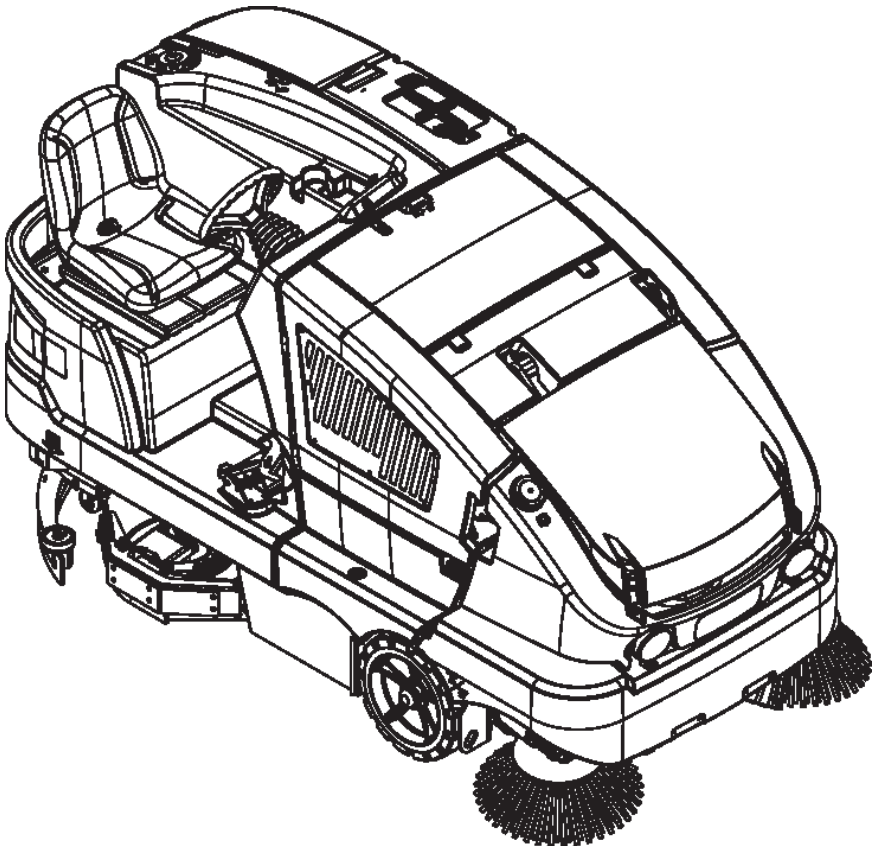
6/11 revised 8/2013 REV A
FORM NO. 56041980

ecoflex™



Models: 56509003(LPG), 56509004(Diesel), 56509005(Battery)
56511002(Petrol)

Instructions for Use
Original Instructions

CS7000
INSTRUCTIONS FOR USE

Nilfisk
trusted since 1906

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INTRODUCTION

This manual will help you get the most from your Nilf sk™ Sweeper / Scrubber. Read it thoroughly before operating the machine. References to "right" and "left" in this manual mean right or left as seen from the driver's seat.

Note: Bold numbers or letters in parentheses indicate an item illustrated on pages A-8 – A-12 unless referred to a specific figure number.

PARTS AND SERVICE

Repairs, when required, should be performed by your Authorized Nilf sk Service Center, who employs factory trained service personnel, and maintains an inventory of Nilf sk original replacement parts and accessories.

Call the Nilf sk Authorized Service named below for repairs or service. Please specify the Model and Serial Number when discussing your machine.

(Dealer, aff x service sticker here.)

NAMEPLATE

The Model Number and Serial Number of your machine are shown on the Nameplate. One nameplate is located on the wall of the operator's compartment just below the circuit breaker decal. The second nameplate is located on the chassis beneath the recovery tank. This information is needed when ordering repair parts for the machine. Use the space below to note the Model Number and Serial Number of your machine for future reference.

MODEL _____

SERIAL NUMBER _____

DATE CODE _____

Note: Reference the separately supplied engine manufacture's maintenance and operator manual for more detailed engine specif cation and service data.

UN-CRATING

Upon delivery, carefully inspect the shipping crate and the machine for damage. If damage is evident, save all parts of the shipping crate so that they can be inspected by the trucking company that delivered the machine. Contact the trucking company immediately to f le a freight damage claim.

1 After removing the crate, remove the wooden blocks next to the wheels.
2 Check the engine oil and coolant levels.
3 Check the hydraulic oil level.
4 Read the instructions in the Preparing the Machine For Use section of this manual, then f ll the fuel tank.
5 Place a ramp next to the front end of the pallet.
6 Read the instructions in the Operating Controls and Operating the Machine sections of this manual and start the engine. Slowly drive the machine forward down the ramp to the f oor. Keep your foot lightly on the brake pedal until the machine is off the pallet.

⚠ CAUTION!

• Use extreme CAUTION when operating this machine. Be certain that you are thoroughly familiar with all operating instructions before using this machine. If you have any questions, contact your supervisor or your local Nilf sk Industrial Dealer.
• If the machine malfunctions, do not try to correct the problem unless your supervisor directs you to do so. Have a qualif ed company mechanic or an authorized Nilf sk Dealer service person make any necessary corrections to the equipment.
• Use extreme care when working on this machine. Loose clothing, long hair, and jewelry can get caught in moving parts. Turn the Key Ignition Switch OFF and remove the key before servicing the machine. Apply the parking brake before getting off of the machine. Use good common sense, practice good safety habits and pay attention to the yellow decals on this machine.
• Drive the machine slowly on inclines. Use the Brake Pedal (38) to control machine speed while descending inclines. DO NOT turn the machine on an incline; drive straight up or down.
• The maximum rated incline for sweeping and scrubbing is 10°. The maximum rated incline during transport is 10°.

MODIFICATIONS

Modif cations and additions to the cleaning machine which affect capacity and safe operation shall not be performed by the customer or user without prior written approval from Nilf sk-Advance Inc. Unapproved modif cations will void the machine warranty and make the customer liable for any resulting accidents.

CAUTIONS AND WARNINGS

Nilf sk uses the symbols below to signal potentially dangerous conditions. Always read this information carefully and take the necessary steps to protect personnel and property.

⚠ DANGER!

Is used to warn of immediate hazards that will cause severe personal injury or death.

⚠ WARNING!

Is used to call attention to a situation that could cause severe personal injury.

⚠ CAUTION!

Is used to call attention to a situation that could cause minor personal injury or damage to the machine or other property.

 Read all instructions before using.

GENERAL SAFETY INSTRUCTIONS

Specif c Cautions and Warnings are included to warn you of potential danger of machine damage or bodily harm.
This machine is only suitable for commercial use, for example at manufacturing plants, warehouses, cement block & brick facilities, parking garages, municipal parks, entertainment and transportation facilities.

⚠ DANGER!

- This machine emits exhaust gases (carbon monoxide) that can cause serious injury or death, always provide adequate ventilation when using machine. (Diesel & LPG models only.)

⚠ WARNING!

- This machine shall be used only by properly trained and authorized persons.
- This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.
- While on ramps or inclines, avoid sudden stops. Avoid abrupt sharp turns. Use low speed down ramps.
- To avoid hydraulic oil injection or injury, always wear appropriate clothing and eye protection when working with or near hydraulic system.
- Keep sparks, f ame and smoking materials away from battery. Explosive gases are vented during normal operation.
- Charging the battery produces highly explosive hydrogen gas. Charge battery only in well-ventilated areas away from open f ame. Do not smoke while charging the battery.
- Remove all jewelry when working near electrical components.
- Turn the key switch off (O) and disconnect the batteries before servicing electrical components.
- Never work under a machine without safety blocks or stands to support the machine.
- Do not dispense f ammable cleaning agents, operate the machine on or near these agents, or operate in areas where f ammable liquids exist.
- Do not pressure wash operator control panel, fuse panel, contactor panel or engine compartment area.
- Do not inhale exhaust gas fumes. Only use indoors when adequate ventilation is provided, and when a second person has been instructed to look after you.
- Do not use the machine without a falling object protective structure (FOPS) in areas where it is likely that the operator is hit by falling objects.
- Machines shall be parked safely.
- The machine shall be inspected by a qualif ed person regularly, in particular regarding the LPG container and their connections, as required for safe operation by regional or national regulations.
- Observe the Gross Vehicle Weight, GVW, of the machine when loading, driving, lifting or supporting the machine.

⚠ CAUTION!

- This machine is not approved for use on public paths or roads.
- This machine is not suitable for picking up hazardous dust.
- Use care when using scarif er discs and grinding stones. Nilf sk will not be held responsible for any damage to f oor surfaces caused by scarif ers or grinding stones.
- When operating this machine, ensure that third parties, particularly children, are not endangered.
- Before performing any service function, carefully read all instructions pertaining to that function.
- Do not leave the machine unattended without f rst turning the key switch off (O), removing the key and applying the parking brake.
- Turn the key switch off (O) before changing the brushes, and before opening any access panels.
- Take precautions to prevent hair, jewelry, or loose clothing from becoming caught in moving parts.
- Use caution when moving this machine in below freezing temperature conditions. Any water in the solution or recovery tanks or in the hose lines could freeze.
- The battery must be removed from the machine before the machine is scrapped. The disposal of the battery should be safely done in accordance with your local environmental regulations.
- Do not use on surfaces having a gradient exceeding that marked on the machine.
- Before use, all doors and hoods should be properly latched.

SAVE THESE INSTRUCTIONS

HOPPER SAFETY BAR

⚠ WARNING!

Make sure the Hopper Safety Bar (23) is engaged whenever attempting to do any maintenance work under or near the raised hopper. The Hopper Safety Bar (23) holds the hopper in the raised position to allow work to be performed under the hopper. See Figure 1. NEVER rely on the machine's hydraulic components to safely support the hopper.

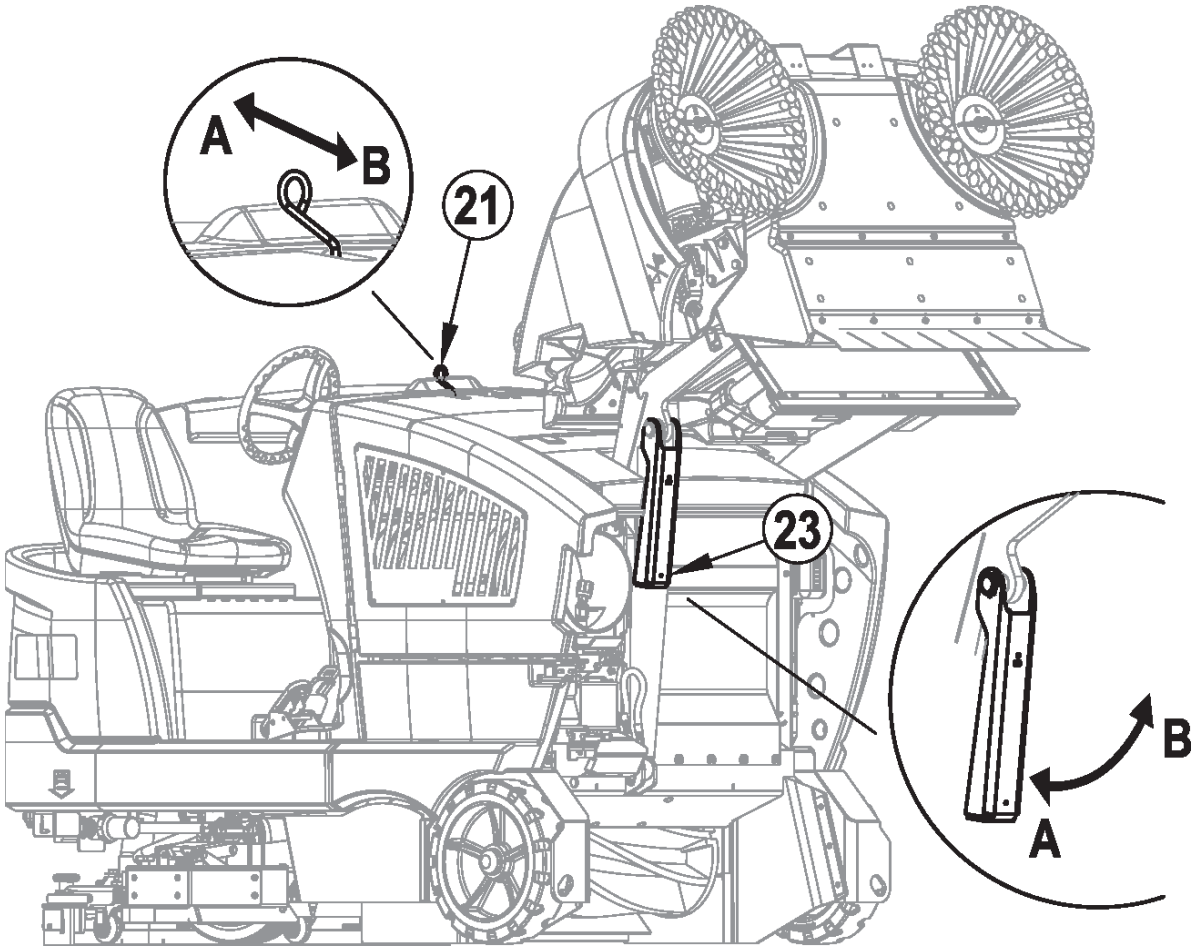
A - To Engage Hopper Safety Bar:

1. Press and hold the hopper raise switch to raise the hopper.
2. Pull the hopper safety bar handle (21) toward you to retract the safety bar (23).
3. Press and hold the hopper lower switch to lower the hopper until it contacts the hopper safety bar.

B - To Disengage Hopper Safety Bar:

1. Press and hold the hopper raise switch to raise the hopper slightly so it lifts off of the hopper safety bar.
2. Push the hopper safety bar handle (21) toward the front of the machine to extend the safety bar (23).
3. Press and hold the hopper lower switch to lower the hopper.

FIGURE 1



JACKING THE MACHINE

⚠ CAUTION!

Never work under a machine without safety stands or blocks to support the machine.

- When jacking the machine, do so at designated locations (Do Not jack on the hopper) - see Jack Point / Tie Down Point locations (33).

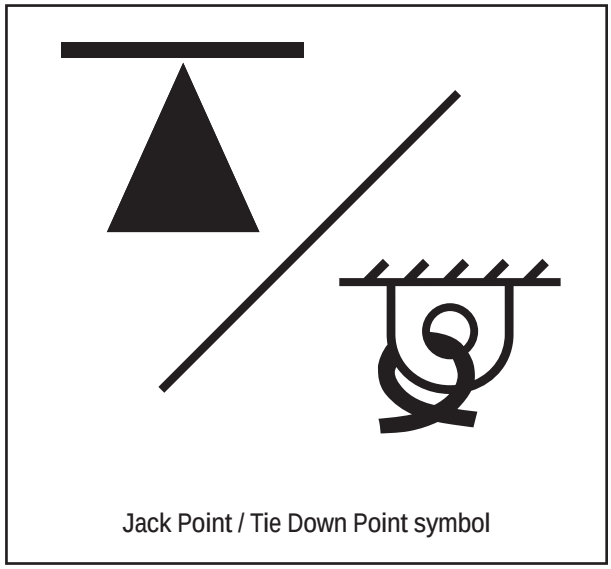
TRANSPORTING THE MACHINE

⚠ CAUTION!

Before transporting the machine on an open truck or trailer, make sure that . . .

- All access doors are latched securely.
- The machine is tied down securely - see Jack Point / Tie Down Point locations (33).
- The machine parking brake is set.

FIGURE 2



Jack Point / Tie Down Point symbol

TOWING OR PUSHING A DISABLED MACHINE

⚠ CAUTION!

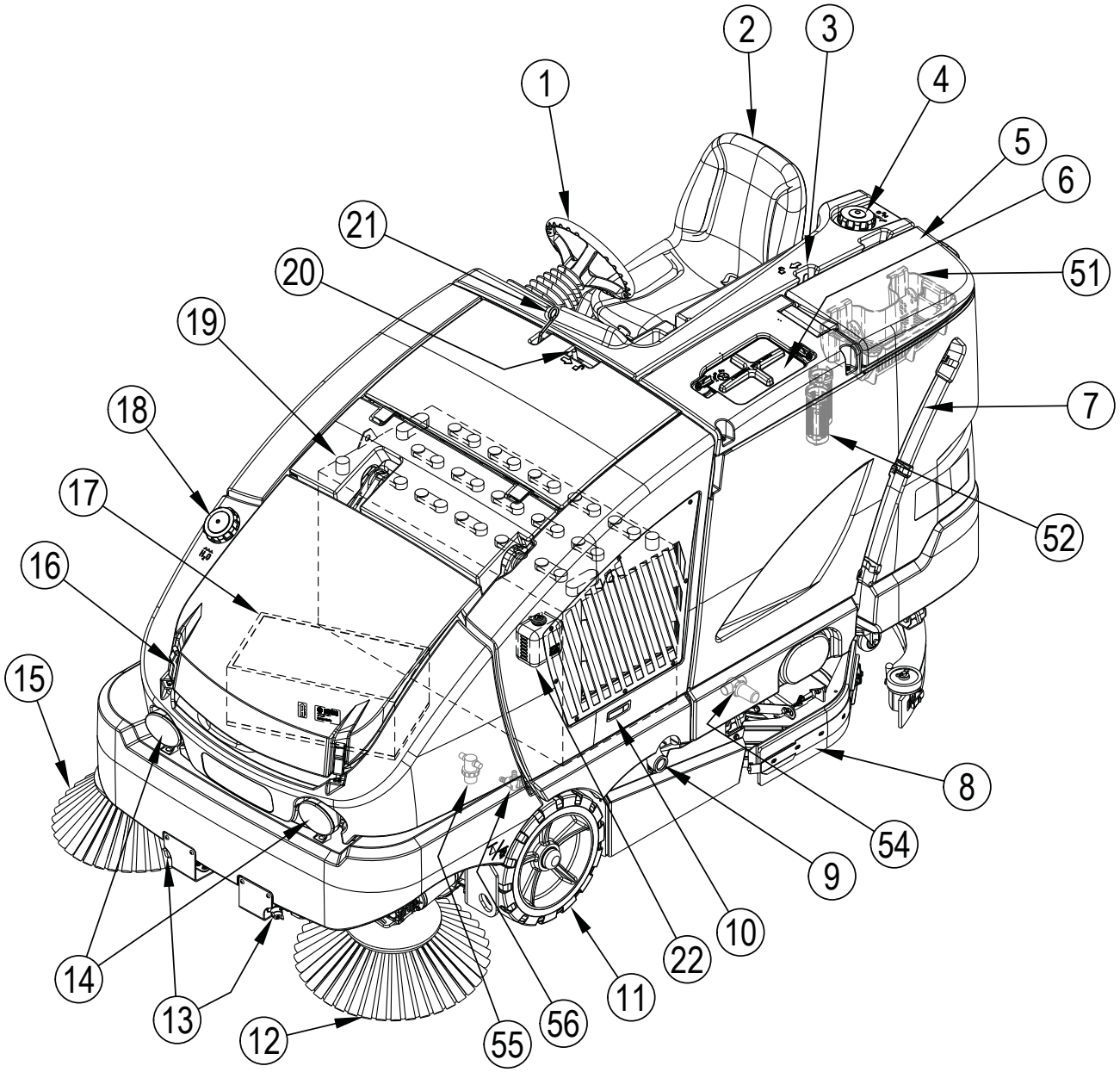
If the machine must be towed or pushed, make sure the Key Switch is in the Off position and do not move the machine faster than a normal walking pace (2-3 mph, 3-5 kph) and for short distances only.

A second option which will allow for steering while pushing or towing the machine is to do the following:
-Turn the Key Switch (A) ON while pressing and holding both the Speed Switch (K) and the High Pressure Wash Switch (N) for two seconds.

KNOW YOUR MACHINE

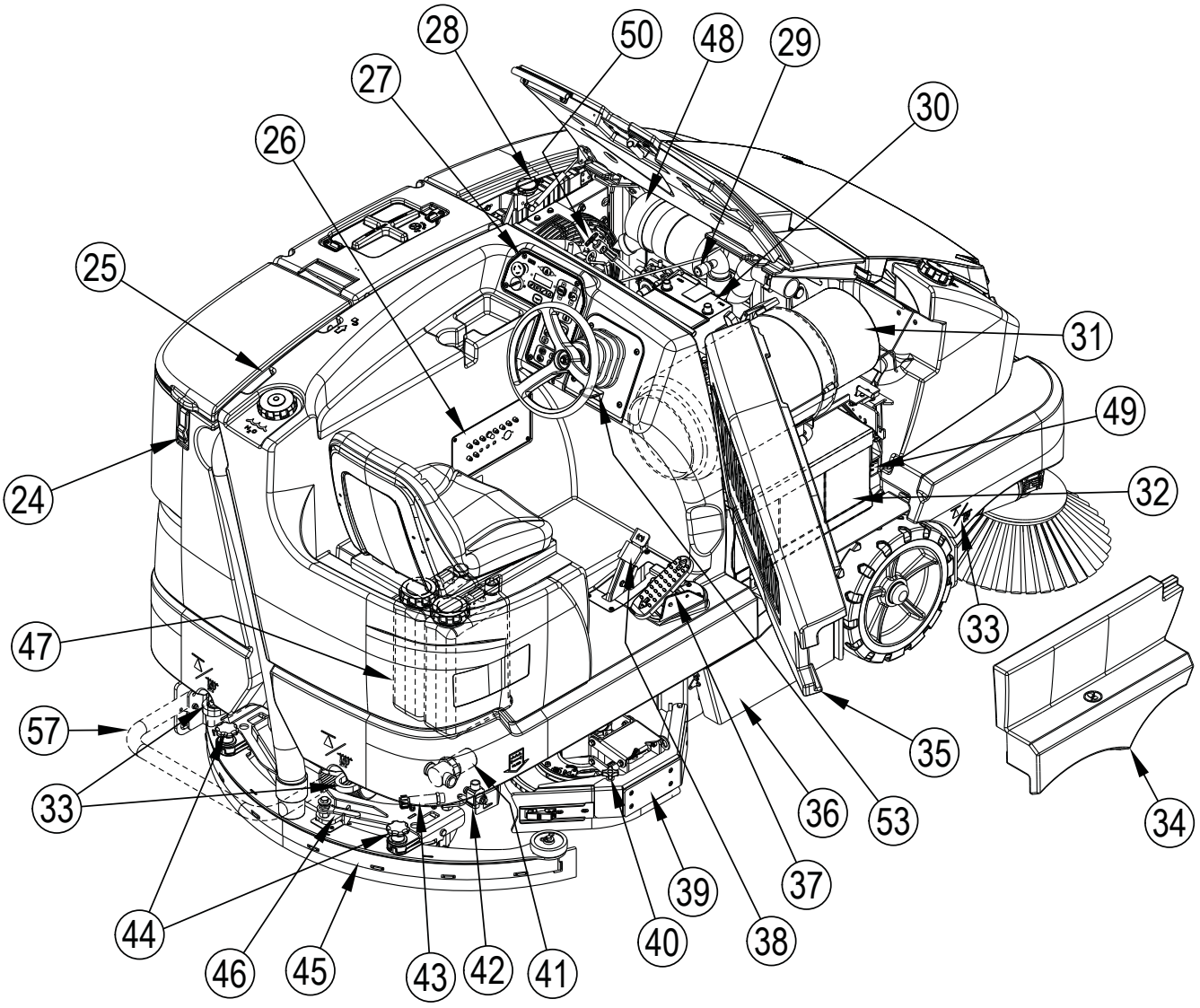
As you read this manual, you will occasionally run across a bold number or letter in parentheses - example: (2). These numbers refer to an item shown on these pages unless otherwise noted. Refer back to these pages whenever necessary to pinpoint the location of an item mentioned in the text. NOTE: Refer to the service manual for detailed explanations of each item illustrated on the next 5 pages.

1 Steering Wheel
2 Operator's Seat
3 Recovery Tank Tip-Out Lock
4 Solution Tank Fill
5 Recovery Tank Lid
6 Vacuum Filter Access Lid
7 Recovery Tank Drain Hose
8 Left Skirt Assembly
9 Exhaust Pipe (LPG & Diesel models)
10 Engine Compartment Access Panel Latch
11 Front Wheel
12 Left Side Broom
13 DustGuard™ Spray Nozzles (optional)
14 Headlights
15 Right Side Broom
16 Hopper Cover Latches
17 Dust Control Filter
18 DustGuard™Tank Fill
19 Battery (battery models)
20 Engine/Battery Compartment Latch
21 Hopper Safety Bar Handle
22 Engine Coolant Reservoir (LPG & Diesel models)
51 Recovery Tank Debris Basket
52 Recovery Tank Shutoff Floats
54 High Pressure Wash Filter (optional)
55 DustGuard™Filter (optional)
56 DustGuard™Shut-Off Valve (optional)



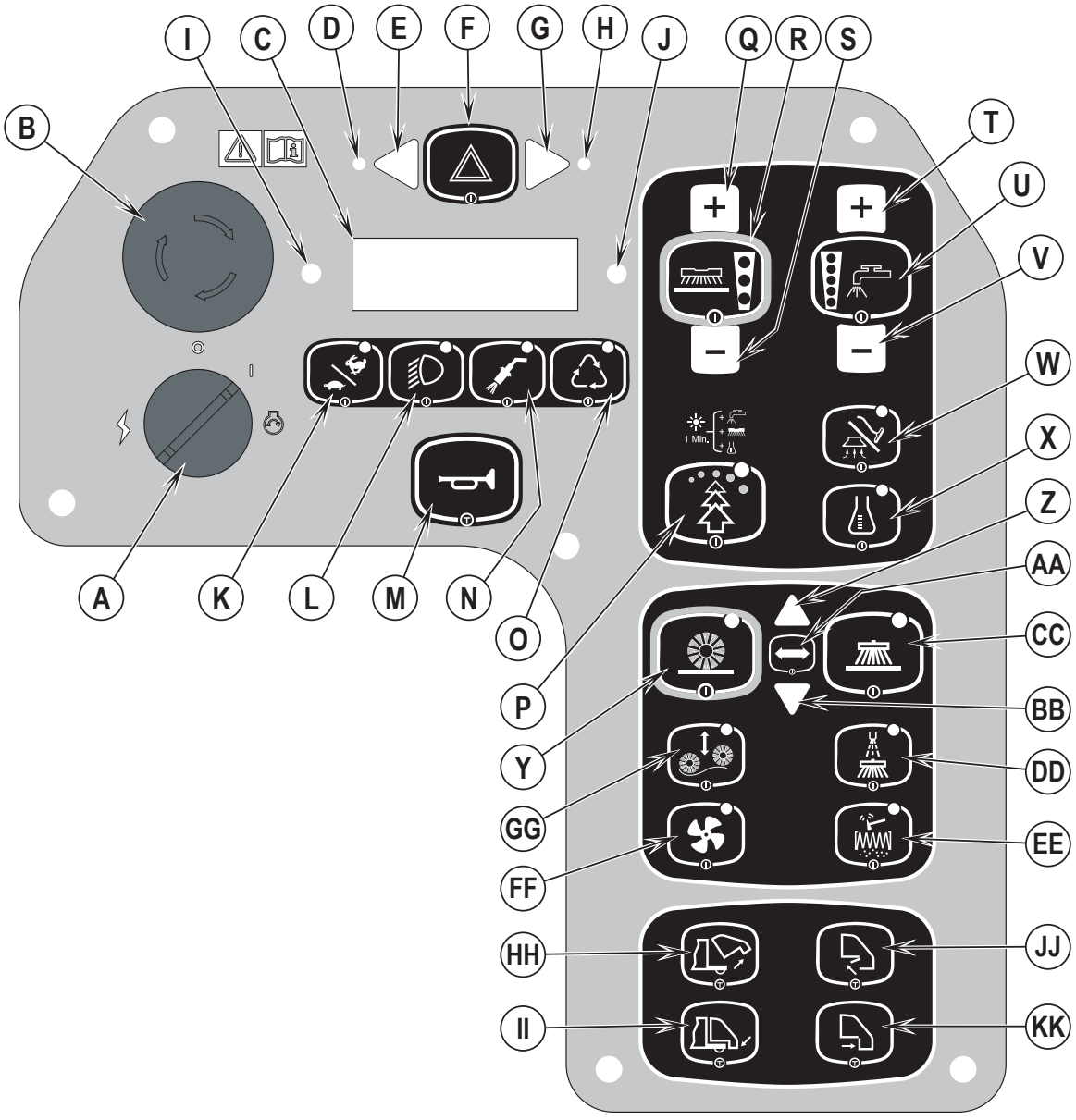
KNOW YOUR MACHINE (CONTINUED)

24 Recovery Tank Lid Latch
25 Recovery Tank Tip-Out Grip
26 Circuit Breaker Panel (see troubleshooting)
27 Control Panel
28 Radiator Cap
29 Air Filter Service Indicator
30 Engine Starting Battery (LPG & Diesel models)
31 LPG Fuel Tank (LPG models)
32 Battery Pack
33 Jack Point / Tie Down Point Location
34 Lower Cover
35 Right Side Door
36 Broom Access Door
37 Drive Pedal, Directional/Speed
38 Brake Pedal/Parking Brake
39 Right Scrub Skirt Assy
40 Edge Guard Retainer Knob
41 Solution Filter
42 Solution Shut-Off Valve
43 Solution Tank Drain Hose
44 Squeegee Removal Knobs
45 Squeegee Assembly
46 Squeegee Tilt Adjustment Handle
47 Detergent Cartridges (EcoFlex™ models only)
48 Engine Air Filter
49 Hydraulic Oil Reservoir
50 Engine Oil Dipstick (LPG & Diesel models)
53 Steering Wheel Tilt Adjust Lever
57 Rear Squeegee Guard (optional)



CONTROL PANEL

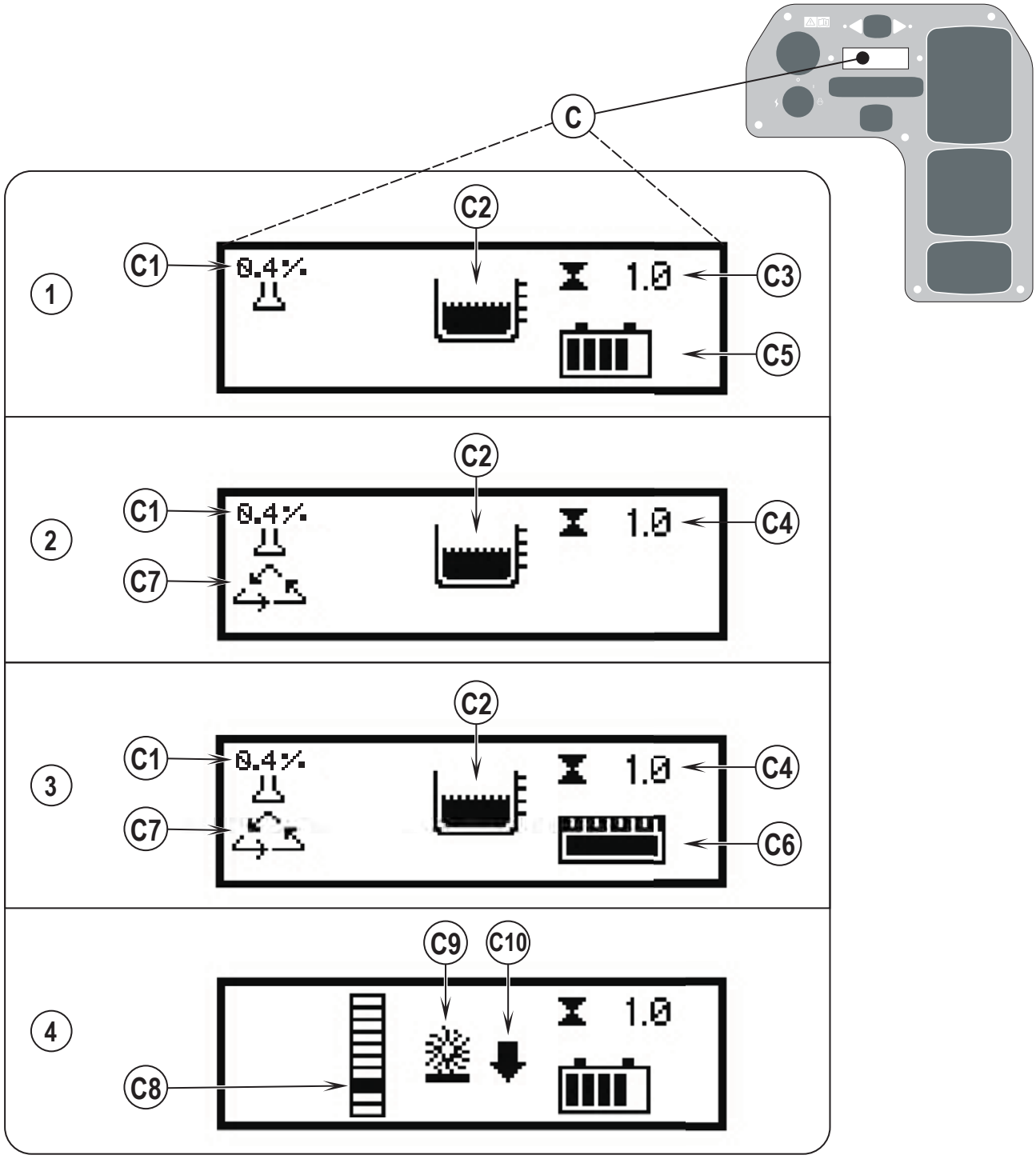
A Key Switch
B Emergency Stop
C LCD Display
D Left Turn Indicator
E Left Turn Signal
F Hazard Flasher
G Right Turn Signal
H Right Turn Indicator
I Attention Indicator
J Warning Indicator
K Speed Switch
L Headlight Switch
M Horn Switch
N High-Pressure Wash Switch (optional see IS56090038)
O Extended Scrub Switch (optional see IS56090061)
P Burst of Power Switch (EcoFlex™ only)
Q Scrub Pressure Increase
R One-Touch™ Scrub Switch
S Scrub Pressure Decrease Switch
T Solution Flow Increase Switch
U Solution Switch
V Solution Flow Decrease Switch
W Vacuum/Wand Switch (see IS56090054)
X Detergent Switch
Y One-Touch™ Sweep Switch
Z Broom Height Raise Switch
AA Broom Select Switch
BB Broom Height Lower Switch
CC Side Broom Switch
DD DustGuard™Spray Switch
EE Filter Shaker Switch
FF Dust Control Fan Switch
GG Main Broom Float Switch
HH Hopper Raise Switch
II Hopper Lower Switch
JJ Hopper Door Open Switch
KK Hopper Door Close Switch



CONTROL PANEL (CONTINUED)

1 Main Display Screen Battery Model
2 Main Display Screen LPG Model
3 Main Display Screen Diesel Model
4 Broom Adjustment Screen

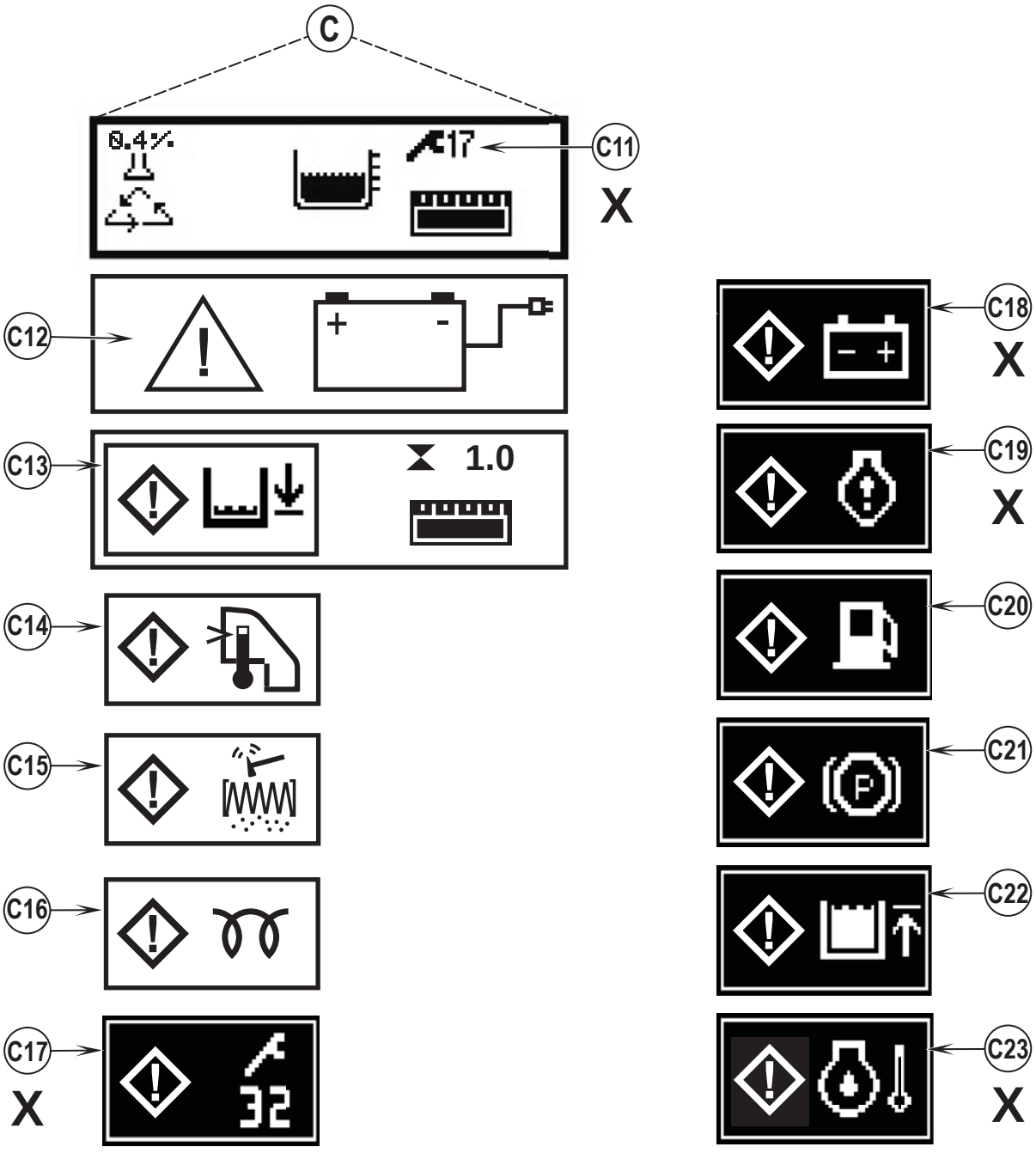
C LCD Display
C1 Detergent Indicator (if so equipped)
C2 Solution Tank Level
C3 Sweep/Scrub Time (Battery models)
C4 Engine Run Time (LPG & Diesel models)
C5 Battery Charge Level (Battery models)
C6 Fuel Level (Diesel model)
C7 Recycle System (if so equipped)
C8 Main Broom Position
C9 Broom(s) Selected
C10 Broom Direction



CONTROL PANEL (CONTINUED)

IF ANY OF THE WARNING / ATTENTION ICONS MARKED (X) BELOW ARE DISPLAYED PLEASE CONTACT YOUR NILFISK AUTHORIZED SERVICE CENTER.

C LCD Display
C11 Non-Critical Fault
C12 Battery Low Indicator
(Battery models = low battery voltage)
(LPG & Diesel models = low battery pack voltage)
C13 Solution Level Low Caution Icon
C14 Hopper Temperature Caution Icon (optional)
C15 Hopper Filter Plugged Caution Icon (optional)
C16 Glow Plug Caution Icon (Diesel models)
C17 Critical Fault
C18 Low Engine Starting Battery Warning Icon (LPG & Diesel models)
C19 Engine Fault
C20 Low Fuel Warning Icon (LPG & Diesel models)
C21 Parking Brake Warning Icon
C22 Recovery Tank Full Warning Icon
C23 Engine Temperature Hot Warning Icon



PRE-OPERATIONAL CHECKLIST

Before Each Use:

* Inspect the machine for damage, oil or coolant leaks.
* Squeeze the rubber dust cup on the Engine Air Filter (48) to release built-up dust.
* Check the Air Filter Service Indicator (29).
* Check the engine coolant level (22).
* Check the engine oil level (50).
* Check the hydraulic oil level.
* Check the Fuel Gauge (C6) on the diesel models.
* Check the Fuel Gauge located on the LPG tank (31) for propane model.
* Check the Battery Charge Level (C5) on battery models.
* Make sure the battery charger is not connected to the machine.
* Make sure the recovery tank is empty.

In the Driver's Seat:

* Be sure that you understand the operating controls and their functions.
* Adjust the seat to allow easy reach of all controls.
* Insert the Master Key and turn the Ignition Key Switch (A) to the ON position. Check for proper operation of the Horn (M), Hour Meter (C3 or C4) and Headlights (L). Turn the Ignition Key Switch (A) OFF.
* Check the Brake Pedal (38). The pedal should be f rm and should not go all the way down. The latch should hold the pedal when applied. (Report all defects immediately to service personnel).

Plan Your Cleaning in Advance:

* Arrange long runs with a minimum of stopping or starting.
* Allow 6 inches (15 cm) of broom path overlap to ensure complete coverage.
* Avoid making sharp turns, bumping into posts, or scraping the side of the machine.

ENGINE OIL – GASOLINE / PETROL, LP

Check the engine oil level when the machine is parked on a level surface and the engine is cool. Change the engine oil after the first 50 hours of operation and every 200 hours after that. Use any SF or SG rated oil meeting API specifications and suited to seasonal temperatures. Refer to the *Engine Workshop* manual for oil capacities and additional engine specifications. Replace the oil filter with every oil change.

TEMPERATURE RANGE	OIL WEIGHT
Above 77 °F (25 °C)	SAE 30 or SAE 10W-30
32 °F to 77 °F (0 °C to 25 °C)	SAE 20 or SAE 10W-30
Below 32 °F (0 °C)	SAE 10W or SAE 10W-30

ENGINE OIL - DIESEL

Check the engine oil level when the machine is parked on a level surface and the engine is cool. Change the engine oil after the first 50 hours of operation and every 200 hours after that. Use CF, CF-4 or CG-4 oil meeting API specifications and suited temperatures (*important reference the oil/fuel type note below for further diesel oil recommendations). Refer to the *Engine Workshop* manual for oil capacities and additional engine specifications. Replace the oil filter with every oil change.

TEMPERATURE RANGE	OIL WEIGHT
Above 77 °F (25 °C)	SAE 30 or SAE 10W-30
32 °F to 77 °F (0 °C to 25 °C)	SAE 20 or SAE 10W-30
Below 32 °F (0 °C)	SAE 10W or SAE 10W-30

* Diesel Lubricating Oil Note:

With the emission control now in effect, the CF-4 and CG-4 lubricating oils have been developed for use with a low-sulfur fuel used in on-road vehicle engines. When an off-road vehicle engine runs on a high-sulfur fuel, it is advisable to employ the CF, CD or CE lubricating oil with a high total base number. If the CF-4 or CG-4 lubricating oil is used with a high-sulfur fuel, change the lubricating oil at shorter intervals.

• Lubricating oil recommended when a low-sulfur or high-sulfur fuel is employed.

Fuel / Lubricating Oil class	Low sulfur (0.5 % ≥)	High sulfur	Remarks
CF	O	O	TBN ≥ 10
CF-4	O	X	
CG-4	O	X	

O : Recommended X : Not recommended

ENGINE BREAK-IN PERIOD – GASOLINE / PETROL, LP

During initial engine break-in period you may experience a slight smell or small amount of smoke coming from the engine.

ENGINE COOLANT

⚠ CAUTION!

Do not remove the radiator cap when the engine is hot.

To check the engine coolant level, unlatch the Engine Compartment Access Panel Latch (10) and remove the side panel, and observe the coolant level in the Engine Coolant Reservoir (22). If the level is low add automotive type anti-freeze appropriately diluted for the environment. Clean the radiator exterior by washing with low-pressure water or using compressed air every 30 hours.

PRE-OPERATIONAL CHECKLIST

ENGINE AIR FILTER

Check the Air Filter Service Indicator (29) before each use of the machine. Do not service the air f lter unless the red f ag is visible in the service indicator.

⚠ CAUTION!

When servicing the engine air f lter elements, use extreme care to prevent loose dust from entering the engine. Dust can severely damage the engine.

The engine air f lter contains a Primary (outer) and a Safety (inner) f lter element. The Primary Element may be cleaned twice before being replaced. The Safety Element should be replaced every third time that the Primary Filter Element is replaced. Never attempt to clean the Inner Safety Element.

To clean the Primary Filter Element, unsnap the 2 clips at the end of the air f lter and remove the end housing. Pull the primary element out. Clean the element with compressed air (maximum pressure 100 psi (6.89 bar)) or wash it with water (maximum pressure 40 psi (2.75 bar)). DO NOT put the element back into the canister until it is completely dry.

FUEL

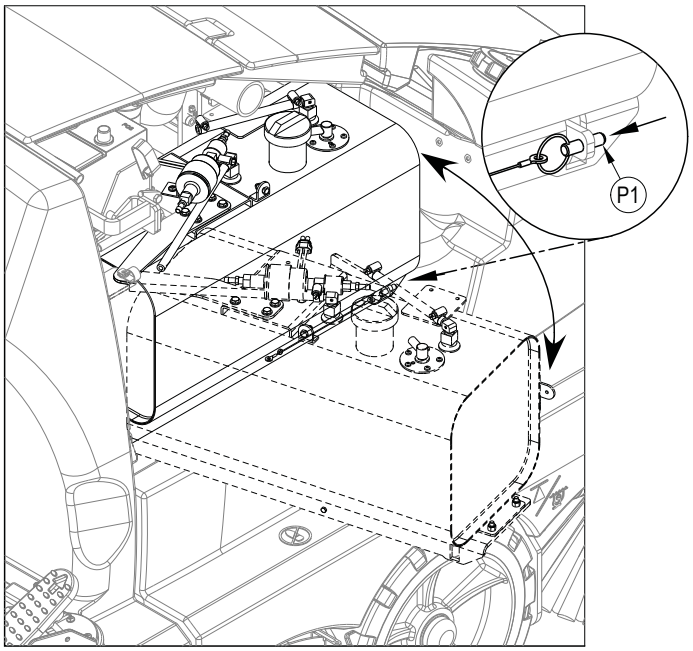
⚠ WARNING!

- ALWAYS STOP THE ENGINE BEFORE FILLING THE FUEL TANK.
- ALWAYS ROTATE THE DIESEL FUEL TANK OUTWARD BEFORE REFUELING.
- DO NOT SMOKE WHILE FILLING THE FUEL TANK.
- FILL THE FUEL TANK IN A WELL-VENTILATED AREA.
- DO NOT FILL THE FUEL TANK NEAR SPARKS OR OPEN FLAME.
- USE ONLY THE FUEL SPECIFIED ON THE FUEL TANK DECAL.

On machines with diesel and gasoline / petrol engines, a decal near the fuel tank f ller neck shows the proper fuel to use in the machine. See Figure 2.5. Pull out quick release Pin (P1) then rotate the fuel tank. Before removing the cap from the tank, wipe all dust and dirt from the cap and from the top of the tank to keep the fuel as clean as possible.

On machines with propane engines, a decal near the tank gives specif c information about the proper type of tank to be used on the machine.

FIGURE 2.5



DIESEL ENGINE

Fill the tank with Number 2 Diesel Fuel if the machine will be used in an area where the temperature is 30° Fahrenheit (0° Celsius) or higher. Use Number 1 Diesel Fuel if the machine will be used in an area where the temperature is below 30° Fahrenheit (0° Celsius).

NOTE: If the diesel machine runs out of fuel completely, the fuel system must be bled before the engine can be re-started. To avoid this situation, f ll the fuel tank when the fuel gauge indicates 1/4 tank. Fuel tank capacity is 10.25 gallons (38.8 liters).

LPG ENGINE

Mount a standard 33 lb. (14.85 kg) liquid withdrawal propane tank on the machine, connect the fuel hose and open the shutoff valve on the tank. Wear gloves when connecting or disconnecting the fuel hose. Shut the propane tank service valve OFF when the machine is not in use.

GASOLINE / PETROL ENGINE

Fill the tank with unleaded (AKI) 87 octane regular gasoline/petrol that is the average of the RON + MON indicated on pumps as (R+M)/2.

Note: Reference the separately supplied engine manufacture's maintenance and operator manuals for more detailed engine specif cation and service data.

BATTERY INSTALLATION

See Figure 3. The battery required for this machine is sold separately. The maximum battery weight for this machine is 1,875 lbs (850 kg); the minimum battery weight is 1,400 lbs (635kg). For proper battery installation, please consult your Nilf sk Industrial Dealer. DO NOT attempt to install the battery with an overhead hoist or forklift; it can only be installed with a battery cart. Connect the connector plug (AB) on the battery to the machine plug behind the steering wheel. Make sure the battery is f rmly seated against the brace on the left side of the battery compartment. Reinstall the battery Stop Plate (AC) on the right side of the compartment and snug up the Bumpers (AD) so the battery cannot slide from side-to-side.

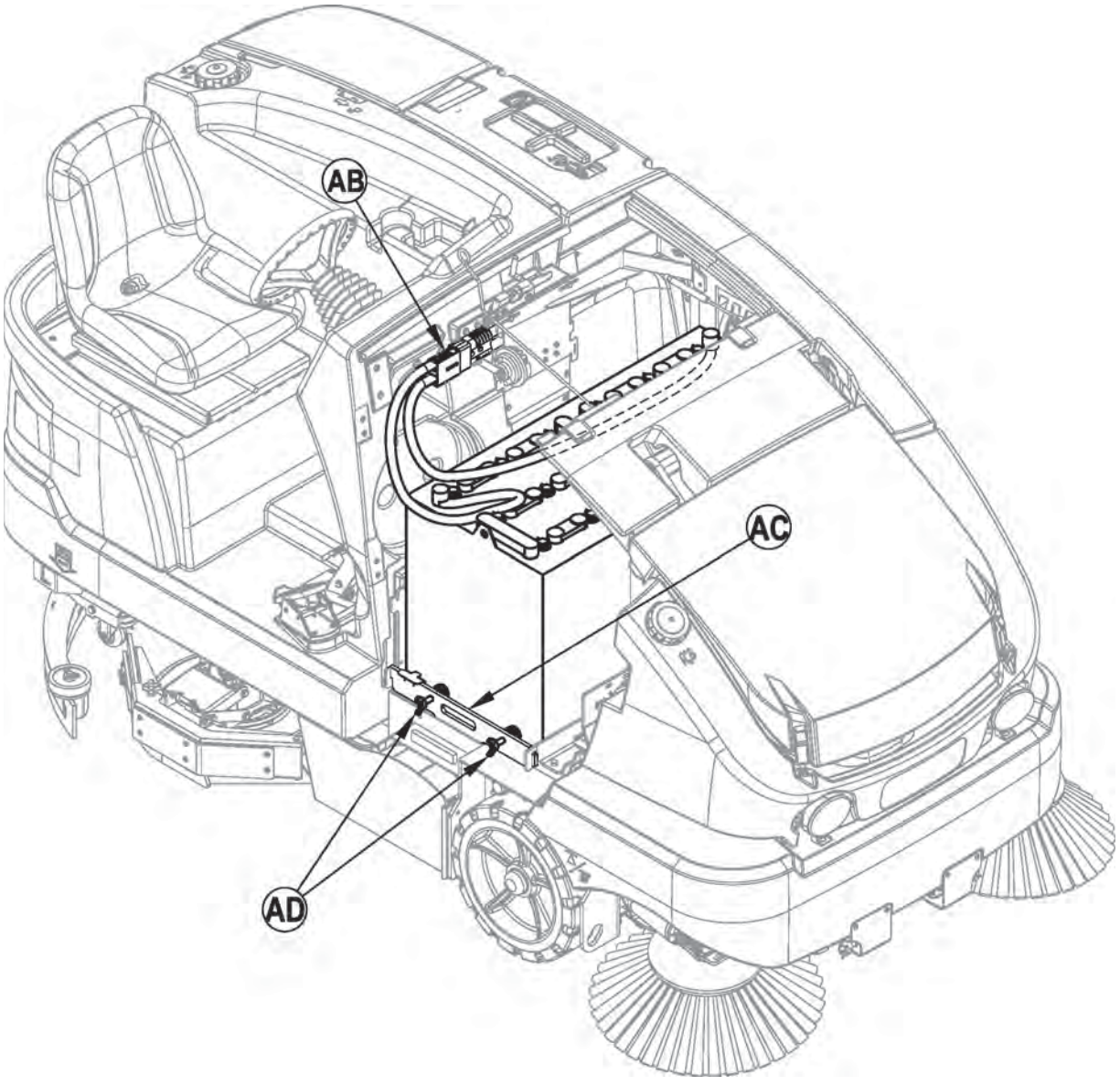
⚠ WARNING!

Battery weight in excess of 1,875 lbs (850 kg) or below 1,400 lbs (635kg) may cause the premature failure of parts including the tires, and may result in decreased stability and control, which could cause personal injury or death and/or property damage. Use of a battery in excess of the weight limit will void the warranty.

⚠ IMPORTANT!

Follow instructions packed with the battery and charger before charging the battery. Read the instructions for *Charging the Battery* in the *Maintenance* section of this manual.

FIGURE 3



MAIN BROOM

Several different main brooms are available for this machine. Contact your Nilf sk dealer if you need help selecting the best broom for the surface and litter that you will be sweeping. Note: Reference broom maintenance for installation steps.

SCRUB BRUSHES

1 Make sure the Key Switch (B) is OFF (O).

2 See Figure 4. Raise the side skirt assemblies for easier access. NOTE: Lift straight up on the middle of the side skirt assembly and engage the catch (AE) to keep the skirt assembly raised while installing the brushes.

3 Pull Lever (AF) outward to disengage the gas spring. This allows the right scrub brush assembly to be swung towards the rear of the machine and provide easier access to the middle scrub brush.

4 To mount the brushes (or pad holders) align the lugs on the brush with the holes on the mounting plate and turn to lock in place according to rotation directions shown in Figure 5.

FIGURE 4

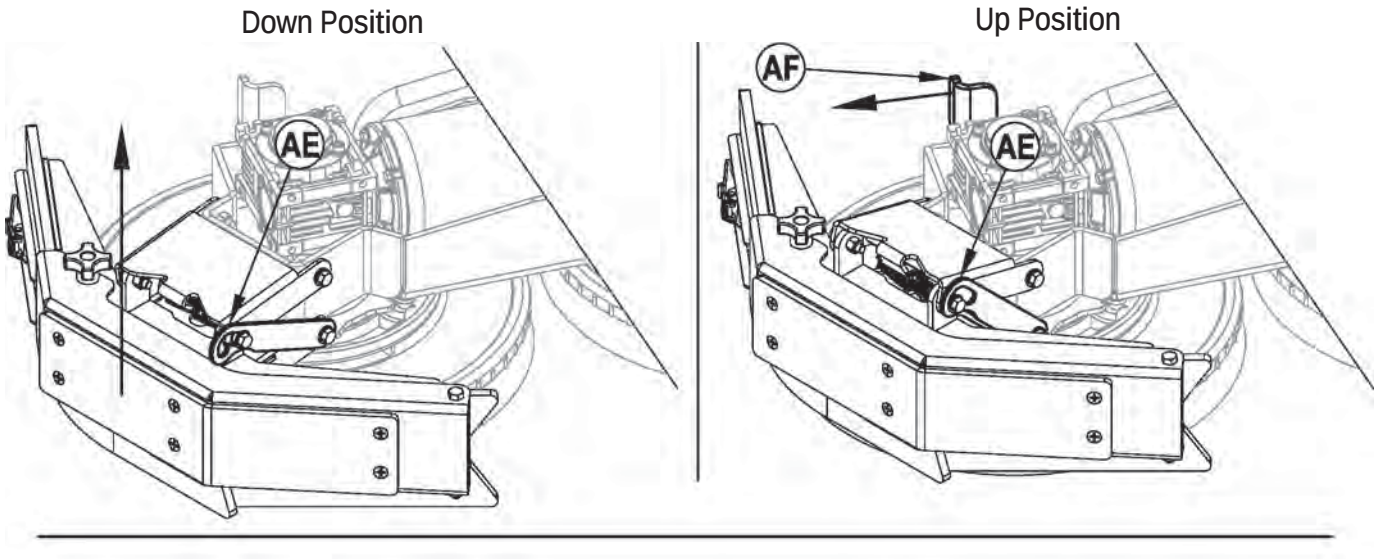
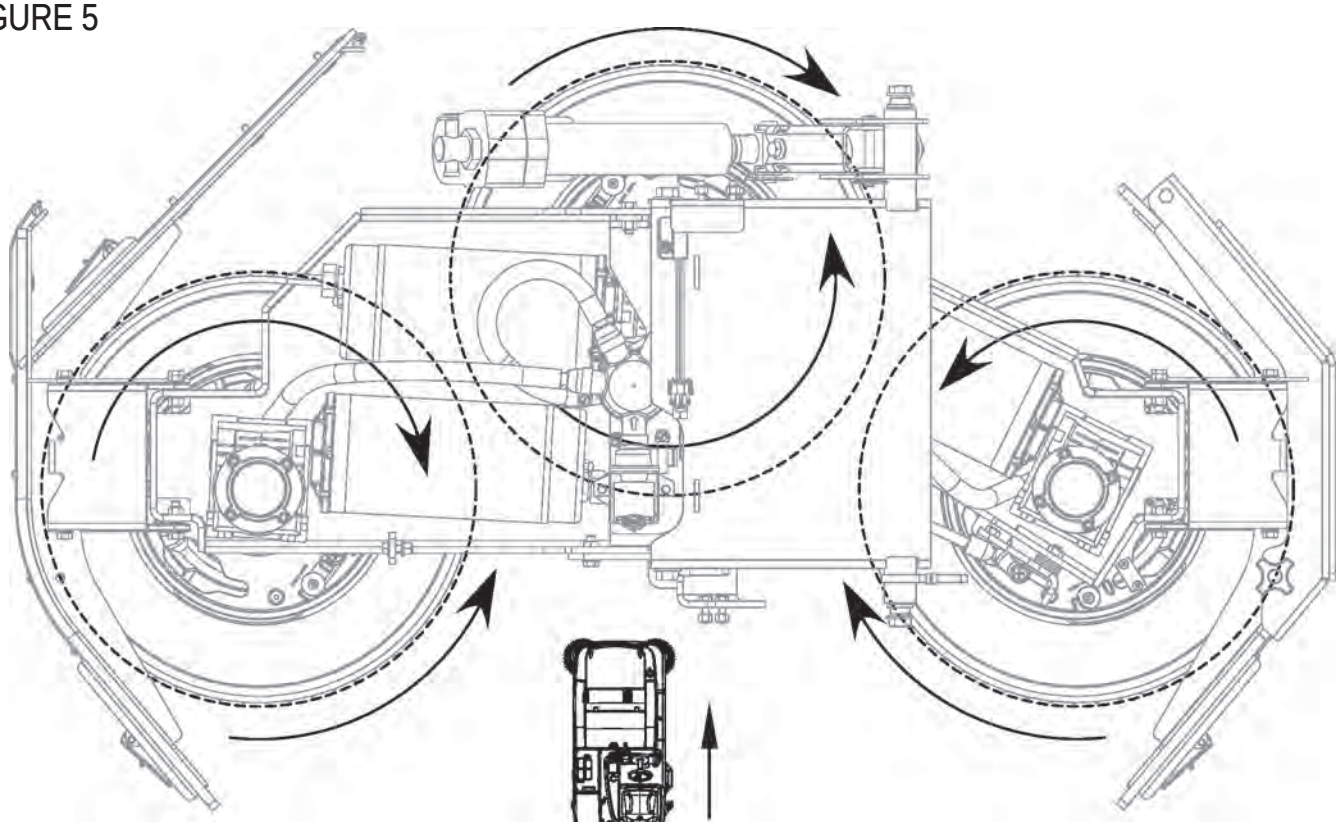


FIGURE 5



Outside arrows represent brush installation rotation direction.
Inside arrows represent brush motor rotation while scrubbing.

FILLING THE SOLUTION TANK

See Figure 6. Fill the solution tank with a maximum of 75 gallons (284 Liters) of cleaning solution. Do not fill the solution tank above 7.5 cm (3 inches) from the bottom of the Solution Fill (4). The solution should be a mixture of water and the proper cleaning chemical for the job. Always follow the dilution instructions on the chemical container label. NOTE: EcoFlex machines can either be used conventionally with detergent mixed in the tank or the detergent dispensing system can be used. When using the detergent dispensing do not mix detergent in the tank, plain water should be used.

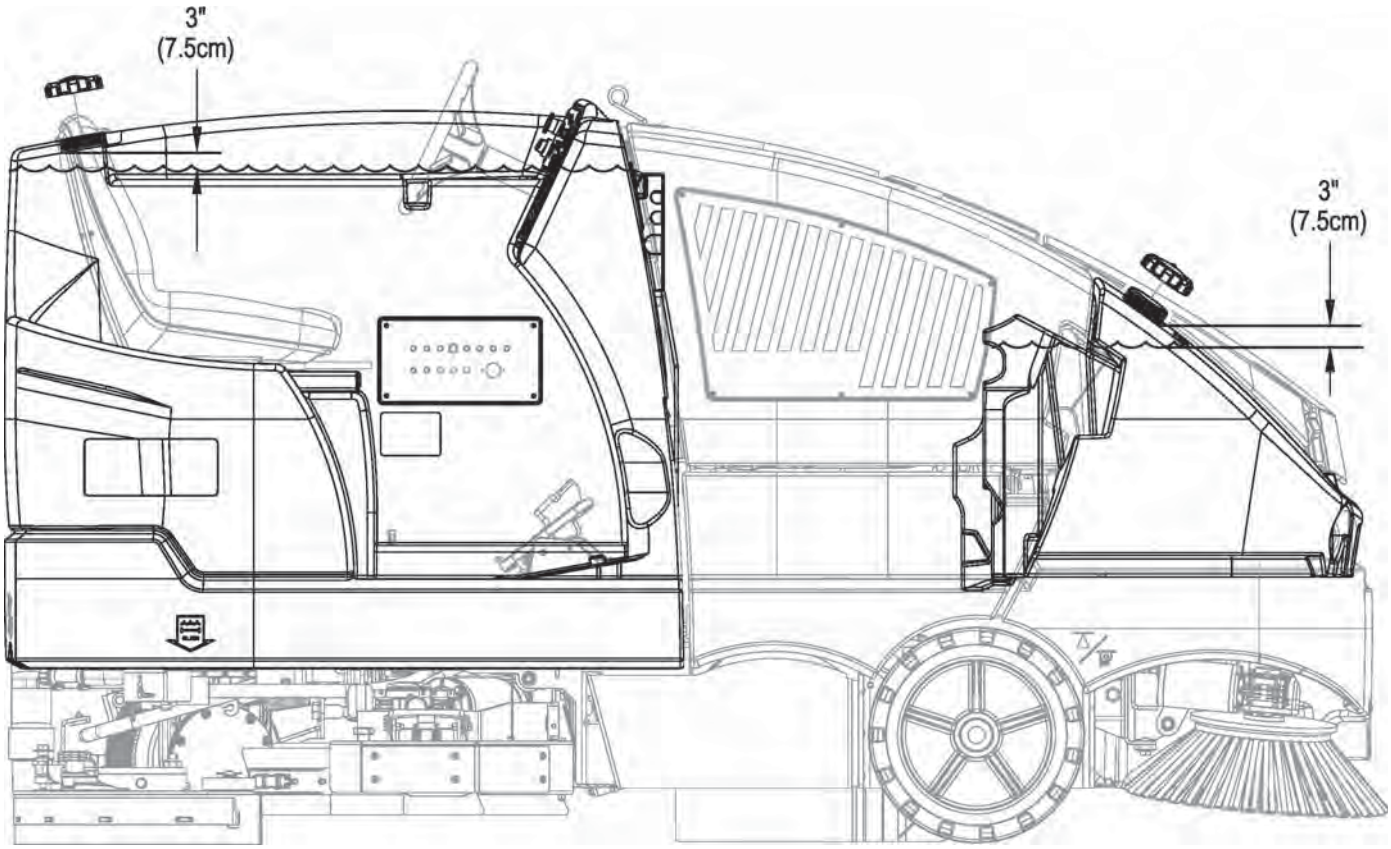
⚠ CAUTION!

Use only low-foaming, non-flammable liquid detergents intended for machine application. Water temperature should not exceed 130 degrees Fahrenheit (54.4 degrees Celsius).

FILLING THE DUSTGUARD™ SOLUTION TANK

See Figure 6. Fill the solution tank with a maximum of 29 gallons (110 Liters) of water. Do not fill the solution tank above 7.5 cm (3 inches) from the bottom of the DustGuard™ Tank Fill (18). Do not mix detergent in the tank, plain water should be used.

FIGURE 6



OPERATING THE MACHINE

The CS7000 is a rider-type automatic f oor sweeping and scrubbing machine. It is designed to sweep up debris, lay down cleaning solution, scrub the f oor, and vacuum dry all in one pass. The sweeping and scrubbing operations can also be performed separately.
The controls were designed with *one touch operation* in mind. For single pass scrubbing the user can simply depress one switch and all scrub functions on the machine will be enabled. For sweeping, the operator can simply depress one switch and all sweeping functions will be enabled.

NOTE: Bold numbers or letters in parentheses indicate an item illustrated on pages 8-12.

STARTING THE DIESEL ENGINE

1 Turn the key switch (A) clockwise to the RUN (ON) position. The glow plugs will activate for 10 seconds as indicated by the glow plug icon on the display. If the engine is already warm, turn the key switch to the start position to crank the engine. If the engine is cold, wait for the glow plug icon to turn off before cranking the engine. The engine should start immediately. If the engine does not start within 15 seconds release the key, wait for approximately one minute and repeat the above steps.
2 Let the engine run at IDLE speed for f ve minutes before using the machine.

STARTING THE LPG ENGINE

1 Open the service valve on the LPG fuel tank.
2 Turn the Ignition Key Switch (A) clockwise to the START position and release it as soon as the engine starts. If the engine does not start after cranking for 15 seconds, release the key, wait for 1 minute, then try again.
3 Let the engine run at “IDLE” speed for 5 minutes before using the machine.

STARTING THE GASOLINE / PETROL ENGINE

1 Turn the Ignition Key Switch (A) clockwise to the START position and release it as soon as the engine starts. If the engine does not start after cranking for 15 seconds, release the key, wait for 1 minute, then try again.
2 Let the engine run at “IDLE” speed for 5 minutes before using the machine.

The Engine Speed (RPM) will automatically adjust depending upon load. Use the Drive Pedal (37) not the Engine Speed Switch (K) to control the speed of the machine. The speed of the machine will increase as the pedal is pushed closer to the f oor. Do not press the Drive Pedal (37) until the engine has started.

SPEED SWITCH (K) ON GASOLINE / PETROL, LP AND DIESEL MODELS:

There are three engine speed settings that can be selected by the engine speed switch (K) on the control panel.

1 “Idle” (1700 RPM – Gasoline / Petrol, LP and Diesel). Use for warm up, cool down and transport. The engine speed switch light will be off.
2 “Run” (2500 RPM – Gasoline / Petrol and LP) (2200 RPM - Diesel). Automatically adjusts to this RPM for sweeping only or vacuum only operations. The engine speed light will be on.
3 “Maximum Power” (2700 RPM – Gasoline / Petrol and LP) (2400 RPM - Diesel). Automatically adjusts to this RPM for scrubbing only or scrubbing and sweeping. The engine speed light will be on.
4 To select between Idle and Run press and release the engine speed switch.
5 To select the Maximum Power speed, f rst set the speed to Run. Then press and hold the engine speed switch for 2 seconds. To go back to Run speed, press the switch again.
6 The CS7000 has an automatic idle feature that will reduce the engine speed to idle when the foot pedal (37) has been in the neutral position for 20 seconds or more. The selected engine speed will automatically resume when the foot pedal is moved from neutral. If the engine speed switch (K) is pressed while in idle-override, the automatic idle feature will be temporarily disabled until the next time the foot pedal is moved from the neutral position. This can be useful during troubleshooting or if it is desired to let the machine run at full speed for warming up.

SPEED SWITCH (K) ON BATTERY MODELS:

While scrubbing the maximum speed is limited. To override the scrub speed limit press the Speed Switch (K), this enables scrubbing at maximum transport speed.

DETERGENT SYSTEM PREPARATION AND USE (ECOFLEX MODELS ONLY)

The Detergent Cartridges (47) are located below the Operator's Seat (2). Fill the detergent cartridge with a maximum of 2.2 gallons (8.32 Liters) of detergent. SERVICE NOTE: Remove the detergent cartridge from the detergent box prior to filling to avoid spilling detergent on the machine.
It is recommended that a separate cartridge be used for each detergent you plan to use. The detergent cartridges have a white decal on them so you can write the detergent name on each cartridge to avoid mixing them up. When installing a new cartridge, remove the Cap (BC) and place the cartridge in the detergent box. Install the Dry Break Cap (BD) as shown.
The system should be purged of previous detergent when switching to a different detergent. SERVICE NOTE: Move machine over floor drain before purging because a small amount of detergent will be dispensed in the process.

To Purge When Changing Chemicals (SCRUB AND SOLUTION SYSTEMS MUST BE OFF):

1 Disconnect and remove the detergent cartridge.
2 Turn the key switch (A) to the RUN (ON) position. Wait a few seconds for the start-up sequence to finish.
3 Press and hold the Detergent Switch (X) and the Solution Switch (U) for approximately 2 seconds. Release the switch when the chemical purge icon (C12) appears on the display and the indicator on the detergent switch (X) starts flashing. NOTE: Once activated the purge process takes at least 20 seconds. See illustration on next page for Detergent System indicators. Normally one purge cycle is adequate to purge the system.

To Purge Weekly (SCRUB AND SOLUTION SYSTEMS MUST BE OFF):

1 Disconnect and remove the detergent cartridge. Install and connect a Cartridge filled with clean warm water.
2 Turn the key switch (A) to the RUN (ON) position. Wait a few seconds for the start-up sequence to finish.
3 Press and hold the Detergent Switch (X) and the Solution Switch (U) for approximately 2 seconds. Release the switch when the chemical purge icon (C12) appears on the display and the indicator on the detergent switch (X) starts flashing. NOTE: Once activated the purge process takes at least 20 seconds. See illustration on next page for Detergent System indicators. Normally one purge cycle is adequate to purge the system.

When the detergent level is nearing the bottom of the cartridge it is time to refill or replace the cartridge(s).

Detergent Percentage (SCRUB SYSTEM MUST BE ON):

No detergent is dispensed until the scrub and detergent systems are activated and the Drive Pedal (37) pushed forward.

- The detergent mixture icon (C1) will always be displayed when the detergent system is on.

There are 4 modes of EcoFlex operation:

1. *Minimum Concentration Detergent* – Burst of Power Indicator (P1) ON (Activated by momentarily pressing Burst of Power switch when in maximum concentration detergent mode). See below the steps "To program the Minimum Concentration Detergent Level".
2. *Maximum Concentration Detergent* – Burst of Power Indicator (P1) OFF (Activated by pressing and holding Burst of Power switch for two seconds). See below the steps "To program the Maximum Concentration Detergent Level". Do not use a concentration level exceeding the detergent manufacturer's recommendation.
3. *Burst of Power* – Press the Burst of Power Switch (P) to increase the detergent percentage for one minute to the pre-programmed "maximum" level of concentration (as noted in programming instructions below). This will also cause the solution flow rate to increase to the next level and the scrub pressure to increase to the next level. Burst of Power Indicator (P1) will blink for one minute.
4. *Plain Water* - During scrubbing, the detergent system can be turned off at any time by pressing the Detergent ON/OFF Switch (X) to allow scrubbing with water only. Detergent Indicator (X1) will be OFF.

To program the Minimum Concentration detergent level

1. Press the OneTouch™ Scrub switch (R) to activate the scrub system.
2. Ensure the Burst of Power Indicator (P1) is ON (minimum concentration detergent mode).
3. Press the Detergent ON/OFF Switch (X) to turn off the detergent system (detergent indicator (X1) OFF).
4. Press and hold the detergent switch for approximately 2 seconds until the indicator flashes.
5. While the indicator is flashing, pressing and releasing the detergent switch will cycle through the available percentages (0.25%, 0.3%, 0.4%, 0.5%, 0.7%, 0.8%, 1%, 1.5%, 2%, 3%, 3.8%).
6. Once the desired percentage is displayed on the screen (C1), stop and it will save the setting after 3 seconds.
7. Whenever the minimum concentration setting is set to a higher concentration than the current maximum programmed concentration setting. The maximum concentration default setting will be equal to the minimum concentration setting until changed by the operator.

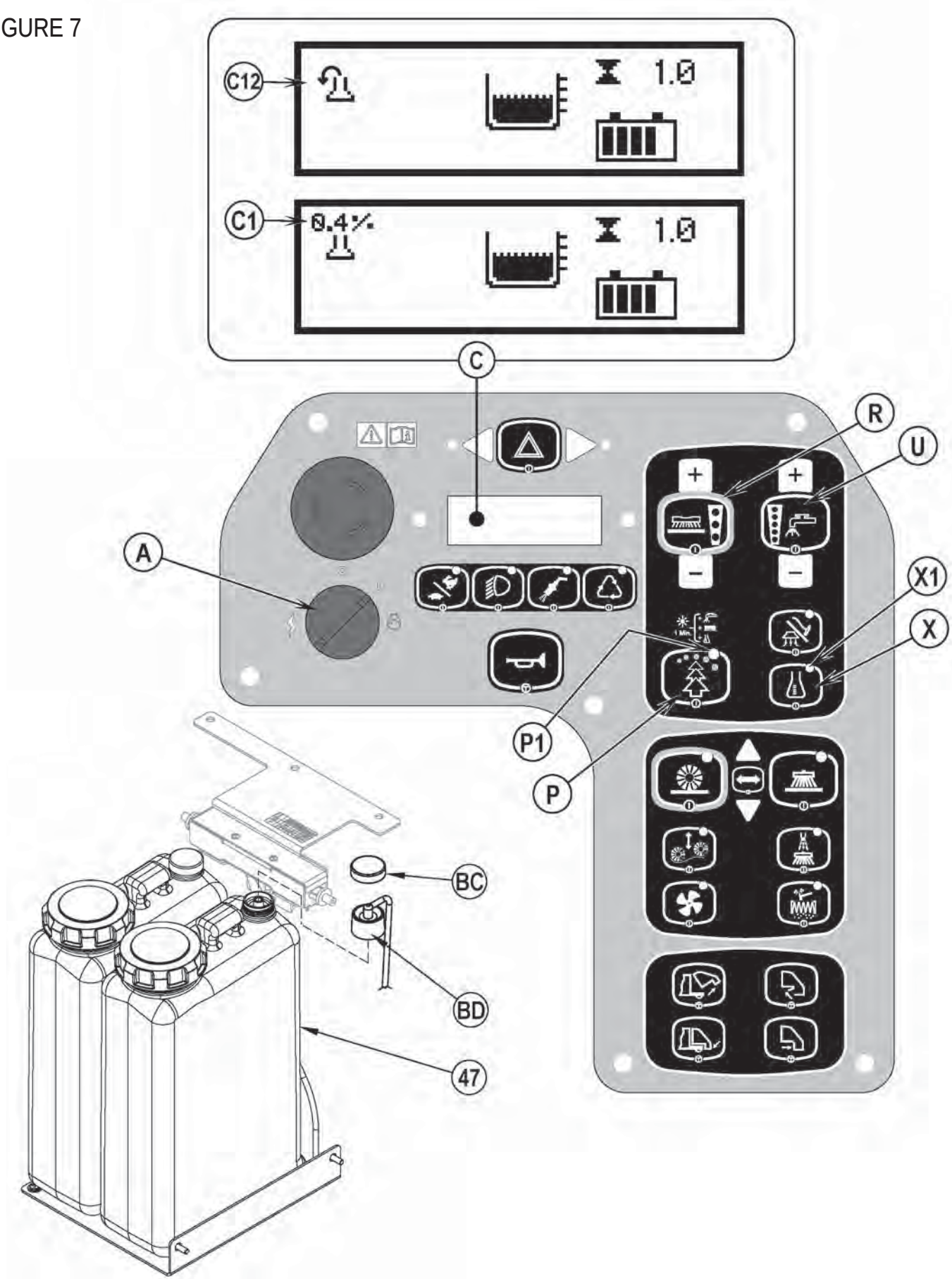
To program the Maximum Concentration detergent level

1. Press the OneTouch™ Scrub switch (R) to activate the scrub system.
2. Press and hold the Burst of Power Switch (P) for approximately 2 seconds until the indicator (P1) is OFF (maximum concentration detergent mode).
3. Press the Detergent ON/OFF Switch (X) to turn off the detergent system (detergent indicator (X1) OFF).
4. Press and hold the detergent switch for approximately 2 seconds until the indicator flashes.
5. While the indicator is flashing, pressing and releasing the detergent switch will cycle through the available percentages (Note: only percentages that are a higher concentration or equal to the minimum detergent setting will be available.
6. Once the desired percentage is displayed on the screen (C1), stop and it will save the setting after 3 seconds.

Once set, the detergent flow rate automatically increases and decreases with the solution flow rate, but the detergent percentage remains the same.

DETERGENT SYSTEM PREPARATION AND USE (ECOFLEX MODELS ONLY)

FIGURE 7



SWEEPING

⚠ WARNING!

Be sure you understand the operator controls and their functions.

While on ramps or inclines, avoid sudden stops when loaded. Avoid abrupt sharp turns. Use low speed down hills.

Follow the instructions in preparing the machine for use section of this manual. Start the engine following the instructions in the appropriate "Starting the … Engine" section (LPG and Diesel models).

1 While seated on the machine, adjust the seat and steering wheel to a comfortable operating position.

2 Release the Parking Brake (38). To transport the machine to the work area, apply even pressure with your foot on the front of the Drive Pedal (37) to go forward or the rear of the pedal for reverse. Vary the pressure on the foot pedal to obtain the desired speed.

3 Push the Lower Hopper Switch (II) to make sure the hopper is seated properly.

4 Press the One-Touch™ Sweep Switch (Y) to lower and the main broom and side brooms. The main broom, side brooms, dust control and optional DustGuard™ (if installed) systems all start when the Drive Pedal (37) is activated. Side brooms (CC), dust control (FF) and DustGuard™ (DD) can each be turned off and on individually by pressing their corresponding switch. NOTE: The dump door opens automatically when the main broom is lowered and closes when the broom is raised.
Press the Main Broom Float Switch (GG) only when sweeping extremely rough or uneven f oors. Use at other times will only increase broom wear. When in the full f oat position the f oat switch indicator light will be ON, press the Float Switch (GG) to return to the normal mode.

5 When sweeping f oors with puddles, push the Dust Control Switch (FF) to turn OFF the dust control system before the machine enters a puddle. Turn the dust control system back ON when the machine is back on completely dry f oor.
When sweeping wet f oors, keep the Dust Control Switch (FF) OFF at all times.

6 To adjust the side broom sweeping pattern or main broom sweeping pressure, see the Maintenance section.

7 Drive the machine straight forward at a quick walking speed. Drive the machine slower when sweeping large amounts of dust or debris or when safe operation dictates slower speeds. Overlap passes 6 inches (15 cm).

8 If dust comes out of the broom housing while sweeping, the Dust Control Filter (17) may be clogged. Push the Shaker Switch (EE) to clean the dust control f lter. The dust control system (FF) will automatically turn OFF while the shaker is running and turn ON after the shaker turns OFF (the shaker runs for 15 seconds). Run the shaker (EE) every 10 minutes on average (depending upon the dustiness of the area being cleaned). For proper machine operation, the dust f lter must be kept as clean as possible.

9 Check behind the machine occasionally to make sure that the machine is picking up debris. Dirt left behind in the path of the machine usually indicates that the machine is moving too fast, the broom needs to be adjusted, or the hopper is full.

10 When the operator wants to stop sweeping, press the One-Touch™ Sweep Switch (Y). This will automatically raise and stop the main and side brooms. The dust control and DustGuard™ (if installed) will turn off. The hopper door will close and the shaker motor will run for 15 seconds.

EMPTYING THE HOPPER

⚠ WARNING!

Make sure the Hopper Safety Bar (23) is engaged whenever attempting to do any maintenance work under or near the raised hopper. The Hopper Safety Bar (23) holds the hopper in the raised position to allow work to be performed under the hopper. NEVER rely on the machine's hydraulic components to safely support the hopper.

NOTE: The MINIMUM ceiling height dumping clearance required for raising the hopper is 90" (228.6 cm).

1 Press the Filter Shaker Switch (EE) to remove excess dirt from the dust control f lter. SERVICE NOTE: For best shaker performance always run the shaker with the hopper fully down.

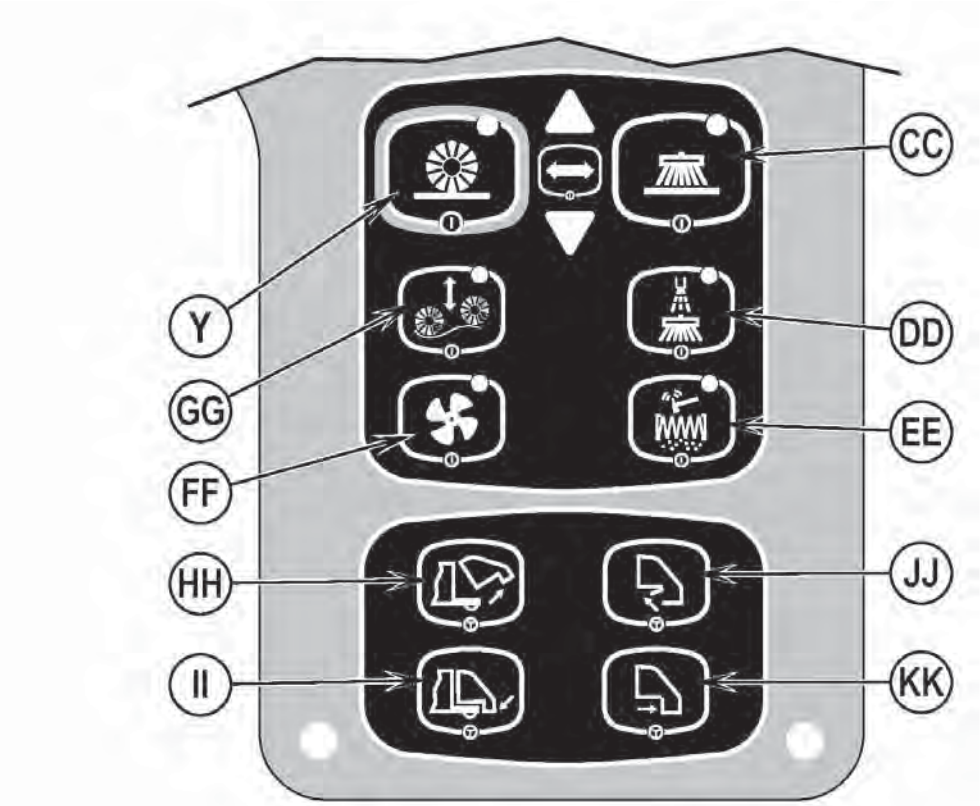
2 Drive the machine close to a large trash receptacle and hold the Raise Hopper Switch (HH) until the hopper is all the way up. NOTE: The dump door automatically closes when switch (HH) is pushed. You regain control of the dump door as soon as the hopper begins to rise so you can dump at any height if necessary.

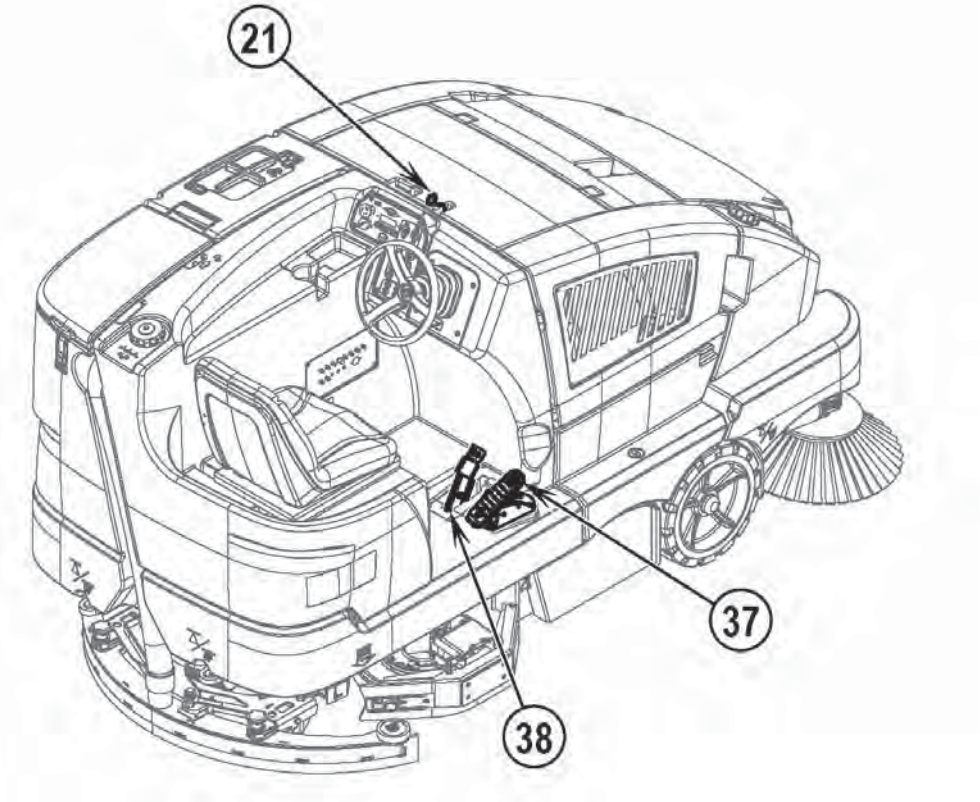
3 Move the machine forward until the hopper is over the receptacle and set the Parking Brake (38). Press the Hopper Door Open Switch (JJ) to open the dump door and empty the hopper. NOTE: If not dumping into a trash receptacle, low dumping is recommended to help eliminate airborne dust.

4 Put the Hopper Safety Bar (23) in place by pulling back on the Hopper Safety Bar Handle (21), then press the Hopper Lower Switch (II) to lower the hopper slightly and secure.

5 Check the hopper door and the front edge seal. Use a broom, if necessary, to remove litter from these areas. The hopper door must seal tightly against the broom housing for proper operation.

6 Return to the operator's compartment. Release the parking brake. Press and hold the Hopper Door Close Switch (KK) to close the hopper door. Move the machine back until the hopper will clear the receptacle. Raise the hopper slightly and push forward on the Hopper Safety Bar Handle (21) until the Hopper Safety Bar (23) disengages, then press the Hopper Lower Switch (II) to lower the hopper. NOTE: The brooms will not turn on if the hopper is not completely down.


CC
Y
DD
GG
EE
FF
HH
JJ
II
KK


21
37
38

SCRUBBING

⚠ WARNING!

Be sure you understand the operator controls and their functions.

While on ramps or inclines, avoid sudden stops when loaded. Avoid abrupt sharp turns. Use low speed down hills.

Follow the instructions in preparing the machine for use section of this manual. Start the engine following the instructions in the appropriate "Starting the … Engine" section (LPG and Diesel models).

1 While seated on the machine, adjust the seat and steering wheel (tilt steering is optional) to a comfortable operating position.

2 Release the Parking Brake (38). To transport the machine to the work area, apply even pressure with your foot on the front of the Drive Pedal (37) to go forward or the rear of the pedal for reverse. Vary the pressure on the foot pedal to obtain the desired speed.

3 Press and hold the Solution Switch (U) to pre-wet the floor, solution will be dispensed while the switch is held. NOTE: This will help prevent scarring of the floor surface when starting to scrub with dry brushes. This must be done prior to pressing the One-Touch™ Scrub Switch (R).

4 Press the One-Touch™ Scrub Switch (R), the scrub deck and squeegee will automatically be lowered to the floor. The scrub, vacuum, solution and detergent (EcoFlex models) systems all start when the Drive Pedal (37) is activated.
The scrub pressure will default to Normal (one scrub pressure indicator lit). Use the Scrub Pressure Increase Switch (Q) and Scrub Pressure Decrease Switch (S) to change between Normal, Heavy and Extreme Scrub modes. The solution flow rate will automatically adjust to coincide with the scrub pressure.
NOTE: The solution flow rate can be changed independently of the scrub pressure simply by pressing the Solution Flow Increase (T) or Solution Flow Decrease Switch (V). Any subsequent scrub pressure adjustments will reset the solution flow rate to correspond with the scrub pressure.
NOTE: The scrub, solution, vacuum, detergent (EcoFlex models) systems are automatically enabled when the One-Touch™ Scrub Switch (R) is pressed. Any individual system can be turned OFF or back ON by simply pressing its switch at any time during scrubbing.
NOTE: When operating the machine in reverse the squeegee automatically raises and the solution flow will stop.

5 Begin scrubbing by driving the machine forward in a straight line at a normal walking speed and overlap each path by 2-3" (5.08-7.62cm). Adjust the machine speed and solution flow when necessary according to the condition of the floor.

⚠ CAUTION!

To avoid damaging the floor, keep the machine moving while the brushes are turning (the brushes will turn OFF after a 2 second delay when the drive pedal is placed in the neutral position).

Raise scrub deck when crossing speed bumps.

6 When scrubbing, check behind the machine occasionally to see that all of the waste water is being picked up. If there is water trailing the machine, you may be dispensing too much solution, the recovery tank may be full, or the squeegee tool may require adjustment.

7 The machine defaults to the last cleaning mode used *Minimum or Maximum Concentration Detergent* (if detergent is installed). Press the Burst of Power Switch (P) to override the current cleaning mode and temporarily increase scrub pressure, solution flow and the detergent percentage (unless in *Maximum Concentration*). This will cause the indicator to flash for one minute, solution flow rate will increase to the next level, scrub pressure will increase to the next level and the detergent percentage will be at the Maximum Concentration level (detergent system will be turned on if it was off).
NOTE: Pressing and holding the Burst of Power Switch (P) for 2 seconds changes between the *Minimum* and *Maximum Concentration* operating modes. The EcoFlex system will only function if the scrub system has been enabled.

8 For extremely dirty floors, a one-pass scrubbing operation may not be satisfactory and a "double-scrub" operation may be required. This operation is the same as a one-pass scrubbing except on the first pass the squeegee is in the up position (press the Vacuum/Wand Switch (W) to raise the squeegee). This allows the cleaning solution to remain on the floor to work longer. The Side Skirts (8 & 39) can also be raised for double scrubbing if needed and held in place with the catch (AE) shown in Figure 4. The final pass is made over the same area, with the squeegee and skirts lowered to pick up the accumulated solution.

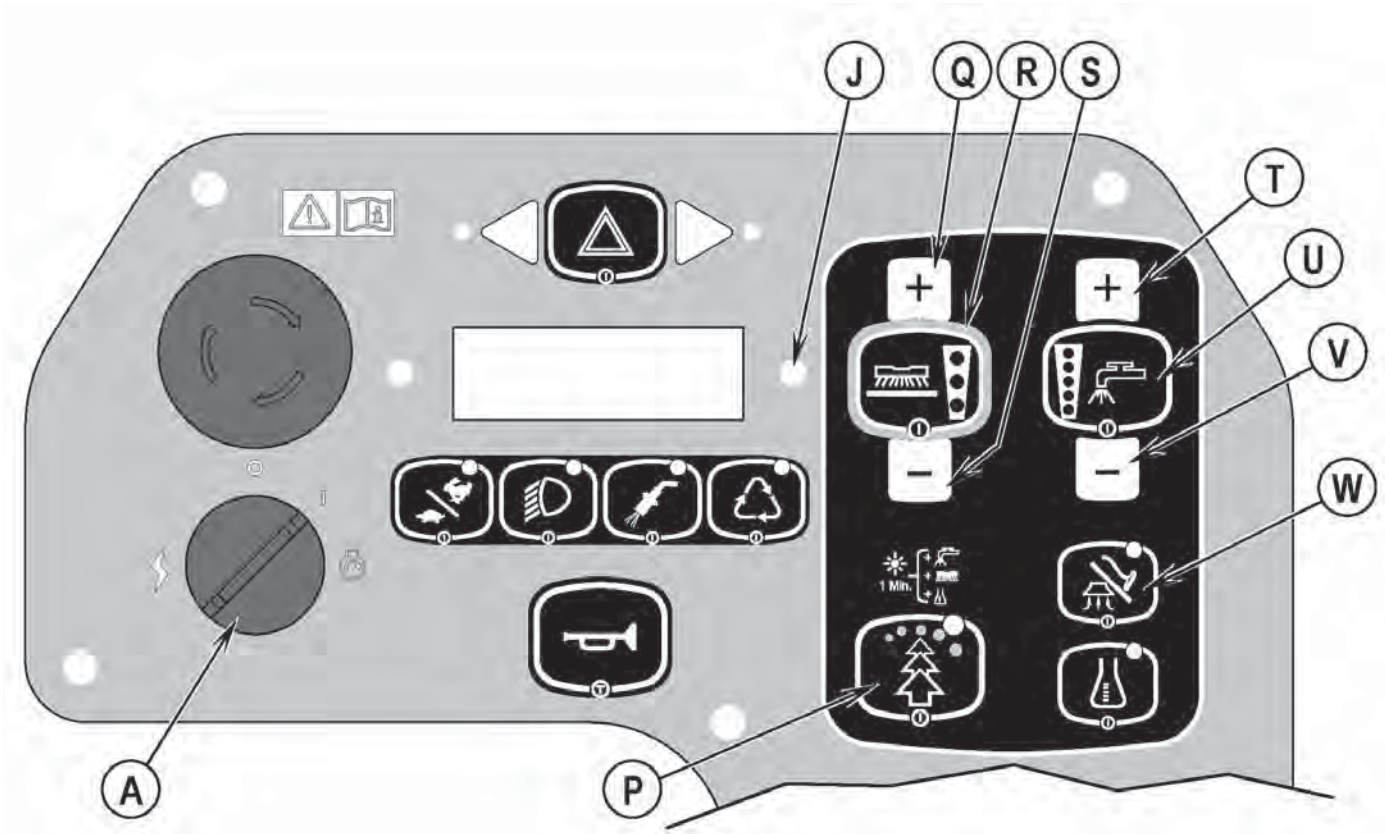
9 The recovery tank has two shut-off floats (52) that cause ALL systems to turn OFF except the drive and sweeping systems when the recovery tank is full. When the float(s) is activated, the recovery tank must be emptied. The machine will not pick up water or scrub with the float activated. The machine can continue to be used for sweeping.
NOTE: The Warning Indicator (J) will light up RED and the Recovery Full Icon (C22) will display when the shut-off float (52) is activated. If the control repeatedly gives a full indication when the tank is not full check to make sure the floats move freely.

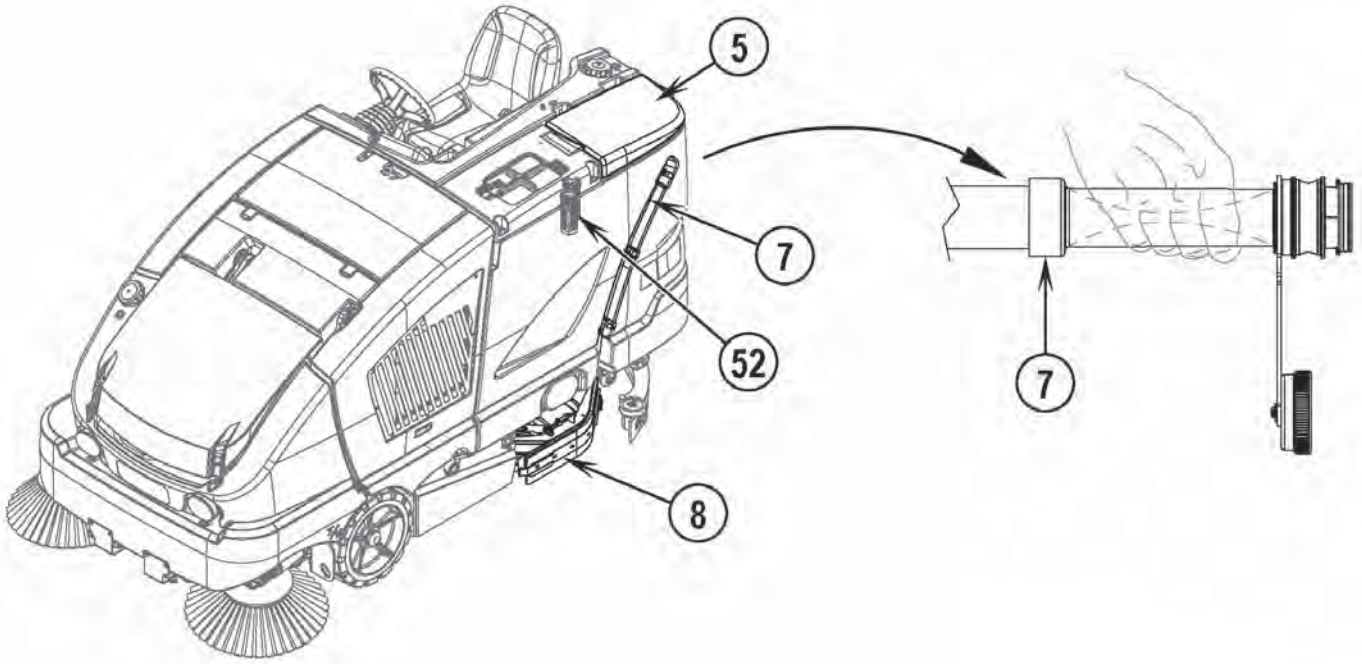
10 When the operator wants to stop scrubbing, press the One-Touch™ Scrub Switch (R) once. This will automatically stop the scrub brushes, solution flow and detergent flow. The scrub deck will raise up. The squeegee will raise up after a brief delay and the vacuum will stop after a brief delay (this is to allow any remaining water to be picked up without turning the vacuum back on).

11 Drive the machine to a designated waste water "DISPOSAL SITE" and empty the recovery tank. To empty, pull the Recovery Tank Drain Hose (7) from its storage area, then unscrew the cap (hold the end of the hose above the water level in the tank to avoid sudden, uncontrolled flow of waste water). The Recovery Tank Drain Hose (7) can be squeezed to regulate the flow. Refill the solution tank and continue scrubbing.

NOTE: Make sure the Recovery Tank Lid (5) and the Recovery Tank Drain Hose (7) cap are properly seated or the machine will not pick-up water correctly.

Battery Models: When the batteries require recharging the Battery Low Indicator (C12) will be displayed. Then the scrub and sweep systems will automatically shut down. Transport the machine to a service area and recharge the batteries according to the instructions in the maintenance section of this manual.


J
Q
R
S
T
U
V
W
A
P
1 Min.


5
7
52
8
7

AFTER USE

1 Raise the scrub brushes and the brooms.
2 Shake the dust control f lter and empty the hopper.
3 Drain and f ush the recovery tank. Check that the drain hose cap is sealed.
4 Flush the vacuum hose and squeegee by opening the recovery tank lid and running water down the pickup tube on the rear of the tank. SERVICE NOTE: The recovery tank can be tipped out to the side for cleaning after emptying. Unlatch the Recovery Tank Tip-Out Lock (3) between the solution and recovery tank and then pull out on the tank with grip (25) until the tank reaches the end of its tether.
5 Remove and clean the squeegee tool.
6 Remove and clean the scrub brushes. Rotate the scrub brushes.
7 Wipe the machine with a damp cloth.
8 Perform all required maintenance before storage.
9 Move the machine to a clean, dry storage area.
10 Apply the parking brake.
11 Store the machine with the brooms, the squeegee and the scrub brushes in the UP position, and the tank covers open so that the tanks can air out.

REPORT ANY DEFECT OR MALFUNCTION NOTED DURING OPERATION TO AUTHORIZED SERVICE OR MAINTENANCE PERSONNEL.

SHUTTING DOWN THE DIESEL ENGINE

1 Put all controls to the OFF position.
2 Raise the squeegee, the scrub brushes, and the brooms.
3 Apply the Parking Brake (38).
4 Turn the Key Ignition Switch (A) OFF and remove the key.

SHUTTING DOWN THE LPG ENGINE

1 Put all controls to the OFF position.
2 Raise the squeegee, the scrub brushes, and the brooms.
3 Turn the service valve on LPG fuel tank OFF.
4 Let the engine idle until all the LP gas is dispelled from the line.
5 Apply the Parking Brake (38).
6 Turn the Key Ignition Switch (A) OFF and remove the key.

SHUTTING DOWN THE GASOLINE / PETROL ENGINE

1 Put all controls to the OFF position.
2 Raise the squeegee, the scrub brushes, and the brooms.
3 Apply the Parking Brake (38).
4 Turn the Key Ignition Switch (A) OFF and remove the key.

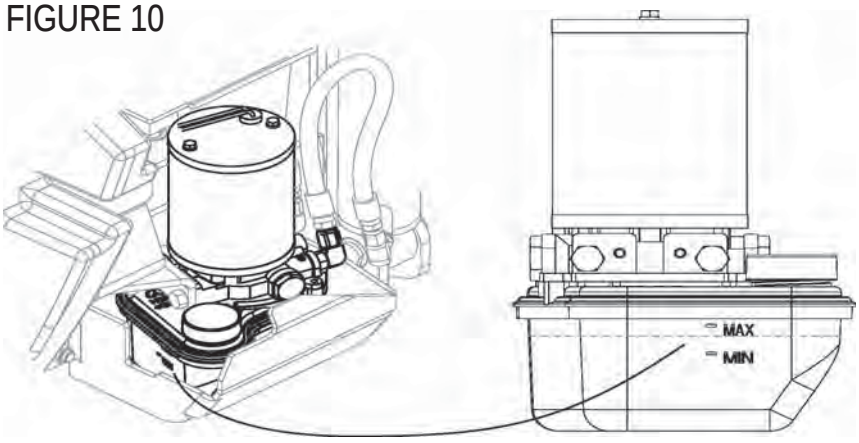
IMPORTANT NOTE: During normal operation the engine will continue to run for a short period of time (1-3 seconds) after turning the key OFF until all fuel is dispelled from fuel system.

CHECK HYDRAULIC OIL

To check the hydraulic oil level, swing open the Right Side Door (35) and lift out the Lower Cover (34). The Hydraulic Oil Reservoir (49) will be visible in the area above the front tire. Look through the translucent reservoir to check the oil level it should be between the MIN and MAX lines. See Figure 10.

If the oil level is below the MIN line with the hopper in the down position you will need to add oil to the reservoir. Raise the hopper and engage the hopper safety bar to access the hydraulic oil reservoir f ll cap. Note: With the hopper raised some oil has entered the cylinder causing the oil level to drop, DO NOT f ll the reservoir to the MAX line with the hopper raised. Add 10W30 motor oil until the oil is at the MIN level line. Change the oil if major contamination from a mechanical failure occurs.

FIGURE 10



MAINTENANCE SCHEDULE

Keep the machine in top condition by following the maintenance schedule closely. Maintenance intervals given are for average operating conditions. Machines used in severe environments may require service more often.

MAINTENANCE ITEM	PERFORM DAILY	PERFORM WEEKLY
Perform the “After Use” maintenance steps	X	
Charge battery (battery models)	X	
Check parking brake	X	
Check engine oil (LPG & Diesel only)	X	
Check engine coolant level (LPG & Diesel only)	X	
Check for engine and coolant leaks (LPG & Diesel only)	X	
Check air filter service indicator	X	
Clean main and side brooms	X	
Check and clean the brushes	X	
Drain / Check / Clean Tanks & Hoses	X	
Clean recovery tank Debris Basket (51)	X	
Check / Clean / Adjust the squeegee	X	
Clean the hopper	X	
Clean / Inspect scrub deck side skirts	X	
Check/Clean/Rinse the vacuum motor foam filter and screen, under lid (6)	X	
Check hydraulic oil level		X

MAINTENANCE ITEM	15-20 hrs.	150 hrs.	400 hrs.	1000 hrs.
Check the electrolyte level in the battery (battery models)	X			
Check the battery cables and connections	X			
Rotate main broom	X			
Inspect and clean solution filter	X			
Rotate the scrub brushes	X			
Inspect/adjust main and side brooms	X			
Clean the DustGuard™ system spray nozzles	X			
Inspect broom housing skirts	X			
Check / Clean Hopper Dust Control Filter	X			
Inspect hopper seals	X			
Purge Detergent System (EcoFlex only)	X			
Clean radiator		X		
Perform engine maintenance		X		
Inspect and drain any oil buildup from the LPG fuel system EPR		X		
Inspect complete air intake system (LPG & Diesel only)			X	
Check battery electrolyte level & terminals (LPG & Diesel only)			X	
Replace fuel filter (LPG & Diesel only)			X	
Change the spark plugs (LPG only)				X
Flush the radiator				X
Replace Alternator Drive Belt				X

MAINTENANCE ITEM	1500 hrs.	1900 hrs.	2000 hrs.
Check main broom motor carbon brishes	X		
Check side broom motor carbon brushes	X		
Check scrub brush motor carbon brushes		X	
*Perform engine maintenance			X

*See the Service Manual for detailed maintenance information of systems listed. (Engine, Sweeping, Hopper, Steering, Dust Control, Recovery, Scrub, Solution, Wheel and Squeegee)

LUBRICATING THE MACHINE – FIGURE 11

Once a month, pump a small amount of grease into each grease f tting on the machine until grease seeps out around the bearings.

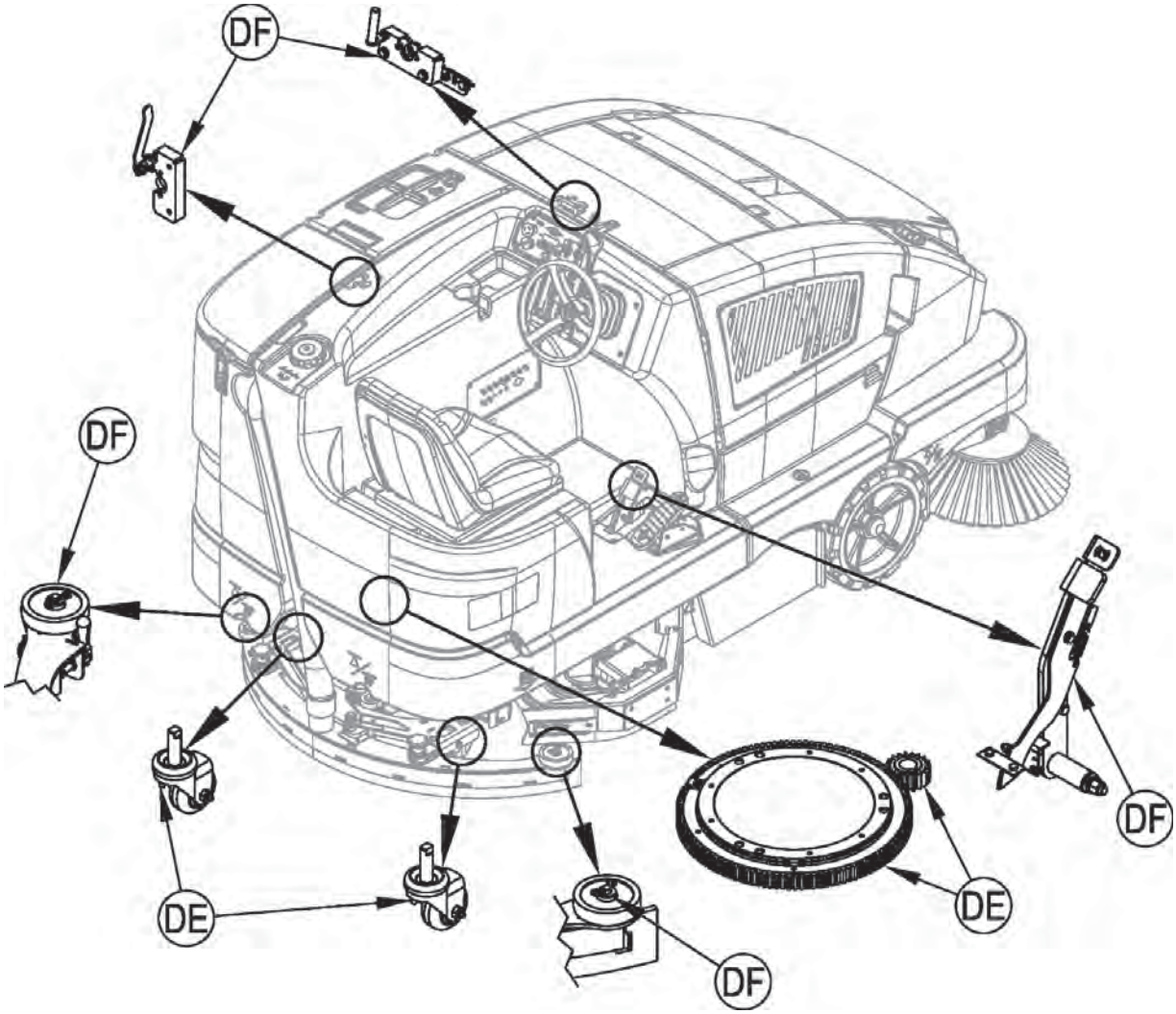
Grease fitting locations (or apply grease to) (DE):

- Squeegee Caster Wheel Axle and Pivot
- Steering Gears – requires specif c grease (Nilf sk-Advance PN 56510412) Chevron Open Gear Lube 250 NC.

Once a month, apply light machine oil to lubricate the (DF):

- Squeegee tool end wheels
- Fuel Tank Cover Latch (LPG and Diesel only)
- Recovery Tank Latch
- Brake Pedal (parking brake) linkage

FIGURE 11



CHARGING THE BATTERY (BATTERY MODELS)

Charge the battery each time the machine is used, or whenever the Battery Low Indicator (C12) is displayed.

To Charge the Battery...

1 Unlatch the Battery Compartment Latch (20) and open the door to provide proper ventilation.
2 Disconnect the battery from the machine (AB) and connect the charger plug to the battery plug.
3 Follow the instructions on the battery charger.
4 Check the f uid level in all battery cells after charging the battery. Add distilled water, if necessary, to bring the f uid level up to the bottom of the f ller tubes.

⚠ WARNING!

Do not f ll the battery before charging.
Only charge battery in a well-ventilated area.
Do not smoke while servicing the battery.

⚠ CAUTION!

To avoid damage to f oor surfaces, always wipe water and acid from the top of the battery after charging.

CHECKING THE BATTERY ELECTROLYTE LEVEL

Check the electrolyte level of the battery at least once a week.

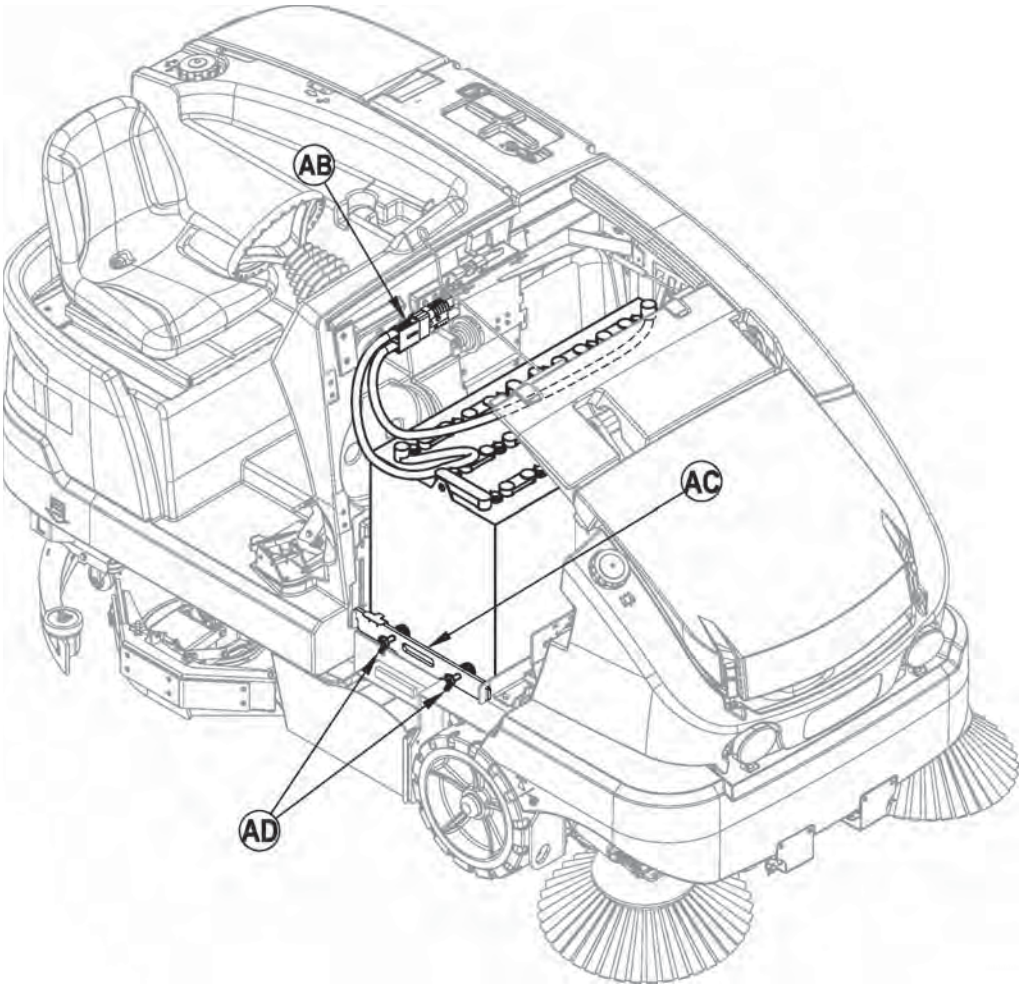
After charging the battery, remove the vent caps and check the electrolyte level in each battery cell. Use distilled water to f ll the battery to the bottom of the f ller tube.

Do not over-f ll the battery!

⚠ CAUTION!

Acid can spill onto the f oor if the battery is overf lled.

Tighten the vent caps. If there is acid on the battery, wash the tops of the battery with a solution of baking soda and water (2 tablespoons of baking soda to 1 quart of water).



CHARGING THE BATTERY PACK (HYBRID MODELS)

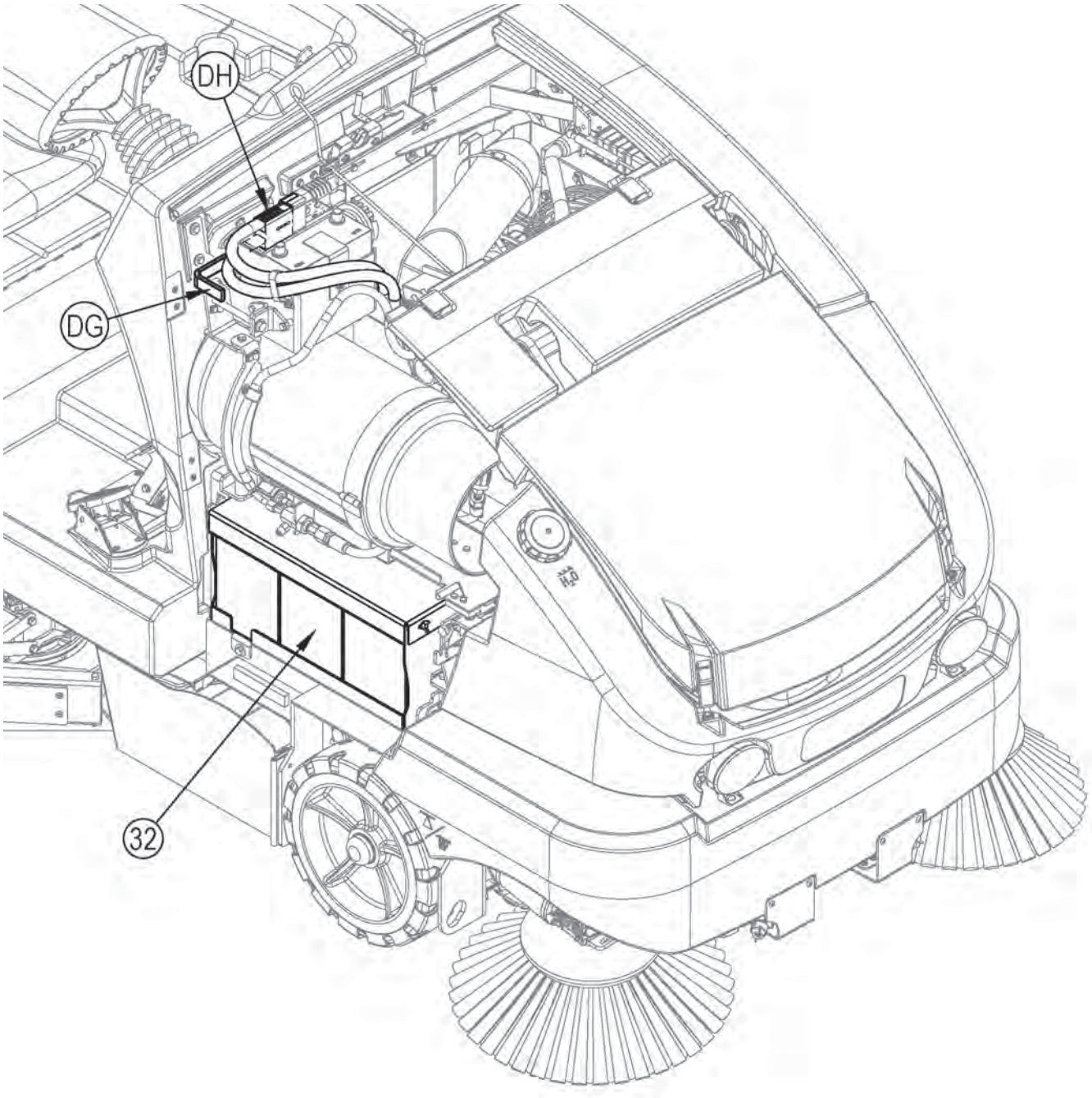
The engine runs a generator which is the main source of electrical power. The battery pack (32) is used as a back-up. If the engine is not running, the machine can operate for a limited time using only the battery pack. Charge the battery pack whenever the Battery Low Indicator (C12) is displayed (signifying a low-voltage cutout state). The battery pack can be recharged by running the engine and scrubbing with the machine for at least four hours. An alternative is to follow the steps below to charge the battery pack using a shelf charger.

To Charge the Battery Pack...

1 Unlatch and open the Right Side Door (35).
2 Pull the yellow Handle (DG) to disconnect the battery pack from the machine at plug (DH).
3 Connect the charger plug to the battery plug (DH).
4 Follow the instructions on the battery charger; use an appropriate charger for gel batteries.

⚠ CAUTION!

Only use an appropriate charger designed for use with gel type batteries.
Never leave the machine in a low-voltage cutout state overnight without charging the battery pack.



MAIN BROOM MAINTENANCE

Since the Main Broom Motor always turns in the same direction, the bristles on the broom eventually become curved, reducing sweeping performance. Sweeping performance can be improved by removing the broom and turning it around (end-for-end). This procedure, known as "rotating" the main broom, should be done once every 15-20 hours of operation.

The main broom should be replaced for optimal performance when the bristles are worn to a length of 2-1/2 inches (6.35 cm). The main broom stop must be re-adjusted when the broom is replaced. NOTE: Bristle length on a new broom is 3-3/4 inches (9.5 cm).

NOTE: The machine should be stored with the Main Broom in the raised position.

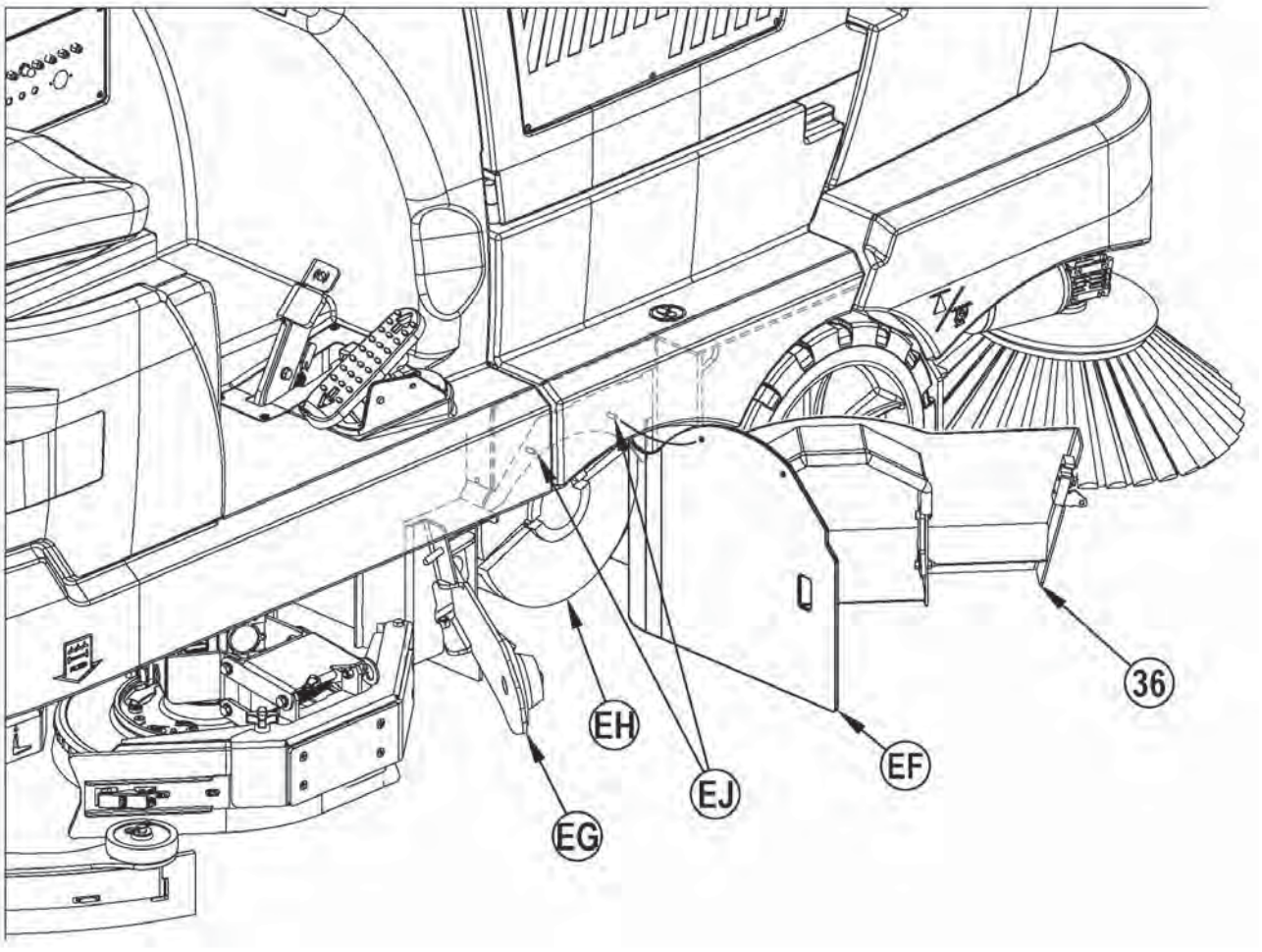
⚠ WARNING!

The engine must not be running when performing this procedure.

To Rotate or Replace the Main Broom...

1 Turn the Ignition Key Switch (A) OFF.
2 Open the Main Broom Access Door (36).
3 See Figure 12. Move aside the right side skirt (EF).
4 Pivot the Idler Arm Assembly (EG) out of the main broom core. NOTE: The Idler Arm is held in place by the Main Broom Access Door (36).
5 Pull the Main Broom (EH) out of the broom housing and remove any string or wire wrapped around it. Also inspect the skirts at the front, back and sides of the broom housing. The skirts should be replaced or adjusted if they are torn or worn to a height of more than 1/4 inch (6.35 mm) off the ground.
6 Turn the broom around (end-for-end) and slide it back into the broom housing. Make sure that the lugs on the broom core (left side) engage the slots in the broom drive hub and that the broom is fully seated.
7 Swing the idler arm assembly back into the broom core. NOTE: Make sure the lugs on the idler arm engage the slots in the broom core
8 Move the right side skirt (EF) back into position being sure to press the skirt over the two Pins (EJ).
9 Close and latch the Main Broom Access Door (36).
10 If you are replacing a used broom with a new broom go to the *Main Broom Maintenance* section to readjust the broom height.

FIGURE 12



MAIN BROOM MAINTENANCE

To Adjust the Main Broom Height...

1 Drive the machine to an area with a level f oor and set the parking brake.

2 See Figure 13. Press the One-Touch™ Sweep Switch (Y) to lower the main broom. DO NOT move the machine.

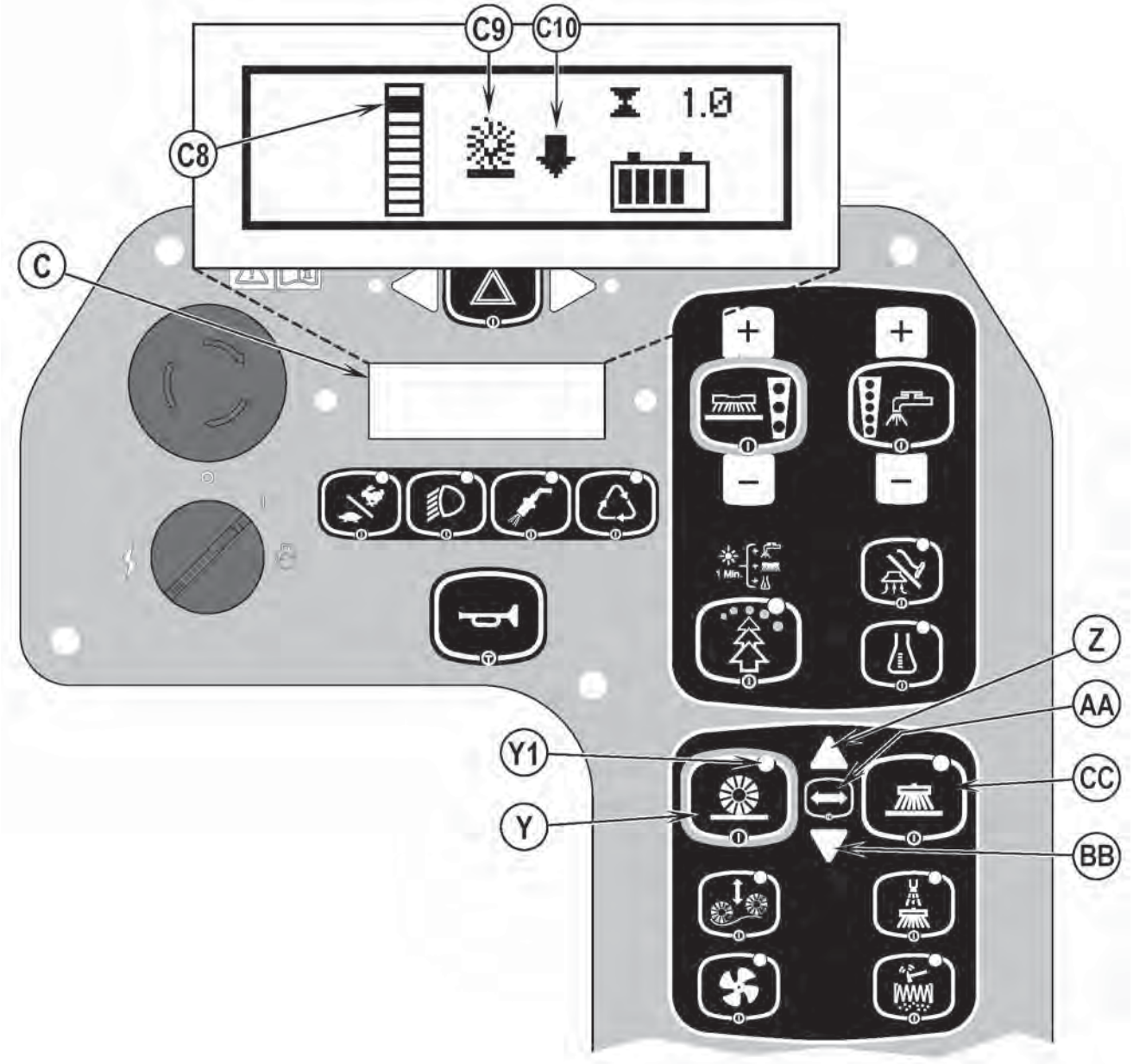
3 Lightly press the Drive Pedal (37) to start the main broom and let it run in place for 1 minute. This allows the broom to polish a “strip” on the f oor. After 1 minute, raise the broom, release the parking brake and move the machine so that the polished strip is visible.

4 Inspect the polished strip on the f oor. If the strip is less than 2 inches (5.08 cm) or more than 3 inches (7.62cm) wide, the broom needs to be adjusted.

5 To adjust, press the Broom Select Switch (AA) twice, or until the Main Broom Indicator Light (Y1) is f ashing. The LCD Display (C) will show the broom position bar graph (C8) and main broom symbol (C9). Press and hold or repeatedly press the Broom Height Raise Switch (Z) to raise the main broom or Broom Height Lower Switch (BB) to lower the main broom (the position indicator will move up and down to represent the broom position). After 10 seconds without adjustment the main broom will be set at this position and exit the adjustment menu.
Start with the position indicator at the top of the bar graph for a new broom. Adjust the position indicator down as the broom wears. Replace the broom when the position indicator reaches the bottom of the bar graph.

6 Repeat steps 1-5 until the polished strip is 2-3 inches (5.08-7.62cm) wide.
The width of the polished strip should be the same at both ends of the broom. If the strip is tapered, move the machine to a different area and repeat steps 1-5. If the polished strip is still tapered, contact your Nilf sk Dealer for service.

FIGURE 13



SIDE BROOM MAINTENANCE

The side brooms move dirt and debris away from walls or curbs and into the path of the main broom. Adjust the side brooms so that the bristles are contacting the f oor from the (FG) to (FH) area shown in Figure 14 when the broom is down and running.

To adjust the Side Broom...

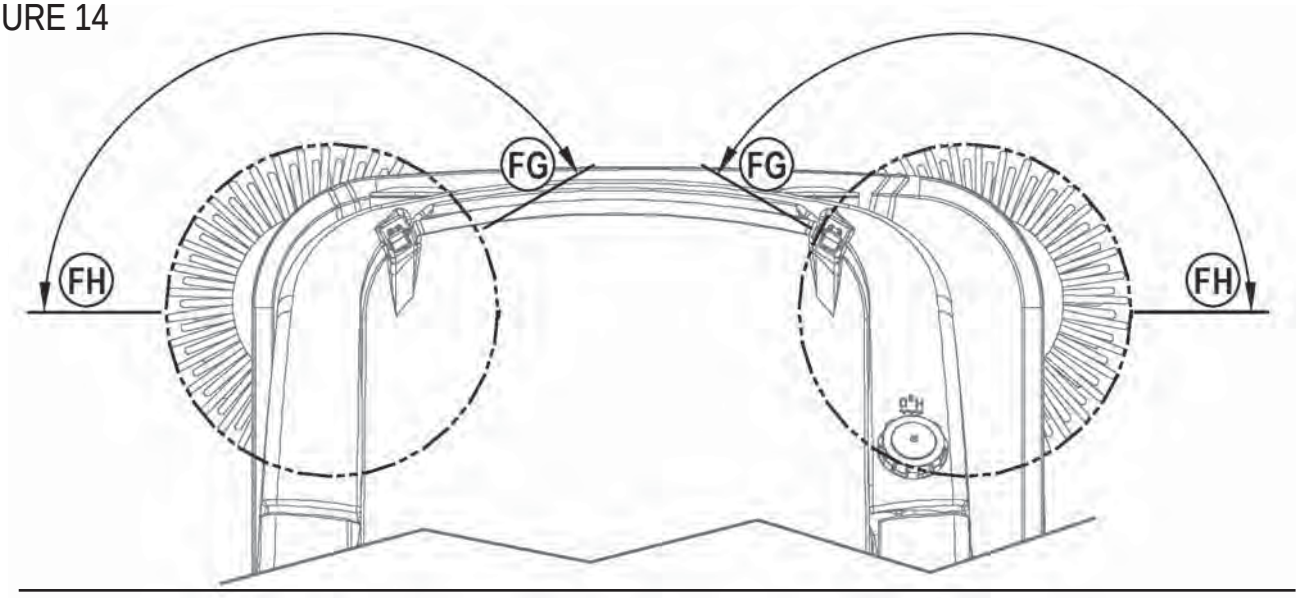
1 Press the One-Touch™ Sweep Switch (Y) to lower the side brooms. DO NOT move the machine.
2 See Figure 13. To adjust, press the Broom Select Switch (AA) once. The LCD Display (C) will show the side broom symbol. Press and hold the Broom Height Raise Switch (Z) to raise the side brooms or Broom Height Lower Switch (BB) to lower the side brooms. After 10 seconds without adjustment the side brooms will be set at this position and exit the adjustment menu.

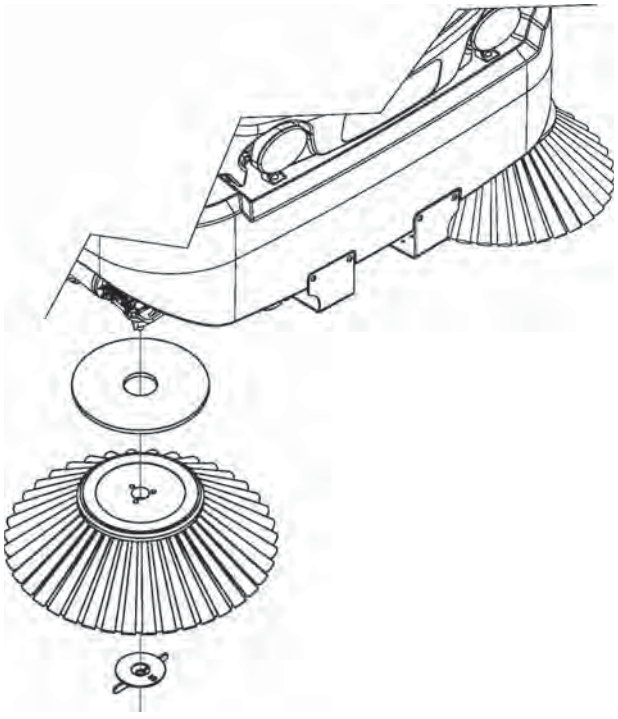
NOTE: The machine should be stored with the Side Broom(s) in the raised position. The Side Broom(s) should be replaced when the bristles are worn to a length of 3 inches (7.62 cm) or they become ineffective.

To replace the Side Broom...

1 Raise the Side Broom(s).
2 Reach under the Side Broom and remove the large Thumb-Nut Weldment holding the side broom on and remove the broom and plastic disc. NOTE: The right side Thumb-Nut has right handed threads and the left side thumb-nut has left handed threads.
3 Install the new broom and plastic disc by aligning the three alignment pins and pushing on. Re-install the Thumb-Nut and tighten.

FIGURE 14

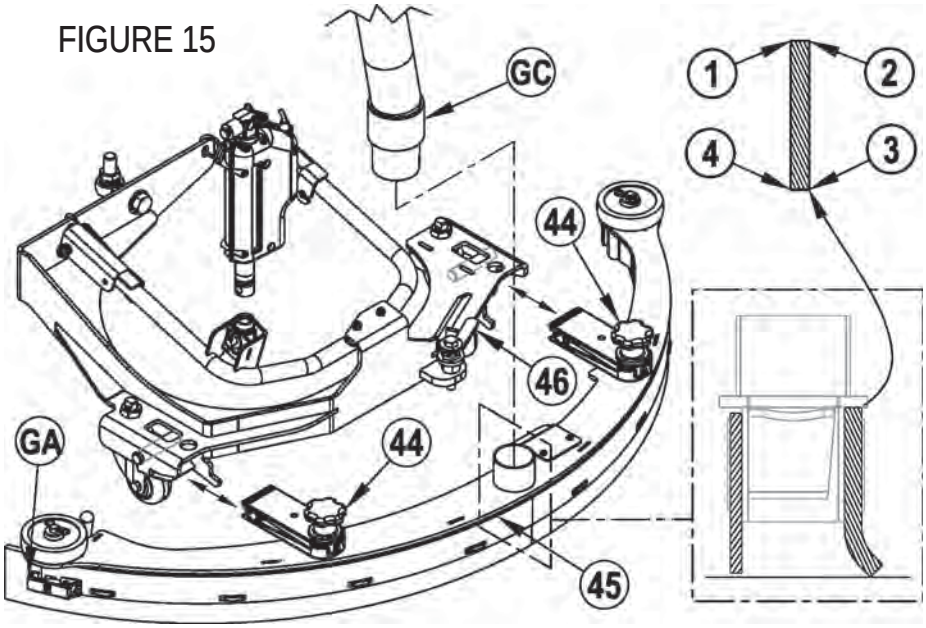




SQUEEGEE MAINTENANCE

If the squeegee leaves narrow streaks or water, the blades may be dirty or damaged. Remove the squeegee, rinse it under warm water and inspect the blades. Reverse or replace the blades if they are cut, torn, wavy or worn.

FIGURE 15

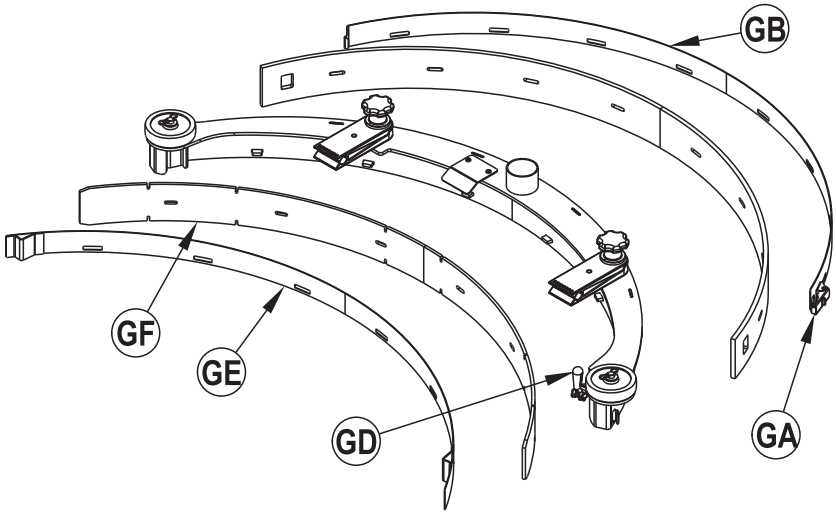


To Reverse or Replace the Rear Squeegee Wiping Blade...

1 See Figure 15. Raise the squeegee off the f oor, then unsnap the Latch (GA) on the squeegee tool.
2 Remove the Tension Strap (GB).
3 Slip the rear blade off the alignment pins.
4 The squeegee blade has 4 working edges as shown. Turn the blade so a clean, undamaged edge faces toward the front of the machine. Replace the blade if all 4 edges are nicked, torn or worn to a large radius.
5 Install the blade, following the steps in reverse order and adjust the squeegee tilt.

To Reverse or Replace the Front Squeegee Blade...

1 See Figure 15. Raise the squeegee off the f oor. Disconnect the vacuum Hose (GC) from the squeegee tool.
2 Loosen the (2) Squeegee Removal Knobs (44) on the squeegee clips and remove the Squeegee Assembly (45) from the mount.
3 Release the Push/Pull Clamp (GD) and remove the Weldment Strap (GE) and the front squeegee blade (GF).
4 The squeegee blade has 4 working edges as shown. Turn the blade so a clean, undamaged edge faces toward the front of the machine. Replace the blade if all 4 edges are nicked, torn or worn to a large radius.
5 Install the blade, following the steps in reverse order and adjust the squeegee tilt.

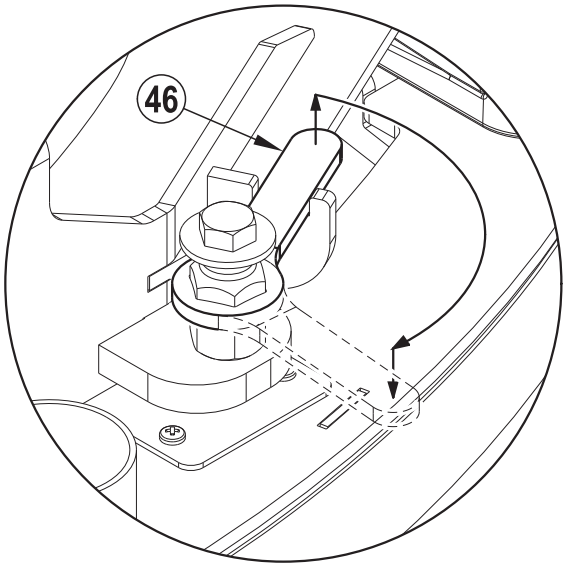


SQUEEGEE ADJUSTMENT

Adjusting the Squeegee Angle

Adjust the squeegee angle whenever a blade is reversed or replaced, or if the squeegee is not wiping the f oor dry.

1 Park the machine on a f at, even surface.
2 Lower the squeegee, move the machine ahead slightly.
3 Lift the Squeegee Tilt Adjustment Handle (46) out of its yoke. Rotate the handle and allow it to drop back down onto the hex. Use the handle to rotate the hex (raise or lower) so that the rear squeegee blade touches the f oor evenly across its entire width and is bent over slightly as shown in the squeegee cross section. When the adjustment is complete, return the handle to its yoke.



HOPPER DUST CONTROL FILTER

The hopper dust control f lter must be cleaned regularly to maintain the eff ciency of the vacuum system. Follow the recommended f lter service intervals for the longest f lter life.

⚠ CAUTION!

Use only the approved Nilf sk high capacity dust control f lter in this machine. Use of standard pleated f lters will result in insuff cient air f ow, inadequate clean shaking, and potential machine damage.

Wear safety glasses when cleaning the f lter.

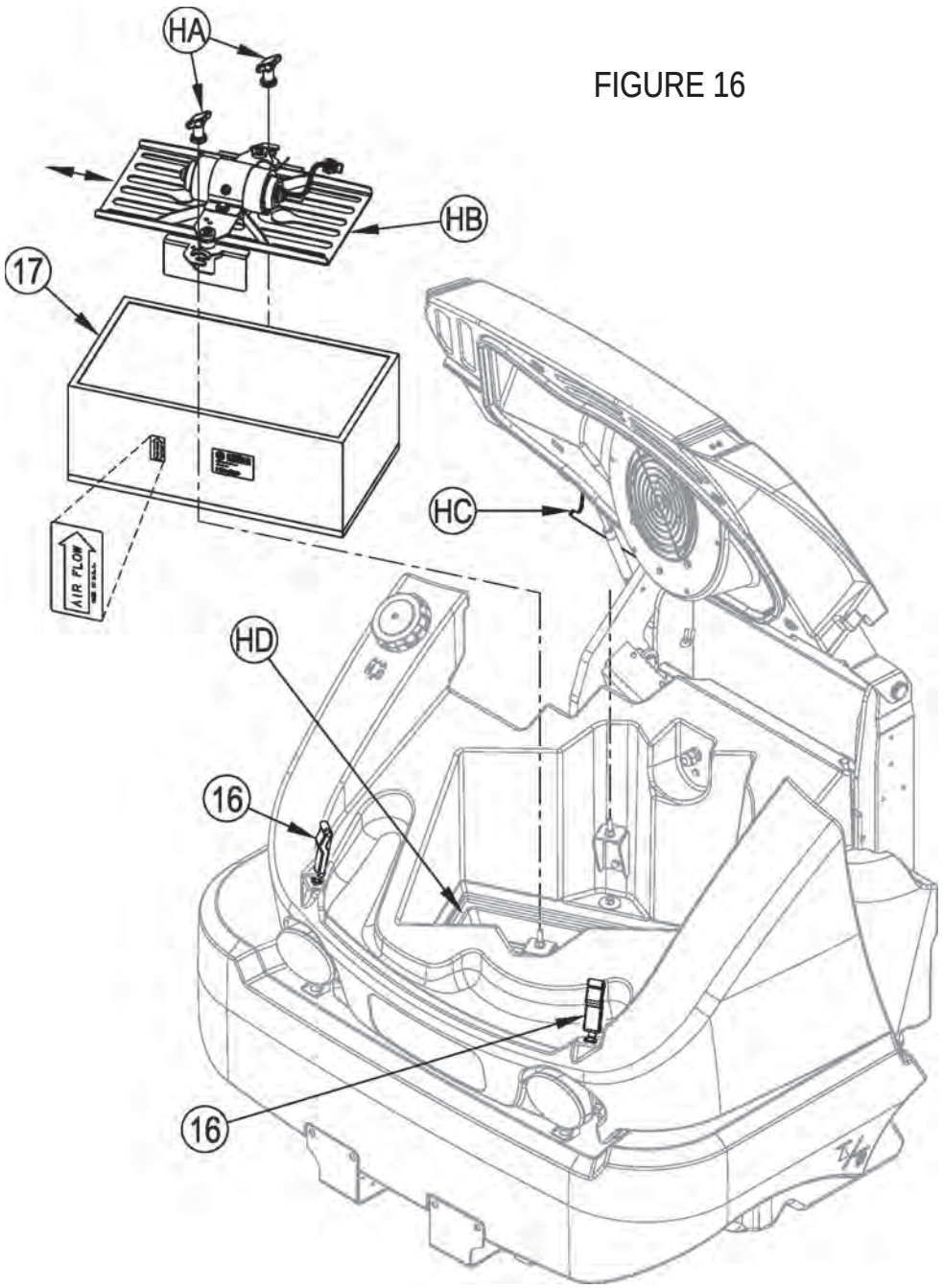
Do not puncture the paper f lter.

Clean the f lter in a well-ventilated area.

To remove the hopper dust control filter...

1 See Figure 16. Unlatch the Hopper Cover Latches (16) and lift the Hopper Cover.
2 Loosen the two Thumb Nuts (HA), then slide the Filter Shaker Motor Assembly (HB) to the left and lift it out of the hopper.
3 Hang the shaker assembly on the hopper cover Hinge Hook (HC).
4 Inspect the top of the Hopper Dust Control Filter (17) for damage. A large amount of dust on top of the f lter is usually caused by a hole in the f lter or a damaged f lter gasket.
5 Lift the Hopper Dust Control Filter (17) out of the machine.
6 Clean the filter using one of the methods below:
   Method "A"
   Vacuum loose dust from the f lter. Then gently tap the f lter against a f at surface (with the dirty side down) to remove loose dust and dirt. NOTE: Take care not to damage the gasket.
   Method "B"
   Vacuum loose dust from the f lter. Then blow compressed air (maximum pressure 100 psi) into the clean side of the f lter (in the opposite direction of the airf ow).
   Method "C"
   Vacuum loose dust from the f lter. Rinse the f lter under a gentle stream of water (maximum pressure 40 psi). Let the f lter dry completely before putting it back into the machine. It is recommended to have a spare f lter on hand to use while the washed f lter is drying out.
7 Keep Ledge (HD) clean of any dust or debris, this is where the f lter gasket contacts the hopper.
8 Follow the instructions in reverse order to install the f lter. If the gasket on the f lter is torn or missing, it must be replaced. NOTE: Be sure to reinstall so that the air f ow decal is pointing up as shown.

FIGURE 16



SIDE SKIRT MAINTENANCE

⚠ CAUTION!

Turn the key switch off (O) and remove the key, before changing the brushes, and before opening any access panels.

The side skirt's function is to channel the waste water to the squeegee, helping contain the water within the machines cleaning path. During normal use the blades will wear in time. NOTE: The blades on each skirt assembly are held on with Tool-less Retainers.

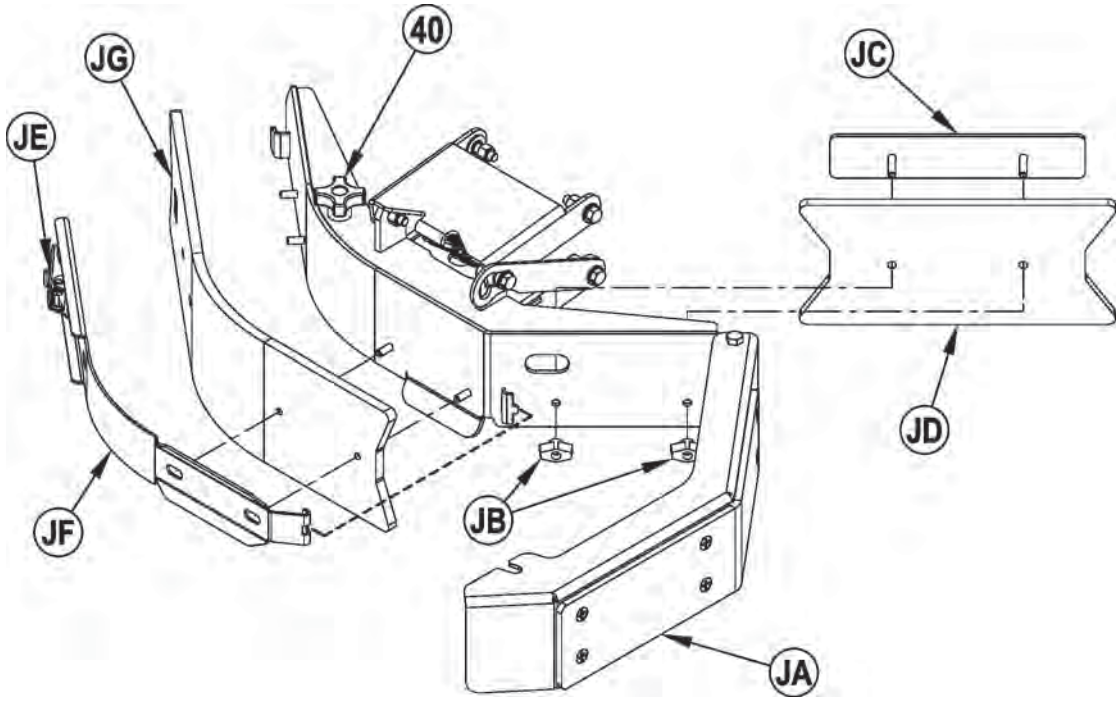
To reverse or replace the leading deck blade (JD)...

1 See Figure 17. Loosen Retainer Knob (40) and swing the Edge Guard (JA) open as shown. NOTE: Edge Guard is only on the right side deck skirt.
2 Remove the two Wing Knobs (JB). Remove the Strap Weldment (JC) and the Leading Deck Blade (JD) from the inside of the skirt.
3 The leading deck blades have 4 working edges as shown. Turn the blades so a clean, undamaged edge faces toward the center of the machine. Replace the blades as a set if all working edges are nicked, torn or worn excessively.
4 Follow the steps in reverse to install the leading deck blade.

To reverse or replace the trailing deck blade (JG)...

1 See Figure 17. Loosen Retainer Knob (40) and swing the Edge Guard (JA) open as shown. NOTE: Edge Guard is only on the right side deck skirt.
2 Unlatch the Latch Assembly (JE) at the rear of the skirt assembly. Swing out the Retainer Strap (JF) and unhook at the front of the skirt assembly. Remove the Trailing Deck Blade (JG) from the skirt assembly.
3 The trailing deck blades have 2 working edges. Flip the blade so a clean, undamaged edge faces toward the center of the machine. Replace the blades as a set if both working edges are nicked, torn or worn excessively.
4 Follow the steps in reverse to install the trailing deck blade.

FIGURE 17



TROUBLESHOOTING

If the possible causes listed below are not the source of trouble, it is a symptom of something more serious. Contact your Nilf sk Service Center immediately for service.

TRIPPING THE CIRCUIT BREAKERS

The circuit breakers are located on the Circuit Breaker Panel in the operator's compartment; they protect electrical circuits and motors from damage due to overload conditions. If a circuit breaker trips, try to determine the cause.

VACC1 Circuit Breaker (CB1 / 20 Amp) Possible cause may be: see 1 below
VACC2 Circuit Breaker (CB2 / 25 Amp) Possible cause may be: see 1 below
VACC3 Circuit Breaker (CB3 / 25 Amp) Possible cause may be: see 1 below
KEY Ignition Circuit Breaker (CB4 / 5 Amp) Possible cause may be: see 1 below
Dust Control Circuit Breaker (CB5 / 10 Amp) Possible cause may be: see 1 below
VACC6 Circuit Breaker (CB 6 / 15 Amp) Possible cause may be: see 1 below
Side Broom Circuit Breaker (CB 7 / 25 Amp) Possible cause may be: see 1 below
Engine Circuit Breaker (CB 9 / 15 Amp) Possible cause may be: see 1 below
Steer by Wire Circuit Breaker (CB 10 / 25 Amp) Possible cause may be: see 1 below
Glow Plug (Diesel only) Circuit Breaker (CB 11 / 40 Amp) Possible cause may be: see 1 below
ACC (optional) Circuit Breaker (CB 12 / 15 Amp) Possible cause may be: see 1 below

1 Electrical short circuit (have your Nilf sk Service Center or qualif ed electrician check the machine)

Hydraulic Circuit Breaker (CB 8 / 25 Amp) Possible cause may be: see 1 and 2 below
1 Electrical short circuit (have your Nilf sk Service Center or qualif ed electrician check the machine)
2 Hopper overloaded (check hopper)

Once the problem has been corrected, push the button in to reset the circuit breaker. If the button does not stay in, wait 5 minutes and try again. If the circuit breaker trips repeatedly, call your Nilf sk Service Center for service.

VACC1 Circuit Breaker (CB1)
- Main Solution Solenoid Valve (L1)
- Left Brush Motor Contactor (K1)
- Center Brush Motor Contactor (K2)
- Right Brush Motor Contactor (K3)
- Broom Motor Contactor (K4)
- Vac Motor Contactor (K5)
- Dust Control Motor Contactor (K6)
- Side Broom Contactor (K8)
- Hydraulic Pump Motor Contactor (K11)
- Hydraulic Pump Motor Contactor (K12)
- Shaker Motor (M14)
- Warning Beacon (LT10)

VACC2 Circuit Breaker (CB2)
- Extended Scrub Pump (M25)
- Low Pressure Pump (M23) optional
- DustGuard™ Pump (M22)
- DustGuard™ Valve (L2)
- Solution Control Pump (M19) optional
- Horn (H2)
- Backup Audible Alarm (H1)

VACC3 Circuit Breaker (CB3)
- Auxiliary Contactor (K9)

IGN Circuit Breaker (CB4)
- Trouble Lamp (LT1)

Dust Control Circuit Breaker (CB5)
- Dust Control Motor (M5)
- Dust Control Motor Contactor (K6)

VACC6 Circuit Breaker (CB6)
- Right Head Light (LT2)
- Left Head Light (LT3)
- Curb Lamp (LT8) optional

Side Broom Circuit Breaker (CB7)
- Right Side Broom Motor (M8)
- Left Side Broom Motor (M9)
- Side Broom Contactor (K8)

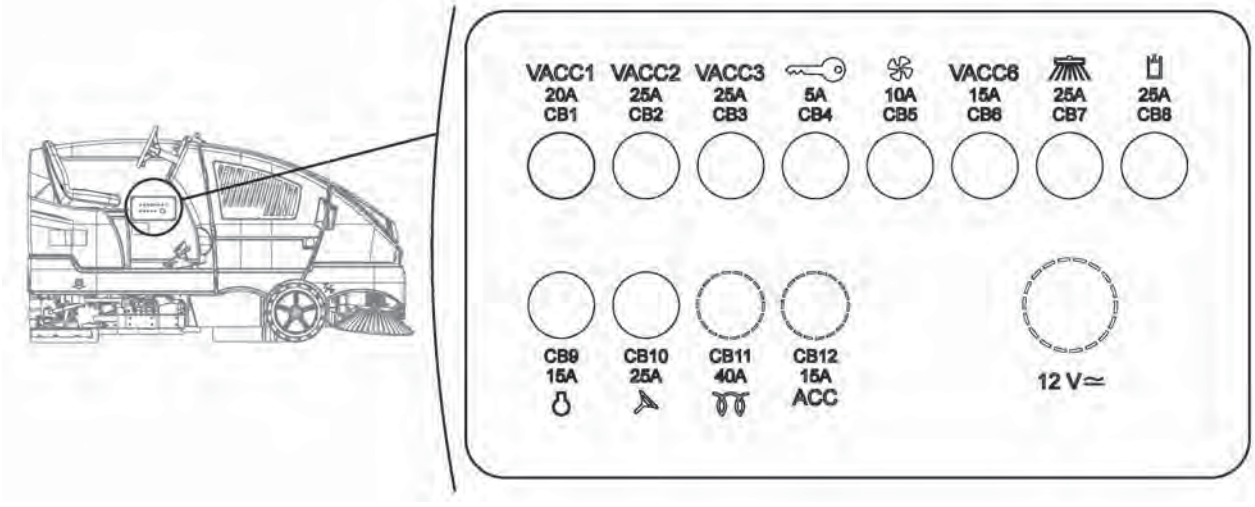
Hydraulic Circuit Breaker (CB8)
- Hydraulic Pump Motor Assembly (M10)
- Hydraulic Contactor (K11)
- Hydraulic Contactor (K12)

Engine System Circuit Breaker (CB9)
- Auxiliary Relay (K15)

Steer By Wire System Circuit Breaker (CB10)
- Steering Contactor (K10)

Glow Plug Circuit Breaker (CB11)
- Glow Plug Relay (K13)

ACC Circuit Breaker (CB12)
- 12V Power Outlet (optional)



GENERAL MACHINE TROUBLESHOOTING

Before you start troubleshooting , check to make sure:
- the emergency stop switch (B) on the operator control panel is disengaged (rotate clockwise).
- the seat switch is closed.
- the battery stop plate (AC) is in place (battery models).
- reset any tripped circuit breakers.

Problem	Possible Cause	Remedy
Poor water pick-up	Worn or torn squeegee blades	Reverse or replace
	Squeegee out of adjustment	Adjust so blades touch f oor evenly across entire width
	Recovery tank full	Empty recovery tank
	Recovery tank drain hose leak	Secure drain hose cap or replace
	Recovery tank cover gasket leak	Replace gasket / Seat cover properly
	Debris caught in squeegee	Clean squeegee tool
	Vacuum hose clogged	Remove debris
	Using too much solution	Reduce f ow via control panel solution decrease switch
Poor scrubbing performance	Worn brush	Rotate or replace brushes
	Wrong brush type	Consult Nilf sk
	Wrong cleaning chemical	Consult Nilf sk
	Moving machine too fast	Slow down
	Not using enough solution	Increase f ow via control panel solution increase switch
	Incorrect detergent percentage	Verify concentration setting if EcoFlex equipped.
Poor sweeping performance	Broom out of adjustment	Adjust broom
	Hopper full	Empty hopper
	Broom bristles worn or curved	Replace or rotate broom
	Broom housing skirts damaged or worn	Replace skirts
	Broom not turning	See service manual
Inadequate solution flow or no solution	Solution tank empty	Fill solution tank
	Solution lines, valve or f lter clogged	Flush lines & valve / clean solution f lter
	Solution turned OFF	Activate f ow via control panel solution switch / verify shutoff valve is in open position
	Solution solenoid valve plugged or defective	Clean or replace valve (see service manual)
Machine does not run	Tripped 5 Amp (CB4) circuit breaker	Check for electrical short circuit & reset
	Emergency Stop activated	Rotate Emergency Stop knob clockwise to reset.
	Main system controller	Check error fault codes (see service manual)

Problem	Possible Cause	Remedy
No FWD/REV wheel drive	Parking brake set	Release parking brake
	Emergency Stop activated	Rotate Emergency Stop knob clockwise to reset.
	Tripped circuit breakers	Reset any tripped circuit breakers
Vacuum shuts off and display shows “FULL” when recovery tank is not full	Plugged squeegee hose	Clear debris
	Vacuuming large amounts of water at a high travel speed	Slow down or disable auto shut-off feature (see service manual)
No Detergent Flow (EcoFlex models only)	Empty detergent cartridge	Fill detergent cartridge
	Plugged or kinked detergent f ow line	Purge system, straighten lines to remove any kinks
	Dry seal cap on detergent cartridge not sealed	Reseat dry seal cap
	Detergent pump wiring disconnected or backwards	Connect or reconnect wiring correctly
Main and/or Side Brooms will not run	Debris wrapped around the broom drive	Remove debris
	Hopper is not completely down	Lower hopper completely
	Tripped circuit breaker	Reset any tripped circuit breaker
Hopper will not raise	Tripped circuit breaker	Reset any tripped circuit breakers
	Hopper overloaded	Check the hopper
Hopper dump door will not open	Dump door jammed by debris	Remove debris and clean edges or dirt chamber
Scrub system will not run	Hopper is not completely down	Lower hopper completely

TECHNICAL SPECIFICATIONS (as installed and tested on the unit)

Model	CS7000 Hybrid (Petrol)	CS7000 Hybrid (LPG)	CS7000 Hybrid (Diesel)
Model No.	56511002	56509003	56509004
Protection Grade	IPX4	IPX4	IPX4
Sound Pressure Level (ISO 11201)	82dB LpA, 3dB $u(L_w)$	82dB LpA, 3dB $u(L_w)$	81dB LpA, 3dB $u(L_w)$
Sound Power Level (ISO 3744)	103dB L_{WA}	103dB L_{WA}	102dB L_{WA}
Gross Vehicle Weight	4676 lbs. (2121 kg)	4676 lbs. (2121 kg)	4537 lbs. (2058 kg)
Transportation Weight	3636 lbs. (1649 kg)	3636 lbs. (1649 kg)	3511 lbs. (1593 kg)
Vibrations at the Hand Controls (ISO 5349-1)	0.33 m/s^2	0.33 m/s^2	0.35 m/s^2
Vibrations at the Hand Controls (ISO 5349-1) Uncertainty	0.03 m/s^2	0.03 m/s^2	0.03 m/s^2
Vibrations at the Seat (EN 1032)	0.03 m/s^2	0.03 m/s^2	0.03 m/s^2
Solution Tank Capacity	75 gal (284 L)	75 gal (284 L)	75 gal (284 L)
Recovery Tank Capacity	75 gal (284 L)	75 gal (284 L)	75 gal (284 L)
DustGuard™ Tank Capacity	29 gal (110 L)	29 gal (110 L)	29 gal (110 L)
Maximum Wheel Floor Loading (right front)	104.5 psi / 0.720 N/mm^2	104.5 psi / 0.720 N/mm^2	102.8 psi / 0.709 N/mm^2
Maximum Wheel Floor Loading (left front)	104.5 psi / 0.721 N/mm^2	104.5 psi / 0.721 N/mm^2	107.9 psi / 0.743 N/mm^2
Maximum Wheel Floor Loading (rear center)	146 psi / 1.007 N/mm^2	146 psi / 1.007 N/mm^2	136.5 psi / 0.941 N/mm^2
Gradeability - Transport	21 % (12 °)	21 % (12 °)	21 % (12 °)
Gradeability - Cleaning	17.6 % (10 °)	17.6 % (10 °)	17.6 % (10 °)

Model	CS7000 ePower (Battery)
Model No.	56509005
Voltage, Battery	36V
Battery Capacity	800 AH
Protection Grade	IPX4
Sound Pressure Level (ISO 11201)	72dB LpA, 3dB $u(L_w)$
Gross Vehicle Weight	5716 lbs. (2593 kg)
Transportation Weight	4682 lbs. (2124 kg)
Vibrations at the Hand Controls (ISO 5349-1)	0.36 m/s^2
Vibrations at the Hand Controls (ISO 5349-1) Uncertainty	0.04 m/s^2
Vibrations at the Seat (EN 1032)	0.02 m/s^2
Solution Tank Capacity	75 gal (284 L)
Recovery Tank Capacity	75 gal (284 L)
DustGuard™ Tank Capacity	29 gal (110 L)
Maximum Wheel Floor Loading (right front)	126.6 psi / 0.873 N/mm^2
Maximum Wheel Floor Loading (left front)	125.1 psi / 0.863 N/mm^2
Maximum Wheel Floor Loading (rear center)	147.9 psi / 1.019 N/mm^2
Gradeability - Transport	21 % (12 °)
Gradeability - Cleaning	17.6 % (10 °)

Material Composition and Recyclability				
Type	% of machine weight Gasoline/Petrol / LP	% of machine weight Diesel	% of machine weight Battery	% recyclable
Aluminum	0.5%	0.5%	0.3%	88%
Electrical / motors / engines - misc	27%	29.3%	50.1%	95%
Ferrous metals	53.8%	51%	35.2%	95%
Harnesses / cables	1.1%	1.2%	0.9%	74%
Liquids	0.7%	0.7%	0.9%	95%
Plastic - non-recyclable	1.5%	1.8%	1.1%	0%
Plastic - recyclable	0.9%	0.7%	0.4%	91%
Polyethylene	12%	12.3%	9.2%	100%
Rubber	2.5%	2.5%	1.9%	60%

Nilfisk Advance
setting standards

CE

Overenstemmelseserklaering
Declaration of conformity
Konformitätserklärung
Declaración de conformidad
Atbilstības deklarācija
Megfelelőségi nyilatkozat
Certifikat o ustreznosti
Declaration de conformité
Verklaring van overeenstemming
Dichiarazione di conformità
Vastavussertifikaat
Deklaracja zgodności
Försäkran om överensstämmelse
Samsvarserklaering
Vaatimustenmukaisuusvakuutus
Atitikties deklaracija
Osvědčení o shodě
Certifikát súladu

Modell/ Modèle/ Model/ Malli/ Modelo/ Μοντέλο/ Modelo/ Modelis/Модель: Scrubber/Sweeper
Type/ Tyyppi/ Tipo/ Τύπος/ Tüüp/ Tipas/ Tips/ Typ/ Típus/ Тип/ Tip: CS7000
Year of Affixing CE marking: 2011

D Der Unterzeichner bestätigt hiermit dass die oben erwähnten Modelle gemäß den folgenden Richtlinien und Normen hergestellt wurden.
GB The undersigned certify that the above mentioned model is produced in accordance with the following directives and standards.
DK Undertegnede attesterer herved, at ovennævnte model er produceret i overensstemmelse med følgende direktiver og standarder.
N Undertegnede attesterer att ovennevnte modell är produsert I overensstemmelse med följende direktiv og standarder.
E El abajo firmante certifica que los modelos arriba mencionados han sido producidos de acuerdo con las siguientes directivas y estandares.
I Il sottoscritto dichiara che i modelli sopra menzionati sono prodotti in accordo con le seguenti direttive e standard.
EST Allakirjutanu kinnitab, et ülalnimetatud mudel on valmistatud kooskõlas järgmiste direktiivide ja normidega.
LV Ar šo tiek apliecināts, ka augstākminētais modelis ir izgatavots atbilstoši šādām direktīvām un standartiem.
CZ Níže podepsaný stvrzuje, že výše uvedený model byl vyroben v souladu s následujícími směrnicemi a normami.
SLO Spodaj podpisani potrjujem, da je zgoraj omenjeni model izdelan v skladu z naslednjimi smernicami in standardi.
F Je soussigné certifie que les modèles ci-dessus sont fabriqués conformément aux directives et normes suivantes.
NL Ondergetekende verzekert dat de bovengenoemde modellen geproduceerd zijn in overeenstemming met de volgende richtlijnen en standaards.
FIN Allekirjoittaia vakuuttaa että yllämainittu malli on tuotettu seuraavien direktiivien ja standardien mukaan.
S Undertecknad intygar att ovannämnda modell är producerad i överensstämmelse med följande direktiv och standarder.
GR Ο κάτωθι υπογεγραμμένος πιστοποιεί ότι η παραγωγή του προαναφερθέντος μοντέλου γίνεται σύμφωνα με τις ακόλουθες οδηγίες και πρότυπα.
P A presente assinatura serve para declarar que os modelos supramencionados são produtos em conformidade com as seguintes directivas e normas.
LT Toliau pateiktu dokumentu patvirtinama, kad minėtas modelis yra pagamintas laikantis nurodytų direktyvų bei standartų.
PL Niżej podpisany zaświadcza, że wymieniony powyżej model produkowany jest zgodnie z następującymi dyrektywami I normami.
H Alulírottak igazoljuk, hogy a fent említett modellt a következő irányelvek és szabványok alapján hoztuk létre.
SK Dolu podpísaný osvedčuje, že hore uvedený model sa vyrába v súlade s nasledujúcimi smernicami a normami.

EC Low Voltage Directive 06/95/EEC	EN 60335-1, EN 60335-2-72
EC EMC Directive 2004/108/EEC	EN 61000-6-2, EN 55012
EC Machinery Directive 06/42/EC	EN 12100-1, EN 12100-2, EN 294, EN 349



2.16.2011

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