Stewart-Amos Sweeper

Owners manual

STEWART-AMOS
Sweeper Co.

STARFIRE S-4XXL

SAFETY, OPERATION MAINTENANCE MANUAL

SN # 6010-6601 AND UP

LAST UPDATED March 2015

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SAFETY

Safety is always of prime importance when operating any type of machine or vehicle in the vicinity of people. All persons working with this unit are to be knowledgeable of the safety practices and features detailed in this section.

Safety Is A Shared Responsibility

Safety is everyone's responsibility. Working together with Safety as the prime objective will insure a safe work environment and reduce injuries.

The operator must become familiar with safe operating procedures and use the equipment in the fashion that it was intended. Routine inspections and maintenance will prevent premature wear, expensive downtime and ensure that the equipment functions as it is intended.

Recognize Safety Information

This is the safety alert symbol. When you see this symbol in the manual or on your machine, be alert to the potential for personal injury.

DANGER: Identifies the most serious hazard

WARNING: Identifies a potential hazard if safety precautions are not taken

CAUTION: Identifies a general safety precaution

Equipment Lockout

It is strongly recommended that a commonly known Equipment Lockout procedure be enforced at your work environment. This is a series of precautions designed to protect any personnel that is inspecting, cleaning, or repairing the equipment. The Lockout Procedure should include the following.

Apply Parking Brake.
Place hopper, hopper door in secure positions so that they can not accidentally fall. If required, install additional blocking devices such as hopper safety pins.
Turn off Auxiliary Engine.
With auxiliary engine off, turn key to run position and work hydraulic functions to relieve any residual pressure in the hydraulic system.
Remove keys from ignition.
Store keys in pocket or in a safe controlled area.
Place an "OUT OF SERVICE" sign on the steering wheel using a non-reusable fastener.
Place an "OUT OF SERVICE" sign on the front window.
Disconnect negative terminal from battery.

General Safety Precautions

Before Operating Machine

Read the operators manual, and the engine manual, to familiarize yourself with safe operating practices before operating the machine.
Read the chassis operator's manual thoroughly, to familiarize yourself with safe operating practices before operating machine.
Be sure all observers are clear of the machine at a safe distance.
Ensure mirrors, windows, lights, and monitor equipment (if equipped), are clean and adjusted properly at all times.
Do not enter hopper unless engine is shut off, key is removed, and there is a note posted indicating not to start the engine. (See Equipment Lockout).

When Operating Machine

Operate controls from the operator's station only.
Keep all riders off the machine.
Keep all safety shields in place.
Ensure the area is clear of any persons or possible obstructions.
Do not wear loose clothing or jewelry.
Do not leave the vehicle before it is brought to a complete stop and the parking brake is applied.
Be cautious while driving with an unevenly distributed load.
Inspect for overhead hazards (e.g. power lines) before raising the hopper.
Raise the hopper only on level ground.
Ensure the hopper has completely lowered and the hopper door is closed before moving the vehicle. Do not move vehicle with hopper up.
Do not stand under the hopper when it is in the dump position.

When Servicing Machine

Follow the Equipment Lockout procedure described above.
Install safety pins into holes in slide frame to prevent scissor frame from moving when servicing under the hopper. (See Safety Features).
Never work under a loaded hopper even with safety pins installed

Safety Features

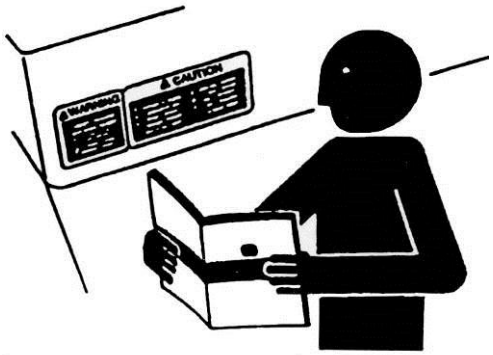
This machine is equipped with many safety features. To operate this equipment safely, it is imperative to be aware of these functions. Please read all of the features listed, as the order they are presented does not reflect the degree of importance. Some safety features listed are options and MAY or MAY NOT be on your unit.

If there are concerns, report to your supervisor or maintenance department.
Decals - These must be clean and visible at all times.
Mirrors - A variety of mirrors, including large convex ones, are to help ensure adequate rear vision. These must be properly adjusted, clean and visible at all times!
Cameras – All machines are equipped with side and rear cameras, if so equipped, they must be in proper working order at all times. The rear camera option is also wired to the chassis transmission, when the chassis is shifted into reverse the rear camera will automatically activate and will go off automatically when chassis is shifted out of reverse.
Marker Lights - There is 1 marker lamp on each side of the sweeper and an ID bar at the back on the elevator cover. Marker lights are wired direct to chassis lights and come on with chassis lights.
Beacon and/or Strobe Lights - The switch is installed in the sweeper control box inside the cab. The lights are mounted on the front canopy of sweeper.
Gutter Broom Lights - These lights are used for work lights and are mounted at both gutter brooms. The switch is found on the control box in the cab.
Main Broom Light - This light is used for a work light and is mounted on the drivers side at the back above the main broom. The switch for this work light is combined with the gutter broom light switch in the 3rd position.
Backup Alarm - When the truck is put into reverse this alarm sounds. The alarm is mounted to the rear canopy frame.
Hopper Safety Prop - If any work is to be done under a lifted hopper, insert props into the main frame roller rails. This will restrict any movement of the scissors frame sliders, thus keeping the hopper stable. NEVER use the safety pins to hold a LOADED HOPPER!
Arrow Board (option) - A separate control box mounted in the cab controls the arrow board mounted on the rear of the sweeper. A switch and pattern selector with indicator lights controls the order the light pattern.
Fire Extinguisher (option) - This is located in the cab behind the driver's seat.
First Aid Kit (option) - This is located inside the cab behind the driver's seat.

FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs.

Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your dealer.



Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life. If you do not understand any part of this manual and need assistance, contact your dealer.

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PREVENT BYPASS STARTING

Do not start engine by shorting across starter terminal.

Start engines only from operator's station with transmission in park.

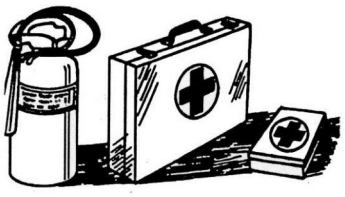
HANDLE FUEL SAFELY-AVOID FIRES

Handle fuel with care: It is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

PREPARE FOR EMERGENCIES



Be prepared if a fire starts.

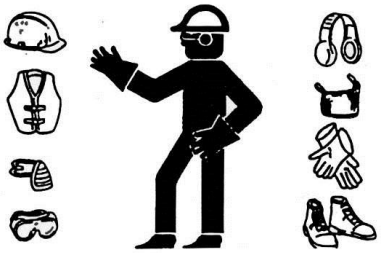
Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

NEVER USE STARTING FLUID

Starting fluid is highly flammable and can cause serious damage to engines.

WEAR PROTECTIVE CLOTHING



Wear close fitting clothing and safety equipment appropriate to the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

PROTECT AGAINST NOISE

Prolonged exposure to loud noise can cause impairment or loss of hearing

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises

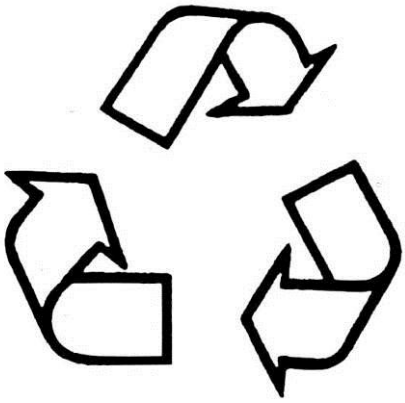
HANDLE CHEMICAL PRODUCTS SAFELY

Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with this equipment include such items as lubricants, coolants, paints, and adhesives

A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques

Check the MSDS before you start any job using a hazardous chemical. That way you will know exactly what the risks are and how to do the job safely. Then follow procedures and recommended equipment. (See your dealer for MSDS on chemical products used with this equipment.)

DISPOSE OF WASTE PROPERLY



Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with this equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leak proof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.
Do not pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire on the proper way to recycle or dispose of Waste from your local environmental or recycling center, or from your dealer.

PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all pats in good condition and properly installed.

Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

WORK IN VENTILATED AREA

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area.

REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.

If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

SERVICE COOLING SYSTEM SAFELY

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

AVOID HARMFUL ASBESTOS DUST

Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause cancer.

Components in products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates, and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding materials containing asbestos. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, apply a mist of oil or water on the material containing asbestos.
Keep bystanders away from the area.

STAY CLEAR OF ROTATING EQUIPMENT

Entanglement in rotating equipment can cause serious injury or death. Keep shields in place at all times.

Wear close fitting clothing. Stop the engine before making adjustments or performing any type service on the equipment.

DIESEL FUEL STORAGE

Proper fuel storage is critically important. Use clean storage and transfer tanks. Periodically drain water and sediment from bottom of tank. Store fuel in a convenient place away from buildings.

IMPORTANT: DO NOT store diesel fuel in galvanized containers. Diesel fuel stored in galvanized containers reacts with zinc coating on container to form zinc flakes. If fuel contains water, a zinc gel will also form. The gel and flakes will quickly plug fuel filters, damage injection nozzles and injection pump.

DO NOT use brass-coated containers for fuel storage. Brass is an alloy of copper and zinc.

FILLING FUEL TANK

CAUTION: Handle fuel carefully. Do not fill the fuel tank when engine is running. DO NOT smoke while filling fuel tank or servicing fuel system.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

Fill fuel tank at the end of each day's operation to prevent condensation in tank as moist air cools and freezes during cold weather.

Store diesel fuel in plastic, aluminum, or steel containers specifically coated for diesel fuel storage.

Avoid storing fuel over long periods of time. If fuel is stored for more than a month prior to use, or there is a slow turnover in fuel tank or supply tank, add a fuel conditioner to stabilize the fuel and prevent water condensation. Fuel conditioner also reduces fuel gelling and controls wax separation during cold weather.

Consult your engine distributor or servicing dealer for recommendations and local availability. Always follow manufacturer's directions on label.

WARRANTY INFORMATION

WARRANTY CERTIFICATE

Stewart-Amos Sweeper Co. warrants each new machine manufactured to be free from defects in material and workmanship under normal use and service. The obligation under this warranty is limited to replacing F.O.B. its factory, Harrisburg, PA:

Any PART and labor within ONE YEAR (twelve months) or ONE THOUSAND (1000) HOURS, whichever occurs first, after making delivery of such machine to the original purchaser. This warranty is expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on its part, and it neither assumes nor authorized any other person to assume for it any liability in connection with the sale, servicing or repair of any machine manufactured by it.

Stewart-Amos Sweeper Co. reserves the right to have any part being claimed for warranty returned, at customer expense, for inspection and determination that the part was factory defective.

Stewart-Amos Sweeper Co. reserves the right to make changes in design or to make additions to or improvements on its products previously manufactured.

Stewart-Amos Sweeper Co. – WARRANTY POLICY

Stewart-Amos Sweeper Co. provides warranty to the original purchaser of a new product, that the same is free from defects in materials and workmanship that may cause performance failures, subject to the conditions stated herein.

The warranty is limited to a period of one (1) year from the date of the original purchase or 1000 hours, whichever occurs first, included are parts and labor costs associated with the warranty.

GENERAL CONDITIONS

Stewart-Amos Sweeper Co. will honor warranty claims provided:

The unit is properly registered. Registration form is located at the front of the operator's manual. Registration form must be received by Stewart-Amos Sweeper Co. within 45 days of the sale. Failure to receive said warranty registration form within the prescribed time will cancel warranty coverage for the product.
The failure occurs within the warranty period and is covered under the terms of our written warranty.
The repairs are made and an authorized Stewart-Amos Sweeper Co. dealer has submitted a warranty claim within 30 days of completion of repair.
The unit has not been altered in any way without prior written approval by Stewart-Amos Sweeper Co.
All warranty repairs reimbursable must be performed by an authorized dealer using Stewart-Amos Sweeper Co. approved replacement parts. Failure to repair properly voids future warranty.

ITEMS NOT COVERED BY WARRANTY

Set-up and pre-delivery services, service calls, diagnostics, or after sales adjustments due to normal operations, including travel time/mileage.
Sweepers sold for use outside of North America.

Repairs, modifications or alterations to the machine without the express written consent of Stewart-Amos Sweeper Co.
Including but not limited to normal wear parts such as brooms, drag shoes, rubber deflectors, filters, oil, fuel, chains, belts, brakes or other wear parts.
Items that, in the opinion of Stewart-Amos Sweeper Co. have been subject to misuse, abuse, negligence, accident or improper maintenance.
Failures resulting from the machine being operated in a manner or for a purpose not recommended by Stewart-Amos Sweeper Co.
Rentals, consequential or collateral damage, down time costs, or lost revenue incurred due to a failure during the warranty period.
Consumables or shop supply materials such as paint, anti-freeze, oil, fuel, bolts.

ITEMS COVERED BY SEPARATE WARRANTIES

Parts and components such as the chassis, auxiliary engine, pump, motors, and other similar major components which are under separate warranties from their respective manufacturers. Service for these components can be obtained from their service facilities in the United States. In some circumstances, extended warranties are available at an extra cost. Please contact your Stewart-Amos Sweeper Co. dealer for information on these extended warranties.

THERE IS NO OTHER EXPRESS WARRANTY. ALL IMPLIED WARRANTIES OF MERCHANT LIABILITY AND FITNESS FOR USE ARE LIMITED TO THE DURATION OF THE EXPRESSED WARRANTY.

IT IS EXPRESSLY UNDERSTOOD THAT STEWART-AMOS SWEEPER CO. WILL NOT BE LIABLE FOR ANY OTHER INJURY, LOSS, DAMAGE OR EXPENSE, WHETHER DIRECT OR CONSEQUENTIAL, INCLUDING BUT NOT LIMITED TO LOSS OF USE, INCOME, PROFIT OR PRODUCTION, OR INCREASED COST OF OPERATION, OR SPOILAGE OF OR DAMAGE TO MATERIAL, ARISING IN CONNECTION WITH THE SALE, INSTALLATION, USE OF, INABILITY TO USE, OR THE REPAIRS OR REPLACEMENT OF STEWART-AMOS SWEEPER CO.'S PRODUCTS.

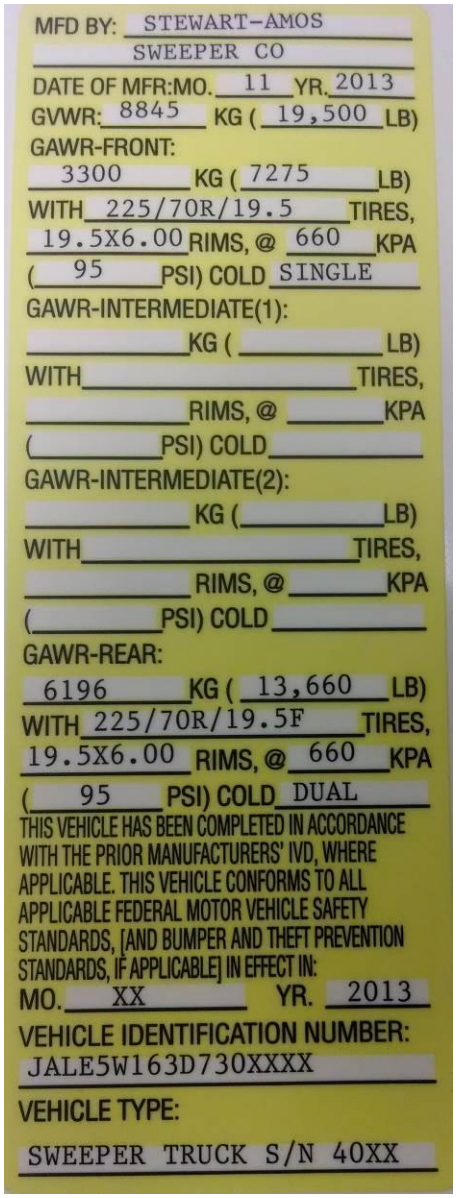
STEWART-AMOS SWEEPER CO. RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN OR TO MAKE ADDITIONS OR IMPROVEMENTS ON ITS PRODUCTS WITHOUT IMPOSING ANY OBLIGATION UPON ITSELF TO INSTALL THEM ON ITS PRODUCTS PREVIOUSLY MANUFACTURED.

General Specifications

Serial Number Location

The Serial Number Identification Plate is easily found inside the cab on the driver's side rear corner panel or on the door jam, depending on model of truck. See Figure 1: below.

The Serial Number must be quoted whenever ordering parts, requiring technical support, or warranty. It ensures that you are assisted as efficiently and quickly as possible.


MFD BY: STEWART-AMOS
SWEEPER CO
DATE OF MFR:MO. 11 YR. 2013
GVWR: 8845 KG (19,500 LB)
GAWR-FRONT:
3300 KG (7275 LB)
WITH 225/70R/19.5 TIRES,
19.5X6.00 RIMS, @ 660 KPA
(95 PSI) COLD SINGLE
GAWR-INTERMEDIATE(1):
KG (LB)
WITH TIRES,
RIMS, @ KPA
(PSI) COLD
GAWR-INTERMEDIATE(2):
KG (LB)
WITH TIRES,
RIMS, @ KPA
(PSI) COLD
GAWR-REAR:
6196 KG (13,660 LB)
WITH 225/70R/19.5F TIRES,
19.5X6.00 RIMS, @ 660 KPA
(95 PSI) COLD DUAL
THIS VEHICLE HAS BEEN COMPLETED IN ACCORDANCE WITH THE PRIOR MANUFACTURERS' IVD, WHERE APPLICABLE. THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS, [AND BUMPER AND THEFT PREVENTION STANDARDS, IF APPLICABLE] IN EFFECT IN:
MO. XX YR. 2013
VEHICLE IDENTIFICATION NUMBER:
JALE5W163D730XXXX
VEHICLE TYPE:
SWEEPER TRUCK S/N 40XX

Standard Equipment

The following information is for your reference. Please note this section is based on standard equipment.

Chassis*

Freightliner Truck Specifications

Model:	M2 106 Business Class
Maximum GVWR of chassis:	32,500 lbs
Minimum Wheelbase:	156”
Axle Width:	96”
Engine:	CUM ISB 6.7-240
Horsepower:	240 hp @ 2,400 rpm
Torque:	620 lb-ft @ 1,600 rpm
Alternator:	160 AMP
Transmission:	Allison 2500 HS Automatic, 5 speed
Steering:	Power with fixed wheel
Axle GVW	Front 10,000 lbs, Rear 23,000 lbs
Brakes:	Air, Cam, Double Anchor Front/Rear
Tires:	245/75R 22.5, 14 Ply Radials
Fuel Capacity:	50 US gallons

Chassis instrumentation*

Speedometer
Fuel gauge
Coolant temperature gauge
Air cleaner restriction gauge
Parking brake control
Low battery light
Low coolant level light w/ chimes
Low oil light w/ chimes

Mounted Specifications*

Weight:	(Freightliner M2 chassis)(approx.)	21,180 lbs
Front	(M2 chassis)(approx.)	6,920 lbs
Rear	(M2 chassis)(approx.)	14,120 lbs
Suspension	(M2 chassis)	Full time air ride
Suspended height	(M2 chassis)(approx.)	40” to top of frame
Overall Length:	(based on 156” wheelbase)	240”
Sweeping Width:	(w/two gutter brooms)	120 – 130”
Overall Height:	Sweeping/transport (approx.)	118”/126”

Auxiliary engine / sweeper instrumentation

Tachometer
Hour meter
Oil pressure gauge
Water temperature gauge

* Based upon information at time of Publication. Actual may vary.

Engine (auxiliary)*

Manufacturer:	Kubota
Model:	V2403-M-T-E
Displacement:	121.94 in3
Rated HP:	59 hp @ 2800 rpm
Alternator:	40 AMP
Configuration:	Inline – 4 cylinder

Dirt Hopper

Volumetric Capacity:	5.0 cu. Yards
Type of dump:	Right side dump
Maximum dump height:	12 ft. 2 in.
Minimum dump height:	16 in.
Dumping capacity:	10,000 lbs

(It is not recommended to exceed maximum GVWR of chassis)

Elevator

Squeegee-type system
Hydraulic direct drive: Variable speed and reversible

Main Broom

Mandrel:	Chevron Strip
Mandrel diameter:	11 in.
Mandrel length:	58 in.
Filled diameter:	36”
Segment material:	Polypropylene
Hydraulic direct drive:	Variable speed and reversible,

Gutter Broom

No. of brooms:	2
Diameter: std/optional	42”/54”
No. of segments:	5 per broom
Hydraulic direct drive:	Variable speed and reversible
Broom adjustments:	Pressure & wear, side to side angle, front to back angle and sweep path width
Controls:	Up/down/float, forward/reverse, retract/extend
Design:	Free-floating spring suspension
	In-cab tilt (optional)

Lighting System

2 – Halogen headlights, rectangular
4 – Stop/tail/turn lights on rear
Cab marker lamps and rear clearance lamps
Warning beacon and Emergency flasher lamps
Back-up lamps, automatic with audible alarm
License plate lamp
2 – GB working lights
1 – Rear working light

Hydraulic System

Tank Capacity:	45 US. Gallons
Pump:	Tandem gear
Pump Capacity:	12 gpm/12 gpm @ 2000 rpm
Controls:	Electric over hydraulic
Hydraulic drive motors:	All interchangeable
Hydraulic fluid cooler:	Air to oil
Hydraulic Pressures:	RH Valve Stack 2850 psi @ 2000 rpm
	LH Valve Stack 2350 psi @ 2000 rpm
Hydraulic Stall Alarm Pressure:	2300 psi @ 2000 rpm

Water System

Tank capacity:	330 US. Gallons
Tank material:	Polyethylene
Electric pump (1):	3.6 gpm
Water system material:	All non-ferrous material

For a complete list of specifications and options available, please contact your nearest dealer.

Controls

Engine Controls

Refer to this section to quickly find out what each control does on the control panel. Do not use these controls however, until you have thoroughly read and understood the OPERATION Section. The OPERATION Section outlines how each control is to be used for safe operation.

(Refer to Figure 2: Engine Control Box)

The Control Box is generally located on a pedestal inside the cab. All Sweeper control buttons, rocker switches, and indicator-warning lamps are housed here. They are easily accessible to the driver from both left or right driving positions.

A brief description of the indicators and controls fitted in the Control Box are as follows:

(Refer to Figure 2: Engine Control Box)

Tachometer – Indicates the auxiliary engine RPM.

Hour Meter – Indicates the hours of operation of the auxiliary engine only.

Oil Pressure Gauge – Should the auxiliary engine oil pressure drop below the manufacturer specified minimum oil pressure of 69 kPa (10 psi), the automatic engine shut off system will be activated

Volt Meter – Measures the voltage of the batteries that are common with the chassis.

Coolant Temperature Gauge – If the auxiliary engine coolant temperature rises above 1000 C (2120 F) the automatic engine shut off system will be activated.

Ignition Key Switch – This main power switch starts the auxiliary engine enabling all sweeping functions. (See "Operating Auxiliary Engine").

Glow Plug Position – Turn the starter switch to the "PREHEATING" position to allow the glow lamp to redden. The glow lamp goes out in about 30 seconds when the lamp timer is up. Even with the glow lamp off, the glow plug can be pre-heated by turning the starter switch to the "PREHEATING" position. Turn the key to the "START" position and the engine should start. Release the key immediately when the engine starts. This operation is not required when the engine is warmed up.

Start Position - Turn ignition key to the start position to start auxiliary engine. When engine starts release key and switch will automatically return to the run position. If engine does not start within 15 seconds of turning starter over, return to step 2.

Figure 2: Engine Control Box

Sweeper Controls

Refer to Figure 3: Sweeper Control Box

LH GUTTER BROOM TILT UP / DOWN – This function is used to clean out deep gutters or depressions in the sweeping surface. When the switch is pressed to the LH GUTTER BROOM TILT DOWN position, the gutter broom will pivot down on the inside of the brush plate. When the switch is pressed to the LH GUTTER BROOM TILT UP position, the gutter broom will pivot up on the inside of the brush plate.

BEACON LIGHT ON – Turns both the front and back strobe light on and off.

RH GUTTER BROOM TILT UP / DOWN - This function is used to clean out deep gutters or depressions in the sweeping surface. When the switch is pressed to the **RH GUTTER BROOM TILT DOWN** position, the gutter broom will pivot down on the inside of the brush plate. When the switch is pressed to the RH **GUTTER BROOM TILT UP** position, the gutter broom will pivot up on the inside of the brush plate.

BROOMS UP/DOWN – This switch lifts/lowers the rear broom and elevator and must be pushed and held in the up/down position until the function is complete. To lower, push down and hold the switch until rear broom is fully down, then release. When the brooms are fully down, the hydraulic cylinders will bottom and pull the engine rpm down as the hydraulic oil is dumped over the relief valve. The gutter brooms will lift/lower with the rear broom if they are activated (see: LH / RH GUTTER BROOM UP / DOWN SWITCHES). The switch is interlocked through a proximity switch with the HOPPER UP/DOWN function to prevent the hopper from interfering with the elevator and will not function unless the light in the center of the switch is on. When the brooms are down they are designed to float to accommodate uneven pavement.

GB LIGHTS ON / GB/MB LIGHTS ON – This is a three-position switch which controls both gutter broom lights and main broom lights. When switch is in the “GB LIGHTS ON” position both gutter broom working lights will be on. When the switch is in the “GB/MB LIGHTS ON” position both gutter broom lights as well as the rear main broom work light will be on. When the switch is in the middle position all working lights will be off.

SWEEP FORWARD / SWEEP REVERSE – This switch controls the direction of rotation of the main brooms and the elevator. The switch is interlocked through a proximity switch with the BROOMS UP/DOWN function to prevent the brooms from rotating without being lowered and will not function unless the light in the center of the switch is on. When the switch is in the “SWEEP FORWARD” position the rear main broom will rotate horizontally against the direction of travel which throws the material into the elevator. The elevator rotates dragging the material up the floor and depositing it in the hopper. When the switch is in the “SWEEP REVERSE” position the main broom and elevator will rotate in the opposite directions. The “SWEEP REVERSE” function dislodges any material that may have obstructed the elevator. This switch will not function unless the light in the center of the switch is on.

HOPPER UP / DOWN – This switch controls the hopper up and down function. The hopper can only be raised when the chassis park brake is applied. To raise the hopper, press and hold the spring-loaded switch to the “HOPPER UP” position. This will raise the hopper at the same time the stabilizers go down. To lower the hopper, press the switch to the “HOPPER DOWN” position. The stabilizers will not retract until the hopper is completely down with the door closed, then they will retract automatically. If the switch is not being depressed it will automatically return to the center or hold position. The hopper will maintain its current position if the switch is not depressed in either direction. This switch will not function unless the light in the center of the switch is on. The switch is interlocked through a proximity switch with the BROOMS UP/DOWN function to prevent the hopper from raising without having the brooms up and will not function unless the light in the center of the switch is on. This is to protect the hopper from interfering with the elevator.

WATER – This switch controls the water used for dust control. When the switch is in the up position, the water pump will go on and off with the sweep forward function to extend water supply. When the switch is in the down position the water pump will be on continuous function.

HOPPER DUMP / RETRACT – This switch controls the hopper dumping function. The hopper can only be dumped when the chassis parking brake is applied. The hopper can be dumped at any height in the lift cycle. When the hopper has been raised to the desired height, press and hold the switch in the "HOPPER DUMP" position until the hopper is fully tipped with the door open. To return the hopper to the retracted position press and hold the switch in the "HOPPER RETRACT" position until the hopper is fully retracted. At any time in the dumping cycle the switch can be released and the hopper will hold that position. The switch is interlocked through a proximity switch with the BROOMS UP/DOWN function to prevent the hopper from interfering with the elevator function. This switch will not function unless the light in the center of the switch is on.

LH GUTTER BROOM UP / DOWN – This switch controls the independent operation of the left hand gutter broom only. When the switch is in the center position the gutter broom will stay up when the rear main broom is lowered. When the switch is in the "LH GUTTER BROOM DOWN" position the gutter broom will go up/down and turn on/off with the rear main broom. When the rear main broom is down and the gutter broom is operating in the lowered position and you wish to turn off the left gutter broom only, push and hold the switch to the "LH GUTTER BROOM UP" position until the gutter broom is fully up then release the switch. When the switch is released the gutter broom rotation will stop and the switch will automatically return to the center position.

RH GUTTER BROOM UP / DOWN – This switch controls the independent operation of the right hand gutter broom only. When the switch is in the center position the gutter broom will stay up when the rear main broom is lowered. When the switch is in the "RH GUTTER BROOM DOWN" position the gutter broom will go up/down and turn on/off with the rear main broom. When the rear main broom is down and the gutter broom is operating in the lowered position and you wish to turn off the right gutter broom only, push and hold the switch to the "RH GUTTER BROOM UP" position until the gutter broom is fully up then release the switch. When the switch is released the gutter broom rotation will stop and the switch will automatically return to the center position.

LH GUTTER BROOM EXTEND / RETRACT – This switch moves the gutter broom in or out from the body and adjusts the sweeping path width. The gutter brooms must be manually adjusted between sweeping and transport.

RH GUTTER BROOM EXTEND / RETRACT – This switch moves the gutter broom in or out from the body and adjusts the sweeping path width. The gutter brooms must be manually adjusted between sweeping and transport.

GB SWEEP FORWARD/REVERSE – This switch controls the direction of rotation of the gutter brooms only. The switch is interlocked through a proximity switch with the BROOMS UP/DOWN function to prevent the gutter brooms from rotating without being lowered and will not function unless the light in the center of the switch is on. When the switch is in the "SWEEP FORWARD" position the gutter brooms, if they are activated (see: LH / RH GUTTER BROOM UP / DOWN SWITCHES), will rotate so that the leading edge of the brooms move material to the center of the machine. When the switch is in the "SWEEP REVERSE" position the gutter brooms will rotate in the opposite directions. This function is used to sweep any material off the shoulder that is to large to be picked up. This switch will not function unless the light in the center of the switch is on.

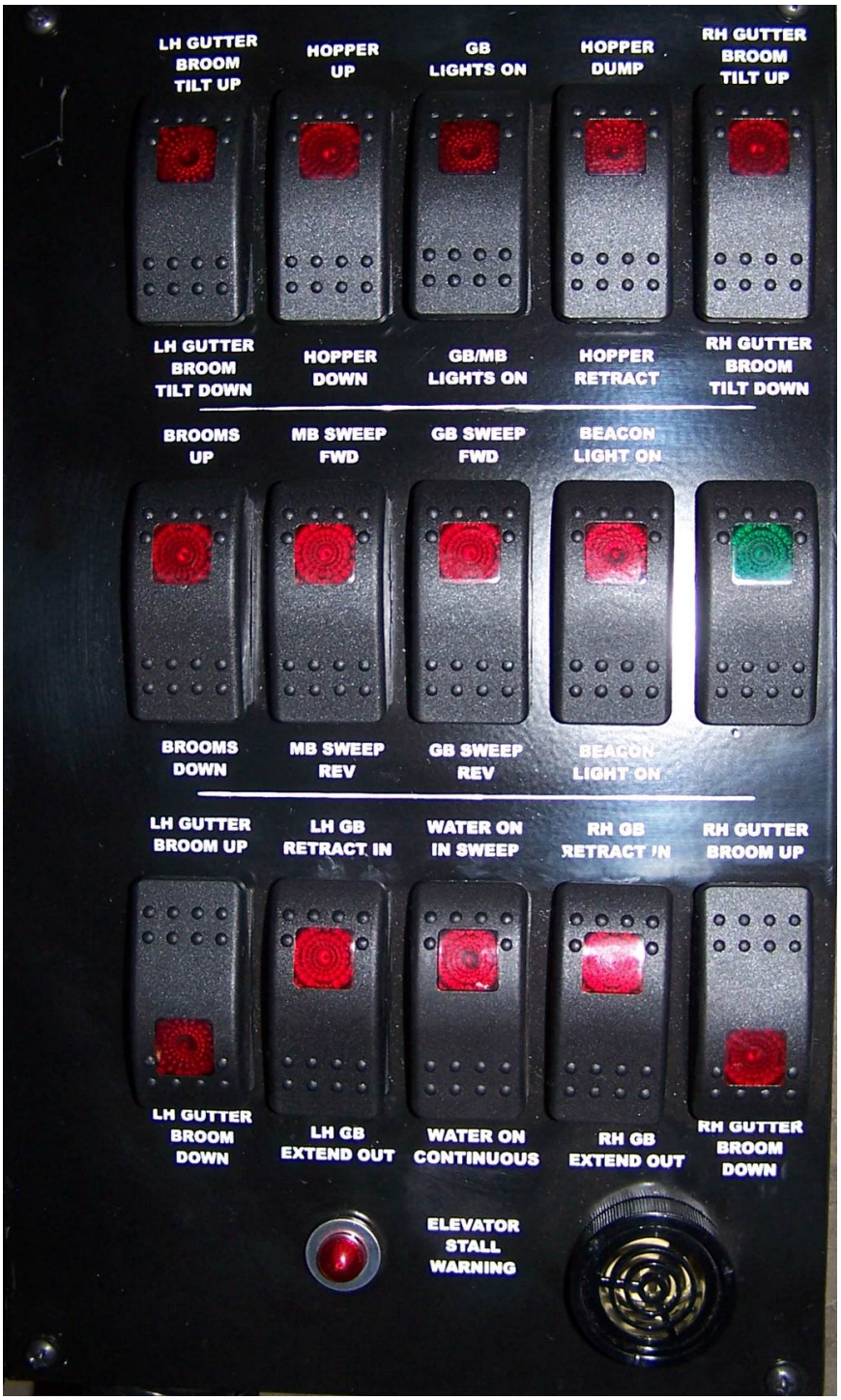


Figure 3: Sweeper Control Box SN 8206 and up

Operation

Auxiliary Engine

IMPORTANT: Before starting the auxiliary engine, check the SERVICE section in this manual and perform scheduled maintenance for the required service period.

Read the auxiliary engine instruction manual before operating engine.
Check the auxiliary engine fuel, oil, coolant, and hydraulic oil levels.
Make sure that all sweeper control switches are in the neutral positions and the park brake is engaged.
Turn the starter key to the start position and release as soon as the engine starts. Do not crank engine for more than 10 seconds at a time or starter damage may occur.
If the engine does not start on the first try, wait for 30 seconds before trying again.
Once the engine is running, check the gauges. Allow the engine to warm up at 1000 rpm for 10 minutes.

IMPORTANT: When the auxiliary engine is no longer required to run the sweeper controls, let the engine run at low idle for three to five minutes before shutting the engine off. This allows the engine to properly cool.

CAUTION: If the engine stalls during normal operation, restart it immediately to prevent excessive heat build up.

Recommended engine speed while sweeping is 2400 – 3000 rpm.
Minimum oil pressure is 15 psi at 700 rpm at normal operating temperature.
Normal engine coolant temperature is 1800 – 2020 F).

NOTE: It is a good practice to operate the engine under a lighter load and at lower speeds for the first 30 minutes after start up.

Water Fill Up

(Refer to Figure 4: Water Tank)

The water tank can be filled with a hydrant hose at the main fill location (B).

IMPORTANT: The water tank is equipped with a 3” air gap to help prevent damage to the water tank when filling from a hydrant as well as siphoning back to hydrant. However, care must be taken when filling from a high-pressure source.

Open the water shut off (C). Access to the valve is gained through the right rear canopy door on the sweeper. After filling the water tank, close valve (C) to close the canopy door. This prevents dirt from accumulating in water tank.

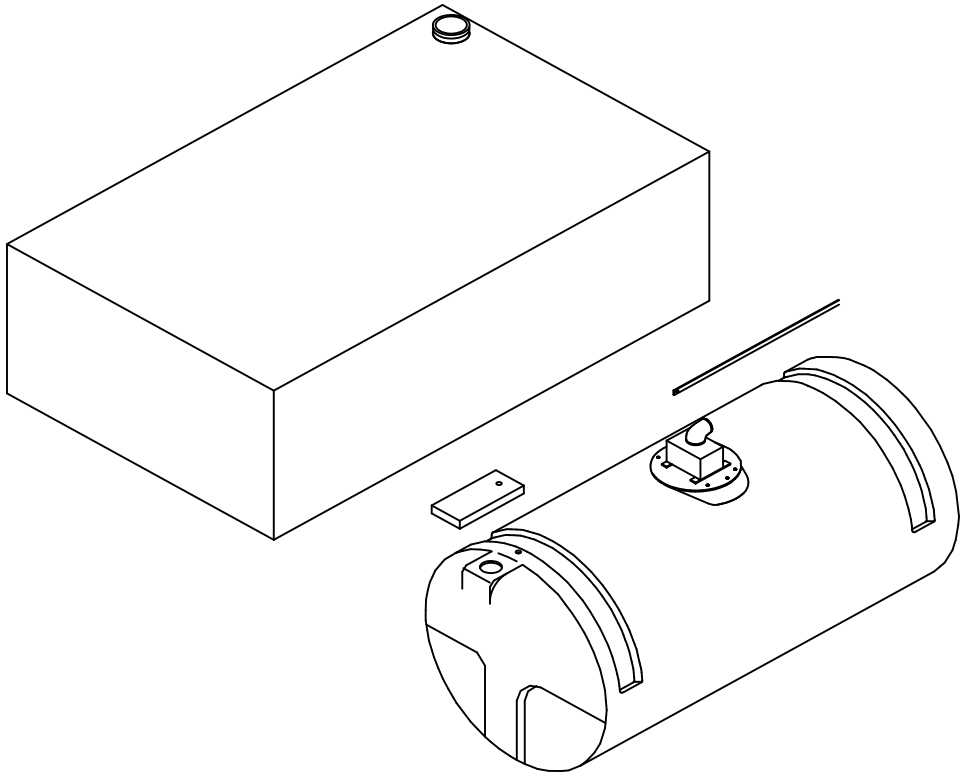


Figure 4: Water Tank

Elevator Wash Out

Hook the hydrant hose to a water supply, with the water valve closed.
With the auxiliary engine idling, ensure the hopper is fully lowered by depressing the HOPPER UP/DOWN switch to the “DOWN” position.
Lower the main broom.
Have the auxiliary engine running between 1000 – 1200 rpm.
Turn main broom sweep forward on.
Turn water supply on while running the brooms. This will wash the elevator.

Sweeping

With the engine idling, ensure the hopper is fully lowered by depressing the HOPPER UP/DOWN switch to the “DOWN” position.
Run the auxiliary engine at 2400 – 3000 rpm. This is the rpm range for normal sweeping.
Lower the brooms and elevator into sweeping position by depressing the BROOMS UP/DOWN switch to the “DOWN” location.
Press the SWEEP FORWARD switch to the “FORWARD” sweep position. The gutter brooms and main broom will begin turning.
For dust control suppression press the WATER ON switch to the “ON” position. The water pump will begin operating to activate pressure spray to the front/rear spray bar and the gutter broom nozzles.

WARNING: Ensure all observers are clear of the sweeper at a minimum, distance of 10 feet.

NOTE: If the main broom and/or elevator become plugged with debris, push the SWEEP FORWARD /REVERSE switch to the center position. Then reverse the rotation by holding the switch in the “REVERSE” position. Once the main broom and elevator are free of debris, release the switch.

NOTE: When sweeping is extremely heavy, it is advisable to sweep with the truck moving as slow as possible.

WARNING: It is unlawful to exceed the GVWR of the chassis. Care must be taken not to, overloading conditions will also void warranty.

Dumping

IMPORTANT: When the hopper is full, it must be dumped before sweeping can continue. The hopper can only be raised or dumped when the chassis park brake is applied.

Push the SWEEP switch to the center position to stop all rotation of the gutter brooms and main broom. Then lift the brooms and elevator by depressing the BROOMS UP/DOWN switch to the "UP" position. Do not operate the hopper until all brooms are lifted and are secure. Return the SPRAY switch to the center position to turn off the water pump.
Drive to an appropriate level and stable dump area.

WARNING: The sweeper must be positioned on level and stable ground while dumping to prevent serious injury or damage. If raising and dumping the hopper is not done on level and stable ground, the lifting arms, frame and canopies may be damaged. Failures resulting from the machine being dumped on uneven ground will void the warranty.

WARNING: Always check BEHIND and ABOVE sweeper before backing up or raising the hopper! Serious damage may result otherwise.

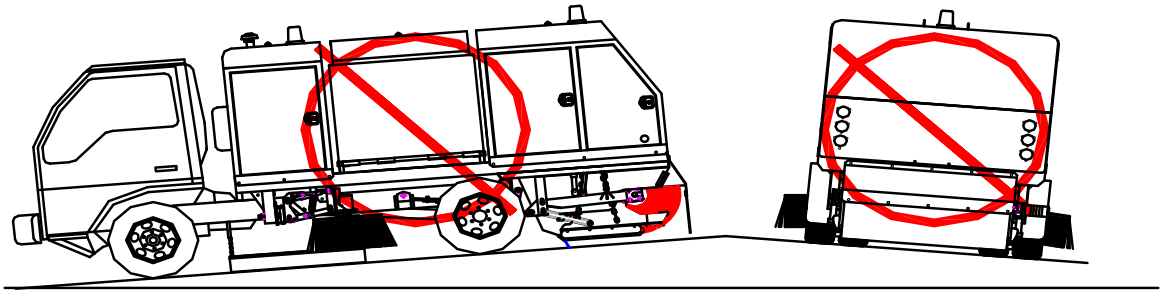
When in position, place the truck transmission in neutral and engage the parking brake. The hopper cannot be lifted or dumped until the park brake is engaged.
Elevate the hopper by pressing the HOPPER RAISE/LOWER switch to the "RAISE" position until the desired height is reached. When the hopper rises the stabilizers will automatically lower and the truck will automatically be shifted to neutral.

NOTE: The hopper is capable of being dumped at any height and can be raised or lowered while dumping, provided the sweeper is being operated on level ground.

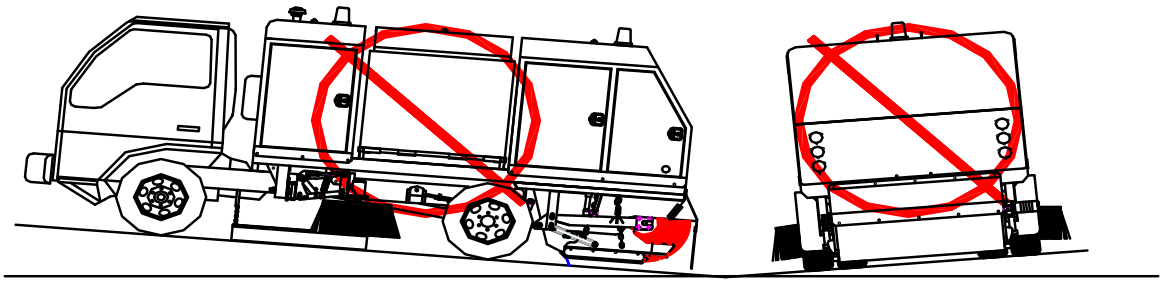
Tilt the hopper to dump its contents by pressing the HOPPER DUMP/RETRACT switch to the "DUMP" position. When the hopper is empty, return it back to its home position by retracting the hopper using the HOPPER DUMP/RETRACT switch and lowering the hopper with the HOPPER RAISE/LOWER switch. Once the hopper is lowered and retracted, the stabilizers will retract automatically.
Release the parking brake and shift truck back into the desired gear.
To resume sweeping, lower brooms and elevator into sweeping position with the BROOMS UP/DOWN switch, press the SWEEP switch to the "FWD" position, and turn on the dust control system with the SPRAY switch, if desired.

REMINDER: At night, the Main Broom light may be used to assist in backing up.

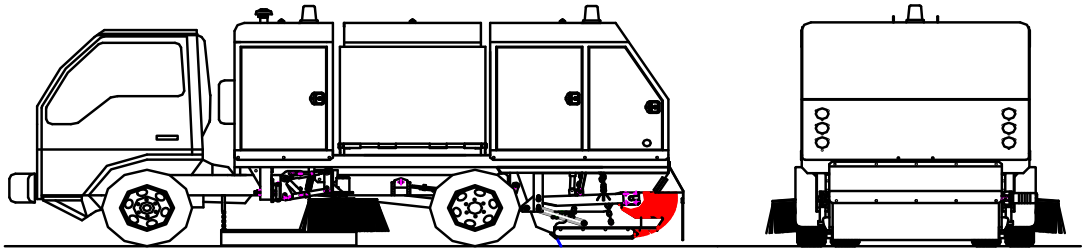
NOT A SAFE HOPPER LIFT AND OR DUMP ANGLE



NOT A SAFE HOPPER LIFT AND OR DUMP ANGLE



SAFE HOPPER LIFT AND OR DUMP ANGLE



Break-In Period

Engine Break-In

For engine break-in please refer to the auxiliary engine Operator's Manual.

Sweeper Break-In

After the first 8 hours of operation.

Check and tighten:
Suspension bolts
Main broom coupler
Broom bolts
Elevator bolts
Set screws
Wheel nuts

For every 25 hours for the first 100 hours.

Check and tighten:
Suspension bolts
Main broom coupler
Broom bolts
Elevator bolts
Set screws
Wheel nuts

Inspect all components of sweeper periodically to ensure long term life and reliability. Practicing regular routine maintenance will payback in reduced operating costs and less down time over the life of the machine.

Winterizing your S-4XXL Sweeper

Remove dust suppression water filter, allow as much water as possible to drain from the system and replace water canister without filter.
Remove water line coming from the tank at the filter.
With water pump running, pressurize the filter housing by using compressed air. This removes water from the pump and lines preventing the water from freezing and rupturing water lines or the pump. Continue blowing air into the filter housing until all nozzles blow air.
Remove dust suppression water filter canister and leave off for winter.
If sweeping in winter months, do not use water system if below freezing temperatures. If water system is used, it must be purged, using the method stated above before temperature drops below freezing.
Engine – Maintain and service engine as per the engine manual provided with the unit.
Check antifreeze strength. Must be good for -350 F.
Insure all fluid levels at maximum of the operating range.
Clean or change engine air filter before parking for winter.
Maintain and service chassis as per the owner's manual provided with unit.

Service

Fuel, lubricants, and Coolants!

Diesel Fuel

(Refer to the original engine manufacturer's recommendations).

Use ASTM No. 2-D grade fuel when outside air temperature is above 50 C (40º F).

Use ASTM No. 1-D grade diesel fuel when outside air temperature is below 5º C (40º F).

IMPORTANT: Do NOT use fuel that is contaminated by water and dirt!

WARNING: Be careful when handling fuel! Never fill the tank when the engine is hot or running! Do not smoke while filling the fuel tank!

Diesel Engine Oil

(Refer to the original engine manufacturer's recommendations).

Coolant

(Refer to the original engine manufacturer's recommendations).

50% water and 50% ethylene glycol base antifreeze should be used year round.

WARNING: Use extreme care when removing radiator filler caps. Remove only when coolant temperature is below the boiling point.

Hydraulic Oil

The recommended hydraulic oil for this sweeper Exxon Hydraulic H 68 or equivalent. Failure to do so WILL void warranty.

The hydraulic system is very susceptible to contamination from both dirt and moisture and is designed to use a Whitmore Air Sentry Mini Breather. This breather must be changed when the beads turn color from yellow to dark green. **Failure to change this breather WILL void warranty.**

CAUTION: The entire hydraulic oil system must be of the same viscosity grade.

Grease

The recommended grease for this sweeper is Whitmore Novagard EP 2 multipurpose grease ro equivalent.

Lubrication and Maintenance

IMPORTANT: Maintenance includes inspection and replacement of worn parts as required.

WARNING: Before servicing the sweeper follow a proper Equipment Lockout procedure as described in the Safety section. Serious personal injury or death may result otherwise!

NOTE: To service the chassis or auxiliary engine, refer to the manufacturer's manual included with your sweeper.

For Auxiliary Engine service locations, see Figure 5: Service Locations on Auxiliary Engine

Daily

(Refer also to the engine manual that comes with your sweeper for locations).

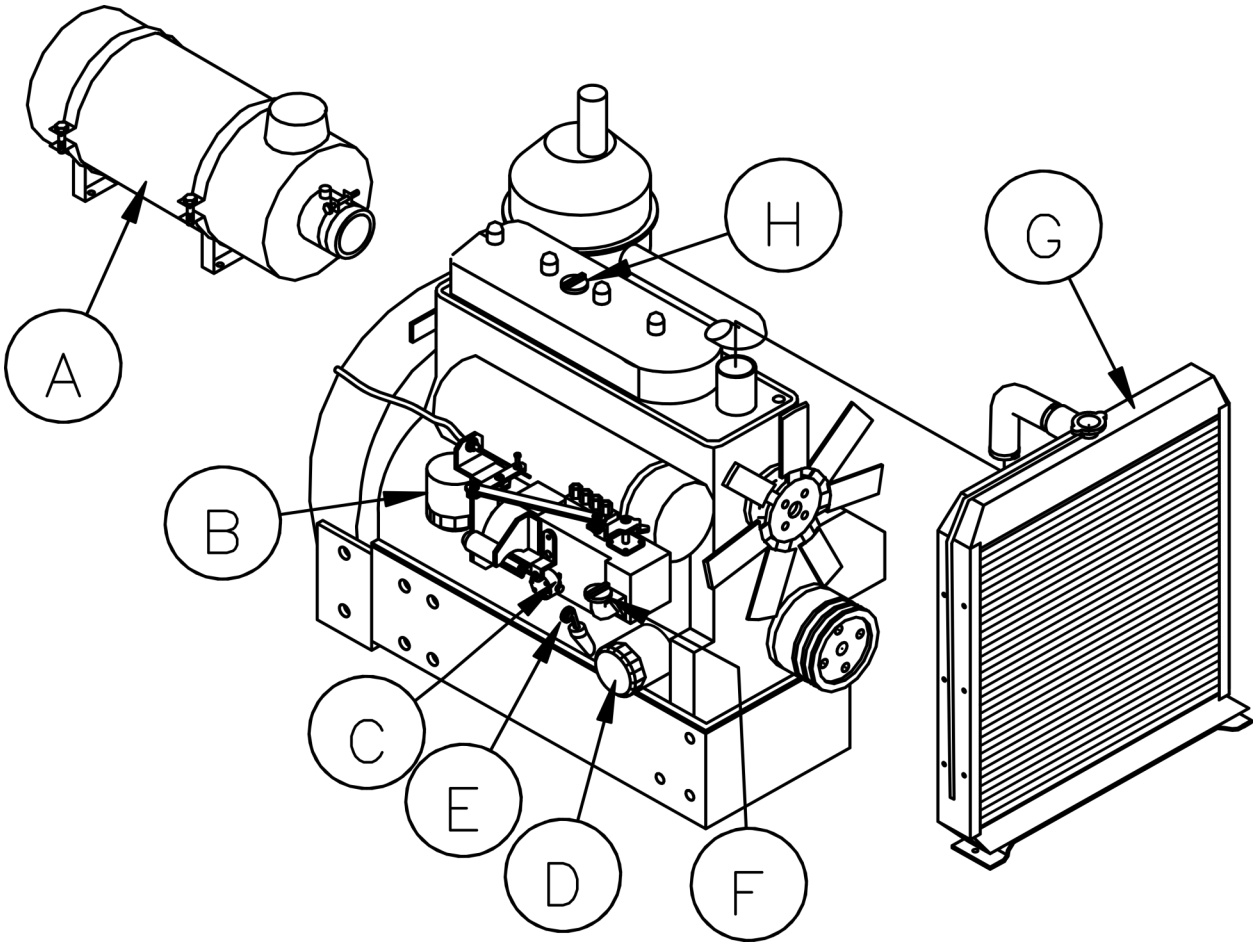
Check oil and coolant levels on the engine.
Check hydraulic oil level in the hydraulic oil tank. The sight glass is located on the front of the hydraulic oil tank on the driver's side of the vehicle.
Check the hydraulic oil breather filter, located on tank, for cleanliness.
Inspect the Air Restriction Indicator on the engine air filter. For longer engine life it is strongly recommended to change the air filter element at regular intervals. The Air Restriction Indicator gives you a guideline of when changing is needed.
Lubricate the elevator bearings.
Lubricate the main broom bearing and arms.

Every 50 Hours

Clean the dust control water filter and inspect the sprayer nozzles.
Check the radiator for plugging. Ensure radiator is cool before cleaning. Clean with fresh water.
Replace the engine oil in the auxiliary engine (initial change only).
Replace the hydraulic oil filter in the auxiliary engine (initial change only).
Lubricate the gutter broom linkage.

Every 250 Hours

Replace the hydraulic oil filter.
Replace the oil breather filter.
Replace the auxiliary engine oil and filter.



1. Air Filter
2. Fuel Filter
3. Fuel Primer Pump
4. Engine Oil Filter
5. Engine Oil Dipstick
6. Engine Oil Fill Cap
7. Coolant Fill Cap
8. Engine Oil Fill Cap

Every 250 Hours

Replace the hydraulic oil filter.
Replace the oil breather filter.
Replace the auxiliary engine oil and filter.

Every 500 Hours

Replace the hydraulic oil filter.
Replace the hydraulic oil breather filter.

NOTE: It is advised to use only factory replacement oil filters. All replacement filters must meet or exceed 10 micron absolute rating. Failure to meet or exceed these specifications will void the warranty.

Visually inspect the hydraulic system.
Check all lines and hoses for cracks or wear and replace as required.
Check all fittings for leakage and retighten or replace if necessary.
Check all components for possible wear and have them serviced if necessary.

Every 1000 Hours

Replace Hydraulic Oil, Oil Breather Filter, and Hydraulic Oil Filter as follows:

Run the sweeper until hydraulic oil is warm.
Stop the engine.
Remove both magnetic drain plugs from the bottom of the oil reservoir (one on each side). Drain the oil into a large container.
Clean and reinstall both magnetic drain plugs.
Replace the reservoir breather filter.
Replace the hydraulic filter.
Fill reservoir with hydraulic oil as recommended from the pump manufacturer.

IMPORTANT: If Hydraulic Oil is replaced due to contamination, it is imperative to **DISMANTLE AND THOROUGHLY CLEAN** the hydraulic reservoir, lines and hoses, all other components, and flush the entire hydraulic system before new oil is added!

Run the sweeper for several minutes and check for leaks. (Actuate all cylinder circuits and run all motor circuits).
Add oil as required. Oil level should be above low level sight glass.

Adjustments

Gutter Broom Angle Adjustments

(Refer to Figure 6: Gutter Broom Assembly) also
(Refer to Figure 7: Gutter Broom Pattern)

The proper tilt angle must be maintained for effective sweeping. If the broom is set too flat, it will tend to throw debris back to the curb. If the broom angles are too great, streaks of debris will be left on the pavement.

Correct Gutter Broom Angle

The broom angles are correct when the front outside 1/3 of the broom contacts the pavement. With the brooms fully lowered, ensure the gutter broom pattern overlaps the main broom pattern. This setting is met when the brooms are adjusted between 3º - 5º tilt angle.

The attack angles of the brooms are adjustable as well but are set at the factory and should not require further adjustment except for special applications. Only the tilt angle may need modification from time to time. The attack angle should be set to 3º - 5º for normal sweeping.

Adjust Tilt Angle

(Refer to Figure 6: Gutter Broom Assembly) also
(Refer to Figure 7: Gutter Broom Pattern)

Loosen angle adjustment lock nut (B) to allow movement of the angle adjustment turnbuckle (C).
To increase the tilt angle of the gutter brooms, decrease the length of turnbuckle (C). To decrease the angle, lengthen turnbuckle (C).
Once the proper tilt angle is achieved, tighten angle adjustment lock nut (B) to secure brooms.

Adjust Front to Back Angle

(Refer to Figure 7: Gutter Broom Pattern)

Loosen lock nut on adjustment turnbuckle (L) to allow movement of the lower section of the gutter broom.
To increase the forward attack angle of the broom to the sweeping surface, turnbuckle must be shortened. To decrease the attack angle or flatten the broom, turnbuckle must be lengthened. The attack angle should be set to 30 – 50 for normal sweeping.
Once the correct angle is adjusted, make sure the turnbuckle lock nut is tightened.

Gutter Broom Pressure

Proper broom pressure is very important. Low broom pressure will cause poor sweeping. High broom pressure will cause excessive broom wear.

IMPORTANT: Be sure gutter broom angle is correct before setting gutter broom pressure.

Correct Gutter Broom Pressure

Lower brooms onto the road surface and have them rotate with the sweeper stationary.
Stop and raise the brooms.
Drive sweeper off the swept pattern.
Inspect the pattern: If the gutter broom pressure adjustment is correct, the front outside 1/3 of the broom must be in contact with the road surface.

Adjust Gutter Broom Pressure

(Refer to Figure 6: Gutter Broom Assembly)

Loosen turnbuckle lock nut (I) on suspension turnbuckle (H).
To increase down pressure on gutter broom lengthen the turnbuckle, to reduce down pressure shorten the turnbuckle. By lengthening or shortening the turnbuckle will affects spring (D) which increases or lowers gutter broom pressure to compensate for wear.
Tighten lock nut (I) on suspension turnbuckle (H)

Sweeping Width

(Refer to Figure 6: Gutter Broom Assembly) also
(Refer to Figure 7: Gutter Broom Pattern)

The sweeping path width can be adjusted for a broader or narrower sweeping path.

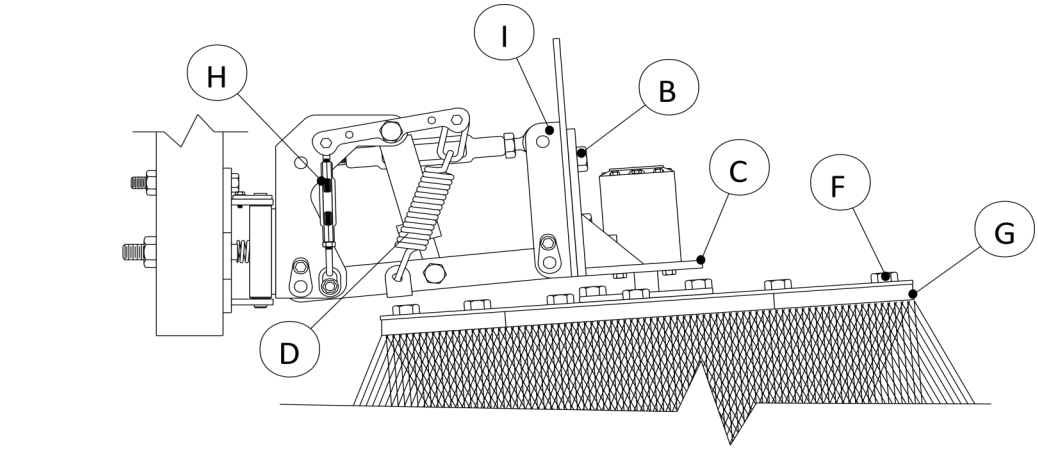
Tighten bolt (K) to decrease the sweeping path and loosen to increase sweeping path.

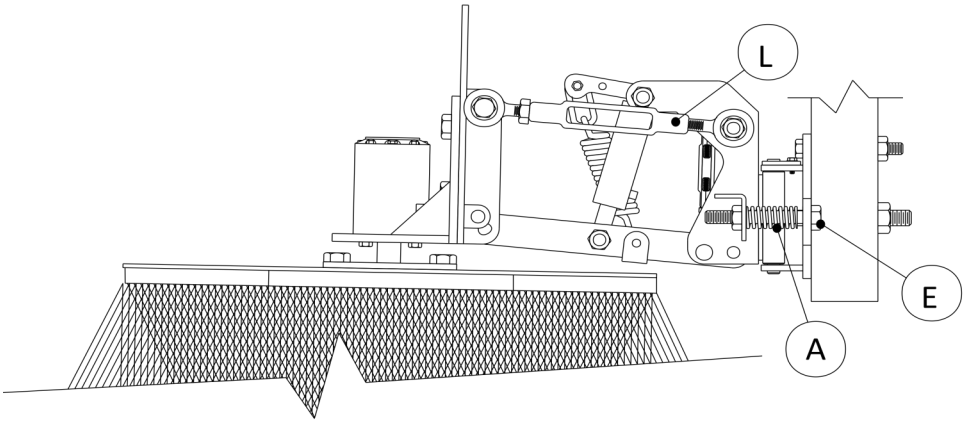
NOTE: The wider the sweeping path the greater the possibility of streaking between the gutter broom and the main broom. A sufficient gutter broom to main broom overlap must be maintained.

Gutter Broom Impact Protection Spring

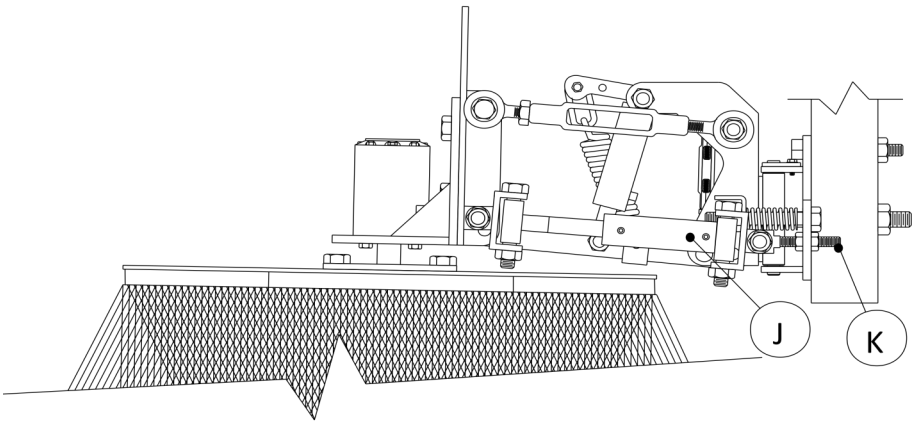
(Refer to Figure 6: Gutter Broom Assembly) also
(Refer to Figure 7: Gutter Broom Pattern)

Each gutter broom is equipped with an impact protection spring (A) to protect it from side impact damage. There is no adjustment for this spring.





VIEW WITHOUT RETRACT SYSTEM



VIEW WITH RETRACT SYSTEM

A. IMPACT SUPRESSION SPRING
B. SIDE TILT ADJUSTMENT BOLT
C. MOTOR BRACKET
D. SUSPENSION SPRING
E. PATH WIDETH ADJ. BOLT
F. SEGMENT RETAINING BOLTS
G. BRUSH SEGMENTS
H. SUSPENSION ADJ. TURNBUCKLE
I. LINKAGE MOUNT
J. RETRACT CYLINDER
K. RETRACT ADJ. BOLT
L. FRONT/BACK ANGLE TURNBUCKLE

Figure 6: Gutter Broom Assembly

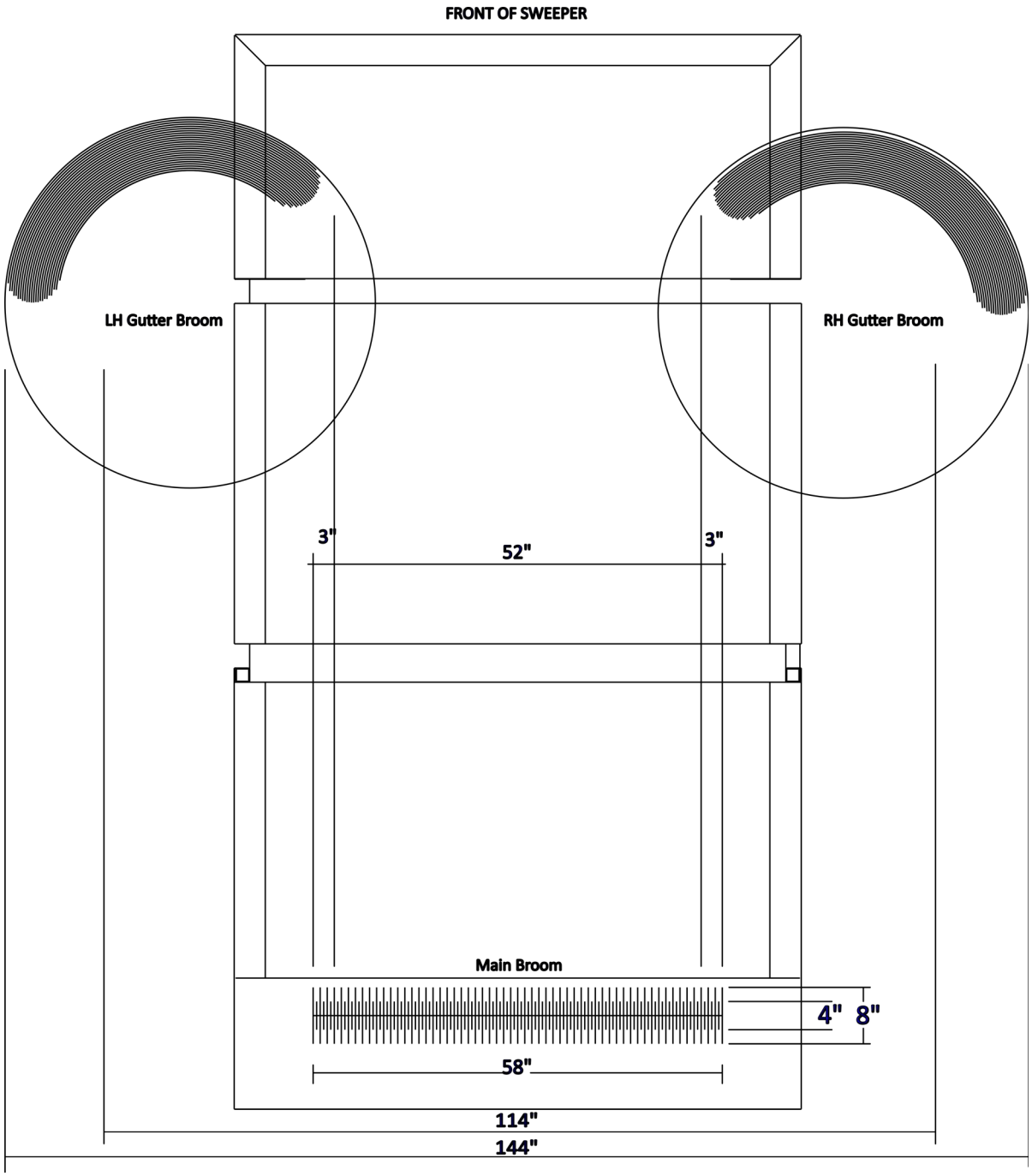


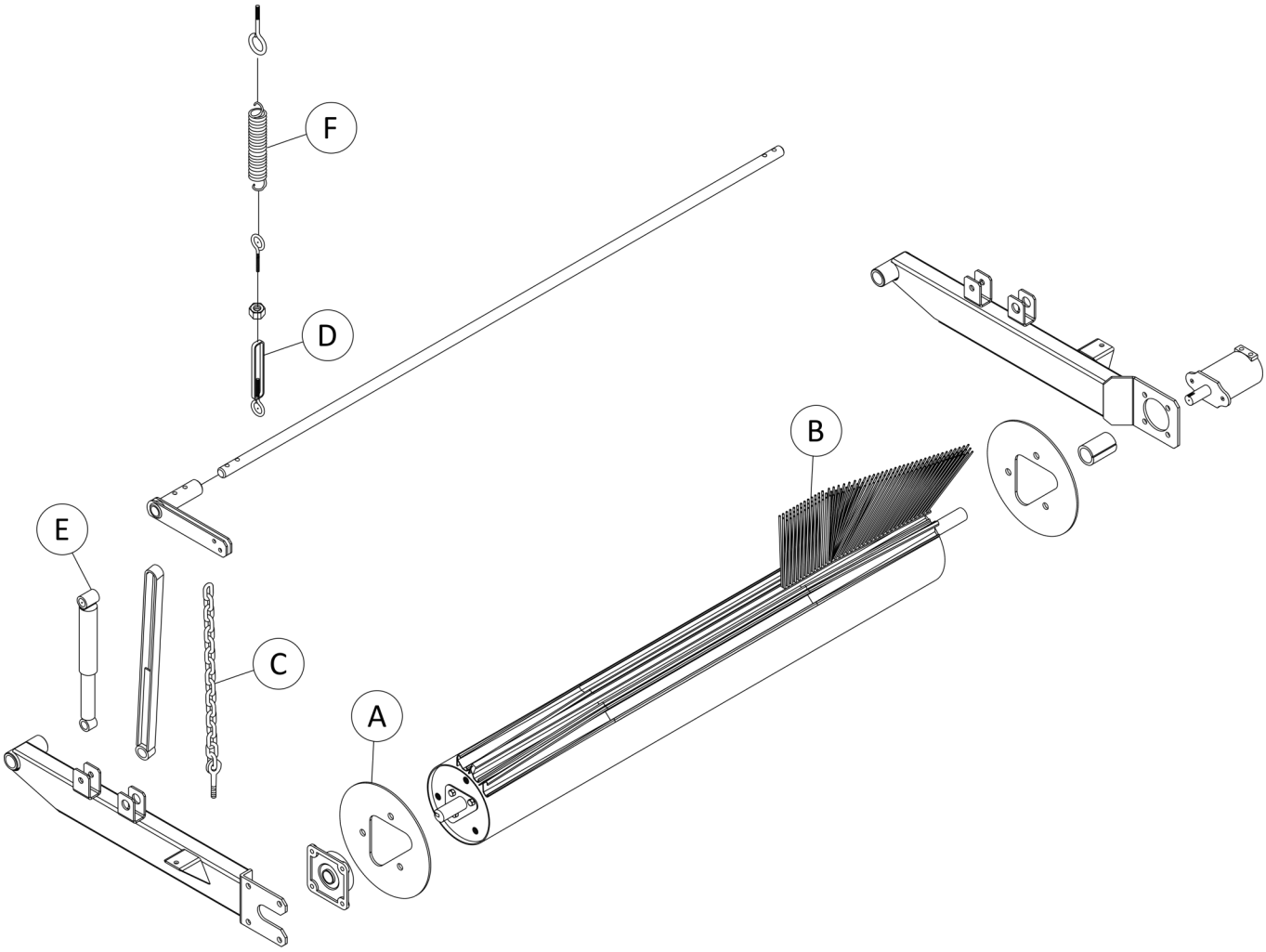
FIGURE 7: CORRECT BROOM PATTERN
(Measurements Are Approximate Only)

Main Broom Pressure

(Refer to Figure 8: Main Broom Assembly)

The main broom pressure is controlled by the tension on the suspension spring (F) while the shock absorber (E) applies down pressure. To adjust the down pressure:

Loosen the lock nut on turnbuckle (D).
Lengthen the turnbuckle to increase the down pressure and shorten the turnbuckle to decrease down pressure.



A. RETAINING RING
B. BRUSH STRIP
C. SUSPENSSION CHAIN
D. TURN BUCKLE
E. SHOCK ABSORBER
F. SUSPENSSION SPRING

Figure 8: Main Broom Assembly

Elevator Chain Adjustment

Upper Drive Shaft

(Refer to Figure 13: Elevator)

NOTE: Do not over tighten chain. When machine is new the chain is adjusted and must be left as is until top is about to touch the bottom.

NOTE: When machine is new the chain is adjusted and should not be readjusted until top strand is almost touching the bottom strand.

Loosen bolts (C).
Loosen lock nut (E).
Tighten adjustment bolt (D).

NOTE: Bottom shaft and bearings (P) should never require adjusting. This shaft is preset at the factory.

NOTE: Always adjust upper drive shaft first. When upper shaft has moved to the end of its travel then center shaft can be adjusted.

NOTE: Slide (A) has limited travel because of bolts on bearing (B). Slide (A) will only move as far as bolts on bearing (B) come to the end of the travel.

Once bolt (D) has been adjusted, tighten lock nut (E).
Tighten bolts (C).

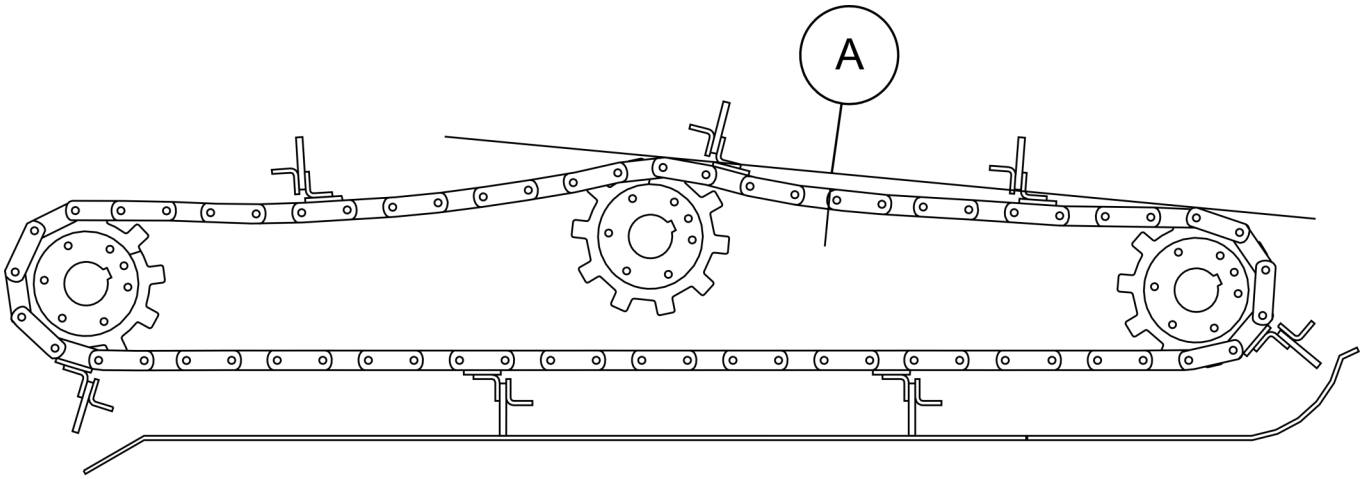
Center Idler Shaft

Loosen bolts on bearing (H).
Loosen lock nut (G).
Tighten bolt (F) until desired chain tension is reached.
Tighten bolts on bearing (H).
Tighten lock nut (G).

NOTE: The correct tension on the elevator chain is 1-3” deflection on the chain between shaft (L) and shaft (J) when chain is new. After initial wear in of new chain, run chain tension as loose as possible to extend the life of the chains.

NOTE: When elevator has no adjustment left, one link of chain from each side should be removed by backing off both top and center shaft adjustment, remove link and readjust using above procedure.

(Refer to Figure 9: Elevator Chain Adjustment)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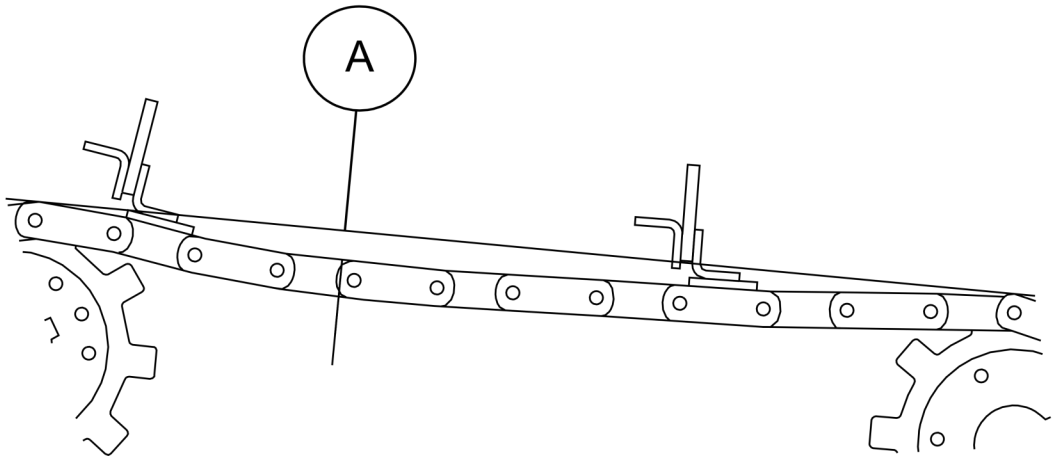
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REPAIR AND MAINTENANCE

Gutter Broom Segment Replacement

(Refer to Figure 6: Gutter Broom Assembly)

Fully raise brooms.
Remove bolts (F) that hold broom segments (G) in place.
Bolt new broom segments in place.
Repeat this procedure for all segments.
After installing new segments, gutter broom pressure must be reset as per Gutter Broom Pressure Adjustment.

Main Broom Strip Replacement

(Refer to Figure 10: Main Broom Assembly)

Main broom must be raised for this operation so broom can be rotated.
Remove 3 bolts holding retaining ring (A) to the mandrel (B).
Lower retaining ring (A) onto the mandrel end shaft.
Pull worn broom strips out the side of machine.
Clean the C-channel before inserting the new strips.
As each strip is removed from the mandrel, immediately replace with a new strip, this keeps the mandrel in balance and is easier to rotate to the next strip. Ensure the new broom strips slide into the C-channel. If strip is tight in the C-channel, penetrating oil can be used to lubricate the strips as they go in.

NOTE: Eighteen broom strips are required to complete the main broom.

After all strips have been replaced, reinstall retaining ring (A) onto the mandrel (B).

(Refer to Figure 11: Main Broom Arm Assembly)

Lower the main broom fully to the shop floor.
If the bearing has an Eccentric Locking Collar, loosen the set screws (C) and tap the collar in the reverse direction of the shaft rotation, using a punch and hammer to unlock the Collar and bearing assembly (B) from the shaft (F). If the bearing does not have the Eccentric Locking Collar, loosen the set screws (C) to unlock the bearing (B) from the shaft (F).
Remove all 4 bolts (D) retaining bearing (B) to arm (G).
Clean shaft (F) with emery cloth to prevent bearing from hanging up when removing.
Slide bearing assembly (B) off end of broom shaft (F). A Bearing Puller may have to be used.
Install new bearing assembly, reversing the procedure for removal. Ensure that the bearing grease nipple (E) is pointing towards the rear of machine.
Centre the broom between the rear drag shoes by moving bearing (B) on the main broom shaft (F). Pull or push on main broom arm as required.
If bearing has an Eccentric Locking Collar, lock in place by using the Collar rotated in the direction of the shaft rotation. Tighten all set screws (C) using a thread lock. If bearing does not have Eccentric Locking Collar, tighten all set screws (C) using a thread lock.

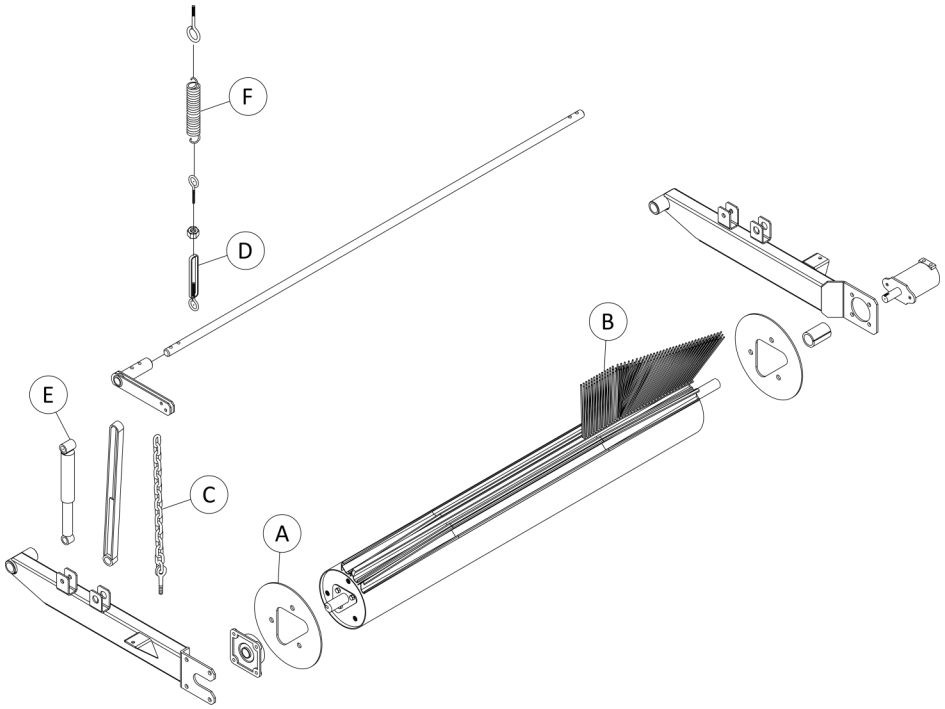
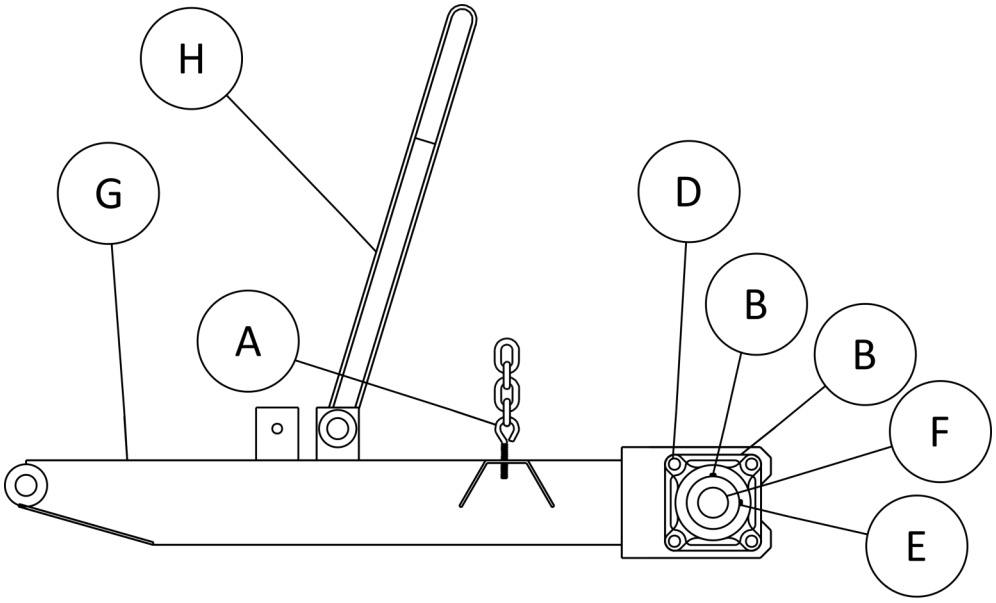


Figure 10
Main Broom



A. ADJUSTMENT BOLT
B. MAIN BROOM BEARING
C. SET SCREW
D. RETAINING NUT
E. GREASE NIPPLE
F. MAIN BROOM SHAFT
G. MAIN BROOM ARM
H. MAIN BROOM LIFT STRAP

Figure 9: Main Broom Arm Assembly

(Refer to Figure 11: Main Broom Arm Assembly)

Lower the main broom fully to the shop floor.
If the bearing has an Eccentric Locking Collar, loosen the set screws (C) and tap the collar in the reverse direction of the shaft rotation, using a punch and hammer to unlock the Collar and bearing assembly (B) from the shaft (F). If the bearing does not have the Eccentric Locking Collar, loosen the set screws (C) to unlock the bearing (B) from the shaft (F).
Remove all 4 bolts (D) retaining bearing (B) to arm (G).
Clean shaft (F) with emery cloth to prevent bearing from hanging up when removing.
Slide bearing assembly (B) off end of broom shaft (F). A Bearing Puller may have to be used.
Install new bearing assembly, reversing the procedure for removal. Ensure that the bearing grease nipple (E) is pointing towards the rear of machine.
Centre the broom between the rear drag shoes by moving bearing (B) on the main broom shaft (F). Pull or push on main broom arm as required.
If bearing has an Eccentric Locking Collar, lock in place by using the Collar rotated in the direction of the shaft rotation. Tighten all set screws (C) using a thread lock. If bearing does not have Eccentric Locking Collar, tighten all set screws (C) using a thread lock.

Carbide Drag Shoe Replacement

(Refer to Figure 12: Carbide Drag Shoe)

Raise the main broom.
Remove bolts (B) and worn drag shoe (C).
Install new carbide drag shoe and bolts (B).

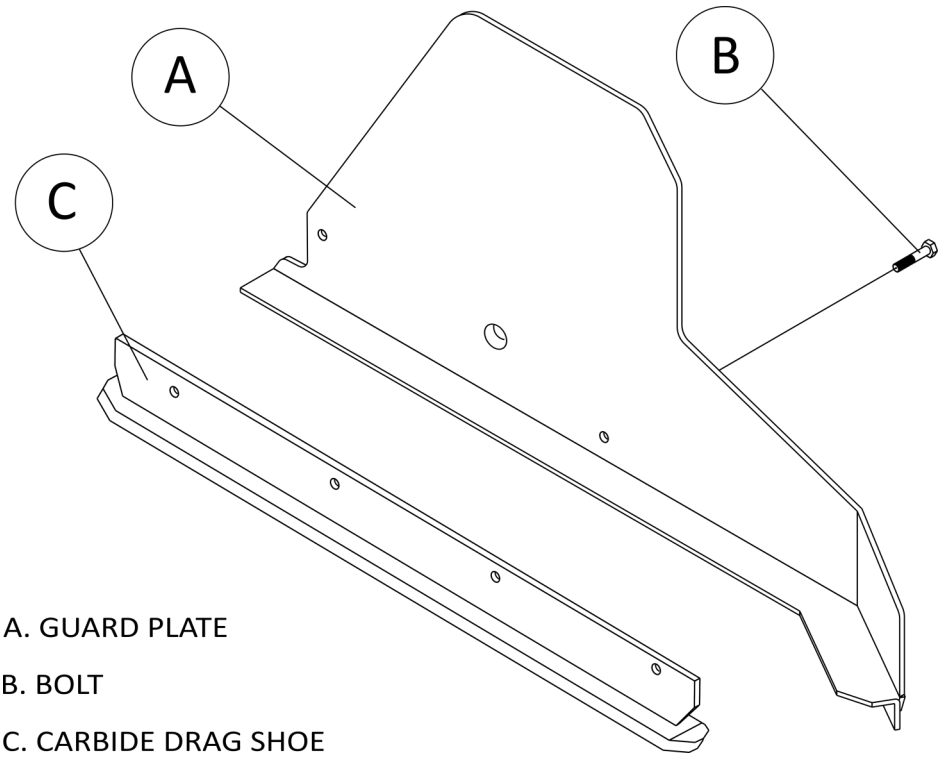


Figure 12 Main Broom

Elevator Chain Replacement

(Refer to Figure 13: Elevator)

Remove rear canopy.
Remove water tank.
Remove elevator canopy and canopy extension.

NOTE: the procedure give is for one side only and must be repeated for the opposite side.

Loosen top shaft bolts (C).
Loosen lock nut (E).
By adjusting bolt (D), move the top shaft slide (A) down closer to the middle of elevator housing until bearing bolts are at the bottom of the travel.
Loosen the bolts on bearing (H).
Loosen lock nut (G).
By adjusting bolt (F), lower bearing (H) to the bottom of the retaining bolt slots.
Remove squeegee (M) and squeegee angle (N) assembly from the chain.
Remove elevator chain master link pin and let chain fall to the floor and remove.

NOTE: At this point it is very easy to replace or repair any damage to the elevator housing, shafts, sprockets, and liners if required.

NOTE: The elevator sprockets are split for easy removal but when installing make sure the sprockets on the same shaft are timed to each other.

NOTE: One of the elevator shaft retainers for each sprocket are tack welded to the shaft to maintain chain alignment, make sure one of the retainers are welded.

NOTE: Bottom shaft and bearings (P) should never require adjusting. This shaft is preset at the factory.

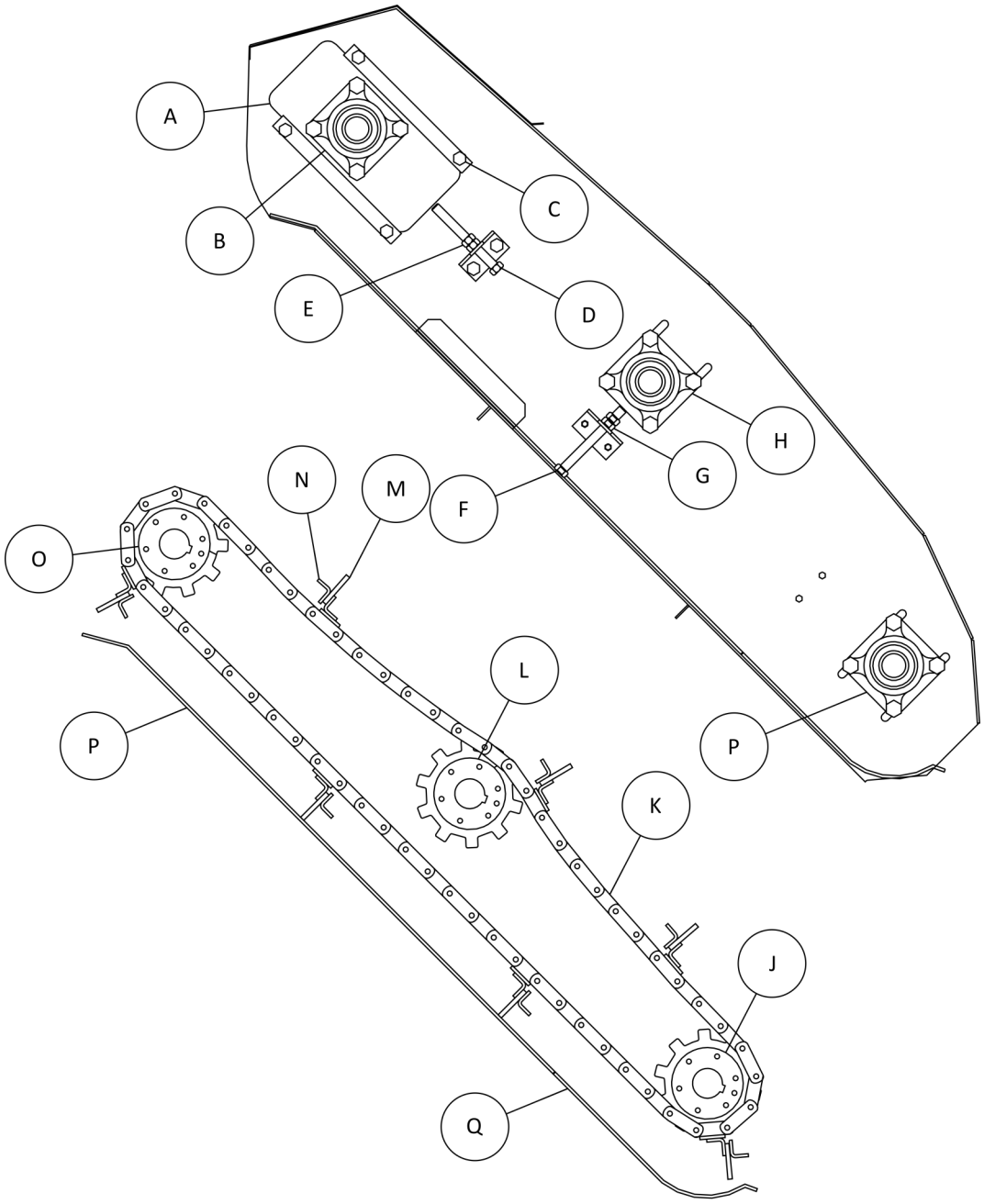
Install new chain (K) making sure the squeegee attachment links are aligned.
Adjust top shaft first using adjustment bolts (D) until proper chain tension is achieved.

NOTE: When adjusting top shaft make sure both sides move equally.

Adjust center shaft suing adjustment bolt (F) until the sprocket touches the chain.

NOTE: Do not add to the tension of the chain at this time. The purpose of the center shaft is to reduce chain slap when going from sweeping forward to sweeping reverse and to adjust for chain stretch as chain wears.

Reinstall squeegee and squeegee angles on chain.
Tighten all bearing slides, lock nuts, and bearing bolts.
Reinstall elevator canopy and canopy extension.
Reinstall water tank.
Reinstall rear canopy.



A. TOP SHAFT SLIDE
B. TOP SHAFT BEARING
C. SLIDE RETAINER
D. ADJUSTMENT BOLT
E. LOCK NUT
F. ADJUSTMENT BOLT
G. LOCK NUT
H. CENTER SHAFT BEARING
I. BOTTOM SHAFT BEARING
J. BOTTOM SHAFT
K. ELEVATOR CHAIN
L. CENTER SHAFT
M. SQUEEGEE
N. SQUEEGEE ANGLE
O. TOP SHAFT
P. TOP LINER
Q. BOTTOM LINER

Figure 11: Elevator

Bottom Liner Replacement

Drive machine up on blocks ensuring machine is secure before going under machine.
Remove bolts that hold liner in place.
Remove liner.
Remove bottom rubber and install on new liner.
Reinstall liner.

Top Liner Replacement

Remove rear canopy.
Remove water tank.
Remove elevator canopy and canopy extension.
Remove bolts from top liner.
Pull line out from the top of elevator.
Replace liner.
Reinstall elevator canopy and canopy extension.
Reinstall water tank.
Reinstall rear canopy.

Main Broom Hydraulic Motor Replacement

Lower broom to floor.
Loosen bolts on main broom coupler.
Disconnect hydraulic lines to motor.
Remove motor bolts.
Replace motor.

NOTE: Motor requires an offset key in shaft, 5/16” side of key goes into the motor shaft and ¼” goes into coupler.

Reinstall and tighten mounting bolts.

NOTE: Ensure motor shaft is completely in coupler.

Tighten coupler bolts.

Gutter Broom Hydraulic Motor Replacement

Lower gutter broom to floor.
Remove one segment from the gutter broom plate.
From underneath remove center mount retaining bolt.
Remove bolts from taper lock bushing.
Put bolts that are removed from the bushing into the threaded holes in bushing.
Tighten bolts evenly until taper lock releases from shaft.
Gutter broom plate should slip off motor shaft.
Disconnect hydraulic lines to motor.
Remove motor mounting bolts.
Replace motor.
Reinstall and tighten motor mounting bolts.

NOTE: Motor requires an offset key in shaft, 5/16” side of key goes into the motor shaft and ¼” goes into mounting plate.

Using a floor jack, lift gutter broom mounting plate onto shaft.
Tighten taper lock bushing evenly, tightening mounting plate to shaft.
Reinstall center mount bolts.
Tighten all plate and mount bolts.
Reinstall gutter broom segment.

Hydraulic Pressure Adjustment

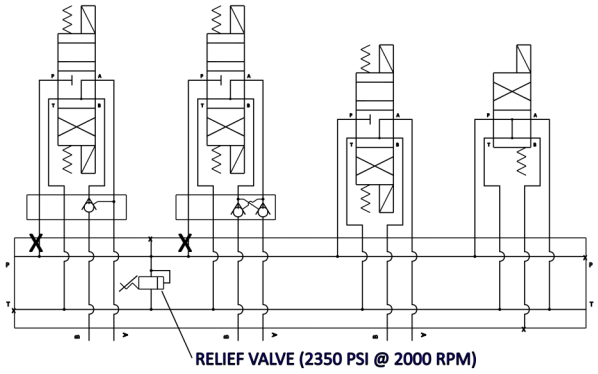
(for FRONT VALVE STACK (CAB Side))
(set pressure to 2,850 psi @ 2 000 rpm)
Install a 0-5000 psi pressure gauge in test port A on top of valve.
Remove cap from the relief valve.
Take engine to 2,000 rpm.
Push hopper lift switch and raise hopper until cylinders are bottomed.
While holding switch, read pressure gauge.
Turn relief screw clockwise to increase pressure and counter clockwise to lower pressure.
Adjust pressure to a maximum of 2,850 psi.
Replace relief cap and gauge.

(for REAR VALVE STACK (HOPPER Side))

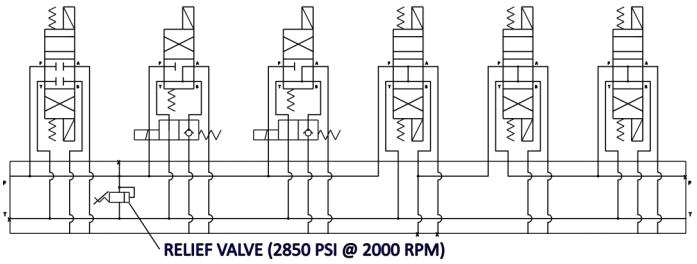
(set pressure to 2,350 psi @ 2 000 rpm)

Install a 0-5000 psi pressure gauge in test port A on top of valve.
Remove cap from the relief valve.
Take engine to 2,000 rpm.
Push hopper dump switch and dump hopper until cylinders are bottomed.
While holding switch, read pressure gauge.
Turn relief screw clockwise to increase pressure and counter clockwise to lower pressure.
Adjust pressure to a maximum of 2,850 psi.
Replace relief cap and gauge.

80120 LH VALVE SPOOL ASSEMBLY (DRIVERS SIDE) SN 4011 & UP



80134 RH VALVE SPOOL ASSEMBLY (PASSENGER SIDE) SN 4011 & UP



Stall Switch Adjustments

Lift sliding ring on switch body up.
Push hopper dump switch on control panel and dump hopper until cylinders are bottomed.
With a small flat screwdriver turn inner adjustment barrel until stall alarm in cab begins to activate.
Turn adjustment barrel in opposite direction until stall alarm in cab is not activated.
Replace sliding ring on switch body.

Trouble Shooting

The S-6 electrical system uses DIN connectors to connect to the hydraulic valves. These connectors have a red LED light in them. The light requires a minimum of 8 volts to light and the valve solenoids require the same amount of voltage to activate.

The switches also have an LED in the center of the switch. If the LED at the center of the switch is not lit, the switch should not work. When you push a switch that is lit on the sweeper control panel, it activates a series of valves to engage a function. The following chart will show which LED's are lit with each function.

If the LED's are being lit at the correct times and a particular function does not work, the problem is most likely a hydraulic problem with that corresponding function (valve, coil, cylinder or hose).

If the LED's do not light at the correct time, the problem is most likely an electrical problem with that corresponding function (harness, connectors, relay, fuse or switch).

The proximity switches used on this machine have LED lights on the back or the wire lead end of the switch. The LED will only light when there is a piece of metal within 3/8" of the front of the switch. These switches may need re-adjusting from time to time. The 4 proximity switches are located at the following points:

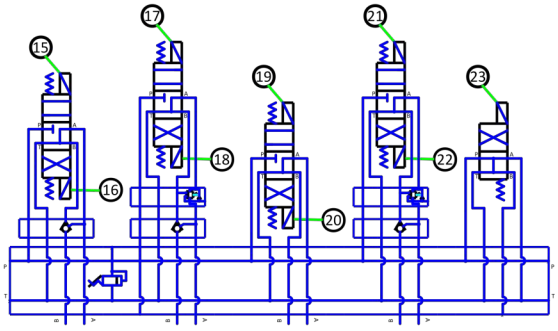
The base of the elevator support arm.
The side of the hopper door.

CAUTION: Each one of these switches are vary important to the safe operation of this machine and should never be bypassed for any reason.

The elevator support arm proximity switch ensures that the elevator and main broom are up before the hopper can be lifted or dumped.

The hopper door proximity switch ensures that the main broom and elevator can not be lowered when the hopper is not in the lowered position with the hopper door closed (at rest position). When circuit is broken or the LED light goes off, the main broom function will also go off. The hopper proximity switch also operates the stabilizers. When the circuit is broken, the stabilizers will automatically engage and the stabilizers will lower to support the load. When the circuit is completed again the stabilizers will automatically come up.

TROUBLE SHOOTING
DIN CONNECTOR LIGHTING CHART



SHOWN AS VIEWED FROM DRIVERS SEAT THROUGH WINDOW

Drivers side of sweeper

Push control panel switch to activate function

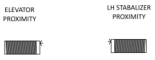
Corresponding numbered connector should light

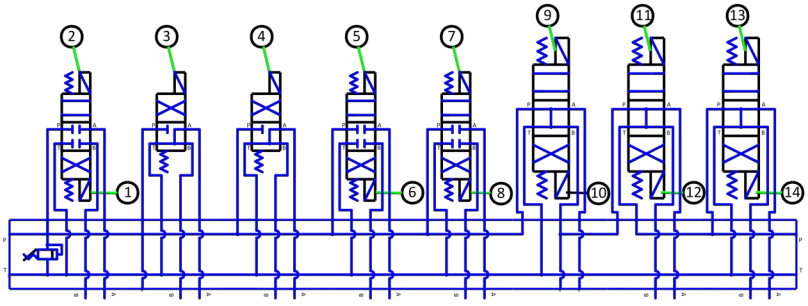
Proximity switches should be light when within 3/8" of metal

If not light, check adjustment

If adjustment is correct, check electrical

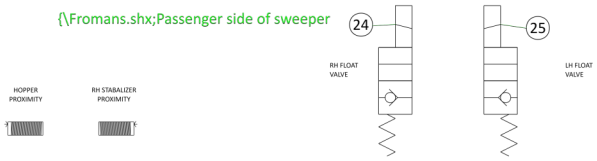
If electrical is good check hydraulics





SHOWN AS VIEWED FROM DRIVERS SEAT THROUGH WINDOW

{\Fromans.shx;Passenger side of sweeper



DIN #	HOPPER RAISE	HOPPER LOWER	HOPPER DUMP	HOPPER RETRACT	LH GB RAISE	RH GB RAISE	BROOMS RAISE	BROOMS LOWER	MB SWEEP FORWARD	MB SWEEP REVERSE	LH GB RETRACT IN	LH GB RETRACT OUT	RH GB RETRACT IN	RH GB RETRACT OUT
1	X													
2		X												
3					X		X*							
4						X	X*							
5											X			
6												X		
7													X	
8														X
9									X*	X*				
10	X	X			X	X	X*				X	X	X	X
11									X*					
12										X*				
13									X*					
14										X*				
15							X							
16								X						
17				X										
18			X											
19									X					
20										X				
21														
22														
23			X	X			X	X	X	X				
24								X*	X*	X*				
25								X*	X*	X*				

Indicates only when Gutter Brooms are on

REPAIR AND MAINTENANCE CHECK LIST

EVERY 10 HOURS

STARFIRE SWEEPER DAILY MAINTENANCE CHECKLIST

Perform this routine BEFORE every shift or after 10 hours of operation (whichever is sooner)

Sweeper S/N:	Date:	Hours:	Miles:

This CHECKLIST PERFORMED BY:

		Done:
1	The OPERATOR has READ and THOROUGHLY UNDERSTANDS the "Safety, Operations and Maintenance Manual" for this sweeper and understands the safe operation of the vehicle including the chassis, the chassis "Owners Manual" and the diesel particulate filter. Refuel with "ULTRA LOW Sulfur Highway Diesel" ONLY.	☐
2	Check Engine Oil (dipstick) and Coolant Levels on BOTH Engines.	☐
3	Check Hydraulic Oil Level on the site tube on side of hydraulic oil tank.	☐
4	Check Air Filter Restriction Indicator(AFRI) for BOTH Engines. If AFRI shows that the airflow through filter is too low, change the air filter and RESET the Indicator. Write the Date and Hours on the new filter and Note the change on this form by putting a circle around the filter changed today- TRUCK AUXILIARY	☐
5	Check ALL tires for proper inflation and tread wear.	☐
6	Check that Back-up Alarm, Lights, and Strobes are working properly.	☐
7	Clean water sytem filter. Inspect water system spray nozzles. Clean, if necessary.	☐
8	Check sweeper functions for proper operation. "Note" any exceptions.	☐
9	Check broom sweeping pattern of side and main brooms. Correct any bad pattern.	☐
10	Service truck chassis - refer to Owners Manual.	☐
11	Check power steering, transmission, and windshield washer fluids.	☐
12	Inspect for any damage and any loose items such as wires, fittings, pins, nuts and bolts. Correct problem and/or NOTE below.	☐

NOTES and REMARKS:

Perform this routine AFTER every shift or after 10 hours of operation (whichever is sooner)

Sweeper S/N:	Date:	Hours:	Miles:
This CHECKLIST PERFORMED BY:			

		Done:
1	Allow BOTH engines to idle for 2 minutes before shut-down.	☐
2	WASH THOROUGHLY: Including engine radiators, hydraulic oil cooler, elevator (including the shafts), hopper and hopper lift frame/scissors area. Be sure engine is cool before washing. DO NOT use high pressure to wash radiators or hydraulic oil cooler fins.	☐
3	Grease elevator shaft bearings and main broom stub-shaft bearing with EP2 grease.	☐
	Note: the shafts should be rotating while being greased to insure proper distribution of lubricant.	
4	Check for and remove any tape, string, etc., wound around broom motor shafts.	☐
5	Inspect for any damage and any loose items such as wires, fittings, pins, nuts and bolts. Correct problem and/or NOTE below.	☐

NOTES and REMARKS:

Thank you for choosing Stewart-Amos Sweepers! HAPPY SWEEPING!!!

EVERY 40 HOURS

STARFIRE SWEEPER WEEKLY MAINTENANCE CHECKLIST

Perform this routine WEEKLY or after 40 hours of operation (whichever is sooner)

Sweeper S/N:	Date:	Hours:	Miles:
This CHECKLIST PERFORMED BY:			

		Done:
1	The OPERATOR has READ and THOROUGHLY UNDERSTANDS the "Safety, Operations and Maintenance Manual" for this sweeper and understands the safe operation of the vehicle including the chassis, the chassis "Owners Manual" and the diesel particulate filter. Refuel with "ULTRA LOW Sulfur Highway Diesel" ONLY.	☐
2	Perform the DAILY ROUTINE.	☐
3	Grease the pivot point on the main broom and gutter broom "arms".	☐
4	Perform an extra thorough cleaning of the hydraulic oil cooler.	☐
5	Service truck chassis - refer to Owners Manual.	☐
6	Inspect for any damage and any loose items such as wires, fittings, pins, nuts and bolts. Correct problem and/or NOTE below.	☐

NOTES and REMARKS:

Thank you for choosing Stewart-Amos Sweepers! HAPPY SWEEPING!!!

EVERY 250 HOURS

STARFIRE SWEEPER WEEKLY MAINTENANCE CHECKLIST

ALL MAINTENANCE BEYOND DAILY AND WEEKLY IS PERFORMED ON A USAGE BASIS AS INDICATED IN THE MANUALS

Perform this routine AFTER EVERY 250 hours of operation OR sooner if conditions dictate

Sweeper S/N:	Date:	Hours:	Miles:
This CHECKLIST PERFORMED BY:			

		Done:
1	Change BOTH engine oils AND filters - Write Date and Hours on filter housings.	☐
2	Replace hydraulic oil filter - Write Date and Hours on filter housing.	☐
3	Clean hydraulic oil tank breather filter.	☐
4	Inspect for any damage and any loose items such as wires, fittings, pins, nuts and bolts. Correct problem and/or NOTE below.	☐

NOTES and REMARKS:

Thank you for choosing Stewart-Amos Sweepers! HAPPY SWEEPING!!!

EVERY 1000 HOURS

STARFIRE SWEEPER PERIODIC MAINTENANCE CHECKLIST

ALL MAINTENANCE BEYOND DAILY AND WEEKLY IS PERFORMED ON A USAGE BASIS AS INDICATED IN THE MANUALS

Perform this routine AFTER EVERY 1000 hours of operation OR sooner if conditions dictate

Sweeper S/N:	Date:	Hours:	Miles:

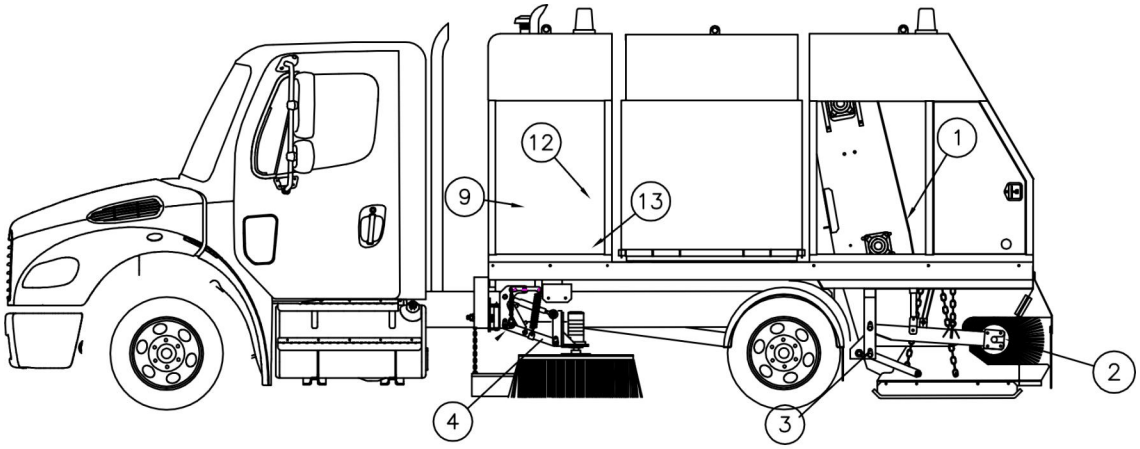
This CHECKLIST PERFORMED BY:

		Done:
1	Perform a 250 hour Maintenance Routine.	☐
2	Change Hydraulic Oil per Manual.	☐
3	Grease chassis per "Owners Manual" including front steering linkage, U-joints, bearings, and king pins.	☐
4	Check elevator chain for adjustment.	☐
5	Inspect for any damage and any loose items such as wires, fittings, pins, nuts and bolts. Correct problem and/or NOTE below.	☐

NOTES and REMARKS:

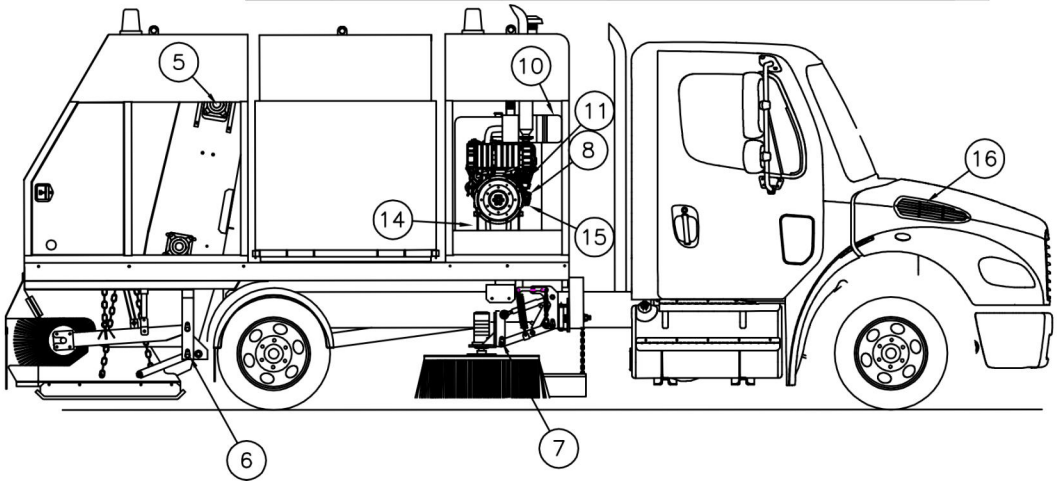
Thank you for choosing Stewart-Amos Sweepers! HAPPY SWEEPING!!!

Sweeper Service Points

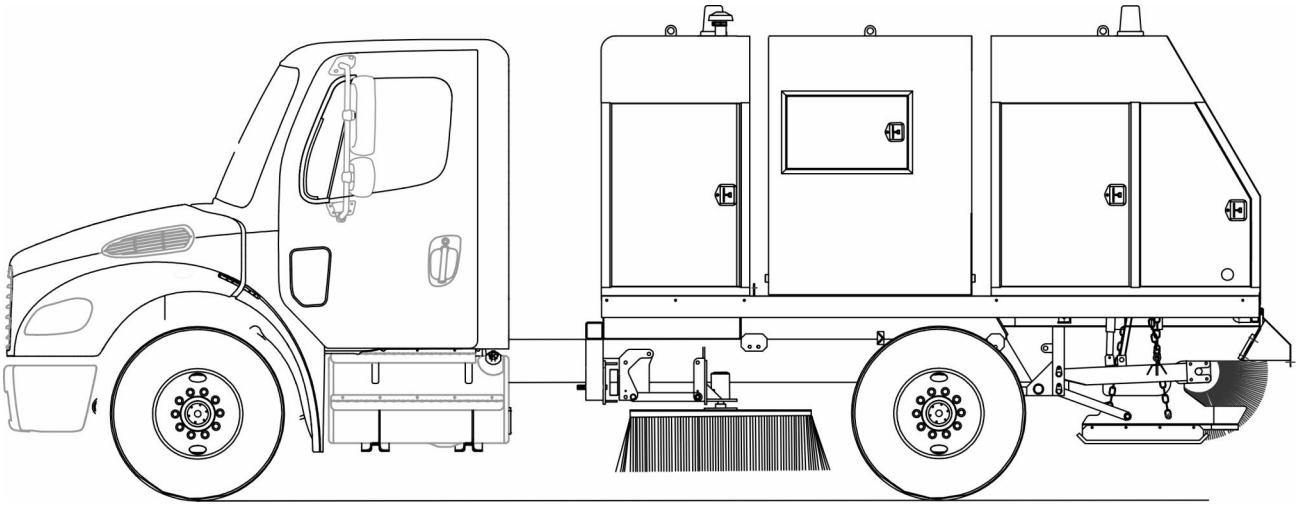


SWEEPER SERVICE POINTS

LOCATION	NO. OF POINTS	FREQUENCY	DESCRIPTION
1	3	DAILY	ELEVATOR BEARINGS (DRIVERS SIDE)
2	1	DAILY	MAIN BROOM BEARING
3	3	WEEKLY	MB AND DRAG SHOE LINKAGE
4	3	WEEKLY	GUTTER BROOM LINKAGE
5	3	DAILY	ELEVATOR BEARINGS (PASSENGER SIDE)
6	3	WEEKLY	MB AND DRAG SHOE LINKAGE
7	3	WEEKLY	GUTTER BROOM LINKAGE
8	1	DAILY	ENGINE OIL LEVEL
9	1	DAILY	HYDRAULIC OIL LEVEL
10	1	DAILY	AIR FILTER AUX. ENGINE
11	1	AS REQ.	FUEL FILTER
12	1	250 HR.	HYDRAULIC OIL FILTER
13	1	1000 HRS.	HYDRAULIC OIL
14	1	250 HRS	ENGINE OIL
15	1	250 HRS	ENGINE OIL FILTER
16	1	DAILY	AIR FILTER TRUCK



STARFIRE
S-4XXL
PARTS MANUAL



SN 6001 And UP
Last Updated March 2015

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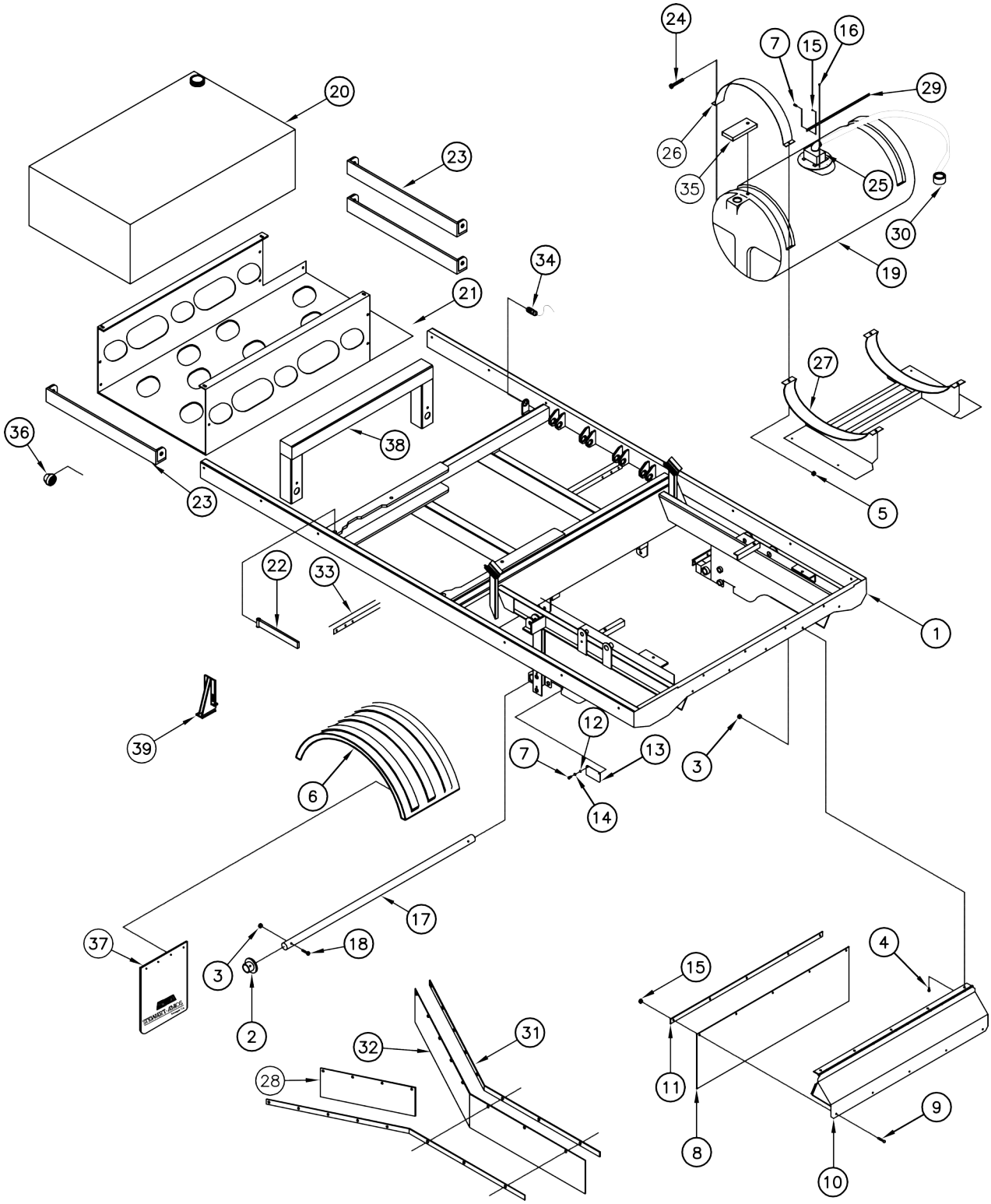
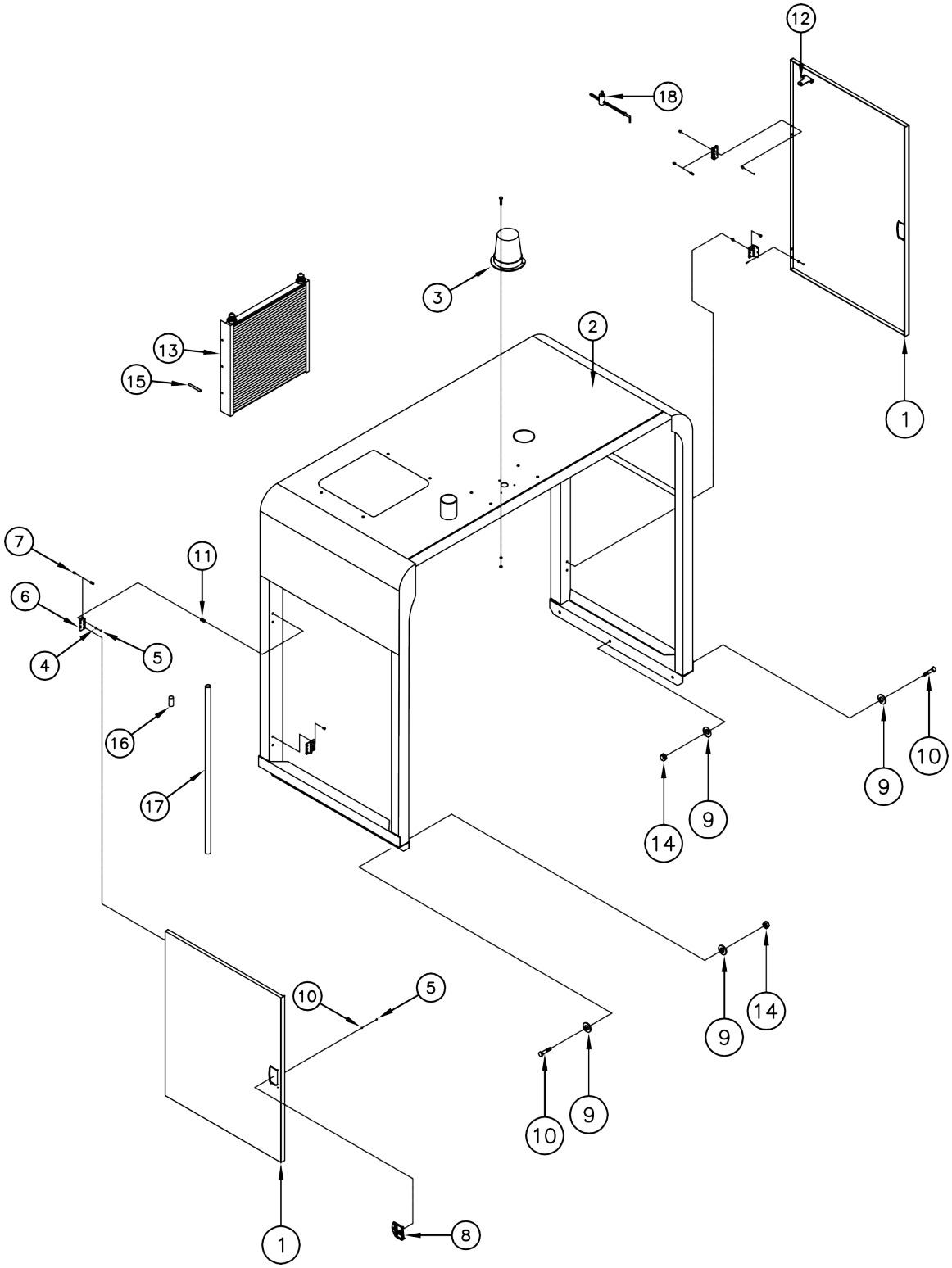
MAIN FRAME ASSEMBLY



MAIN FRAME ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	92001	MAIN FRAME WELDMENT	1
2	43129	ELEV CENTERING BUSHING	2
3	1502	NUT	17
4	1535	BOLT	17
5	1505	NUT	4
6	9356	FENDER	2
7	1537	BOLT	2
8	42073	SKIRT	1
9	1534	BOLT	12
10	42060	REAR SKIRT	1
11	42075	BASE STRIP	1
12	1822	WASHER	16
13	42077	BEARING INSPECTION COVER	2
14	1670	WASHER	4
15	1503	NUT	12
16	1591	SCREW	6
17	41771	REST TUBE	1
18	1843	BOLT	2
19	1075	200 GAL. PLASTIC TANK	1
20	9185	130 GAL. PLASTIC TANK	1
21	92201	WATER TANK TUB	1
22	42085	SAFETY PROP	2
23	92203	WATER TANK END ANGLE	3
24	1843	BOLT	4
25	42065	WATER VALVE	1
26	42220-06	WATER TANK STRAP	2
27	42220	WATER TANK MOUNT	1
28	42146	CENTER DRAG RUBBER	1
29	42083	WATER VALVE ROD	1
30	1116	HYDRANT HOSE	1
31	42103	CENTER DRAG SUPPORT	2
32	42101	CENTER DRAG RUBBER	1
33	9357	FENDER MOUNT	2
34	1087-3	PROXIMITY SWITCH	2
35	42214	FILL RELIEF RUBBER	1
36	1915	WORK LIGHT	2
37	3206	MUD FLAP	2
38	91201	GB MOUNT	1
39	92101	AXLE SUPPORT	2

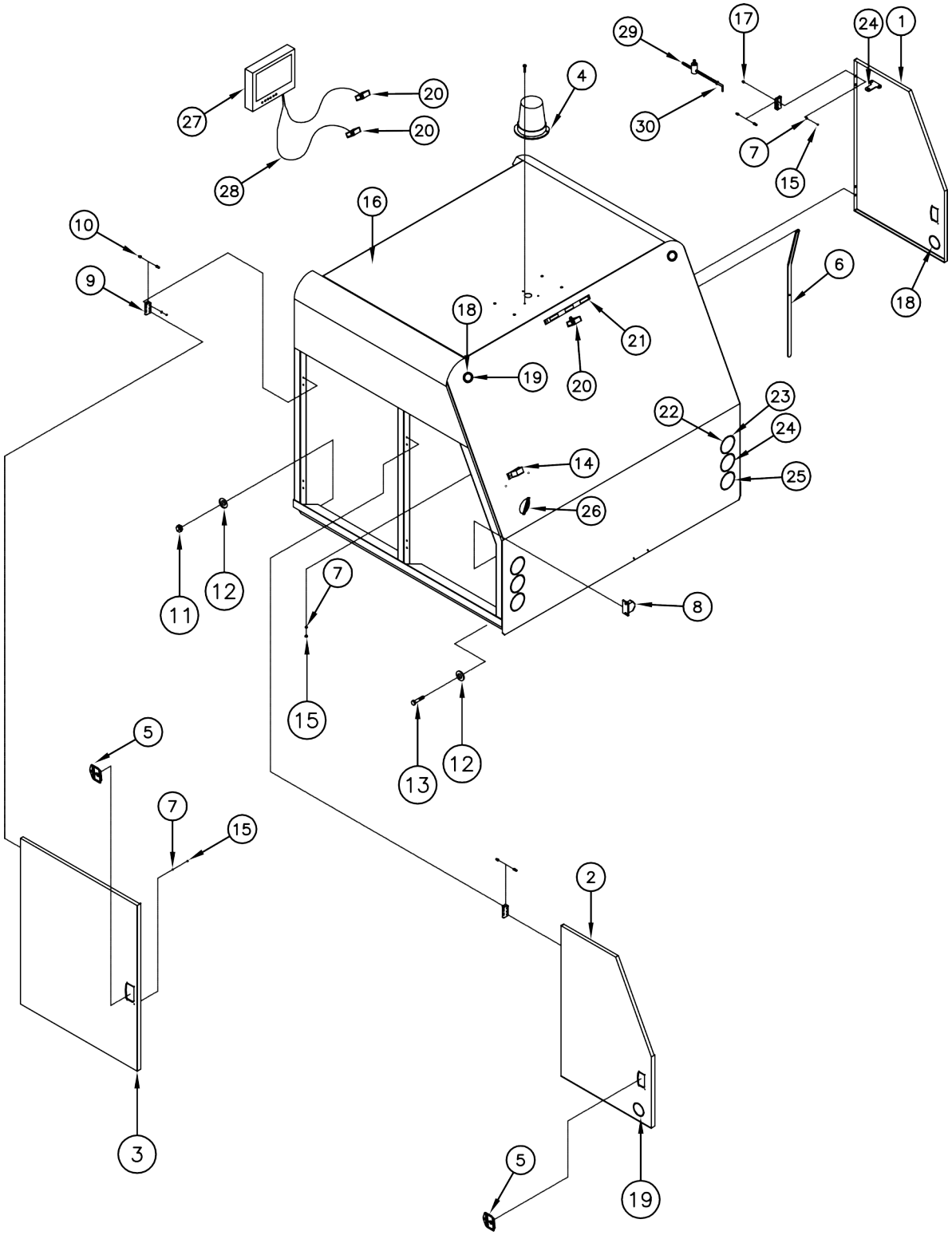
FRONT CANOPY ASSEMBLY



FRONT CANOPY ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	41503	DOOR	2
2	91501	FRONT CANOPY	1
3	1916	STROBE	1
4	1520	WASHER	20
5	1501	NUT	20
6	1031	HINGE	4
7	1579	BOLT	8
8	1005	DOOR LATCH	2
9	1522	WASHER	6
10	1843	BOLT	6
11	1750	INSERT	8
12	91502	DOOR STOP	2
13	1955	HYD. COOLER & FAN	1
14	1503	NUT	6
15	41504	SPACER	4
	42107	LIMB GUARD (NOT SHOWN OPTIONAL)	1
16	1394	WATER LEVEL FLOAT	1
17	1395	CLEAR FLOAT TUBE	1
18	1861	DOOR STOP SPRING	2

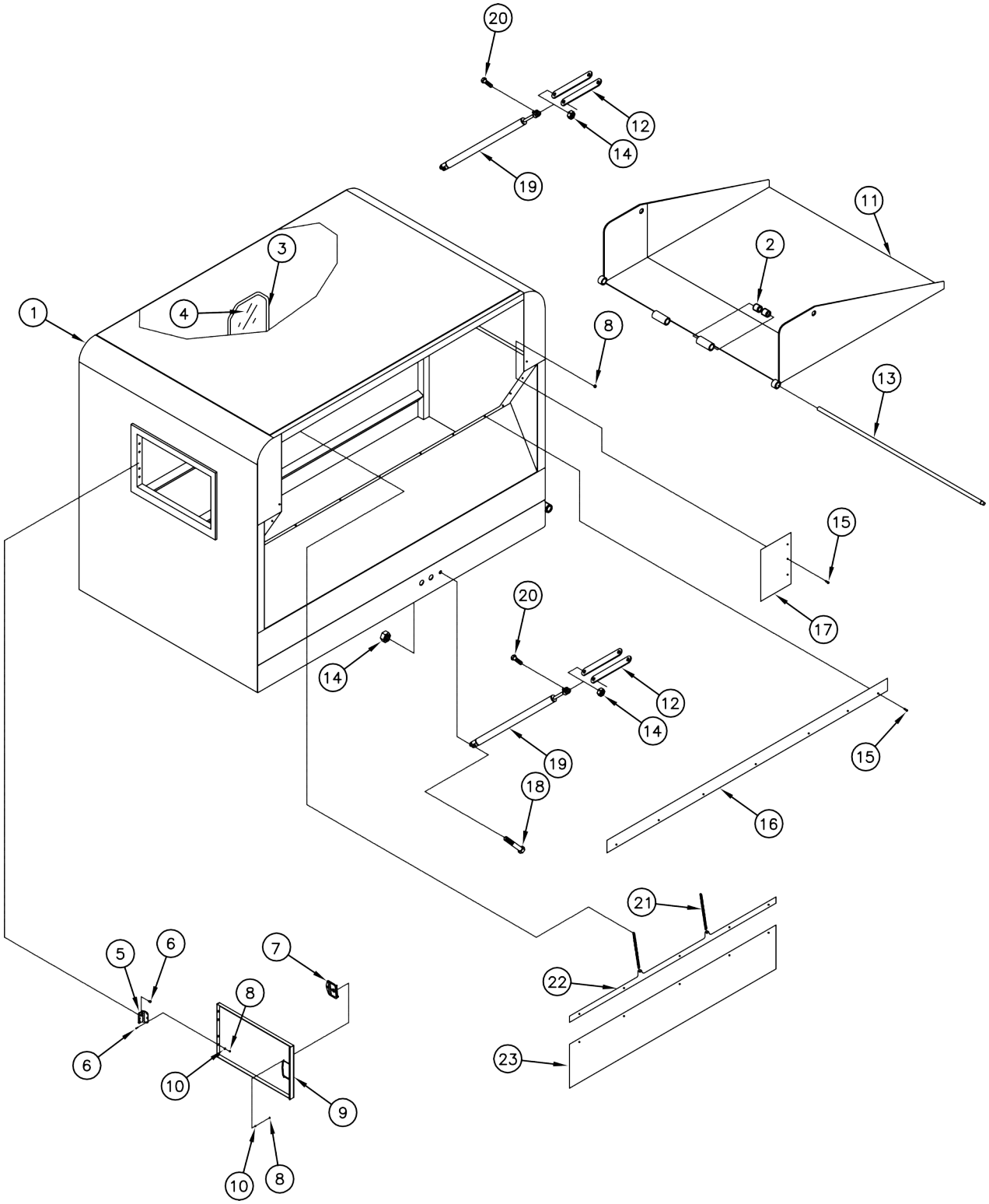
REAR CANOPY ASSEMBLY



REAR CANOPY ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	41614	RIGHT REAR DOOR	1
2	41612	LEFT REAR DOOR	1
3	41503	DOOR	2
4	1916	STROBE	1
5	1005	DOOR LATCH	4
6	42081	WATER VALVE LEVER	1
7	1520	WASHER	36
8	1024	BACKUP ALARM	1
9	1031	HINGE	8
10	1579	BOLT	32
11	1503	NUT	6
12	1822	WASHER	6
13	1843	BOLT	6
14	1908	LICENSE PLATE LIGHT	1
15	1501	NUT	36
16	91602	REAR CANOPY	1
17	1750	INSERT	16
18	1905	CLEARANCE LIGHT	4
19	1906	GROMMET	4
20	1770	CAMERA	1
21	1907	ID BAR	1
22	1911	BACKUP LIGHT	2
23	1912	GROMMET	6
24	1910	TURN SIGNAL LIGHT	2
25	1909	BRAKE LIGHT	2
26	1915	WORK LIGHT	1
	42107	LIMB GUARD (NOT SHOWN)	1
27	1769	CAMERA/MONITOR	1
28	1768	CAMERA CABLE	2
29	1861	DOOR STOP SPRING	4
30	91502	DOOR STOP	4

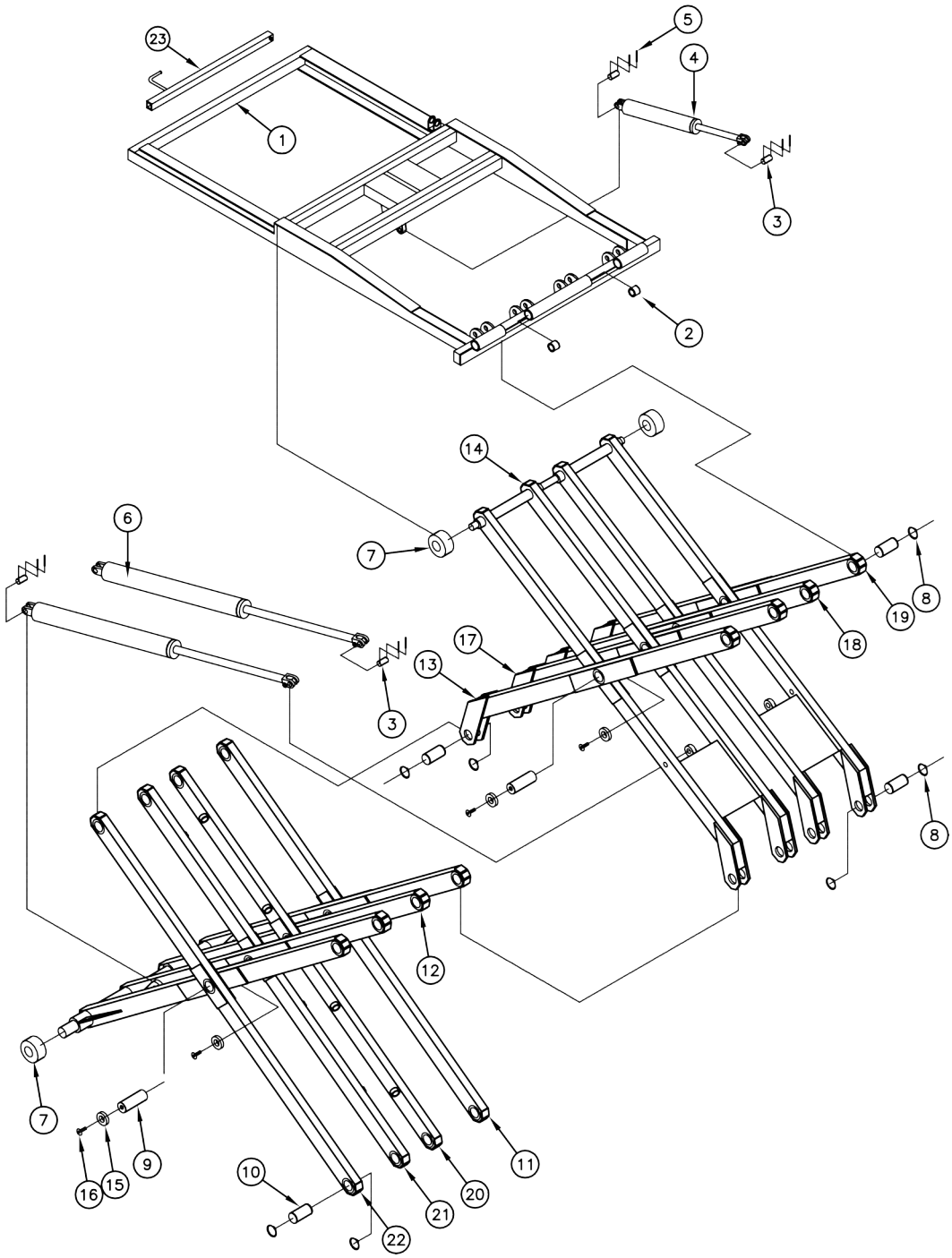
HOPPER ASSEMBLY



HOPPER ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	92901	HOPPER	1
2	1185	BUSHING	18
3	1033	WINDOW RUBBER	37"
4	42913	WINDOW	1
5	1031	HINGE	2
6	1579	BOLT	8
7	1005	DOOR LATCH	1
8	1501	NUT	20
9	62907	ACCESS DOOR	1
10	1520	WASHER	34
11	92906	HOPPER DOOR	1
12	42905	DOOR LINK	4
13	92904	PIN	1
14	1583	NUT	4
15	1530	BOLT	13
16	42915	RUBBER FLASHING	1
17	42917	UPRIGHT FLASHING	2
18	1560	BOLT	2
19	1061	CYLINDER	2
20	1558	BOLT	4
21	1173	CHAIN	2-6"
22	32910	DRAIPER MOUNT	1
23	32911	DRAIPER RUBBER	1
	1934	OPTIONAL BIN VIB. (NOT SHOWN)	1

LIFT FRAME ASSEMBLY

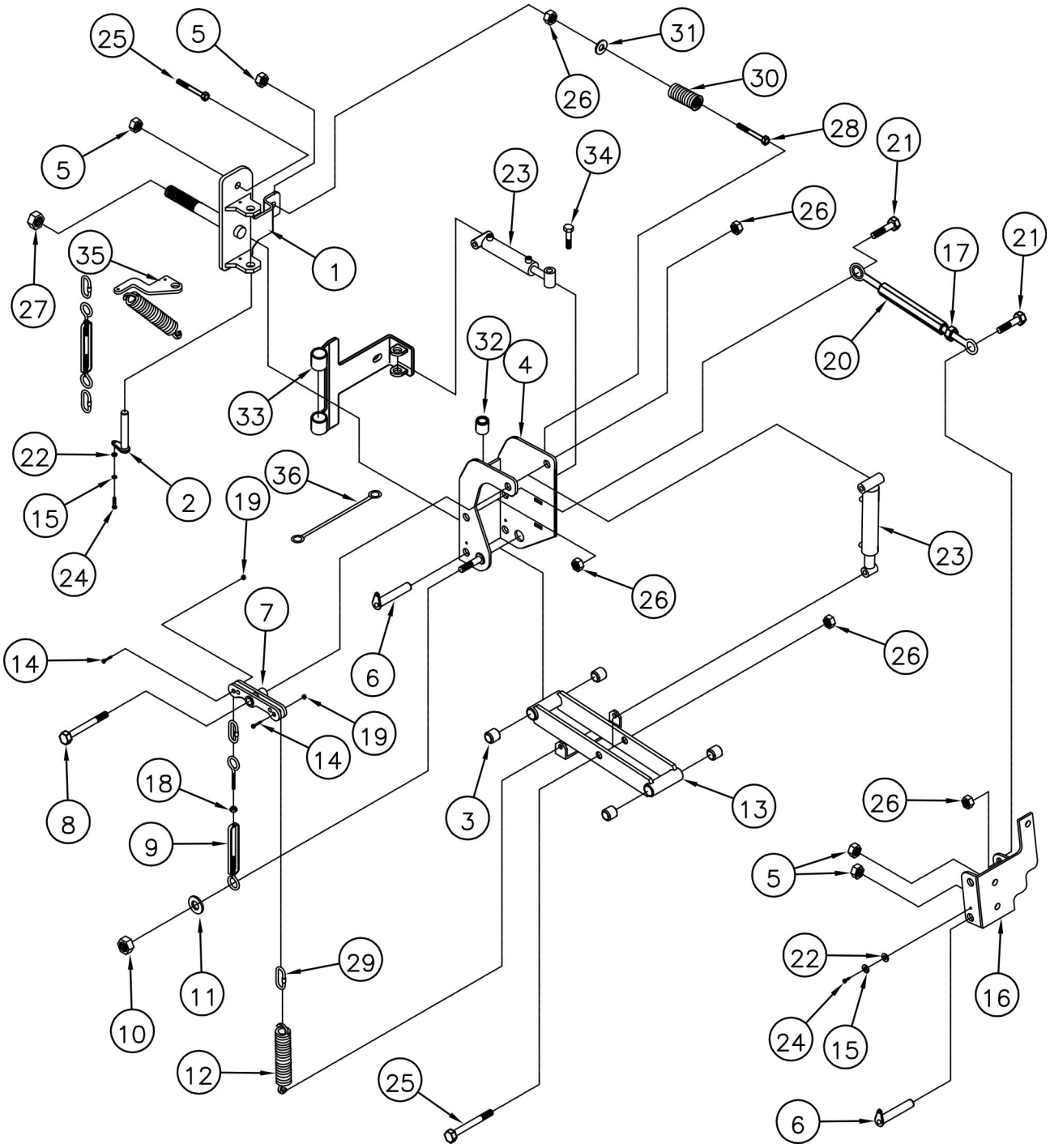


LIFT FRAME ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	93002	HOPPER LIFT FRAME	1
2	1185	BUSHING	8
3	1623	PIN	6
4	1985	CYLINDER	1
5	1604	COTTER PIN	6
6	3210	CYLINDER	2
7	42813	SCISSOR ROLLER	4
8	1074	SNAP RING	16
9	62812	CENTER PIN	8
10	62811	SCISSOR PIN	16
11	92815	LOWER ANCHOR SECT. LEG #1	1
12	92806	LOWER SCISSOR, ROLLER SECT.	1
13	92811	UPPER ANCHOR SECT. LEG #1	1
14	92801	UPPER SCISSOR, ROLLER SECT.	1
15	62813	RETAINER WASHER	16
16	1782	BOLT	16
17	92812	UPPER ANCHOR SECT. LEG #2	1
18	92813	UPPER ANCHOR SECT. LEG #3	1
19	92814	UPPER ANCHOR SECT. LEG #4	1
20	92816	LOWER ANCHOR SECT. LEG #2	1
21	92817	LOWER ANCHOR SECT. LEG #3	1
22	92818	LOWER ANCHOR SECT. LEG #4	1
23	42131	SAFETY	1

GUTTER BROOM
ASSEMBLY
UPPER SECTION

(QUANTITIES SHOWN ARE FOR ONE SIDE ONLY)



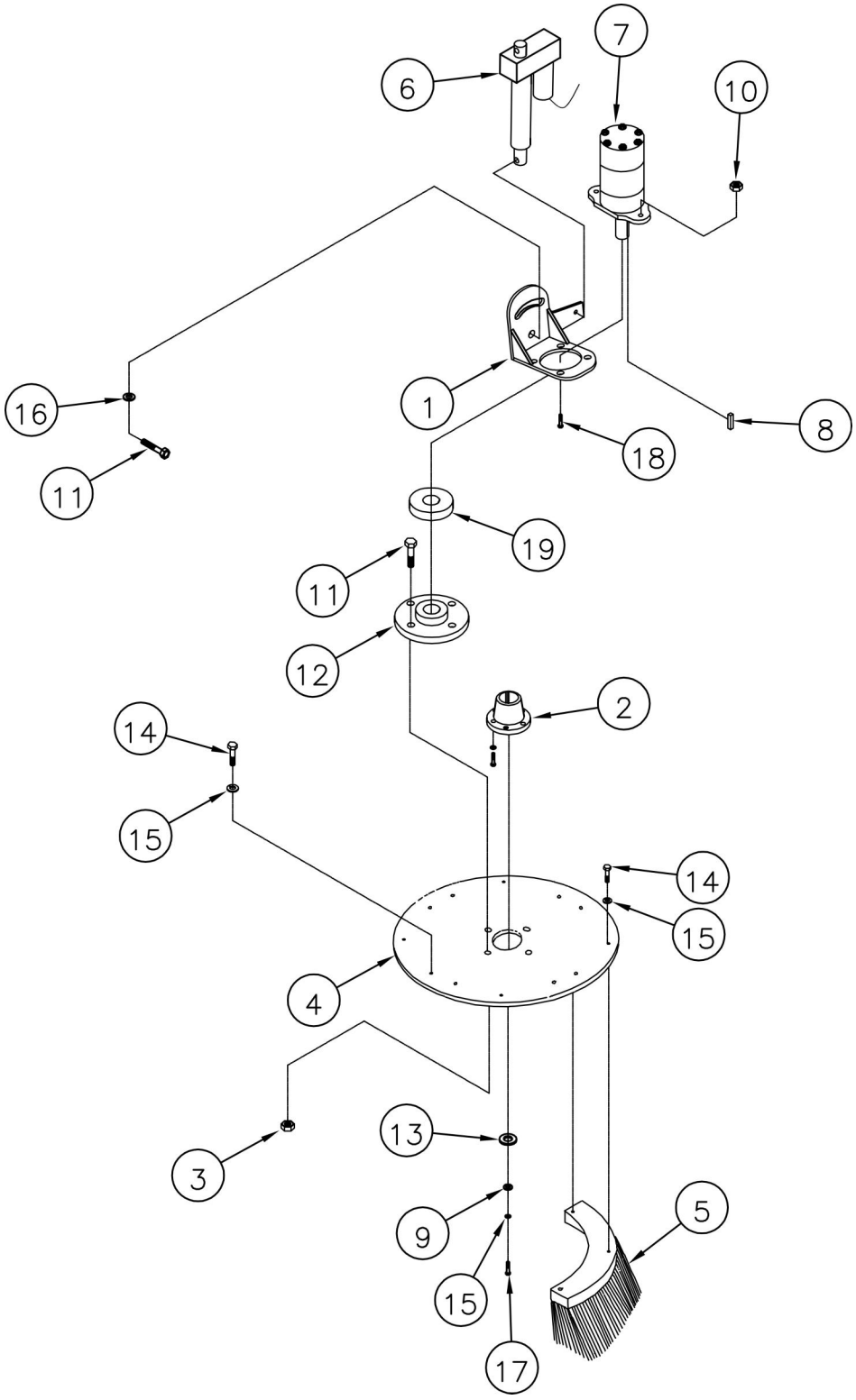
GUTTER BROOM
ASSEMBLY
UPPER SECTION

(QUANTITIES SHOWN ARE FOR ONE SIDE ONLY)

ITEM	PART #	DESCRIPTION	QTY
1	61201	GB MOUNT (LEFT HAND)	1
	61301	GB MOUNT (RIGHT HAND)	1
2	61213	PIN	1
3	1020	BUSHING	4
4	61203	GB PIVOT (LEFT)	1
	61303	GB PIVOT (RIGHT)	1
5	1506	NUT	5
6	41211	PIN	2
7	41215	SPRING BELL CRANK	1
8	1561	BOLT	1
9	1023	TURN BUCKLE	1
10	1505	NUT	1
11	1581	WASHER	1
12	1018	SUSPENSSION SPRING	2
13	41221	LINK	1
14	1540	BOLT	2
15	1670	WASHER	3
16	41205	LINKAGE MOUNT (LEFT)	1
	41316	LINKAGE MOUNT (RIGHT)	1
17	1642	NUT	2
18	1640	NUT	1
19	1503	NUT	2
20	1022	TURN BUCKLE	2
21	1559	BOLT	5
22	1822	WASHERS	3
23	1379	CYLINDER	2
24	1537	BOLT	3
25	1556	BOLT	2
26	1507	NUT	7
27	1508	NUT	1
28	1574	BOLT	1
29	1042	QUICK LINK	4
30	1019	RETRACT SPRING	1
31	1526	WASHER	2
32	1185	BUSHING	4
33	61235	RETRACT PLATE (LEFT)	1
	61309	RETRACT PLATE (RIGHT)	1
34	1560	BOLT	2
35	41230	EXTEND SPRING MOUNT	1

GUTTER BROOM
ASSEMBLY
LOWER SECTION

(QUANTITIES SHOWN ARE FOR ONE SIDE ONLY)

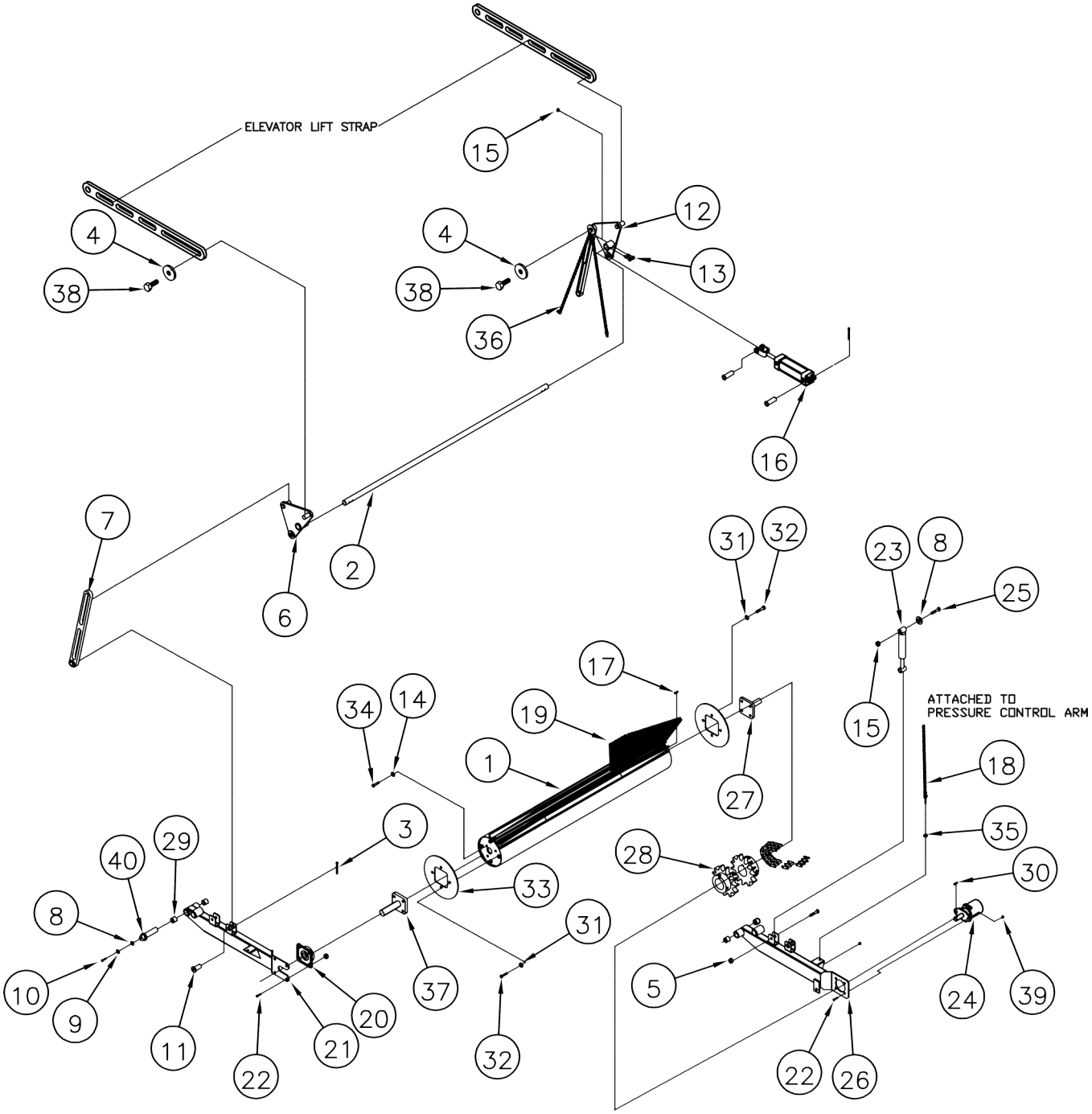


GUTTER BROOM
ASSEMBLY
LOWER SECTION

(QUANTITIES SHOWN ARE FOR ONE SIDE ONLY)

ITEM	PART #	DESCRIPTION	QTY
1	41207	MOTOR BRACKET (LEFT)	1
	41318	MOTOR BRACKET (RIGHT)	1
2	3248	BUSHING C/W 3-BOLT, 3-LW	1
3	1506	NUT	4
4	41227	32" PLATE	1
5	1148	GB BRUSH SET FOR 32" PLATE	1
6	1078	LINEAR ACTUATOR	1
7	3243	MOTOR	1
8	1683	OFFSET KEY	1
9	1822	WASHERS	1
10	1505	NUT	2
11	1549	BOLT	4
12	41209	DRIVE HUB	1
13	1526	WASHER	1
14	1540	BOLT	24
15	1670	WASHER	5
16	1525	WASHER	2
17	1537	BOLT	3
18	1546	BOLT	2
19	42316	SPACER	2
	61307	OPTIONAL 42" PLATE (NOT SHOWN)	1
	3229	GB BRUSH SET for 61307 (NOT SHOWN)	1

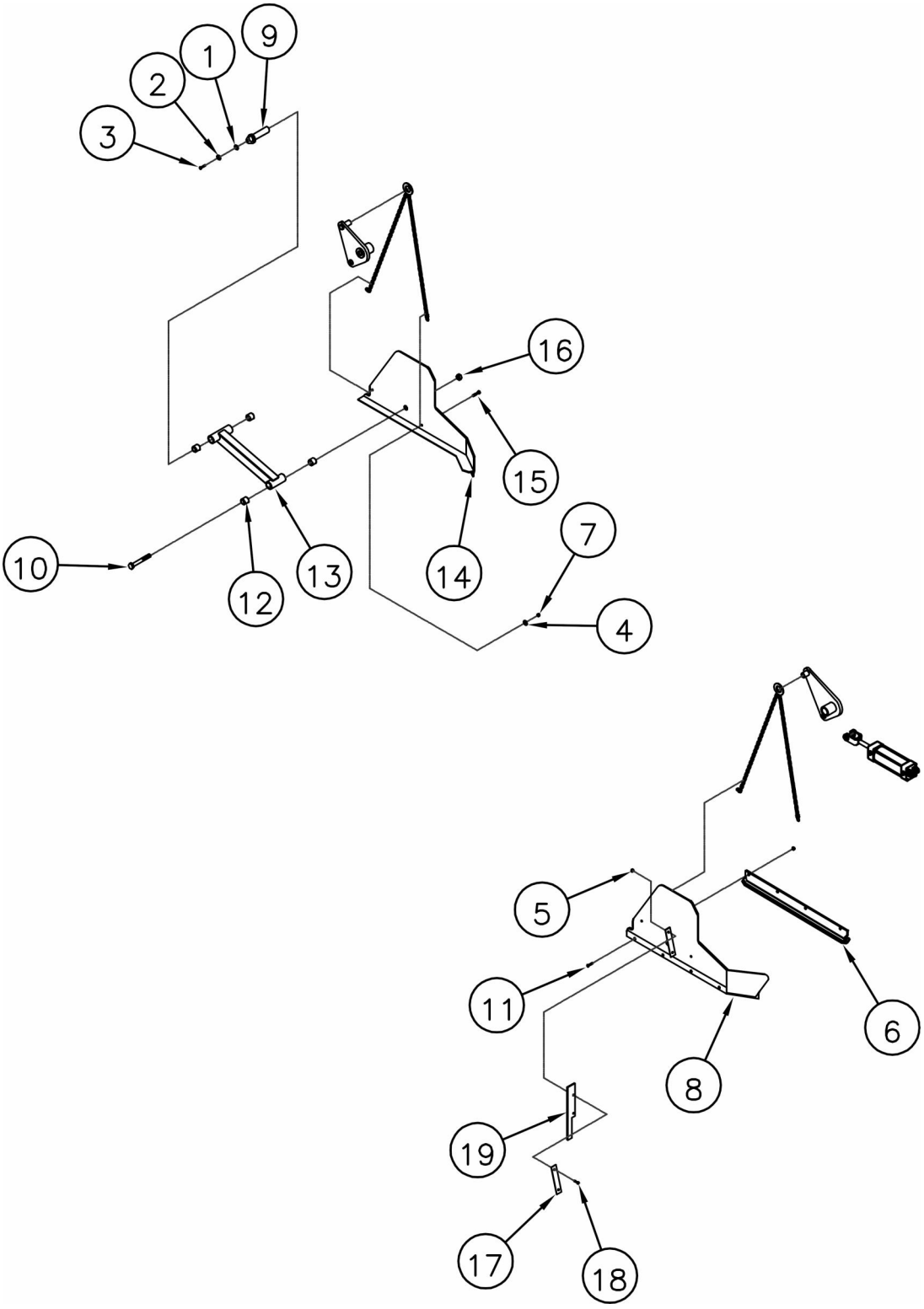
MAIN BROOM ASSEMBLY



MAIN BROOM ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	1014	MAIN BROOM MANDREL	1
2	41413	MAIN BROOM ROCK SHAFT	1
3	1604	COTTER PIN	2
4	62813	WASHER	4
5	1505	NUT	6
6	41405	LIFT BELL CRANK (LEFT)	1
7	41421	MAIN BROOM LIFT STRAP	2
8	1822	WASHER	30
9	1670	WASHER	2
10	1537	BOLT	2
11	41417	PIN	2
12	41407	LIFT BELL CRANK (RIGHT)	1
13	1630	CAPSCREW	4
14	1671	WASHER	6
15	1503	NUT	10
16	1043	CYLINDER	2
17	1680	KEY	1
18	41427	MAIN BROOM LIFT CHAIN	2
19	1016	MAIN BROOM STRIP SET	1
20	1030	BEARING	1
21	34501	MB LIFT ARM (LEFT)	1
22	1546	BOLT	6
23	1046	SHOCK	2
24	3243	HYDRAULIC MOTOR	1
25	1843	BOLT	4
26	34502	MB LIFT ARM (RIGHT)	1
27	3213-3	MANDRELL SHAFT	1
28	80129	MAIN BROOM COUPLER	1
29	1185	BUSHING	4
30	1683	KEY	1
31	1669	WASHER	6
32	1781	BOLT	6
33	1266	MANDRELL END PLATE	2
34	1545	BOLT	6
35	1639	NUT	2
36	41437	DRAG SHOE LIFT CHAIN	2
37	61415	LONG MANDRELL SHAFT	1
38	1782	BOLT	4
39	1545	BOLT	2
40	41401	PIN	2

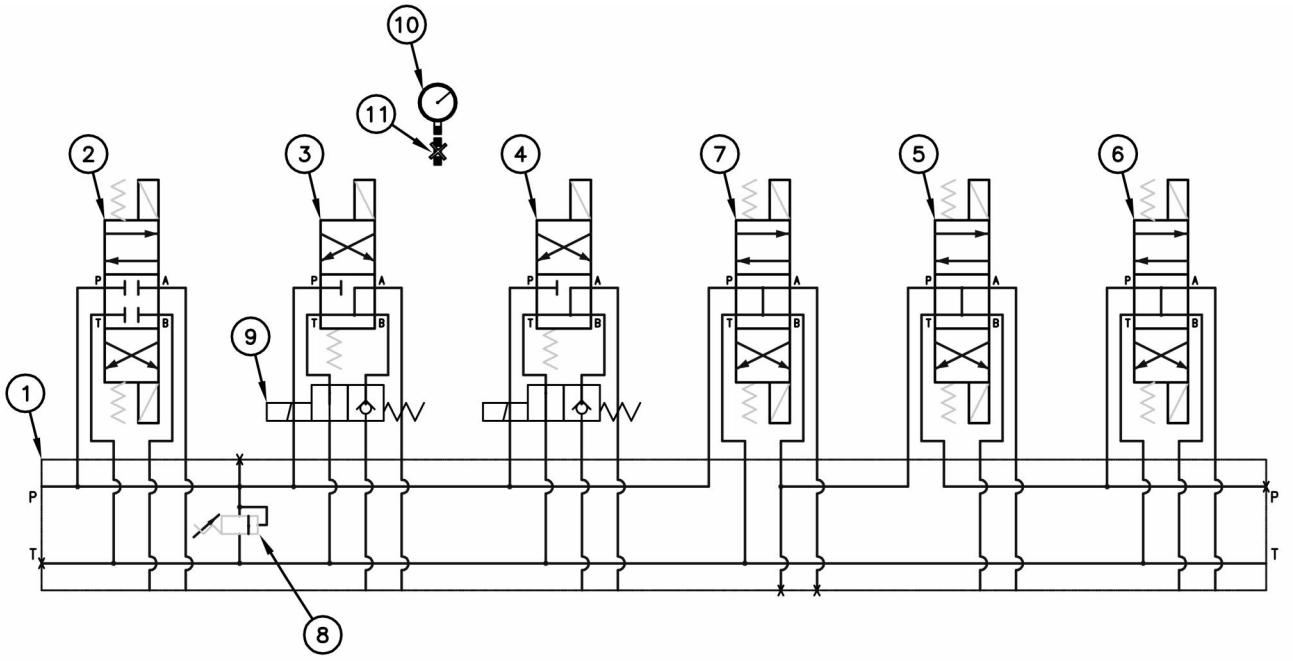
DRAG SHOE ASSEMBLY



DRAG SHOE ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	1822	WASHER	2
2	1670	WASHER	2
3	1537	BOLT	2
4	1521	WASHER	12
5	1501	NUT	4
6	1970	CARBIDE DRAG SHOE	2
7	1502	NUT	8
8	51405	DRAG SHOE MOUNT (RIGHT)	1
9	41401	PIN	6
10	1562	BOLT	2
11	1575	BOLT	8
12	1185	BUSHING	8
13	41429	DRAG LINK	2
14	51404	DRAG SHOE MOUNT (LEFT)	1
15	1534	BOLT	8
16	1508	NUT	2
17	41431	BACKING	2
18	1530	BOLT	4
19	42067	DIRT DEFLECTOR RUBBER	2

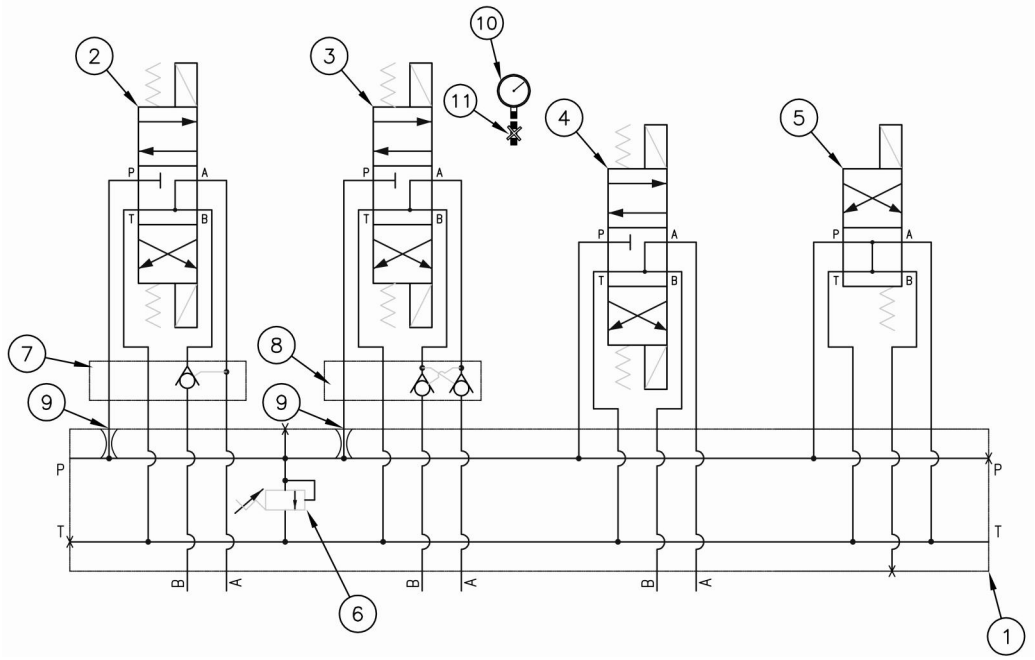
80134
VALVE ASSEMBLY



SHOWN AS VIEWED FROM DRIVERS SEAT

ITEM	PART #	DESCRIPTION	QTY
1	1293	MANIFOLD	1
2	2001	HOPPER LIFT CYLINDER VALVE	1
3	1989	LH GUTTER BROOM LIFT CYLINDER VALVE	1
4	1989	RH GUTTER BROOM CYLINDER VALVE	1
5	1295	LH GUTTER BROOM MOTOR VALVE	1
6	1295	RH GUTTER BROOM MOTOR VALVE	1
7	1295	DUMP VALVE	1
8	2000	RELIEF VALVE	1
9	1990	FLOAT VALVE	2
10	2080	5000 psi GAUGE	1
11	2078	GAUGE SHUTOFF VALVE	1

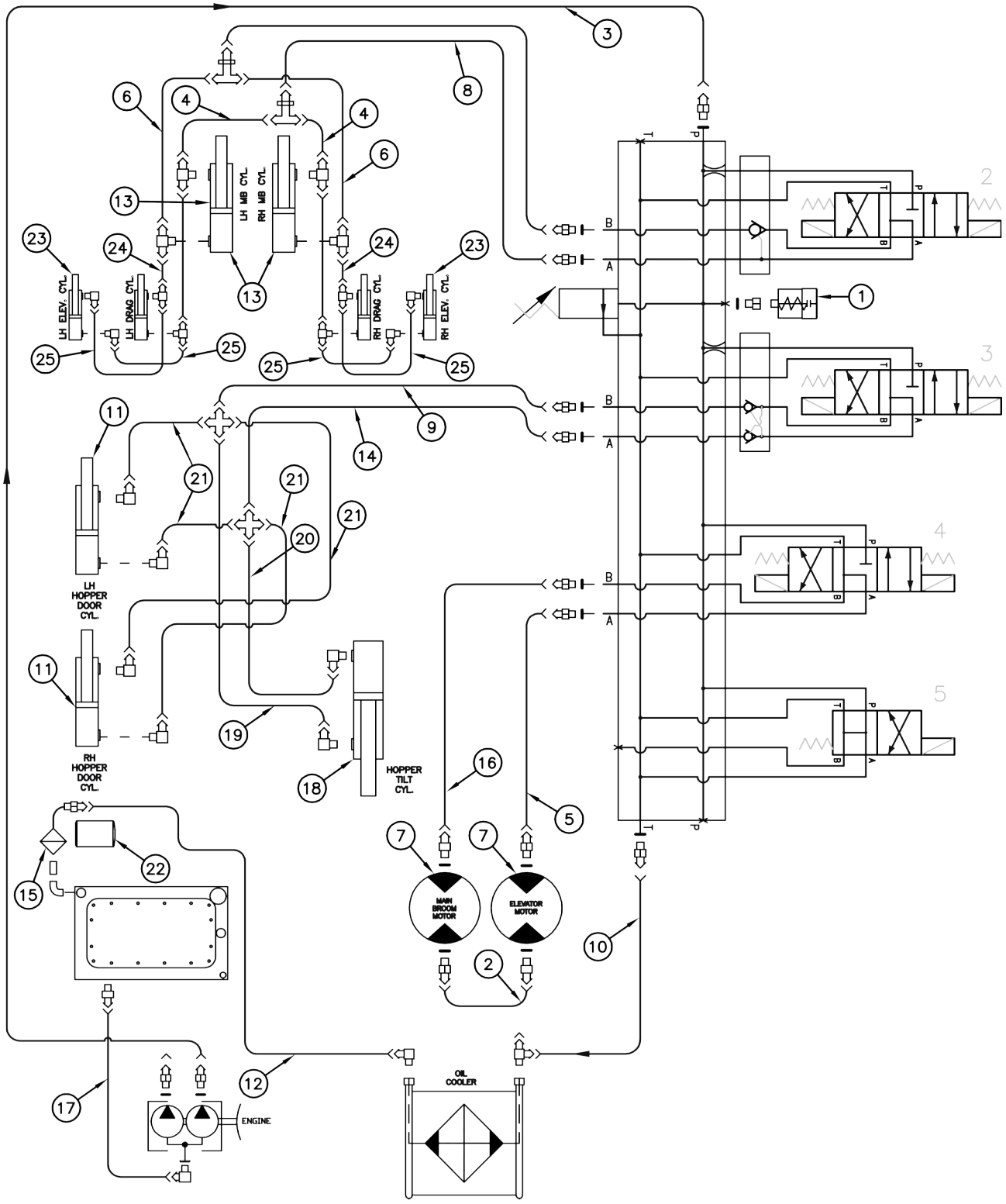
80120
VALVE ASSEMBLY



SHOWN AS VIEWED FROM DRIVERS SEAT

ITEM	PART #	DESCRIPTION	QTY
1	1287	MANIFOLD	1
2	1993	MAIN BROOM/ELEVATOR LIFT CYLINDER VALVE	1
3	1993	HOPPER TILT/DOOR CYLINDER VALVE	1
4	1993	MAIN BROOM/ELEVATOR MOTOR VALVE	1
5	1291	DUMP VALVE	1
6	2000	RELIEF VALVE	1
7	1994	P.O. CHECK VALVE	1
8	2010	DOUBLE P.O. CHECK VALVE	1
9	2089	8GPM RESTRICTOR	2
10	2080	5000 psi GAUGE	1
11	2078	GAUGE SHUTOFF VALVE	1

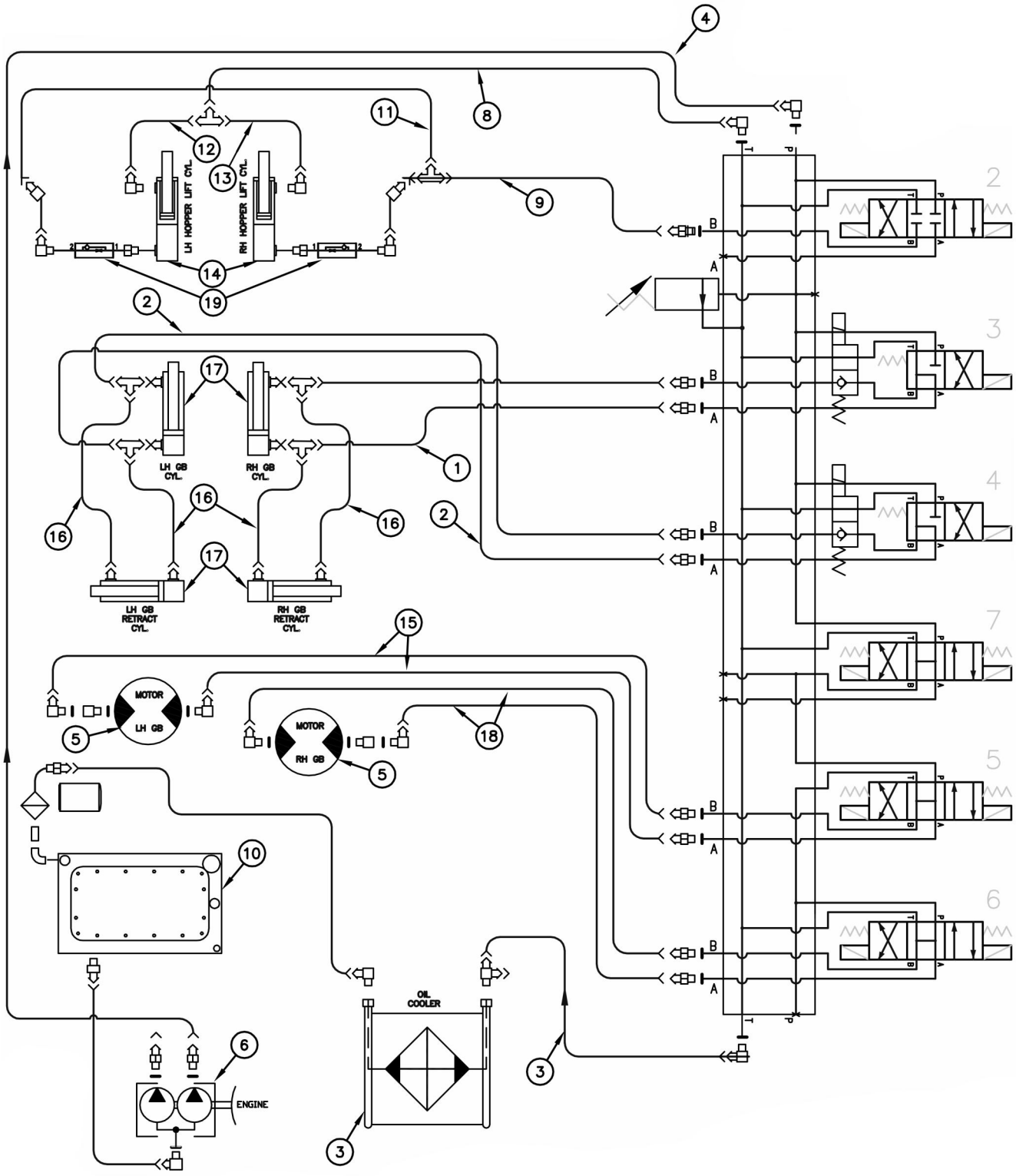
HOPPER SIDE HYDRAULIC HOSE SCHEMATIC



HOPPER SIDE
HYDRAULIC HOSE
SCHEMATIC

ITEM	PART #	DESCRIPTION	QTY
1	1037	ELEVATOR STALL SWITCH	1
2	1453	HOSE-MB MOTOR TO ELEV. MOTOR	1
3	1466	HOSE-FRONT OF PUMP TO LH VALVE	1
4	1456	HOSE-MB ROD TO "T"	2
5	1488	HOSE-ELEV. MOTOR TO VALVE	1
6	1455	HOSE-MB HEAD TO "T"	2
7	3243	HYDRAULIC MOTOR	2
8	1454	HOSE-MB VALVE TO "T"	2
9	1440	HOSE-HOPPER TILT VALVE TO CROSS	1
10	1468	HOSE-VALVE RETURN TO COOLER "T"	1
11	1061	HOPPER DOOR CYLINDER	2
12	1469	HOSE-COOLER TO FILTER	1
13	1043	MB CYLINDER	2
14	1440	HOSE-HOPPER TILT VALVE TO CROSS	1
15	1988	HYDRAULIC OIL FILTER BASE	1
16	1452	HOSE-MB MOTOR TO VALVE	1
17	1489	HOSE-SUCTION	1
18	1985	HOPPER TILT CYLINDER	1
19	1441	HOSE-HOPPER TILT ROD TO CROSS	1
20	1442	HOSE-HOPPER TILT HEAD TO CROSS	1
21	1443	HOSE-HOPPER DOOR CYL.	4
22	1987	HYDRAULIC OIL FILTER	1
23	1986	ELEV/DRAG SHOE CYL.	4
24	1490	HOSE-MB CYL T TO ELEV CYL T	4
25	1491	HOSE-ELEV CYL TO DRAG SHOE CYL	4

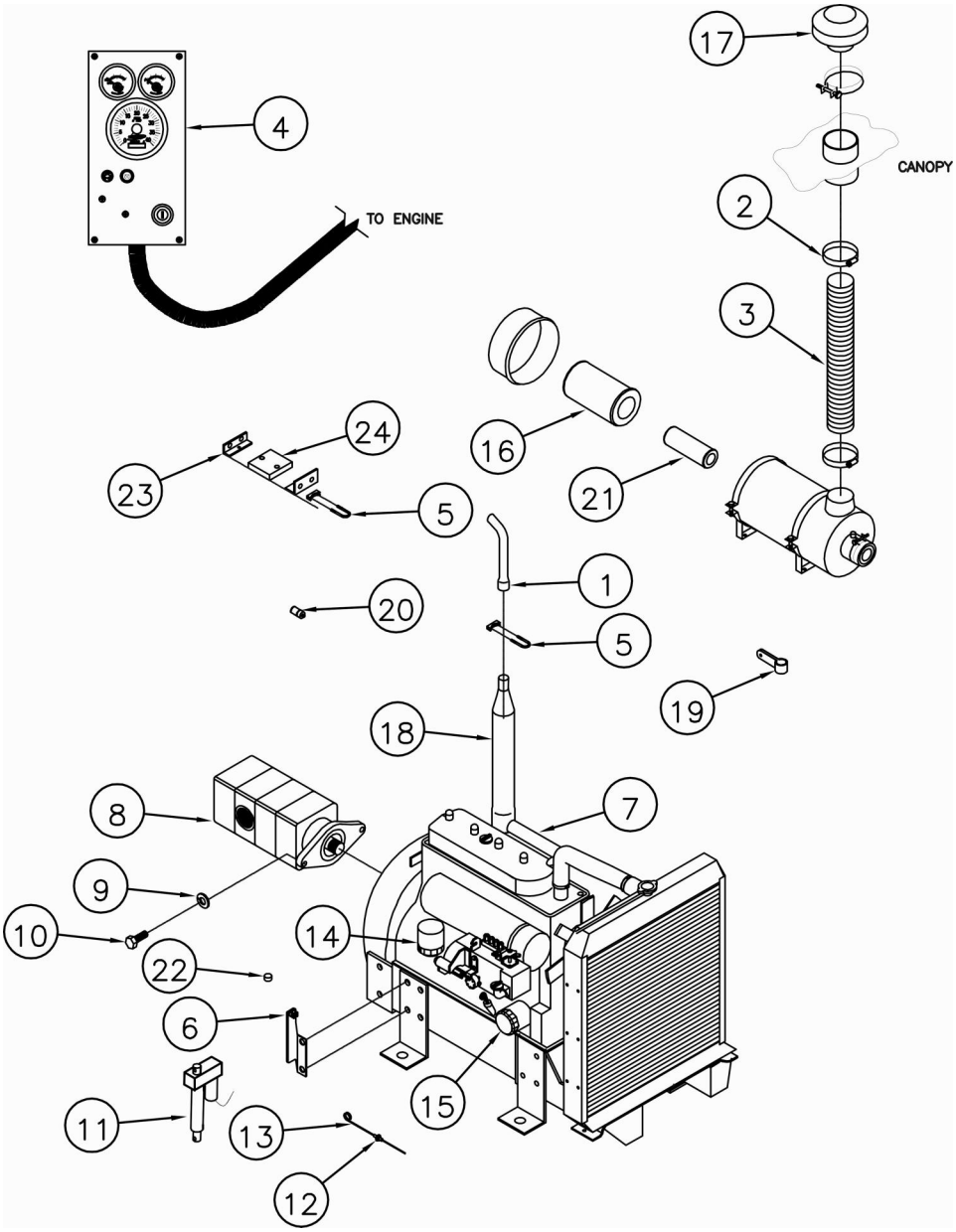
CAB SIDE
HYDRAULIC HOSE
SCHEMATIC



CAB SIDE
HYDRAULIC HOSE
SCHEMATIC

ITEM	PART #	DESCRIPTION	QTY
1	1445	HOSE - RH GB CYL. TO VAL.	2
2	1446	HOSE - LH GB CYL. TO VAL.	1
3	1492	HOSE - VALVE RETURN TO T	1
4	1467	HOSE - PUMP TO VALVE	1
5	3243	HYDRAULIC MOTOR	2
6	3251	HYDRAULIC PUMP	-
8	1493	HOSE - HOPPER LIFT RETURN	1
9	1494	HOSE - VALVE TO HOPPER LIFT	1
10	52303	HYDRAULIC TANK	-
11	1495	HOSE - LIFT CROSSOVER	1
12	1496	HOSE - RETURN CROSSOVER	1
13	1497	HOSE - ROD RETURN	1
14	3235	HOPPER LIFT CYLINDER	2
15	1450	HOSE - LH GB MOTOR TO VAL.	2
16	1428	HOSE - RETRACT CYLINDER	4
17	1379	GB CYLINDER	4
18	1451	HOSE - RH GB MOTOR TO VAL.	2
19	2087	DIRECTIONAL RESTRICTOR	2
20	1955	ELECTRIC HYD. OIL COOLER	1

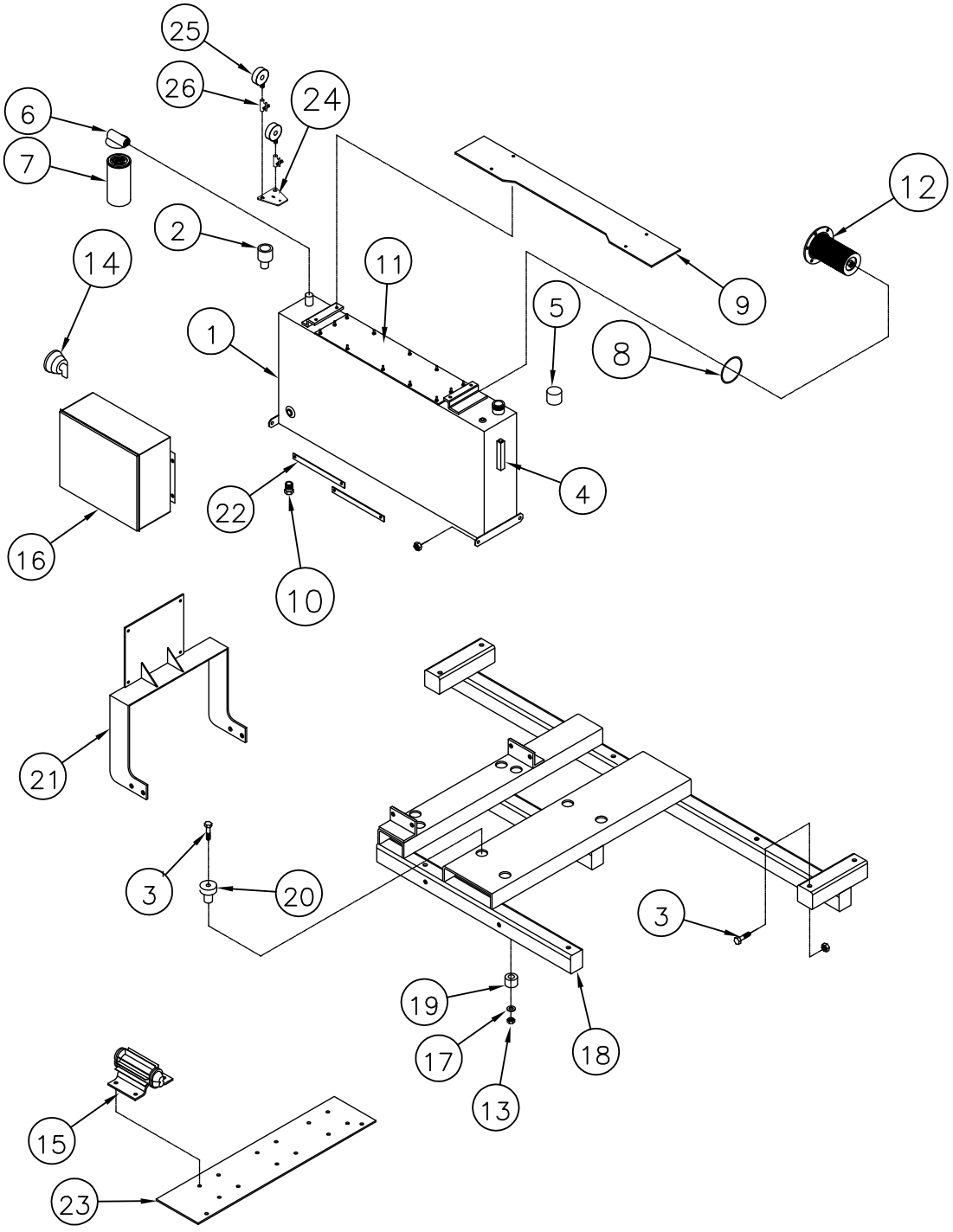
AUX. ENGINE ASSEMBLY



AUX. ENGINE ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	1156	EXHAUST PIPE	1
2	1155	HOSE CLAMP	2
3	1049	INTAKE HOSE	30"
4	42527	ENGINE CONTROL BOX	-
5	1154	EXHAUST CLAMP	2
6	42404	THROTTLE MOUNT	1
7	2077	ENGINE	1
8	3251	HYDRAULIC PUMP	1
9	1524	WASHER	4
10	1545	BOLT	4
11	1387	THROTTLE ACTUATOR	1
12	1299	THROTTLE GUIDE	1
13	1388	THROTTLE ACTUATOR CABLE	1
14	1108	FUEL FILTER	1
15	1106	ENGINE OIL FILTER	1
16	1390	ENGINE OUTER AIR FILTER	1
17	1175	RAIN CAP	1
18	1176	MUFFLER	1
19	1260	CLAMP	1
20	1104	OIL PRESSURE SENDER	1
21	1391	ENGINE INNER AIR FILTER	1
22	2076	RUBBER BUMPER	1
23	42427	MUFFLER BRACE	2
24	42429	RUBBER CONNECTOR	1

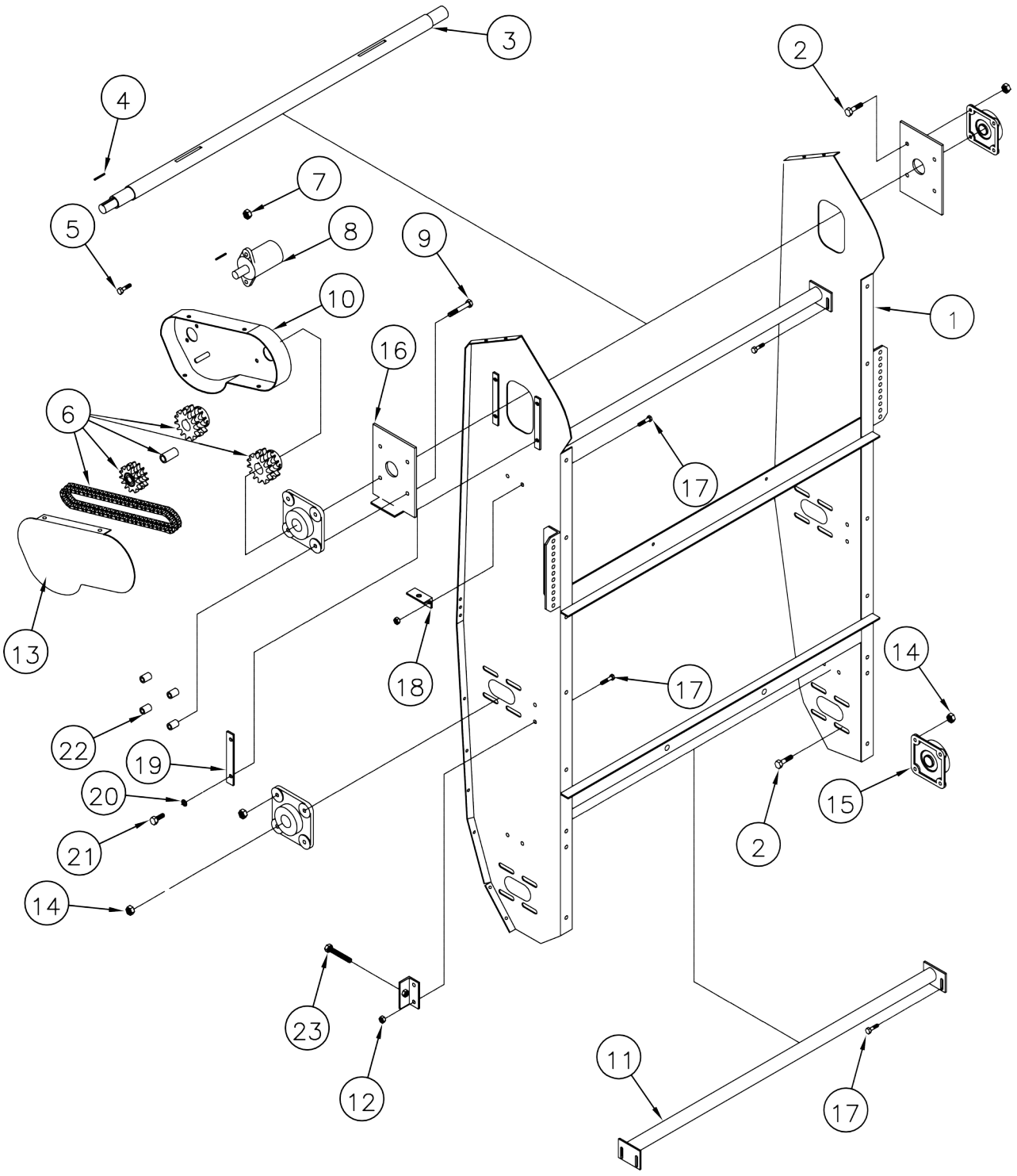
AUX. ENGINE FRAME ASSEMBLY



AUX. ENGINE FRAME ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	52303	HYDRAULIC TANK	1
2	1177	HYD. TANK BREATHER	1
3	1547	BOLT	14
4	1062	SITE GAUGE	1
5	1178	FILL CAP	1
6	1988	FILTER BASE	1
7	1987	HYD FILTER	1
8	2063	O RING	1
9	62301	VALVE MOUNT PLATE	1
10	1179	MAGNETIC DRAIN PLUG	2
11	42305	TANK COVER	1
12	2070	SUCTION SCREEN	1
13	1505	NUT	32
14	9138	DISCONNECT SWITCH	1
15	3232	WATER PUMP	-
16	62512	AUX. BOX	-
17	1524	WASHER	4
18	92401	ENGINE SKID	1
19	1526	WASHER	4
20	1047	ISOLATION MOUNT	4
21	92402	AUX. BOX MOUNT	1
22	42310	HOSE TIE STRAP	3
23	92403	WATER PUMP PLATE	1
24	42315	PRES. GAUGE MOUNT	1
25	2082	PRES. GAUGE	2
26	2078	BALL VALVE	2

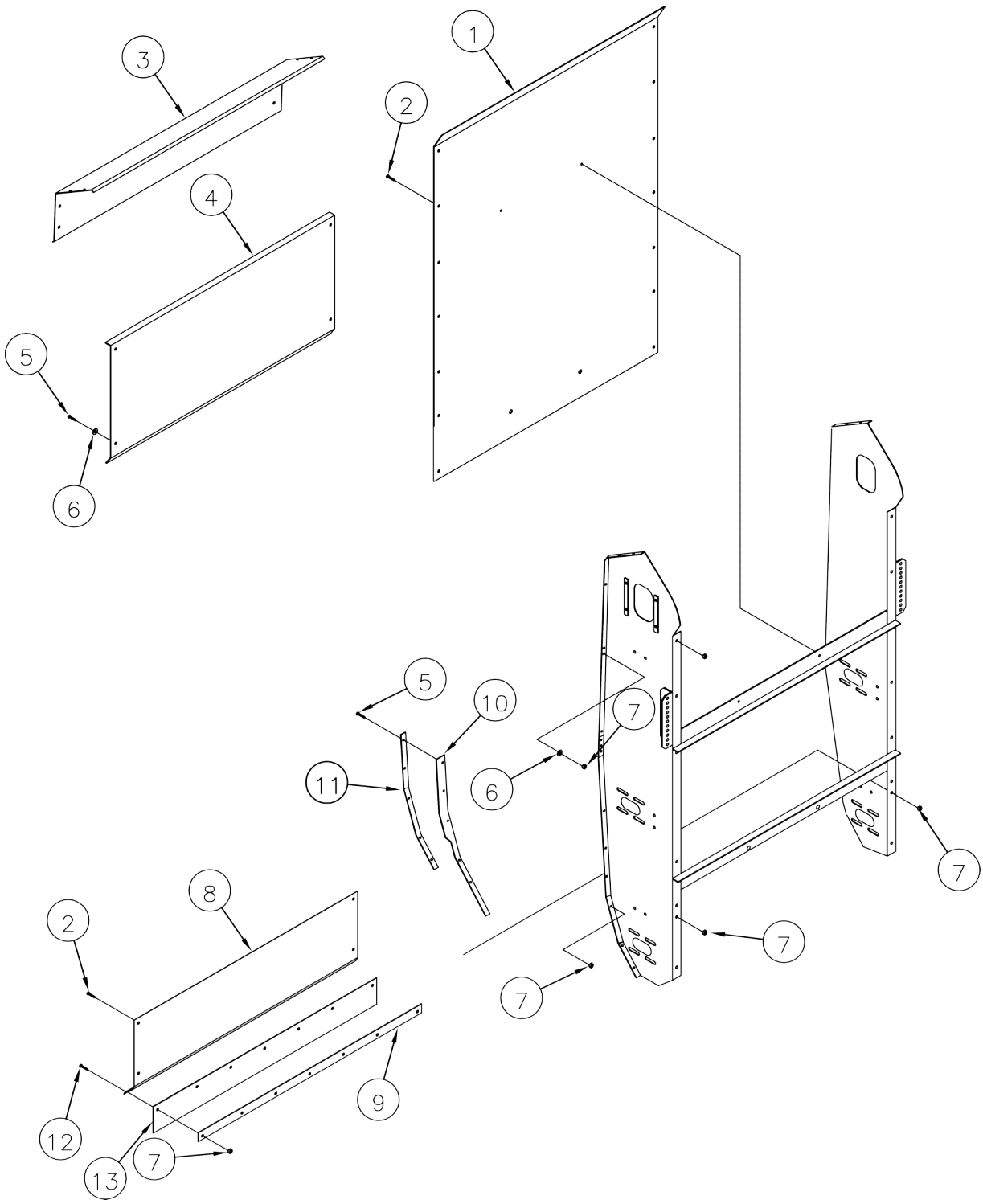
ELEVATOR ASSEMBLY



ELEVATOR ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	33101	ELEVATOR FRAME	1
2	1549	BOLT	20
3	43113	TOP SHAFT	1
4	1680	KEY	1
5	1546	BOLT	2
6	80133	ELEVATOR DRIVE SYSTEM	1
7	1505	NUT	2
8	3243	HYDRAULIC MOTOR	1
9	1556	BOLT	4
10	43134	CHAIN GUARD	1
11	43107	SEPARATOR	2
12	1503	NUT	12
13	43135	COVER	1
14	1506	NUT	24
15	1030	BEARING	6
16	43125	SLIDE	2
17	1540	BOLT	12
18	43127	ADJUSTMENT ANGLE	4
19	43123	GUIDE	4
20	1671	WASHER	8
21	1539	BOLT	8
22	43115	SPACER	4
23	1147	BOLT	4

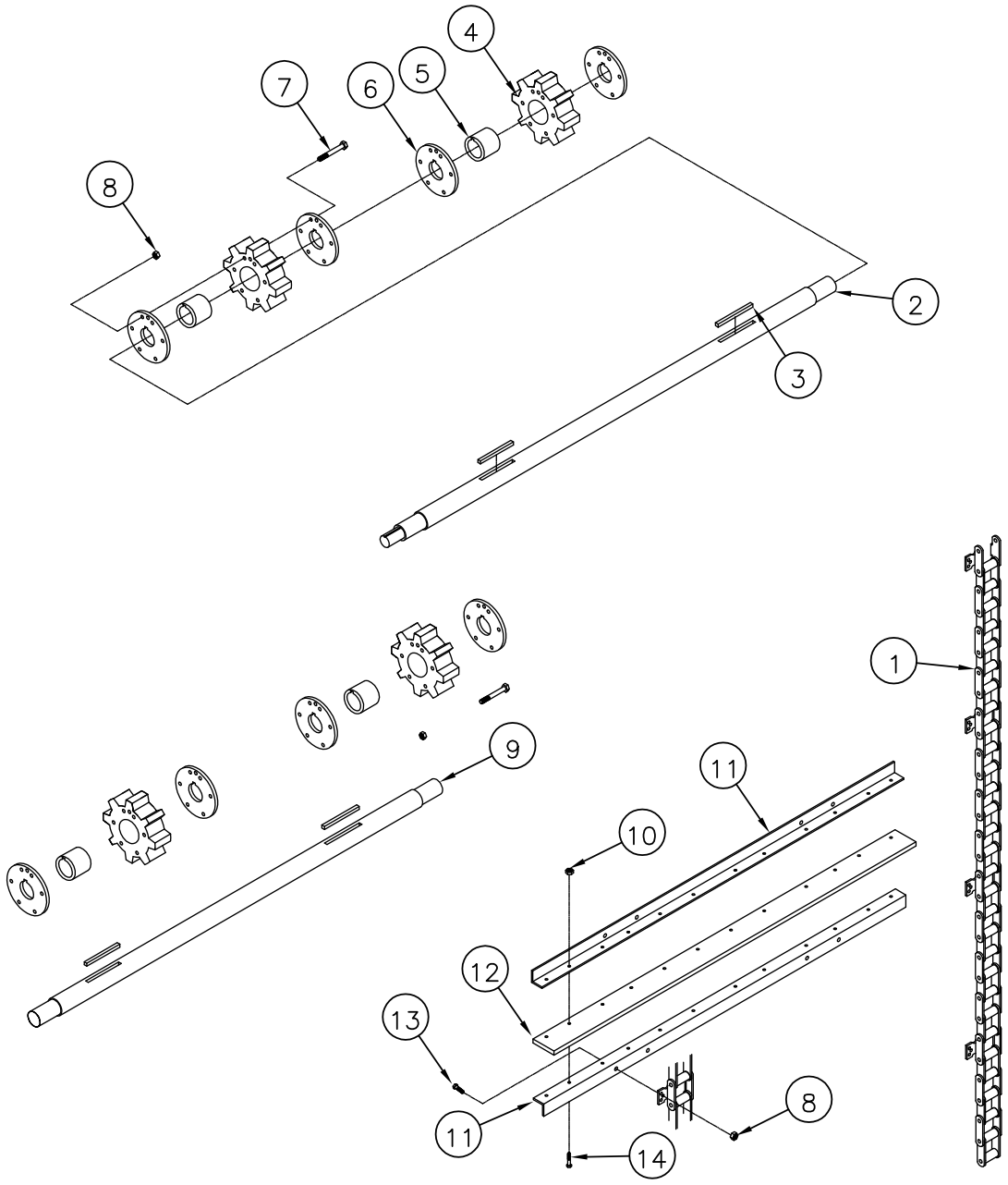
ELEVATOR ASSEMBLY



ELEVATOR ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	33110	TOP LINER	1
2	1711	BOLT	14
3	43121	CANOPY	1
4	43131	CANOPY EXTENSION	1
5	1530	BOLT	30
6	1520	WASHER	60
7	1501	NUT	50
8	43105	BOTTOM LINER	1
9	41744	END STRAP	1
10	41776	RUBBER SEAL	2
11	41710	HOLD DOWN	2
12	1713	BOLT	7
13	41772	BOTTOM RUBBER	1

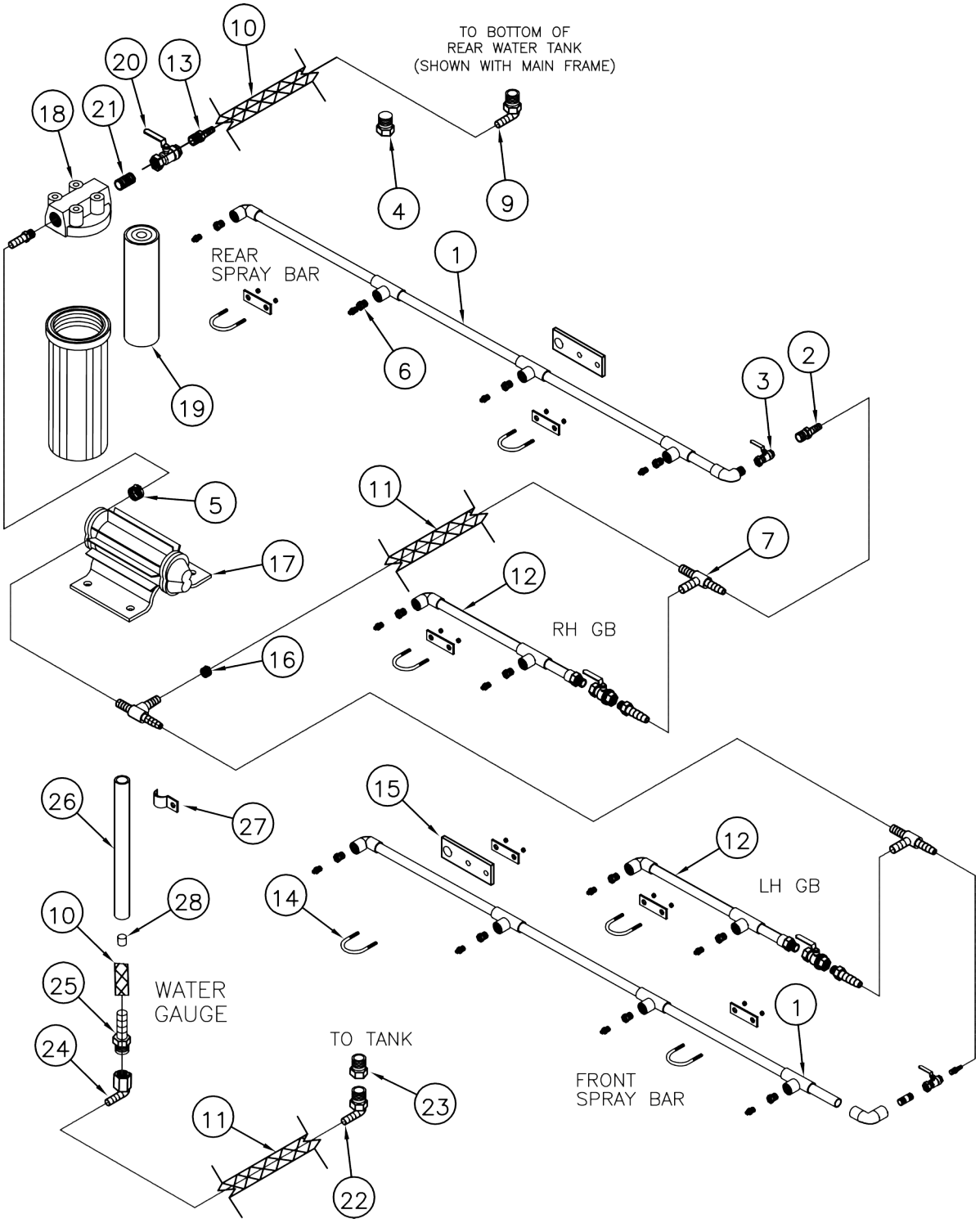
ELEVATOR ASSEMBLY



ELEVATOR ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	33109	ELEVATOR CHAIN	2
2	43113	TOP SHAFT	-
3	1149	SHAFT KEY	6
4	1039	RUBBER SPROCKET	6
5	41738	SHAFT SPACER	6
6	41740	LOCK PLATE	12
7	1544	BOLT	42
8	1503	NUT	70
9	43109	BOTTOM SHAFT	2
10	1501	NUT	144
11	41728	SQUEEGEE ANGLE	20
12	41726	SQUEEGEE RUBBER	10
13	1540	BOLT	48
14	1531	BOLT	144

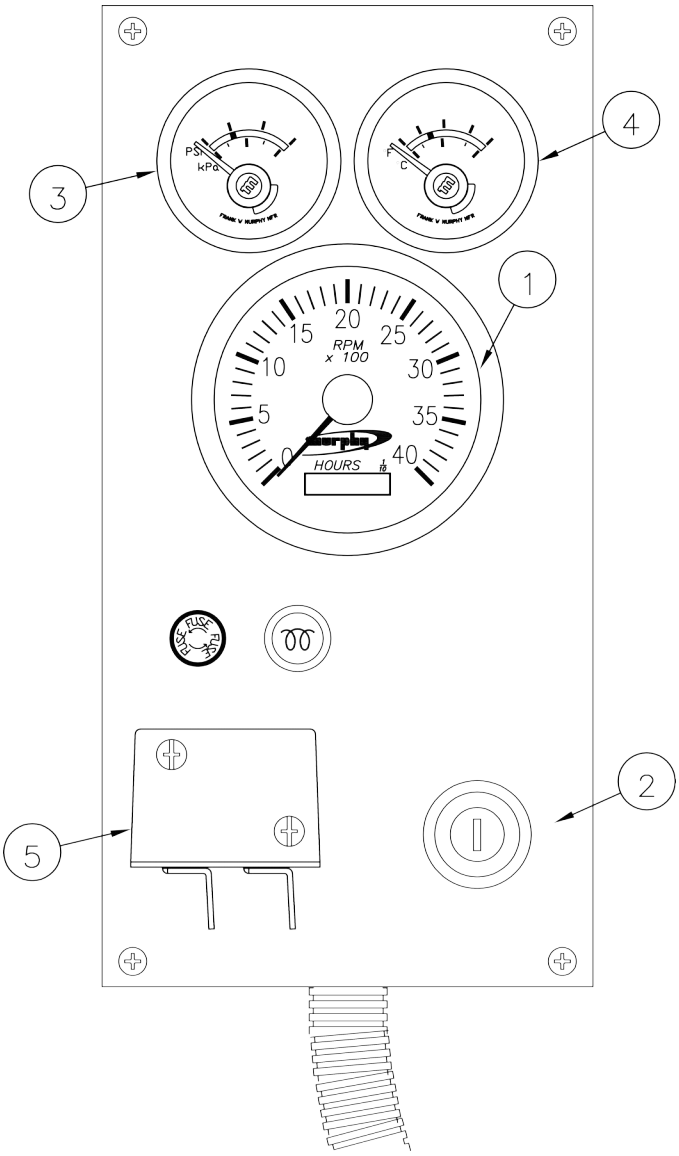
WATER SYSTEM



WATER SYSTEM

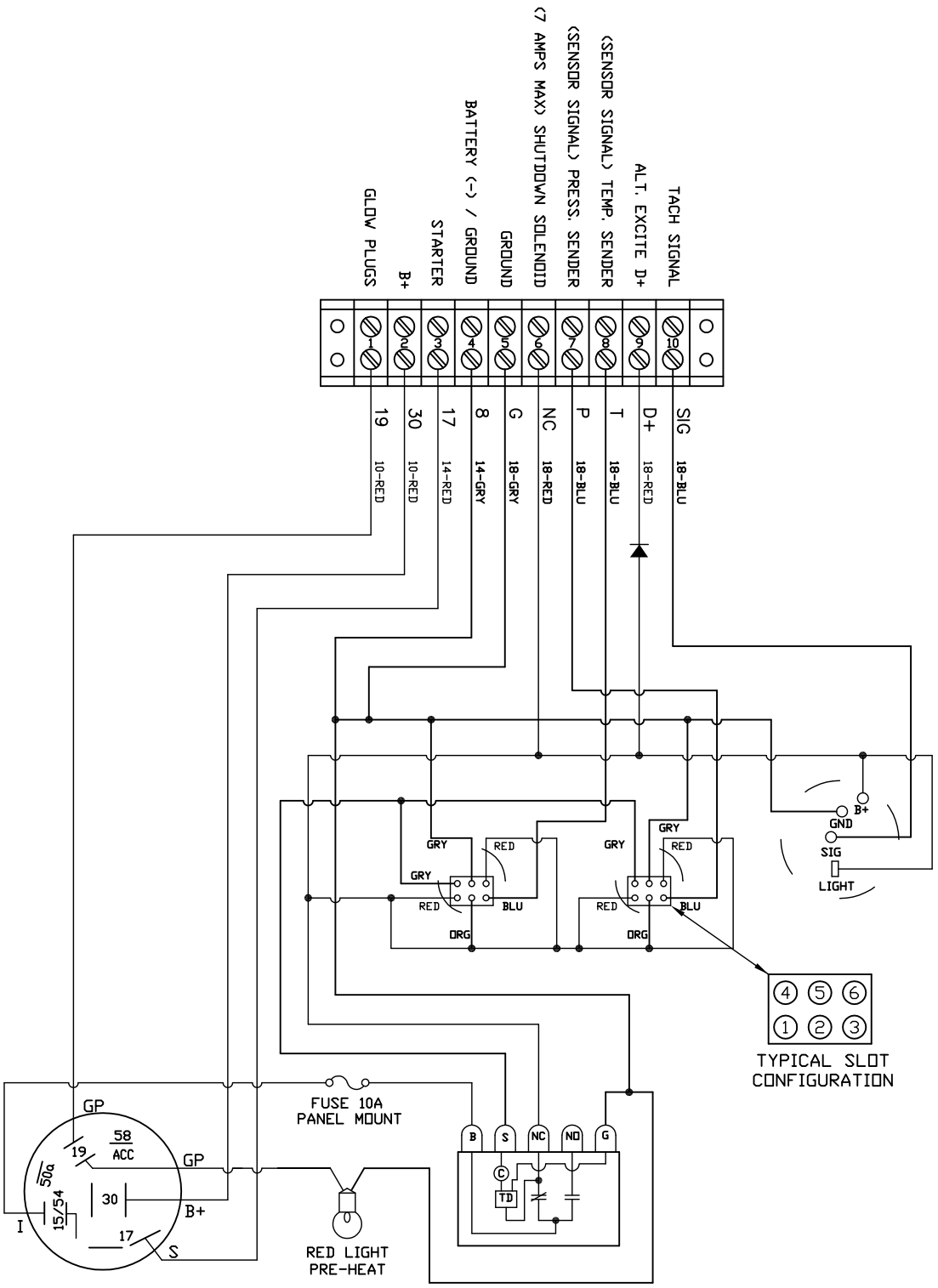
ITEM	PART #	DESCRIPTION	QTY
1	42201	SPRAY BAR	2
2	1158	HOSE BARB FITTING	4
3	1204	BALL VALVE	4
4	1187	PLUG	1
5	1203	HOSE CLAMP	4
6	9216	NOZZLE & ADAPTER	12
7	1163	HOSE BARB TEE ADAPTER	5
8			
9	1130	WATER TANK ELBOW	1
10	1165	HOSE	25'
11	1166	HOSE	30'
12	42203	GB SPRAY BAR	2
13	1167	HOSE BARB FITTING	2
14	1168	U BOLT	8
15	42205	SPRAY BAR HANGER	4
16	1169	HOSE CLAMP	20
17	3232	WATER PUMP	1
18	1117	WATER FILTER HOUSING	1
19	1172	WATER FILTER ELEMENT	1
20	1159	BALL VALVE	1
21	1160	NIPPLE	1
22	1371	HOSE BARB FITTING	1
23	1372	ADAPTER	1
24	1373	HOSE BARB FITTING	1
25	1374	HOSE BARB FITTING	1
26	1375	CLEAR TUBING	48"
27	1376	CLAMP	2
28	1377	FLOAT	1

42527
ENGINE CONTROL BOX

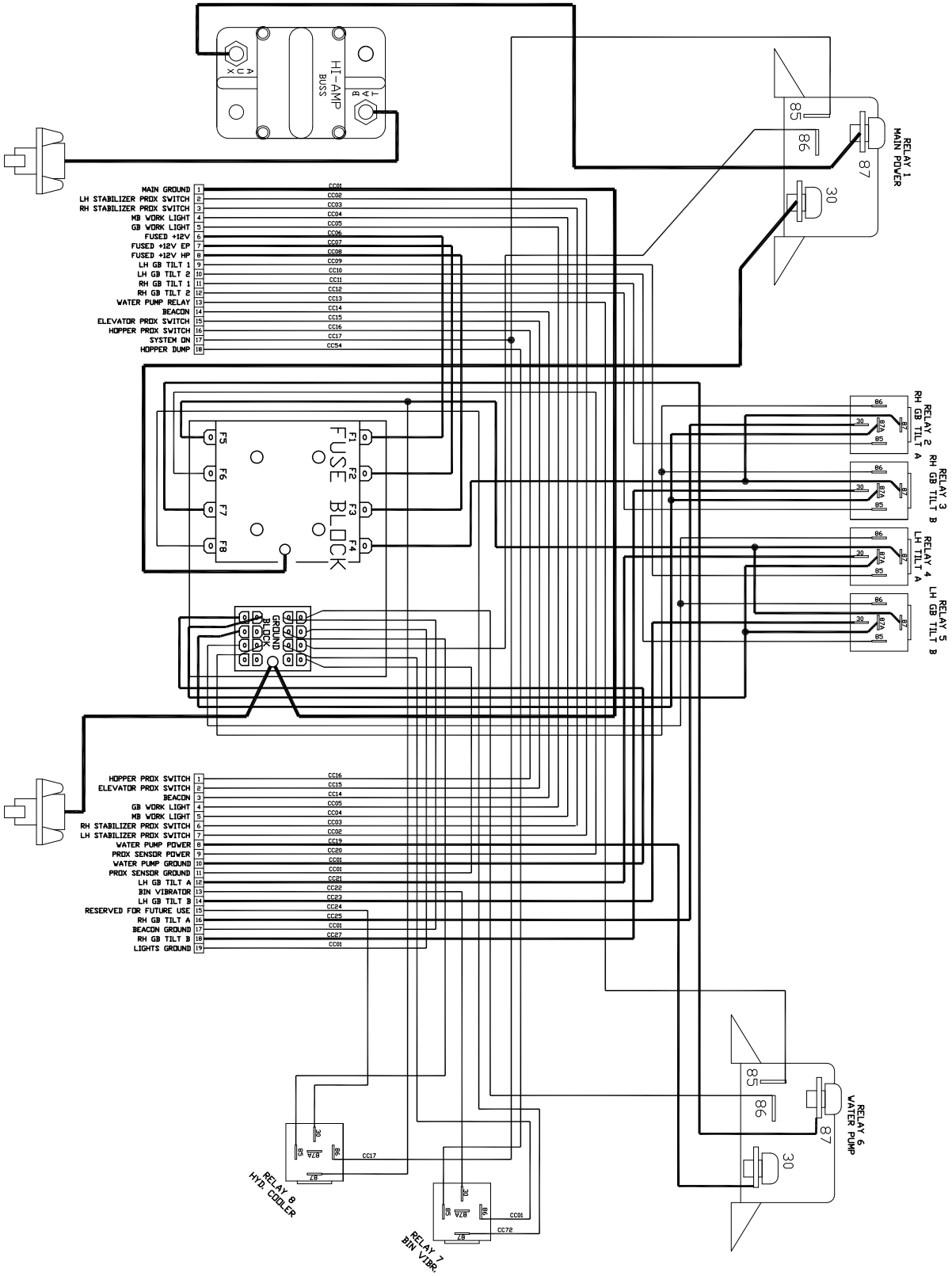


ITEM	PART #	DESCRIPTION	QTY
1	1092	TACH/HOUR METER	1
2	1095	IGNITION SWITCH	1
3	1090	OIL PRESSURE GAUGE	1
4	1091	WATER TEMP GAUGE	1
5	1094	SHUT DOWN MODULE	1

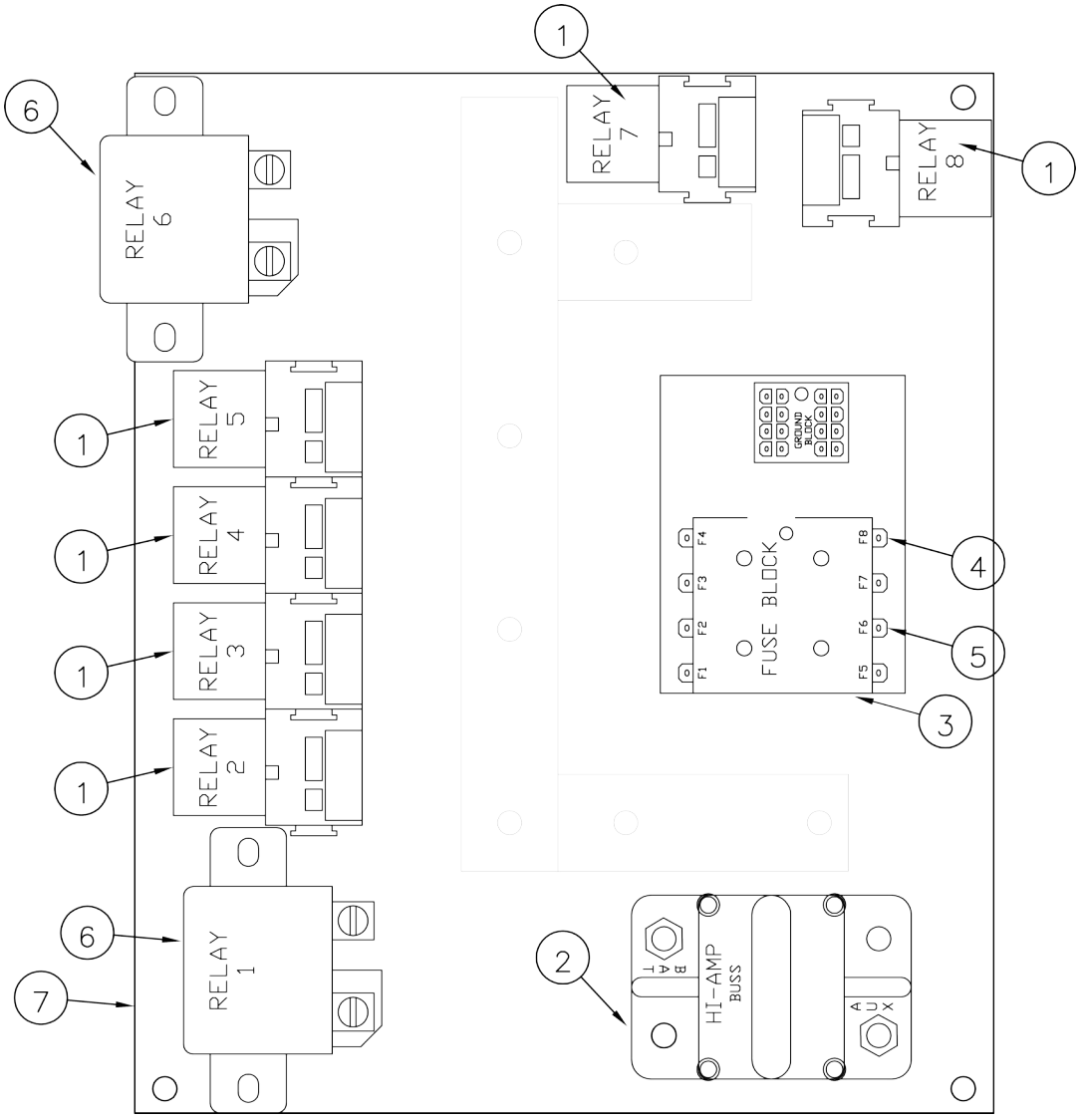
42527
ENGINE CONTROL
BOX SCHEMATIC



62512
AUXILIARY CONTROL
BOX SCHEMATIC

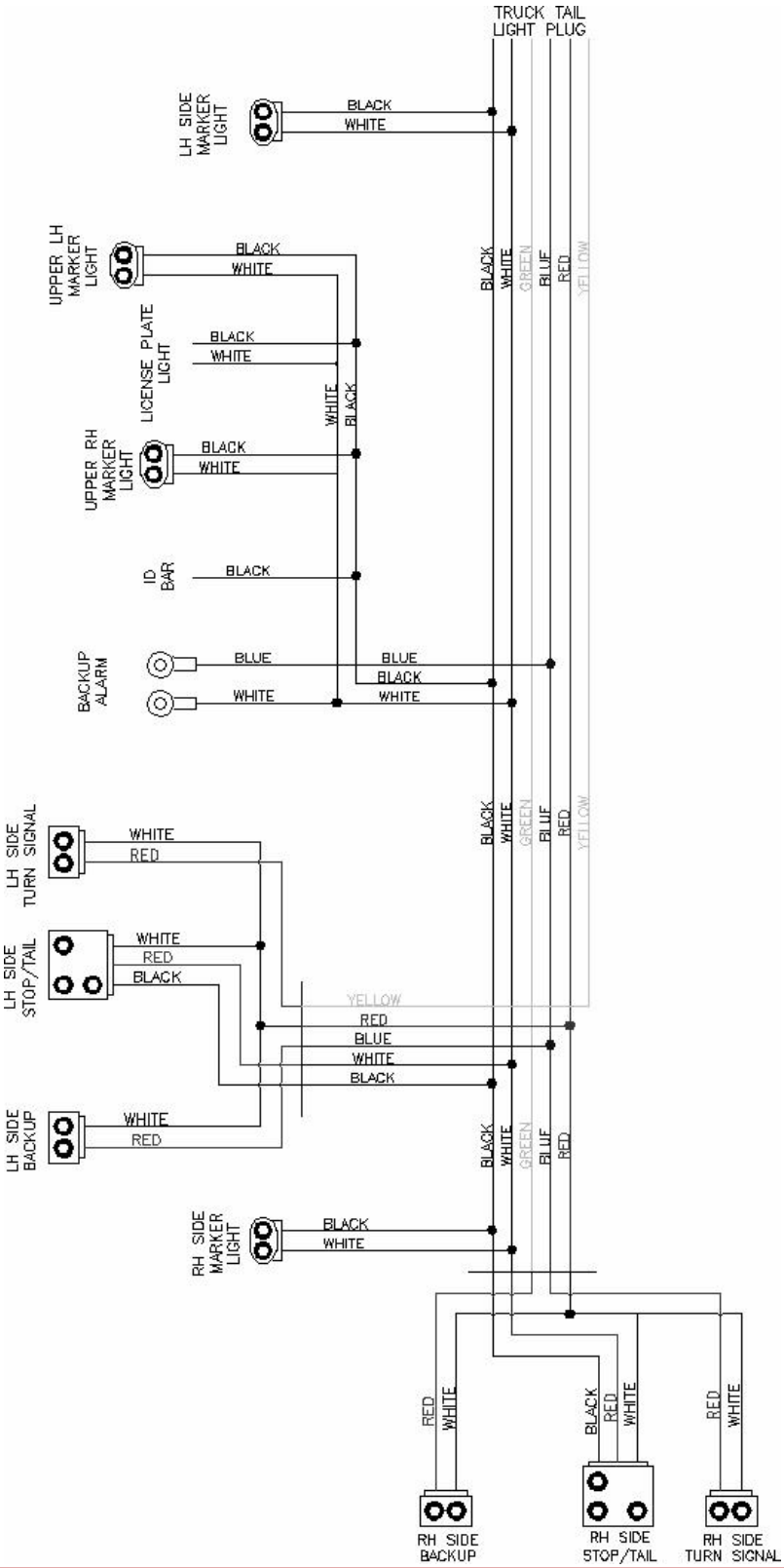


80207
AUXILIARY CONTROL
BOX LAYOUT

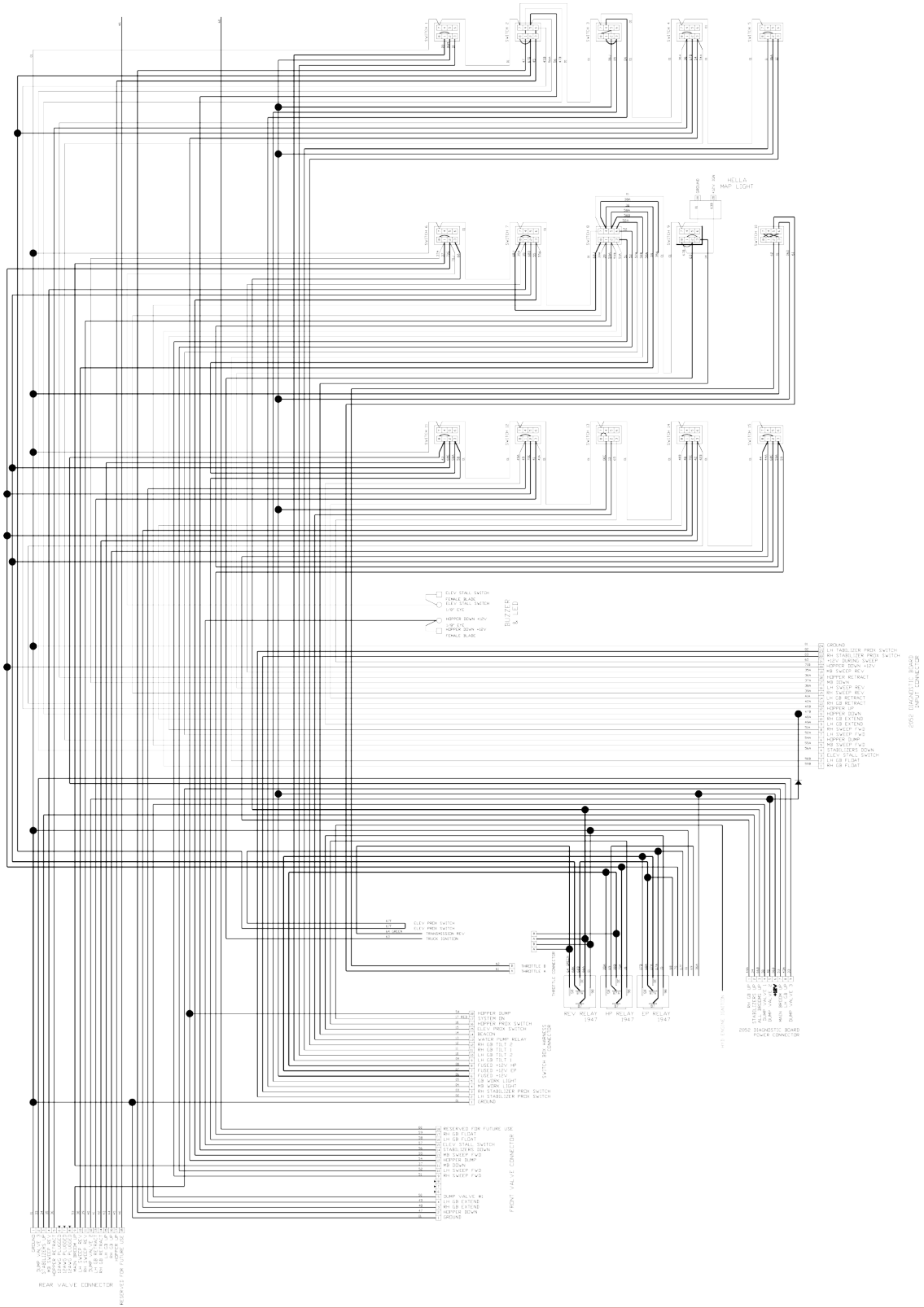


ITEM	PART #	DESCRIPTION	QTY
1	1947	RELAY	6
2	2043	CIRCUIT BREAKER	1
3	2041	FUSE HOLDER 8 POSITION	1
4	2042	FUSE 15 amp F1-5/7/8	7
5	1193	FUSE 5 amp F6	1
6	1946	RELAY	2
7	62507	Aux. Box Mounting Plate	1
8	62512	Harness (not shown)	1

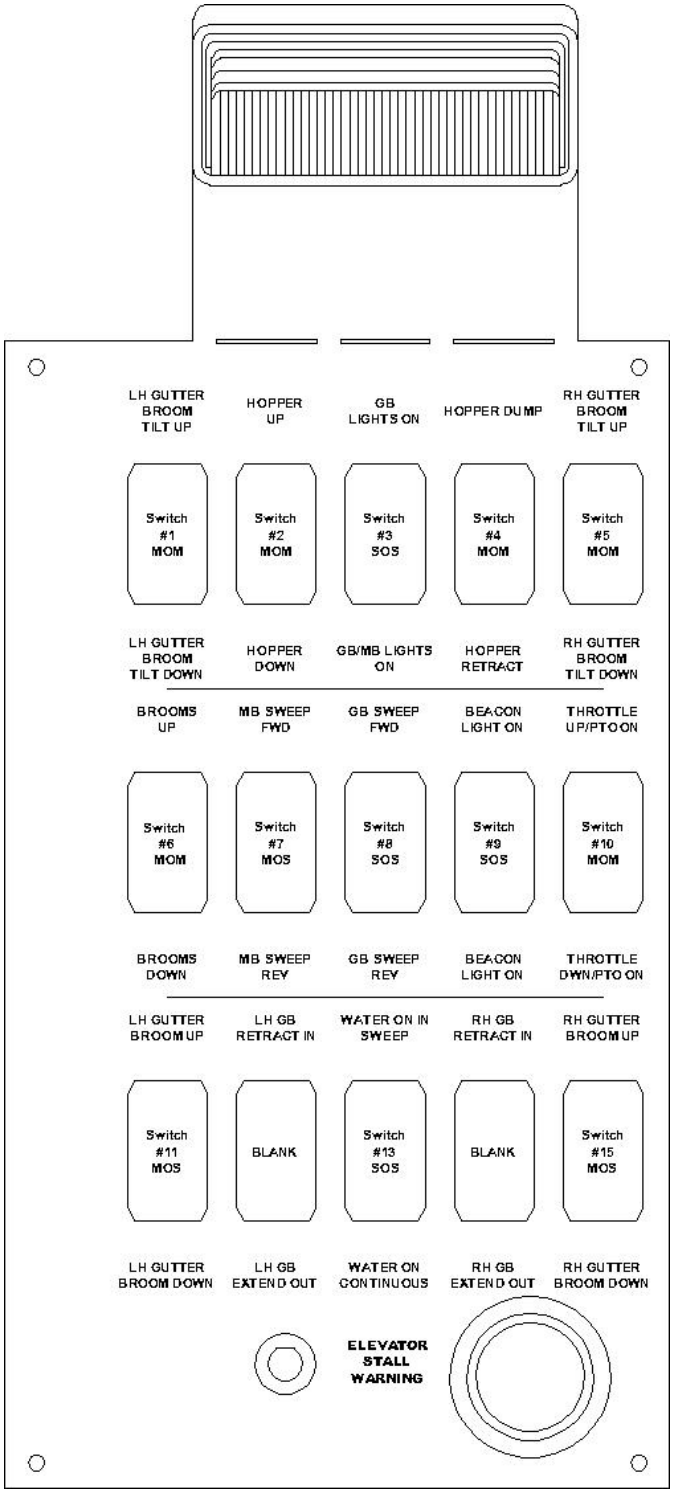
62508
REAR LIGHT
HARNESS



62511
SWITCH BOX
CONTROL SCHEMATIC



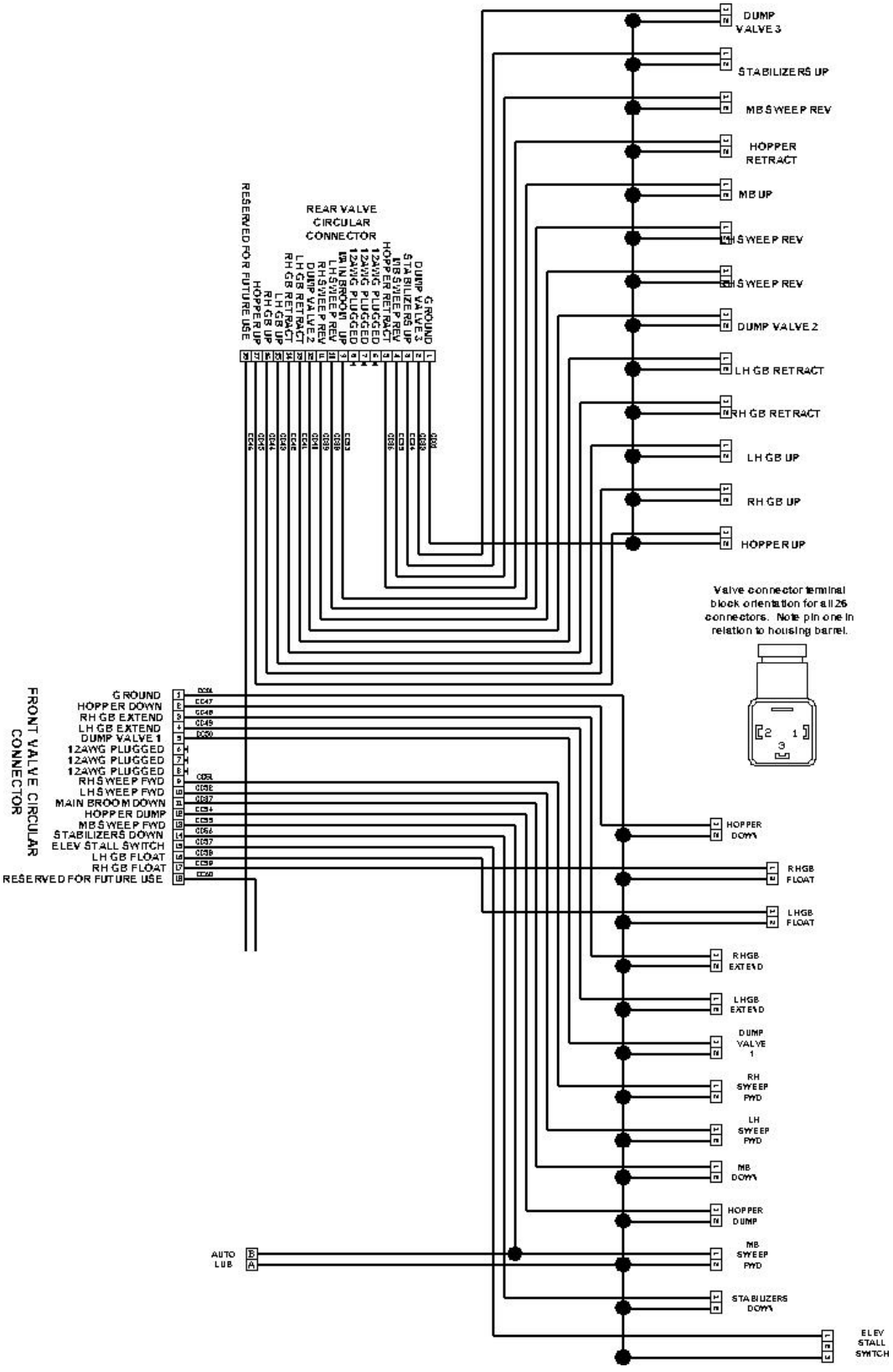
SWEEPER CONTROL PANEL



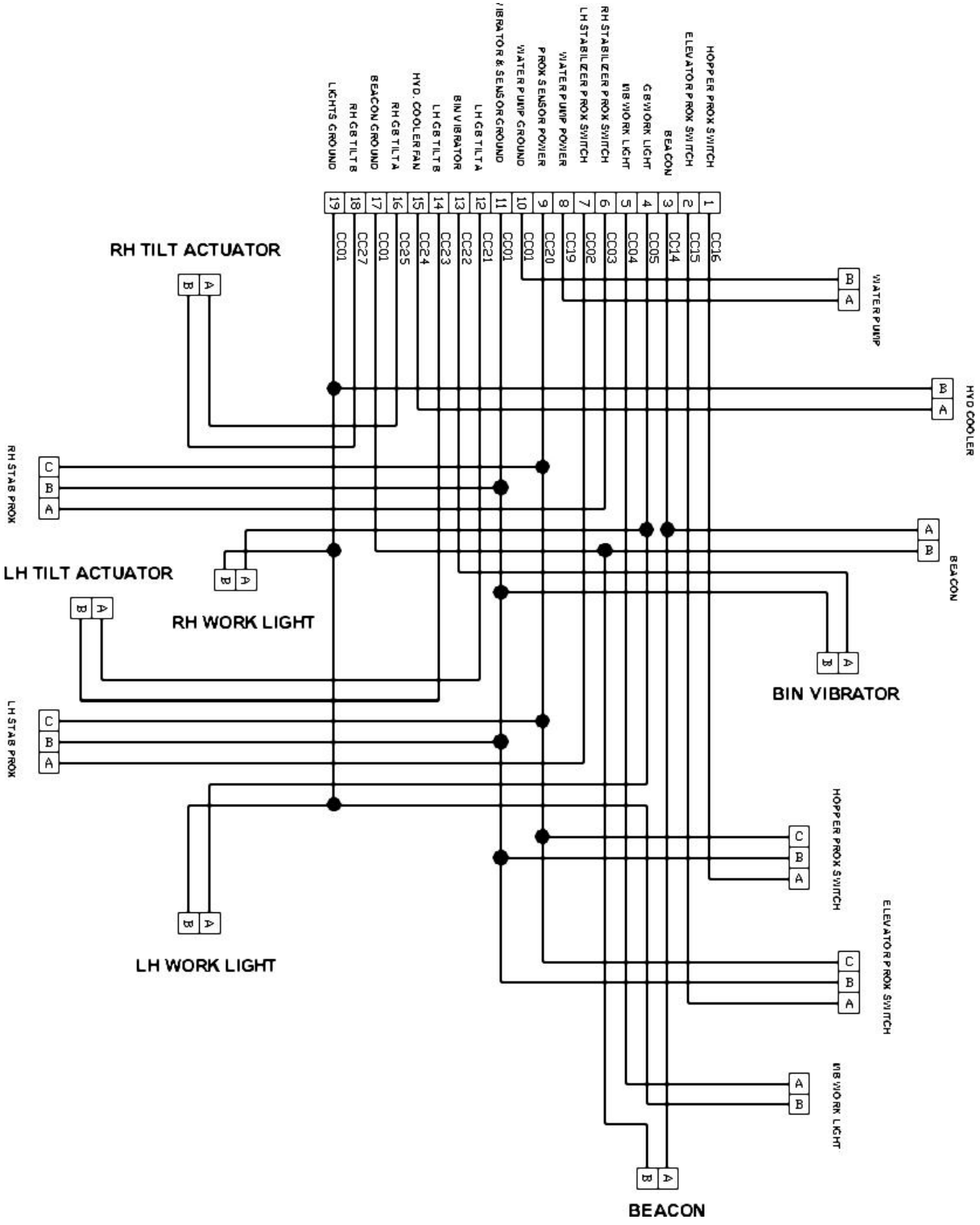
SWEEPER CONTROL PANEL

ITEM	PART #	DESCRIPTION	QTY
1	1101	SHOCK MOUNT	4
2	62505	BOX	1
3	62506	PANEL	1
4	42545	PANEL DECAL	1
5	1690	STALL ALARM	1
6	1691	STALL LIGHT	1
7	1686	SWITCH (M-O-M)	6
8	1684	SWITCH (S-O-S)	4
9	1685	SWITCH (S-O-M)	3
10	1689	HOLE PLUG	2
11	1691	COURTESY LIGHT	1

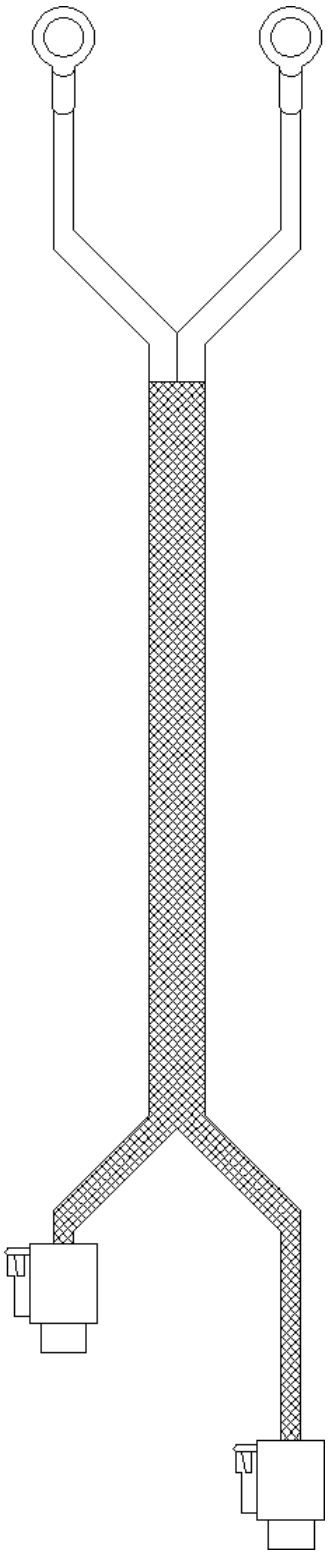
62510 VALVE HARNESS



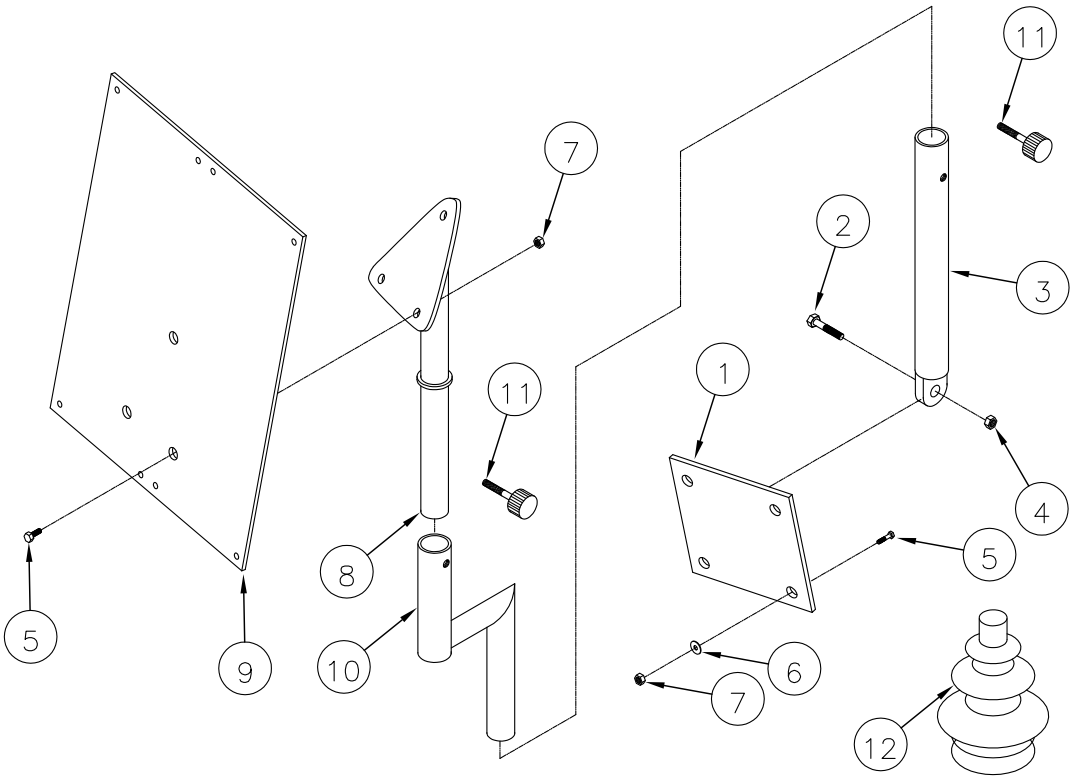
62513 SWEEPER HARNESS



62509
POWER CABLE



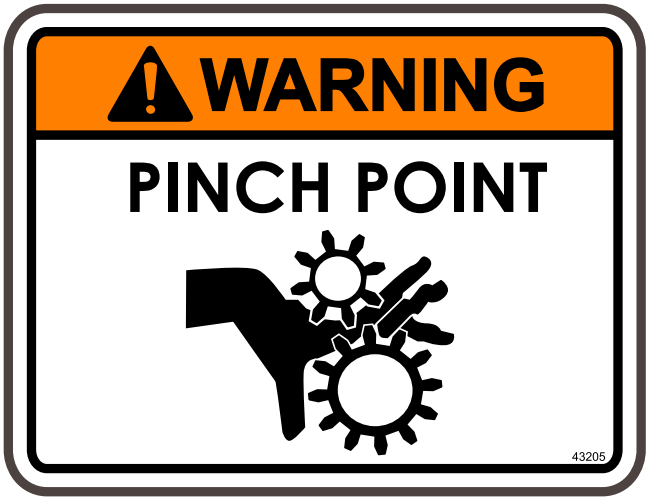
IN CAB PANEL MOUNTING



ITEM	PART #	DESCRIPTION	QTY
1	42501	ADAPTER PLATE	1
2	1546	BOLT	1
3	42502	SUPPORT POST	1
4	1505	NUT	1
5	1531	BOLT	7
6	1520	WASHER	4
7	1501	NUT	7
8	42503	TOP MOUNT	1
9	42506	BOX MOUNT PLATE	1
10	62501	OFFSET POST	1
11	1194	KNOB	2
12	1233	ELECT. BOOT	1

STARFIRE
S-4XXL
DECALS

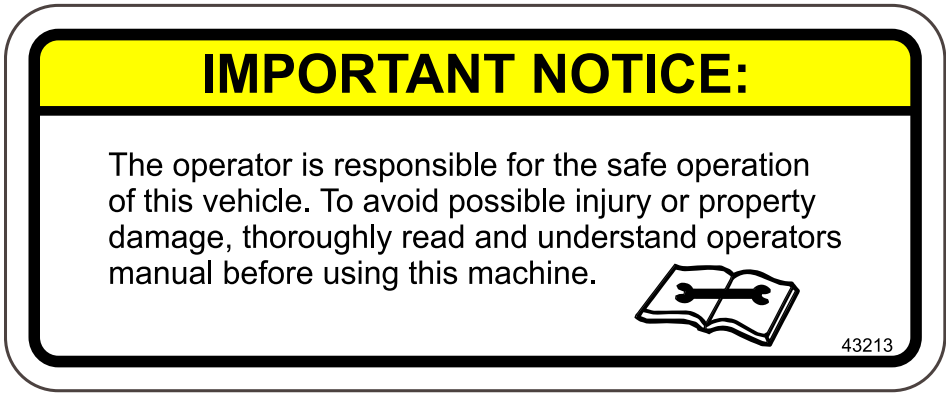
PT # 43201 10/UNIT



PT # 43205 4/UNIT

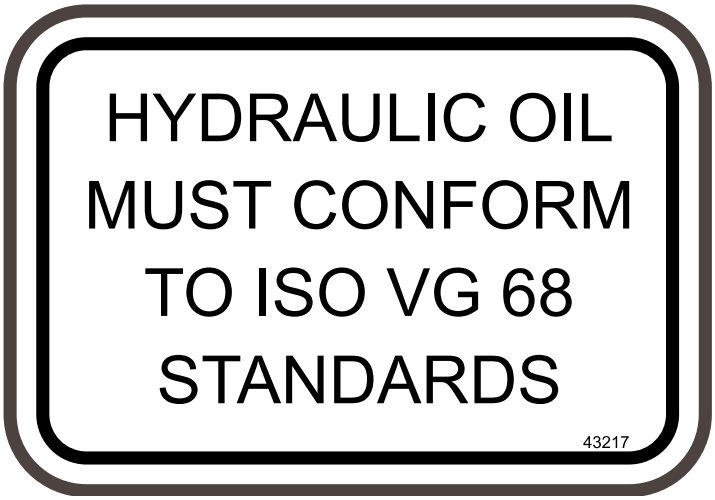
PT # 43207 3/UNIT

PT # 43211 4/UNIT



PT # 43213 1/UNIT

PT # 43215 6/UNIT



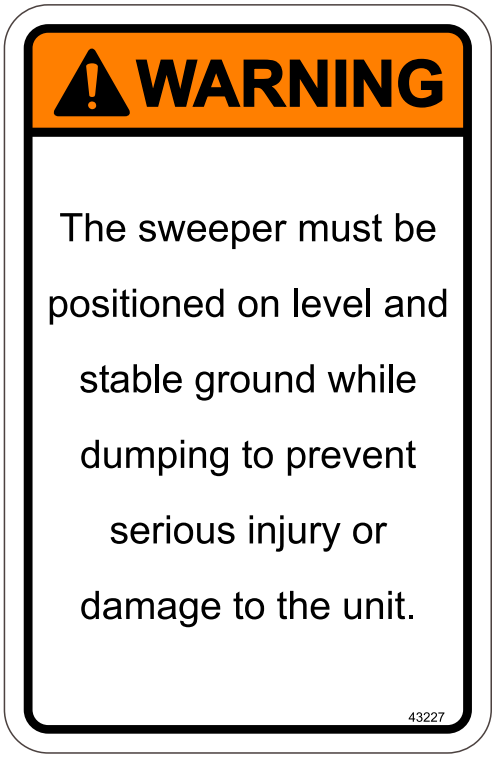
PT # 43217 2/UNIT

PT # 43219 1/UNIT

PT # 43221 1/UNIT

PT # 43223 4/UNIT

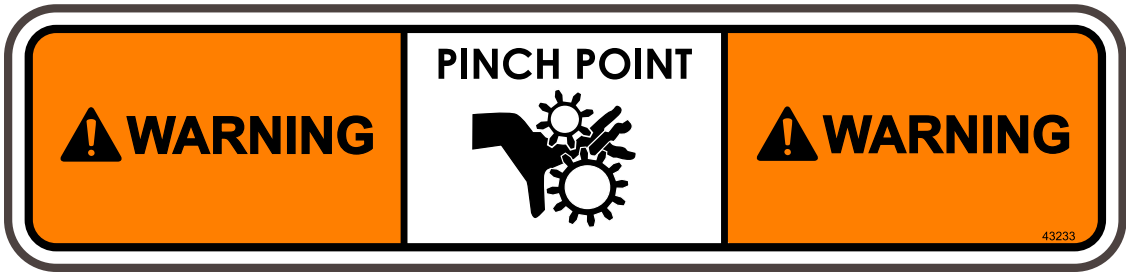
PT # 43225 1/UNIT



PT # 43227 2/UNIT

PT # 43229 8/UNIT

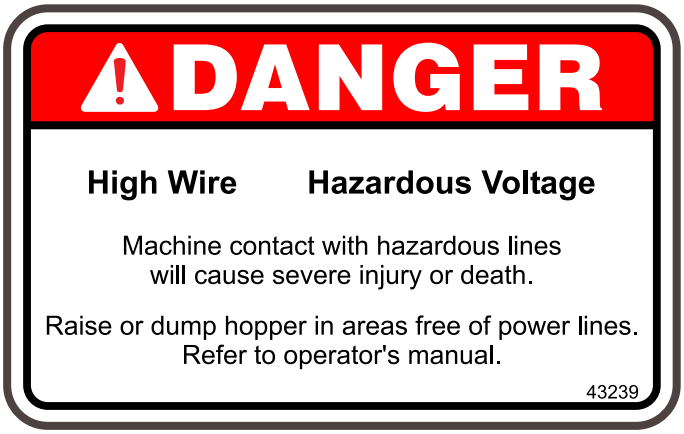
PT # 43231 2/UNIT



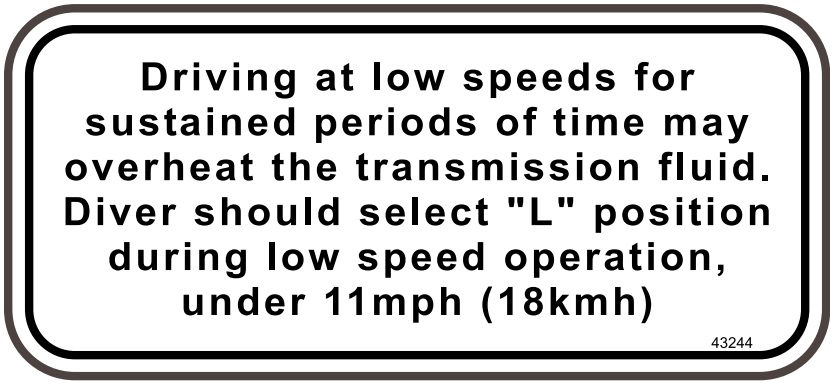
PT # 43233 2/UNIT

PT # 43235 1/UNIT

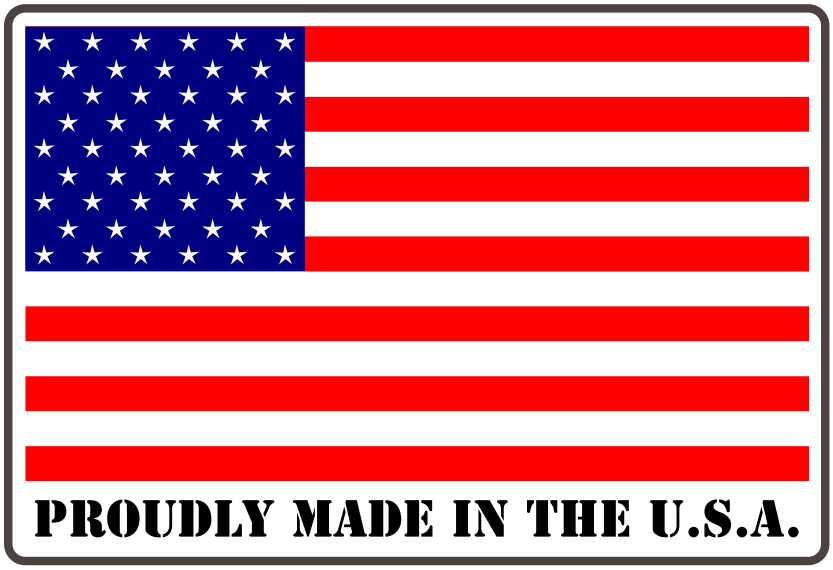
PT # 43237 1/UNIT



PT # 43239 1/UNIT



PT # 43244 1/UNIT



PT # 43244 1/UNIT

PT # 43247 2/UNIT

PT # 43264 2/UNIT

PT # 43243 2/UNIT

STARFIRE
S-4

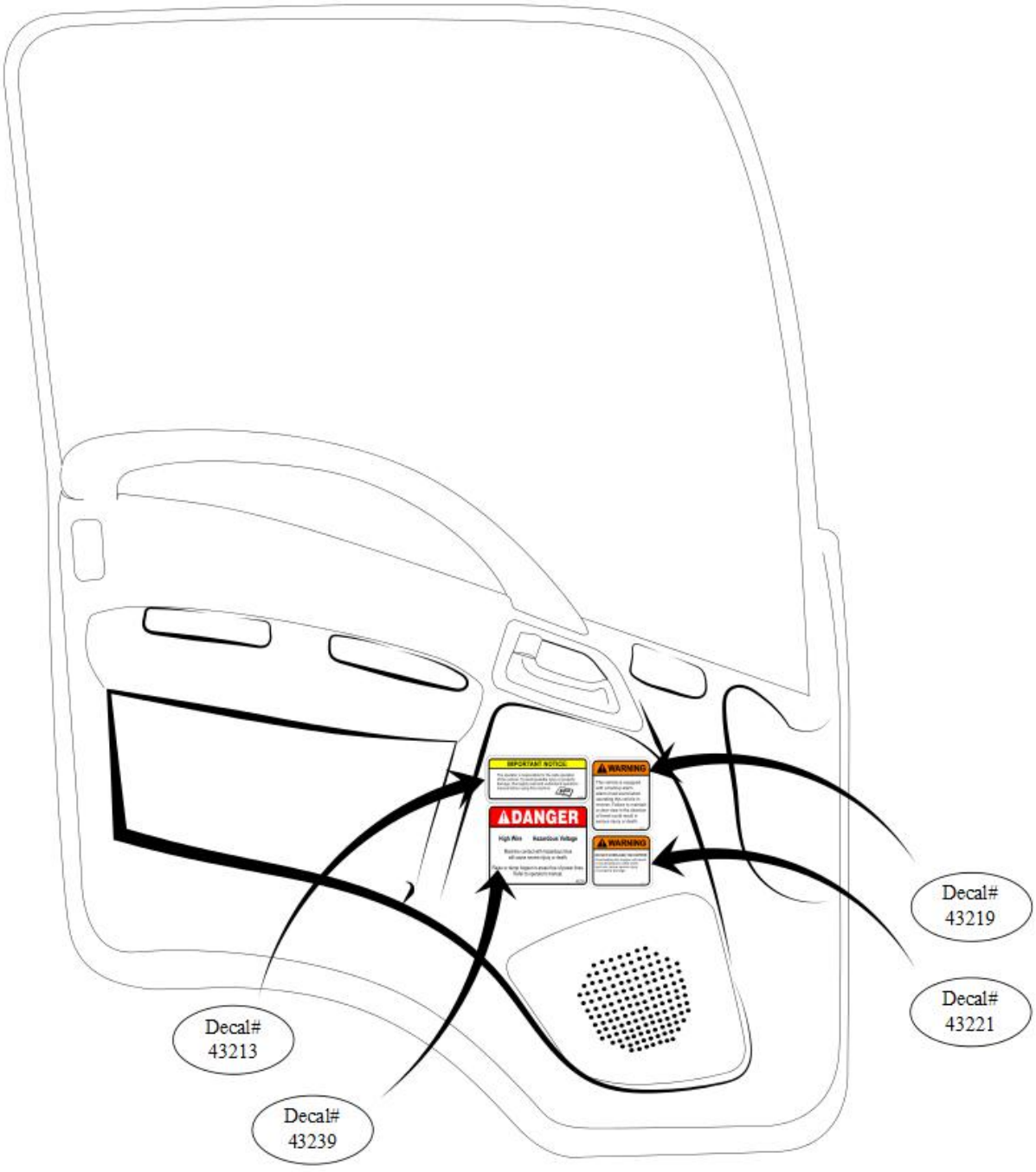
PT # 43248 2/UNIT

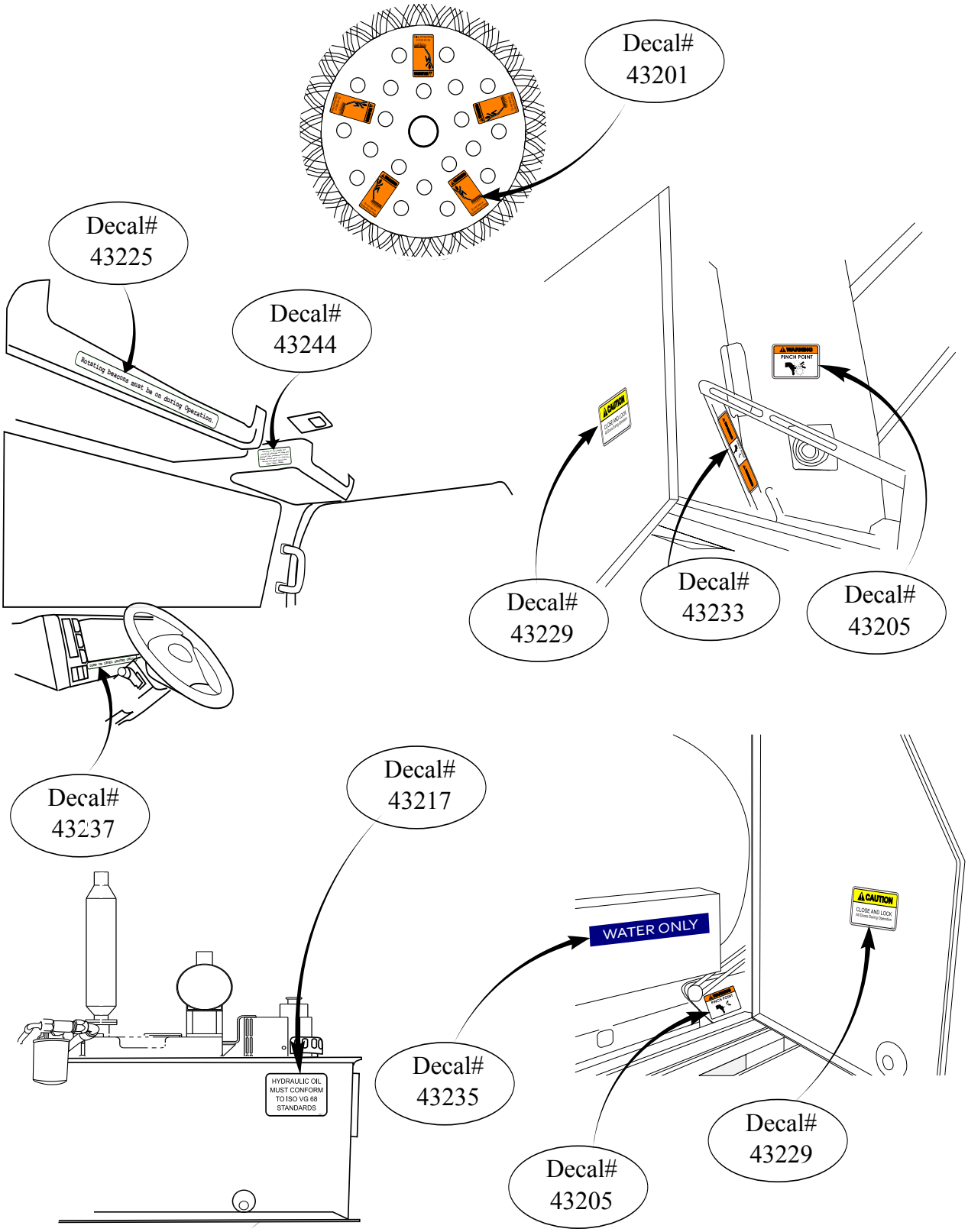
STARFIRE
S-4

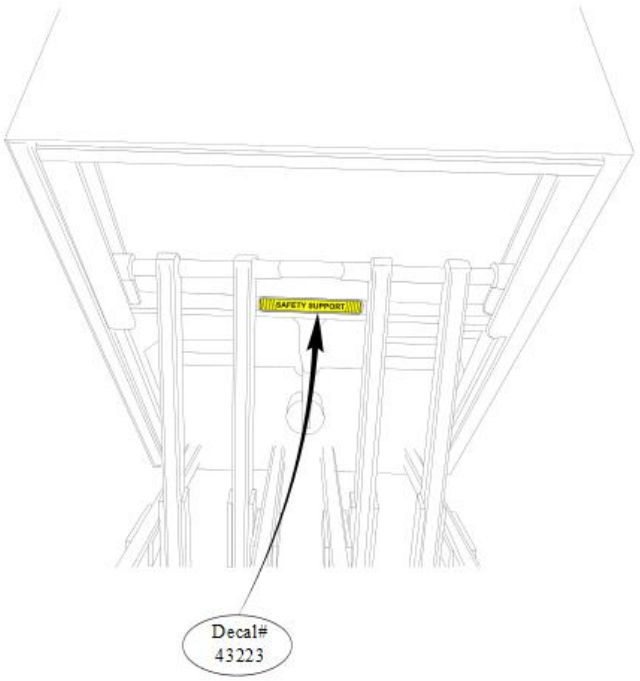
PT # 43249 2/UNIT

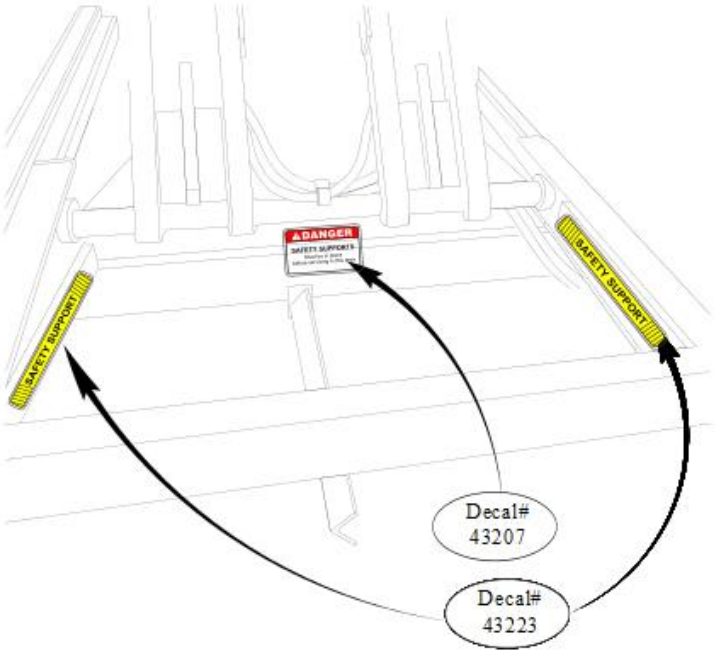
STARFIRE

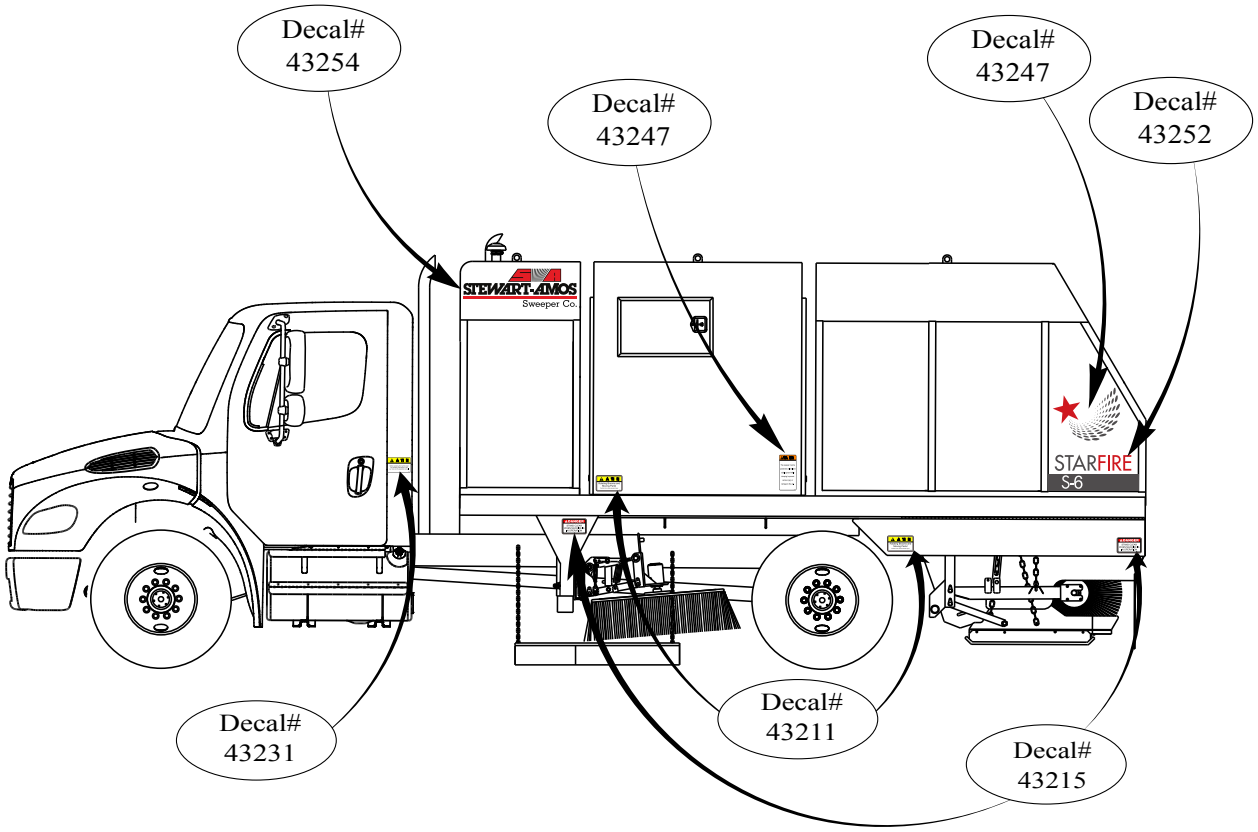
PT # 43246 2/UNIT

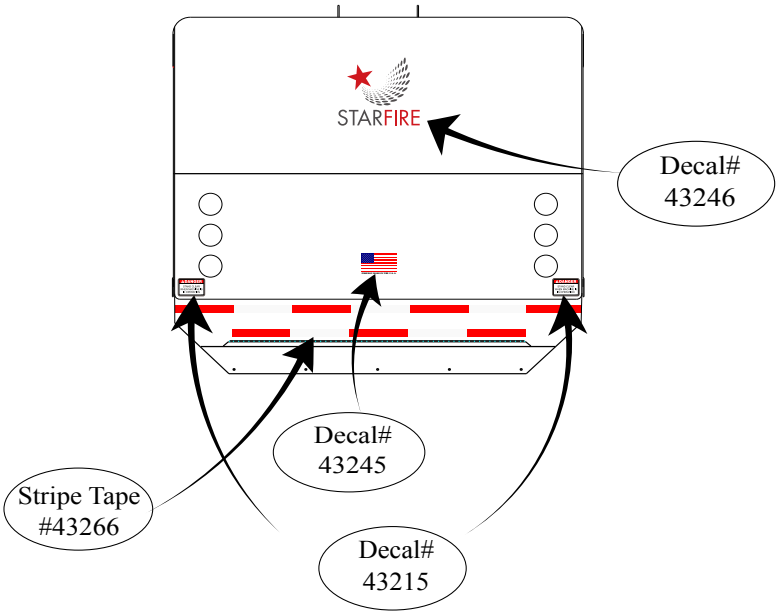

IMPORTANT NOTICE
WARNING
DANGER
WARNING
Decal#
43219
Decal#
43221
Decal#
43213
Decal#
43239

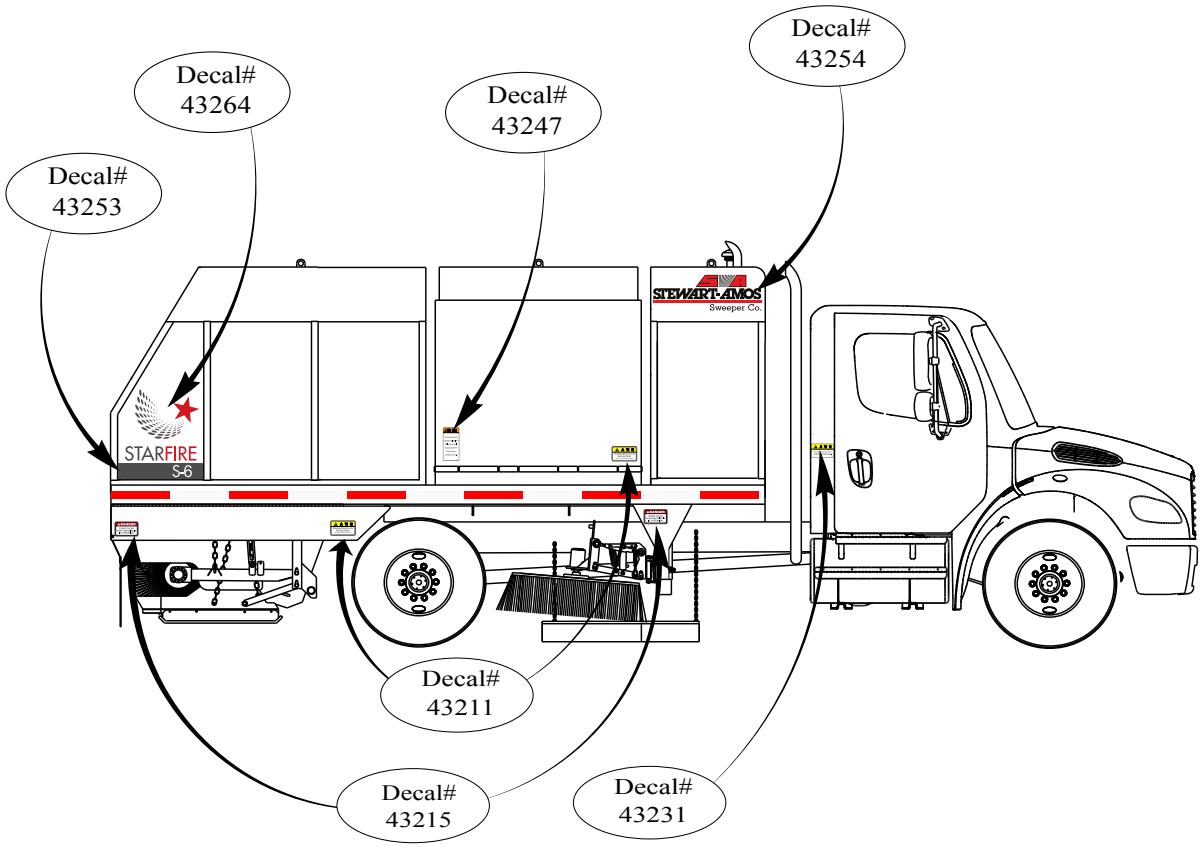

Decal# 43201
Decal# 43225
Decal# 43244
Rotating beacons must be on during Operation
Decal# 43229
Decal# 43233
Decal# 43205
Decal# 43237
Decal# 43217
HYDRAULIC OIL MUST CONFORM TO ISO VG 68 STANDARDS
WATER ONLY
Decal# 43235
Decal# 43205
Decal# 43229


SAFETY SUPPORT
Decal#
43223


DANGER
SAFETY SUPPORTS
SAFETY SUPPORT
SAFETY SUPPORT
Decal#
43207
Decal#
43223


Decal#
43254
Decal#
43247
Decal#
43247
Decal#
43252
STEWART-AMOS
Sweeper Co.
STARFIRE
S-6
Decal#
43231
Decal#
43211
Decal#
43215


STARFIRE
Decal#
43246
Decal#
43245
Stripe Tape
#43266
Decal#
43215


Decal#
43254
Decal#
43264
Decal#
43247
Decal#
43253
STEWART-AMOS
Sweeper Co.
STARFIRE
S-6
Decal#
43211
Decal#
43215
Decal#
43231

80216		SAFETY DECAL KIT
8	43201	DO NOT STEP
2	43205	PINCH POINT SQ
5	43207	DANGER SAFETY SUPPORT IN PLACE
1	43211	CAUTION ROTATING BROOMS
1	43213	IMPORTANT OPERATOR IS RESPONSIBLE
6	43215	DANGER STAND CLEAR
2	43217	HYDRAULIC OIL MUST CONFORM
1	43219	WARNING THIS VEHICLE IS EQUIPED
1	43221	WARNING DO NOT OVERLOAD
2	43223	SAFETY SUPPORT
1	43225	ROTATING BEACONS AND STROBES
2	43227	WARNING SWEEPER MUST BE LEVEL
7	43229	CAUTION CLOSE AND LOCK
1	43231	CAUTION BEFORE OPERATING
2	43233	PINCH POINT STRIP
1	43235	WATER ONLY
1	43237	DUMP ON LEVEL GROUND ONLY
1	43239	DANGER HIGH WIRE HAZARD VOLTAGE
1	43244	LOW SPEED WARNING
1	43245	MADE IN USA

-

80217		S-4 DECAL KIT
1	43246	STARFIRE LOGO DECAL REAR CANOPY
1	43247	LH STARFIRE LOGO REAR CANOPY DOORS
1	43264	RH STARFIRE LOGO REAR CANOPY DOORS
1	43248	LH S-4 STARFIRE DECAL REAR CANOPY DOOR
1	43249	RH S-4 STARFIRE DECAL REAR CANOPY DOOR
2	43243	STEWART-AMOS SWEEPER CO.
1	43254	Lg STEWART-AMOS DECAL

INDEX BY PAGE

PT #	DESCRIPTION	QTY	PG #
92001	MAIN FRAME WELDMENT	1	65
43129	ELEVATOR CENTERING BUSHING	2	65
1502	NUT	17	65
1535	BOLT	17	65
1505	NUT	4	65
9356	FENDER	2	65
1537	BOLT	2	65
42073	SKIRT	1	65
1534	BOLT	12	65
42060	REAR SKIRT	1	65
42075	BASE STRIP	1	65
1822	WASHER	16	65
42077	BEARING INSPECTION COVER	2	65
1670	WASHER	4	65
1503	NUT	12	65
1591	SCREW	6	65
41771	REST TUBE	1	65
1843	BOLT	2	65
1075	200 GAL. PLASTIC WATER TANK	1	65
9185	130 GAL. PLASTIC WATER TANK	1	65
92201	WATER TANK TUB	1	65
42085	SAFETY PROP	2	65
92203	WATER TANK END ANGLE	3	65
1843	BOLT	4	65
42065	WATER VALVE	1	65
42220-06	WATER TANK STRAP	2	65
42220	WATER TANK MOUNT	1	65
42146	CENTER DRAG RUBBER	1	65
42083	WATER VALVE ROD	1	65
1116	HYDRANT HOSE	1	65
42103	CENTER DRAG SUPPORT	2	65
42101	CENTER DRAG RUBBER	1	65
9357	FENDER MOUNT	2	65
1087-3	PROX. SWITCH	2	65
42214	FILL RELIEF RUBBER	1	65
1915	WORK LIGHT	2	65
3206	MUD FLAP	2	65
91202	GB MOUNT	1	65
62119	LH AXLE SUPPPORT	1	65
62121	RH AXLE SUPPORT	1	65
41503	DOOR	2	67
91501	FRONT CANOPY	1	67
1916	STROBE	1	67
1520	WASHER	20	67
1501	NUT	20	67
1031	HINGE	4	67
1579	BOLT	8	67
1005	DOOR LATCH	2	67
1522	WASHER	6	67
1843	BOLT	6	67
1750	INSERT	8	67
91502	DOOR STOP	2	67

PT #	DESCRIPTION	QTY	PG #
1955	HYD. COOLER & FAN	1	67
1503	NUT	6	67
41504	SPACER	4	67
42107	LIMB GUARD	1	67
1394	WATER LEVEL FLOAT	1	67
1395	CLEAR FLOAT TUBE	1	67
1861	DOOR STOP SPRING	2	67
41614	RIGHT REAR DOOR	1	69
41612	LEFT REAR DOOR	1	69
41503	DOOR	2	69
1916	STROBE	1	69
1005	DOOR LATCH	4	69
42081	WATER VALVE LEVER	1	69
1520	WASHER	36	69
1024	BACKUP ALARM	1	69
1031	HINGE	8	69
1579	BOLT	32	69
1503	NUT	6	69
1822	WASHER	6	69
1843	BOLT	6	69
1908	LICENSE PLATE LIGHT	1	69
1501	NUT	36	69
91602	REAR CANOPY	1	69
1750	INSERT	16	69
1905	CLEARANCE LIGHT	4	69
1906	GROMMET	4	69
1770	CAMERA	1	69
1907	ID BAR	1	69
1911	BACKUP LIGHT	2	69
1912	GROMMET	6	69
1910	TURN SIGNAL LIGHT	2	69
1909	BRAKE LIGHT	2	69
1915	WORK LIGHT	1	69
42107	LIMB GUARD	1	69
1769	CAMERA/MONITOR	1	69
1768	CAMERA CABLE	2	69
1861	DOOR STOP SPRING	4	69
91502	DOOR STOP	4	69
92910	HOPPER	1	71
1185	BUSHING	18	71
1033	WINDOW RUBBER	37"	71
42913	WINDOW	1	71
1031	HINGE	2	71
1579	BOLT	8	71
1005	DOOR LATCH	1	71
1501	NUT	20	71
62907	ACCESS DOOR	1	71
1520	WASHER	34	71
92906	HOPPER DOOR	1	71
42905	DOOR LINK	4	71
92904	PIN	1	71
1583	NUT	4	71

PT #	DESCRIPTION	QTY	PG #
1530	BOLT	13	71
42915	RUBBERE FLASHING	1	71
42917	UPRIGHT FLASHING	2	71
1560	BOLT	2	71
1061	CYLINDER	2	71
1558	BOLT	4	71
1173	CHAIN	2X6"	71
32910	DRAIPER MOUNT	1	71
32911	DRAIPER RUBBER	1	71
1934	OPTIONAL BIN VIBRATOR	1	71
93002	HOPPER LIFT FRAME	1	73
1185	BUSHING	8	73
1623	PIN	6	73
1985	CYLINDER	1	73
1604	COTTER PIN	6	73
3210	CYLINDER	2	73
42813	SCISSOR ROLLER	4	73
1074	SNAP RING	16	73
62812	CENTER PIN	8	73
62811	SCISSOR PIN	16	73
92815	LOWER ANCHOR SECT. LEG #1	1	73
92806	LOWER SCISSOR, ROLLER SECTION	1	73
92811	UPPER ANCHOR SECT. LEG #1	1	73
92801	UPPER SCISSOR ROLLER SECT.	1	73
62813	RETAINER WASHER	16	73
1782	BOLT	16	73
92812	UPPER ANCHOR SECT. LEG #2	1	73
92813	UPPER ANCHOR SECT. LEG #3	1	73
92814	UPPER ANCHOR SECT. LEG #4	1	73
92815	LOWER ANCHOR SECT. LEG #2	1	73
92815	LOWER ANCHOR SECT. LEG #3	1	73
92815	LOWER ANCHOR SECT. LEG #4	1	73
42131	SAFETY	1	73
61201	GB MOUNT (left hand)	1	75
61301	GB MOUNT (right hand)	1	75
61213	PIN	1	75
1020	BUSHING	4	75
61203	GB PIVOT(left)	1	75
61303	GB PIVOT(right)	1	75
1506	NUT	5	75
41211	PIN	2	75
41215	SPRING BELL CRANK	1	75
1561	BOLT	1	75
1023	TURN BUCKLE	2	75
1505	NUT	1	75
1581	WASHER	1	75
1018	SUSPENSION SPRING	2	75
41221	LINK	1	75
1540	BOLT	2	75
1670	WASHER	3	75
61205	LINKAGE MOUNT (left)	1	75
61305	LINKAGE MOUNT (right)	1	75
1642	NUT	2	75

PT #	DESCRIPTION	QTY	PG #
1640	NUT	2	75
1503	NUT	2	75
1022	TURN BUCKLE	2	75
1559	BOLT	5	75
1822	WASHER	3	75
1379	CYLINDER	2	75
1537	BOLT	3	75
1556	BOLT	2	75
1507	NUT	7	75
1508	NUT	1	75
1574	BOLT	1	75
1042	QUICK LINK	4	75
1019	RETRACT SPRING	1	75
1526	WASHER	2	75
1185	BUSHING	4	75
61235	RETRACT PLATE (left)	1	75
61309	RETRACT PLATE (right)	1	75
1560	BOLT	2	75
41230	EXTEND SPRING MOUNT	1	75
9137	LANYARD	2	75
41207	MOTOR BRACKET (left)	1	77
41318	MOTOR BRACKET (right)	1	77
3248	BUSHING	1	77
1506	NUT	4	77
41227	PLATE	1	77
1148	GB BRUSH SET 4 SEG.	1	77
1078	LINEAR ACTUATOR	1	77
3243	HYDRAULIC MOTOR	1	77
1683	KEY	1	77
1670	WASHER	20	77
1505	NUT	2	77
1549	NUT	4	77
41209	DRIVE HUB	1	77
1546	BOLT	2	77
1540	BOLT	20	77
1525	WASHER	2	77
42316	SPACER	2	77
61307	OPTIONAL 42" GB PLATE		77
3229	GB BRUSH SET FOR 61307		77
1976	MAIN BROOM MANDREL	1	79
41413	MAIN BROOM ROCK SHAFT	1	79
1604	COTTER PIN	8	79
62813	RETAINER WASHER	6	79
1782	BOLT	6	79
61405	LIFT BELL CRANK (left)	1	79
41421	MAIN BROOM LIFT STRAP	2	79
1822	WASHER	4	79
1670	WASHER	4	79
1537	BOLT	4	79
41417	PIN	2	79
61407	LIFT BELL CRANK (right)	1	79
1010	HUB	2	79
1671	WASHER	6	79

PT #	DESCRIPTION	QTY	PG #
41401	PIN	2	79
1043	CYLINDER	2	79
1681	KEY	1	79
41427	MAIN BROOM LIFT CHAIN	2	79
1016	MAIN BROOM STRIP SET	1	79
1030	BEARING	1	79
64601	MAIN BROOM LIFT ARM (left)	1	79
1546	BOLT	6	79
1046	SHOCK	2	79
3243	HYDRAULIC MOTOR	1	79
1843	BOLT	4	79
64602	MAIN BROOM LIFT ARM (right)	1	79
1822	WASHER	24	79
80129	MAIN BROOM COUPLER	1	79
1185	BUSHING	4	79
1683	KEY	1	79
1671	WASHER	6	79
1545	BOLT	6	79
1781	BOLT	6	79
1505	NUT	2	79
1639	NUT	2	79
41437	DRAG SHOE LIFT CHAIN	2	79
61415	LONG MANDREL SHAFT	1	79
3213-3	SHORT MANDREL SHAFT	1	79
1266	MANDREL END PLATE	2	79
1549	BOLT	4	79
1822	WASHER	2	81
1670	WASHER	2	81
1537	BOLT	2	81
1521	WASHER	12	81
1501	NUT	4	81
1970	CARBIDE	2	81
1502	NUT	8	81
51405	DRAG SHOE MOUNT (right)	1	81
41401	PIN	6	81
1562	BOLT	2	81
1575	BOLT	8	81
1185	BUSHING	8	81
41429	DRAG LINK	2	81
51404	DRAG SHOE MOUNT (left)	1	81
1534	BOLT	8	81
1508	NUT	2	81
41431	BACKING	2	81
1530	BOLT	4	81
42067	DIRT DEFLECTOR RUBBER	2	81
80134	VALVE ASSEMBLY	1	82
1293	MANIFOLD	1	82
2001	HOPPER LIFT CYL. VALVE	1	82
1989	LH GB LIFT CYL. VALVE	1	82
1989	RH GB CYL. VALVE	1	82
1295	LH GB MOTOR VALVE	1	82
1295	RH GB MOTOR VALVE	1	82
1295	DUMP VALVE	1	82

PT #	DESCRIPTION	QTY	PG #
2000	RELIEF VALVE	1	82
1990	FLOAT VALVE	2	82
2080	5000 psi GAUGE	1	82
2078	GAUGE SHUTOFF VALVE	1	82
80140	VALVE ASSEMBLY	1	83
1287	MANIFOLD	1	83
1993	MB/ELEV LIFT CYL. VALVE	1	83
1993	HOPPER TILT/DOOR CYL. VALVE	1	83
1993	MB/ELEV. MOTOR VALVE	1	83
1291	DUMP VALVE	1	83
2000	RELIEF VALVE	1	83
1994	P.O. CHECK VALVE	1	83
2010	DOUBLE P.O. CHECK VALVE	2	83
1839	1/16" RESTRICTOR	3	83
2080	5000 psi GAUGE	1	83
2078	GAUGE SHUTOFF VALVE	1	83
1037	ELEV. STALL SWITCH	1	85
1453	HOSE- MB MOTOR TO ELEV. MOTOR	1	85
1466	HOSE- FRONT OF PUMP TO LH VALVE	1	85
1456	HOSE- MB ROD TO TEE	2	85
1488	HOSE- ELEV. MOTOR TO VALVE	1	85
1455	HOSE- MB HEAD TO TEE	2	85
3243	MOTOR	2	85
1454	HOSE- MB VALVE TO TEE	2	85
1440	HOSE- HOPPER TILT VALVE TO CROSS	1	85
1468	HOSE- VALVE RETURN TO COOLER TEE	1	85
1461	HOPPER DOOR CYLINDER	2	85
1469	HOSE- COOLER TO FILTER	1	85
1443	MB CYLINDER	2	85
1440	HOSE- HOPPER TILT VALVE TO CROSS	1	85
1988	HYDRAULIC OIL FILTER BASE	1	85
1452	HOSE-MB MOTOR TO VALVE	1	85
1489	HOSE- SUCTION	1	85
1985	HOPPER TILT CYLINDER	1	85
1441	HOSE- HOPPER TILT ROD TO CROSS	1	85
1442	HOSE- HOPPER TILT HEAD TO CROSS	1	85
1443	HOSE- HOPPER DOOR CYLINDER	4	85
1987	HYDRAULIC OIL FILTER	1	85
1986	ELEV/DRAG SHOE CYL.	4	85
1490	HOSE-MB CYL T TO ELEV CYL T	4	85
1491	HOSE-ELEV CYL TO DRAG SHOE CYL	4	85
1445	HOSE- RH GB CYL TO VAL	2	87
1446	HOSE- LH GB CYL TO VALVE	1	87
1492	HOSE- VALVE RETURN	1	87
1457	HOSE- PUMP TO VALVE	1	87
3243	MOTOR	-	87
3251	PUMP	-	87
1493	HOSE- HOPPER LIFT RETURN	1	87
1494	HOSE- VALVE TO HOPPER LIFT	1	87
52303	HYDRAULIC TANK	-	87
1495	HOSE- LIFT CROSSOVER	1	87
1496	HOSE- RETURN CROSSOVER	1	87
1497	HOSE- ROD RETURN	1	87

PT #	DESCRIPTION	QTY	PG #
3235	CYLINDER	2	87
1450	HOSE- LH GB MOTOR TO VALVE	2	87
1428	HOSE- RETURN CYLINDER	4	87
1379	GB CYLINDER	4	87
1451	HOSE- RH GB MOTOR TO VALVE	2	87
2087	DIRECTIONAL RESTRICTOR	2	87
1955	ELECTRIC HYD. OIL COOLER	1	87
1156	EXHAUST PIPE	1	87
1155	HOSE CLAMP	2	89
1049	INTAKE HOSE	30"	89
42527	ENGINE CONTROL BOX		89
1154	EXHAUST CLAMP	2	89
42404	THROTTLE MOUNT	1	89
2077	ENGINE	1	89
3251	HYD. PUMP	1	89
1524	WASHER	4	89
1545	BOLT	4	89
1387	THROTTLE ACTUATOR	1	89
1299	THROTTLE GUIDE	1	89
1388	THROTTLE ACTUATOR CABLE	1	89
1108	FUEL FILTER	1	89
1106	ENGINE OIL FILTER	1	89
1390	ENGINE OUTER AIR FILTER	1	89
1175	RAIN CAP	1	89
1176	MUFFLER	1	89
1391	ENGINE INNER AIR FILTER	1	89
1104	OIL PRESSURE SENDER	1	89
42427	MUFFLER BRACE	2	89
42429	RUBBER CONNECTOR	1	89
92301	HYDRAULIC TANK	1	91
1177	HYD. TANK BREATHER	1	91
1547	BOLT	14	91
1062	SITE GAUGE	1	91
1178	FILL CAP	1	91
1988	FILTER BASE	1	91
1987	HYD FILTER	1	91
2063	O RING	1	91
62301	VALVE MOUNT PLATE	1	91
1179	MAGNETIC DRAIN PLUG	2	91
42305	TANK COVER	1	91
2070	SUCTION SCREEN	1	91
1505	NUT	32	91
9138	DISCONNECT SWITCH	1	91
3232	WATER PUMP	-	91
62512	AUX BOX	-	91
1524	WASHER	4	91
92401	ENGINE SKID	1	91
1526	WASHER	4	91
1047	ISOLATION MOUNT	4	91
92402	AUX. BOX MOUNT	1	91
42310	HOSE TIE STRAP	3	91
92403	WATER PUMP PLATE	1	91
42315	PRES. GAUGE MOUNT	1	91

PT #	DESCRIPTION	QTY	PG #
33101	ELEVATOR FRAME	1	93
1549	BOLT	20	93
43113	TOP SHAFT	1	93
1680	KEY	1	93
1546	BOLT	2	93
80133	ELEV. DRIVE SYSTEM	1	93
1505	NUT	2	93
3243	MOTOR	1	93
1556	BOLT	4	93
43134	CHAIN GUARD	1	93
43107	SEPARATOR	2	93
1503	NUT	12	93
43135	COVER	1	93
1506	NUT	24	93
1030	BEARING	6	93
43125	SLIDE	4	93
1540	BOLT	12	93
43127	ADJUSTMENT ANGLE	4	93
43123	GUIDE	4	93
1671	WASHER	8	93
1539	BOLT	8	93
43115	SPACER	4	93
1147	BOLT	4	93
33110	TOP LINER	1	95
1711	BOLT	14	95
43121	CANOPY	1	95
43131	CANOPY EXTENSION	1	95
1530	BOLT	30	95
1520	WASHER	60	95
1501	NUT	50	95
43105	BOTTOM LINER	1	95
41744	END STRAP	1	95
41776	RUBBER SEAL	2	95
41710	HOLD DOWN	2	95
1713	BOLT	7	95
41772	BOTTOM RUBBER	1	95
33109	ELEVATOR CHAIN	2	97
43113	TOP SHAFT	-	97
1149	SHAFT KEY	6	97
1039	RUBBER SPROCKET	6	97
41738	SHAFT SPACER	6	97
41740	LOCK PLATE	12	97
1544	BOLT	42	97
1503	NUT	70	97
43109	BOTTOM SHAFT	2	97
1501	NUT	144	97
43128	SQUEEGEE ANGLE	20	97
41726	SQUEEGEE RUBBER	10	97
1540	BOLT	48	97
1531	BOLT	144	97
42201	SPRAY BAR	2	99
1158	HOSE BARB FITTING	4	99
1204	BALL VALVE	4	99

PT #	DESCRIPTION	QTY	PG #
1187	PLUG	1	99
1203	HOSE CLAMP	4	99
9216	NOZZLE/ADAPTER	12	99
1163	HOSE BARB TEE ADAPTER	5	99
1130	WATER TANK ELBOW	1	99
1165	HOSE	25'	99
1166	HOSE	30'	99
42203	GB SPRAY BAR	2	99
1167	HOSE BARB FITTING	2	99
1168	U BOLT	8	99
42205	SPRAY BAR HANGER	4	99
1169	HOSE CLAMP	20	99
3232	WATER PUMP	1	99
1117	WATER FILTER HOUSING	1	99
1172	WATER FILTER ELEMENT	1	99
1159	BALL VALVE	1	99
1160	NIPPLE	1	99
1371	HOSE BARB FITTING	1	99
1372	ADAPTER	1	99
1373	HOSE BARB FITTING	1	99
1374	HOSE BARB FITTING	1	99
1375	CLEAR TUBING	48"	99
1376	CLAMP	2	99
1377	FLOAT	1	99
42527	ENGINE CONTROL BOX LAYOUT	1	101
1092	TACH/HOUR METER	1	100
1095	IGNITION SWITCH	1	100
1090	OIL PRESSURE GAUGE	1	100
1091	WATER TEMP GAUGE	1	100
1094	SHUT DOWN MODULE	1	100
62512	AUX. CONTROL BOX SCHEMATIC		102
80207	AUX. CONTROL BOX LAYOUT		103
1947	RELAY	6	103
2043	CIRCUIT BREAKER	1	103
2041	FUSE HOLDER	1	103
2042	FUSE	7	103
1193	FUSE	1	103
1946	RELAY	2	103
62507	AUX. BOX MOUNTING PLATE	1	103
62512	HARNESS (not shown)	1	103
62511	SWITCH BOX CONTROL SCHEMATIC		105
1101	SHOCK MOUNT	4	107
62505	BOX	1	107
62506	PANEL	1	107
62508	PANEL DECAL	1	107
1127	STALL ALARM	1	107
1128	STALL LIGHT	1	107
1686	SWITCH (MOM)	6	107
1684	SWITCH (SOS)	4	107
1685	SWITCH (SOM)	3	107
1689	HOLE PLUG	2	107
1691	COURTESY LIGHT	1	107
62510	VALVE HARNESS		108

PT #	DESCRIPTION	QTY	PG #
62513	SWEEPER HARNESS		109
62508	REAR LIGHT HARNESS		104
62509	POWER HARNESS		110
42501	ADAPTER PLATE	1	111
1546	BOLT	1	111
42502	SUPPORT POST	1	111
1505	NUT	1	111
1531	BOLT	7	111
1520	WASHER	4	111
1501	NUT	7	111
42503	TOP MOUNT	1	111
42506	BOX MOUNT PLATE	1	111
62501	OFFSET POST	1	111
1194	KNOB	2	111
1233	ELECT. BOOT	1	111
43201	DO NOT STEP	10	114
43205	PINCH POINT SQ	4	114
43207	DANGER SAFETY SUPPORT IN PLACE	3	115
43211	CAUTION ROTATING BROOMS	4	115
43213	IMPORTANT OPERATOR IS RESPONSIBLE	1	115
43215	DANGER STAND CLEAR	6	116
43217	HYDRAULIC OIL MUST CONFORM	2	116
43219	WARNING THIS VEHICLE IS EQUIPED	1	117
43221	WARNING DO NOT OVERLOAD	1	117
43223	SAFETY SUPPORT	5	118
43225	ROTATING BEACONS AND STROBES	1	118
43227	WARNING SWEEPER MUST BE LEVEL	2	118
43229	CAUTION CLOSE AND LOCK	8	119
43231	CAUTION BEFORE OPERATING	1	119
43233	PINCH POINT	2	119
43235	WATER ONLY	2	120
43237	DUMP ON LEVEL GROUND ONLY	1	120
43239	DANGER HIGH WIRE HAZARD VOLTAGE	1	120
43244	LOW SPEED WARNING	1	121
43245	MADE IN USA	1	121
43243	STEWART-AMOS SWEEPER CO.	2	122
43246	STARFIRE LOGO DECAL REAR CANOPY	1	123
43247	LH STARFIRE LOGO REAR CANOPY DOORS	1	121
43264	RH STARFIRE LOGO REAR CANOPY DOORS	1	121
43248	LH S-6 STARFIRE DECAL REAR CANOPY DOOR	1	123
43249	RH S-6 STARFIRE DECAL REAR CANOPY DOOR	1	123

STEWART-AMOS Sweeper Co.

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1005	DOOR LATCH	2	67
1005	DOOR LATCH	4	69
1005	DOOR LATCH	1	71
1010	HUB	2	79
1016	MAIN BROOM STRIP SET	1	79
1018	SUSPENSION SPRING	2	75
1019	RETRACT SPRING	1	75
1020	BUSHING	4	75
1022	TURN BUCKLE	2	75
1023	TURN BUCKLE	2	75
1024	BACKUP ALARM	1	69
1030	BEARING	1	79
1030	BEARING	6	93
1031	HINGE	4	67
1031	HINGE	8	69
1031	HINGE	2	71
1033	WINDOW RUBBER	37"	71
1037	ELEV. STALL SWITCH	1	85
1039	RUBBER SPROCKET	6	97
1042	QUICK LINK	4	75
1043	CYLINDER	2	79
1046	SHOCK	2	79
1047	ISOLATION MOUNT	4	91
1049	INTAKE HOSE	30"	89
1061	CYLINDER	2	71
1062	SITE GAUGE	1	91
1074	SNAP RING	16	73
1075	200 GAL. PLASTIC WATER TANK	1	65
1078	LINEAR ACTUATOR	1	77
1087-3	PROX. SWITCH	2	65
1090	OIL PRESSURE GAUGE	1	100
1091	WATER TEMP GAUGE	1	100
1092	TACH/HOUR METER	1	100
1094	SHUT DOWN MODULE	1	100
1095	IGNITION SWITCH	1	100
1101	SHOCK MOUNT	4	107
1104	OIL PRESSURE SENDER	1	89
1106	ENGINE OIL FILTER	1	89
1108	FUEL FILTER	1	89
1116	HYDRANT HOSE	1	65
1117	WATER FILTER HOUSING	1	99
1127	STALL ALARM	1	107
1128	STALL LIGHT	1	107
1130	WATER TANK ELBOW	1	99
1147	BOLT	4	93
1148	GB BRUSH SET 4 SEG.	1	77
1149	SHAFT KEY	6	97
1154	EXHAUST CLAMP	2	89
1155	HOSE CLAMP	2	89
1156	EXHAUST PIPE	1	87
1158	HOSE BARB FITTING	4	99
1159	BALL VALVE	1	99

PT #	DESCRIPTION	QTY	PG #
1160	NIPPLE	1	99
1163	HOSE BARB TEE ADAPTER	5	99
1165	HOSE	25'	99
1166	HOSE	30'	99
1167	HOSE BARB FITTING	2	99
1168	U BOLT	8	99
1169	HOSE CLAMP	20	99
1172	WATER FILTER ELEMENT	1	99
1173	CHAIN	2X6"	71
1175	RAIN CAP	1	89
1176	MUFFLER	1	89
1177	HYD. TANK BREATHER	1	91
1178	FILL CAP	1	91
1179	MAGNETIC DRAIN PLUG	2	91
1185	BUSHING	18	71
1185	BUSHING	8	73
1185	BUSHING	4	75
1185	BUSHING	4	79
1185	BUSHING	8	81
1187	PLUG	1	99
1193	FUSE	1	103
1194	KNOB	2	111
1203	HOSE CLAMP	4	99
1204	BALL VALVE	4	99
1233	ELECT. BOOT	1	111
1266	MANDREL END PLATE	2	79
1287	MANIFOLD	1	83
1291	DUMP VALVE	1	83
1293	MANIFOLD	1	82
1295	LH GB MOTOR VALVE	1	82
1295	RH GB MOTOR VALVE	1	82
1295	DUMP VALVE	1	82
1299	THROTTLE GUIDE	1	89
1371	HOSE BARB FITTING	1	99
1372	ADAPTER	1	99
1373	HOSE BARB FITTING	1	99
1374	HOSE BARB FITTING	1	99
1375	CLEAR TUBING	48"	99
1376	CLAMP	2	99
1377	FLOAT	1	99
1379	CYLINDER	2	75
1379	GB CYLINDER	4	87
1387	THROTTLE ACTUATOR	1	89
1388	THROTTLE ACTUATOR CABLE	1	89
1390	ENGINE OUTER AIR FILTER	1	89
1391	ENGINE INNER AIR FILTER	1	89
1394	WATER LEVEL FLOAT	1	67
1395	CLEAR FLOAT TUBE	1	67
1428	HOSE- RETURN CYLINDER	4	87
1440	HOSE- HOPPER TILT VALVE TO CROSS	1	85
1440	HOSE- HOPPER TILT VALVE TO CROSS	1	85
1441	HOSE- HOPPER TILT ROD TO CROSS	1	85

PT #	DESCRIPTION	QTY	PG #
1442	HOSE- HOPPER TILT HEAD TO CROSS	1	85
1443	MB CYLINDER	2	85
1443	HOSE- HOPPER DOOR CYLINDER	4	85
1445	HOSE- RH GB CYL TO VAL	2	87
1446	HOSE- LH GB CYL TO VALVE	1	87
1450	HOSE- LH GB MOTOR TO VALVE	2	87
1451	HOSE- RH GB MOTOR TO VALVE	2	87
1452	HOSE-MB MOTOR TO VALVE	1	85
1453	HOSE- MB MOTOR TO ELEV. MOTOR	1	85
1454	HOSE- MB VALVE TO TEE	2	85
1455	HOSE- MB HEAD TO TEE	2	85
1456	HOSE- MB ROD TO TEE	2	85
1457	HOSE- PUMP TO VALVE	1	87
1461	HOPPER DOOR CYLINDER	2	85
1466	HOSE- FRONT OF PUMP TO LH VALVE	1	85
1468	HOSE- VALVE RETURN TO COOLER TEE	1	85
1469	HOSE- COOLER TO FILTER	1	85
1488	HOSE- ELEV. MOTOR TO VALVE	1	85
1489	HOSE- SUCTION	1	85
1490	HOSE-MB CYL T TO ELEV CYL T	4	85
1491	HOSE-ELEV CYL TO DRAG SHOE CYL	4	85
1492	HOSE- VALVE RETURN	1	87
1493	HOSE- HOPPER LIFT RETURN	1	87
1494	HOSE- VALVE TO HOPPER LIFT	1	87
1495	HOSE- LIFT CROSSOVER	1	87
1496	HOSE- RETURN CROSSOVER	1	87
1497	HOSE- ROD RETURN	1	87
1501	NUT	20	67
1501	NUT	36	69
1501	NUT	20	71
1501	NUT	4	81
1501	NUT	50	95
1501	NUT	144	97
1501	NUT	7	111
1502	NUT	17	65
1502	NUT	8	81
1503	NUT	12	65
1503	NUT	6	67
1503	NUT	6	69
1503	NUT	2	75
1503	NUT	12	93
1503	NUT	70	97
1505	NUT	4	65
1505	NUT	1	75
1505	NUT	2	77
1505	NUT	2	79
1505	NUT	32	91
1505	NUT	2	93
1505	NUT	1	111
1506	NUT	5	75
1506	NUT	4	77
1506	NUT	24	93
1507	NUT	7	75

PT #	DESCRIPTION	QTY	PG #
1508	NUT	1	75
1508	NUT	2	81
1520	WASHER	20	67
1520	WASHER	36	69
1520	WASHER	34	71
1520	WASHER	60	95
1520	WASHER	4	111
1521	WASHER	12	81
1522	WASHER	6	67
1524	WASHER	4	89
1524	WASHER	4	91
1525	WASHER	2	77
1526	WASHER	2	75
1526	WASHER	4	91
1530	BOLT	13	71
1530	BOLT	4	81
1530	BOLT	30	95
1531	BOLT	144	97
1531	BOLT	7	111
1534	BOLT	12	65
1534	BOLT	8	81
1535	BOLT	17	65
1537	BOLT	2	65
1537	BOLT	3	75
1537	BOLT	4	79
1537	BOLT	2	81
1539	BOLT	8	93
1540	BOLT	2	75
1540	BOLT	20	77
1540	BOLT	12	93
1540	BOLT	48	97
1544	BOLT	42	97
1545	BOLT	6	79
1545	BOLT	4	89
1546	BOLT	2	77
1546	BOLT	6	79
1546	BOLT	2	93
1546	BOLT	1	111
1547	BOLT	14	91
1549	NUT	4	77
1549	BOLT	4	79
1549	BOLT	20	93
1556	BOLT	2	75
1556	BOLT	4	93
1558	BOLT	4	71
1559	BOLT	5	75
1560	BOLT	2	71
1560	BOLT	2	75
1561	BOLT	1	75
1562	BOLT	2	81
1574	BOLT	1	75
1575	BOLT	8	81
1579	BOLT	8	67

PT #	DESCRIPTION	QTY	PG #
1579	BOLT	32	69
1579	BOLT	8	71
1581	WASHER	1	75
1583	NUT	4	71
1591	SCREW	6	65
1604	COTTER PIN	6	73
1604	COTTER PIN	8	79
1623	PIN	6	73
1639	NUT	2	79
1640	NUT	2	75
1642	NUT	2	75
1670	WASHER	4	65
1670	WASHER	3	75
1670	WASHER	20	77
1670	WASHER	4	79
1670	WASHER	2	81
1671	WASHER	6	79
1671	WASHER	6	79
1671	WASHER	8	93
1680	KEY	1	93
1681	KEY	1	79
1683	KEY	1	77
1683	KEY	1	79
1684	SWITCH (SOS)	4	107
1685	SWITCH (SOM)	3	107
1686	SWITCH (MOM)	6	107
1689	HOLE PLUG	2	107
1691	COURTESY LIGHT	1	107
1711	BOLT	14	95
1713	BOLT	7	95
1750	INSERT	8	67
1750	INSERT	16	69
1768	CAMERA CABLE	2	69
1769	CAMERA/MONITOR	1	69
1770	CAMERA	1	69
1781	BOLT	6	79
1782	BOLT	16	73
1782	BOLT	6	79
1822	WASHER	16	65
1822	WASHER	6	69
1822	WASHER	3	75
1822	WASHER	4	79
1822	WASHER	24	79
1822	WASHER	2	81
1839	1/16" RESTRICTOR	3	83
1843	BOLT	2	65
1843	BOLT	4	65
1843	BOLT	6	67
1843	BOLT	6	69
1843	BOLT	4	79
1861	DOOR STOP SPRING	2	67
1861	DOOR STOP SPRING	4	69
1905	CLEARANCE LIGHT	4	69

PT #	DESCRIPTION	QTY	PG #
1906	GROMMET	4	69
1907	ID BAR	1	69
1908	LICENSE PLATE LIGHT	1	69
1909	BRAKE LIGHT	2	69
1910	TURN SIGNAL LIGHT	2	69
1911	BACKUP LIGHT	2	69
1912	GROMMET	6	69
1915	WORK LIGHT	2	65
1915	WORK LIGHT	1	69
1916	STROBE	1	67
1916	STROBE	1	69
1934	OPTIONAL BIN VIBRATOR	1	71
1946	RELAY	2	103
1947	RELAY	6	103
1955	HYD. COOLER & FAN	1	67
1955	ELECTRIC HYD. OIL COOLER	1	87
1970	CARBIDE	2	81
1976	MAIN BROOM MANDREL	1	79
1985	CYLINDER	1	73
1985	HOPPER TILT CYLINDER	1	85
1986	ELEV/DRAG SHOE CYL.	4	85
1987	HYDRAULIC OIL FILTER	1	85
1987	HYD FILTER	1	91
1988	HYDRAULIC OIL FILTER BASE	1	85
1988	FILTER BASE	1	91
1989	LH GB LIFT CYL. VALVE	1	82
1989	RH GB CYL. VALVE	1	82
1990	FLOAT VALVE	2	82
1993	MB/ELEV LIFT CYL. VALVE	1	83
1993	HOPPER TILT/DOOR CYL. VALVE	1	83
1993	MB/ELEV. MOTOR VALVE	1	83
1994	P.O. CHECK VALVE	1	83
2000	RELIEF VALVE	1	82
2000	RELIEF VALVE	1	83
2001	HOPPER LIFT CYL. VALVE	1	82
2010	DOUBLE P.O. CHECK VALVE	2	83
2041	FUSE HOLDER	1	103
2042	FUSE	7	103
2043	CIRCUIT BREAKER	1	103
2063	O RING	1	91
2070	SUCTION SCREEN	1	91
2077	ENGINE	1	89
2078	GAUGE SHUTOFF VALVE	1	82
2078	GAUGE SHUTOFF VALVE	1	83
2080	5000 psi GAUGE	1	82
2080	5000 psi GAUGE	1	83
2087	DIRECTIONAL RESTRICTOR	2	87
3206	MUD FLAP	2	65
3210	CYLINDER	2	73
3213-3	SHORT MANDREL SHAFT	1	79
3229	GB BRUSH SET FOR 61307		77
3232	WATER PUMP	-	91
3232	WATER PUMP	1	99

PT #	DESCRIPTION	QTY	PG #
3235	CYLINDER	2	87
3243	HYDRAULIC MOTOR	1	77
3243	HYDRAULIC MOTOR	1	79
3243	MOTOR	2	85
3243	MOTOR	-	87
3243	MOTOR	1	93
3248	BUSHING	1	77
3251	PUMP	-	87
3251	HYD. PUMP	1	89
9137	LANYARD	2	75
9138	DISCONNECT SWITCH	1	91
9185	130 GAL. PLASTIC WATER TANK	1	65
9216	NOZZLE/ADAPTER	12	99
9356	FENDER	2	65
9357	FENDER MOUNT	2	65
32910	DRAIPER MOUNT	1	71
32911	DRAIPER RUBBER	1	71
33101	ELEVATOR FRAME	1	93
33109	ELEVATOR CHAIN	2	97
33110	TOP LINER	1	95
41207	MOTOR BRACKET (left)	1	77
41209	DRIVE HUB	1	77
41211	PIN	2	75
41215	SPRING BELL CRANK	1	75
41221	LINK	1	75
41227	PLATE	1	77
41230	EXTEND SPRING MOUNT	1	75
41318	MOTOR BRACKET (right)	1	77
41401	PIN	2	79
41401	PIN	6	81
41413	MAIN BROOM ROCK SHAFT	1	79
41417	PIN	2	79
41421	MAIN BROOM LIFT STRAP	2	79
41427	MAIN BROOM LIFT CHAIN	2	79
41429	DRAG LINK	2	81
41431	BACKING	2	81
41437	DRAG SHOE LIFT CHAIN	2	79
41503	DOOR	2	67
41503	DOOR	2	69
41504	SPACER	4	67
41612	LEFT REAR DOOR	1	69
41614	RIGHT REAR DOOR	1	69
41710	HOLD DOWN	2	95
41726	SQUEEGEE RUBBER	10	97
41738	SHAFT SPACER	6	97
41740	LOCK PLATE	12	97
41744	END STRAP	1	95
41771	REST TUBE	1	65
41772	BOTTOM RUBBER	1	95
41776	RUBBER SEAL	2	95
42060	REAR SKIRT	1	65
42065	WATER VALVE	1	65
42067	DIRT DEFLECTOR RUBBER	2	81

PT #	DESCRIPTION	QTY	PG #
42073	SKIRT	1	65
42075	BASE STRIP	1	65
42077	BEARING INSPECTION COVER	2	65
42081	WATER VALVE LEVER	1	69
42083	WATER VALVE ROD	1	65
42085	SAFETY PROP	2	65
42101	CENTER DRAG RUBBER	1	65
42103	CENTER DRAG SUPPORT	2	65
42107	LIMB GUARD	1	67
42107	LIMB GUARD	1	69
42131	SAFETY	1	73
42146	CENTER DRAG RUBBER	1	65
42201	SPRAY BAR	2	99
42203	GB SPRAY BAR	2	99
42205	SPRAY BAR HANGER	4	99
42214	FILL RELIEF RUBBER	1	65
42220	WATER TANK MOUNT	1	65
42220-06	WATER TANK STRAP	2	65
42305	TANK COVER	1	91
42310	HOSE TIE STRAP	3	91
42315	PRES. GAUGE MOUNT	1	91
42316	SPACER	2	77
42404	THROTTLE MOUNT	1	89
42427	MUFFLER BRACE	2	89
42429	RUBBER CONNECTOR	1	89
42501	ADAPTER PLATE	1	111
42502	SUPPORT POST	1	111
42503	TOP MOUNT	1	111
42506	BOX MOUNT PLATE	1	111
42527	ENGINE CONTROL BOX		89
42527	ENGINE CONTROL BOX LAYOUT	1	101
42813	SCISSOR ROLLER	4	73
42905	DOOR LINK	4	71
42913	WINDOW	1	71
42915	RUBBERE FLASHING	1	71
42917	UPRIGHT FLASHING	2	71
43105	BOTTOM LINER	1	95
43107	SEPARATOR	2	93
43109	BOTTOM SHAFT	2	97
43113	TOP SHAFT	1	93
43113	TOP SHAFT	-	97
43115	SPACER	4	93
43121	CANOPY	1	95
43123	GUIDE	4	93
43125	SLIDE	4	93
43127	ADJUSTMENT ANGLE	4	93
43128	SQUEEGEE ANGLE	20	97
43129	ELEVATOR CENTERING BUSHING	2	65
43131	CANOPY EXTENSION	1	95
43134	CHAIN GUARD	1	93
43135	COVER	1	93
43201	DO NOT STEP	10	114
43205	PINCH POINT SQ	4	114

STEWART-AMOS
Sweeper Co.

PT #	DESCRIPTION	QTY	PG #
43207	DANGER SAFETY SUPPORT IN PLACE	3	115
43211	CAUTION ROTATING BROOMS	4	115
43213	IMPORTANT OPERATOR IS RESPONSIBLE	1	115
43215	DANGER STAND CLEAR	6	116
43217	HYDRAULIC OIL MUST CONFORM	2	116
43219	WARNING THIS VEHICLE IS EQUIPED	1	117
43221	WARNING DO NOT OVERLOAD	1	117
43223	SAFETY SUPPORT	5	118
43225	ROTATING BEACONS AND STROBES	1	118
43227	WARNING SWEEPER MUST BE LEVEL	2	118
43229	CAUTION CLOSE AND LOCK	8	119
43231	CAUTION BEFORE OPERATING	1	119
43233	PINCH POINT	2	119
43235	WATER ONLY	2	120
43237	DUMP ON LEVEL GROUND ONLY	1	120
43239	DANGER HIGH WIRE HAZARD VOLTAGE	1	120
43243	STEWART-AMOS SWEEPER CO.	2	122
43244	LOW SPEED WARNING	1	121
43245	MADE IN USA	1	121
43246	STARFIRE LOGO DECAL REAR CANOPY	1	123
43247	LH STARFIRE LOGO REAR CANOPY DOORS	1	121
43248	LH S-6 STARFIRE DECAL REAR CANOPY DOOR	1	123
43249	RH S-6 STARFIRE DECAL REAR CANOPY DOOR	1	123
43264	RH STARFIRE LOGO REAR CANOPY DOORS	1	121
51404	DRAG SHOE MOUNT (left)	1	81
51405	DRAG SHOE MOUNT (right)	1	81
52303	HYDRAULIC TANK	-	87
61201	GB MOUNT (left hand)	1	75
61203	GB PIVOT(left)	1	75
61205	LINKAGE MOUNT (left)	1	75
61213	PIN	1	75
61235	RETRACT PLATE (left)	1	75
61301	GB MOUNT (right hand)	1	75
61303	GB PIVOT(right)	1	75
61305	LINKAGE MOUNT (right)	1	75
61307	OPTIONAL 42" GB PLATE		77
61309	RETRACT PLATE (right)	1	75
61405	LIFT BELL CRANK (left)	1	79
61407	LIFT BELL CRANK (right)	1	79
61415	LONG MANDREL SHAFT	1	79
62119	LH AXLE SUPPPORT	1	65
62121	RH AXLE SUPPORT	1	65
62301	VALVE MOUNT PLATE	1	91
62501	OFFSET POST	1	111
62505	BOX	1	107
62506	PANEL	1	107
62507	AUX. BOX MOUNTING PLATE	1	103
62508	PANEL DECAL	1	107
62508	REAR LIGHT HARNESS		104
62509	POWER HARNESS		110
62510	VALVE HARNESS		108
62511	SWITCH BOX CONTROL SCHEMATIC		105
62512	AUX BOX	-	91

PT #	DESCRIPTION	QTY	PG #
62512	AUX. CONTROL BOX SCHEMATIC		102
62512	HARNESS (not shown)	1	103
62513	SWEEPER HARNESS		109
62811	SCISSOR PIN	16	73
62812	CENTER PIN	8	73
62813	RETAINER WASHER	16	73
62813	RETAINER WASHER	6	79
62907	ACCESS DOOR	1	71
64601	MAIN BROOM LIFT ARM (left)	1	79
64602	MAIN BROOM LIFT ARM (right)	1	79
80129	MAIN BROOM COUPLER	1	79
80133	ELEV. DRIVE SYSTEM	1	93
80134	VALVE ASSEMBLY	1	82
80140	VALVE ASSEMBLY	1	83
80207	AUX. CONTROL BOX LAYOUT		103
91202	GB MOUNT	1	65
91501	FRONT CANOPY	1	67
91502	DOOR STOP	2	67
91502	DOOR STOP	4	69
91602	REAR CANOPY	1	69
92001	MAIN FRAME WELDMENT	1	65
92201	WATER TANK TUB	1	65
92203	WATER TANK END ANGLE	3	65
92301	HYDRAULIC TANK	1	91
92401	ENGINE SKID	1	91
92402	AUX. BOX MOUNT	1	91
92403	WATER PUMP PLATE	1	91
92801	UPPER SCISSOR ROLLER SECT.	1	73
92806	LOWER SCISSOR, ROLLER SECTION	1	73
92811	UPPER ANCHOR SECT. LEG #1	1	73
92812	UPPER ANCHOR SECT. LEG #2	1	73
92813	UPPER ANCHOR SECT. LEG #3	1	73
92814	UPPER ANCHOR SECT. LEG #4	1	73
92815	LOWER ANCHOR SECT. LEG #1	1	73
92815	LOWER ANCHOR SECT. LEG #2	1	73
92815	LOWER ANCHOR SECT. LEG #3	1	73
92815	LOWER ANCHOR SECT. LEG #4	1	73
92904	PIN	1	71
92906	HOPPER DOOR	1	71
92910	HOPPER	1	71
93002	HOPPER LIFT FRAME	1	73