Tilt lever |
| 2 Cluster | 11 Horn button | 20 Attach lever 1 (opt) |
| 3 Hazard lamp switch (opt) | 12 Head lamp switch | 21 Attach lever 2 (opt) |
| 4 Rear work lamp switch (opt) | 13 Illumination lamp | 22 Attach lever 3 (opt) |
| 5 Parked regeneration switch | 14 Turn signal switch | 23 Fuel warmer switch |
| 6 Inhibit regeneration switch | 15 Steering wheel | 24 Beacon lamp switch (opt) |
| 7 Parking brake lever | 16 Forward-reverse lever | 25 Front wiper/washer switch (opt) |
| 8 Inching pedal | 17 Steering column adjust lever | |
| 9 Brake pedal | 18 Lift lever | |

△ Familiarize yourself with the controls and follow safe operating procedures.

4. CLUSTER

1) STRUCTURE

Like following figure, cluster is consisted of LCD and switch. LCD will indicate the operation and abnormal status of vehicle to the driver in order to use and maintenance.

Also, LCD allows to set and indicate the various modes, monitoring, and gadgets.



35D9SCL001

2) GAUGE

(1) Operation screen

Operating screen will be displayed if turn on the ignition switch.



35D9SCL002K

- 1 Speed meter
- 2 Fuel indicator

- 3 Coolant temperature indicator
- 4 Clock

(2) Speed meter

- ① Display the trip speed of vehicle.
- ② Speed unit is km/h or mile.

※ **Speed unit can be set in the speed unit menu of display set up.**




35D9SCL003K

(3) Fuel indicator




35D9SCL004K

- ① Display the remains of fuel tank.
- ② If the indicator point to the red zone, or warning lamp  will be lit up in red, please refuel.

(4) Coolant temperature indicator



35D9SCL005K

- ① Display the coolant temperature.
 - While zone : 40 ~ 120°C
 - Red zone : Over 120°C
 - Warning lamp on : Over 115°C
- ② If the gauge points to the red zone, or warning lamp  is on, please stop the engine and inspect the coolant system.

(5) Clock



35D9SCL006K

- ① Display current time.
- ② You can enter current time at display Set Up > Time Set Up menu.

3) WARNING LAMP AND INDICATOR LAMP



35D9SCL007K

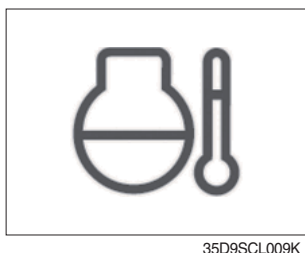
- ※ Warning and Indicator lamp will display only items that were set as ON, and all warning and indicator except fuel level warning and coolant temperature warning will be displayed in order from the left of screen.

(1) Fuel level warning lamp



- ① Warning lamp will be displayed if fuel level is low.
- ② Please refuel immediately if the lamp is on.

(2) Coolant temperature warning lamp



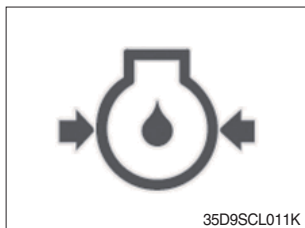
- ① Coolant temperature warning will be lit up when temperature is over 115°C.
- ② If the warning lamp is on continuously, please inspect the coolant system.

(3) Expendables replacement indicator lamp



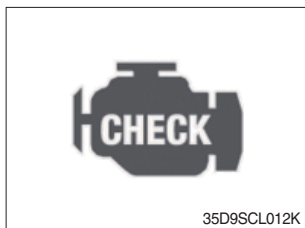
- ① Light up if expendables which must be replaced are exist.
- ② The indicator will light up only 3 minutes since KEY ON, and then light off.
- ③ Please check the expendables management list in maintenance menu.

(4) Engine oil pressure warning lamp



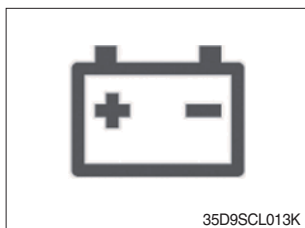
- ① This warning lamp will be lit up when engine oil pressure is low.
- ② Stops the engine immediately if the warning lamp is lit up.
- ③ Please check the engine oil.

(5) Engine inspection warning lamp



- ① This warning lamp will be lit up if the engine ECM sends a failure code to cluster or receives the signal.
- ② Check the failure code of cluster.

(6) Battery charge warning lamp



- ① This warning lamp is lit when battery charging voltage is low.
- ② Please inspect the battery charging circuit if the warning lamp is lit.

(7) Air cleaner warning lamp



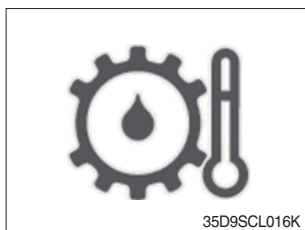
- ① This warning lamp is lit when air cleaner filter is clogged up.
- ② Please clean up or replace the filter.

(8) Engine warm-up Indicator lamp



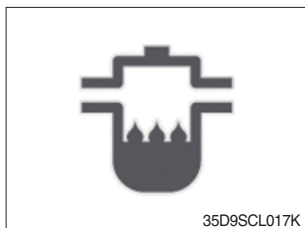
- ① If the ignition is on, the warm-up will be started. Please start the engine after Indicator lamp is turned off.

(9) TM oil temperature warning lamp



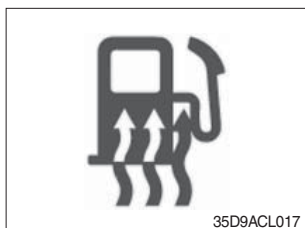
- ① Transmission oil temperature warning is consisted of two indications.
 - 110°C or higher : Amber is light up
 - 120°C or higher : Red is flashing
- ② When this lamp light up during operation, stop the engine and check the machine.

(10) Water in fuel indicator lamp



- ① Light up when water in fuel.
- ② Stop the engine and please drain the water of water separator.

(11) Fuel warmer lamp



- ① Light up when operation the fuel warmer switch.

(12) OPSS Indicator lamp



- ① Light up if driver leave seat during operation.
- ② Machine driving and control will be blocked if lamp is lit up.

(13) Parking indicator lamp



- ① Light up when parking brake is ON.

(14) Tilt lock Indicator lamp



- ① The Indicator lamp will be lit up if the tilt lock switch (optional) is entered.
- ② Tilt action will be limited if this Indicator lamp is lit up and the mast is located at 90 degrees.

(15) Maximum speed warning indicator lamp



- ① This Indicator lamp is lit up on the middle of screen if vehicle speed is exceeded maximum speed that was set.
- ② Alarm buzzer will ring every two seconds.
- ③ Alarm will go off if the speed goes down below set up speed.

(16) Brake oil level warning lamp



- ① Warning lamp will be displayed if brake oil is low of reservoir tank.
- ② Please refill immediately if the lamp is on.

(17) Clutch protection warning lamp (or T/M oil warning)



- ① Warning lamp will be displayed if clutch protection system operating or transmission oil is low.
- ② Please refill immediately if the lamp is on.

(18) Communication error warning lamp



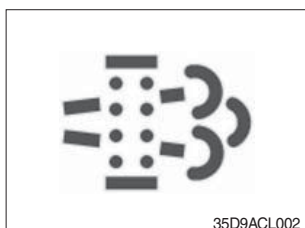
- ① This warning lamp will be lit up if the communication between MCU and ECU is fail.
- ② Please check the communication line if the warning lamp is lit up.

(19) Communication error warning lamp



- ① This warning lamp will be lit up if the communication between MCU and cluster is fail.
- ② Please check the communication line if the warning lamp is lit up.

(20) DPF regeneration warning lamp







- ① This warning lamp lights ON or blinks when the parked regeneration is needed as table below.

• Inhibit regeneration switch : OFF

Level	DPF inhibit warning lamp	DPF regeneration warning lamp	Engine check warning lamp	Engine stop warning lamp	State of regeneration
Level 0 (No need regeneration)					Regeneration is not required
Level 1 (Auto regeneration)		●			Regeneration starts automatically when the PM level reaches to this level. Parked regeneration is impossible in this level.
Level 2 (Request parked regeneration)		★			ECU requests parked regeneration if the PM level does not decrease to automatic regeneration level in 1800 seconds after automatic regeneration starts. (Automatic regeneration does not stop in this level.)
Level 3 (Parked regeneration)		★	●		Automatic regeneration stops. Operator had better park the machine and start parked regeneration as soon as possible. During parked regeneration, machine operation is restricted.
Level 4 (Regeneration with service tools)		★	●		Parked regeneration is impossible. Regeneration is possible with service tools only. (Service tools are available among all levels without level 5)
Level 5 (DPF leaning)		★		●	Regeneration is impossible even with service tools. DPF cleaning is necessary.

● : Lighting ★ : Blinking PM : particulate matter

• Inhibit regeneration switch : ON

Level	DPF inhibit warning lamp	DPF regeneration warning lamp	Engine check warning lamp	Engine stop warning lamp	State of regeneration
					
Level 0 (No need regeneration)	●				Regeneration is not required
Level 1 (Auto regeneration)	●	●			Automatic regeneration inhibit
Level 2 (Request parked regeneration)	●	★			ECU requests parked regeneration if the PM level does not decrease to automatic regeneration level in 1800 seconds after automatic regeneration starts. (Automatic regeneration does not stop in this level.)
Level 3 (Parked regeneration)	●	★	●		Automatic regeneration stops. Operator had better park the machine and start parked regeneration as soon as possible. During parked regeneration, machine operation is restricted.
Level 4 (Regeneration with service tools)	●	★	●		Parked regeneration is impossible. Regeneration is possible with service tools only. (Service tools are available among all levels without level 5)
Level 5 (DPF leaning)	●	★		●	Regeneration is impossible even with service tools. DPF cleaning is necessary.

● : Lighting ★ : Blinking PM : particulate matter

(21) DPF inhibit warning lamp



- ① This warning lamp indicates, when illuminated, the inhibit regeneration switch is pushed inhibit position.

(22) Exhaust high temperature warning lamp



- ① This warning lamp indicates, when illuminated, that exhaust temperatures are high due to regeneration of the DPF.
- ② The lamp also illuminate during a parked regeneration.

(23) Engine check warning lamp



- ① If the lamp lights ON, check the engine.
Refer to the page 3-12, 13.

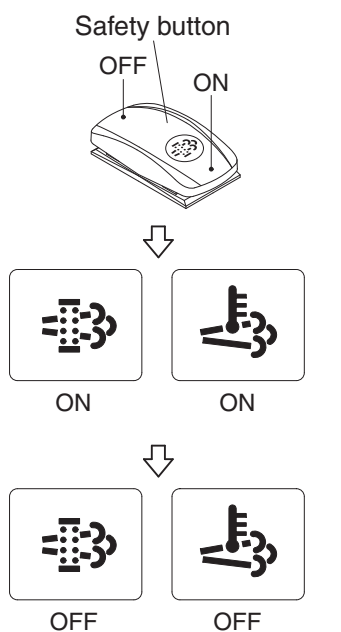
(24) Engine stop warning lamp



- ① If the lamp lights ON, stop the engine immediately and check the engine.
Refer to the page 3-12, 13.

※ **Please contact your Hyundai service center or local dealer.**

※ Parked regeneration method of DPF



35D9A3CD143

※ **Parked regeneration applies if the machine is in a fireproof area and there is no plan to turn off the machine during the regeneration.**

- ① Stop and park the machine.
- ② Put the gear in neutral position and wait until coolant temperature reaches 65°C.
- ③ Push parked regeneration switch ON button 3 seconds initiate the parked regeneration of DPF.

※ **Refer to the page 3-45 for the switch operation.**

※ **The engine speed may increase to 950~1050 rpm and DPF regeneration begins and it will take approximately 30~40 minutes.**

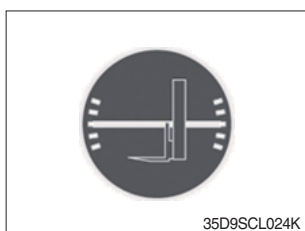
- ④ The DPF regeneration and exhaust high temperature warning lamp will light ON during the regeneration function is operating.
- ⑤ The DPF regeneration and/or exhaust high temperature warning lamp will light OFF when the regeneration function is completed.

4) INFORMATION DISPLAY



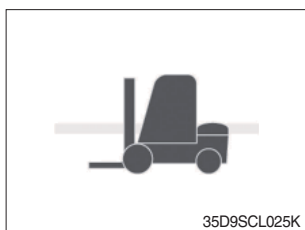
35D9SCL023K

(1) Mast front/rear tilt (optional)



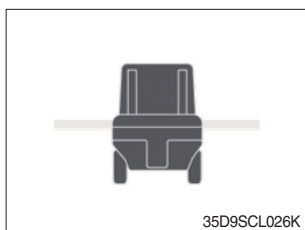
- ① Display the real time tilt of mast.

(2) Vehicle front/rear tilt



- ① Display the front/rear tilt of vehicle in real time.
 - Stop : Tilt angle is higher than 2.3° then the red warning symbol.
 - Driving : Tilt angle is higher than 10.2° then the red warning symbol.

(3) Vehicle left/right tilt



- ① Display the left/right tilt of vehicle in real time.
 - Stop : Tilt angle is higher than 3.4° then the red warning symbol.
 - Driving : Tilt angle is higher than 24.2° then the red warning symbol.

(4) Load weight (optional)



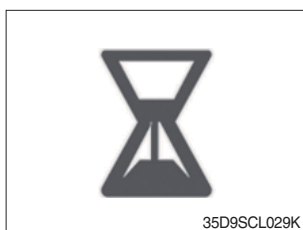
- ① Display the load weight.
- ② Screen will display blurry if the weight sensor has not been mounted.

(5) Total trip distance



- ① Display total trip distance of vehicle.
- ② Unit of distance is kilometer.

(6) Operation time



- ① Display the used time of vehicle.
- ② Icon will be changed as follow if starts ignition.



35D9SCL030K

(7) Explanation of warning lamp and indicator lamp



Explanation of selected warning lamp or indicator lamp

Selected icon

35D9ACL031

- ① Explanation will be displayed if press the arrow (refer to page 3-18) while warning lamp or indicator lamp is on.
- ② Explanation for warning lamp or indicator lamp that are shown on the screen will be displayed if press the arrow continuously.

5) DRIVING INDICATOR LAMP



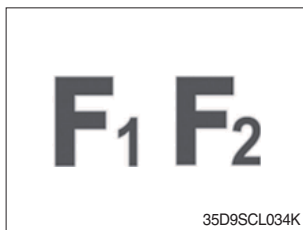
35D9SCL032K

(1) Neutral



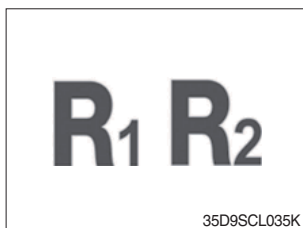
- ① This Indicator lamp will be lit up when direction lever is located in neutral.

(2) Forward



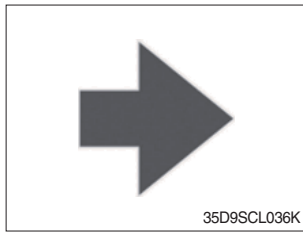
- ① This indicator lamp is displayed if the forward gear is selected.
- ② First gear will be displayed as **F₁** , and second gear will be displayed as **F₂** .

(3) Reverse



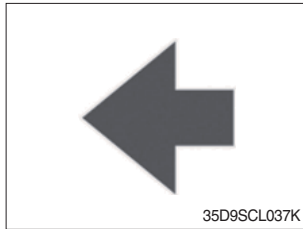
- ① This indicator lamp is displayed if the reverse gear is selected.
- ② First gear will be displayed as **R₁** , and second gear will be displayed as **R₂** .

(4) Right turning pilot lamp



① This pilot lamp will flash if turns on the right turn signal.

(5) Left turning pilot lamp



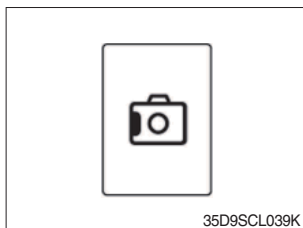
① This pilot lamp will flash if turns on the left turn signal.

6) SWITCH



35D9SCL038K

(1) Camera



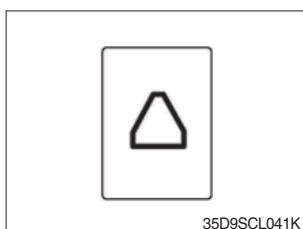
35D9SCL039K

- ① This switch displays rear camera images. (if the camera is mounted)



35D9SCL040K

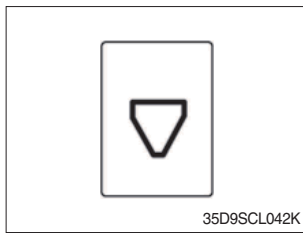
(2) UP/Left



35D9SCL041K

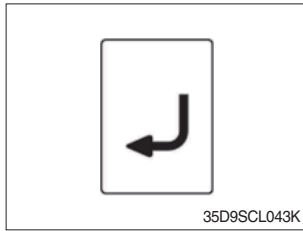
- ① This switch is used to move upward or leftward in menu or increase the value.

(3) Down/Right



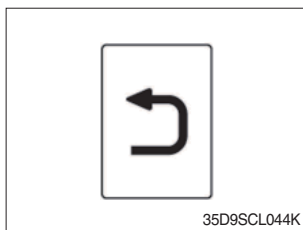
- ① This switch is used to move downward or rightward in menu or decrease the value.

(4) Select



- ① This switch is used to enter into the menu or to select.

(5) Cancel (ESC)



- ① This switch is used to cancel or move to upper menu.



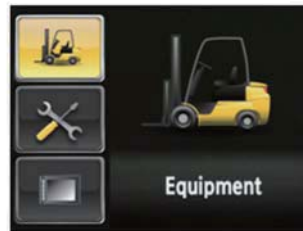
35D9SCL045

7) MAIN MENU

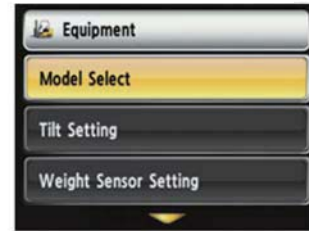
Operation Screen



Main Menu Screen






Sub-Menu Screen



35D9SCL046

A menu consists of main menu and sub-menu.

(1) Structure

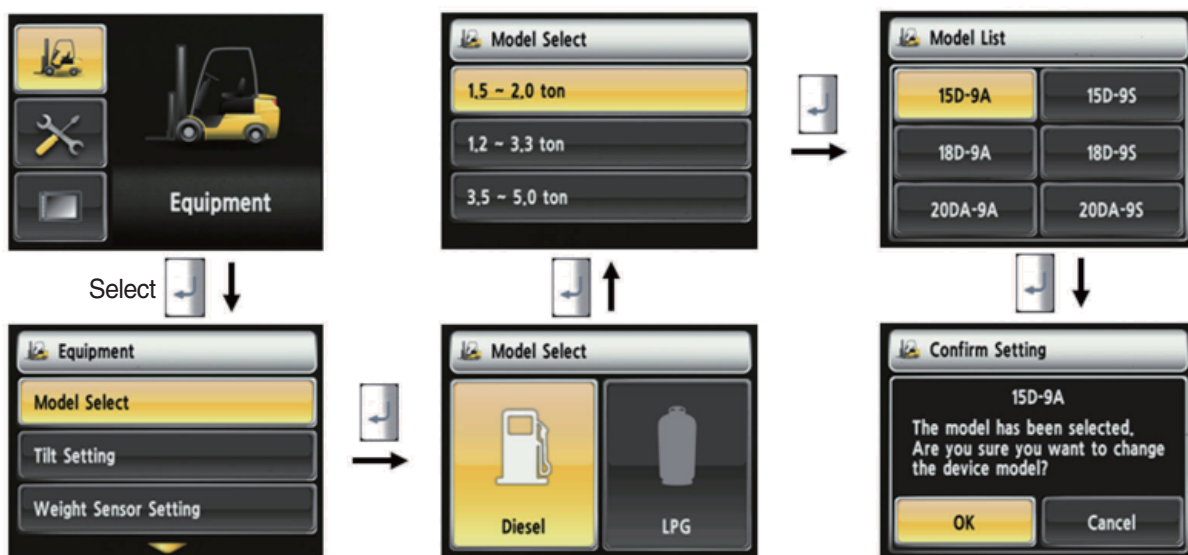
No	Main menu	Sub menu	Explanation
1		Model select Vehicle tilt Initialize Weight sensor setup Ignition control setup Camera setup Auto-shift speed setup DCSR speed setup Maximum speed warning MCU Cluster information	Diesel, LPG Vehicle tilt Initialize Enter the cylinder cross section area , Adjust load weight, Weight display setup Ignition control, Change password Interoperate with reverse gear 1st gear-> Switching speed to 2nd gear, 2nd gear -> Switching speed to 1st gear DCSR On, Block driving speed, Restore driving speed Maximum speed warning MCU/Cluster Information
2		Failure History Expendables management I/O Information	Current engine failure, Engine failure history Change oil and filter replacement cycle Analog Input, Digital input/output
3		LCD Brightness Time Setup Unit Setup Language Setting A/S Contact ESL password Maintenance management	Automatic, Manual Clock Speed, Weight, Temperature, Pressure, Date type Korean, English Change A/S contact E/G starting password contact Maintenance parts management

(2) Model select (a required setting)

- ※ This is a required setting. Some functions may not be worked properly if you do not select the model.
- How to check the Model Select (Check under the KEY ON status)



35D9KCL070



· How to select the model

1. Device setup > Model select
 2. Please select the fuel type.
 3. Please select the vehicle weight level.
 4. Please select the exact model name.
 5. Selection will be cancelled if press the cancel button or ESC switch.
 6. Check the phrases would be disappeared in the main screen.
- ※ To use full function of vehicle, exact model must be selected.



35D9SCL047



35D9KCL071

(3) Initialize vehicle tilt (a requid setting)

- How to check the "Initialize Vehicle Tilt" (Check under the KEY ON status)

1) Vehicle that has not applied the mast angle sensor



2) Vehicle that has applied the mast angle sensor



35D9KCL072



35D9SCL048

Initialize vehicle tilt

- The tilt sensor has already been initialized when deliver the vehicle from factory.
- Initialize vehicle tilt if the tilt sensor figure or vehicle tilt is not horizontal in the flatland.
Vehicle set up > Initialize vehicle tilt
- You must set tilt in the flatland since this is a horizontal set up.
- If tilt sensor for mast is mounted (optional), locates the mast vertically.
- Mast maximum angle depends on the vehicle.

· **Check functions**

(1) Check the real time operation by changing angles of vehicle tilt and mast tilt,

(2) Mast Angle Warning Angle (red)

- ① Front 6 degrees or more
- ② Check the warning buzzer (3.5 tons ~ 5.0 tons)
- ③ Stop buzzer : Select "Cancel" button
- ④ Check the Auto-Leveling (vehicle that is applied the options)

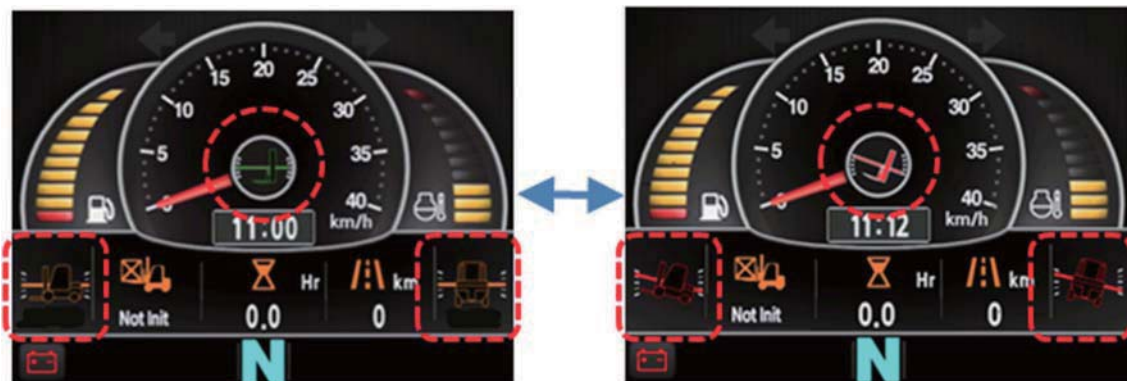
(3) Front/Rear Tilt Warning (red)

- ① Stop : $\pm 2.3^\circ$ (1.5 tons~5.0 tons)
- ② Driving : $\pm 10.2^\circ$ (1.5 tons~5.0 tons)

(4) Left/Right Tilt Warning (red)

- ① Stop : $\pm 3.4^\circ$ (1.5 tons~5.0 tons)
- ② Driving

Vehicle Weight	Warning Angles (Red)
1.5 tons~2.0 tons	$\pm 20.3^\circ$
2.2 tons~3.3 tons	$\pm 20.8^\circ$
3.5 tons~4.5 tons	$\pm 24.2^\circ$
5.0 tons	$\pm 28.0^\circ$



35D9KCL073

(4) Weight sensor set up (optional)

- How to check the "Weight Sensor Setting" (Check under the KEY ON status)

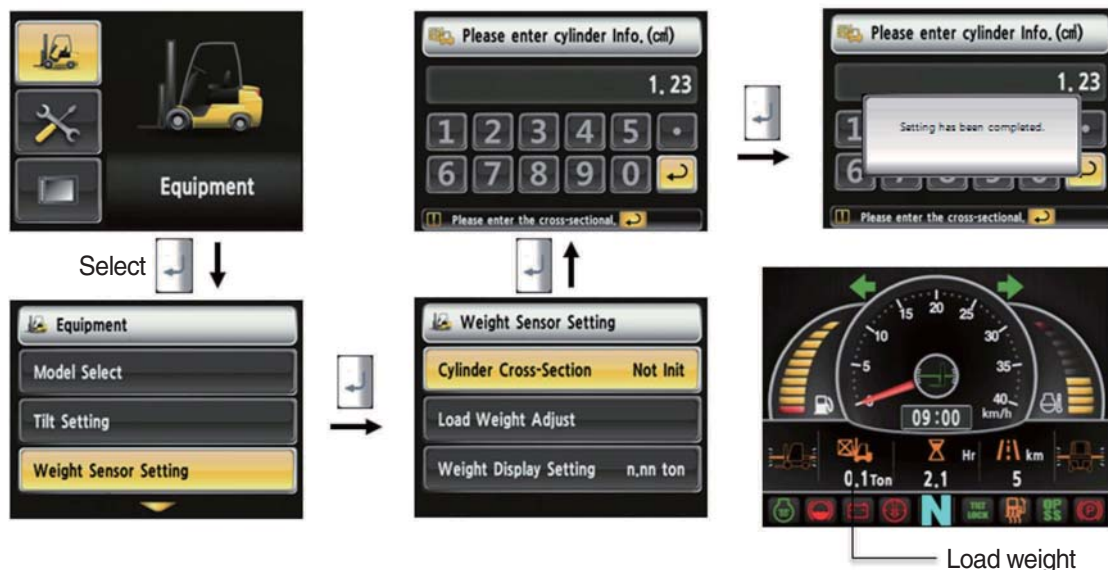
1) Vehicle that has not applied the weight sensor



2) Vehicle that has applied the weight sensor (not set)



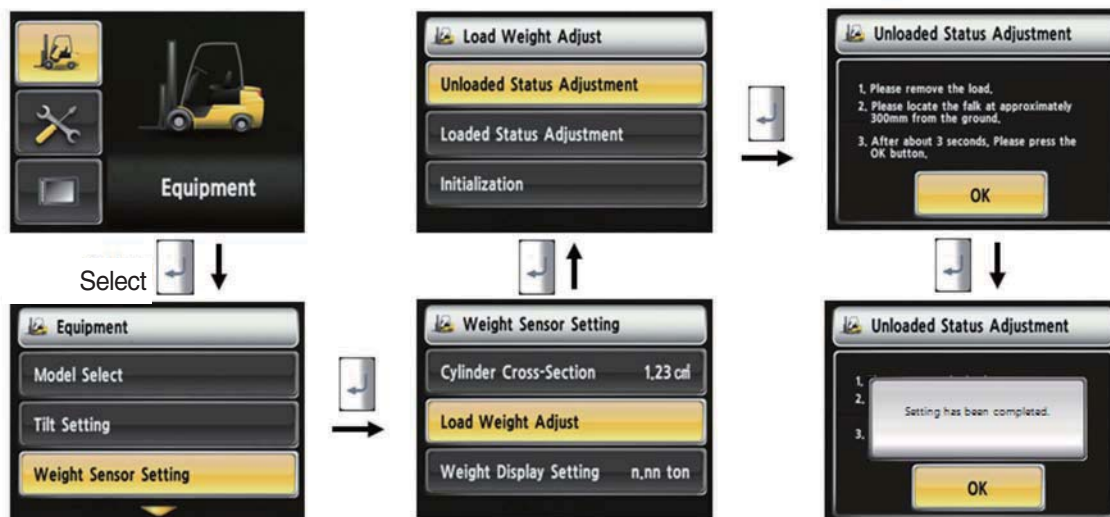
35D9KCL074



35D9SCL049

How to set weight sensor

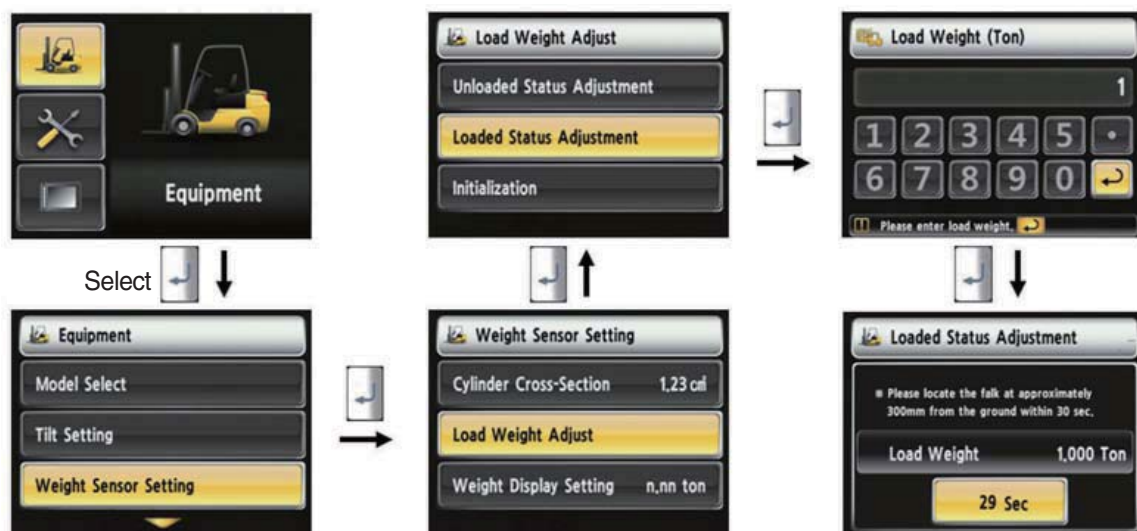
- The weight sensor has already been set when deliver the vehicle from factory.
- Device setup > Weight sensor setup
- There are three ways to setup. (unload, load, initialization)
- A cylinder cross sectional area value will be displayed in initial screen, please enter the cross sectional area using shift and select button if there are changes.
- Please finish setup using enter button when input is done.



35D9SCL050

How to set weight sensor (unload)

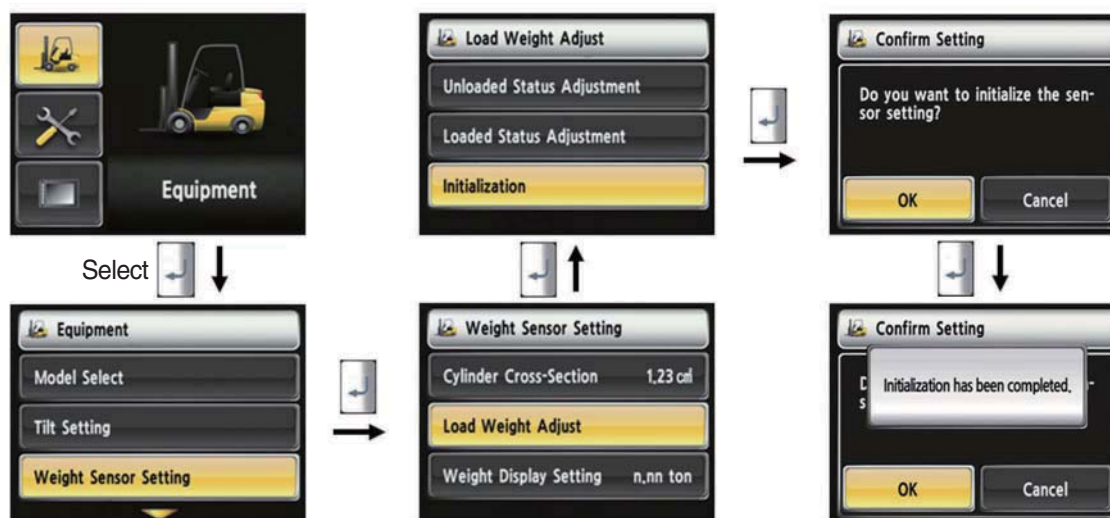
1. Device setup > Weight sensor setup
2. The way to adjust the no-load weight is as follow
3. First, please select the no-load adjust.
4. Wait 3 seconds after lifting no-load fork approximately 30 cm from the ground level, then press OK button.



35D9KCL051

How to set weight sensor (load)

1. Device Setup > Weight Sensor Setup
2. The way to adjust the load weight is as follow
3. First, please select the load adjust.
4. Please enter load weight.
- ※ **Must be prepared to lift up by locating the load on the fork before enter the weight.**
5. Please locate the loaded fork approximately 30 cm from the ground level.
- ※ **MCU recognizes the weight automatically by detecting the pressure change.**
- ※ **Must be performed only the load lift task within 30 seconds.**
- ※ **Accurate weight value is not recognized if other pressure changes that are occurred besides salvage work.**
- ※ **Re-perform the "Load/No-Load Adjustment" if the measurement malfunction is occurred.**
6. If set is completed, the screen will be switched automatically.
7. Please proceed the operation within 30 seconds.
8. Operating will be cancelled automatically if the time is elapsed longer than 30 seconds

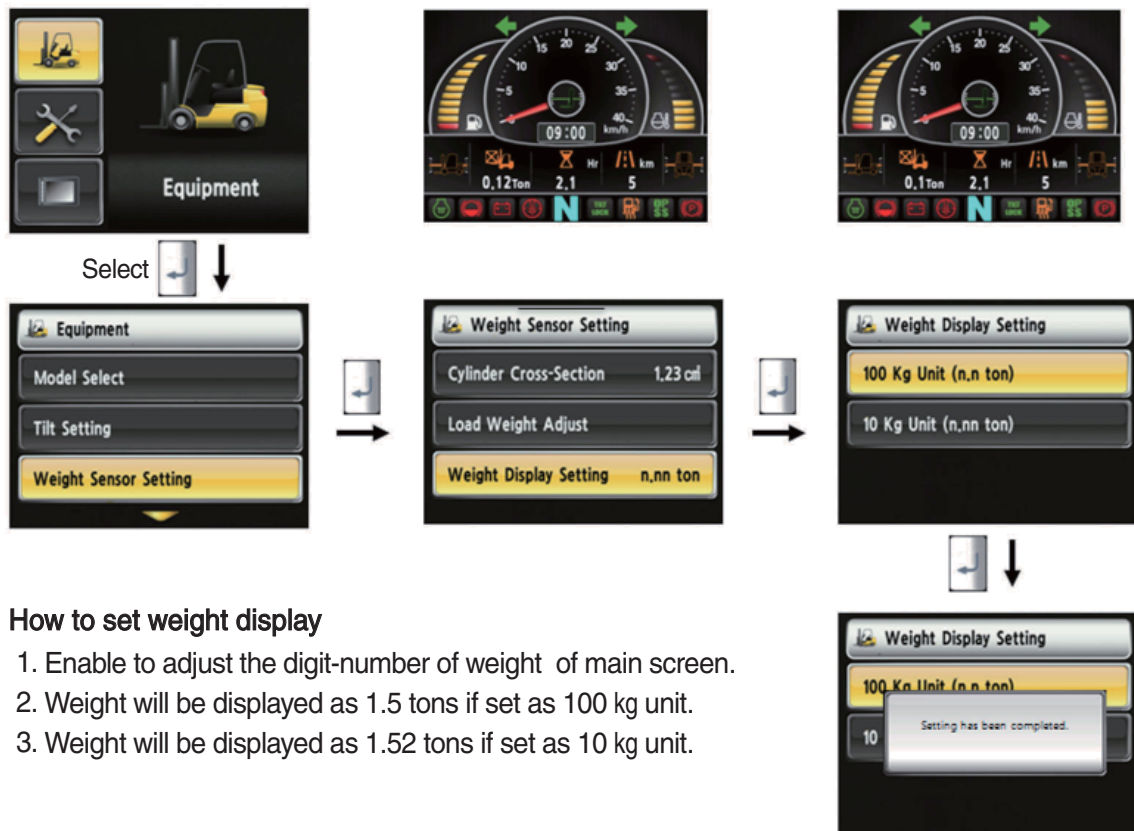


35D9KCL052

How to set weight sensor (initialization)

Initialize the all values of "No-Load Adjustment" and "Load Adjustment" that were entered previously (Cylinder cross-sectional area is not initialized.)

(5) Weight setup

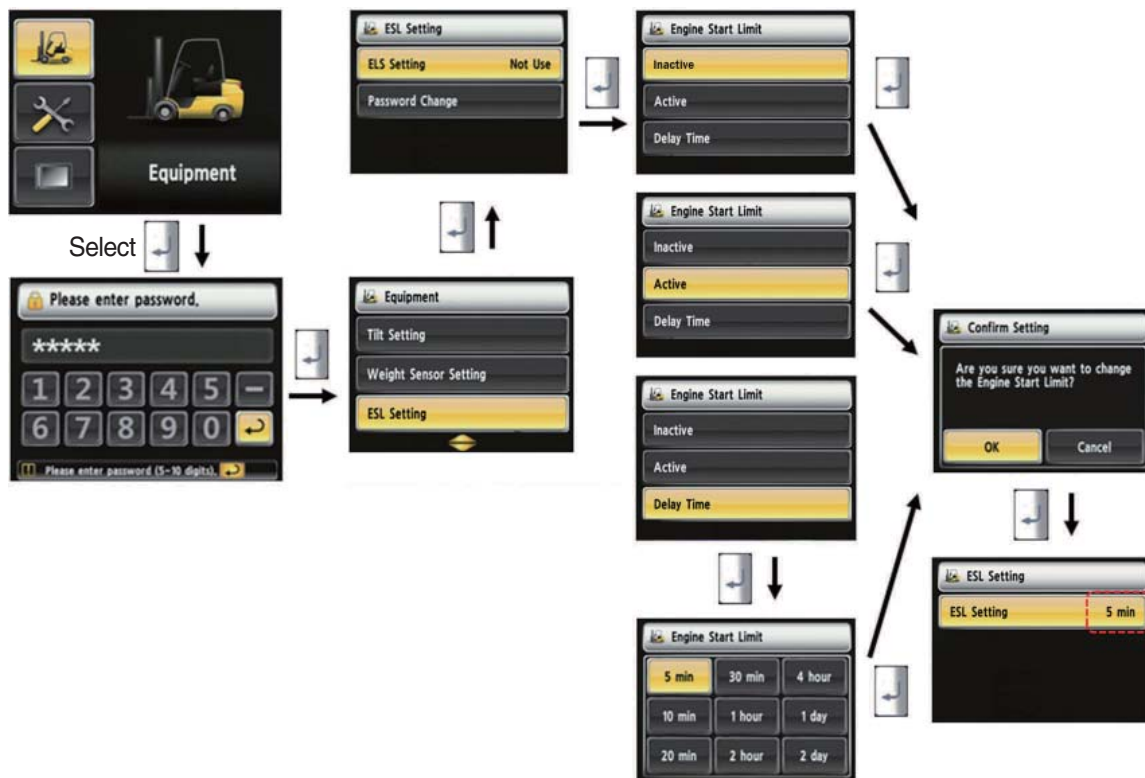


How to set weight display

1. Enable to adjust the digit-number of weight of main screen.
2. Weight will be displayed as 1.5 tons if set as 100 kg unit.
3. Weight will be displayed as 1.52 tons if set as 10 kg unit.

35D9SCL053

(6) Startup Control Setting (Standard) : Default is "Not Use"



35D9KCL054

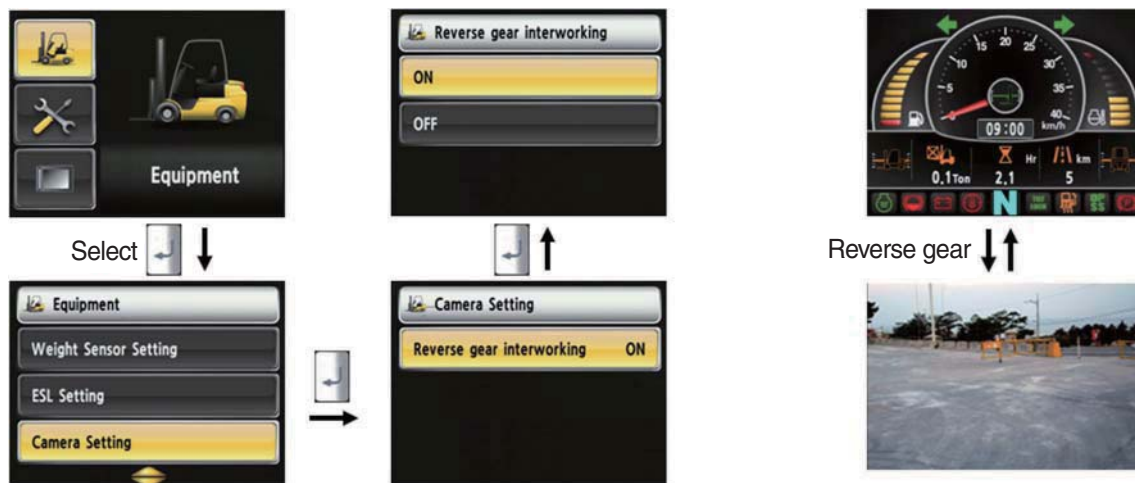
How to set ESL setting

1. Device Setup > ESL setting
2. Password request screen will be displayed if you select the menu. Default password is "00000".
3. Password length must be longer than 5 digit and less than 10 digit.
4. Next step is allowed only if password is authenticated.
5. Check functions
 - ① When KEY is ON, Engine start will be enabled after entering the ESL password in password screen.
 - ② "Use" mode will operate if KEY is on 10 seconds after KEY-OFF (Password screen will be displayed.)
 - ③ "Not Use" mode will operate if KEY is on within 10 seconds after KEY-OFF. (Main screen will be displayed.)
- ※ KEY-ON screen (When startup Control mode is ON)



35D9KCL075

(7) Camera setup

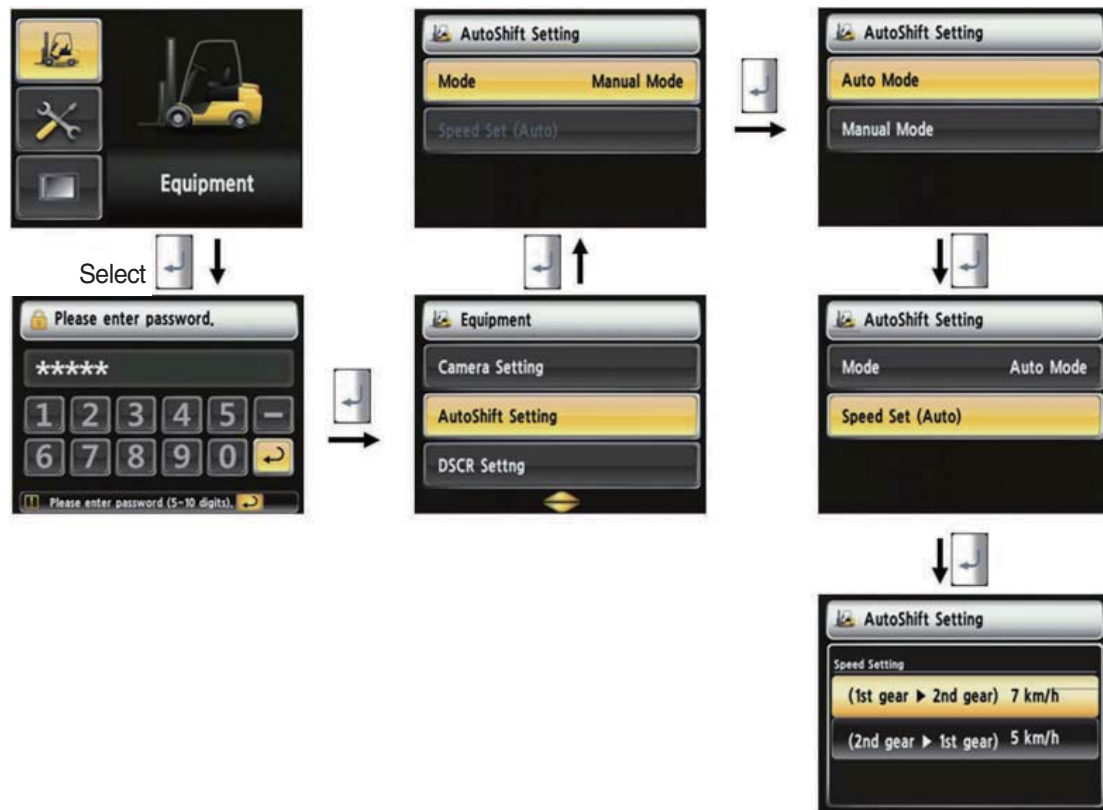


35D9SCL056

How to set camera

1. Device setup > Camera setup
2. After set the reverse gear interoperation as ON, the screen will be changed from main screen to camera mode if put gear into reverse, and if the gear is changed, screen will be back to the main screen.

(8) Auto-shift setup (standard)



35D9KCL057

How to set auto-shift

1. Device Setup > Auto-Shift setup
2. User password is required in order to set this function.
3. In automatic mode, the gear is switched automatically by vehicle speed.
4. Enable to set the gear switching speed.
5. Applied 3.5 tons ~ 5.0 tons T/M 2nd gear.

Check functions

1. Select the "Auto Mode"

- ① During forward or reverse driving, a gear will be shifted automatically in accordance with gear speed.
- ② Not interworking with gear select switch (1st gear / 2nd gear) of gear selector.

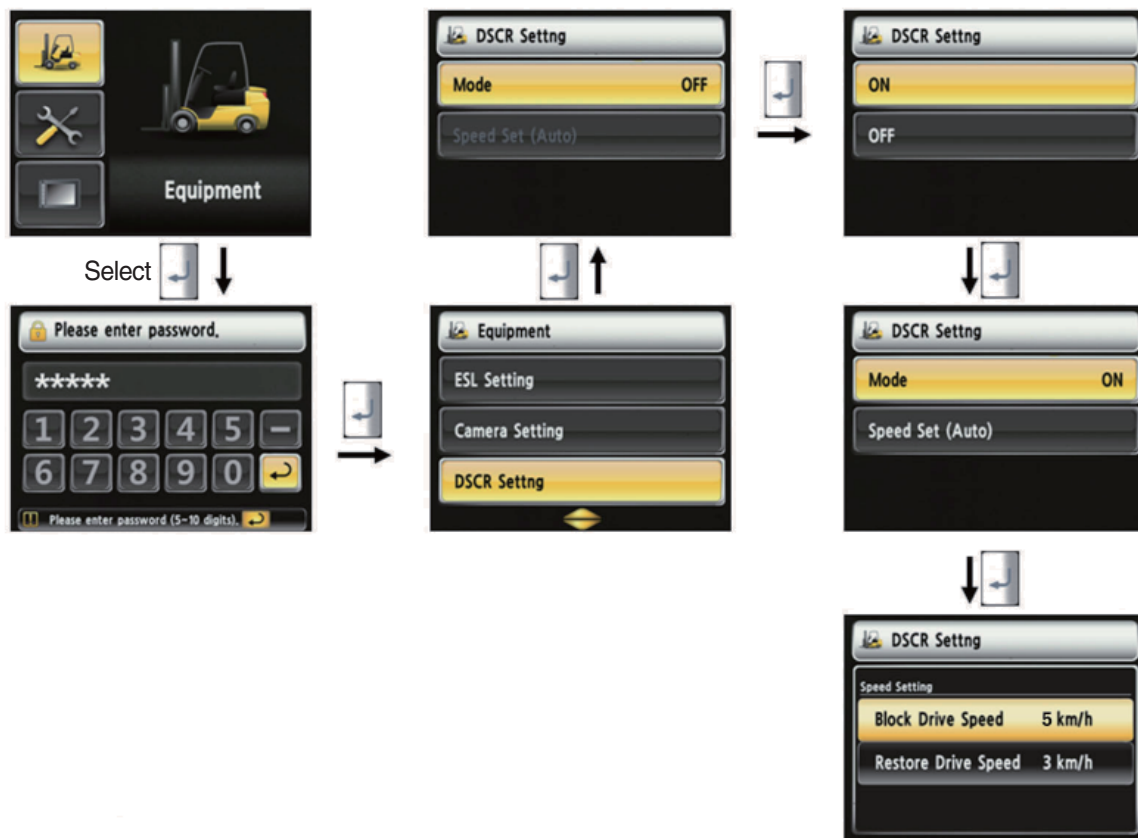


35D9KCL076

2. Select the "Manual Mode"

In accordance with gear select switch (1st gear / 2nd gear) of gear selector, T/M gear is shifted.

(9) DCSR Setup (standard)

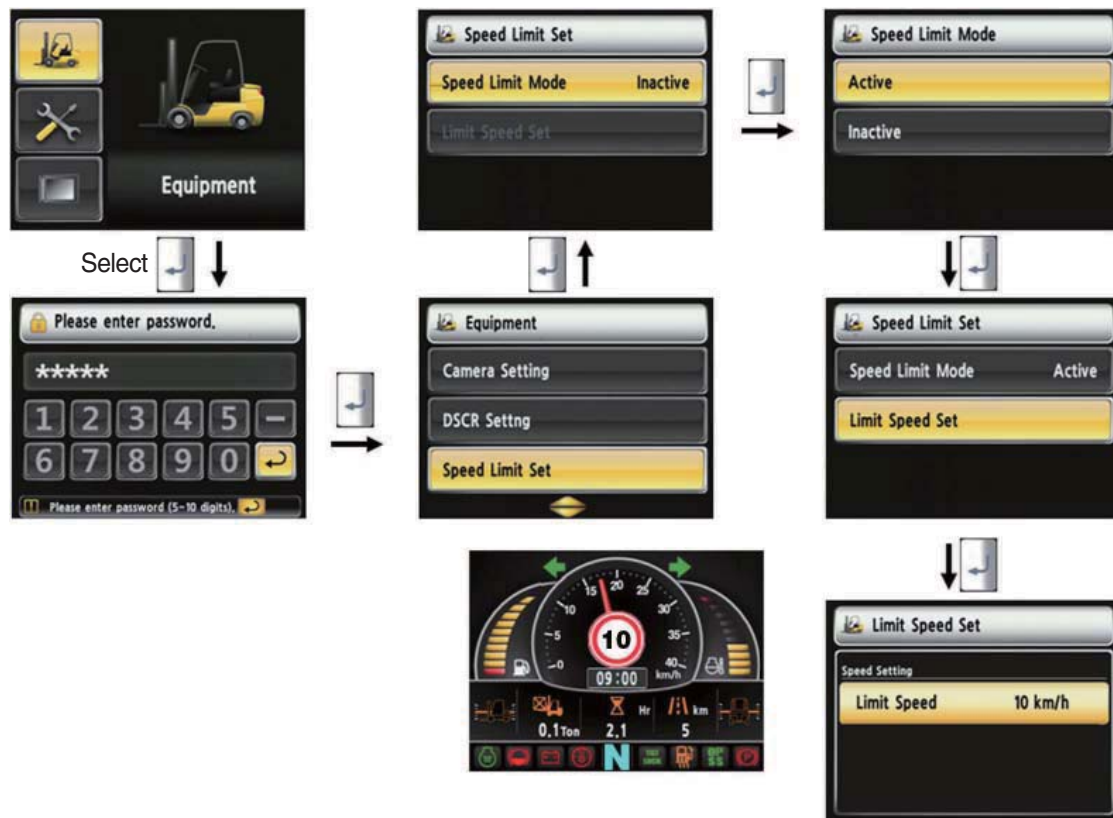


35D9KCL058

How to set DCSR

1. Device setup > DCSR setup
 2. User password is required in order to set this function.
 3. If the setting is ON, driving will be blocked if the driving speed is over the specified speed.
 4. Driving will be continued if the driving speed is not over the specified speed.
- ※ DCSR : Direction change shock relief

(10) Driving speed warning setup



35D9KCL059

· How to set driving speed warning

1. Device Setup > Driving speed warning
2. User password is required in order to set this function.
3. If alarm is set as enable, setting speed will be displayed on the screen, and the buzzer rings every 2 seconds.
4. Default is "10 km/h"

· Check functions

1. Select the "Notification" as "Use". Set the "Speed Warning" as "10 km/h"
2. Warning lamp and buzzer should be worked if the driving speed gauge is over 10 km/h.

※ Identical with speedmeter indicator.

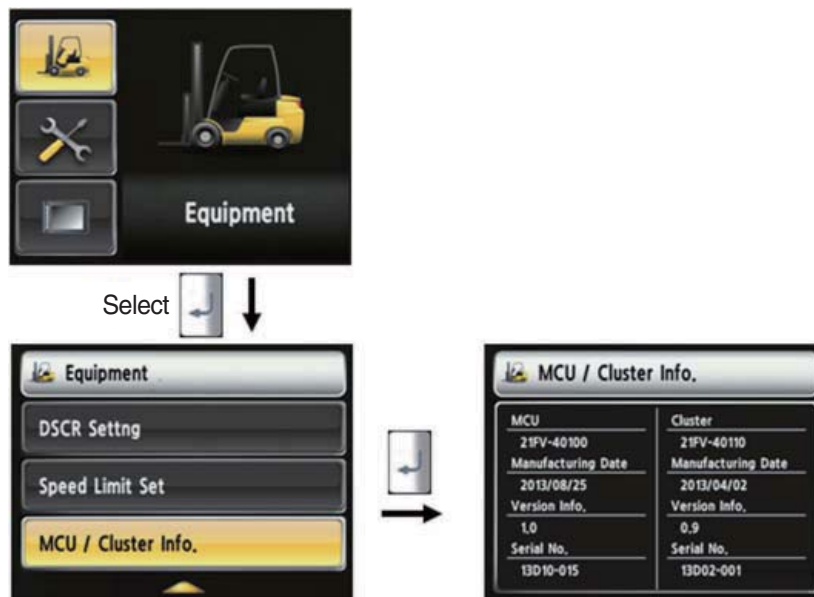


(Driving Speed < 10 km/h)

(Driving Speed ≥ 10 km/h)

35D9KCL077

(11) MCU/Cluster information

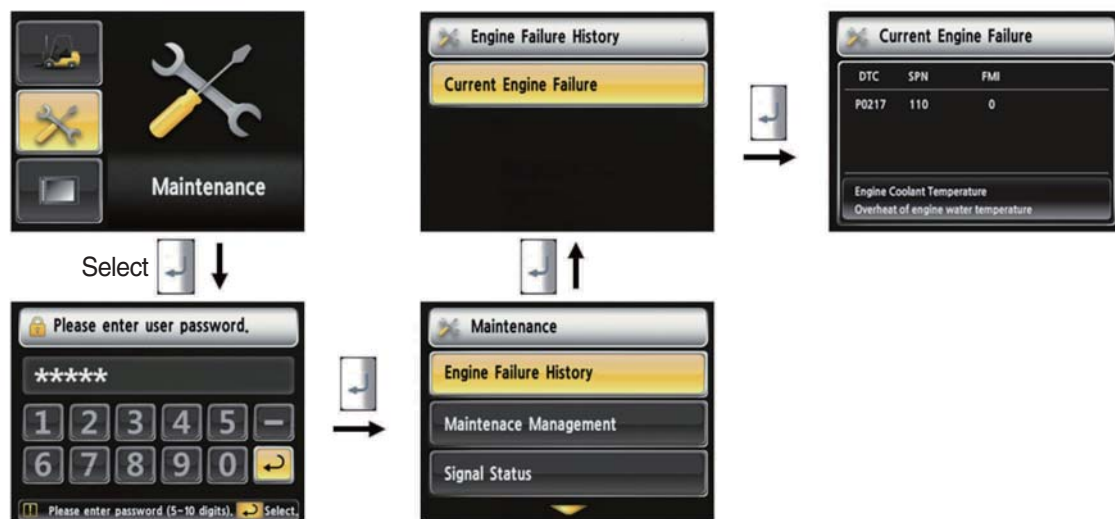


35D9SCL060

MCU / Cluster information

1. Device Setup > MCU/Cluster information
2. MCU, manufactured date and version of cluster, and serial number will be displayed.

(12) Engine Failure History



35D9KCL078

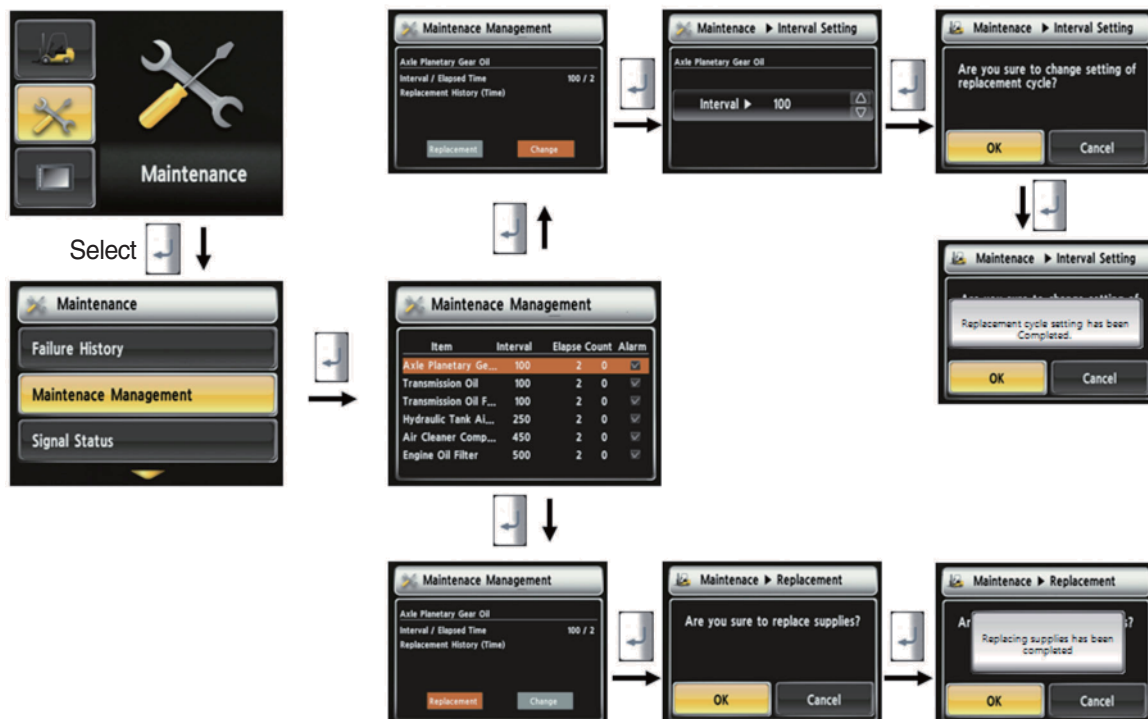
· Engine failure history

1. Device Setup > Engine failure history
2. Device that has an error code among the engine.

(13) Expendables replacement management



35D9KCL079

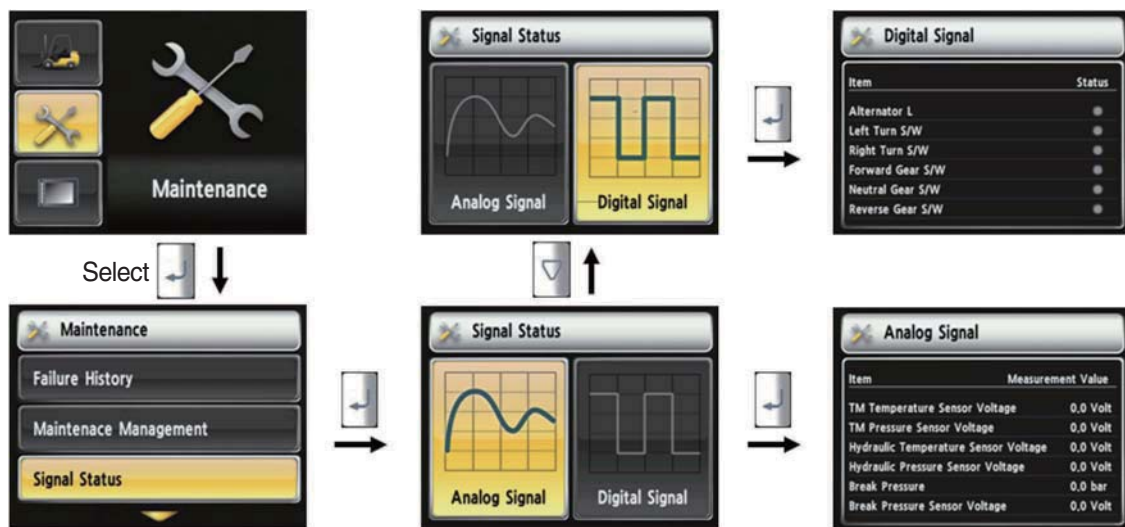


35D9SCL061

How to replace expendables

1. Device setup > Expendables management
2. If the expendables replacement cycle has been passed, alarm will be displayed as ON
3. Press the "Expendables replacement" if replaced the expendables.
4. Information about recent replacement (max. 9) will be displayed.
5. If you want to change the cycle, please press the "Change cycle" button.

(14) I/O Information

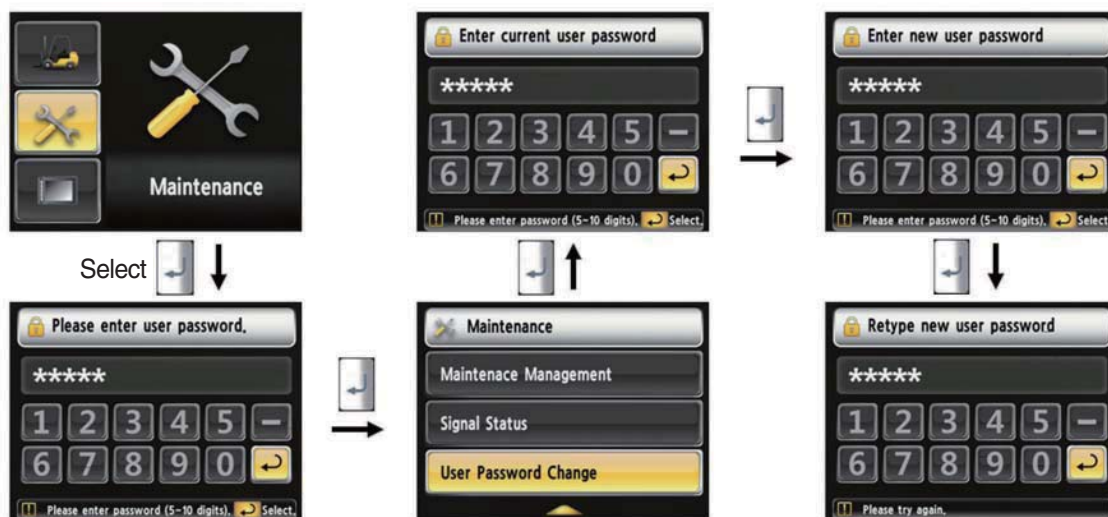


35D9SCL062

How to set I/O information

1. Maintenance > I/O information
2. I/O information can be classified as two signals. Analog signal can see the numeric data. Digital signal can indicate only ON/OFF.
3. User can change the cycle.

(15) User password change

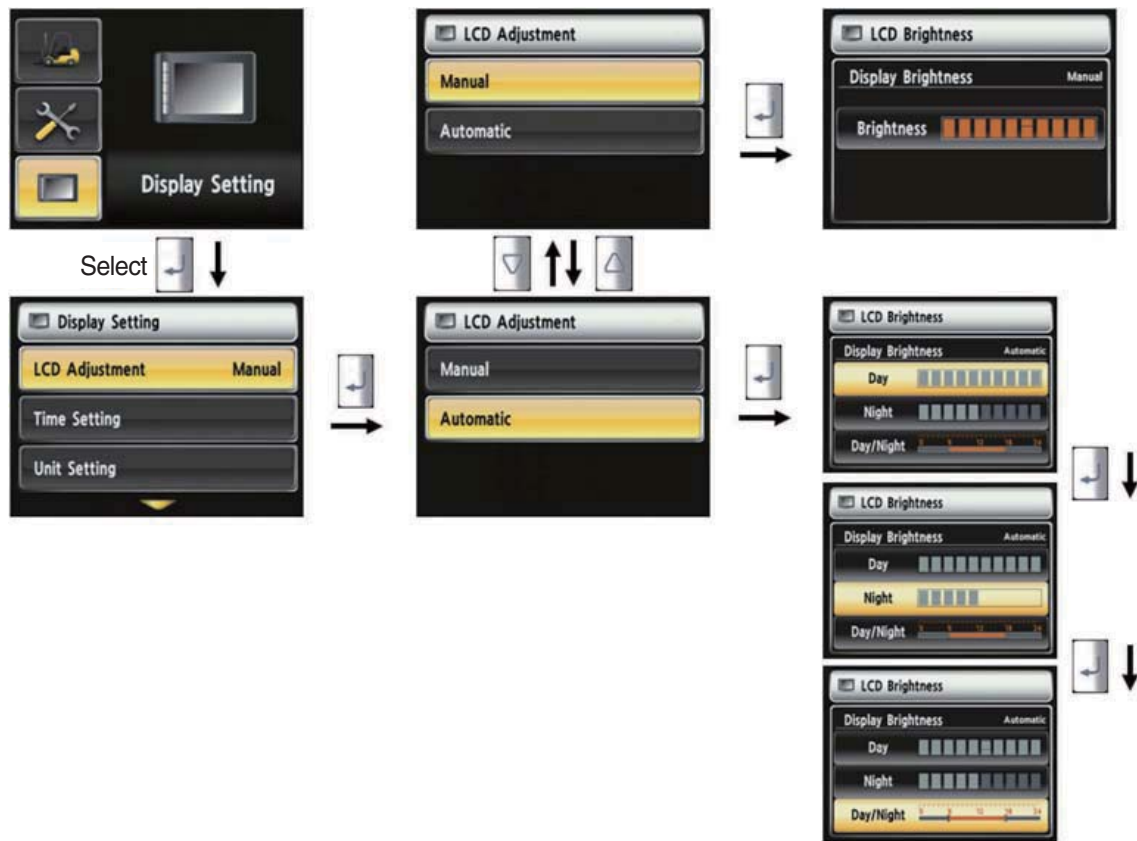


35D9KCL080

How to change "User Password"

1. Device setup > User password set up
2. Change password
3. This function is to allow to change password from default password to user defined password.
4. Password length must be longer than 5 digits and less than 10 digits.
5. Since, if you forget the password, you must request the A/S, do not forget the password.

(16) LCD brightness

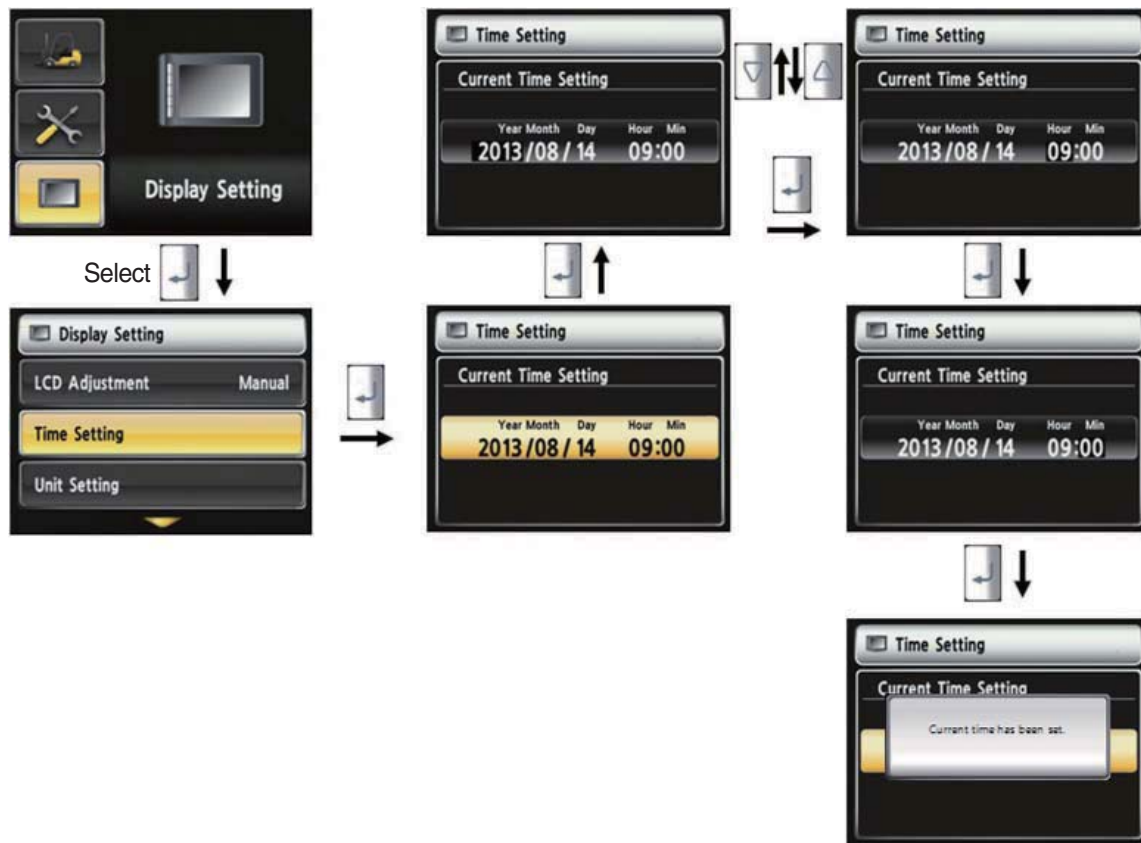


35D9SCL064

How to set LCD brightness

1. Display > LCD brightness
2. LCD brightness has two options. Automatic mode and manual mode.
3. Manual mode always keeps the selected brightness.
4. Daytime brightness : 100%, Nighttime brightness : 50%, Daytime/Nighttime time zone : 06~18

(17) Time setup

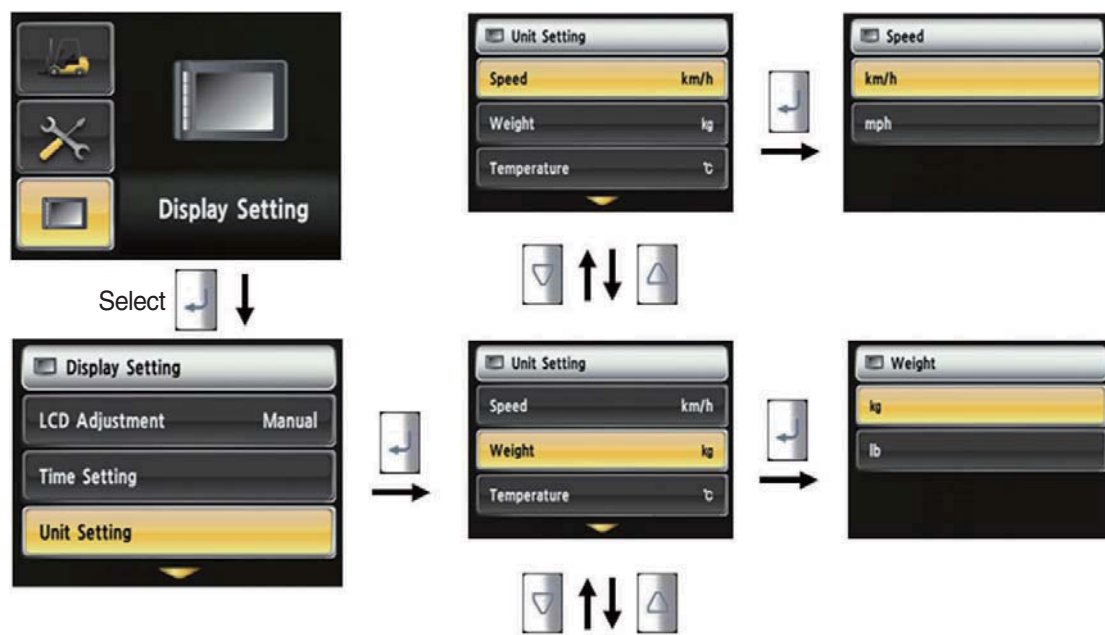


35D9SCL065

How to set current time

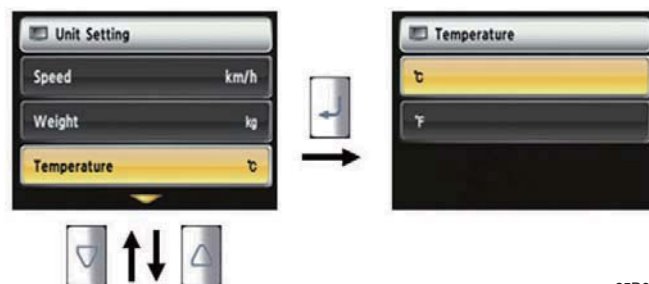
1. Display setup > Time setup
2. Enable to set the time that is displayed in main screen.
3. Set time in following order. (year > month > day > hour > minute)

(18) Unit setup

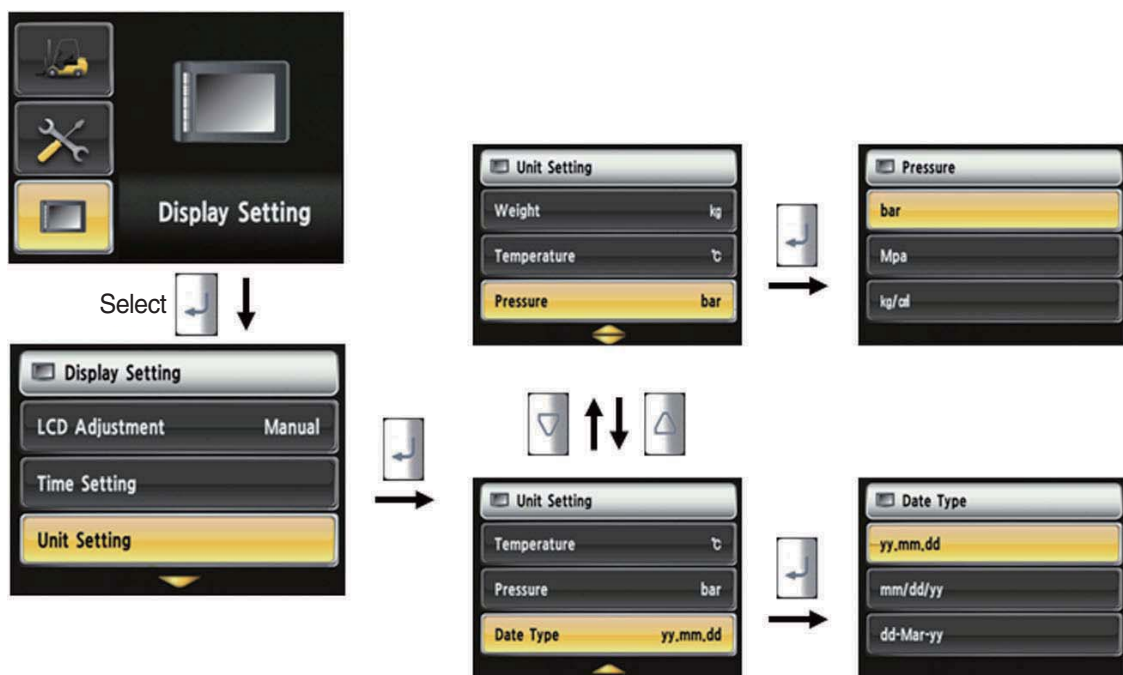


Unit setup

1. Display setup > Unit setup
2. Enable to set all unit values that displayed on screen.
3. It is displayed by calculating as setting unit.

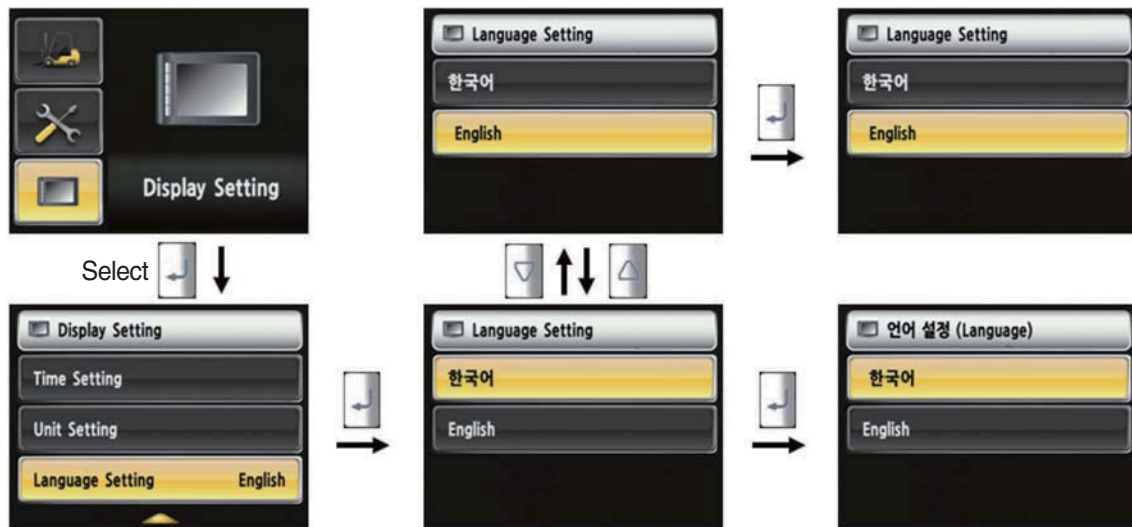


35D9SCL066



35D9SCL067

(19) Language setup



35D9SCL068

· How to set language



1. Display Setup > Language setup
2. Language setup changes the language that is displayed on the screen to language that user defined.
3. Currently, supported language is Korean and English.

(20) A/S Contact Setup

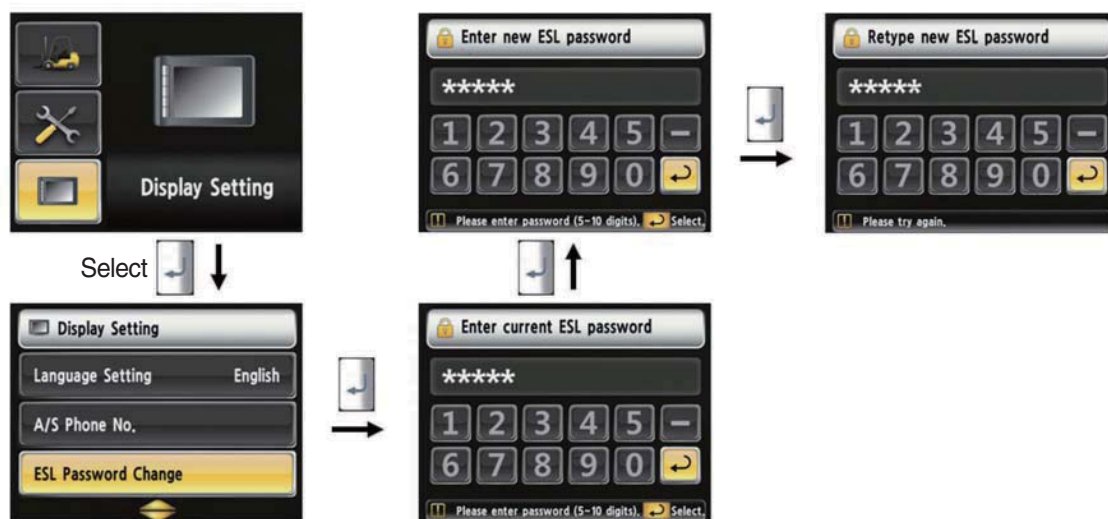


35D9SCL063

· How to set A/S contact

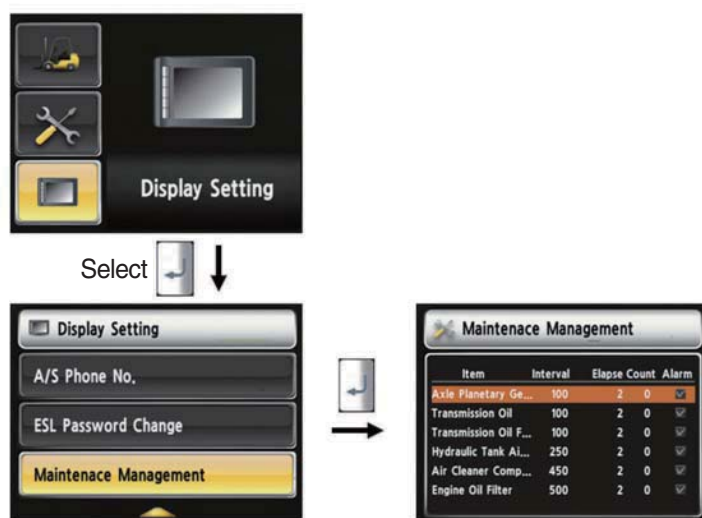
1. Maintenance > A/S Contact
2. User can change the A/S contact when deliver the vehicle from factory.
3. If user moves numeric number using arrow, and press the  select button, number will be displayed on the screen.
4. If user press the  enter key, the value will be set.
5. Contact will be displayed as the modified value.

(21) ESL password change



35D9KCL081

(22) Maintenance management



35D9KCL082


※ Verify the maintenance items in only view mode.

(23) Cluster DPF level 1st warning scenario

① Condition

- DPF level 2 is kept more than 30 minutes
- Stage that requires the parked regeneration performance since it seems to hard to restore to level 0 by auto regeneration.

② Warning type

- Stop (Gear : Neutral, Driving speed : 0 km/h) : Pop-up window is always ON.
- Driving : Pop-up window ON/OFF (5 sec ON, 15 sec OFF).
- ESC button : Pop-up window OFF, display the main screen, pop-up window operates after 15 seconds.
- Menu button : Normal operation, pop-up window will be disappeared. Display the menu screen (Enable to inquire level value).
-  blinking





35D9ACL070

(24) Cluster DPF level 2nd warning scenario

① Condition

- DPF level 3
- Request to perform parked regeneration strongly to driver.

② Warning type

- Always display the red/yellow popup window every 1 seconds (vehicle stop/driving).
- Warning buzzer is always ON : 2 sec ON, 1 sec OFF short and fast sound.
- ESC button : Pop-up window OFF, display the main screen, pop-up window operates after 15 seconds (Impossible to stop buzzer).
- Menu button : Normal operation, pop-up window will be disappeared. Display the menu screen (Enable to inquire level value and DTC)
-  blinking,  lamp ON.





35D9ACL071

(25) Cluster DPF level 3rd warning scenario

① Condition

- a. DPF level 4, 5
- b. DPF level 4 : Parked regeneration is possible by service tool. Parked regeneration is impossible by parked regeneration switch.
- c. DPF level 5 : Parked regeneration is impossible by service tool, DPF replacement stage.

② Warning type

- a. Maintain the ON status of pop-up window.
- b. Release the warning buzzer.
- c. ESC button: Pop-up window OFF, display the main screen, pop-up window operates after 15 seconds.
- d. Menu button: Normal operation, pop-up window will be disappeared. Display the menu screen (Enable to inquire level value).
- e.  blinking,  lamp ON.



35D9ACL072


(26) Parked regeneration operation

① Step 1 : Vehicle status

- a. Forward/Reverse switch : switch in neutral
- b. Parking brake (Service brake) :
Operating
- c. Acceleration pedal : Not operate (0%)

② Step 2 : Parked regeneration switch "ON" - Keep about 3 seconds

③ Warning type

- a. Maintain the ON status of pop-up window.
- b. Release the warning buzzer.
- c. ESC button: Not operate.
- d. Menu button: Normal operation, pop-up window will be disappeared.
- e. Display remaining time: minute down count.
- f.  blinking



35D9ACL073

(27) Parked regeneration performance completion

- ① Parked regeneration performance completion condition
- ② **Warning type**
 - a. Release the warning buzzer
 - b. ESC button : Not operate
 - c. Menu button: Normal operation, pop-up window will be disappeared.



35D9ACL074















(28) Parked regeneration performing failure or cancellation











- ① **Parked regeneration performing failure or cancellation condition**
 - a. Parked regeneration, performing failure.
 - b. Cancellation condition (Vehicle status during parked regeneration) :
 - Forward/Reverse switch : Select the forward or reverse
 - Parking brake (Service brake) : Release
 - Accelerator pedal : Operating
- ② **Warning type**
 - a. Release the warning buzzer
 - b. ESC button : Not operate
 - c. Menu button: Normal operation, pop-up window will be disappeared. Warning stage will be displayed according to the DPF Level.



35D9ACL075

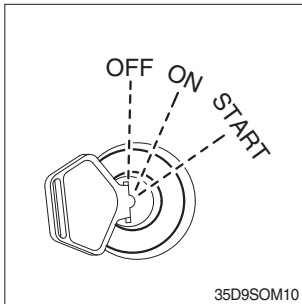
8) CAUSES AND CORRECTION OF CLUSTER WARNING LAMP

S/No.	Warning lamp types	Symbol	Warning and indicator lamp	Causes and correction
1	Engine oil pressure warning		Engine oil pressure warning lamp	Engine oil pressure is low. Please the engine oil refill.
2	Engine warm-up indicator		Engine warm-up indicator lamp	Warm-up will be started.
3	Air cleaner warning		Air cleaner warning lamp	Replace the filter.
4	Water in fuel warning		Water in fuel warning lamp	Please drain the water of water separator.
5	Engine check warning		Engine check warning lamp	Check the failure code of cluster.
6	Engine stop warning		Engine stop warning lamp	Check the failure code of cluster.
7	DPF regeneration warning		DPF regeneration warning lamp	If necessary, display the regeneration DPF.
8	DPF inhibit indicator		DPF inhibit indicator lamp	DPF regeneration status is prohibited.
9	Exhaust high temperature warning		Exhaust system high temperature warning lamp	High temperature state of exhaust system.
10	Fuel warmer indicator		Fuel warmer indicator lamp	warming up the fuel.
11	TM oil temperature warning		TM oil temperature warning lamp	TM oil is over temperature condition.
12	Parking brake indicator lamp		Parking brake indicator lamp	Parking brake is operating.
13	Brake oil level warning		Brake oil level warning lamp	Brake oil level is low. Please the brake oil refill.
14	Battery charging warning		Battery charging warning lamp	Charging the battery is bad. Please check alternator and wiring.
15	Tilt lock indicator		Tilt lock indicator lamp	Auto-leveling is the operational status.
16	OPSS indicator		OPPS indicator lamp	OPPS is working. Blocking driving or operation of the device.
17	Fuel warning		Fuel warning lamp	Fuel level is low. Please the diesel oil refill.

S/No.	Warning lamp types	Symbol	Warning and indicator	Causes and correction
18	Coolant temperature warning		Engine coolant temperature warning lamp	Engine coolant is over temperature condition.
19	T/M oil warning or clutch protection		T/M oil warning lamp	Clutch protection system operating or TM oil level is low. Please the T/M oil refill.
20	Communication error warning		Communication error warning lamp	Communication with between MCU and ECU is fail condition. Check communication line.
21	Communication error warning		Communication error warning lamp	Communication with between CLUSTER and MCU is fail condition. Check communication line.
22	LH Turn indicator		LH Turning pilot lamp	-
23	RH Turn indicator		RH Turning pilot lamp	-
24	Forward first gear		Forward first gear indicator lamp	-
25	Forward second gear		Forward second gear indicator lamp	-
26	Reverse first gear		Reverse first gear indicator lamp	-
27	Reverse second gear		Reverse second gear indicator lamp	-

5. OPERATING LEVER AND SWITCH

1) START SWITCH



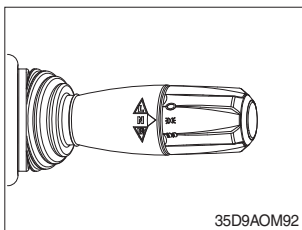
(1) There are three positions, OFF, ON and START.

※ Before starting, set gear shift lever at N, and pull parking brake.

- OFF : None of electrical circuits activates.
- ON : All the systems of machine operate.
Preheat the system for 10~20 seconds.
- START : Use when starting the engine.
Release key immediately after starting.

※ Key must be in the ON position with engine running to maintain electrical and hydraulic function and prevent serious machine damage.

2) CLEARANCE LAMP SWITCH



(1) Clearance lamp lights up

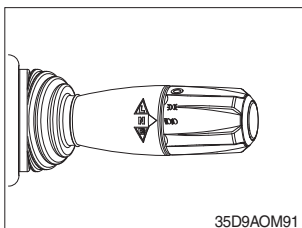
Twist the handle beneath steering wheel and make the notch align to ☸.

(2) Clearance lamp goes out

Twist the handle just opposite until the notch being aligned to ☉.

※ When clearance lamp light up, then the Clearance lamp and all panel lamps light up too.

3) HEAD LAMP SWITCH



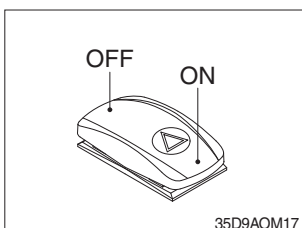
(1) Head lamp lights up

Twist the handle beneath steering wheel and make the notch align to ☸.

(2) Head lamp goes out

Twist the handle just the opposite until the notch being aligned to ☉.

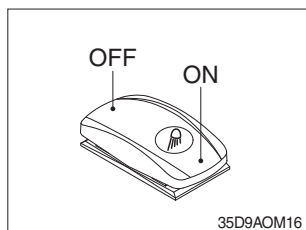
4) HAZARD LAMP SWITCH (option)



(1) Use for parking, or loading machine.

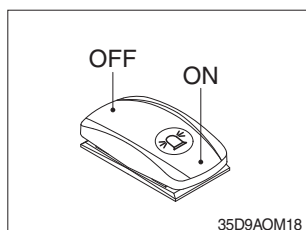
※ If the switch is left ON for a long time, the battery may be discharged for 3 seconds.

5) REAR WORK LAMP SWITCH (option)



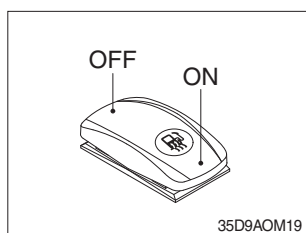
- (1) This switch is used to operate work lamps.
Press this switch to turn on work lamps.

6) BEACON SWITCH (option)



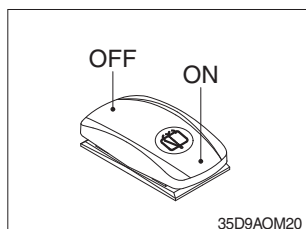
- (1) This switch turn ON the rotary light.

7) FUEL WARMER SWITCH



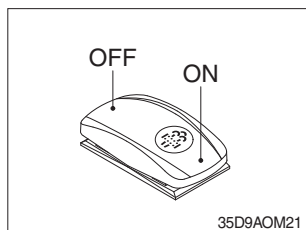
- (1) This switch is used to heat the fuel of pre-heater.

8) FRONT WIPER/WASHER SWITCH (option)



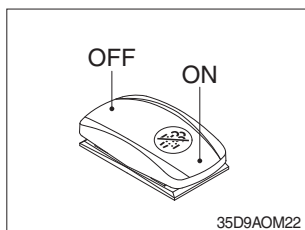
- (1) This switch is used to operate the front wiper and washer by two steps.
- First step : The front wiper operates.
 - Second step : The washer liquid is sprayed and the rear wiper is operated only while pressing. If release the switch, return to the first step position.

9) PARKED REGENERATION SWITCH



- (1) If the warning lamp of parked regeneration performing requirement is blinking (fast blink 1Hz), driver operate the parked regeneration switch.
- (2) ECU performs the parked regeneration operation when switch is ON. Level 2~3. (refer to page 3-12)

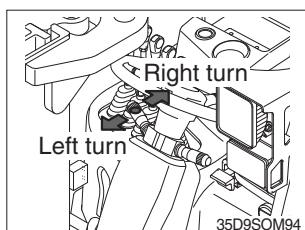
10) INHIBIT REGENERATION SWITCH



(1) ECU will block the automatic active regeneration when switch is ON. Level 1~5. (refer to page 3-12)

(2) Parked regeneration is available. Level 2~3. (refer to page 3-12)

11) TURN SIGNAL SWITCH



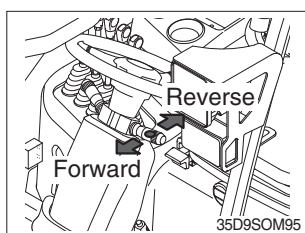
(1) This lever makes the turn signal lamp flash.

① Turning LEFT : Push lever forward

② Turning RIGHT : Pull lever backward

※ **When the steering wheel is returned to straight, the turn signal is not cancelled. Return the lever to central position by hand.**

12) DIRECTION CONTROL LEVER

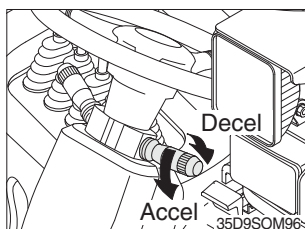


(1) Push lever for forward driving.

(2) Pull lever for reverse driving.

※ **When changing direction or speed, there can be some sound but it's nothing to do with performance.**

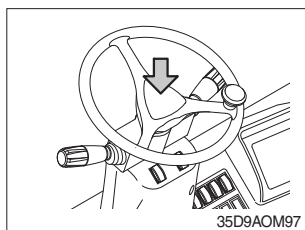
13) GEAR SELECTOR LEVER



(1) This lever is used for gear selection, forward 2 stage and reverse 2 stage.

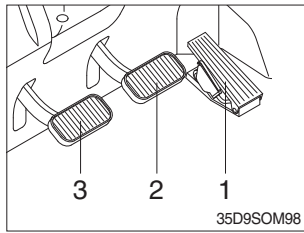
(2) If turning the gear selector lever forward, the machine increases the speed, but if turning it backward, the machine reduces the speed.

14) HORN BUTTON



(1) The horn sounds when the button is depressed.

15) PEDALS



(1) 1 : Accelerator pedal

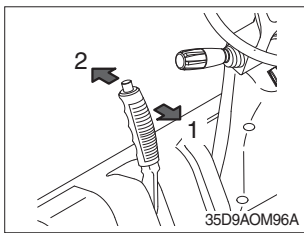
2 : Brake pedal

3 : Inching pedal

※ The inching pedal is used for fine control of forward and reverse movement when lifting up or putting down loads.

※ Do not put your foot on the inching pedal or brake pedal unless using it.

16) PARKING BRAKE LEVER



(1) Position 1

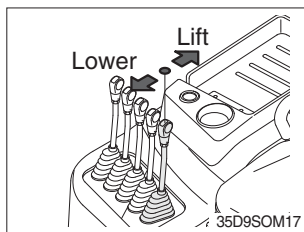
Parking brake is applied and front wheel is locked.

(2) Position 2

Parking brake is released.

※ Before moving the truck be sure the parking brake is released.

17) LIFT LEVER



(1) LIFT

PULL the lever BACK to LIFT the load.

(2) LOWER

PUSH the lever FORWARD to LOWER the load.

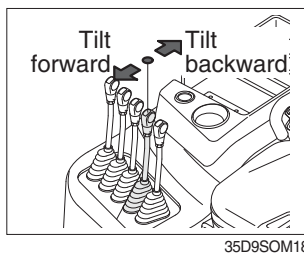
(3) HOLDING

When the lever is released, the lifting or lowering action stops.

※ Lifting speed is controlled by accelerator pedal.

Lowering speed is controlled by lever only.

18) TILT LEVER



(1) TILT FORWARD

PUSH the lever FORWARD to tilt mast FORWARD.

(2) TILT BACK

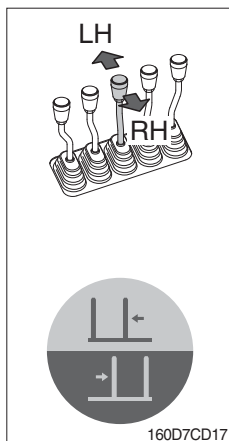
PULL the lever BACK to tilt mast BACKWARD.

(3) HOLDING

When the lever is released, tilting action stops.

※ Forward and backward tilting speeds are controlled by tilt lever and accelerator pedal.

19) LEVER FOR SIDE SHIFT



(1) LH MOVEMENT

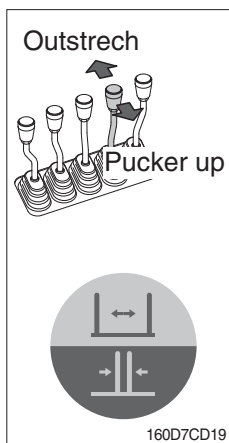
Push the lever forward to move the left hand for the side shift.

(2) RH MOVEMENT

Pull the lever backward to move the right hand for the side shift.

20) LEVER FOR SIDE SHIFT WITH FORK POSITIONER

(1) Fork positioner (synchronizer type)



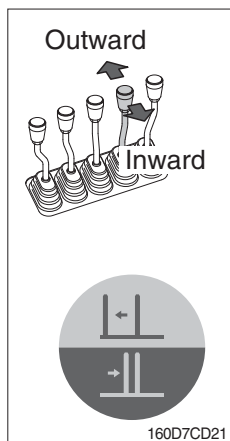
① OUTSTRECH THE FORKS

Push the lever forward to outstreach simultaneously outward of the both forks.

② PUCKER UP THE FORKS

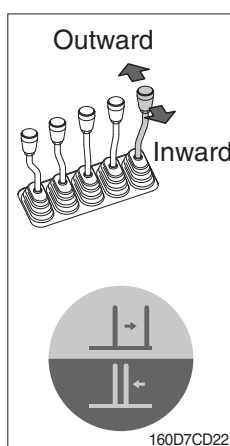
Pull the lever backward to pucker up simultaneously inward of the both forks.

(2) Fork positioner (independent type)



① LH FORK MOVEMENT

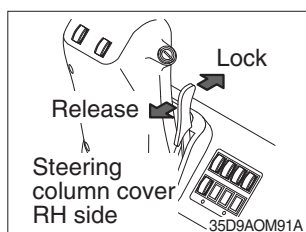
- Push the lever forward to move outward for the LH fork.
- Pull the lever backward to move inward for the LH fork.



② RH FORK MOVEMENT

- Push the lever forward to move outward for the RH fork.
- Pull the lever backward to move inward for the RH fork.

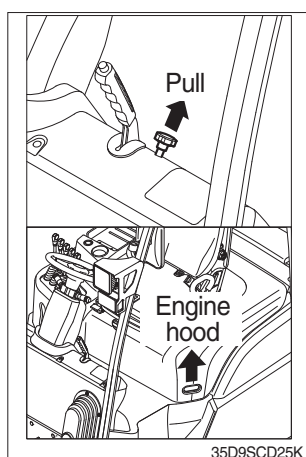
21) STEERING WHEEL LOCK KNOB



- (1) The angle of the steering shell can be adjusted forward and backward.

- ① **Release** : Pull the knob backward.
- ② **Lock** : Release the knob.

22) ENGINE HOOD



- (1) Pull the knob on the dashboard and raise the engine hood to open it.
- (2) Inspection and maintenance can then be carried out easily.

6. REGENERATION SYSTEM

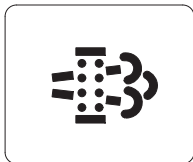
Regeneration

Particulate matter (mainly soot) filtered in DPF (diesel particulate filter) occurs poor performance caused by increasing exhaust gas pressure, incinerating process to convert from accumulated soot to ash is required. This process named regeneration.

The type of regeneration composes of automatic regeneration (active, auto-play by exhaust gas heat) and parked regeneration (passive play by the artificial aid).

- ▲ **Regeneration generates hot exhaust and causes hot exhaust system components.**
- ▲ **Exhaust system components get very hot and can cause severe burns. Risk for fire.**
- ▲ **Do not touch the surface of the DPF muffler during or up to 30 minutes after operation.**
- ▲ **Do not perform regeneration in a flammable environment.**

(1) DPF (diesel particulate filter) regeneration lamp



2609A3CD19

This warning lamp will light ON or blink during the regeneration function is operating.

- ※ **Refer to the page 3-12 for details.**
- ※ **The machine must be in a fireproof area during the entire regeneration process.**

(2) DPF regeneration inhibit warning lamp



2609A3CD20

This warning lamp will light ON when the DPF switch is pushed inhibit position.

- ※ **Refer to the page 3-13 for details.**

(3) Exhaust high temperature warning lamp

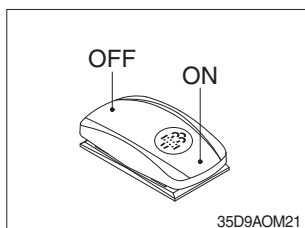


2609A3CD21

This warning lamp will light ON when the exhaust temperatures are high due to regeneration of the DPF.

- ※ **Refer to the page 3-14 for details.**

(4) Parked regeneration switch



35D9AOM21

This switch is used to select the regeneration function of the DPF.

- ※ **Refer to the page 3-49 for details.**
- ※ **Parked regeneration : refer to the page 3-14 for details.**

(5) DPF cleaning

Every 3000 hours.

- ※ **Refer to the page 7-27 for details.**