



JAN 2023

# Madvac®

## MINI SWEEPER

# LS175



# Product Overview

[www.madvac.com](http://www.madvac.com)



Sourcewell  Formerly NJPA

 canoe  
procurement group of canada



# Table of Contents

Applications & Customers.....3-4

Why the LS175.....5-7

Specs, Characteristics & Performance.....8-19

Instrumentation & Control.....20-26

Vacuum System.....27-32

Litter Collection System.....33-38

Safety, Comfort & Convenience.....39-44

Easy Access Critical Components.....45-52

Contact Us.....53

## **LS175 (diesel) options**

Electric windshield defrost..... 11

Heated mirrors..... 11

Radio + CD + MP3 player..... 12

Wander hose..... 30-31

Pressure washer gun..... 32

Cartridge filtration system..... 37

Bag filtration system..... 38

Fire extinguisher..... 39

Tire flatproofing ..... 39

*Technical specs are subject to change without prior notice*

# Application

Specifically designed to handle all the areas your large street sweeper can't access or manage

- Sidewalks
- Bike and pedestrian lanes
- Parking lots
- Curb side
- Alleys
- Pathways
- Alongside buildings



# Customers

- Cities & municipalities
- Outdoor cleaning contractors
- Airports & seaports
- Transit authorities
- Healthcare services
- Distribution centers
- Shopping malls
- Educational & sports facilities
- Manufacturing facilities
- Amusement parks
- Casinos
- Military
- Correctional facilities



# Why the LS175

- LS175 is the **ONLY** 48" wide closed cabin high-dump sweeper manufactured in North America. Everything is built according to North American standards;
- In the category 1.5 to 2 cu.yd. hopper capacity, LS175 is the lowest priced compact sweeper on the market;
- OEM spare parts shipped within 48 hours;



# Why the LS175



- Fully street legal lighting - safe and easy to use;
- A CDL permit is not required to operate this machine;
- 10 to 12 year lifespan will outlast most competitive models;
- Madvac has a 35+ years track record of success - when your machine is due for replacement we'll still be around;

# Why the LS175



- For maintenance, LS175 offers unprecedented easy access to all critical components of the machine; (electrical box, manifolds, spool valves)
- LS175 can be purchased using Sourcewell (formerly NJPA) or other cooperative purchasing contracts – save money, get your machine quicker.

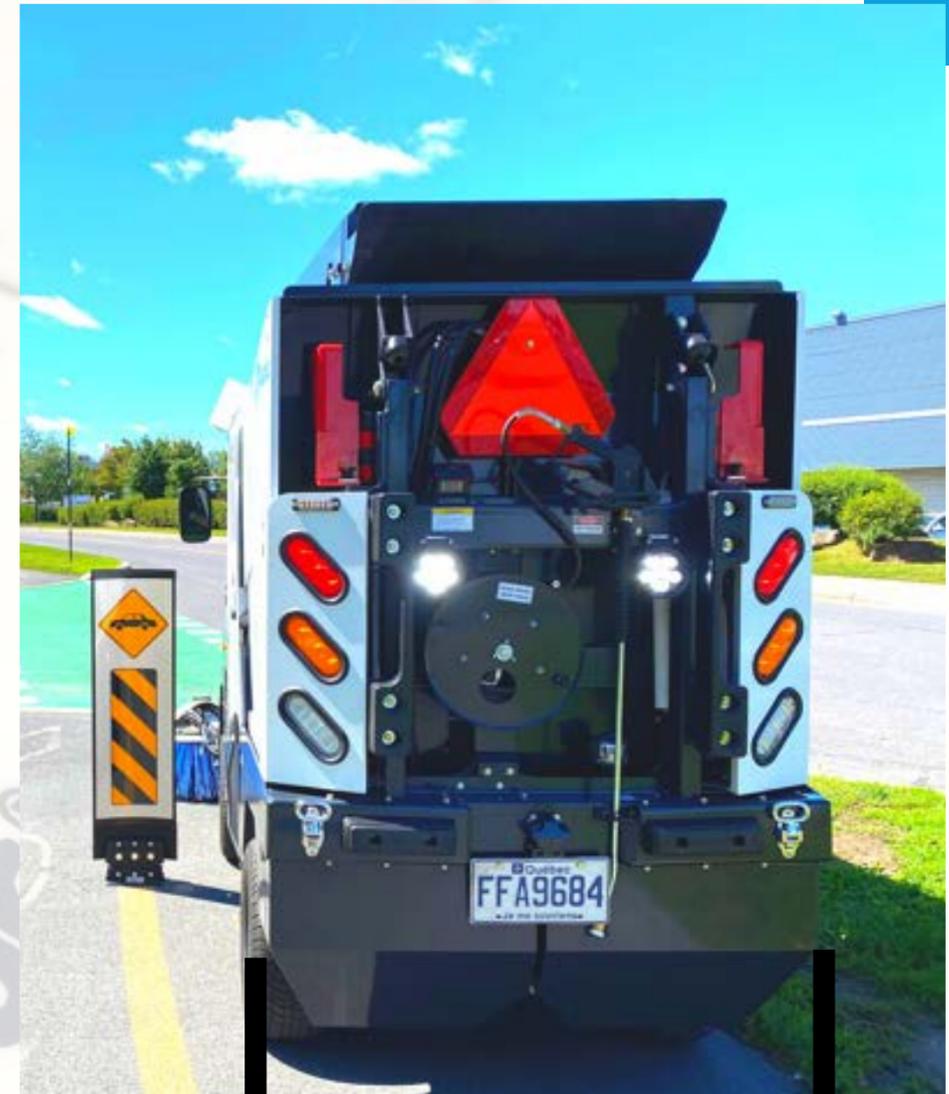
# Dimensions

with cartridge filtration system



Length: 136 in. (3454 mm)

Height:  
**88 in.**  
(2235 mm)



Width: 48 in.  
(1219 mm)

- Wheelbase: 65 in. (1651 mm)
- Ground clearance: 8.5 in. (216 mm)

# Dimensions

with bag filtration system



Height:  
**86 in.**  
(2184mm)

Length: 136 in. (3454 mm)

- Wheelbase: 65 in. (1651 mm)
- Ground clearance: 8.5 in. (216 mm)



Width: 48 in.  
(1219 mm)

# Body

- Triangular frame tubing for engine 0.25" (6.35 mm) 13 gauge fully welded / reinforced steel
- Hinged side doors for oil cooler and radiator access on both sides
- Double-layer baked powder coating electro statically applied



# Cabin

- 200-degree cab vision
- Full windshield laminated glass
- Full ventilation, pivoting side windows
- Side windows open each side
- Defrost: windshield heated micro filament / heated mirrors (optional)



# Cabin



12

- Adjustable suspended air seat with 2-point seat belt
- Retractable armrest with illuminated switches
- Heating / AC: HVAC unit
- Radio / CD / MP3 player (optional)
- Interior dome light
- Floor glass window with grill for full vision

# Engine

- Model: Hatz Tier 4 Final engine 3H50TIC 3 cyl. turbo with in-cab troubleshooting switch and light
- Displacement: 91.54 cu. in. (1500 cc)
- Gross rated power: 58.5 HP (44.0 kW) @ 2800 RPM
- Air cleaner: Donaldson 2-stage filtration system



# Performance

- Forward speed:  
15 mph (24 km/h)
- Reverse speed:  
7.5 mph (12 km/h)
- Gradeability: 20%
- Minimum turning radius:  
9 ft. (2.74 m)
- Curb weight:  
dry 5600 lbs (2540 kg)



# Traction

- Rear wheel drive fully controlled by electric pedal
- Radial tires 225 R 12 on all 4 wheels
- Heavy duty hydrostatic drive with infinite movement engine following RPM with anti-stall
- Brakes: front hydraulic standard brakes; rear hydrostatic brakes and rear mechanical parking discs brakes



# Suspension



↑

- Front: two coil springs / heavy duty shock absorbers

←

- Rear: two coil springs / heavy duty shock absorbers on axle

# Lighting

## Front:

- 2 headlights
- 2 hazard lights
- 2 work lights
- 2 strobe lights

## Side panel light

## Back:

- 2 work lights
- 2 strobe lights
- Brakes, turn, reverse signals
- SMV sign



# Liquid Capacities

- Fuel tank: 21.1 gal. (80 L)
  - Water tank: 58 gal. (220 L)
  - Hydraulic tank: 23.7 gal. (90 L)
- ISO46



**Diesel fuel tank filler**

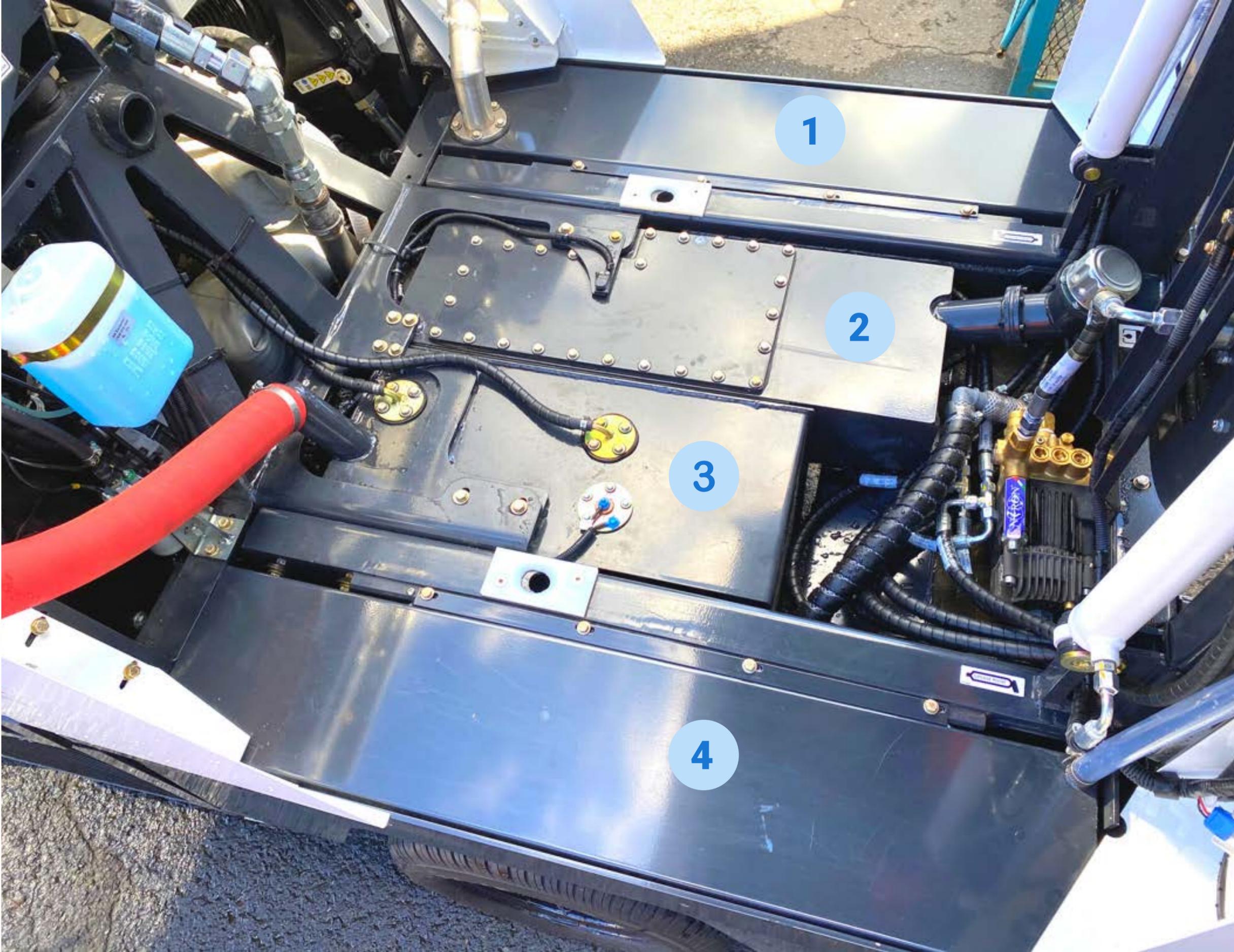


**Water tank filler**



**Hydraulic tank filler**

# Liquid Tanks



- 1 Water tank
- 2 Hydraulic tank
- 3 Fuel tank
- 4 Water tank



# Instrument Panel

20

(bottom)

- Hour meter

(middle)

- Fuel gauge

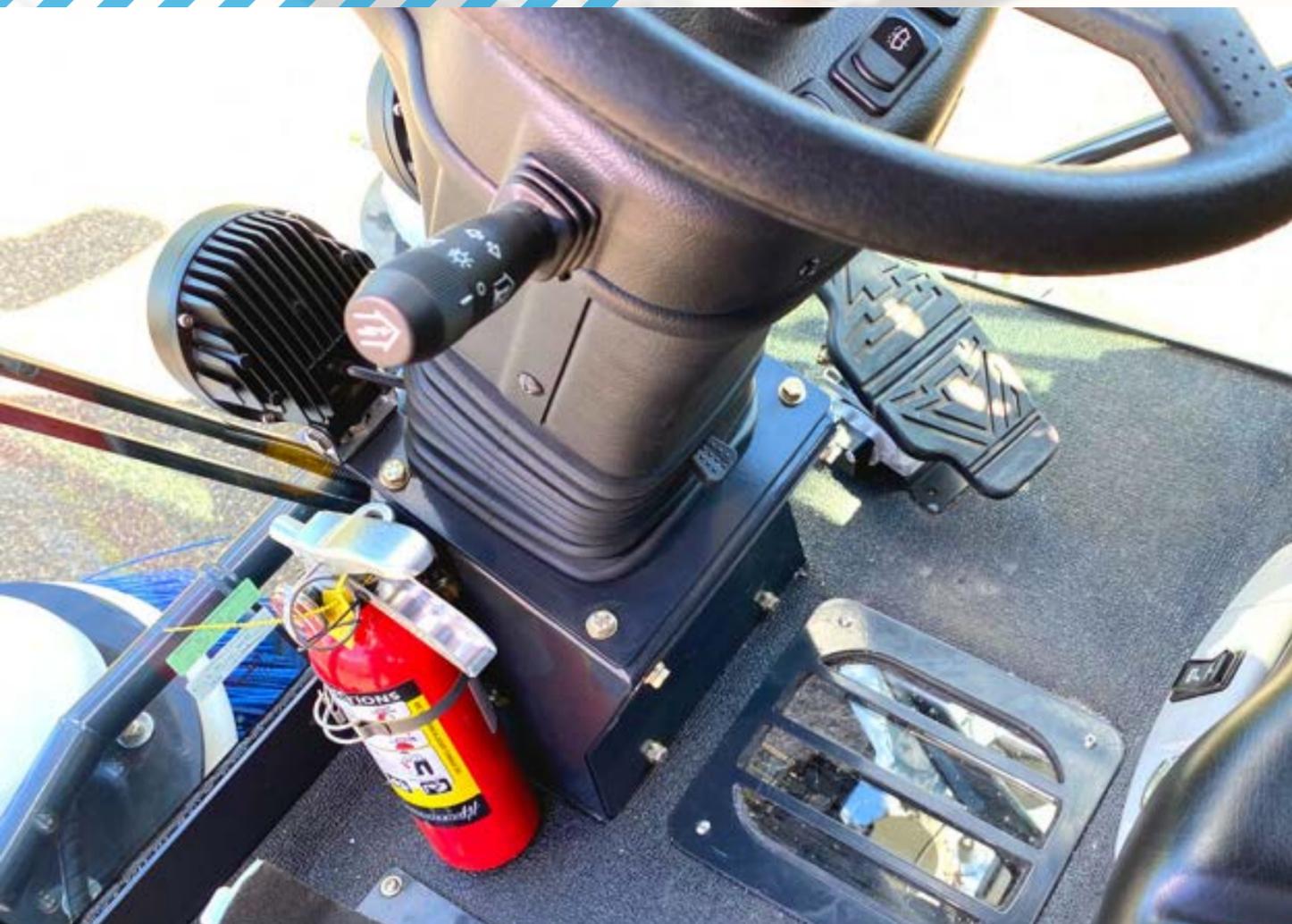
(left to right)

- No water indicator
- Brake indicator
- Left turn signal
- Engine oil indicator
- Battery indicator
- Engine temperature indicator
- Right turn signal
- Glow plug indicator
- Engine maintenance required

Check engine light  
/ diagnostic switch



# Switch & Lever



- Turn signal lights
- Strobe and tail lights
- Headlights
- Horn on flasher arm



# Controls

(left to right)

- Hazard lights
- Windshield washer
- Windshield wiper
- Work light switch (front and back)
- Windshield defrost





Fully independent  
left / right gutter  
broom joysticks

## Armrest Controls

(Clockwise)

- Gutter broom/brush switch
- Vacuum fan switch
- Water spray switch
- Vacuum nozzle switch
- Container raise/lower switch
- Power wash

# Broom Controls





# Heat & AC Controls

(left to right)

- Fan speed
- Temperature setting
- AC on/off switch



# Other Controls

Hand parking  
brake - disc  
brakes on rear  
wheels



Hydrostatic pedal -  
forward / neutral /  
reverse



Standard hydraulic  
brake pedal



# Vacuum System

- Vacuum rating: 2000 CFM
- Aluminum fan construction
- High performance fan speed 3500 RPM
- Side-mounted fan: no litter goes through the fan
- Vacuum hose diameter 7 in. (178 mm)





# Vacuum Head

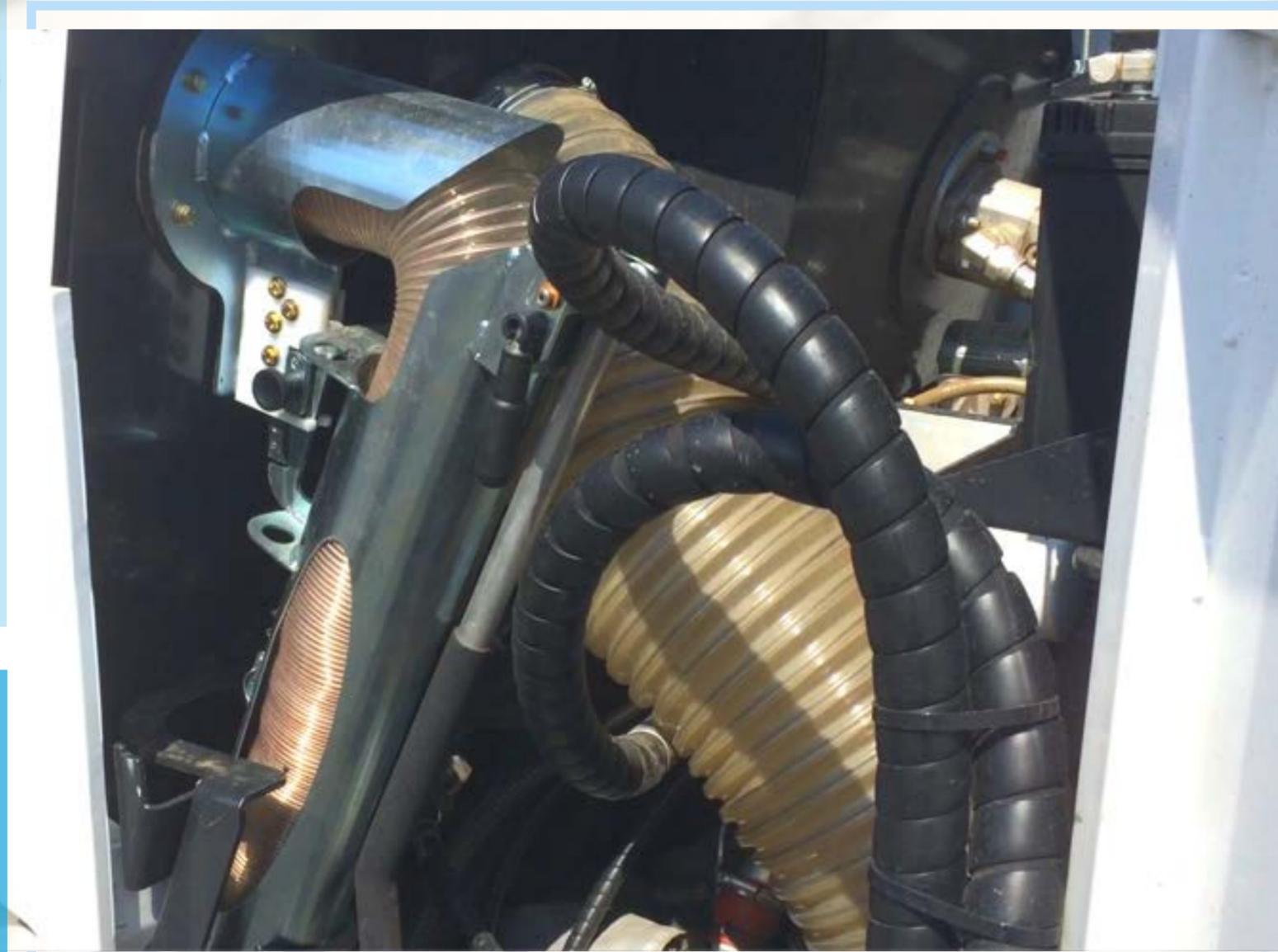
- 30 in. (762 mm) wide
- Self-adjusts to uneven surfaces
- Automatic raise / lower from cab
- Straight-through suction allows the operator to pick up virtually any litter that fits inside the suction nozzle



# Sweep Gear

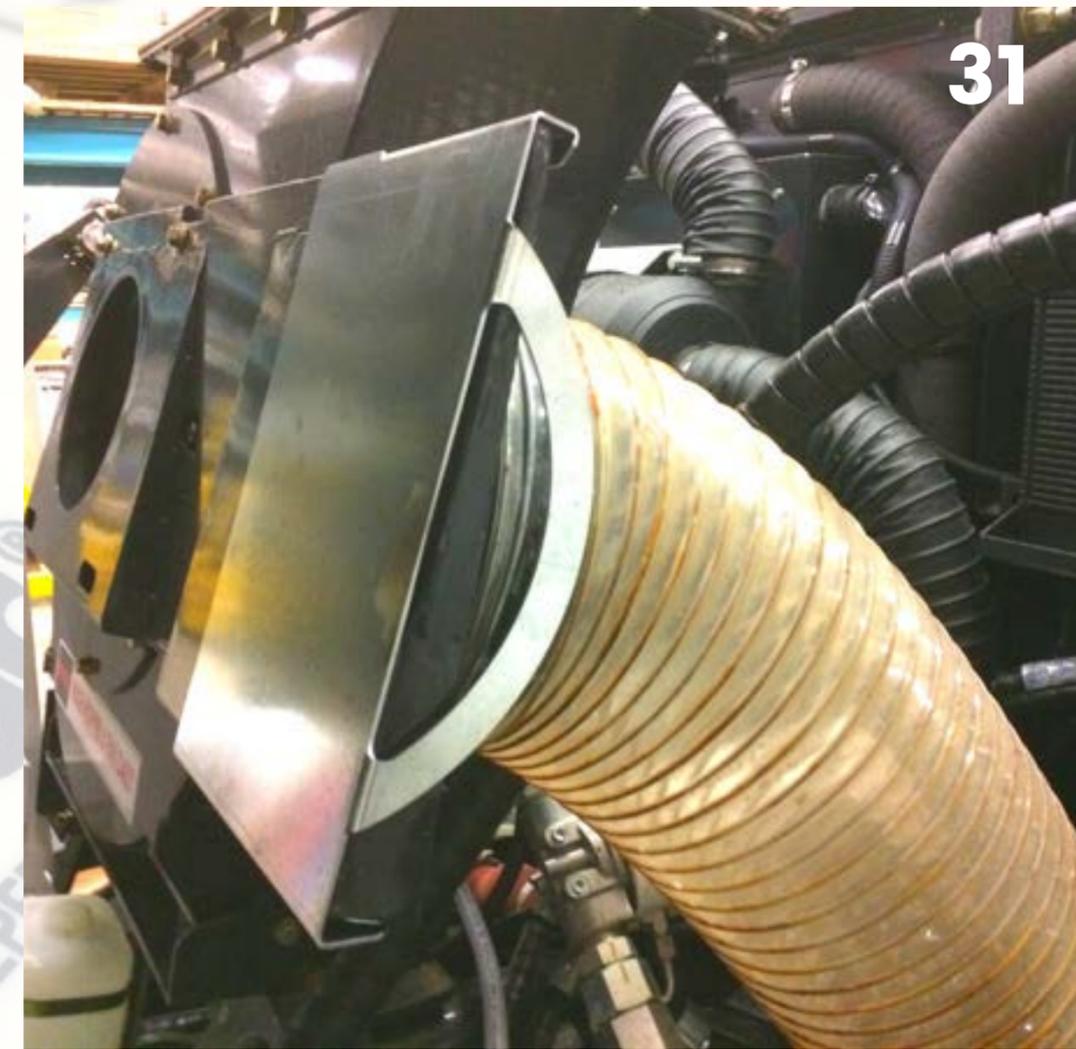
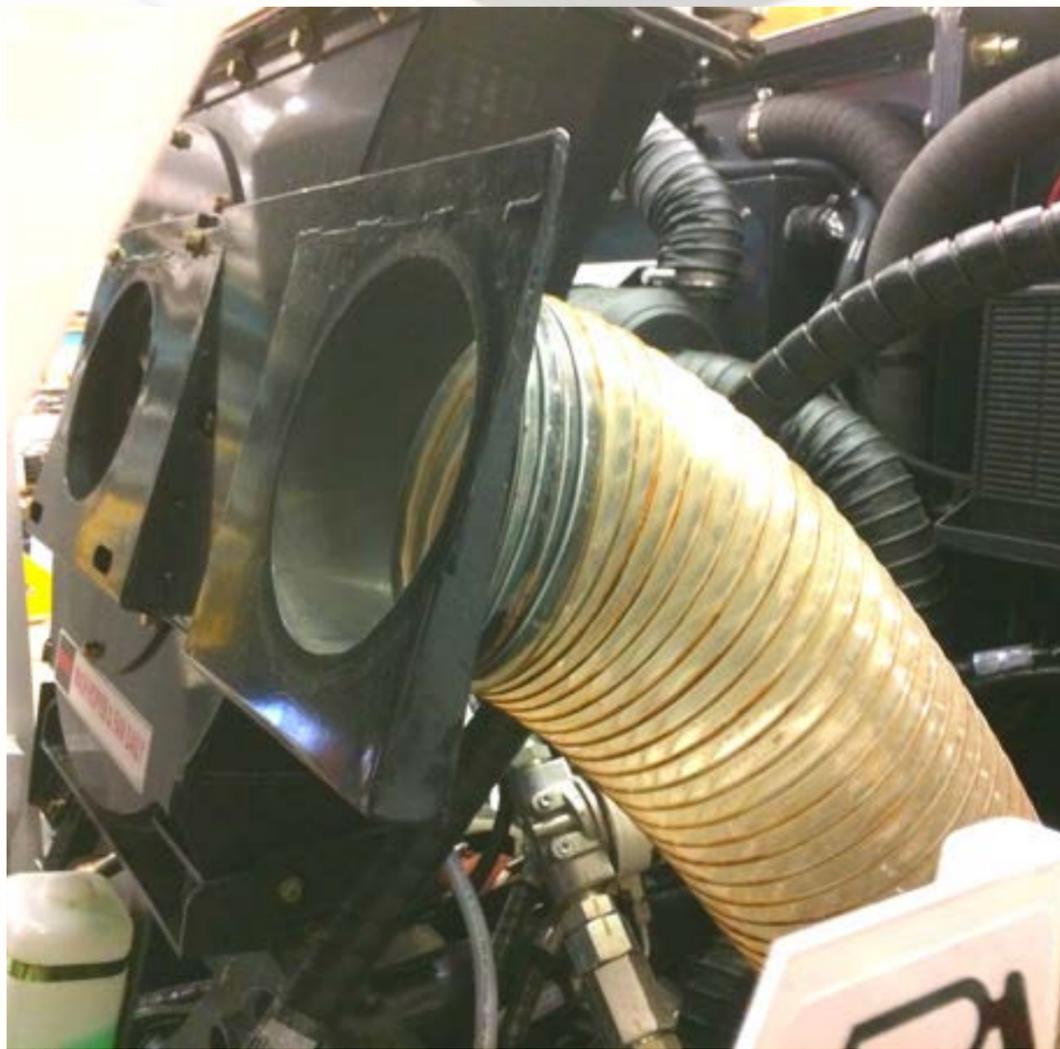


- Two polypropylene brushes (independently joystick controlled) 25 in. (635 mm) diameter each
- Brush arm: floating and adjustable
- Brush speed: 0 to 150 RPM
- Sweeping width: 44–80 in. (1118 mm–2032 mm)
- Pickup nozzle: electric raise/lower with polymer skate and wheels



# Wander Hose

Retractable slinky style 4 in. x 15 ft. (101 mm x 4.57 m) for additional cleaning or hard-to-reach areas (optional)



# Wander Hose

Before using wander hose, steel plate is manually inserted to seal off main vacuum hose. This allows maximum suction power for the wander hose.



# Power Wash

(Optional)

- 2 gpm @ 1800 PSI
- 30 ft. (9.14 m) long



32



# Tip-to-Dump Container

- Litter capacity: 1.75 cu.yd. / 1.34 sq.m. / 353 gal.
- Payload: 2000 lbs (907 kg)
- Material: stainless steel
- Dumping height: 64 inches (1626 mm)
- Container tipping angle: 142 deg.



# 3-Stage Filtration System



## STAGE 1 - WATER (part 1)

Nozzles on each broom and at entry point of the container spray water on litter and dust before they enter inside the container.

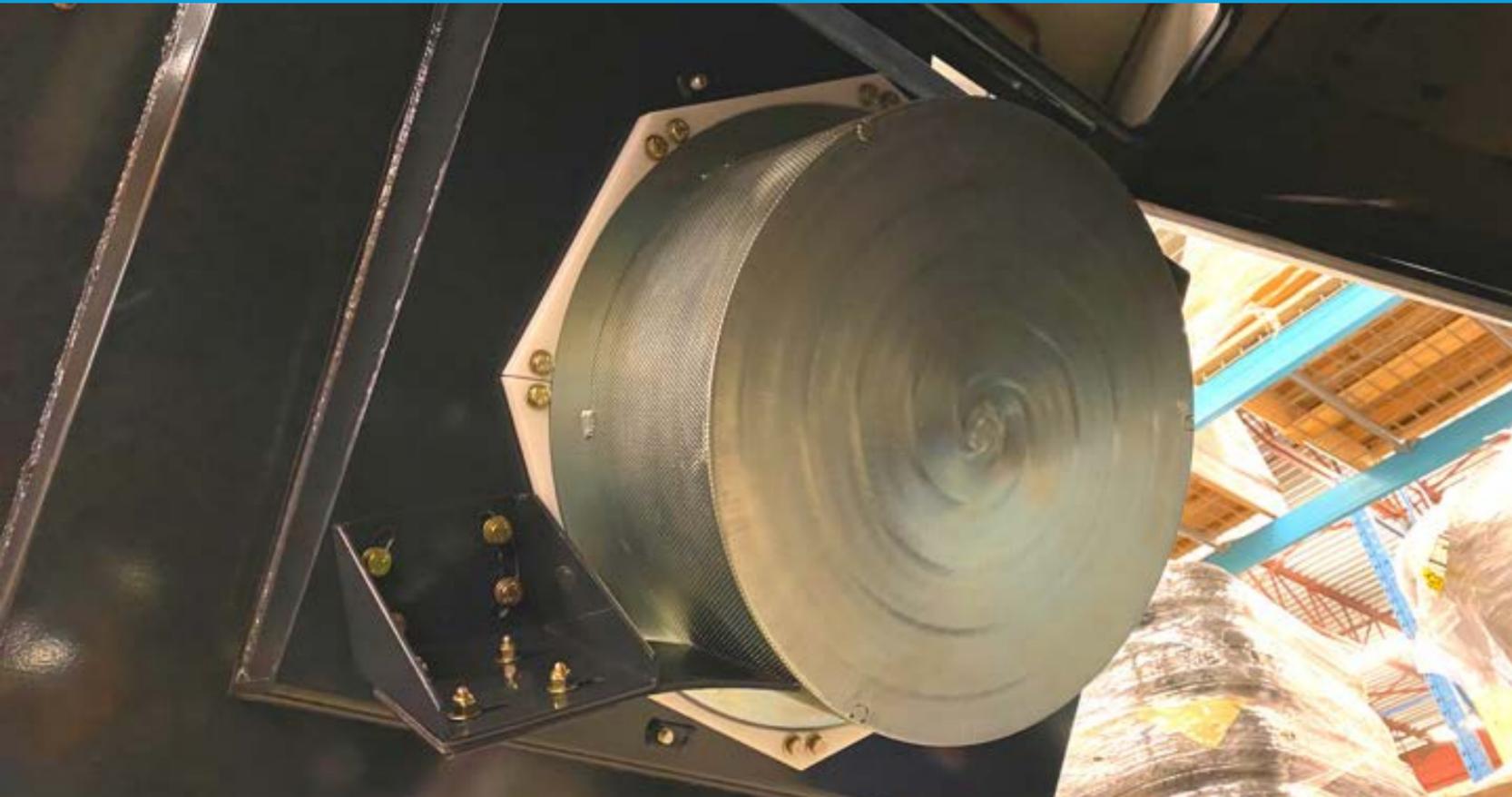
# 3-Stage Filtration System



## STAGE 1 - WATER (part 2)

Water is added inside the container (2 in. (50 mm) in height) to capture dust particles and debris that enter inside the container.

# 3-Stage Filtration System



## STAGE 2 - ROTARY FILTER

Self-cleaning, steel rotary filter inside the container allows air to flow out of the container while blocking larger particles and debris. Scrapper prevents litter from clogging the system.

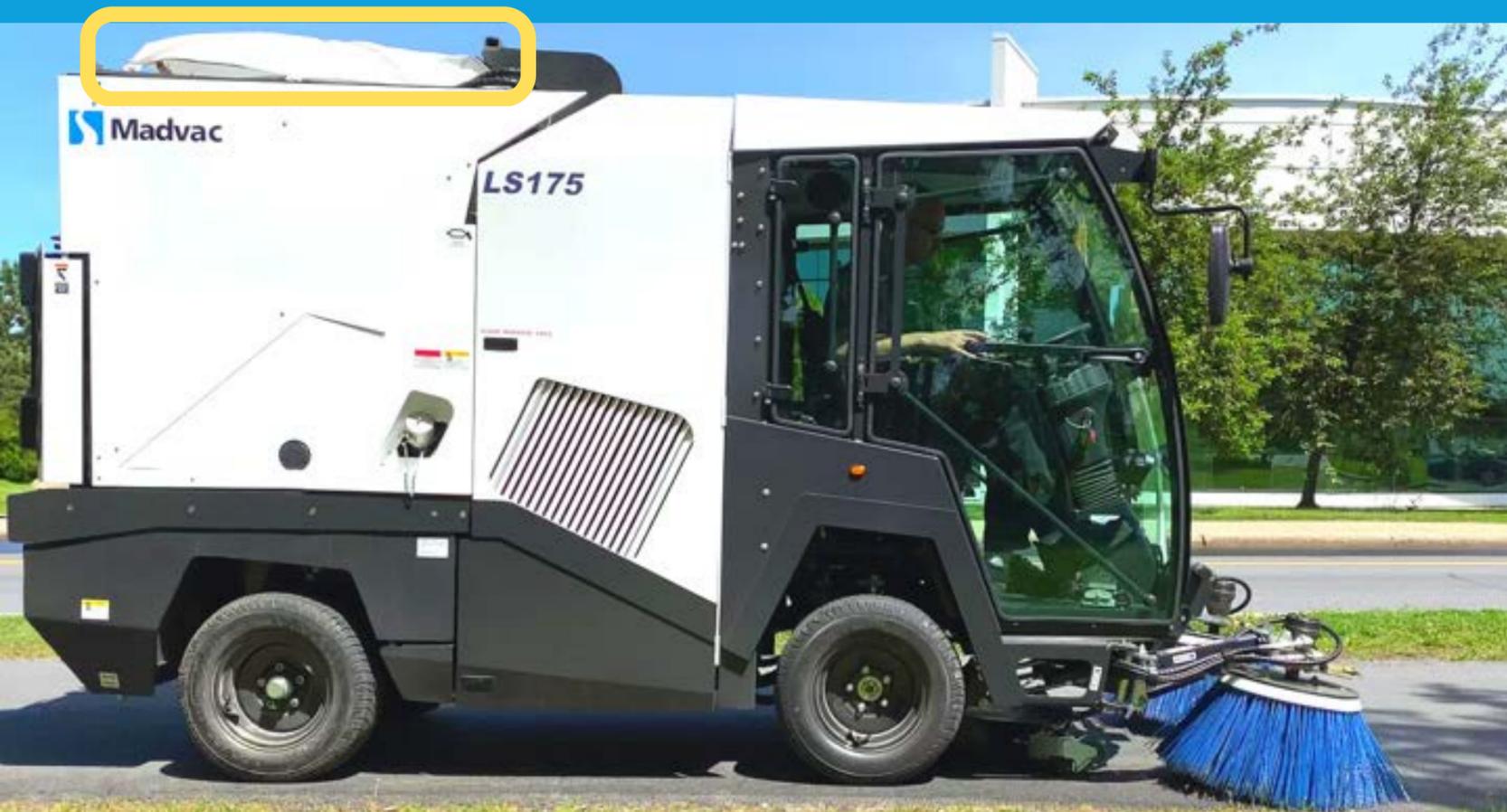
# 3-Stage Filtration System



## STAGE 3 - CARTRIDGE FILTRATION SYSTEM (OPTION 1)

Four MERV 15 filter cartridges on top of the machine secure any dust that water system and rotary filter did not contain.

# 3-Stage Filtration System



## STAGE 3 - BAG FILTRATION SYSTEM (OPTION 2)

Low profile heavy-duty filtration bag secures any dust that water system and rotary filter did not contain.

# Operator Safety

- Emergency stop button
- Fire extinguisher (optional)
- Tire flatproofing (optional)
- Audible engine warning system
- Backup alarm



# Safety Props

Two props prevent hopper from accidentally going down during maintenance or cleaning



Easy to engage and  
release

# Foot Step

For easy access to top of machine cartridge or bag filtration systems



# Rear-view Camera



7" (178 mm) rear-view camera system with TFT color monitor

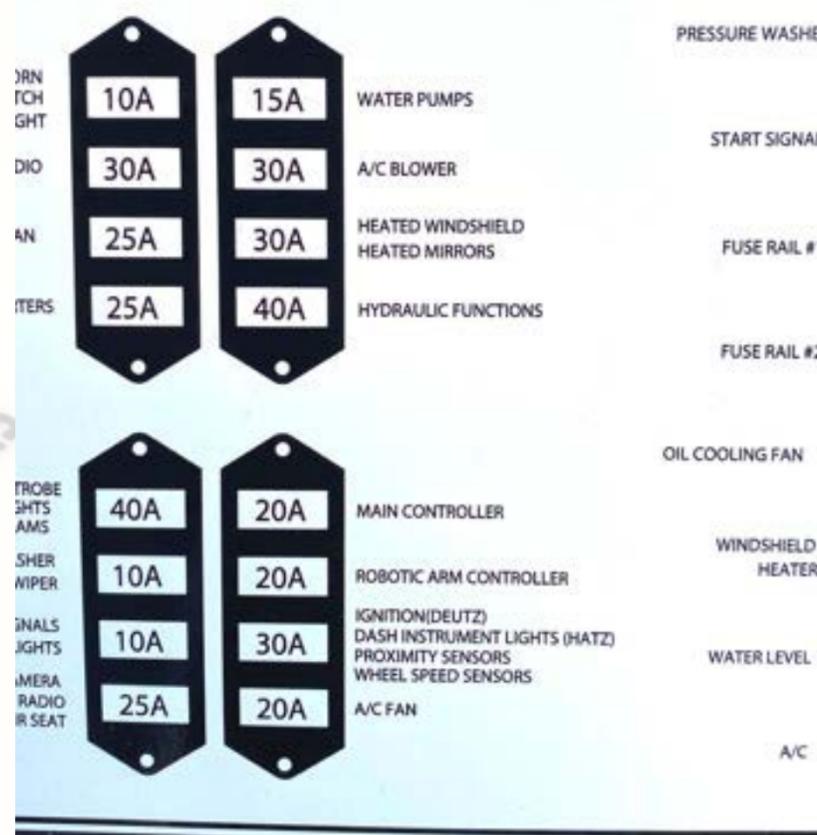


# Electrical Panel

- Easy access from inside the cab
- Single panel for entire machine
- Every groundline connected to a ground bar inside the panel



## FUSES & RELAYS CHART



# Side Doors

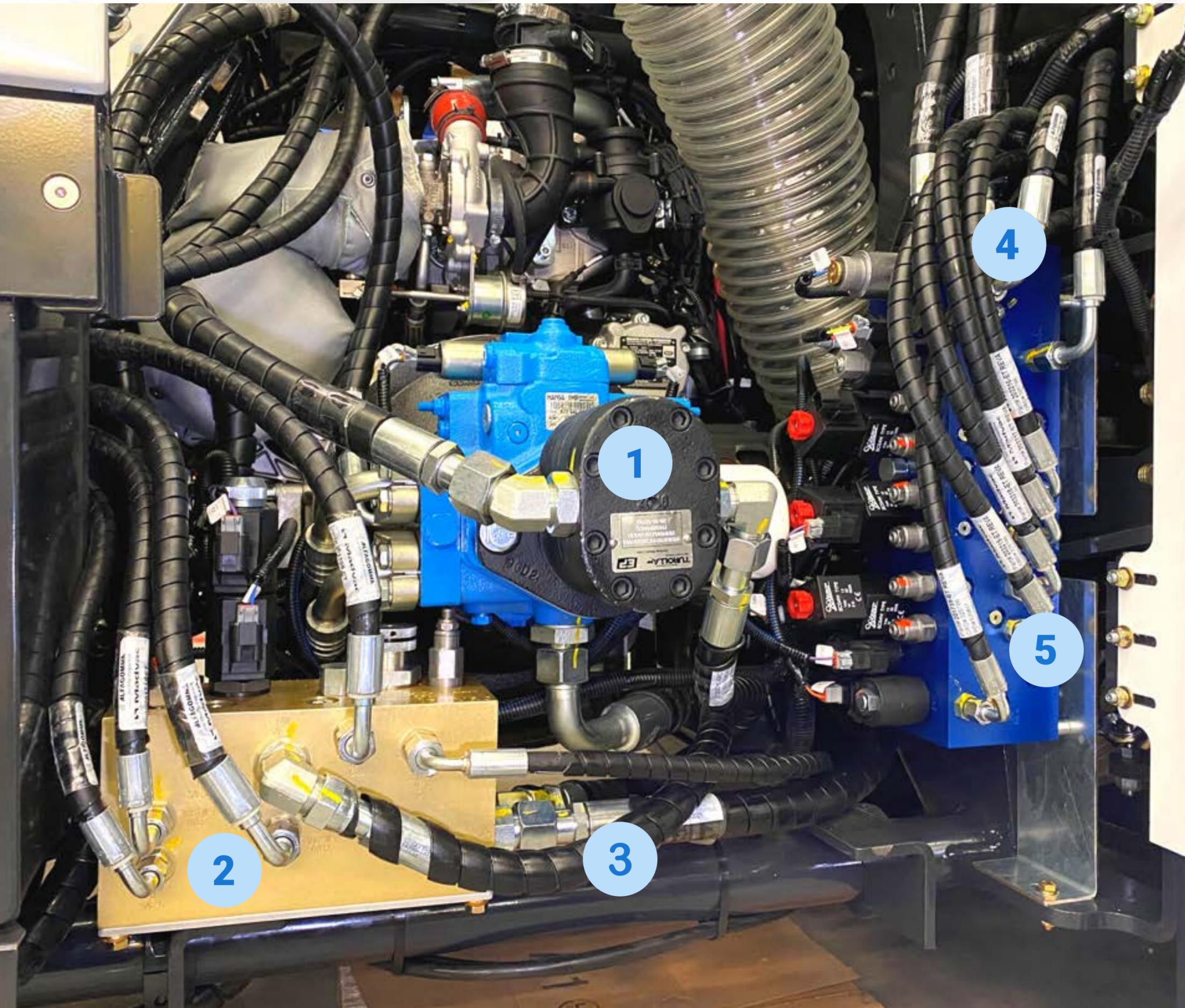
Doors on both sides of the machine allow quick access to all critical components of the unit including the retractable wander hose



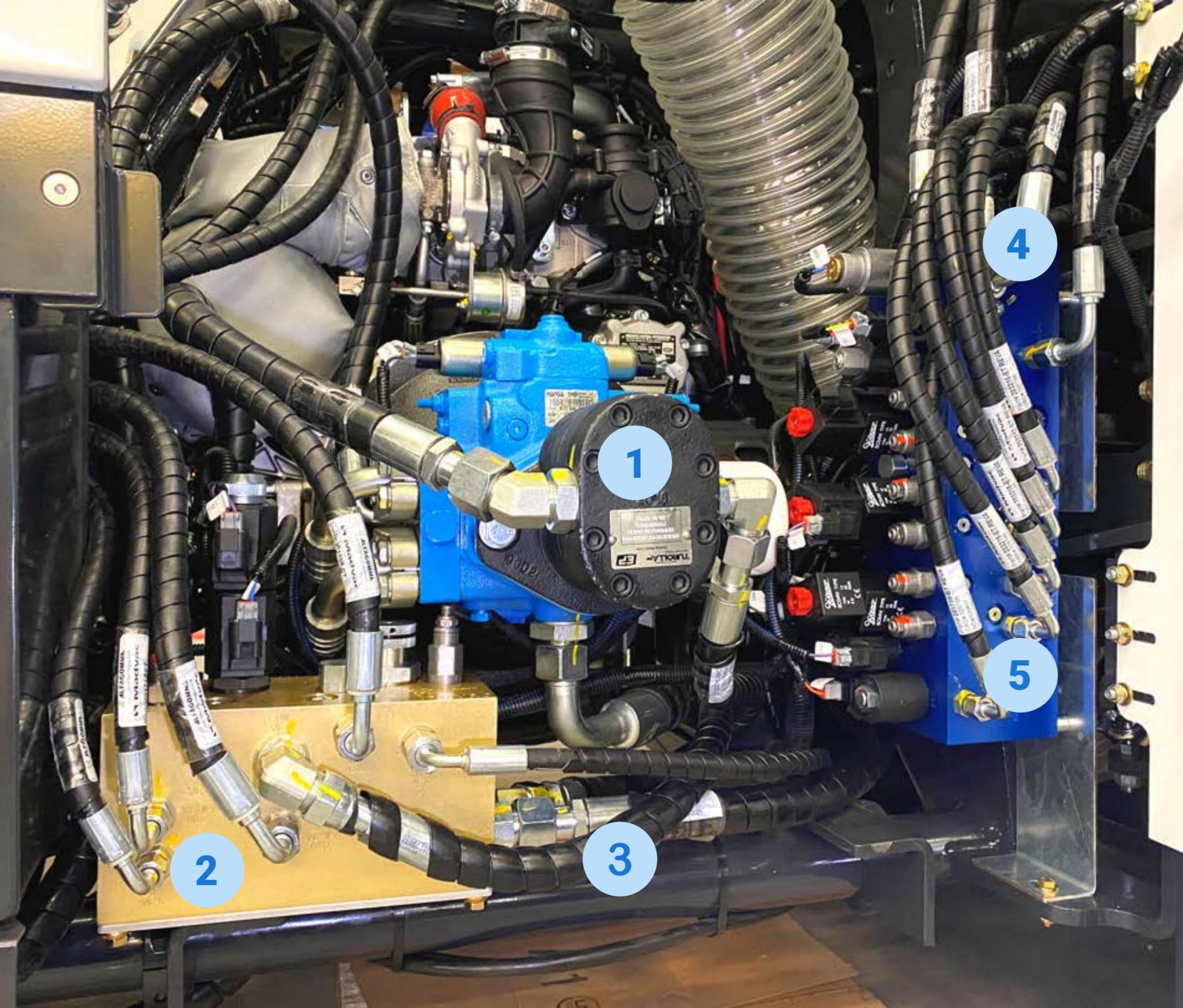
## Easy Access Critical Components

- 1 19 cc hydraulic pump
- 2 Hydraulic manifold

*The hydraulic manifold takes the pressure created by the hydraulic pump, and distributes the pressure to the vacuum fan, power steering, hopper lift, pressure washer and shredder*



## Easy Access Critical Components



- 3 Every hydraulic line is protected with plastic spiral wrap and identified with a part number
- 4 Every electrical connection is a Deutsch IP 67 connector
- 5 Compact hydraulic manifold for displacement of the brooms and broom rotation. Every hose and electrical connection is easily accessible

# Easy Access Critical Components

- 1 Mechanical inverter relay for the pick-up head
- 2 Powerful 12 v fan for the oil cooler with temp switch activation
- 3 Heavy duty hydraulic oil cooler
- 4 Large hydraulic oil return hose ensures no back pressure on the system
- 5 Easy access heavy duty water inlet



# Easy Access Critical Components

1

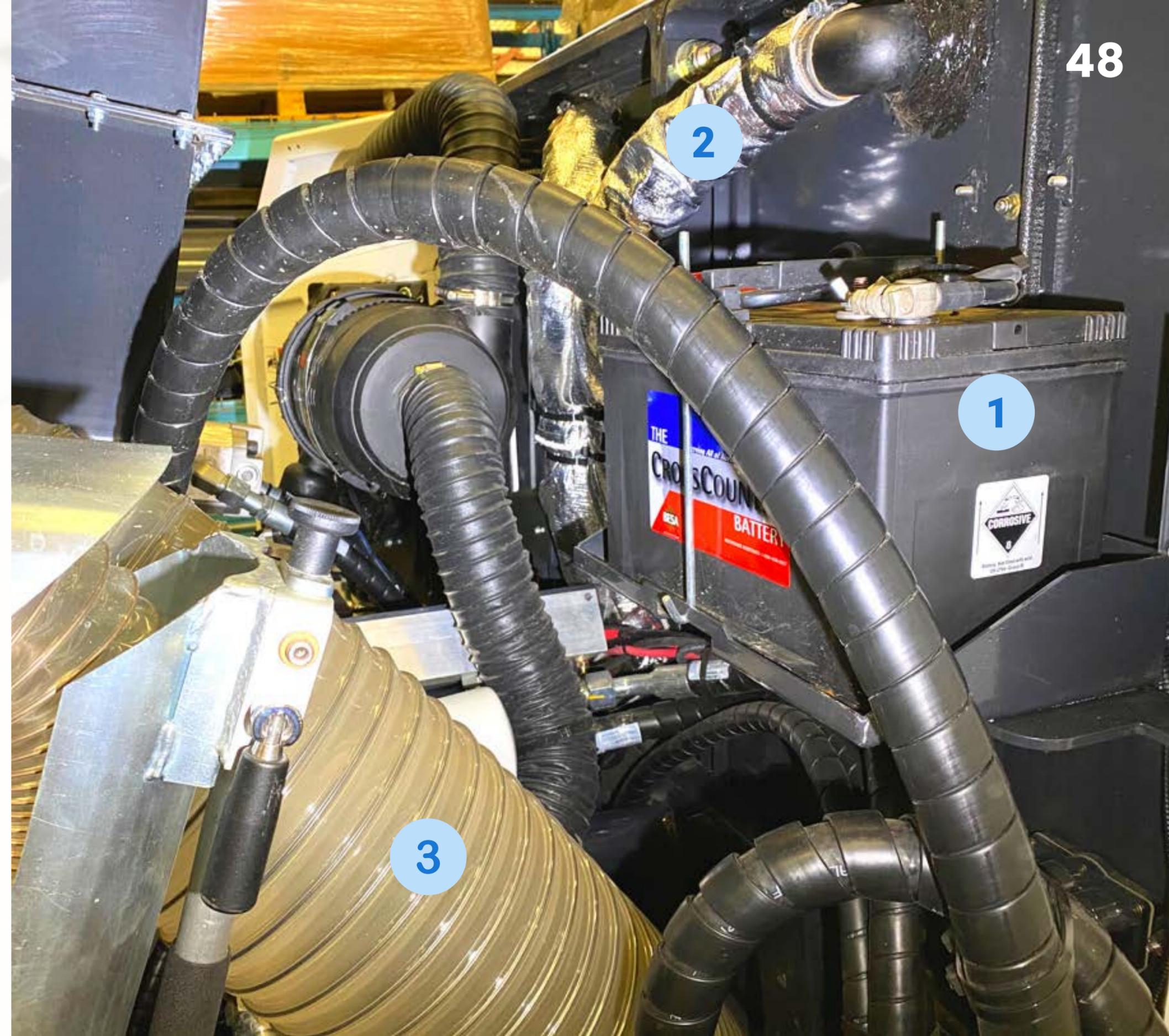
Deep cycle hybrid battery ensures crank power when starting the engine and delivers required voltage when operating the machine

2

Insulated duct for ventilation inside the cabin (AC and heater)

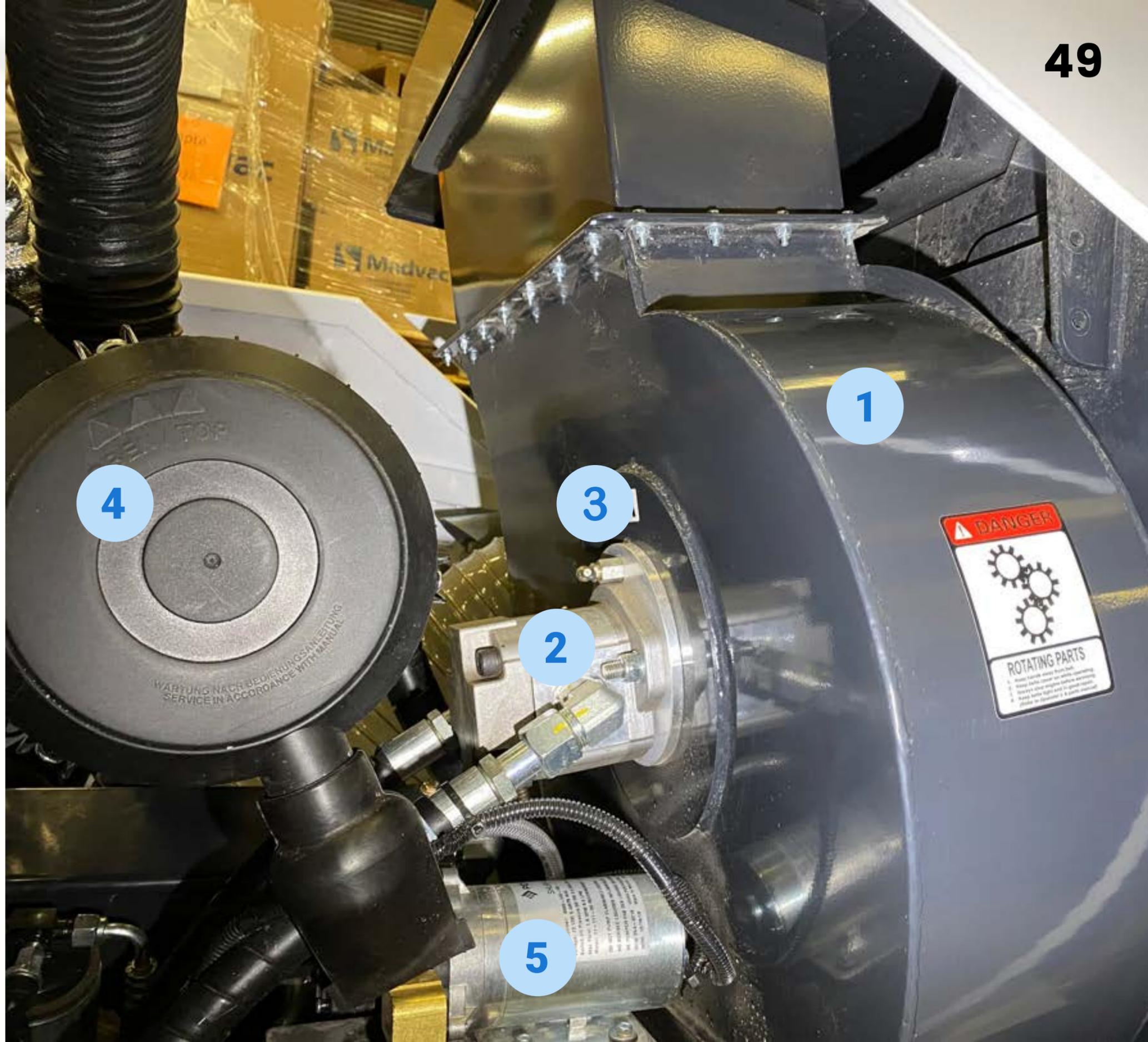
3

Clear 7" diameter suction hose - easy to see if any debris is clogging the hose

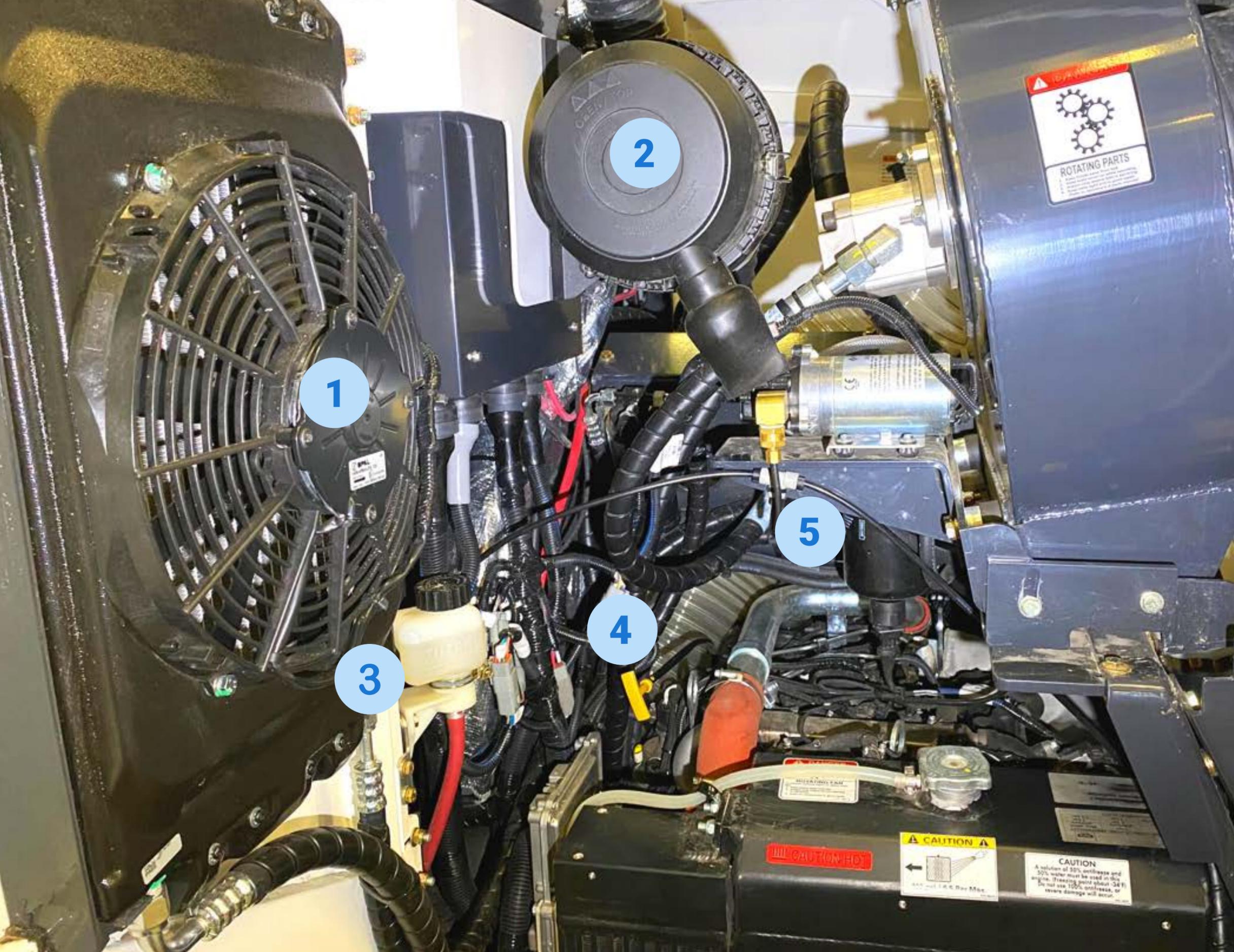


# Easy Access Critical Components

- 1 Optimized fan casing to prioritize air velocity
- 2 Hydraulic fan motor, easy access for maintenance
- 3 Lubrication point of the fan shaft preserves longevity of the motor seal
- 4 Original Hatz two staged intake air filter for the engine
- 5 12 v 50 psi electrical water pump with internal shut off switch



## Easy Access Critical Components

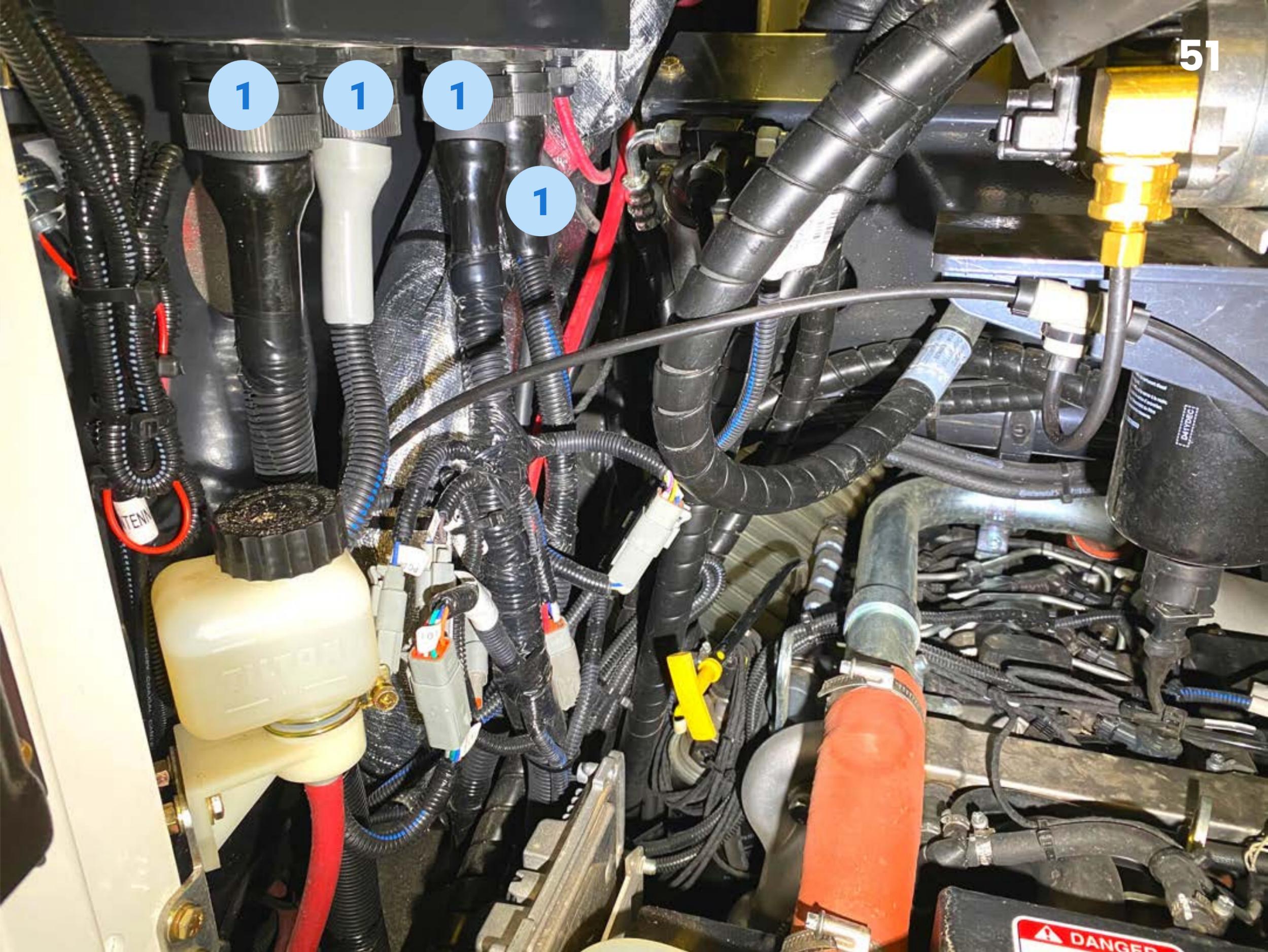


- 1 Condenser for AC system
- 2 Two-stage air filter for the engine
- 3 Brake fluid reservoir
- 4 Engine dipstick
- 5 Diesel separator acts like a pre-filter to ensure clean fuel is delivered to the engine

# Easy Access Critical Components

1

All electrical harnesses are connected to the main electrical box via IP 67 round Deutsch connectors



## Easy Access Critical Components



- 1 Engine coolant radiator
- 2 Air intercooler intake
- 3 BOSCH controller for the engine

To schedule a demo, request a quote, or for more information on the LS175 mini sweeper:



855-651-0444 (USA/Canada)

1-450-651-0444 (International)



info@exprolink.com



www.madvac.com



Sourcewell   
Formerly NJPA

 canoe  
procurement group of canada

awarded contract vendor #093021-EXP