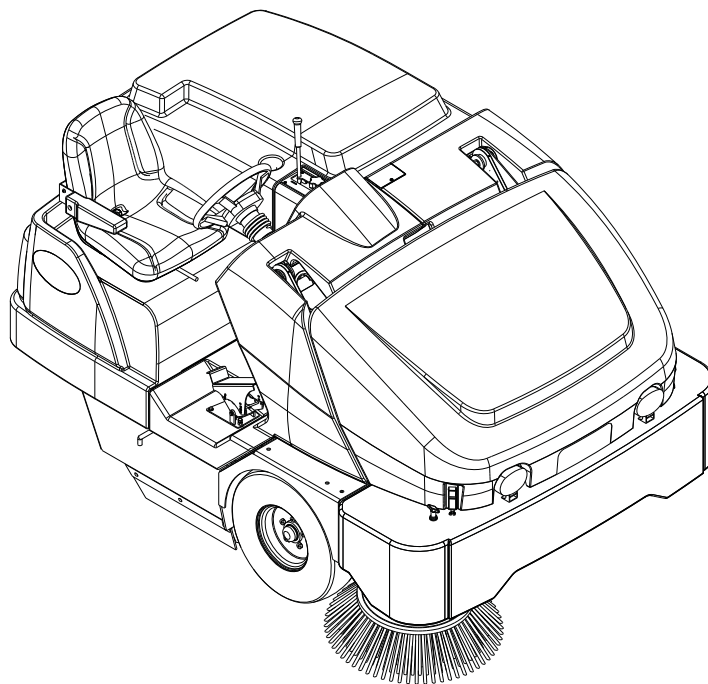


CE 4/2014  
FORM NO. 56091072



A-English  
B-Türkçe  
C-български  
D-Românesc



Models: 56107512 (4 cyl LPG), 56107513 (4 cyl Diesel),  
56107514 (4 cyl LPG / cab), 56107515 (4 cyl Diesel / cab)  
56107517 (4 cyl Gasoline/Petrol / HT)

Instructions for Use  
Original Instructions  
Kullanım Talimatları  
Указания за употреба  
Instrucțiuni de utilizare

# SW8000

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## INSTRUCTIONS FOR USE

# ”

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## INTRODUCTION

This manual will help you get the most from your **Nilfisk Sweeper**. Read it thoroughly before operating the machine.

**Note:** Bold numbers in parentheses indicate an item illustrated on pages 6-9.

## PARTS AND SERVICE

Repairs, when required, should be performed by Nilfisk service personnel using Nilfisk original replacement parts and accessories.

Call Nilfisk for repair parts or service. Please specify the Model and Serial Number when discussing your machine.

## MODIFICATIONS

Modifications 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 Nilfisk-Advance Inc. Unapproved modifications will void the machine warranty and make the customer liable for any resulting accidents.

## NAME PLATE

The Model and Serial Number of your machine are shown on the Nameplate on the right side of the machine. This information is needed when ordering repair parts for the machine. Use the space below to note the Model and Serial Number of your machine for future reference.

MODEL \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

## UNCRATING THE MACHINE - IF APPLICABLE

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 file 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 fill 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 floor. Keep your foot lightly on the brake pedal until the machine is off the pallet.

## CAUTION!

Use extreme CAUTION when operating this sweeper. Be certain that you are thoroughly familiar with all of the operating instructions prior to using this sweeper. If you have any questions, contact your supervisor or your local Nilfisk Industrial Dealer.

Should your sweeper malfunction, do not attempt to correct the problem unless your supervisor directs you to do so. Have a qualified company mechanic or an authorized Nilfisk Dealer Service person make any necessary corrections to the equipment.

Use extreme care when working on this machine. Neckties, loose clothing, long hair, rings and bracelets can get caught in moving parts. Turn the Key Switch (TT) OFF, remove the Key, set the Parking Brake (F) and disconnect the battery before working on 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 (F) to control machine speed while descending inclines. DO NOT turn the machine on an incline; drive straight up or down.



The maximum rated incline during transport is 20%.

\* Note: Reference the separately supplied engine manufacturer's maintenance and operator manual for more detailed engine specification and service data.

## CAUTIONS AND WARNINGS

### SYMBOLS

Nilfisk 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

Specific 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.

#### **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.
- \* 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 flammable cleaning agents, operate the machine on or near these agents, or operate in areas where flammable liquids exist.
- \* Only use the brushes provided with the appliance or those specified in the instruction manual. The use of other brushes may impair safety.
- \* 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 qualified 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 only approved for hard surface use.
- \* This machine is not suitable for picking up hazardous dust.
- \* 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 first turning the key switch off (O), removing the key and applying the parking brake.
- \* Turn the key switch off (O) and remove the key, 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.
- \* Before use, all doors and hoods should be properly latched.
- \* 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.
- \* All doors and covers are to be positioned as indicated in the instruction manual before using the machine.

## SAVE THESE INSTRUCTIONS

## HOPPER SAFETY SUPPORT

### **⚠ WARNING!**

Make sure the Hopper Safety Support (5) is in place whenever attempting to do any maintenance work under or near the raised hopper. The Hopper Safety Support (5) 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.

## 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 jacking locations (8).

## TRANSPORTING THE MACHINE

### **⚠ CAUTION!**

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

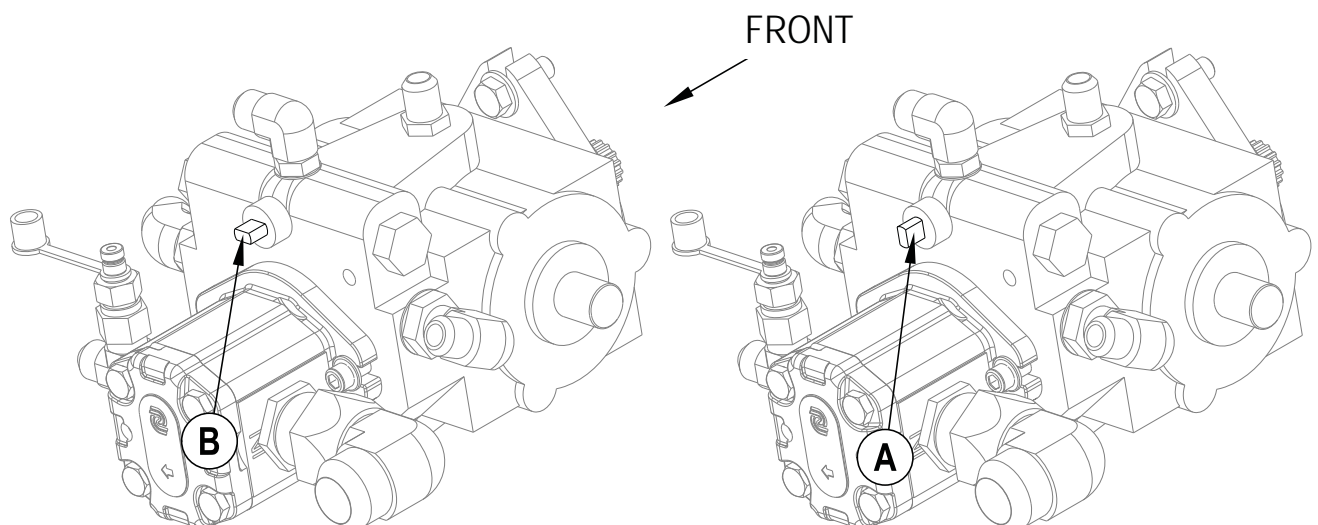
- All access doors are latched securely
- The machine is tied down securely.
- The machine parking brake is set.

## TOWING OR PUSHING A DISABLED MACHINE

The machine's drive propelling pump is manufactured with an adjustable tow valve. This valve prevents damage to the hydraulic system when the machine is being towed/pushed short distances without use of the engine.

To access the valve open the Engine Compartment Cover (1) and locate the hydrostatic pump at the rear of the engine. Turn the valve 90 degrees, this disengages the hydrostatic lock between the motor and pump.

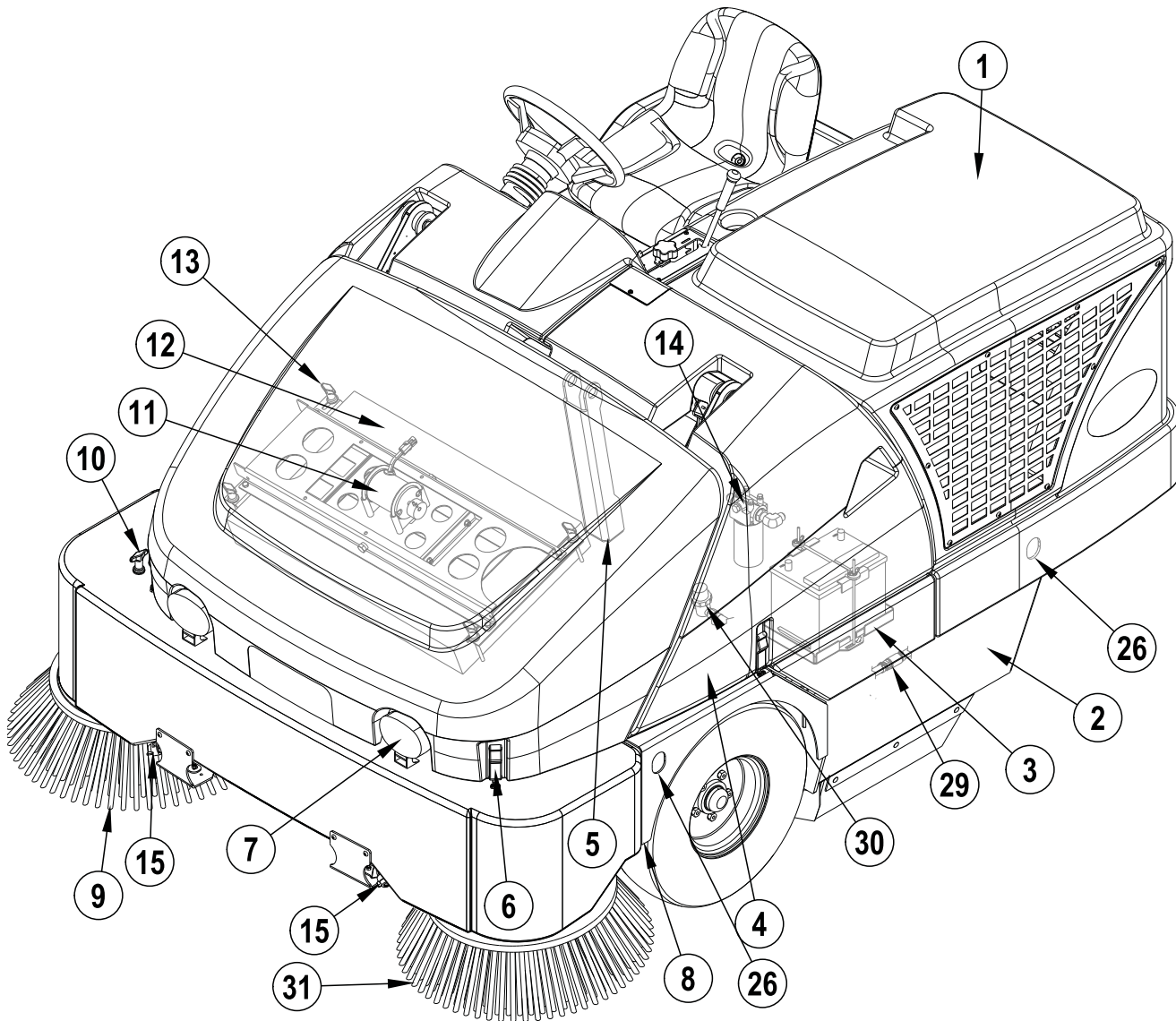
**CAUTION:** The hydraulic propelling pump can be damaged if the machine is towed with the valve in the normal working position (A). Reference the illustration below for the normal working setting (A) (vertical) and the free wheeling towing setting (B) (horizontal). Note: If the tow valve is left in free wheeling (B) (horizontal) position the propelling pump can't drive the machine FWD or REV. No damage will result, just re-set valve to the normal working setting (A) (vertical). **NOTE:** Tow or push machine no faster than a normal walking pace (2-3 miles per hour) and for short distances only. If the machine is to be moved long distances the drive wheel needs to be raised off the floor and placed on a suitable transport dolly.



## KNOW YOUR MACHINE

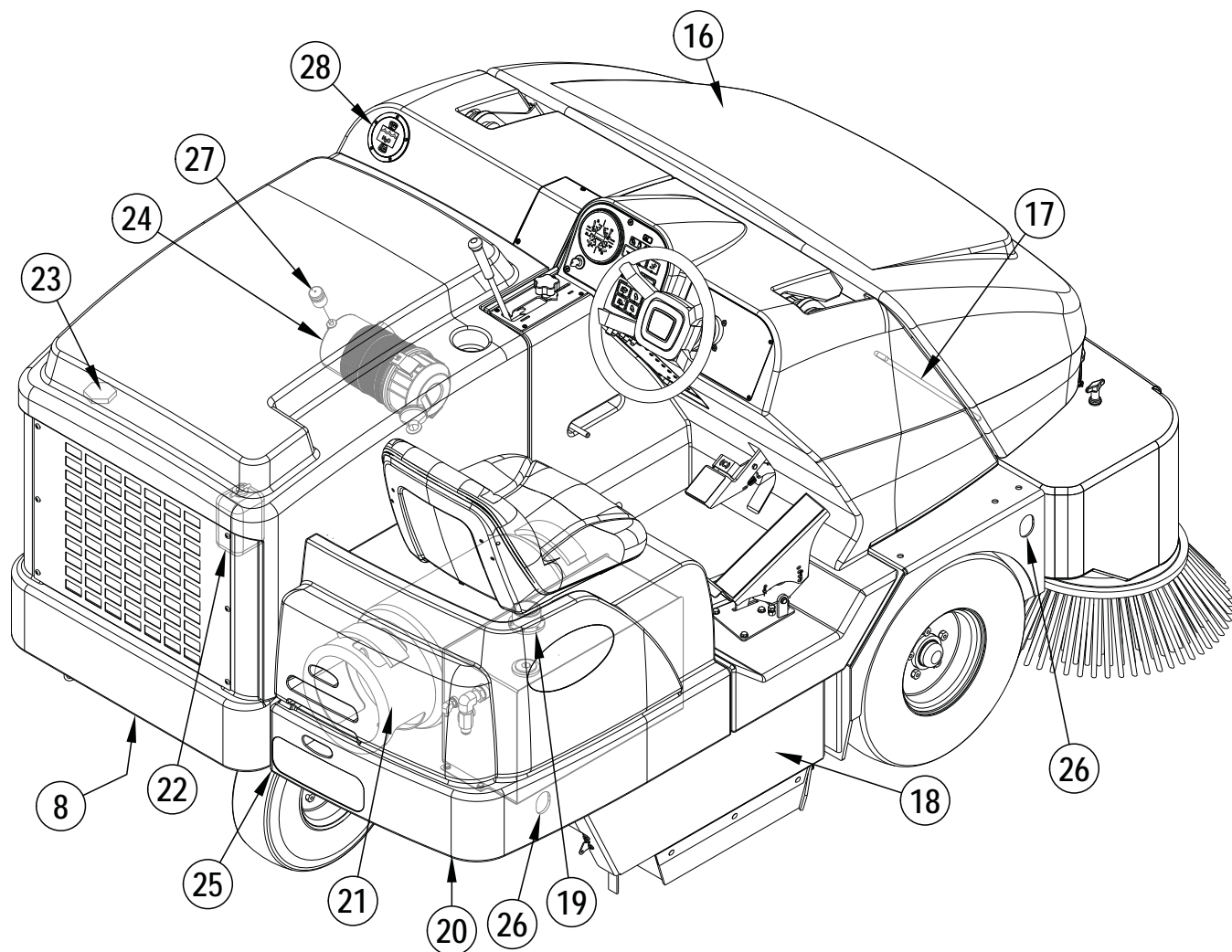
As you read this manual, you will occasionally run across a bold number in parentheses - example: **(2)**. These numbers refer to an item on the next four pages. Refer back to these pages whenever necessary to pinpoint the location of an item mentioned in the text.

- 1 Engine Compartment Cover
- 2 Left Side Main Broom Access Panel
- 3 Battery
- 4 Center Cover Assembly
- 5 Hopper Safety Support
- 6 Hopper Cover Latch
- 7 Head Light
- 8 Jacking Locations (rear location is large weight below radiator)
- 9 Right Side Broom
- 10 Side Broom Height Adjustment Knob
- 11 Dust Filter Shaker Assembly
- 12 Hopper Dust Control Filter
- 13 Shaker Assembly Retainer Knobs
- 14 Hydraulic Oil Filter
- 15 Optional DustGuard™ Spray Nozzles



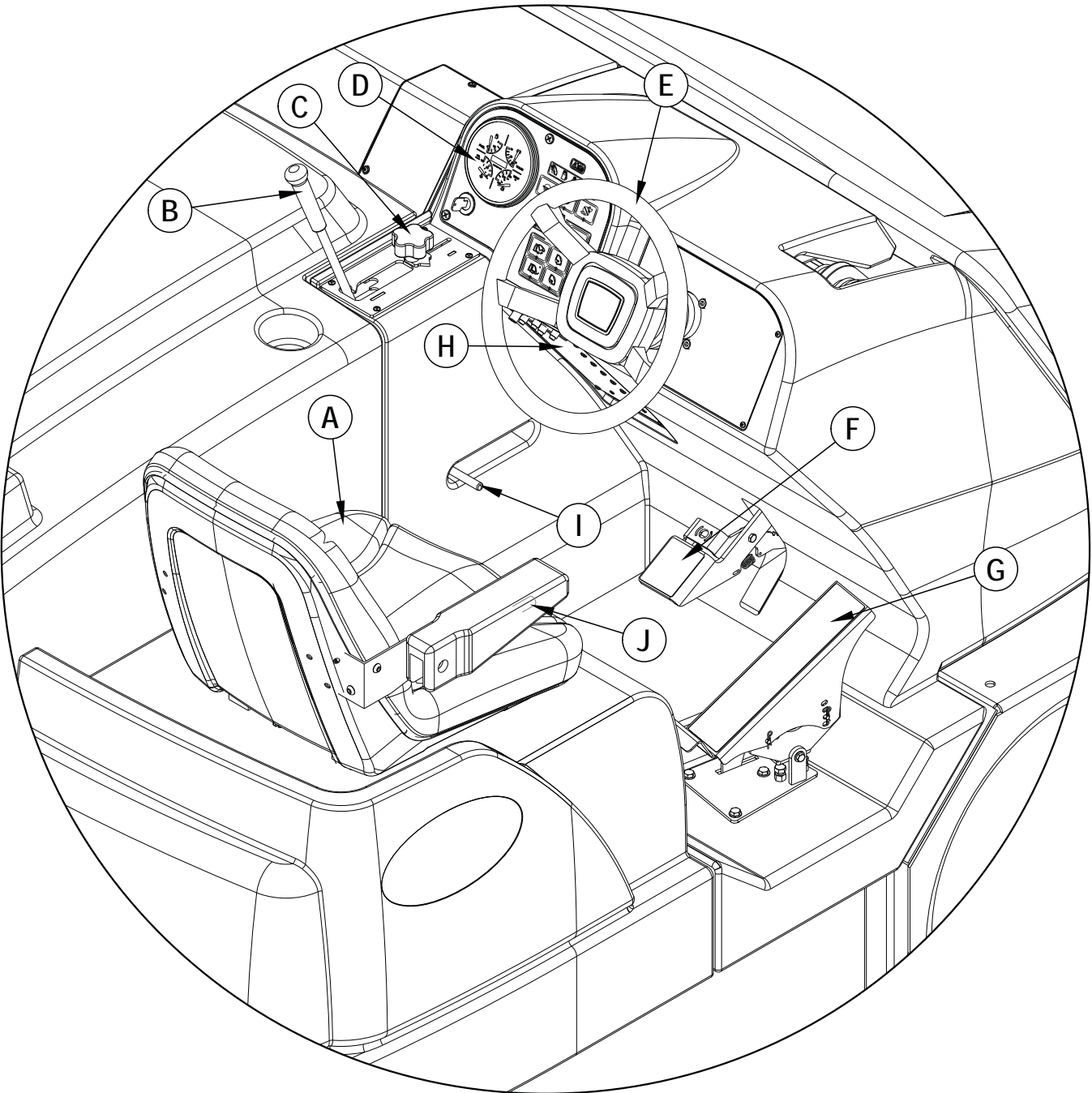
## KNOW YOUR MACHINE (CONTINUED)

- 16 Hopper Cover
- 17 Hopper Cover Prop Rod
- 18 Right Side Main Broom Access Panel
- 19 Oil Reservoir
- 20 Oil Reservoir / Fuel Tank Cover
- 21 Fuel Tank (LPG tank shown / Gasoline / Petrol tank is in same location)
- 22 Coolant Recovery Tank
- 23 Radiator Cap
- 24 Engine Air Filter
- 25 Fuel Tank Cover Release Latch
- 26 Tie-Down Locations (5)
- 27 Air Filter Service Indicator
- 28 Optional DustGuard™ Tank Fill
- 29 Optional DustGuard™ Quick Disconnect
- 30 Optional DustGuard™ Solution Strainer
- 31 Optional Left Side Broom



## OPERATOR'S COMPARTMENT

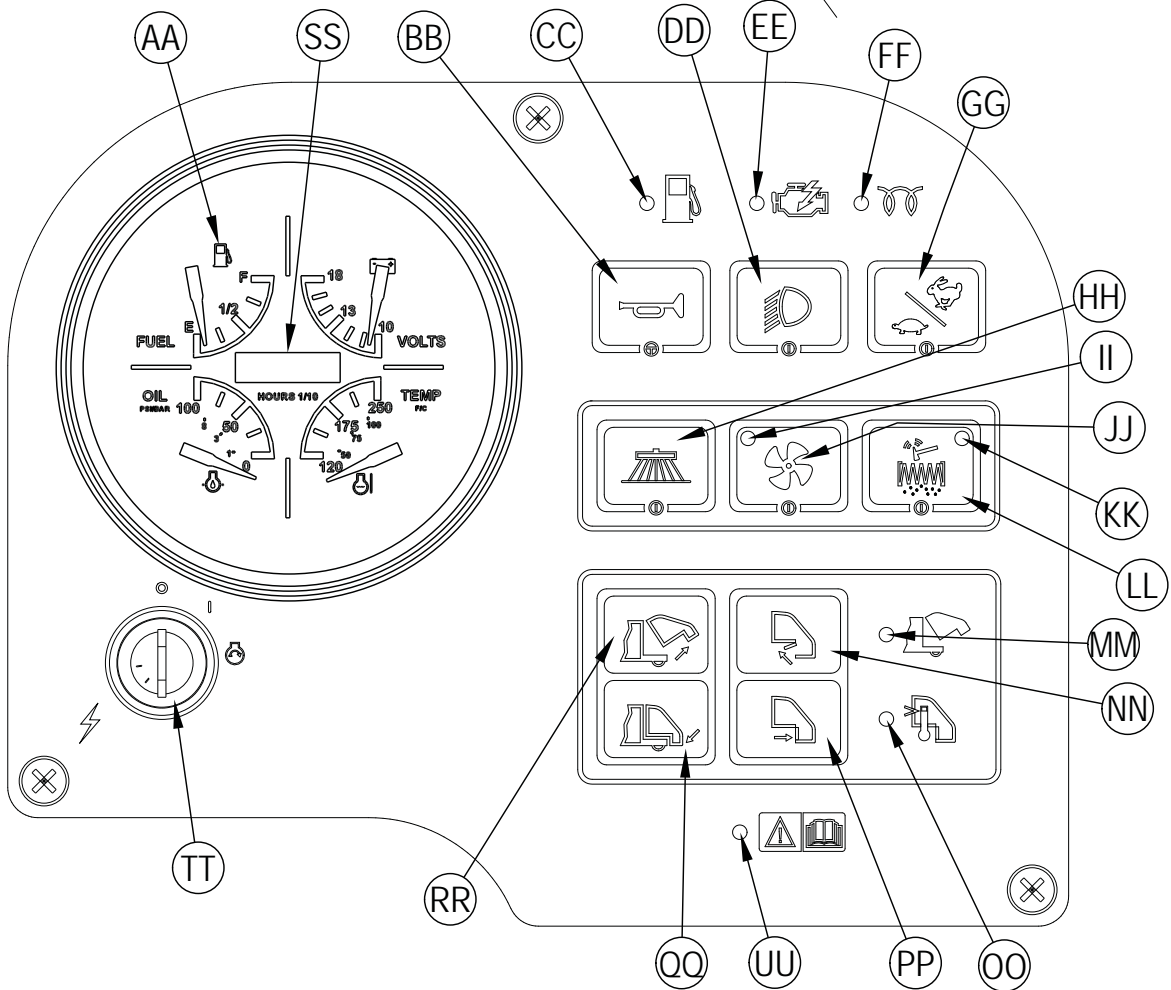
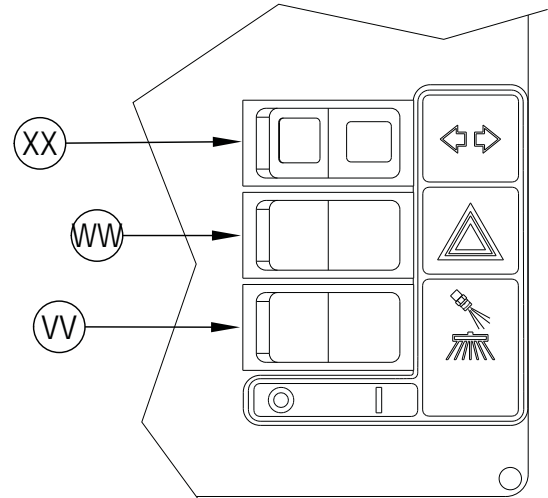
- A Operator's Seat
- B Main Broom Lever
- C Main Broom Adjust Knob
- D Control Panel (See Associated Pages)
- E Steering Wheel
- F Brake Pedal / Parking Brake
- G FWD / REV Drive Pedal
- H Circuit Breaker Panel
- I Hopper Safety Support Handle
- J Operator Seat Adjustment Lever





### CONTROL PANEL

- AA Optional Fuel Gauge (Gasoline / Petrol and Diesel Only)
- BB Horn Switch
- CC LPG Low Indicator Light
- DD Headlight Switch
- EE Engine Service Indicator
- FF Glow Plug Indicator Light (Diesel Only)
- GG Engine Speed Switch
- HH Side Broom ON-Down / OFF-Up Switch
- II Dust Control Indicator
- JJ Dust Control Switch
- KK Plugged Filter Indicator
- LL Shaker Switch
- MM Hopper UP Indicator
- NN Open Dump Door Switch
- OO Hopper Overtemp Indicator
- PP Close Dump Door Switch
- QQ Lower Hopper Switch
- RR Raise Hopper Switch
- SS Hour Meter
- TT Ignition Switch
- UU Service Indicator Light
- VV Optional DustGuard™ Switch
- WW Optional Emergency Flasher Switch
- XX Optional Turn Signal Switch



## 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 (24) to release built-up dust.
- \* Check the engine coolant level (23).
- \* Check the engine oil level.
- \* Check the hydraulic oil level (19).
- \* Check the Fuel Gauge (AA) on the gasoline / petrol and diesel models.
- \* Check the Fuel Gauge located on the LPG tank (21) for LPG model.
- \* Check the tire pressure of all three tires, should be 90-95 psi.
- \* Check the Air Filter Service Indicator (27).

### 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 Switch (TT) to the ON position. Check for proper operation of the Horn (BB), Hour Meter (SS) and Headlights (DD). Turn the Ignition Key Switch (TT) OFF.
- \* Check the Parking Brake (F). The brake must hold its (locked parked) setting firmly without easily being released. (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 of broom path overlap to ensure complete coverage.
- \* Avoid making sharp turns, bumping into posts, or scraping the side of the machine.

## MAIN BROOM

Several different main brooms are available for this machine. Contact your Nilfisk 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.

## FUEL



## WARNING !

- ALWAYS STOP THE ENGINE BEFORE FILLING THE FUEL TANK.
- 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.

## DIESEL ENGINE

Fill the tank with Number 2 Diesel Fuel if the machine will be used in an area where the temperature is 32° Fahrenheit (0° Celsius) or higher. Use Number 1 Diesel Fuel if the machine will be used in an area where the temperature is below 32° 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, fill the fuel tank when the fuel gauge indicates 1/4 tank. Fuel tank capacity is 12.75 gallons (48.26 liters).

## GASOLINE / PETROL ENGINE

FILL THE TANK WITH UNLEADED 87 OCTANE REGULAR GASOLINE / PETROL. FUEL TANK CAPACITY IS 12.75 GALLONS (48.26 LITERS).

Note: Reference the separately supplied engine manufacturer's maintenance and operator manual for more detailed engine specification and service data.

## LPG ENGINE

Mount a standard 33 lb. liquid withdrawal LPG 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 LPG tank service valve OFF when the machine is not in use.

NOTE: Make sure to properly orient the horizontal LPG tank for liquid withdrawal. After connecting the fuel hose to the tank check for leaks by listening and smelling for gas.



## WARNING!

Do not operate the machine if a gas leak is present. Disconnect the fuel hose and replace the LPG tank. If a gas leak is still present disconnect the fuel hose and contact your Nilfisk Service Center.

## OPERATING THE MACHINE

The SW8000 is a rider-type automatic floor sweeping machine. The controls were designed with *one touch operation* in mind. For single pass sweeping the operator can simply lower the main broom and all sweeping functions will be ready to go.

**Note:** Bold numbers in parentheses indicate an item illustrated on pages 6-9.

## BEFORE STARTING THE MACHINE

- 1 Be sure you understand all machine controls and their functions.
- 2 Plan your cleaning route. Arrange long, straight passes with as few turns as possible.
- 3 Check the Brake Pedal (**FF**). The pedal should be firm.  
If the pedal is "spongy" or fades under pressure, DO NOT DRIVE THE MACHINE. Report all defects immediately to service personnel.

## STARTING THE DIESEL ENGINE

- 1 Turn the Key Switch (**TT**) counter-clockwise to the "Pre-Heat" position and hold it there until the Glow Plug Indicator (**FF**) turns OFF. Once the indicator turns OFF the engine can be started. Skip this step if the engine has been running and is already warm.
- 2 Turn the Key Ignition Switch (**TT**) 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 and try steps 1-3 again.  
**NOTE:** The engine starter will not engage if the FWD / REV Drive Pedal (**G**) is not in the neutral position.
- 3 Let the engine run at "IDLE" speed for 5 minutes before using the machine.
- 4 Push the Engine Speed Switch (**GG**) to switch to "FULL THROTTLE" and move the machine around for 2 or 3 minutes at a slow speed to warm up the hydraulic system.

## STARTING THE LPG & GASOLINE / PETROL ENGINE

- 1 **NOTE: LPG models only:** Open the service valve on the LP fuel tank (**21**).
- 2 Turn the Ignition Key Switch (**TT**) 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.  
**NOTE:** The engine starter will not engage if the FWD / REV Drive Pedal (**G**) is not in the neutral position.
- 3 Let the engine run at "IDLE" speed for 5 minutes before using the machine.
- 4 Push the Engine Speed Switch (**GG**) to switch to "FULL THROTTLE" and move the machine around for 2 or 3 minutes at a slow speed to warm up the hydraulic system.

**NOTE:** ALWAYS operate the machine with the Throttle Control at full throttle. Use the Forward/Reverse Pedal (**G**) - not the Throttle Control - to control the speed of the machine. The speed of the machine will increase as the pedal is pushed closer to the floor.

## SWEEPING

Follow the instructions in the preparing the machine for use section of the manual.

- 1 While seated on the machine, adjust the seat to a comfortable operating position using the adjustment controls (J).
- 2 Release the Parking Brake (F). To transport the machine to the work area, apply even pressure with your foot on the front of the Drive Pedal (G) 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 (QQ) to make sure the hopper is seated properly. **NOTE:** The Hopper UP Indicator (MM) will be illuminated if the hopper is not in the down position.
- 4 Move the Main Broom Lever (B) to the SWEEP (middle notch) position to lower and enable the main broom and dust control systems. **NOTE:** The dump door opens automatically when the main broom (B) is lowered and closes when the broom is raised. Use the FULL FLOAT (last notch forward) position only when sweeping extremely rough or uneven floors. Use at other times will only increase broom wear.
- 5 When sweeping floors with puddles, push the Dust Control Switch (JJ) 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 floor. **NOTE:** This is done to prevent the Hopper Dust Control Filter (12) from getting wet. When sweeping wet floors, keep the Dust Control Switch (JJ) OFF at all times.
- 6 The Side Broom (9) is automatically enabled when the main broom is lowered and starts spinning when the Drive Pedal (G) is activated. The Side Broom (9) can be turned off and back on at any time by pushing the Side Broom Switch (HH). The side broom sweeping pattern is adjusted by turning the Side Broom Height Adjustment Knob (10).
- 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 (12) may be clogged. Push the Shaker Switch (LL) to clean the dust control filter. The dust control system (JJ) will automatically turn OFF while the shaker is running and turn ON after the shaker turns OFF (the shaker runs for 15 seconds).
- 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.

**NOTE:** If the machine does not move for 40 seconds, the engine will automatically return to idle. The sweep system will only activate with the engine RPM at high. To begin sweeping again press the Engine Speed Switch (GG) to return engine RPM to high.

## EMPTYING THE HOPPER

### WARNING!

Make sure the Hopper Safety Support (5) is in place whenever attempting to do any maintenance work under or near the raised hopper. The Hopper Safety Support (5) 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 102" (259.08 cm)

- 1 Put the Main Broom Lever (B) in the UP / OFF position. **NOTE:** The Shaker will automatically run for about 15 seconds after the main broom is raised.
- 2 If you do not raise the main broom, push the Shaker Switch (LL) to remove excess dirt from the dust control filter.
- 3 Drive the machine close to a large trash receptacle and hold the Raise Hopper Switch (RR) until the hopper is all the way up. **NOTE:** The dump door automatically closes when switch (RR) is pushed. You regain control of the dump door as soon as the hopper begins to raise so you can dump at any height if necessary.
- 4 Move the machine forward until the hopper is over the receptacle and set the Parking Brake (F). Press the Open Dump Door Switch (NN) 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.
- 5 Put the Hopper Safety Support (5) in place by pulling back on the Hopper Safety Support Pull Rod (I), then lower the hopper slightly to secure.
- 6 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 bulb gasket for proper operation.
- 7 Return to the operator's compartment. Release the parking brake. Move the machine back until the hopper will clear the receptacle. Raise the hopper slightly and push forward on the Hopper Safety Support Handle (I) until the Hopper Safety Support (5) disengages, then lower the hopper. **NOTE:** The brooms will not turn on if the hopper is not completely down. The indicator light (MM) on the control panel should turn OFF indicating that the machine is ready for use.

## AFTER USE

- 1 Shake the Hopper Dust Control Filter (LL) and empty the hopper.
  - 2 Check the maintenance schedule and perform all required maintenance before storage.
  - 3 Move the machine to an indoor storage area.
  - 4 Shut down the engine according to the shutdown procedures.
  - 5 Make sure the Ignition Switch (TT) is OFF and the Parking Brake (F) is engaged. **NOTE:** Press Brake Pedal / Parking Brake (F) and rock your foot forward.
- NOTE:** If sweeping organic debris, always empty and clean the hopper before storing to prevent odors.
- NOTE:** It is safe to clean this machine with a pressure washer as long as you do not spray directly at or into electrical components. The machine should always be allowed to dry completely before each use.

## TO SHUT DOWN THE DIESEL & GASOLINE / PETROL ENGINE...

- 1 Raise the brooms.
- 2 Place the Engine Speed Switch (GG) in IDLE and let the engine idle for 25 - 30 seconds.
- 3 Turn the Ignition Key Switch (TT) OFF and remove the key. **NOTE:** The engine will continue to run for a few seconds after switching the key to off. This is part of the proper operation of the closed loop electronic control system.
- 4 Apply the Parking Brake (F). **NOTE:** Press Brake Pedal / Parking Brake (F) and rock your foot forward.

## TO SHUT DOWN THE LPG ENGINE...

- 1 Raise the brooms.
- 2 Turn the service valve on LPG Tank (21) OFF.
- 3 Run the engine until all the LPG is dispelled from the line (the engine will stall).
- 4 Turn the Ignition Key Switch (TT) OFF and remove the key.
- 5 Apply the Parking Brake (F). **NOTE:** Press Brake Pedal / Parking Brake (F) and rock your foot forward.

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

## MAINTENANCE

Make sure that the machine is kept in top shape by following the maintenance schedule closely. Repairs, when required, should be performed by your Authorized Nilfisk Service Center, who employs factory trained service personnel and maintains an inventory of Nilfisk Original Equipment Replacement Parts and Accessories.

**NOTE:** Refer to the Service Manual for more detail on maintenance and service repairs.

## MAINTENANCE SCHEDULE

Maintenance intervals given are for average operating conditions. Machines used in severe operational environments may require service more often.

MAINTENANCE ITEM	PERFORM DAILY				
Perform the "After Use" maintenance steps	X				
Check parking brake	X				
Check engine oil	X				
*Clean main and side broom(s)	X				
Check filter indicator and lights (hyd & air)	X				
Check engine coolant level	X				
Check hydraulic oil level	X				
MAINTENANCE ITEM	15 hrs.	30 hrs.	150 hrs.	300 hrs.	1000 hrs.
*Rotate main broom	X				
Clean the DustGuard™ Spray Nozzles (15) and Strainer (30)	X				
*Inspect/adjust brooms		X			
* Check / Clean Hopper Dust Control Filter Using Method "A"		X			
*Inspect broom housing skirts		X			
*Inspect hopper seals		X			
Clean radiator and oil cooler		X			
Perform engine maintenance			X		
*Inspect and grease steering spindle			X		
* Check / Clean Hopper Dust Control Filter Using Method "B"			X		
* Check / Clean Hopper Dust Control Filter Using Method "C"				X	
Change the hydraulic oil filter					X
Change reservoir hydraulic oil					X
Flush the radiator					X
Engine fuel filter(s)					X

\*See the Mechanical Repair Service Manual for detailed maintenance information of systems listed. (Sweeping, Hopper, Steering, Dust Control). **NOTE:** Cleaning the hopper dust control filter is not required on models using the maintenance free bag filter.

## 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 hours of operation. **NOTE:** This procedure does not apply to the optional chevron broom.

The main broom should be replaced for optimal performance when the bristles are worn to a length of 2 inches (5.08 cm). The Main Broom Adjust Knob (C) must be re-adjusted when the broom is replaced.

**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.

### **CAUTION!**

Brooms can be sharp. Wear gloves to protect your hands.

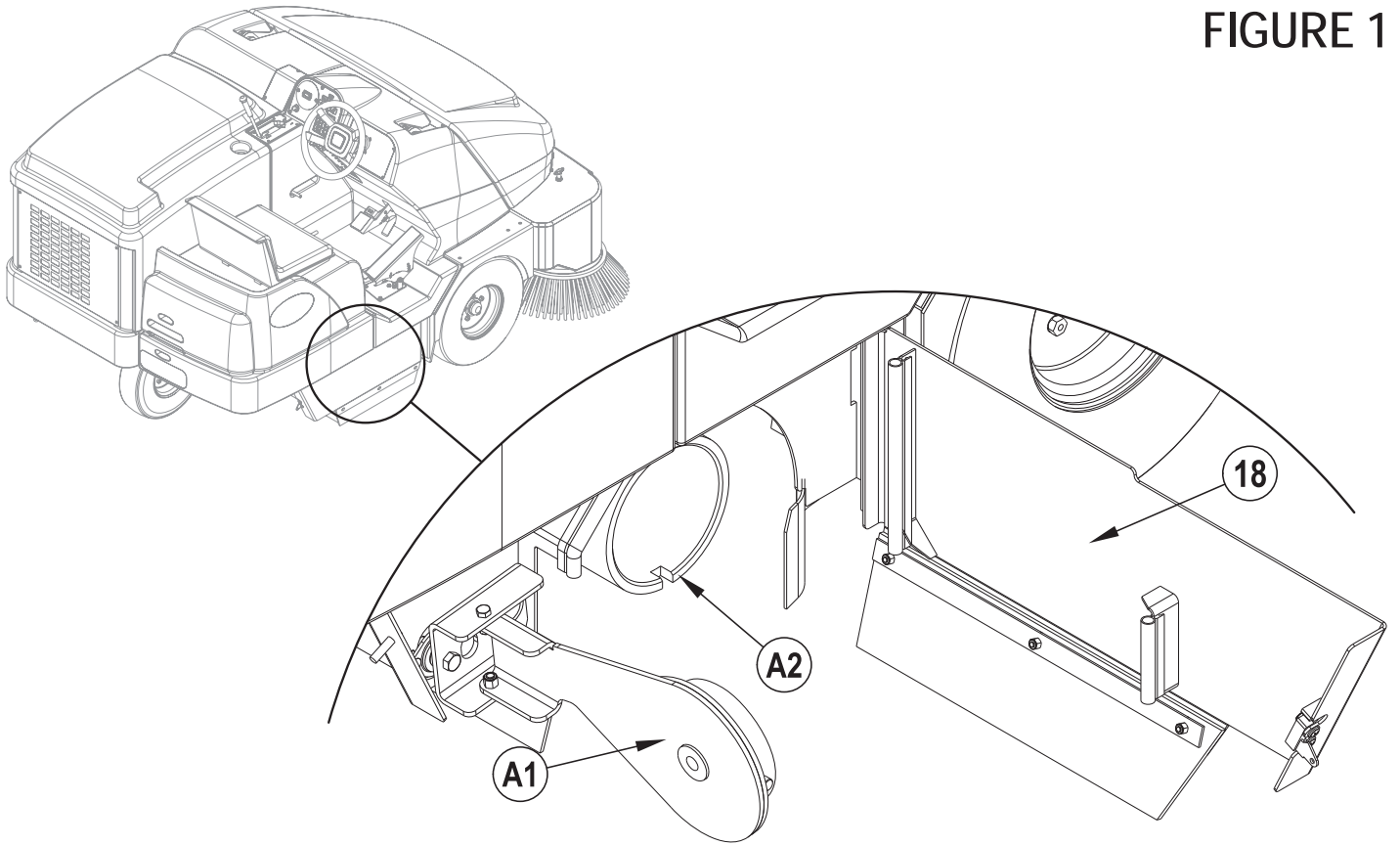
#### To Rotate or Replace the Main Broom...

- 1 Turn the Ignition Switch (TT) OFF.
- 2 Put the Main Broom Lever (B) in the UP position.
- 3 Open the Right Side Main Broom Access Panel (18).
- 4 See Figure 1. Pivot the Idler Arm Assembly (A1) out of the main broom core. **NOTE:** The Idler Arm is held in place by the Right Side Main Broom Access Panel (18).
- 5 Pull the Main Broom (A2) 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 Close and latch the Right Side Main Broom Access Panel (18).

#### To Adjust the Main Broom Height...

- 1 Drive the machine to an area with a level floor and set the parking brake.
- 2 Pull the Main Broom Lever (B) back and slide to the right and up to lower the main broom. **DO NOT** move the machine.
- 3 Lightly press the FWD / REV Drive Pedal (G) to start the main broom and repeat three times. This allows the broom to polish a "strip" on the floor. 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 floor. 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, loosen the Knob (C) and slide forward or backward to lower or raise the Main Broom. The farther the Lever (B) travels forward in the slot, the lower the Main Broom will be. Tighten Knob (C) after adjusting the position of the stop bracket.
- 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 Nilfisk Dealer for service.

FIGURE 1



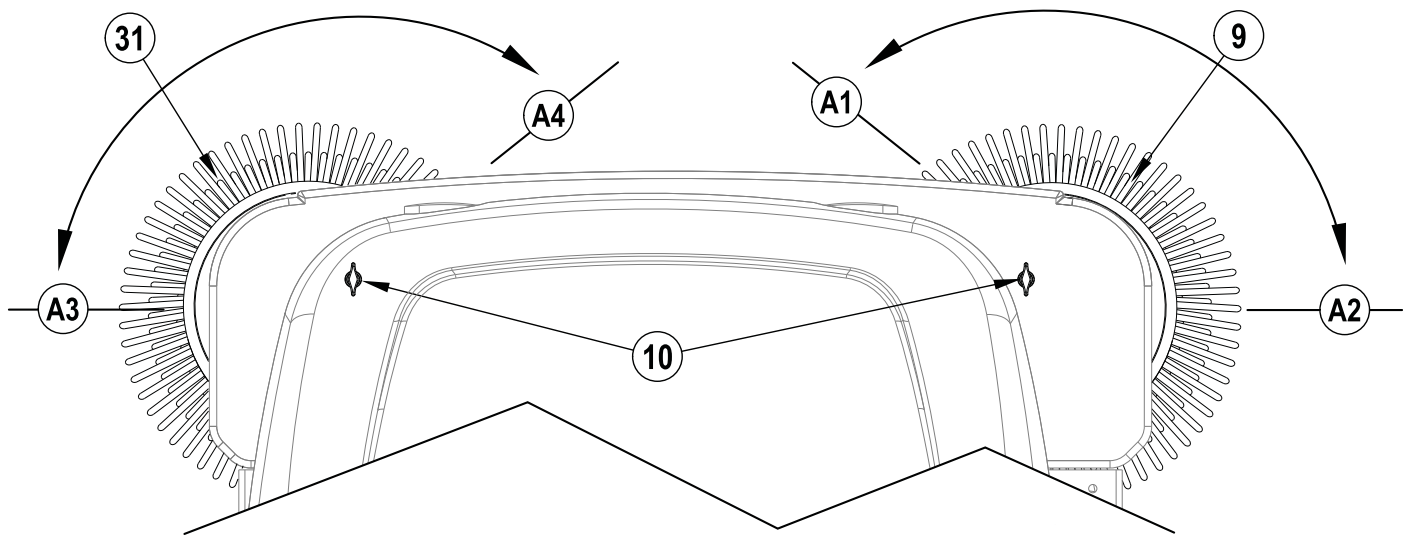
## SIDE BROOM MAINTENANCE

To adjust the Side Broom...

- 1 Drive the machine to an area with a level floor and set the parking brake.
- 2 Pull the Main Broom Lever (B) back and slide to the right and up to lower the main and side brooms.
- 3 See Figure 2. When in the Down position, the Right Side Broom (9) should be contacting the floor from the 10 O'Clock (A1) to the 3 O'Clock (A2) area shown. **NOTE:** Optional Left Side Broom (31) should be contacting the floor from the 9 O'Clock (A3) to the 2 O'Clock (A4) area.
- 4 If either broom requires adjustment, turn the Side Broom Height Adjustment Knob (10) either clockwise to raise or counter-clockwise to lower the side broom.

**NOTE:** The machine should be stored with the Side Brooms (9 & 31) in the raised position. The Side Brooms (9 & 31) should be replaced when the bristles are worn to a length of 3 inches (7.62 cm) or it becomes ineffective. The Side Broom height must be re-adjusted whenever a broom has been replaced.

### FIGURE 2





## SIDE BROOM MAINTENANCE

To replace the Side Broom...

- 1 See Figure 3. Raise the hopper until the side broom is approximately at chest height.
- 2 Grab hold of the side broom with both hands and rotate until the ring end of the Hitch Pin (A1) is facing toward the rear of the hopper. **NOTE:** The side broom(s) will only rotate freely in one direction.
- 3 Remove the Hitch Pin (A1) and pull the Side Broom (A2) off of the motor shaft.
- 4 Slide the new broom onto the motor shaft, line up the pin hole and reinstall the Hitch Pin (A1).

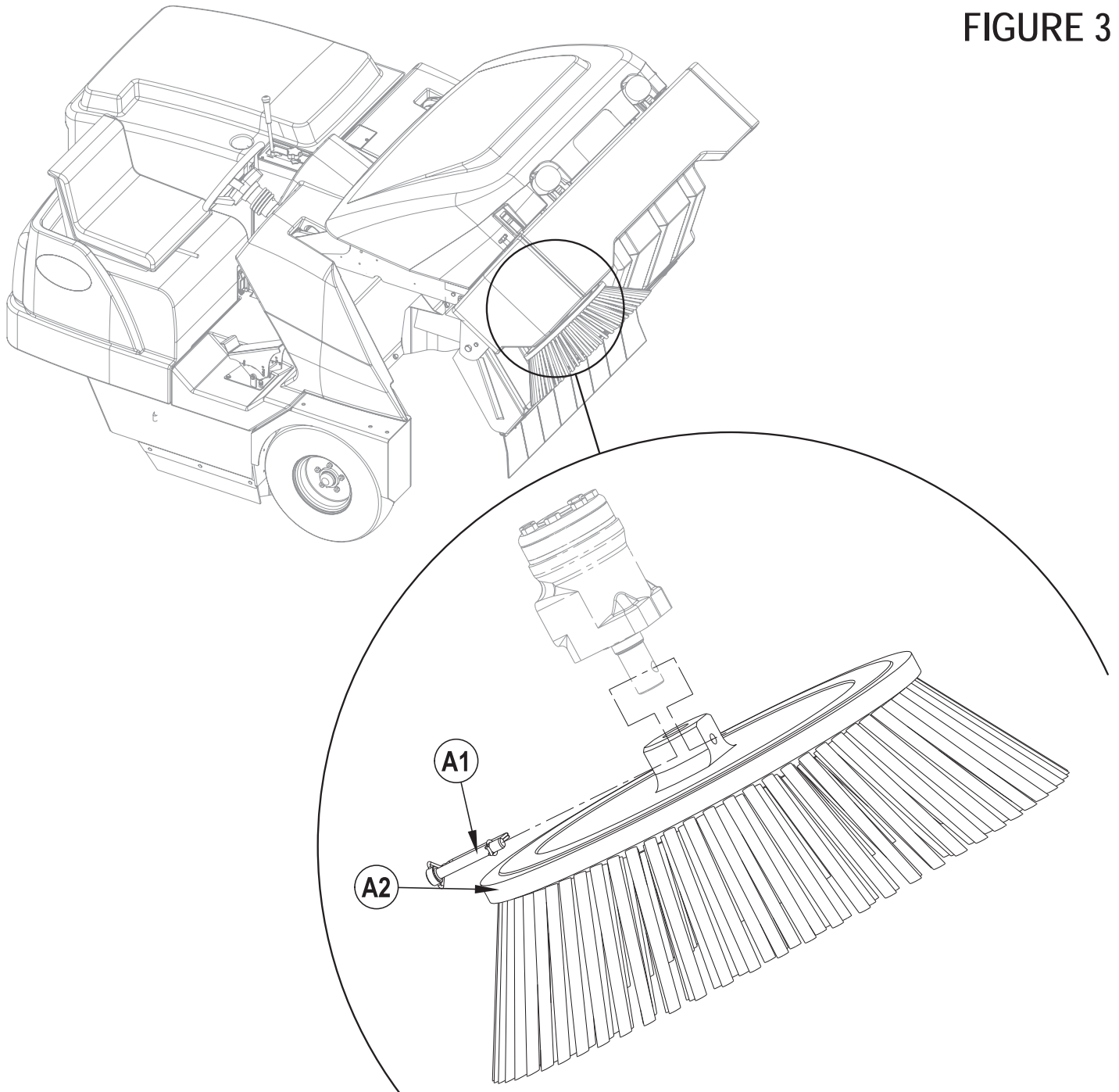


FIGURE 3

## HOPPER DUST CONTROL FILTER (PANEL FILTER)

The hopper dust control filter must be cleaned regularly to maintain the efficiency of the vacuum system. Follow the recommended filter service intervals for the longest filter life.

### CAUTION!

Wear safety glasses when cleaning the filter.

Do not puncture the paper filter.

Clean the filter in a well-ventilated area.

Wear appropriate dust mask to avoid breathing in dust.

To remove the hopper dust control filter...

- 1 Unlatch and open the Hopper Cover (16). Make sure that the Hopper Cover Prop Rod (17) is in place.
- 2 Inspect the top of the Hopper Dust Control Filter (12) for damage. A large amount of dust on top of the filter is usually caused by a hole in the filter or a damaged filter gasket.  
Inspect the bottom of the Hopper Dust Control Filter (12). If the filter is covered with wet or dry mud, the dust control system will not function properly without replacing or thoroughly cleaning the filter using Method "C".
- 3 Remove the four Shaker Assembly Retainer Knobs (13). Lift off the Dust Filter Shaker Assembly (11) to access the panel filter.
- 4 Lift the Hopper Dust Control Filter (12) out of the machine.
- 5 Clean the filter using one of the methods below:

#### Method "A"

Vacuum loose dust from the filter. Then **gently** tap the filter against a flat surface (with the dirty side down) to remove loose dust and dirt.

**NOTE:** Take care not to damage the metal lip which extends past the gasket.

#### Method "B"

Vacuum loose dust from the filter. Then blow compressed air (maximum pressure 100 psi) into the clean side of the filter (in the opposite direction of the airflow).

#### Method "C"

Vacuum loose dust from the filter. Then soak the filter in warm water for 15 minutes, then rinse it under a gentle stream of water (maximum pressure 40 psi). Let the filter dry completely before putting it back into the machine.

- 6 Follow the instructions in reverse order to install the filter. If the gasket on the filter is torn or missing, it must be replaced. **NOTE:** Before replacing filter clear debris from dust plate located under filter. Verify that the debris flap at the rear of the dust plate swings freely

## ENGINE RADIATOR AND HYDRAULIC RADIATOR CLEANING

The engine radiator and hydraulic radiator must be occasionally cleaned to prevent overheating and premature wear of engine and hydraulic systems. Follow the recommended service intervals.

### CAUTION!

Wear Safety glasses when cleaning the engine radiator and hydraulic heat exchanger.

- 1 Tip back Engine Compartment Cover (1). Disconnect cable latch on the left side of Engine Compartment Cover to allow cover to fully tip back and out of the way.
- 2 Turn the locking mechanism at the top of the hydraulic radiator to allow the hydraulic heat exchanger to fully tip back and away from the radiator for easy cleaning access.
- 3 Blow out engine radiator and hydraulic radiator with air and or use low pressure water to rinse debris from the fins.

**NOTE:** Do Not use a pressure washer or a mechanical brush to clean fins since this can cause damage to the fins. If fins get bent, carefully straighten them to improve cooling performance.

- 4 Restore hydraulic radiator to raised position and latch into place
- 5 Reconnect Engine Compartment Cover (1) cable and fully return the cover normal operational position

## HYDRAULIC OIL

Unlatch and swing open the Oil Reservoir / Fuel tank Cover (20). Remove the reservoir cap to check the oil level. The hydraulic oil level should be half way up the screen filter inside the filler neck of the reservoir. Add SAE 10W30 motor oil if it is below this level. Change the oil if major contamination from a mechanical failure occurs.

## ENGINE OIL – GASOLINE / PETROL & LPG

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 35 hours of operation and every 150 hours after that. Use any SF or SG rated oil meeting API specifications and suited to seasonal temperatures. Refer to the Engine System section for oil capacities and additional engine specifications. Replace the oil filter with every oil change.

TEMPERATURE RANGE	OIL WEIGHT
Above 60° F (15° C)	SAE 10W-30
Below 60° F (15° C)	SAE 5W-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 35 hours of operation and every 150 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 System section 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 10W-30
32 °F to 77 °F (0 °C to 25 °C)	SAE 20 or 10W-30
Below 32 °F (0 °C)	SAE 10W or 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 of a low-sulfur fuel 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.

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

O : Recommendable

X : Not recommendable

## ENGINE COOLANT

Open the Engine Compartment Cover (1) and observe the coolant level in the Coolant Recovery Tank (22). If the level is low, add a mixture of half water and half automotive type anti-freeze.

### CAUTION!

Do not remove the Radiator Cap (23) when the engine is hot.

## ENGINE AIR FILTER

Check the Engine Air Filter Service Indicator (24) before each use of the machine. Do not service the air filter unless the red flag is visible in the service indicator. **NOTE:** After cleaning or replacing the engine air filter, the service indicator can be reset by pressing the end of the indicator.

### CAUTION!

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

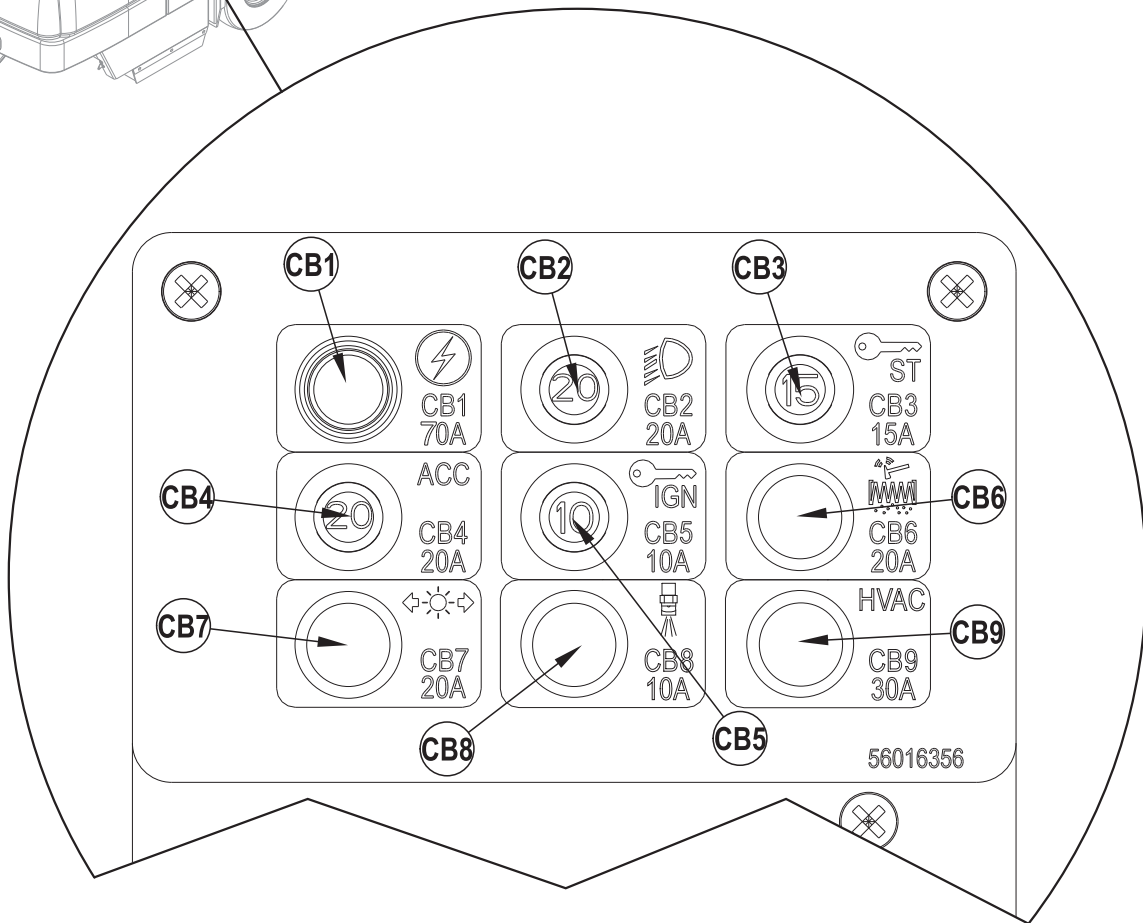
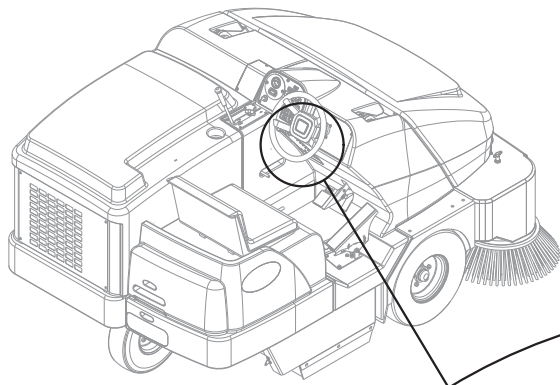
The engine air filter contains a Primary (outer) and a Safety (inner) filter element. The Primary Element may be cleaned twice before being replaced. The Safety Element should be replaced every third time that the Primary Filter Element is replaced. Never attempt to clean the Inner Safety Element.

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

Empty dust from the outer plastic housing by squeezing the rubber flap. Orientate flap down when reinstalling.

## CIRCUIT BREAKER LOCATION

- CB1 Main (70A)
- CB2 Headlights (20A)
- CB3 Starter (15A)
- CB4 Accessory (20A)
- CB5 Ignition (10A)
- CB6 Shaker (20A)
- CB7 Turn Signals (20A)
- CB8 Mister (10A)
- CB9 HVAC (30A)



## TROUBLESHOOTING

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

### TRIPPING THE CIRCUIT BREAKERS

The circuit breakers are located on the Circuit Breaker Panel (H), they protect electrical circuits and motors from damage due to overload conditions. If a circuit breaker trips, try to determine the cause.

Main Circuit Breaker (CB1 / 70 Amp) Possible cause may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

Headlight Circuit Breaker (CB2 / 20 Amp) Possible cause may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

Starter Motor Circuit Breaker (CB3 / 15 Amp) Possible causes may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

Accessory Circuit Circuit Breaker (CB4 / 20 Amp) Possible cause may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

Ignition Circuit Circuit Breaker (CB5 / 10 Amp) Possible cause may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

Shaker Circuit Breaker (CB6 / 20 Amp) Possible cause may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

Turn Signal Circuit Breaker (CB7 / 20 Amp) Possible cause may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

Mister Circuit Breaker (CB8 / 10 Amp) Possible cause may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

HVAC Circuit Breaker (CB9 / 30 Amp) Possible cause may be:

- 1 Electrical short circuit or overload (have your Nilfisk Service Center or qualified electrician check the machine)

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 Nilfisk Service Center for service.

## TROUBLESHOOTING

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

### MACHINE WILL NOT START

Possible causes may be:

- 1 FWD / REV Drive Pedal not in neutral position (ensure pedal is in neutral position)
- 2 FWD / REV Drive Pedal neutral position is not correctly set (contact your Advance service center)
- 3 Battery is not connected or dead (connect or charge battery)
- 4 Machine is out of fuel or LPG tank valve is not open (refuel or open LPG tank valve)
- 5 Tripped circuit breaker(s) (reset any tripped circuit breakers)

### MACHINE WILL NOT MOVE

Possible causes may be:

- 1 Parking Brake (F) set (release parking brake)
- 2 Towing Valve in wrong position (set correctly)
- 3 Tripped circuit breaker(s) (reset any tripped circuit breakers)

### MAIN BROOM WILL NOT RUN

Possible causes may be:

- 1 Engine not set to high RPM (push Engine Speed Switch (GG))
- 2 Debris wrapped around the broom drive (remove debris)
- 3 Hopper is not completely down (lower hopper completely)
- 4 Tripped circuit breaker(s) (reset any tripped circuit breakers)

### SIDE BROOM WILL NOT RUN

Possible causes may be:

- 1 Engine not set to high RPM (push Engine Speed Switch (GG))
- 2 Ensure Side Broom OFF switch isn't selected (push switch to turn ON)
- 3 Debris wrapped around the broom drive (remove debris)
- 4 Hopper is not completely down (lower hopper completely)
- 5 Tripped circuit breaker(s) (reset any tripped circuit breakers)

### HOPPER WILL NOT RAISE

Possible causes may be:

- 1 Engine not set to high RPM (push Engine Speed Switch (GG))
- 2 Tripped circuit breaker(s) (reset any tripped circuit breakers)

### HOPPER DUMP DOOR WILL NOT OPEN

Possible causes may be:

- 1 Dump door jammed by debris (remove debris and clean edges of dirt chamber)
- 2 Tripped circuit breaker(s) (reset any tripped circuit breakers)

### SHAKER MOTOR WILL NOT RUN

Possible causes may be:

- 1 Tripped circuit breaker(s) (reset any tripped circuit breakers)
- 2 Electrical connection to shaker motor disconnected (connect shaker motor)

### DUST CONTROL SYSTEM (IMPELLER) WILL NOT RUN

Possible causes may be:

- 1 Tripped circuit breaker(s) (reset any tripped circuit breakers)
- 2 Ensure Dust Control OFF switch isn't selected (push switch to turn ON)

### DUSTGUARD™ SIDE BROOM MIST SYSTEM WILL NOT FUNCTION

Possible causes may be:

- 1 DustGuard™ Switch (VV) not turned ON (turn ON DustGuard™ Switch)
- 2 Main Broom Lever (B) not actuated (lower main broom)
- 3 Water tank is empty (fill water tank (28))
- 4 Spray Nozzles (15) are clogged (clean Spray Nozzles (15))

## ACCESSORIES / OPTIONS

In addition to the standard components, the machine can be equipped with the following accessories/options, according to the machine specific use:

- Main and side brooms with harder or softer bristles
- Polyester Water Resistant dust filter
- Clogged filter sensor
- DustGuard™ system
- Fire extinguisher
- Working light
- Amber Strobe light
- Non-marking wheels
- Tilt steering wheel
- Driver's seat with suspensions
- Safety belts
- Side broom guard
- Spark Arrestor Exhaust
- Metal Hopper Bottom Plate
- Raised Engine Air Intake with Pre-Filter
- Overhead Guard
- Overhead guard canopy
- Rearview mirrors
- Rear Metal bumper
- Left Hand Side Broom
- Enclosed Cabin
- Floor Mat
- Engine Gauges
- Hopper Fire High Temp Sensor
- Back Up Audio Alarm
- Tail, Brake and Turn Signals
- Foam Filled Tires
- Solid Tires

For further information about the above-mentioned accessories, contact an authorized Retailer.

## TECHNICAL SPECIFICATIONS (as installed and tested on the unit)

Model	SW8000 4 cyl. LPG	SW8000 4 cyl. Gasoline / Petrol	SW8000 4 cyl. Diesel
Model No.	56107512	56107517	56107513
Protection Grade	IPX3	IPX3	IPX3
Sound Pressure Level (IEC 60335-2-72: Ed 3 2012, ISO 11201)	dB(A)	80.6dB LpA, 3dB KpA	80.6dB LpA, 3dB KpA
Sound Power Level (IEC 60335-2-72: Ed 3 2012, ISO 3744)	dB(A)	102.3 dB LWA	102.3 dB LWA
Gross Weight	lbs/kg	4426 / 2007	4426 / 2007
Empty Weight	lbs/kg	3075 / 1395	3075 / 1395
Maximum Wheel Floor Loading (right front)	psi/ N/mm <sup>2</sup>	72 / 0.496	72 / 0.496
Maximum Wheel Floor Loading (left front)	psi/ N/mm <sup>2</sup>	63 / 0.434	63 / 0.434
Maximum Wheel Floor Loading (rear center)	psi/ N/mm <sup>2</sup>	71 / .489	71 / .489
Vibrations at the Hand Controls (ISO 5349-1)	m/s <sup>2</sup>	1.08 m/s <sup>2</sup>	1.08 m/s <sup>2</sup>
Vibrations at the Seat (ISO 2631-1)	m/s <sup>2</sup>	0.15 m/s <sup>2</sup>	0.15 m/s <sup>2</sup>
Gradeability		20%(11.3°)	20%(11.3°)
<b>Model</b>	<b>SW8000 (cab) 4 cyl. LPG</b>		<b>SW8000 (cab) 4 cyl. Diesel</b>
Model No.	56107514		56107515
Protection Grade	IPX3		IPX3
Sound Pressure Level (IEC 60335-2-72: Ed 3 2012, ISO 11201)	dB(A)	80.6dB LpA, 3dB KpA	80.6dB LpA, 3dB KpA
Sound Power Level (IEC 60335-2-72: Ed 3 2012, ISO 3744)	dB(A)	102.3 dB LWA	106.3 dB LWA
Gross Weight	lbs/kg	4775 / 2165	4775 / 2165
Empty Weight	lbs/kg	3424 / 1553	3424 / 1553
Maximum Wheel Floor Loading (right front)	psi/ N/mm <sup>2</sup>	72 / 0.496	65 / 0.448
Maximum Wheel Floor Loading (left front)	psi/ N/mm <sup>2</sup>	63 / 0.434	65 / 0.448
Maximum Wheel Floor Loading (rear center)	psi/ N/mm <sup>2</sup>	71 / .489	76 / 0.524
Vibrations at the Hand Controls (ISO 5349-1)	m/s <sup>2</sup>	1.08 m/s <sup>2</sup>	1.5 m/s <sup>2</sup>
Vibrations at the Seat (ISO 2631-1)	m/s <sup>2</sup>	0.15 m/s <sup>2</sup>	0.16 m/s <sup>2</sup>
Gradeability		20%(11.3°)	20%(11.3°)