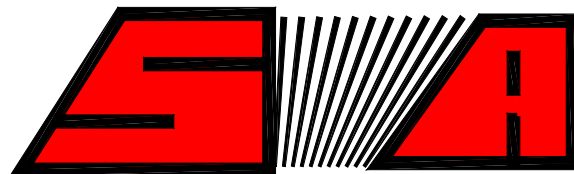




Starfire S-5t Sweeper Body Safety, Operations and Maintenance Manual



STEWART-AMOS

Sweeper Co.

SN 5005 & UP





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DEALER FORMS

The following forms must be completed and signed by the **DEALERS REPRESENTATIVE**. Then remove from manual and returned to the following address:



2700 Paxton St.
P.O. Box 2043
Harrisburg, PA 17105

Failure to return the completed and signed **Pre Delivery Inspection** and **In Service Date Registration** forms to the above address may void all warranties.



Pre Delivery Inspection Checklist

To be filled out by the dealer prior to delivery to the end user.

Return this document to Stewart-Amos Sweeper Co. within 30 days of delivery to end user.

Dealer: _____ End User: _____

Date: _____ Serial #: _____

VIN: _____ Mileage: _____ Hours: _____

Bolts and Nuts

Hopper Safety Supports _____

Hopper Safety Bolts _____

Chassis Suspension	_____	Sweeper Mounting	_____
Drag Shoe Mounts	_____	Drag Shoe Link Pins	_____
Drag Shoe Chains	_____	Main Broom Rock Shaft	_____
Main Broom Suspension Shaft	_____	Main Broom Skirt	_____
Main Broom Coupler	_____	Main Broom Shafts	_____
Main Broom End Plates	_____	Main Broom Bearing	_____
Main Broom Bearing Set Screws	_____	Main Broom Chains	_____
Main Broom Suspension Turnbuckle	_____	Elevator Mounts	_____
Elevator Bearings	_____	Elevator Canopy	_____
Elevator Extension Canopy	_____	Hopper Door Cylinders	_____
Water Tank Straps	_____	Gutter Broom Mounts	_____
Gutter Broom Pins	_____	Gutter Broom Plates	_____
Gutter Broom Linkage	_____	Gutter Broom Segments	_____
Engine Skid Mounting	_____	Engine Mounts	_____
Hydraulic Pump Mount	_____	Bell Housing Mount Plate	_____
Hydraulic Tank Mount	_____	Hydraulic Valve Mounts	_____
Battery Box Mount	_____	Aux. Engine Control Box	_____
Aux. Engine Exhaust Pipe	_____	Aux. Engine Intake Rain Cap	_____
Front Canopy Mount	_____	Rear Canopy Mount	_____
Canopy Door Hinges	_____	Lights	_____
Control Box Mounting	_____	Fuel Tank Mounting	_____

Cotter Pins and Snap Rings

Scissor Snap Rings	_____	Hopper Door Cyl.	_____
Hopper Door Pin	_____	Main Broom Cyl.	_____
Hopper Tilt Cyl. Pins	_____	Main Broom Linkage	_____
Hopper Lift Cyl. Pins	_____	Elevator Linkage	_____



Sweeper Co.

Hoses and Fittings

Tank to Pump (Suction)	_____	Pump to RH Stack Valve	_____
RH Stack Valve	_____	Valve Stack Return Lines	_____
Pump to LH Stack Valve	_____	LH Stack Valve	_____
Hopper Lift Cyl.	_____	Hydraulic Cooler to Manifold	_____
RH Gutter Broom Lift Cyl.	_____	RH Gutter Broom Motor	_____
RH Retract Cyl.	_____	LH Gutter Broom Lift Cyl.	_____
LH Gutter Broom Motor	_____	LH Gutter Broom Retract Cyl.	_____
MB/ELEV Lift Cyl.	_____	Main Broom Motor	_____
Elevator Motor	_____	Hopper Dump Cyl.	_____
Hopper Door Cyl.	_____	Hydraulic Tank Site Gauge	_____
Magnetic Drain Plugs	_____	Hydraulic Filter	_____
Hydraulic Filter Manifold	_____		

Fluid Levels

Chassis

Engine	_____
Transmission	_____
Differential	_____
Brake Fluid	_____
Power Steering	_____
Engine Air Filter	_____
Radiator	_____
Tire Pressures	
Rear (psi)	_____

Front (psi)	_____

Sweeper

Engine Oil	_____
Hydraulic Oil	_____
Primary Air Filter	_____
Secondary Air	
Filter	_____
Radiator	
Level	_____
Strength (-35 ⁰)	_____



Adjustments

RH Stack Valve Hydraulic Pressure (passengers side)	2850 psi @ 2000 rpm	_____
LH Stack Valve Hydraulic Pressure (drivers side)	2350 psi @ 2000 rpm	_____
LH Stack Valve Stall Switch	2300 psi @ 2000 rpm	_____
Aux. Eng. High Ideal (2850 rpm)	_____	Aux. Eng. Low Ideal (850 rpm) _____
Hopper Proximity Switch	_____	Elevator Proximity Switch _____
Drag Shoes in Up Position (4" off ground)	_____	Main Broom Pattern _____
MB Suspension	_____	MB Centering _____
Elevator Down Position	_____	GB Front to Back Angle _____
GB Side To Side Angle	_____	GB Suspension _____
GB Sweeping Path	_____	Rear Camera Adjustment _____
GB Camera Adjustment	_____	Monitor Adjustment _____
Work Light Adjustment	_____	Chassis Mirrors _____

Operations

Lights

Brakes	_____	LH Turn Signal _____
RH Turn Signal	_____	Tail Lights _____
ID Bar	_____	LH Rear Door Marker _____
LH Upper Rear Corner Marker	_____	RH Rear Door Marker _____
RH Upper Rear Corner Marker	_____	License Plate _____
Backup Light	_____	Back Work Light _____
LH GB Work Light	_____	RH GB Work Light _____
Rear Strobe	_____	Front Strobe _____
High Beams	_____	Low Beams _____
Backup Alarm	_____	

Aux. Engine

Glow Plugs	_____	Starting _____
Tachometer/Hour Meter	_____	Oil Pres. & Set Point _____
Temperature & Set Point	_____	Throttle Cable/Actuator _____



Sweeper Co.

Sweeper Controls

Hopper Up/Down	_____	Dump/Ret.	_____
MB/ELEV Up/Down	_____	MB/ELEV Sweep for/Rev	_____
RH GB Tilt In/Out	_____	RH GB Independent Up	_____
LH GB Tilt In/Out	_____	LH GB Independent Up	_____
Water Sweeping Only	_____	Water Continuous	_____
Camera Curb Side	_____	Camera Rear	_____
Camera Reverse	_____	Monitor	_____
Brooms Pickup in Reverse	_____	Elevator Stall Switch	_____

Dust Suppression

Water Tank	_____	Bottom Fitting	_____
Fill Valve	_____	Fill Valve Linkage	_____
Water Pump	_____	Pump off When Brooms Up	_____
Filter Housing	_____	Filter Screen	_____
Shutoff Valve	_____	Front Spray Bar	_____
Front Bar Shutoff Valve	_____	Rear Spray Bar	_____
Rear Bar Shutoff Valve	_____	LH GB Spray Bar	_____
LH GB Shutoff Valve	_____	RH GB Spray Bar	_____
RH GB Shutoff Valve	_____		

Test all sweeping functions at Aux. Eng. operating rpm (2400 rpm) and hyd. temp. (150 F).

MB Pattern	_____	LH GB Pattern	_____
RH GB Pattern	_____	GB to MB Overlap	_____
LH GB Retract	_____	RH GB Retract	_____
Hopper Dump/Retract	_____	Hopper Lift/Lower	_____
Brooms Sweep For/Rev.	_____	LH GB Independent Up	_____
RH GB Independent Up	_____	Brooms Up In Reverse	_____
Rear Camera In Reverse	_____	All Lights	_____

Miscellaneous Items

Manuals in Cab	Engine	_____
	Chassis	_____
	Parts Manual	_____
Incomplete Vehicle Stickers		_____
All Body Decals and Safety Warnings		_____

Signature: _____ Date: _____



Sweeper Co.

IN SERVICE DATE REGISTRATION FORM

To be filled out by the dealer prior to delivery to the end user.

Return this document to Stewart-Amos Sweeper Co. within 30 days of delivery to end user.

Sweeper Body Serial Number: _____
(Found next to chassis VIN plate)

Customer Name: _____

Address: _____

Phone # (include area code): _____

Date Unit Delivered: _____

In Service Date: _____

Contact Name: _____

Signature: _____

This form **MUST** be completed and returned to Stewart-Amos Sweeper Co. for warranty purposes.

FAILURE TO COMPLETE AND RETURN THIS FORM MAY RESULT IN DENIAL OF WARRANTY CLAIMS.

**Stewart-Amos Sweeper Co.
2700 Paxton Street
P.O. Box 2043
Harrisburg, PA 17105**





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.

1. Apply Parking Brake.
2. 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.
3. Turn off Auxiliary Engine.
4. With auxiliary engine off, turn key to run position and work hydraulic functions to relieve any residual pressure in the hydraulic system.
5. Remove keys from ignition.
6. Store keys in pocket or in a safe controlled area.
7. Place an "OUT OF SERVICE" sign on the steering wheel using a non-reusable fastener.
8. Place an "OUT OF SERVICE" sign on the front window.
9. Disconnect negative terminal from battery.

Hopper Port Restrictors

To control the decent of the hopper under all conditions port restrictors are used in the hopper lift cylinders. These port restrictors are sized to give a controlled decent of the hopper even if a hydraulic hose would rupture with a full hopper at the top of its travel. The hopper would come back to the at rest position with minimal damage to the equipment.



DANGER: Do not remove or modify any port restrictors



General Safety Precautions

Before Operating Machine

1. Read the operators manual and the engine manual to familiarize yourself with safe operating practices before operating the machine.
2. Read the chassis operator's manual thoroughly to familiarize yourself with safe operating practices before operating machine.
3. Be sure all observers are clear of the machine and at a safe distance.
4. Ensure mirrors, windows, lights, and monitor equipment (if equipped), are clean and adjusted properly at all times.
5. 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

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

When Servicing Machine

1. Follow the Equipment Lockout procedure described above.
2. Install safety pins into holes in slide frame to prevent scissor frame from moving when servicing under the hopper. (See Safety Features).
3. 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.

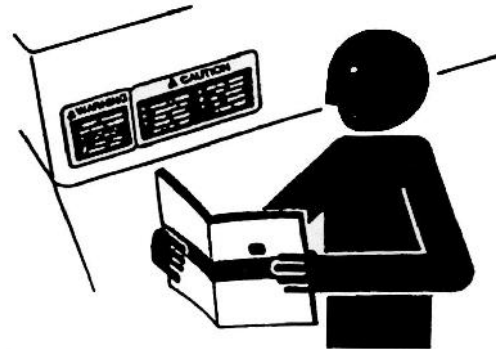
If there are concerns, report to your supervisor or maintenance department.

1. Decals - These must be clean and visible at all times.
2. 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!
3. 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.
4. 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.
5. Beacon and/or Strobe Lights - The switch is installed in the sweeper control box inside the cab. The lights are mounted on the front and rear canopy of sweeper.
6. 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.
7. 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.
8. Backup Alarm - When the truck is put into reverse this alarm sounds. The alarm is mounted to the rear canopy frame.
9. 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!**
10. 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.
11. Fire Extinguisher (option) - This is located in the cab behind the driver's seat.
12. 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.

PREVENT BYPASS STARTING

Do not start engine by shorting across starter terminal.

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

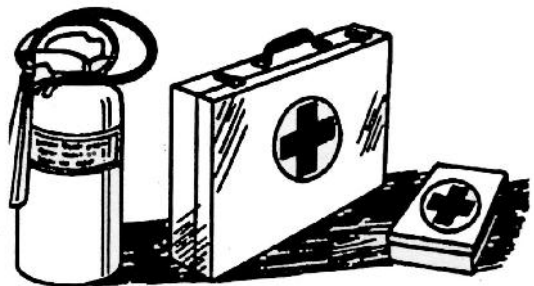


HANDLE FUEL SAFELY-AVOID FIRES

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.

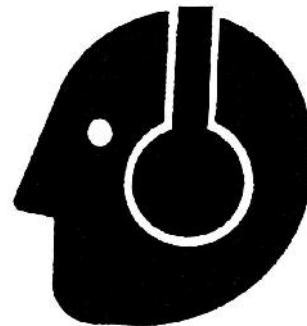
Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



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.)

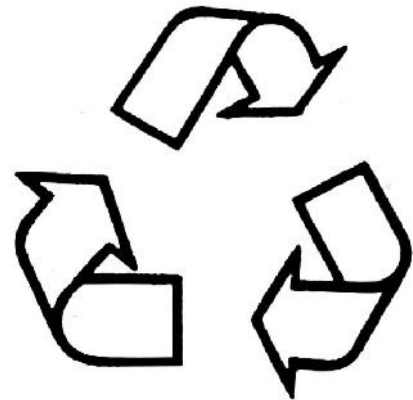
DISPOSE OF WASTE PROPERLY

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.

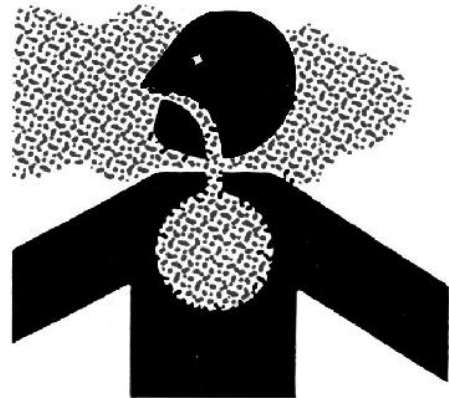
Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

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



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:

1. 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.
2. The failure occurs within the warranty period and is covered under the terms of our written warranty.
3. The repairs are made and an authorized Stewart-Amos Sweeper Co. dealer has submitted a warranty claim within 30 days of completion of repair.
4. The unit has not been altered in any way without prior written approval by Stewart-Amos Sweeper Co.



Sweeper Co.

5. 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

1. Set-up and pre-delivery services, service calls, diagnostics, or after sales adjustments due to normal operations, including travel time/mileage.
2. Sweepers sold for use outside of North America.
3. Repairs, modifications or alterations to the machine without the express written consent of Stewart-Amos Sweeper Co.
4. 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.
5. Items that, in the opinion of Stewart-Amos Sweeper Co. have been subject to misuse, abuse, negligence, accident or improper maintenance.
6. Failures resulting from the machine being operated in a manner or for a purpose not recommended by Stewart-Amos Sweeper Co.
7. Rentals, consequential or collateral damage, down time costs, or lost revenue incurred due to a failure during the warranty period.
8. Consumables or shop supply materials such as paint, anti-freeze, oil, fuel, bolts.

ITEMS COVERED BY SEPARATE WARRANTIES

1. 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.

GENERAL INFORMATION AND PROCEDURES

2. Ensure the **IN SERVICE DATE** form has been sent in.
3. Keep all replaced parts for 180 days after mailing of claim. Stewart-Amos Sweeper Co. retains the right to request that you return failed parts for quality analysis. When returning parts for warranty, a Return Goods Authorization number (RGA#) will be issued prior to the actual return of the parts. Please call the warranty department for this number if one was not been issued.
4. The RGA # must be clearly marked on the outside of the shipping box. Return transportation is the responsibility of the dealer.
5. The claim will be processed within 15 days of receipt of the returned parts. In some extenuating circumstances, it becomes necessary for returned parts to be further tested. In the event this happens, the dealer will be notified of the delay.

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.

RETURN OF GOODS AUTHORIZATION PROCEDURE

1. If parts are required for a unit under warranty, they will initially be invoiced to the dealer. If Stewart-Amos Sweeper Co. requires the failed parts back for warranty evaluation, a Returned Goods Authorization number (RGA #) will be issued for the return of the parts.
2. The RGA # must appear on all shipping labels of parts being returned.
3. All parts returned must be shipped, freight prepaid. Stewart-Amos Sweeper Co. will allow 60 days from notification for all parts to be returned. After this date, the claim will be denied.
4. If you require an RGA # and one was not issued, please contact Stewart-Amos Sweeper Co. warranty department.





General Specifications



Serial Number Location

The Serial Number Identification Plate is easily found inside the cab on the driver’s side rear door jam. 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.

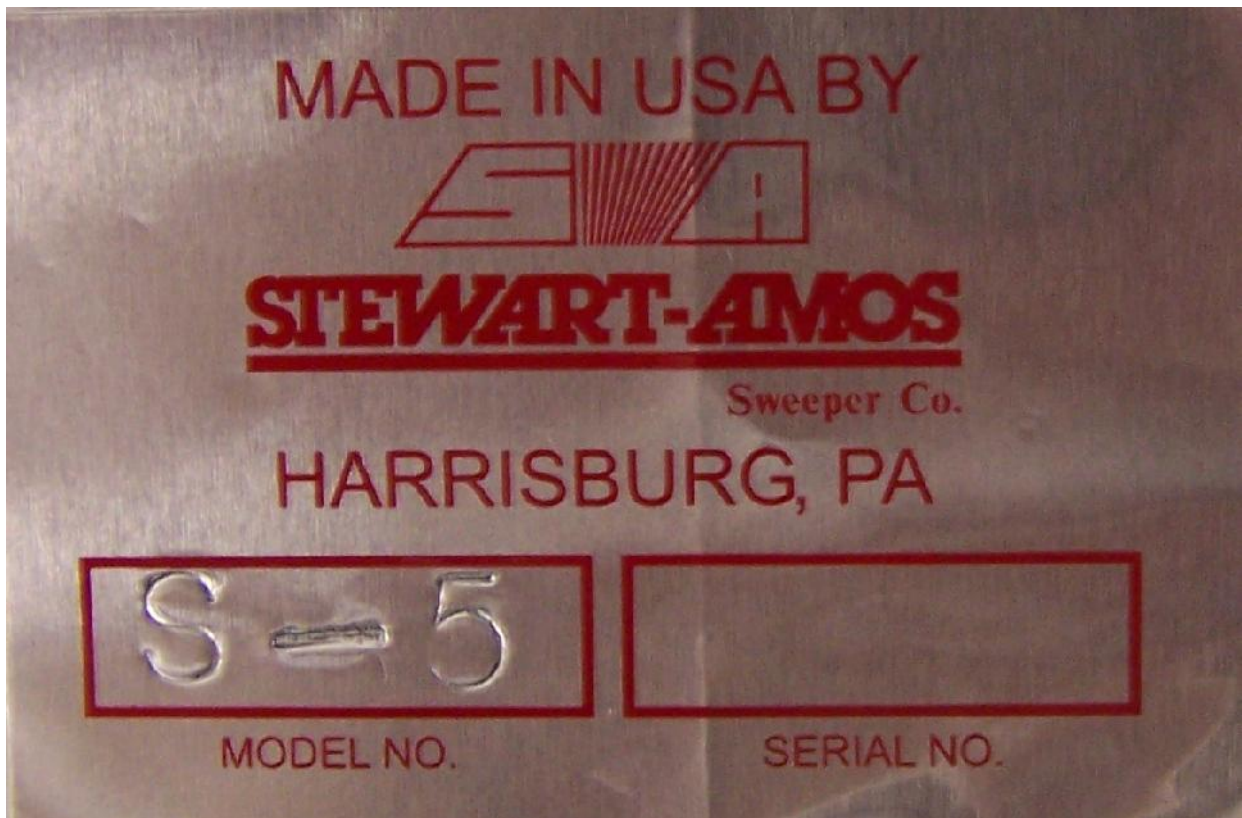


Figure 1: Serial Number Plate

Mounted Specifications*

Weight:	(Freightliner M2 chassis)(approx.)	23,180 lbs.
Front	(M2 chassis)(approx.)	6,900 lbs.
Rear	(M2 chassis)(approx.)	16,120 lbs.
Suspension	(M2 chassis)	Full time air ride
Suspended height	(M2 chassis)(approx.)	40" to top of frame
Overall Length:	(based on 156" wheelbase)	284"
Sweeping Width:	(w/two gutter brooms)	102 – 132"
Overall Height:	Sweeping/transport (approx.)	108"



Engine (auxiliary)*

Manufacturer:	Kubota
Model:	V2403-M-T-E
Displacement:	121.94 in ³
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. 4 in.
Minimum dump height:	18 in.
Dumping capacity:	15 000 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:	54 in.
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, forward / reverse
Design:	Free-floating spring suspension In-cab tilt (optional)



Lighting System

- 2 – Halogen headlights, rectangular
- 2 – Stop/signal/tail lights on rear
- 2 – Turn signal lights on front
- 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 Lights
- 1 – Rear working light

Hydraulic System

- | | |
|-------------------------|----------------------------|
| Tank Capacity: | 45 US. Gallons |
| Pump: | Tandem gear |
| Pump Capacity: | 10 gpm / 12 gpm @ 2000 rpm |
| Controls: | Electric over hydraulic |
| Hydraulic drive motors: | All interchangeable |
| Hydraulic fluid cooler: | Air to oil electric |

Water System

- | | |
|---------------------------|----------------------------|
| Gutter broom spray system | |
| Tank capacity: | 350 US. Gallons |
| Tank material: | Polyethylene |
| Electric pump (1): | 3.6 gpm |
| Water system material: | All plastic, non-corrosive |

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



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 and right driving positions.

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

Engine Controls

(Refer to *Figure 2: Engine Control Box*)

1. Tachometer – Indicates the auxiliary engine RPM.
2. Hour Meter – Indicates the hours of operation of the auxiliary engine only.
3. 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
4. Coolant Temperature Gauge – If the auxiliary engine coolant temperature rises above 100⁰ C (212⁰ F) the automatic engine shut off system will be activated.
5. Ignition Key Switch – This main power switch starts the auxiliary engine enabling all sweeping functions. (See “Operating Auxiliary Engine”).
 - a. **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.
 - b. **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 a.



Figure 2: Engine Control Box



Sweeper Controls

Refer to *Figure 3: Sweeper Control Box*

1. **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.
2. **BEACON LIGHT ON** – Turns both the front and back strobe light on and off.
3. **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.
4. **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.
5. **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.
6. **SWEEP FORWARD / SWEEP REVERSE** – This switch controls the direction of rotation of all 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 gutter brooms, if they are activated (see: LH / RH GUTTER BROOM UP / DOWN SWITCHES), will rotate vertically so that the leading edge of the brooms move material to the center of the machine, 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 all brooms and elevator will rotate in the opposite directions. The “SWEEP REVERSE” function dislodges any material that may have obstructed the elevator and



- sweep large objects out of the sweeping path that may be too large to sweep. This switch will not function unless the light in the center of the switch is on.
7. **HOPPER UP / DOWN** – This switch controls the hopper up and down function. The park brake must be applied for this function to work. To raise the hopper, press and hold the spring-loaded switch to the “HOPPER UP” position. To lower the hopper, press the switch to the “HOPPER DOWN” position. 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.
 8. **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.
 9. **HOPPER DUMP / RETRACT** – This switch controls the hopper dumping function. The park brake must be applied for this function to work. 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.
 10. **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.
 11. **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.



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12. **ELECTRIC THROTTLE** – Push switch up to increase auxiliary engine rpm and down to reduce rpm.

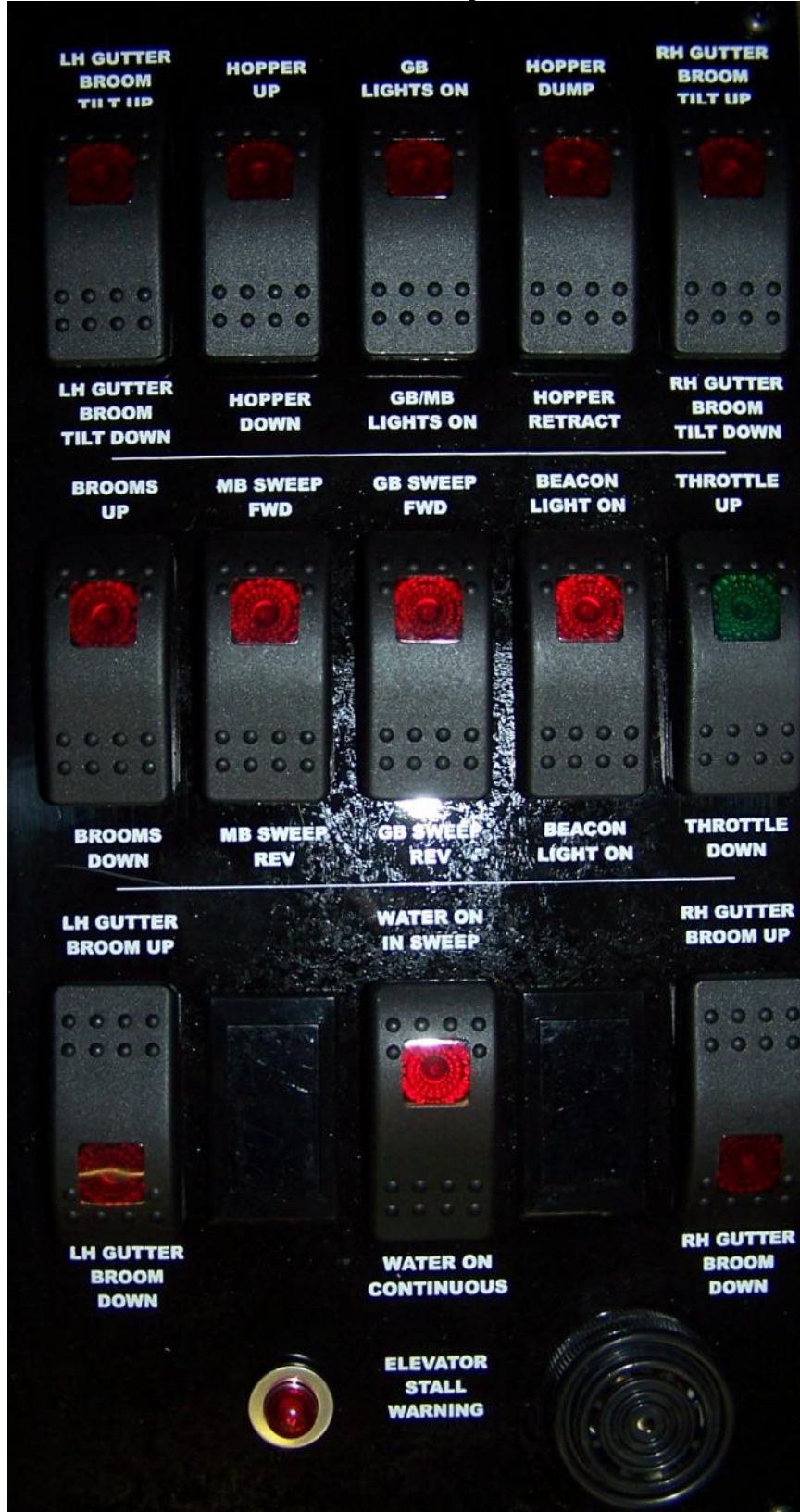


Figure 3: Sweeper Control Box to SN 5002 and up





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.

1. Read the auxiliary engine instruction manual before operating engine.
2. Check the auxiliary engine fuel, oil, coolant, and hydraulic oil levels.
3. Make sure that all sweeper control switches are in the neutral positions and the park brake is engaged.
4. 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.
5. If the engine does not start on the first try, wait for 30 seconds before trying again.
6. 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 on normal street sweepings is 2300 – 2400 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)

1. 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.

2. From curb side open the water shut off (C). Access to the fill hose is gained at the right front of canopy on the sweeper.

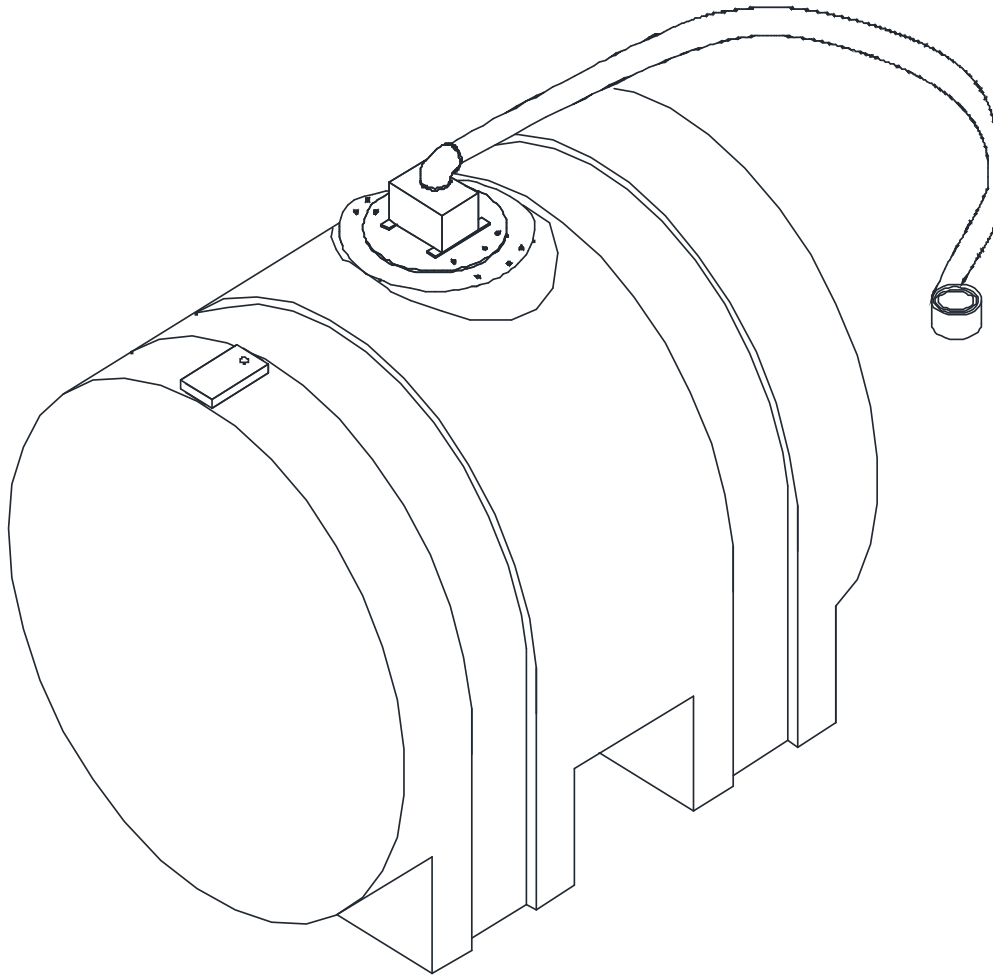


Figure 4: Water Tank

Sweeping

1. With the engine idling, ensure the hopper is fully lowered by depressing the HOPPER UP/DOWN switch to the “DOWN” position.
2. Run the auxiliary engine up to 2300 – 2400 rpm. This is the rpm range for normal street sweepings. If sweeping becomes heavy, engine rpm can be increased to maximum throttle position.
3. Lower the brooms and elevator into sweeping position by depressing the BROOMS UP/DOWN switch to the “DOWN” location.
4. Press the SWEEP FORWARD switch to the “FORWARD” sweep position. The gutter brooms and main broom will begin turning.
5. 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 centre 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 and have the aux. engine at maximum rpm.



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.

1. Push the SWEEP switch to the centre 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 centre position to turn off the water pump.
2. 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: Never MOVE vehicle while dumping.
WARNING: Always check BEHIND and ABOVE sweeper before backing up or raising the hopper! Serious damage may result otherwise.

WARNING: Never use hopper safeties with material in the hopper. Safeties will not hold a loaded hopper.

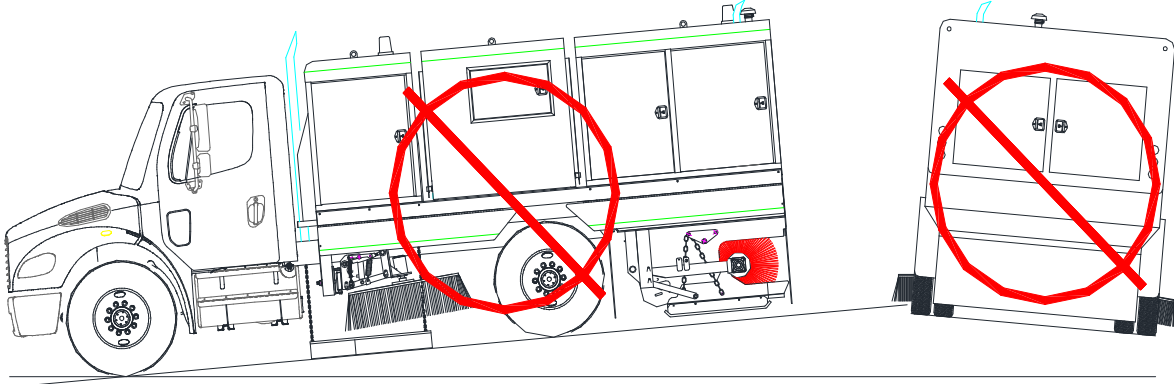
3. When in position, place the sweeper transmission lever in neutral and engage the parking brake. **The hopper functions will not work unless the park brake is applied.**
4. Elevate the hopper by pressing the HOPPER RAISE/LOWER switch to the “RAISE” position until the desired height is reached.

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.

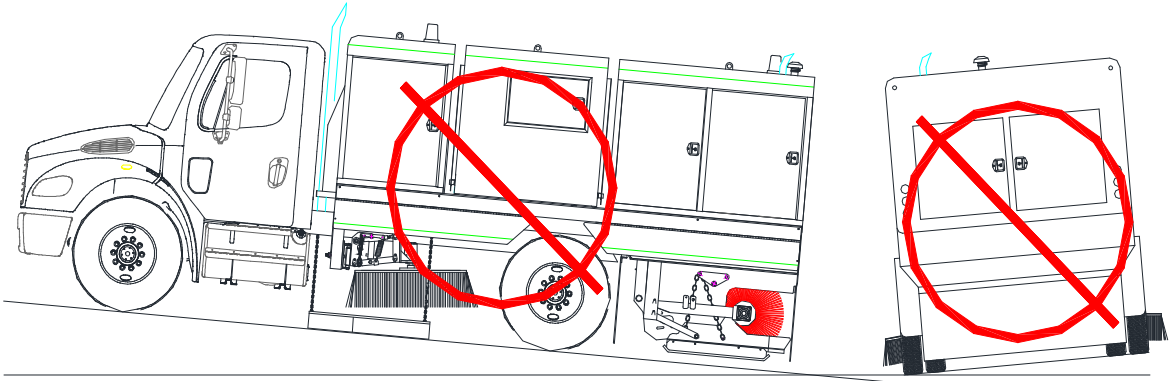
5. Tilt the hopper to dump its contents by pressing the HOPPER DUMP/RETRACT switch to the “DUMP” position.
6. When the hopper is empty, return it back to its home position by retracting the hopper using the HOPPER DUMP/RETRACT switch and lowering the hopper with the HOPPER RAISE/LOWER switch.
7. To resume 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.

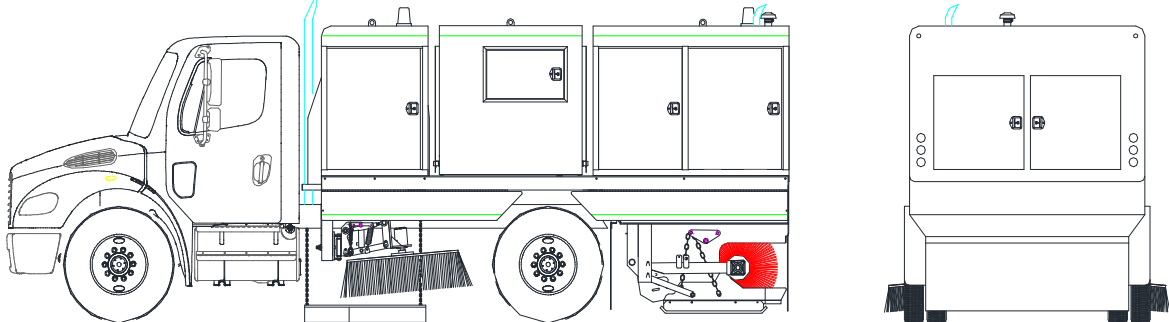
NOT A SAFE HOPPER LIFT AND/OR DUMP ANGLE



NOT A SAFE HOPPER LIFT AND/OR DUMP ANGLE



SAFE HOPPER LIFT AND/OR DUMP ANGLE





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.

1. Check and tighten:
 - a. Suspension bolts
 - b. Main broom coupler
 - c. Broom bolts
 - d. Elevator bolts
 - e. Set screws
 - f. Wheel nuts

For every 25 hours for the first 100 hours.

1. Check and tighten:
 - g. Suspension bolts
 - h. Main broom coupler
 - i. Broom bolts
 - j. Elevator bolts
 - k. Set screws
 - l. Wheel nuts
2. Inspect all areas of sweeper periodically to ensure long term life and reliability. Practicing regular routine maintenance will payback in minimal operating costs and less down time over the life of the machine.



Winterizing Your S-5t Sweeper

1. Remove dust suppression water filter, allow as much water as possible to drain from the system and replace water canister without filter.
2. Remove water line coming from the tank at the filter.
3. 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.
4. Remove dust suppression water filter canister and leave off for winter.
5. 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.
6. Engine – Maintain and service engine as per the engine manual provided with the unit.
7. Check antifreeze strength. Must be good for -35⁰ F.
8. Insure all fluid levels at maximum of the operating range.
9. Clean or change engine air filter before parking for winter.
10. Maintain and service chassis as per the owners 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 (40° F).

Use ASTM No. 1-D grade diesel fuel when outside air temperature is below 5° C (40° 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 system breather which must be kept clean.



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 or 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

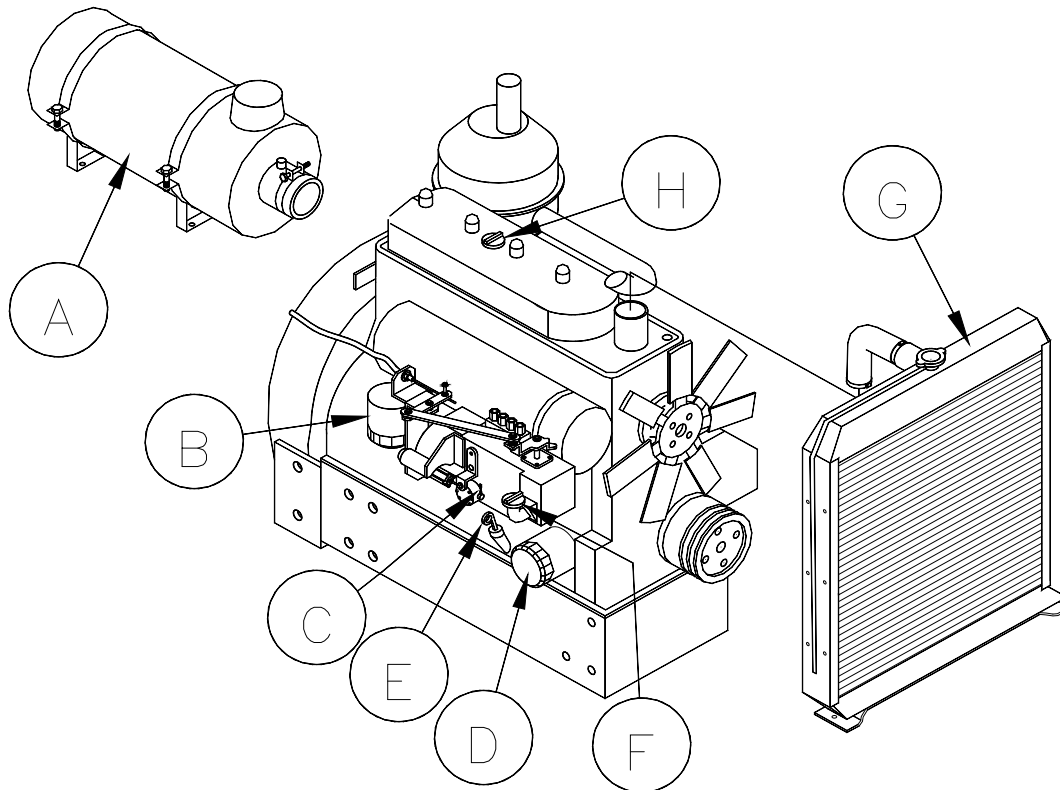
Daily

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

1. Check oil and coolant levels on the engine.
2. Do a walk around inspection to check all linkages cotter pins and bolts for looseness or missing.
3. 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.
4. Check the hydraulic oil breather filter, located on tank, for cleanliness.
5. 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.
6. Lubricate the elevator bearings.
7. Lubricate the main broom bearing.



WARNING: Do not pull on hydraulic oil cooler outlet hose when servicing. This may cause the cooler to leak.



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

Figure 5: Service Locations on Auxiliary Engine

Every 40 Hours

1. Clean the dust control water filter and inspect the sprayer nozzles.
2. Check the radiator for plugging. Ensure radiator is cool before cleaning. Clean with fresh water.
3. Replace the engine oil in the auxiliary engine (initial change only).
4. Replace the hydraulic oil filter in the auxiliary engine (initial change only).
5. Lubricate gutter broom pivot points.
6. Lubricate main broom arms.
7. Lubricate drag shoe links.

Every 250 Hours

1. Replace the hydraulic oil filter.
2. Replace the oil breather filter.
3. Replace the auxiliary engine oil and filter.



Every 500 Hours

1. Replace the hydraulic oil filter.
2. 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.

3. Visually inspect the hydraulic system.
4. Check all lines and hoses for cracks or wear and replace as required.
5. Check all fittings for leakage and retighten or replace if necessary.
6. 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:

1. Run the sweeper until hydraulic oil is warm.
2. Stop the engine.
3. Remove both magnetic drain plugs from the bottom of the oil reservoir (one on each side). Drain the oil into a large container.
4. Clean and reinstall both magnetic drain plugs.
5. Replace the reservoir breather filter.
6. Replace the hydraulic filter.
7. 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!

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

Refer to the Lubrication and Maintenance Check List at the end of the manual.



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 3° - 5° 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 3° - 5° for normal sweeping.

Adjust Tilt Angle

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

1. Loosen angle adjustment lock nut (B) to allow movement of the angle adjustment turnbuckle (C).
2. To increase the tilt angle of the gutter brooms, decrease the length of turnbuckle (C). To decrease the angle, lengthen turnbuckle (C).
3. 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*)

1. Loosen lock nut on adjustment turnbuckle (L) to allow movement of the lower section of the gutter broom.
2. 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.
3. 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

1. Lower brooms onto the road surface and have them rotate with the sweeper stationary.
2. Stop and raise the brooms.
3. Drive sweeper off the swept pattern.
4. 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. As a rule of thumb a **9:00 to 1:00** on the driver's side and **11:00 to 3:00** on passenger's side pattern is preferred.

Adjust Gutter Broom Pressure

(Refer to *Figure 6: Gutter Broom Assembly*)

1. Loosen turnbuckle lock nut (I) on suspension turnbuckle (H).
2. To increase down pressure on gutter broom lengthen the turnbuckle, to reduce down pressure shorten the turnbuckle. By lengthening or shortening the turnbuckle will affect spring (D) which increases or lowers gutter broom pressure to compensate for wear.
3. 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.

NOTE: The wider the sweeping path the greater the possibility of damaging the broom linkages from impacts.

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 rear broom and the main broom. A sufficient gutter broom to main broom overlap must be maintained.

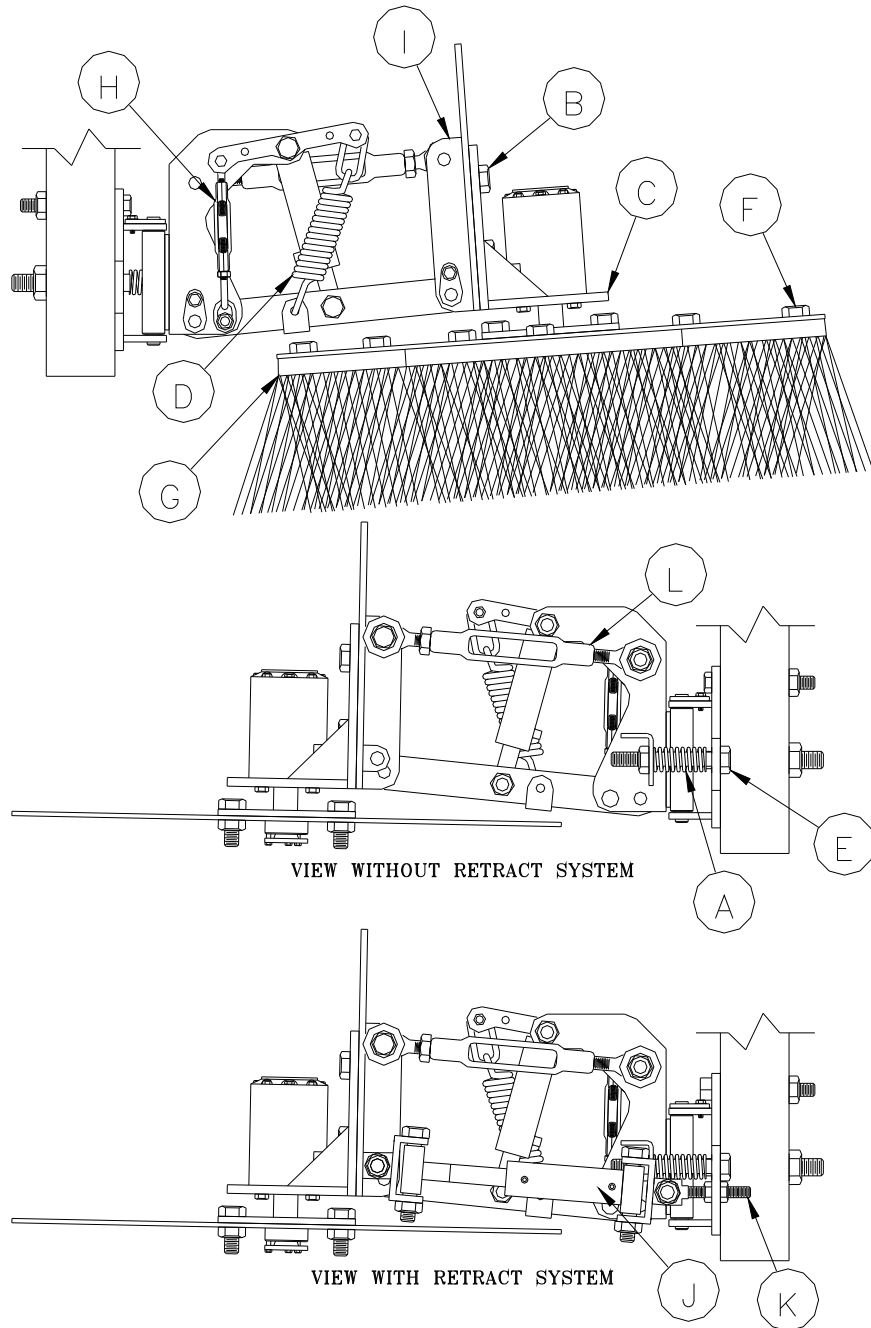


Gutter Broom Impact Protection Spring

(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.

NOTE: The wider the sweeping path the greater the possibility of damaging the broom linkages from impacts.



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

Figure 6: Gutter Broom Assembly

FRONT OF SWEEPER

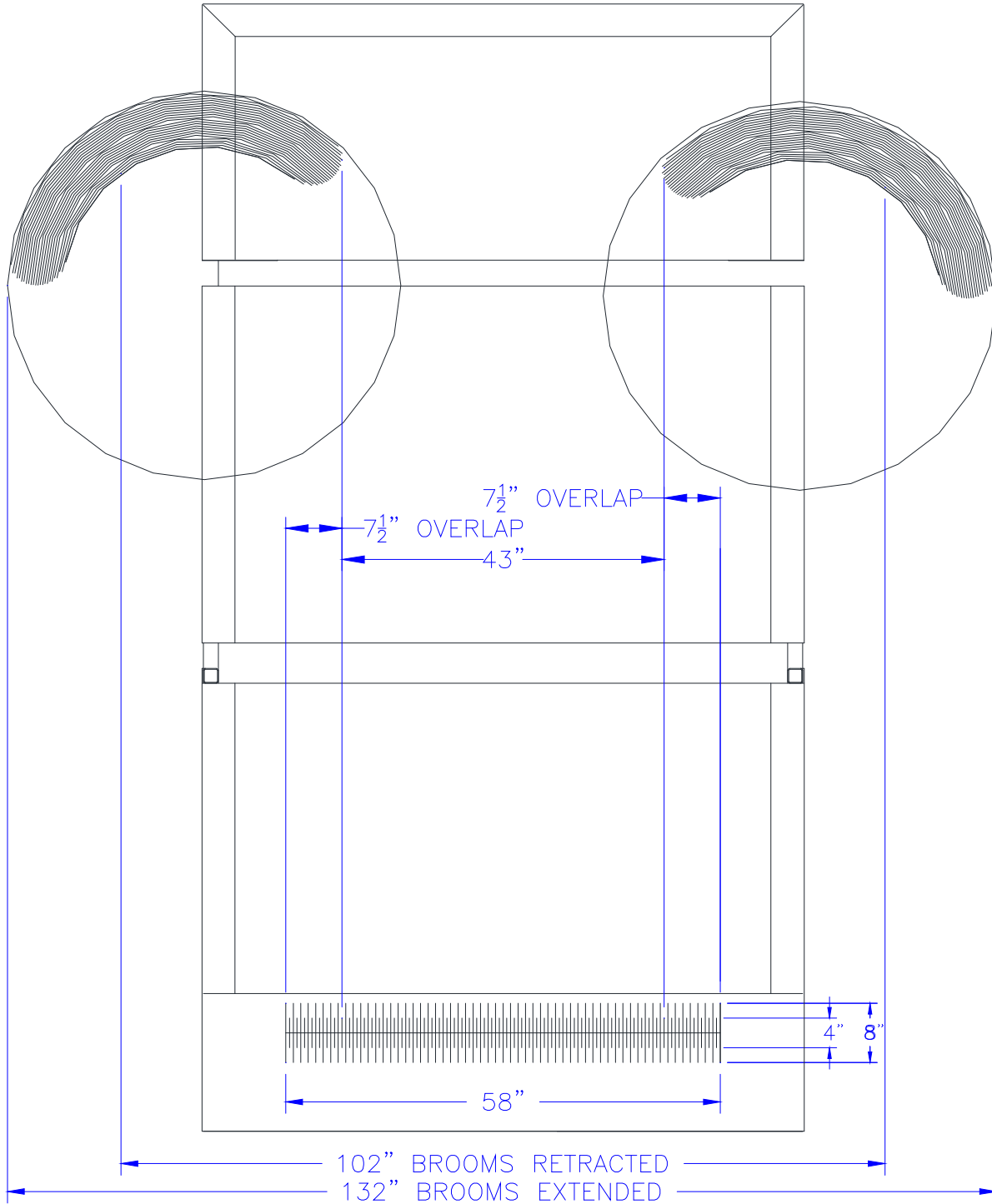


FIGURE 7: CORRECT BROOM PATTERN WITH BROOMS EXTENDED
(Measurements Are Approximate Only)

Figure 7: Correct Broom Pattern

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:

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

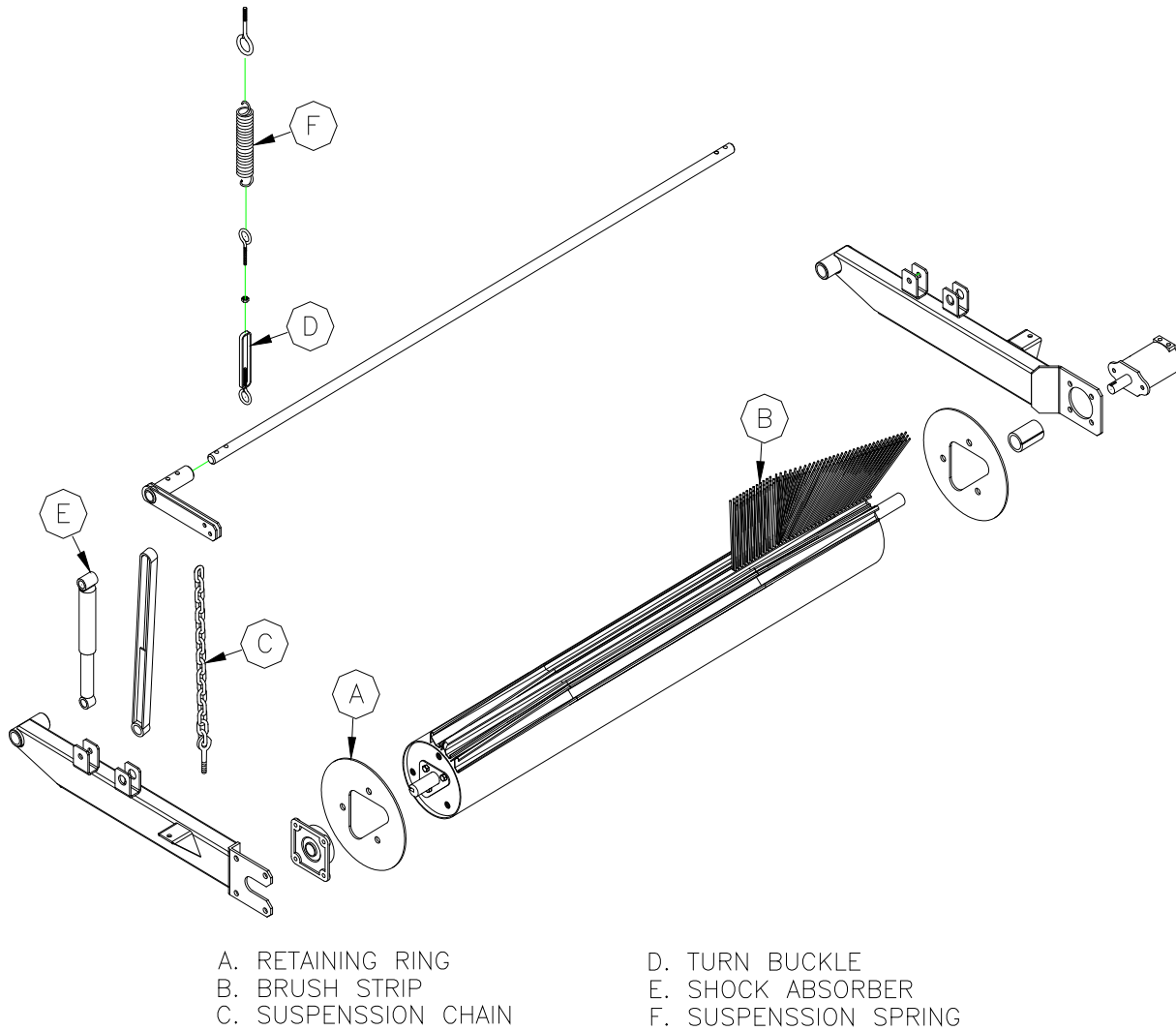


Figure 8: Main Broom Assembly

Elevator Chain Adjustment

Upper Drive Shaft

(Refer to *Figure 13*: Elevator)

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

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

NOTE: Elevator chains should always be **run as loose as possible once in operation**, without rubbing on each other or the separator bar.

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.

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

Center Idler Shaft

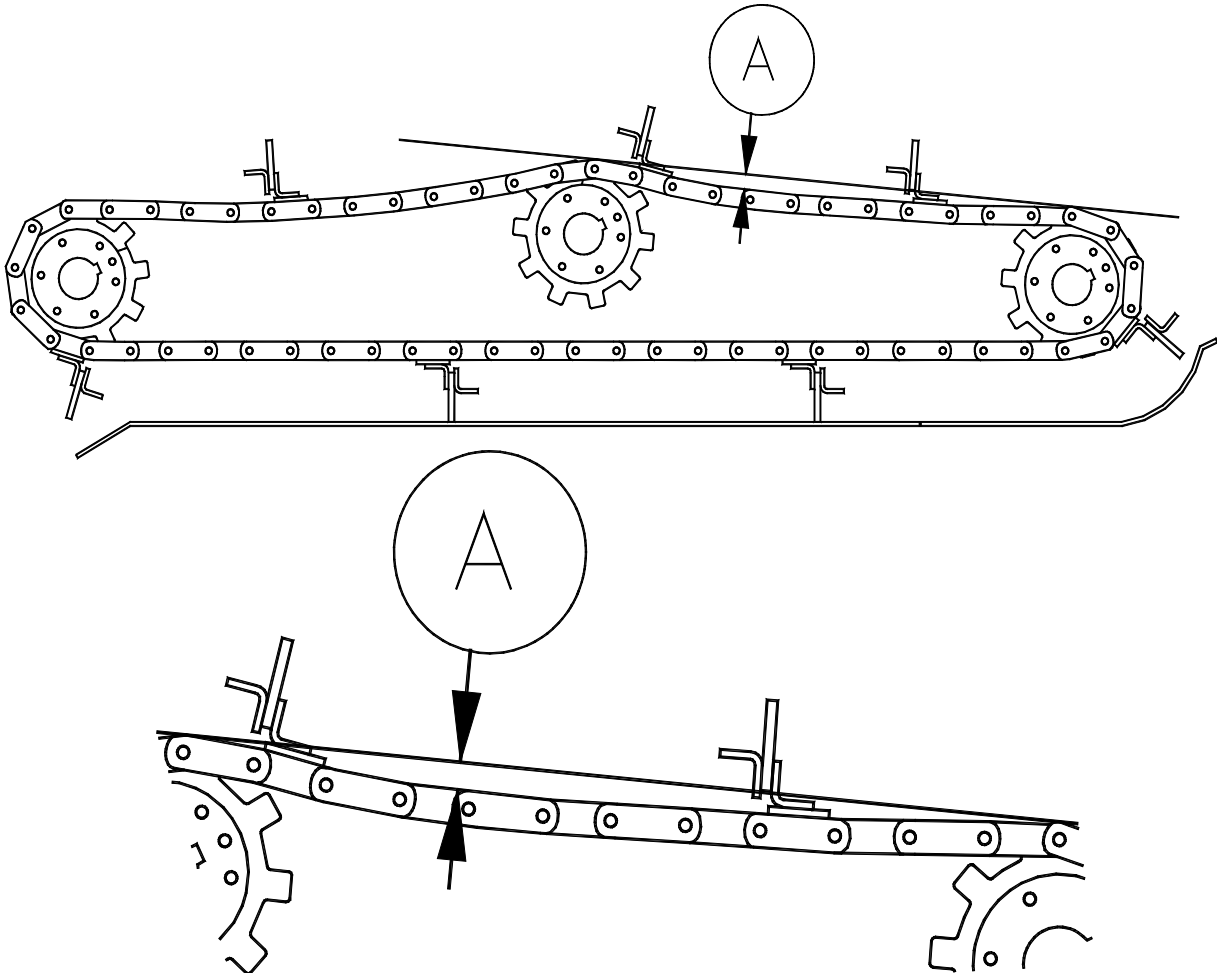
1. Loosen bolts on bearing (H).
2. Loosen lock nut (G).
3. Tighten bolt (F) until desired chain tension is reached.
4. Tighten bolts on bearing (H).
5. Tighten lock nut (G).

NOTE: The correct tension on **new elevator chain and sprockets only** is 1-3” deflection on the chain between shaft (L) and shaft (J).

NOTE: Partially **worn chain and sprockets** should be **run as loose as possible** between shaft (L) and shaft (J). **Chains that are being run to tight will have excessive wear and create excessive load on the elevator.**

NOTE: If all the adjustment has been used and the chain is still loose, a ½ or 1 full link may have to be removed by loosening the shaft adjustments, remove a link and readjust the shafts using the procedure above.

(Refer to *Figure 9*: Elevator Chain Adjustment)



Refer to *Figure 9: Elevator Chain Adjustment*



REPAIR AND MAINTENANCE

Gutter Broom Segment Replacement

(Refer to *Figure 6: Gutter Broom Assembly*)

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

Main Broom Strip Replacement

(Refer to *Figure 10: Main Broom Assembly*)

1. Main broom must be raised for this operation so broom can be rotated.
2. Remove 3 bolts holding retaining ring (A) to the mandrel (B).
3. Lower retaining ring (A) onto the mandrel end shaft.
4. Pull worn broom strips out the side of machine.
5. Clean the C-channel before inserting the new strips.
6. 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.

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

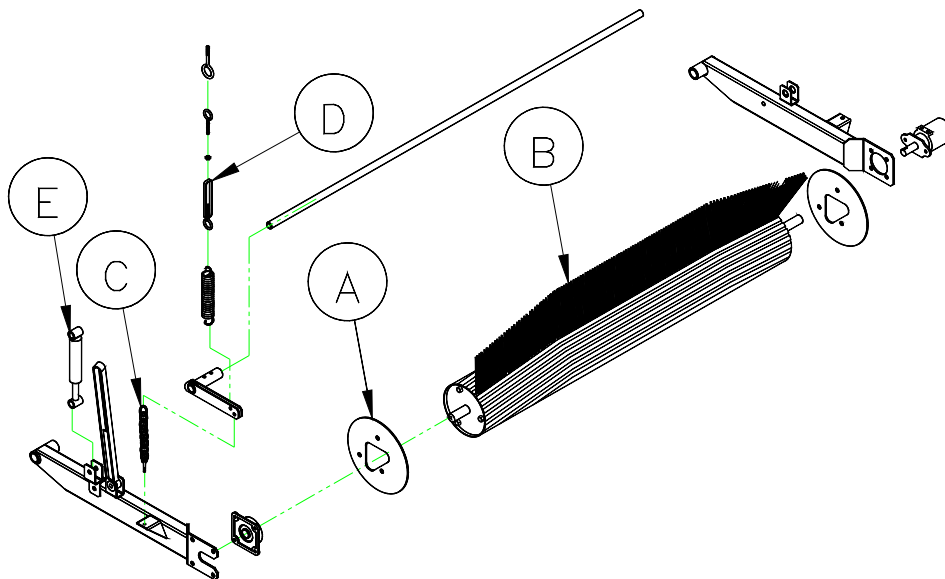
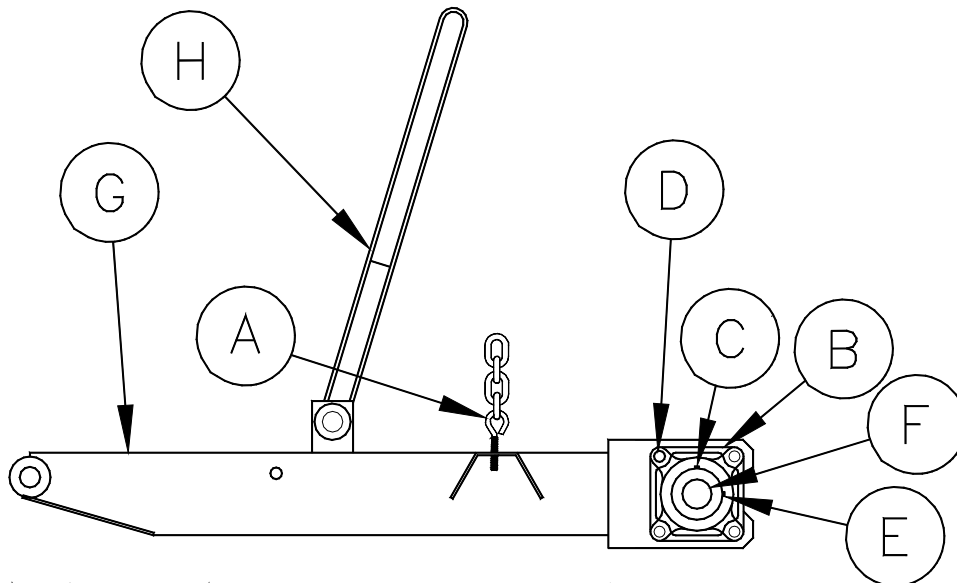


Figure 10: Main Broom Assembly

Main Broom Bearing Replacement

(Refer to *Figure 11*: Main Broom Arm Assembly)

1. Lower the main broom fully to the shop floor.
2. 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).
3. Remove all 4 bolts (D) retaining bearing (B) to arm (G).
4. Clean shaft (F) with emery cloth to prevent bearing from hanging up when removing.
5. Slide bearing assembly (B) off end of broom shaft (F). A Bearing Puller may have to be used.
6. Install new bearing assembly, reversing the procedure for removal. Ensure that the bearing grease nipple (E) is pointing towards the rear of machine.
7. 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.
8. 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 thread lock.



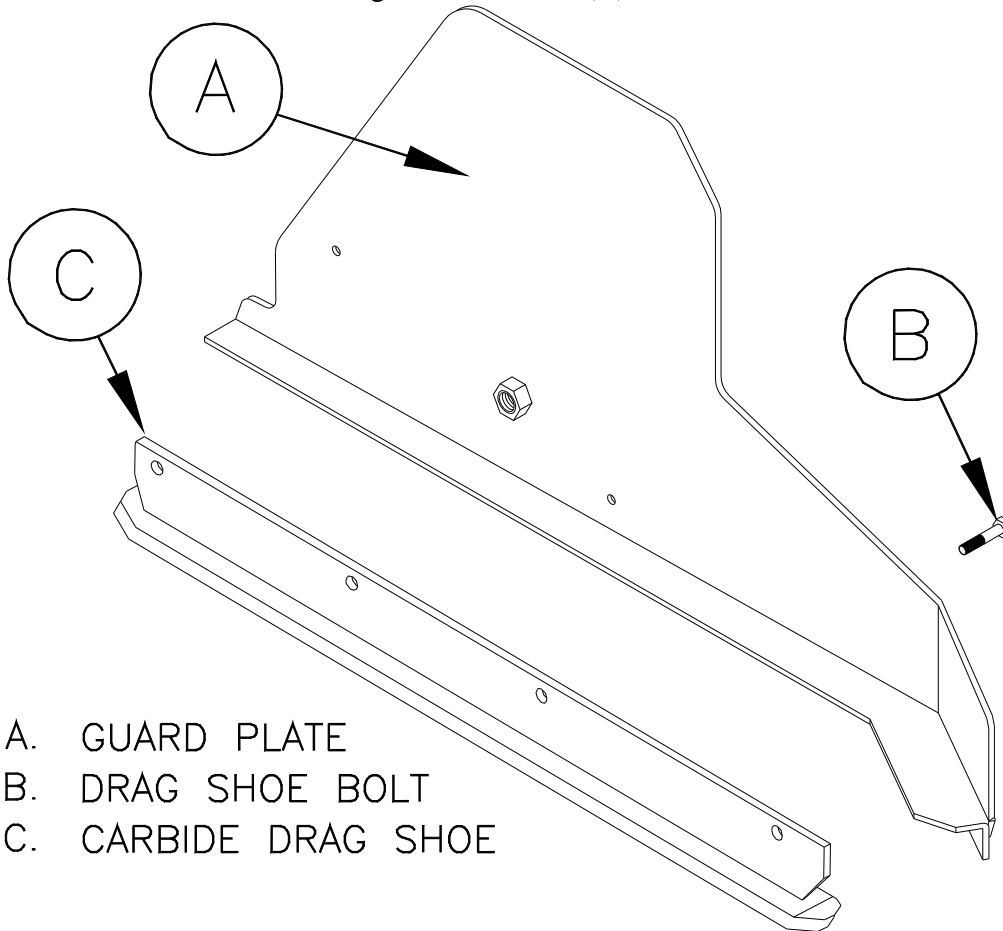
- | | |
|-----------------------|--------------------------|
| A. ADJUSTMENT BOLT | E. GREASE NIPPLE |
| B. MAIN BROOM BEARING | F. MAIN BROOM SHAFT |
| C. SET SCREW | G. MAIN BROOM ARM |
| D. RETAINING NUT | H. MAIN BROOM LIFT STRAP |

Figure 11: Main Broom Arm Assembly

Carbide Drag Shoe Replacement

(Refer to *Figure 12: Carbide Drag Shoe*)

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



- A. GUARD PLATE
- B. DRAG SHOE BOLT
- C. CARBIDE DRAG SHOE

Figure 12: Carbide Drag Shoe

Elevator Chain, Sprocket/Shaft Replacement

(Refer to *Figure 13: Elevator*)

1. Remove rear canopy.
2. Remove elevator canopy and canopy extension.

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

3. Loosen top shaft bolts (C).



4. Loosen lock nut (E).
5. 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.
6. Loosen the bolts on bearing (H).
7. Loosen lock nut (G).
8. By adjusting bolt (F), lower bearing (H) to the bottom of the retaining bolt slots.
9. Remove squeegee (M) and squeegee angle (N) assembly from the chain.
10. Remove elevator chain master link pin and let chain fall to the floor and remove.

NOTE: At this point it is vary 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.

11. Install new chain (K) making sure the squeegee attachment links are aligned.
12. 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.

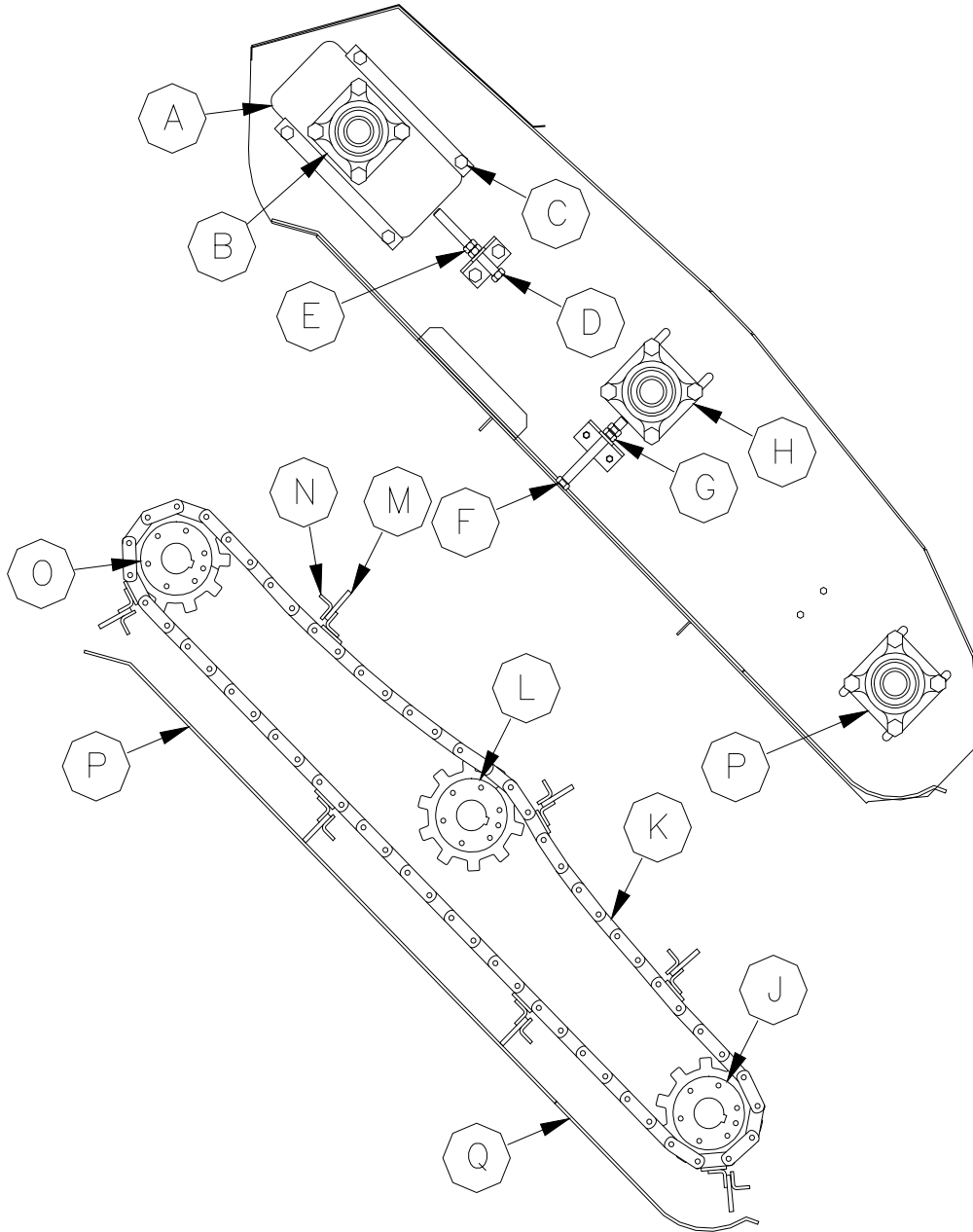
13. Adjust center shaft using adjustment bolt (F) until the sprocket touches the chain.

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.

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

NOTE: The correct tension on **new elevator chain** is 1-3" deflection on the chain between shafts.

NOTE: Elevator chains should always be **run as loose as possible once in operation**, without rubbing on each other or the separator bar.



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

Figure 13: Elevator



Bottom Liner Replacement

1. Drive machine onto blocks ensuring machine is secure before going under machine.
2. Remove bolts that hold liner in place.
3. Remove liner.
4. Remove bottom rubber and install on new liner.
5. Reinstall liner.

Top Liner Replacement

1. Remove rear canopy.
2. Remove elevator canopy and canopy extension.
3. Remove bolts from top liner.
4. Pull liner out from the top of elevator.
5. Replace liner.
6. Reinstall elevator canopy and canopy extension.
7. Reinstall rear canopy.

Main Broom Hydraulic Motor Replacement

1. Lower broom to floor.
2. Disconnect chain coupler by disconnecting master link.
3. Disconnect hydraulic lines to motor.
4. Remove motor bolts.
5. Replace motor.
6. Reinstall and tighten mounting bolts.

NOTE: Ensure motor shaft is completely in coupler.

7. Tighten coupler bolts.



Gutter Broom Hydraulic Motor Replacement

1. Lower gutter broom to floor.
2. Remove one segment from the gutter broom plate.
3. From underneath remove center mount retaining bolt.
4. Remove bolts from taper lock bushing.
5. Put bolts that are removed from the bushing into the threaded holes in bushing.
6. Tighten bolts evenly until taper lock releases from shaft.
7. Gutter broom plate should slip off motor shaft.
8. Disconnect hydraulic lines to motor.
9. Remove motor mounting bolts.
10. Replace motor.
11. Reinstall and tighten motor mounting bolts.
12. Using a floor jack, lift gutter broom mounting plate onto shaft.
13. Tighten taper lock bushing evenly, tightening mounting plate to shaft.
14. Reinstall center mount bolts.
15. Tighten all plate and mount bolts.
16. Reinstall gutter broom segment.

Elevator Hydraulic Motor Replacement

1. Remove drive chain mount cover.
2. Disconnect drive chain.
3. Loosen set screws on motor sprocket.
4. Remove sprocket.
5. Disconnect hydraulic lines.
6. Remove motor mounting bolts.
7. Replace motor.
8. Reinstall motor mount bolts.
9. Reinstall hydraulic lines.
10. Reinstall sprocket.
11. Connect drive chain tighten chain by moving idler sprocket.
12. Reinstall cover.

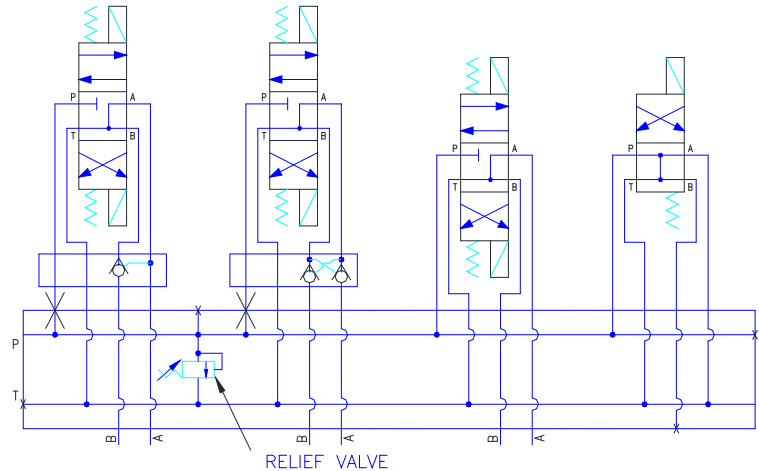


Hydraulic Pressure Adjustment

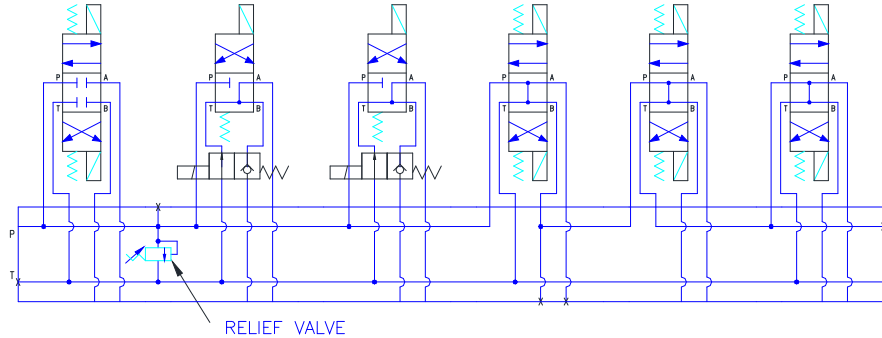
(for RH VALVE STACK (Cab Side))
(set pressure to **2,850 psi @ 2 000 rpm**)

1. Install a 0-5000 psi pressure gauge in test port A on top of valve.
2. Loosen the lock nut on the relief valve.
3. Take engine to 2,000 rpm.
4. Push hopper lift switch and raise hopper until cylinders are bottomed.
5. While holding switch, read pressure gauge.
6. Turn relief screw clockwise to increase pressure and counter clockwise to lower pressure.
7. Adjust pressure to a maximum of 2,850 psi.
8. Tighten the lock nut on the relief valve.

80120 LH VALVE SPOOL ASSEMBLY



80134 RH VALVE SPOOL ASSEMBLY



(for LH VALVE STACK (Hopper Side))
(set pressure to 2,350 psi @ 2 000 rpm)

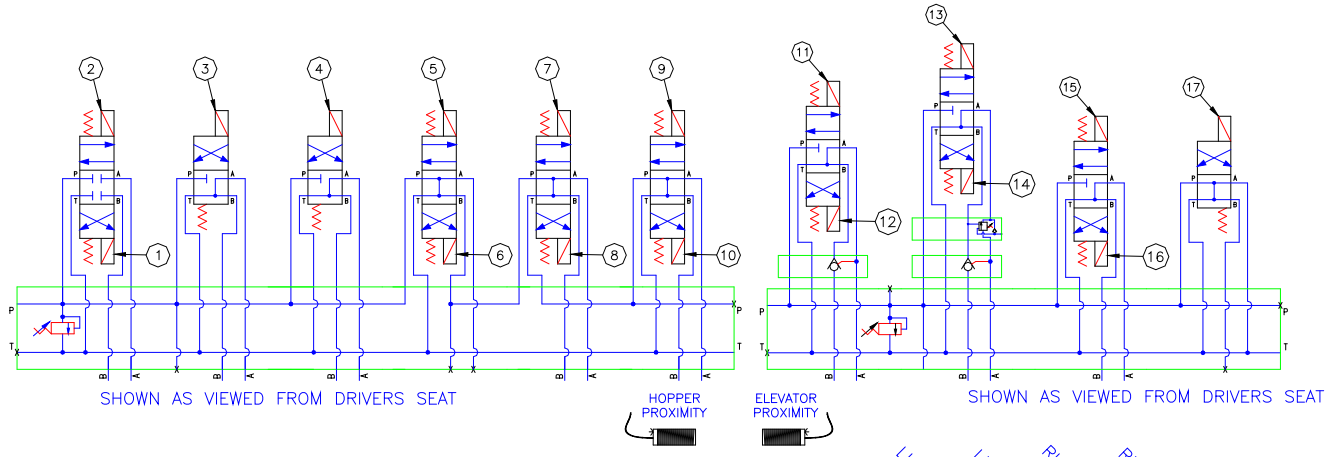
1. Install a 0-5000 psi pressure gauge in test port A on top of valve.
2. Loosen lock nut on the relief valve.
3. Take engine to 2,000 rpm.
4. Push hopper dump switch and dump hopper until cylinders are bottomed.
5. While holding switch, read pressure gauge.
6. Turn relief screw clockwise to increase pressure and counter clockwise to lower pressure.
7. Adjust pressure to a maximum of 2,350 psi.
8. Tighten the lock nut on the relief valve.



Stall Switch Adjustment

1. Remove retaining screw from DIN connector.
2. Push hopper dump switch on control panel and dump hopper until cylinders are bottomed.
3. With a small Allan wrench turn inner adjuster out until stall alarm in cab begins to activate.
4. Turn adjuster in opposite direction until stall alarm in cab is not activated.
5. Replace retaining screw on DIN connector.

Electrical Activation Sequences at Valve Connectors



DIN #	HOPPER RAISE	HOPPER LOWER	HOPPER DUMP	HOPPER RETRACT	BROOMS RAISE	BROOMS LOWER	MB SWEEP FORWARD	MB SWEEP REVERSE	LH GB LOWER	LH GB RAISE	RH GB LOWER (FLOAT)	RH GB RAISE (FLOAT)	LH GB SWEEP FORWARD	RH GB SWEEP FORWARD	RH GB SWEEP REVERSE
1	X														
2		X													
3					X				X						
4					X						X				
5						X			X				X	X	X
6	X	X			X				X		X				
7													X		
8														X	
9															X
10															X
11					X										
12						X									
13				X											
14			X												
15							X								
16					X	X	X	X	X						
17			X	X	X	X	X	X	X						



Lubrication 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: _____

		<u>Done:</u>
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.	<input type="checkbox"/>
2	Check Engine Oil (dipstick) and Coolant Levels on BOTH Engines.	<input type="checkbox"/>
3	Check Hydraulic Oil Level on the site tube on side of hydraulic oil tank.	<input type="checkbox"/>
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	<input type="checkbox"/>
5	Check ALL tires for proper inflation and tread wear.	<input type="checkbox"/>
6	Check that Back-up Alarm, Lights, and Strobes are working properly.	<input type="checkbox"/>
7	Clean water sytem filter. Inspect water system spray nozzles. Clean, if necessary.	<input type="checkbox"/>
8	Check sweeper functions for proper operation. "Note" any exceptions.	<input type="checkbox"/>
9	Check broom sweeping pattern of side and main brooms. Correct any bad pattern.	<input type="checkbox"/>
10	Service truck chassis - refer to Owners Manual.	<input type="checkbox"/>
11	Check power steering, transmission, and windshield washer fluids.	<input type="checkbox"/>
12	Inspect for any damage and any loose items such as wires, fittings, pins, nuts and bolts. Correct problem and/or NOTE below.	<input type="checkbox"/>

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:

		<u>Done:</u>
1	Allow BOTH engines to idle for 2 minutes before shut-down.	<input type="checkbox"/>
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.	<input type="checkbox"/>
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.	<input type="checkbox"/>
4	Check for and remove any tape, string, etc., wound around broom motor shafts.	<input type="checkbox"/>
5	Inspect for any damage and any loose items such as wires, fittings, pins, nuts and bolts. Correct problem and/or NOTE below.	<input type="checkbox"/>

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: _____

		<u>Done:</u>
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.	<input type="checkbox"/>
2	Perform the DAILY ROUTINE.	<input type="checkbox"/>
3	Grease the pivot point on the main broom and gutter broom "arms".	<input type="checkbox"/>
4	Perform an extra thorough cleaning of the hydraulic oil cooler.	<input type="checkbox"/>
5	Service truck chassis - refer to Owners Manual.	<input type="checkbox"/>
6	Inspect for any damage and any loose items such as wires, fittings, pins, nuts and bolts. Correct problem and/or NOTE below.	<input type="checkbox"/>

NOTES and REMARKS:

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



EVERY 250 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 250 hours of operation OR sooner if conditions dictate**

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

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

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

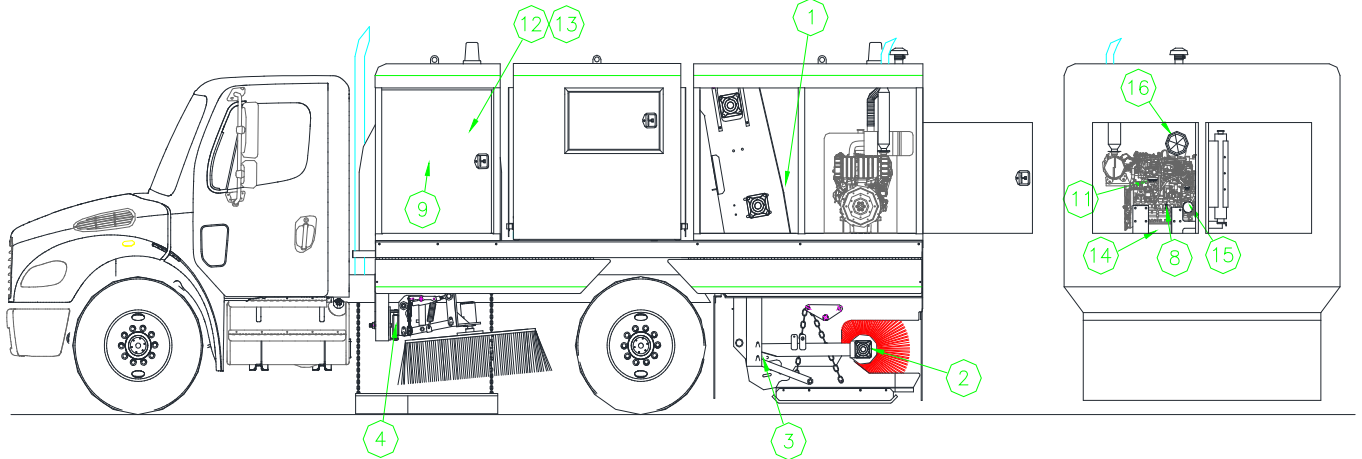
Sweeper S/N:	Date:	Hours:	Miles:
This CHECKLIST PERFORMED BY:			

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

NOTES and REMARKS:

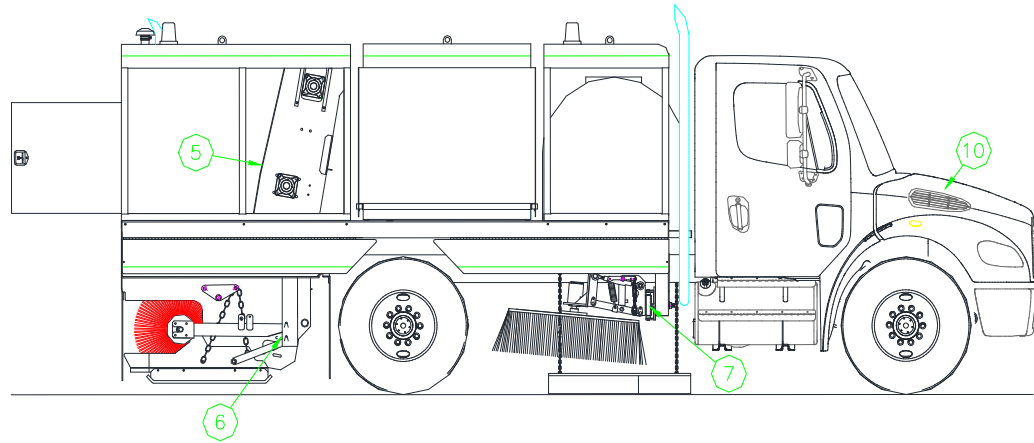
Thank you for choosing Stewart-Amos Sweepers! HAPPY SWEEPING!!!

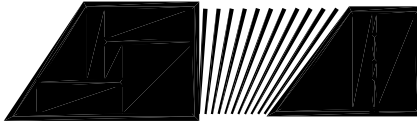
S-5t SERVICE POINTS



S-5t SWEEPER SERVICE POINTS

LOCATION	NO. OF POINTS	FREQUENCY	DESCRIPTION
1	3	DAILY	ELEVATOR BEARINGS (DRIVERS SIDE)
2	1	DAILY	MAIN BROOM BEARING (DRIVERS SIDE)
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 (CHASSIS)
11	1	AS REQ.	FUEL FILTER
12	1	200 HR.	HYDRAULIC OIL FILTER
13	1	1000 HRS.	HYDRAULIC OIL
14	1	200 HRS	ENGINE OIL
15	1	200 HRS	ENGINE OIL FILTER
16	1	DAILY	AIR FILTER (AUX. ENGINE)





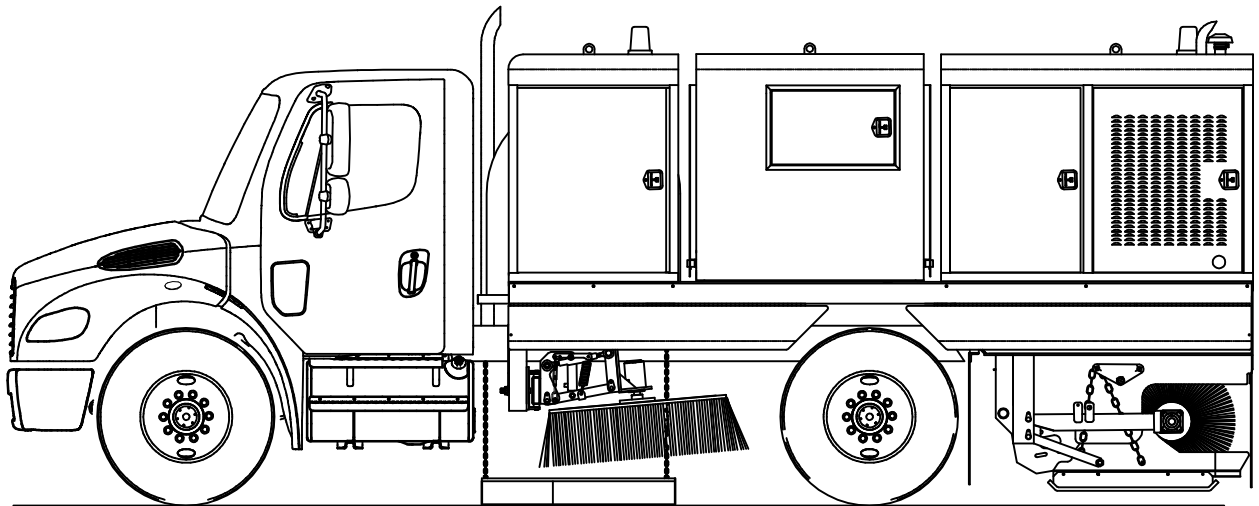
STEWART-AMOS

Sweeper Co.

STARFIRE

S-5t

PARTS MANUAL

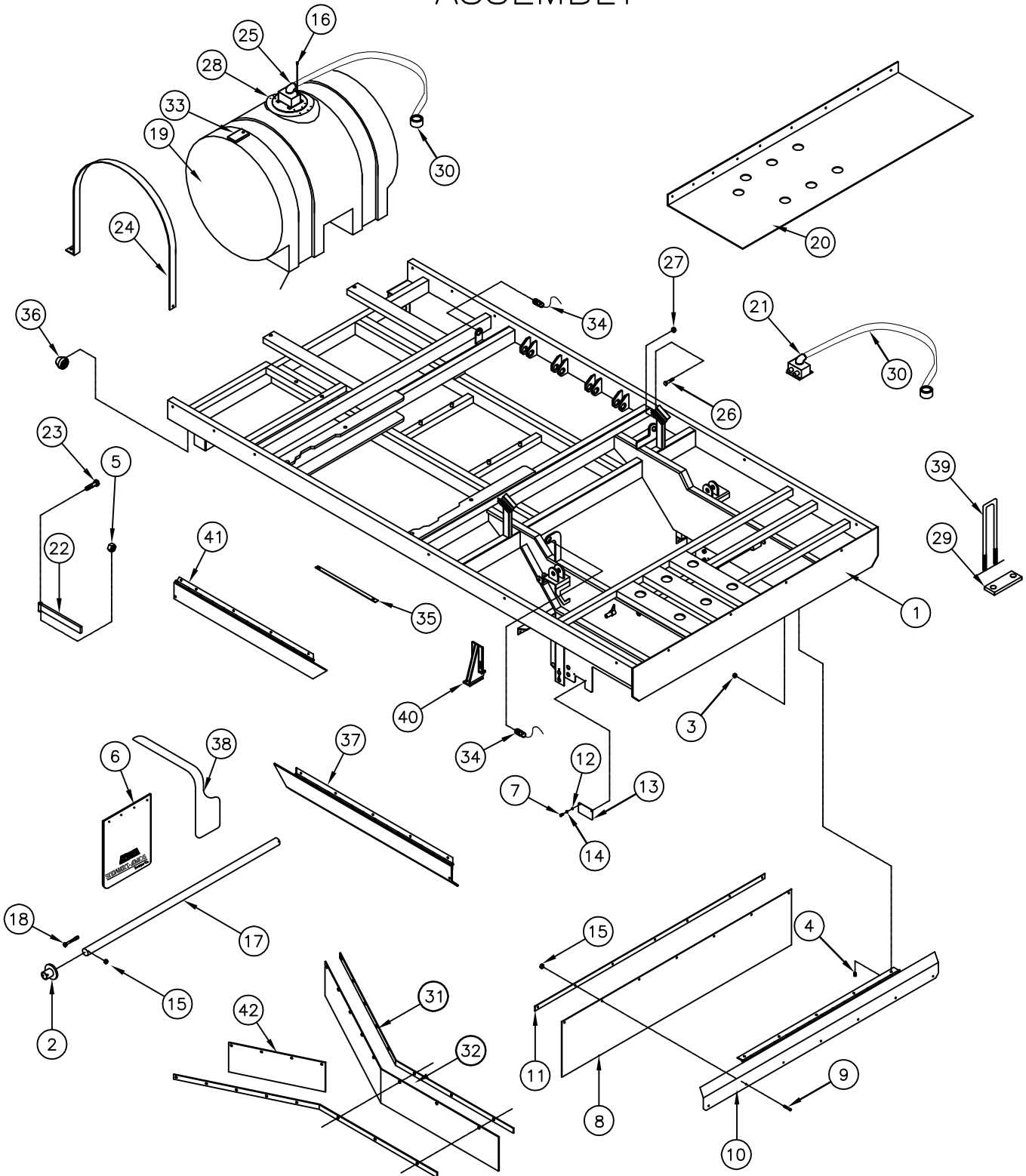


SN 5005 and UP
Last Updated July 2013

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MAIN FRAME ASSEMBLY



MAIN FRAME ASSEMBLY

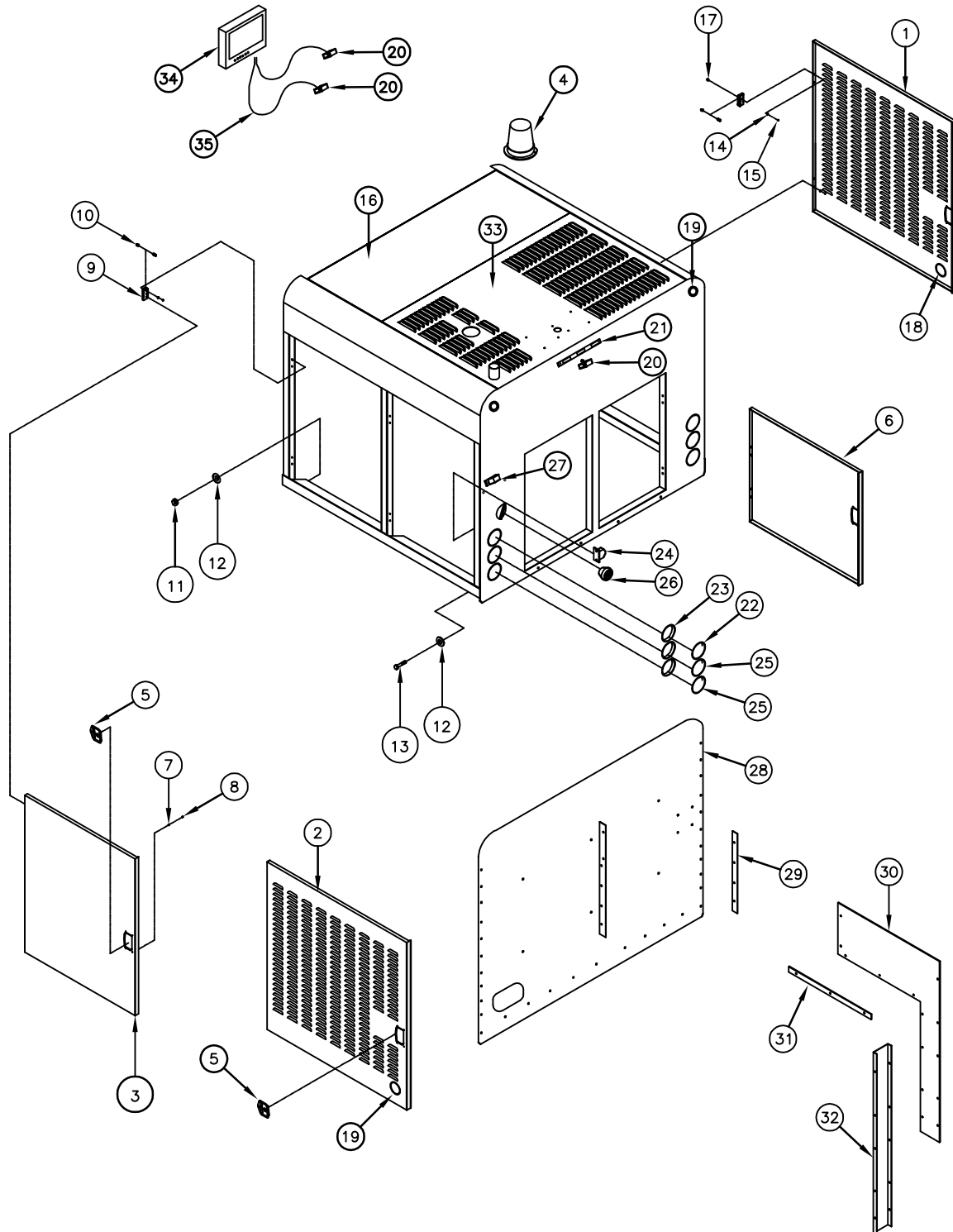


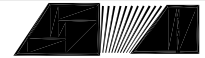
ITEM	PART #	DESCRIPTION	QTY
1	32001	MAIN FRAME WELDMENT	1
2	43129	CENTERING BUSHING	2
3	1502	NUT	17
4	1535	BOLT	17
5	1507	NUT	4
6	3206	MUD FLAP	2
7	1537	BOLT	5
8	62012	SKIRT	1
9	1540	BOLT	12
10	32012	REAR SHIELD	1
11	62011	REAR SKIRT BACKING	1
12	1822	WASHER	16
13	42077	BEARING INSPECTION COVER	2
14	1670	WASHER	4
15	1503	NUT	12
16	1591	SCREW	6
17	41771	REST TUBE	1
18	1843	BOLT	2
19	2028	WATER TANK	1
20	31610	INNER BROOM SHIELD	4
21	32209	WASHOUT CONNECTION	4
22	42085	SAFETY PROP	2
23	1560	BOLT	2
24	32205	SADDLE STRAP	2
25	32207	WATER FILLER	1
26	1546	BOLT	2
27	1640	NUT	2
28	52205	WATER TANK ADAPTOR	1
29	62103	U BOLT MOUNT PLATE	6
30	1116	HYDRANT HOSE	2
31	42103	CENTER DRAG SUPPORT	2
32	42146	CENTER DRAG RUBBER	1
33	42114	FILL RELIEF RUBBER	1
34	1087-3	PROXIMITY SWITCH	2
35	62014	FENDER FLARE RETAINER	2
36	1026	WORK LIGHT	2
37	62007	LH SIDE SHIELD	1
	62008	RH SIDE SHIELD	1
38	1029	FENDER SKIRT	2
39	3201	BODY MOUNT U BOLT	6
40	62119	LH AXLE SUPPORT	1
	62121	RH AXLE SUPPORT	1
41	62119	LH FRONT/SIDE SHIELD	1
	62121	RH FRONT/SIDE SHIELD	1
42	42147	CENTER DRAG RUBBER	1

FRONT CANOPY ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	31502	DOOR	2
2	31501	FRONT CANOPY	1
3	1025	STROBE	1
4	1520	WASHER	4
5	1501	NUT	4
6	1031	HINGE	4
7	1555	BOLT	8
8	1005	DOOR LATCH	4
9	1543	BOLT	6
10	1529	WASHER	12
11	1508	NUT	12
12	1503	NUT	6
13	1973	HYD. COOLER & FAN	1
14	1750	INSERT	8
15	41504	SPACER	4
	42107	LIMB GUARD (NOT SHOWN)	1

REAR CANOPY ASSEMBLY S-5t





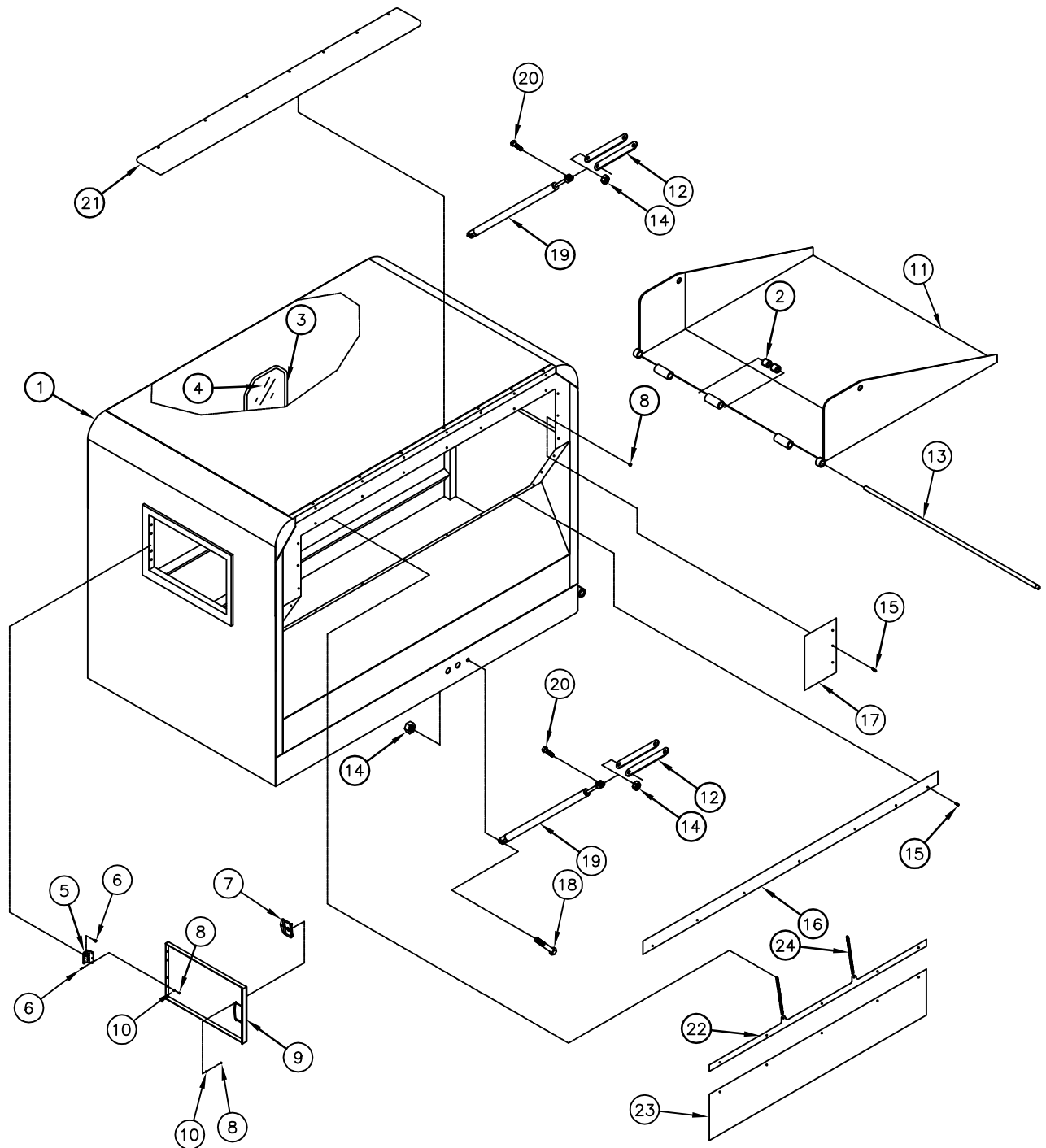
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REAR CANOPY ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	31628	RIGHT REAR DOOR	1
2	31627	LEFT REAR DOOR	1
3	41503	DOOR	2
4	1025	STROBE	1
5	1005	DOOR LATCH	6
6	31609	REAR DOOR	2
7	1520	WASHER	24
8	1501	NUT	24
9	1031	HINGE	12
10	1579	BOLT	48
11	1503	NUT	8
12	1822	WASHER	8
13	1843	BOLT	8
14	1520	WASHER	24
15	1501	NUT	24
16	31601	REAR CANOPY	1
17	1750	INSERT	24
18	1028	CLEARANCE LIGHT	4
19	1131	GROMMET	4
20	1770	CAMERA	2
21	1002	ID BAR	1
22	1136	BACKUP LIGHT	2
23	1134	GROMMET	6
24	1024	BACKUP ALARM	1
25	1132	BRAKE LIGHT	2
26	1026	WORK LIGHT	1
27	1027	LICENSE PLATE LIGHT	1
	42107	LIMB GUARD _(NOT SHOWN)	1
28	31603	INNER SHIELD	1
29	31605	BACKING	1
30	31602	ENGINE AIR SHIELD	1
31	31606	BACKING	1
32	31604	SHIELD SPACER	1
33	31621	REAR TOP PANEL	1
34	1769	CAMERA/MONITOR	1
35	1768	CAMER CABLE	2

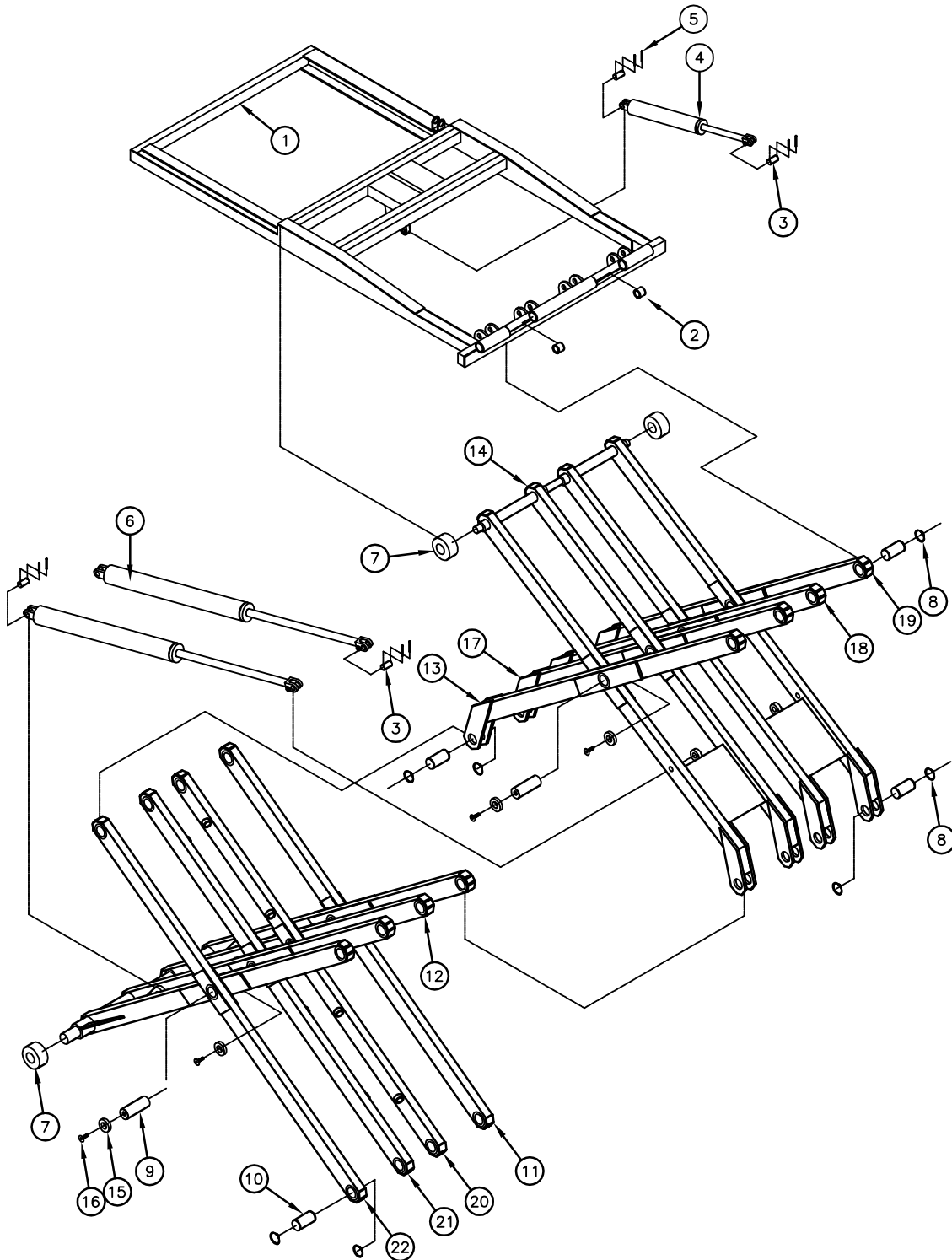
HOPPER ASSEMBLY

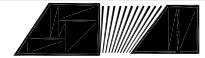


HOPPER ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	32901	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	62905	HOPPER DOOR	1
12	42905	DOOR LINK	4
13	32904	PIN	1
14	1583	NUT	4
15	1530	BOLT	13
16	42915	RUBBER FLASHING	2
17	42917	UPRIGHT FLASHING	1
18	1560	BOLT	2
19	1061	CYLINDER	2
20	1558	BOLT	4
21	32912	HOPPER STONE SHIELD	1
22	32910	DRAIPER MOUNT	1
23	32911	DRAIPER RUBBER	1
24	1173	CHAIN	2-6"

LIFT FRAME SCISSOR ASSEMBLY





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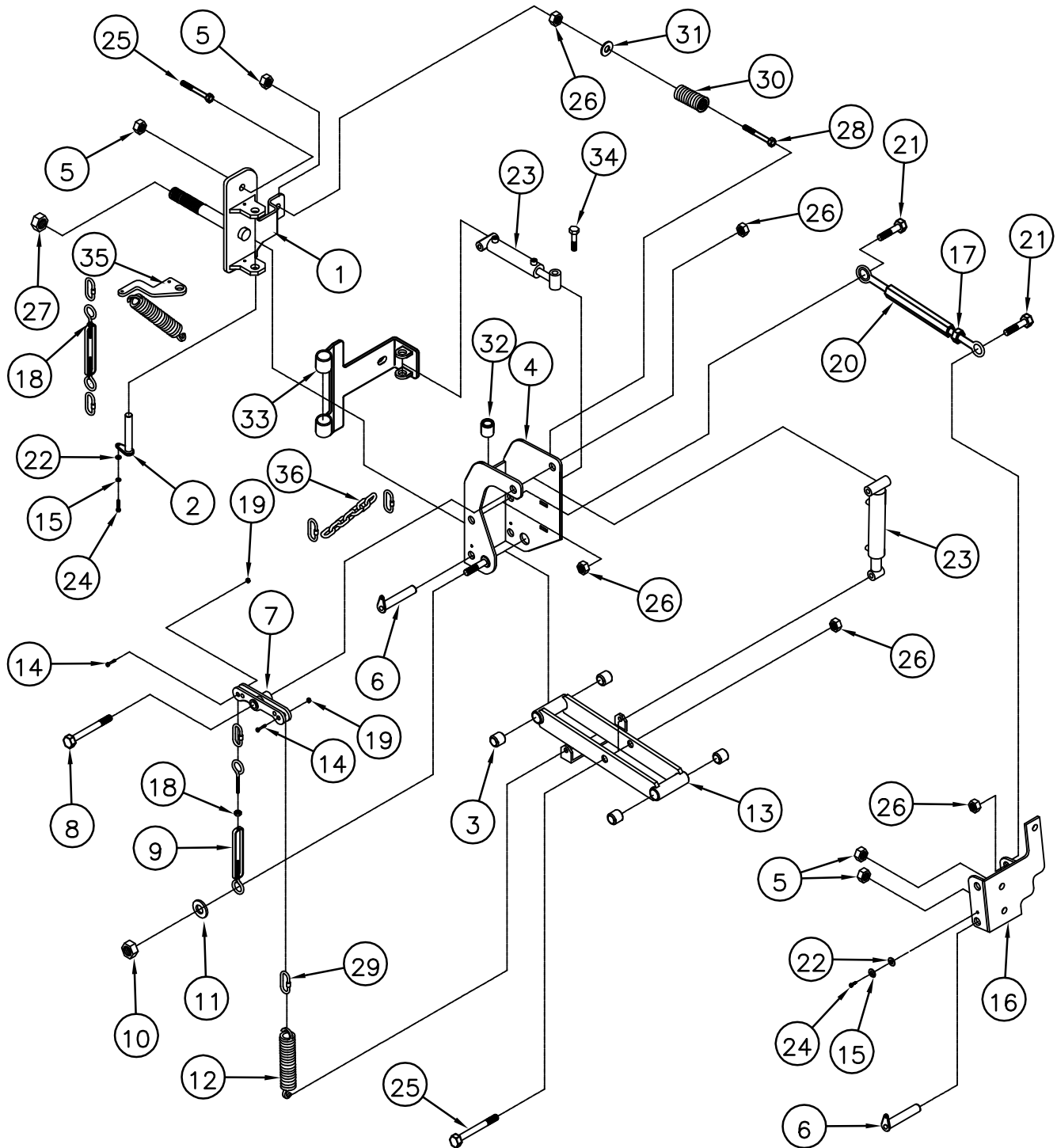
Sweeper Co

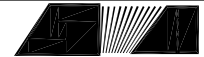
LIFT FRAME SCISSOR ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	33001	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	32815	LOWER ANCHOR SECT. LEG #1	1
12	32806	LOWER SCISSOR, ROLLER SECT.	1
13	32811	UPPER ANCHOR SECT. LEG #1	1
14	32801	UPPER SCISSOR, ROLLER SECT.	1
15	62813	RETAINER WASHER	16
16	1782	BOLT	16
17	32812	UPPER ANCHOR SECT. LEG #2	1
18	32813	UPPER ANCHOR SECT. LEG #3	1
19	32814	UPPER ANCHOR SECT. LEG #4	1
20	32816	LOWER ANCHOR SECT. LEG #2	1
21	32817	LOWER ANCHOR SECT. LEG #3	1
22	32818	LOWER ANCHOR SECT. LEG #4	1

GUTTER BROOM ASSEMBLY UPPER SECTION

(QUANTITIES SHOWN ARE FOR ONE SIDE ONLY)





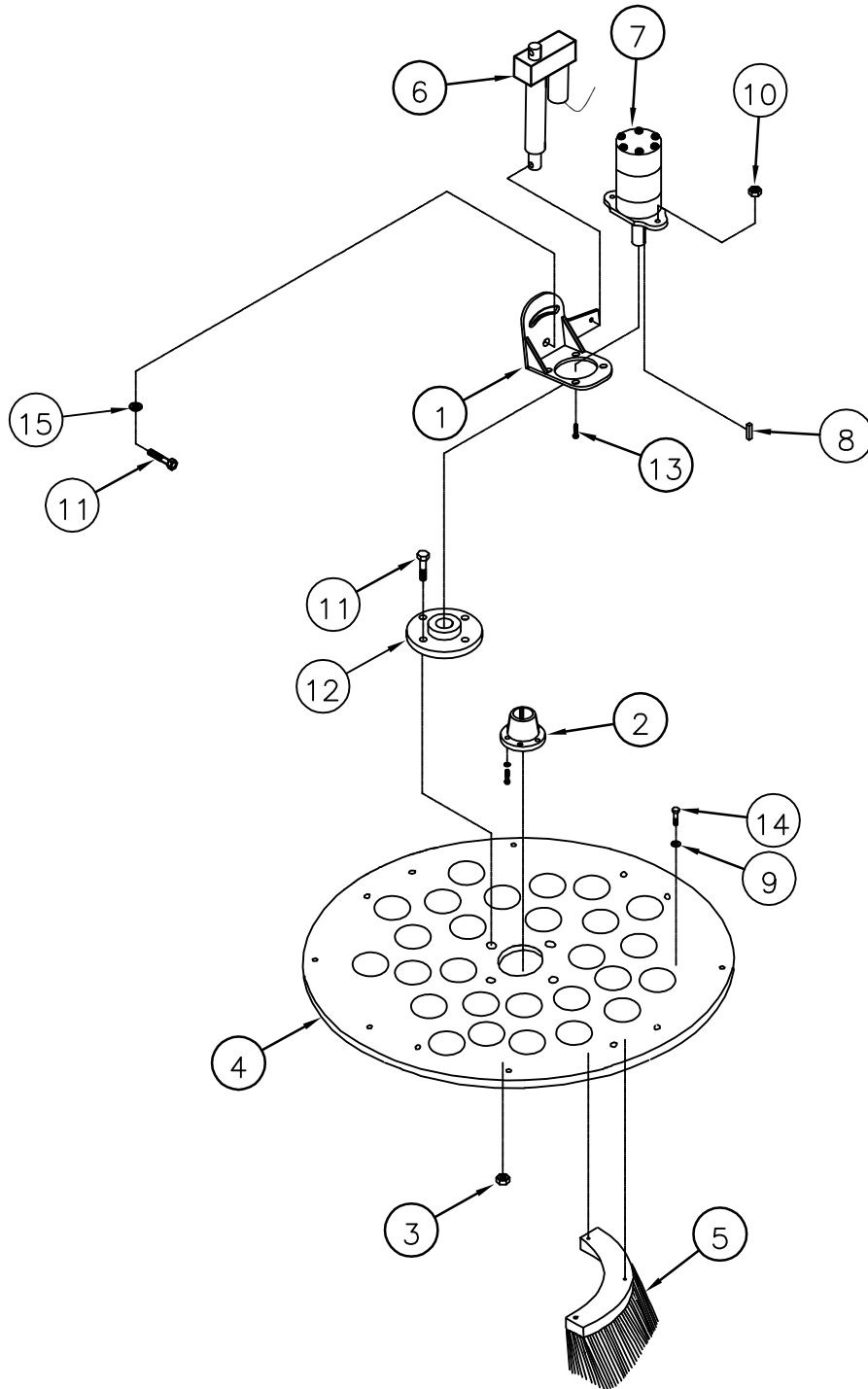
GUTTER BROOM ASSEMBLY UPPER SECTION

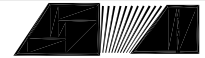
(QUANTITIES SHOWN ARE FOR ONE SIDE ONLY)

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	2
10	1505	NUT	1
11	1581	WASHER	1
12	1018	SUSPENSION SPRING	2
13	41221	LINK	1
14	1540	BOLT	2
15	1670	WASHER	3
16	61205	LINKAGE MOUNT (LEFT)	1
	61305	LINKAGE MOUNT (RIGHT)	1
17	1642	NUT	2
18	1640	NUT	2
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
36		7 LINKS 3/8" x 2 CHAIN	1

GUTTER BROOM ASSEMBLY LOWER SECTION

(QUANTITIES SHOWN ARE FOR ONE SIDE ONLY)





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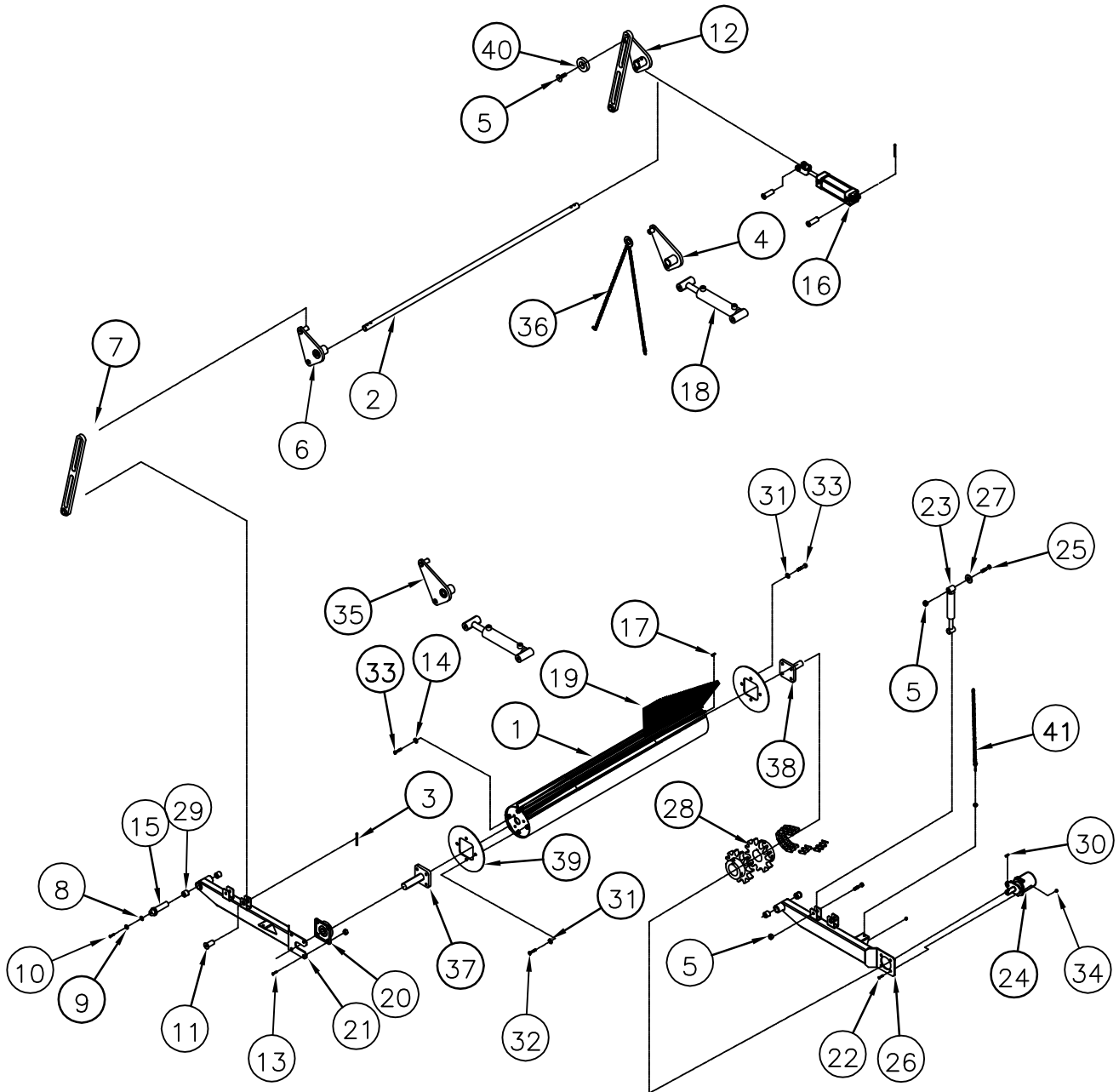
Sweeper Co

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	1
3	1506	NUT	4
4	61307	PLATE	1
5	3229	GB BRUSH SET OF 5 SEG.	1
6	1078	LINEAR ACTUATOR (OPTION)	1
7	3243	HYDRAULIC MOTOR	1
8	1683	KEY	1
9	1670	WASHERS	20
10	1505	NUT	2
11	1549	NUT	4
12	41209	DRIVE HUB	1
13	1546	BOLT	2
14	1540	BOLT	20
15	1525	WASHER	2

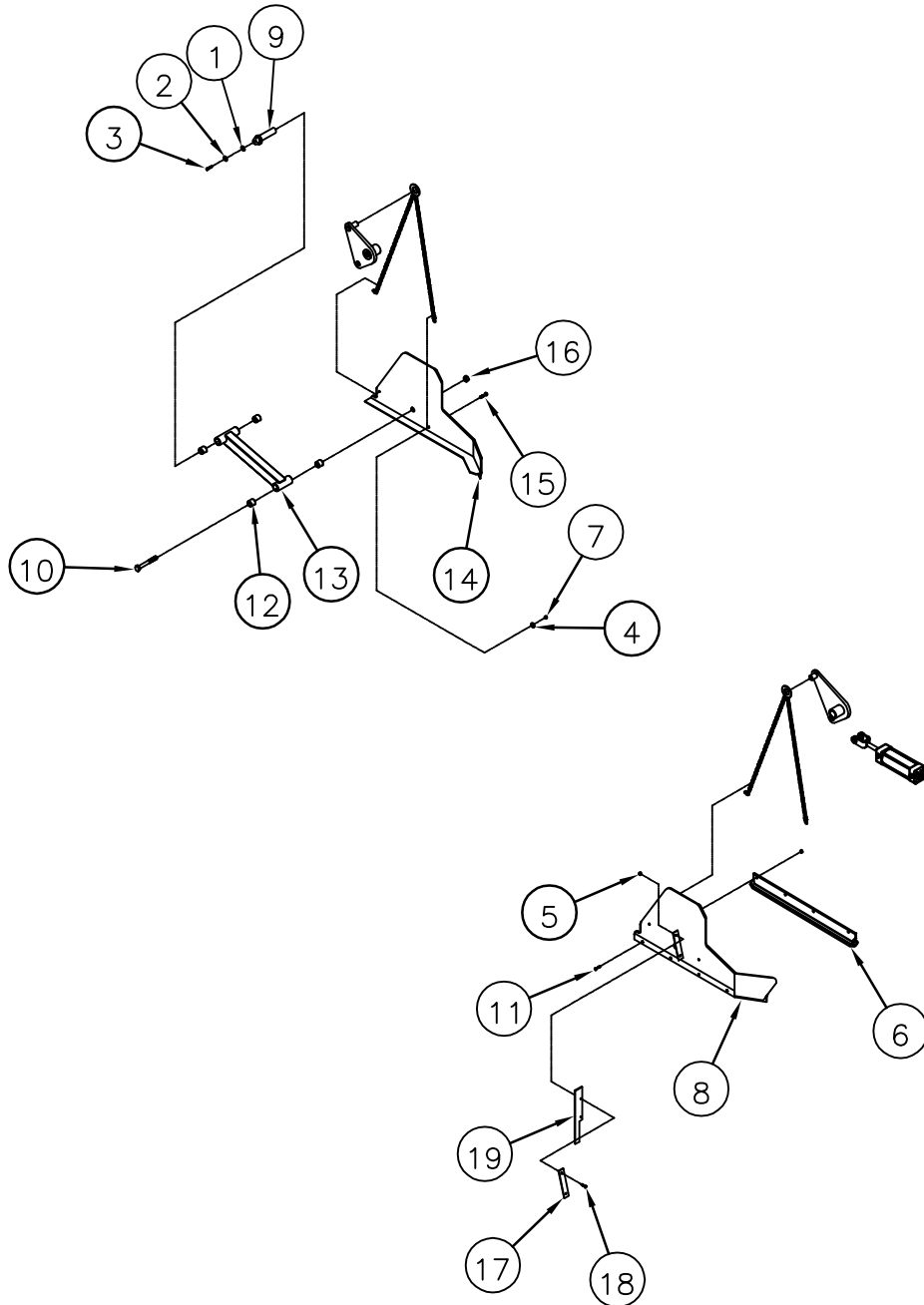
MAIN BROOM ASSEMBLY



MAIN BROOM ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	1976	MAIN BROOM MANDREL	1
2	41413	MAIN BROOM ROCK SHAFT	1
3	1604	COTTER PIN	8
4	31402	RH DRAG BELL CRANK	1
5	1782	BOLT	6
6	31406	LIFT BELL CRANK (LEFT)	1
7	41421	MAIN BROOM LIFT STRAP	2
8	1822	WASHER	4
9	1670	WASHER	4
10	1537	BOLT	4
11	41417	PIN	2
12	31405	LIFT BELL CRANK (RIGHT)	1
13	1549	BOLT	4
14	1671	WASHER	6
15	41401	PIN	2
16	1043	CYLINDER	2
17	1681	KEY	1
18	1986	CYLINDER	2
19	1016	MAIN BROOM STRIP SET	1
20	1030	BEARING	1
21	34501	MAIN BROOM LIFT ARM (LEFT)	1
22	1546	BOLT	6
23	1046	SHOCK	2
24	3243	HYDRAULIC MOTOR	1
25	1843	BOLT	4
26	34502	MAIN BROOM LIFT ARM (RIGHT)	1
27	1822	WASHER	24
28	80129	MAIN BROOM COUPLER	1
29	1185	BUSHING	4
30	1683	KEY	1
31	1671	WASHER	6
32	1545	BOLT	6
33	1781	BOLT	6
34	1505	NUT	2
35	31403	LH DRAG BELL CRANK	1
36	41437	DRAG SHOE LIFT CHAIN	2
37	3212	LONG MANDREL SHAFT	1
38	3213-3	SHORT MANDREL SHAFT	1
39	1266	MANDREL END PLATE	2
40	62813	RETAINER WASHERS	6
41	41427	MB LIFT CHAIN	2

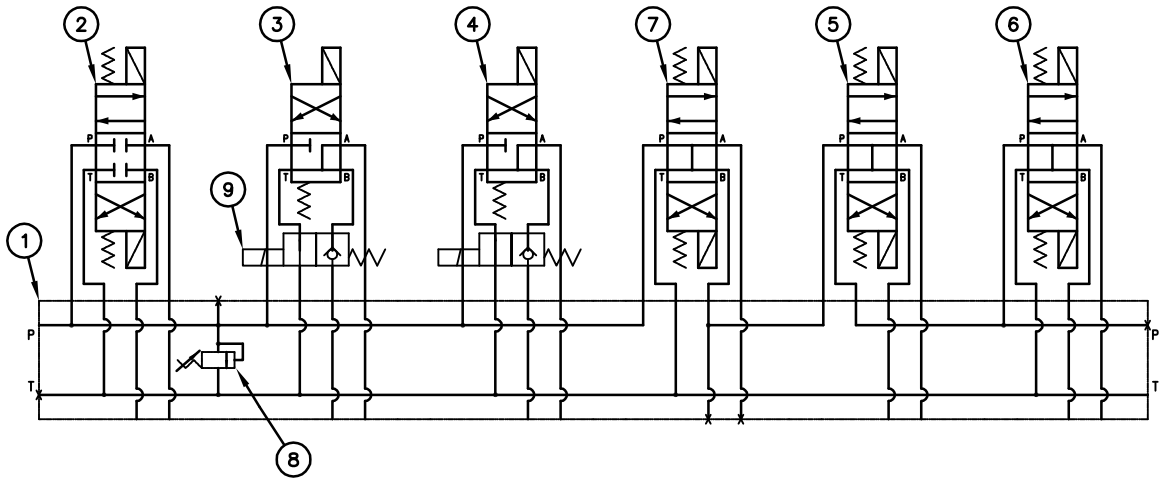
DRAG SHOE ASSEMBLY



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	2
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

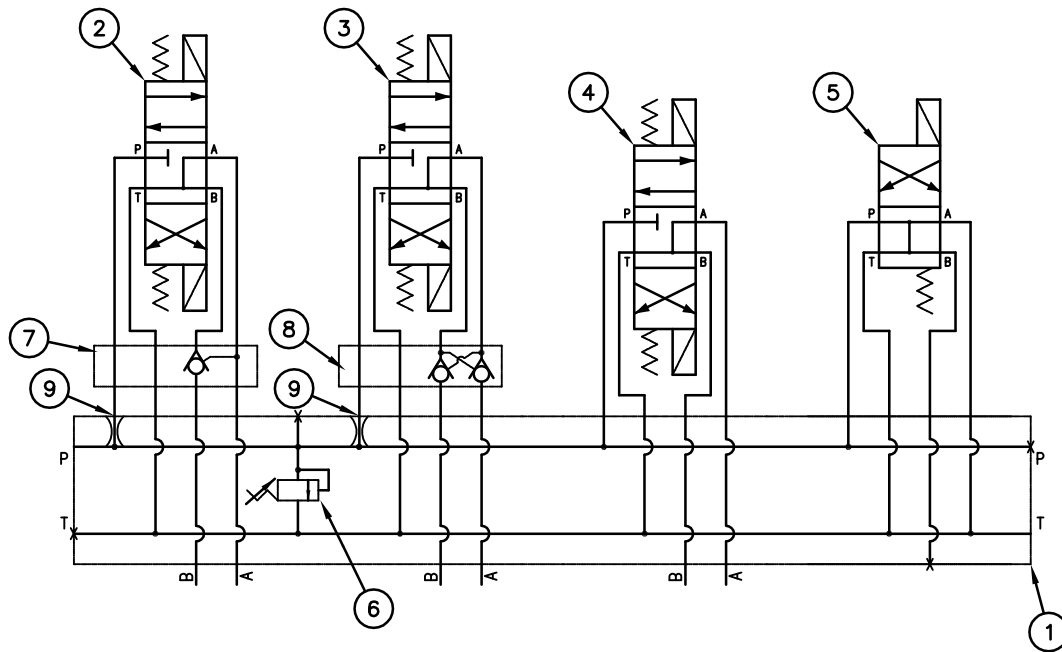
80134 VALVE ASSEMBLY



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

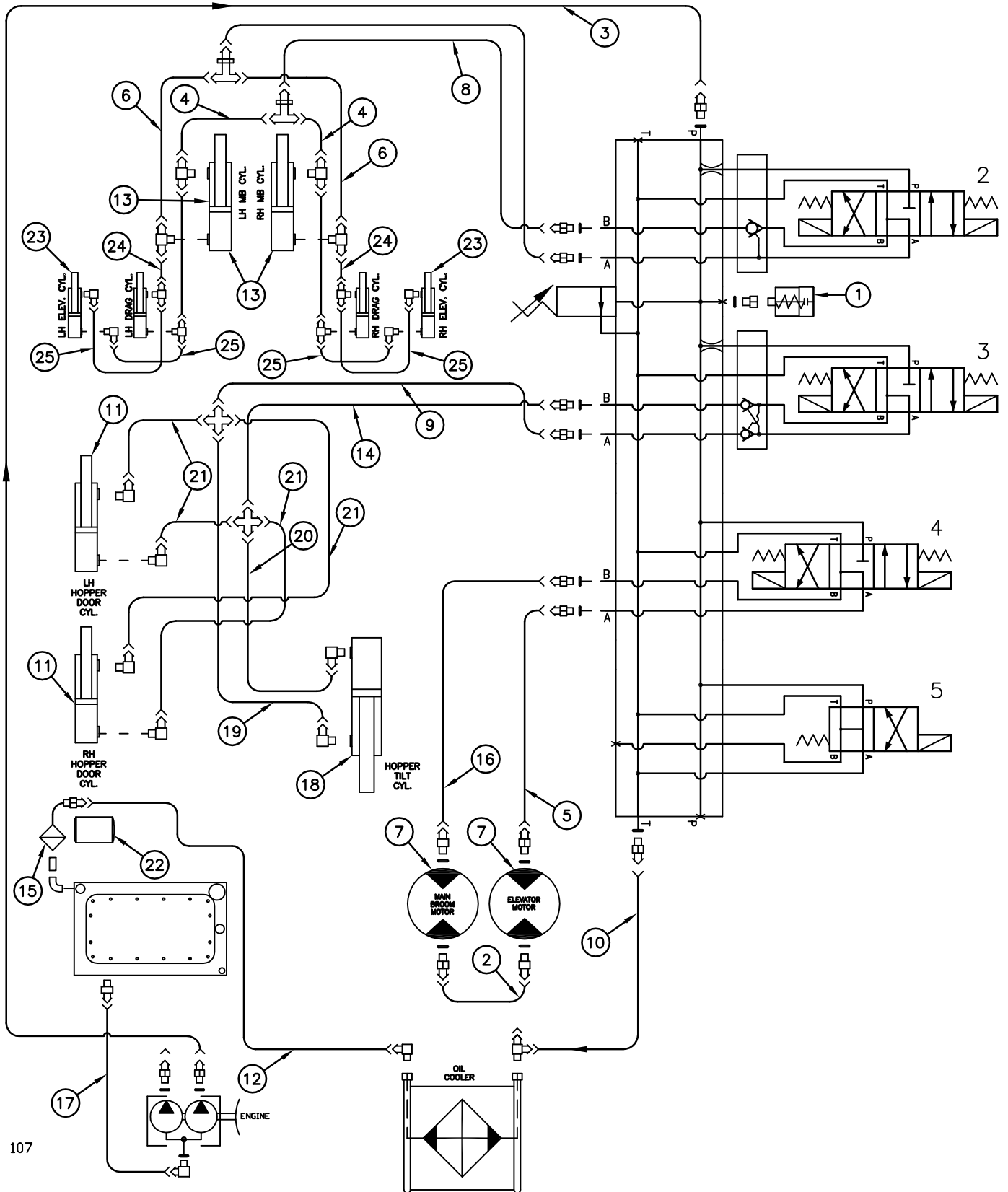
80120 VALVE ASSEMBLY

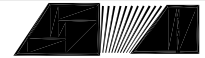


SHOWN AS VIEWED FROM DRIVERS SEAT

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	1839	1/16" RESTRICTOR	2

HOPPER SIDE HYDRAULIC HOSE SCHEMATIC





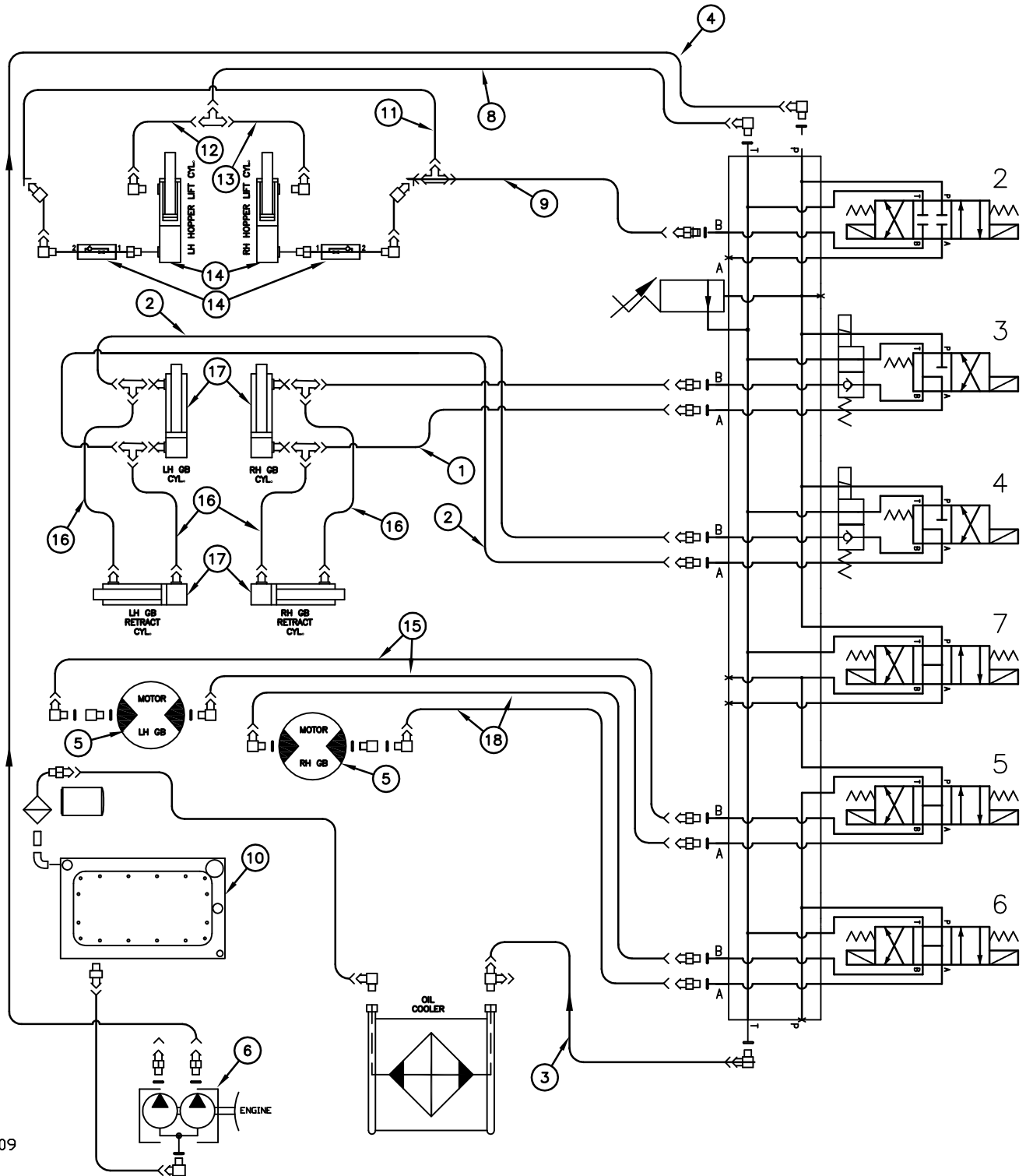
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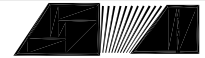
Sweeper Co

DRIVERS 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





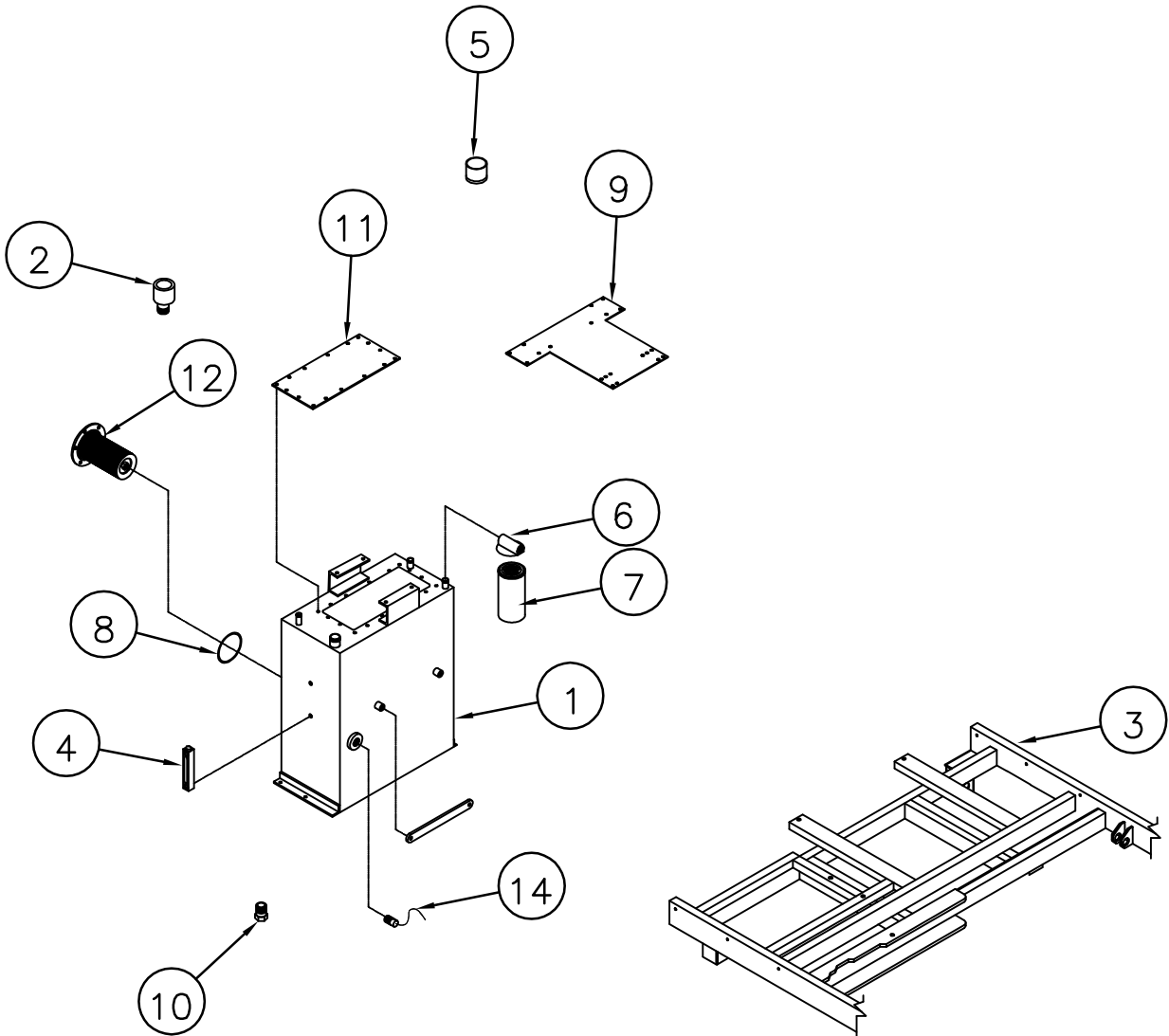
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CAB SIDE HYDRAULIC HOSE SCHEMATIC

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	32301	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	2031	DIRECTIONAL RESTRICTOR	2

HYDRAULIC TANK

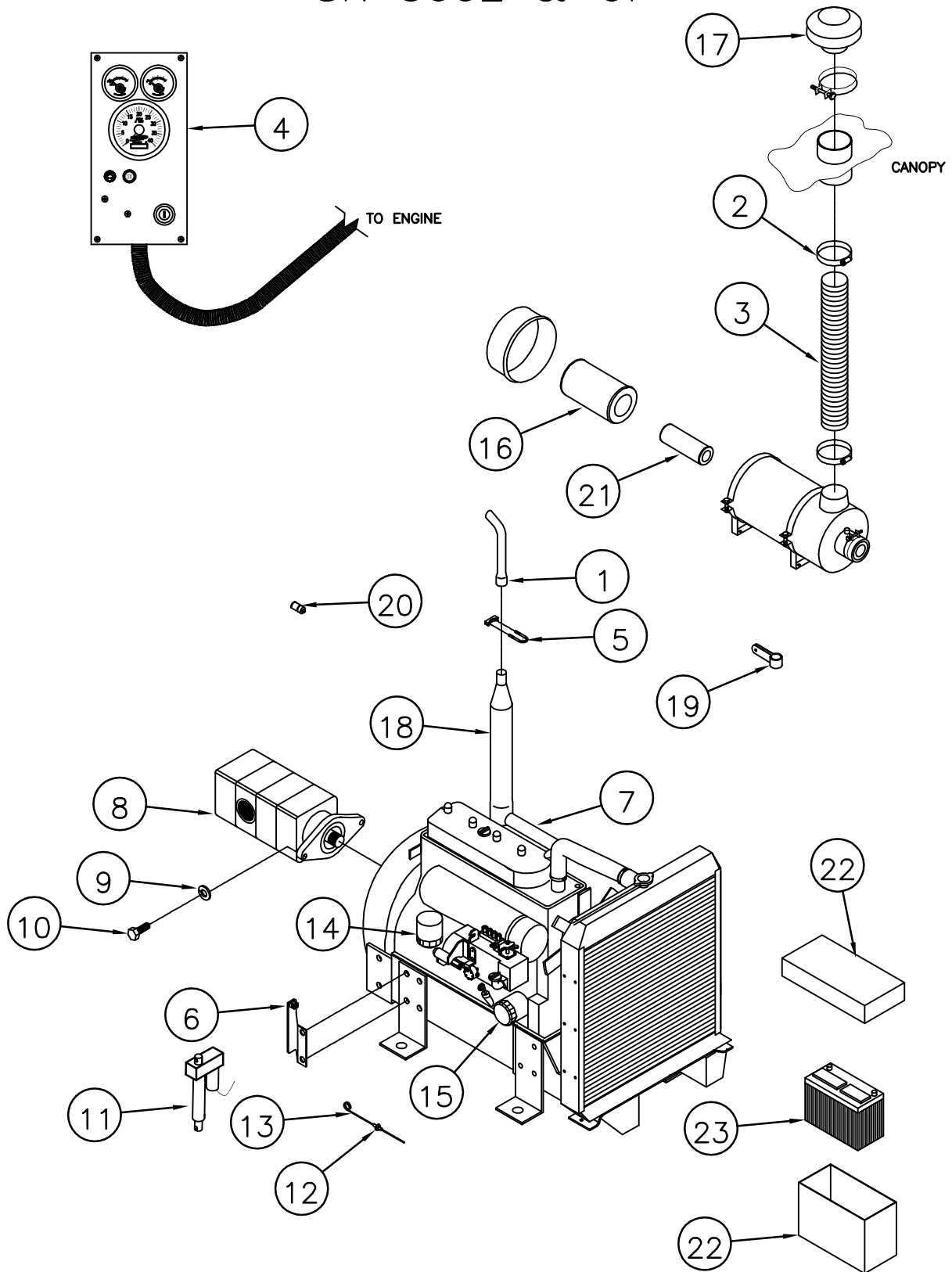


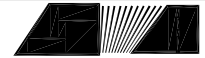
HYDRAULIC TANK

ITEM	PART #	DESCRIPTION	QTY
1	32301	HYDRAULIC TANK	1
2	1177	HYD. TANK BREATHER	1
3	32001	MAIN FRAME	—
4	1062	SITE GAUGE	1
5	1178	FILL CAP	1
6	1988	FILTER BASE	1
7	1987	HYDRAULIC FILTER	1
8	2063	O RING	1
9	32303	VALVE MOUNT PLATE	1
10	1179	MAGNETIC DRAIN PLUG	2
11	32302	TANK COVER	1
12	2070	SUCTION SCREEN	1
13	42310	HOSE TIE STRAP	2
14	2061	OIL LEVEL SWITCH <small>OPTION</small>	1

AUX. ENGINE ASSEMBLY

SN 5002 & UP





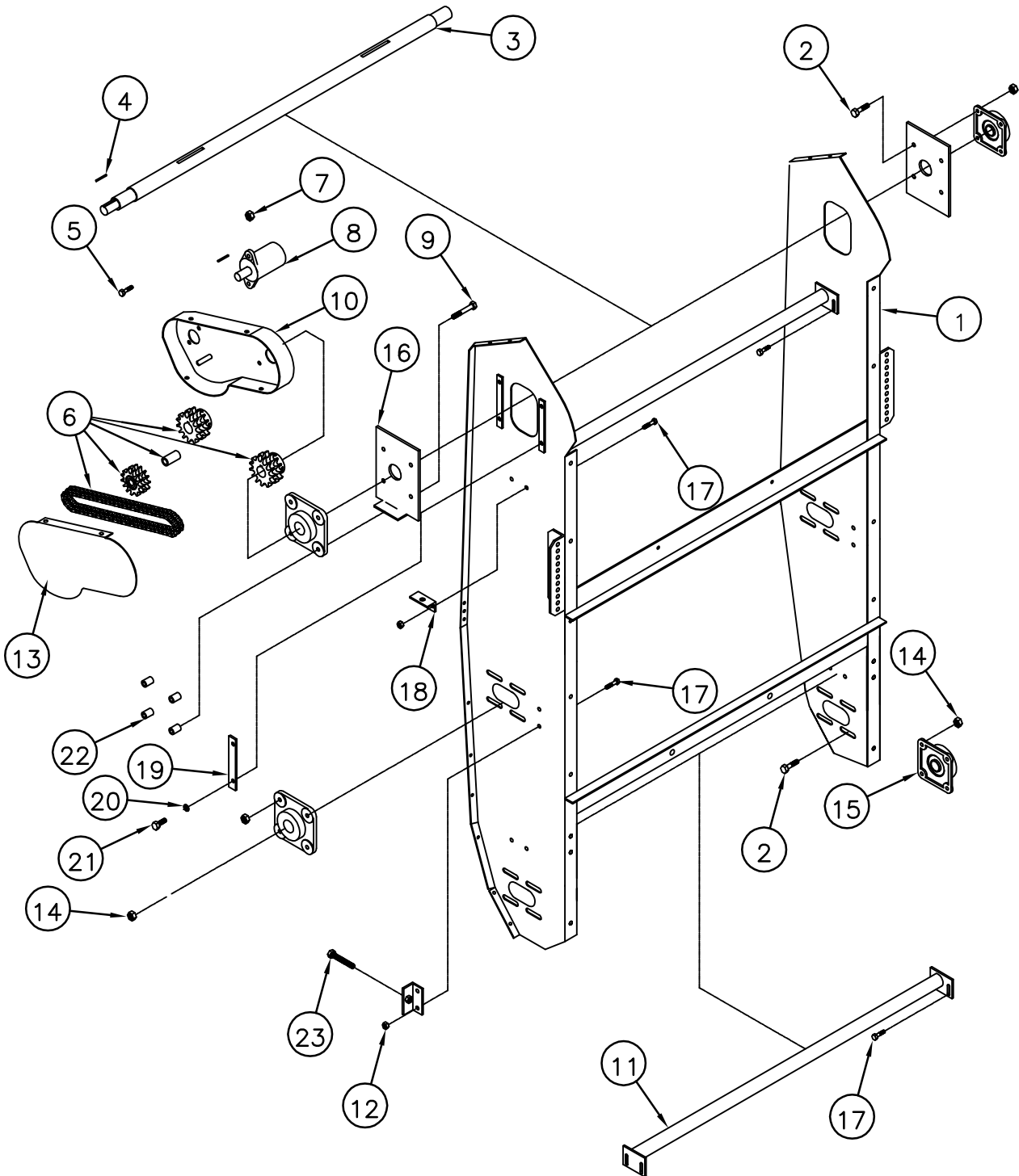
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AUX. ENGINE
ASSEMBLY
SN 5002 & UP

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	1
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	1766	BATTERY BOX C/W COVER	1
23	1767	BATTERY 12 V	1

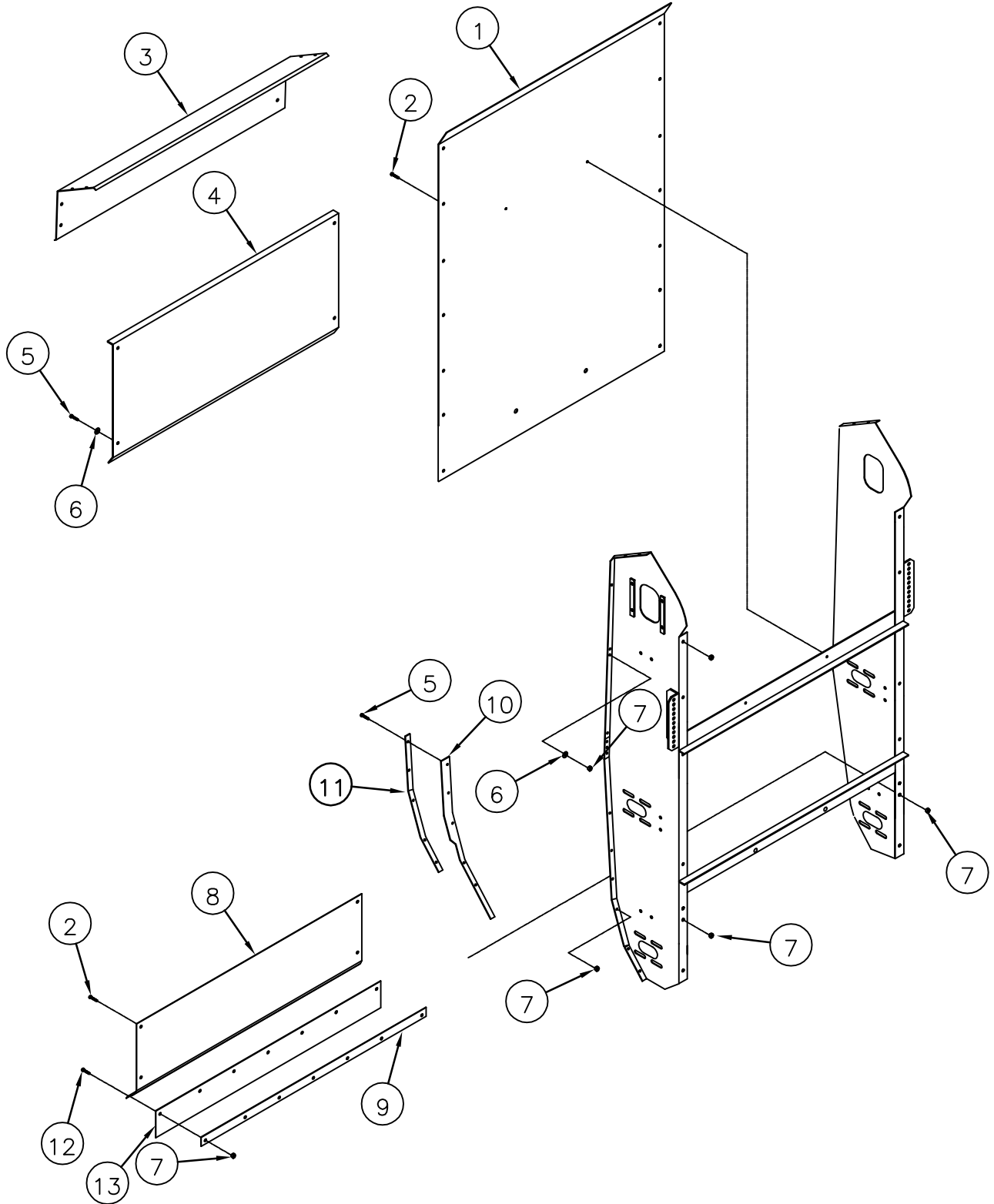
ELEVATOR ASSEMBLY

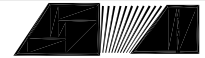


ELEVATOR ASSEMBLY

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





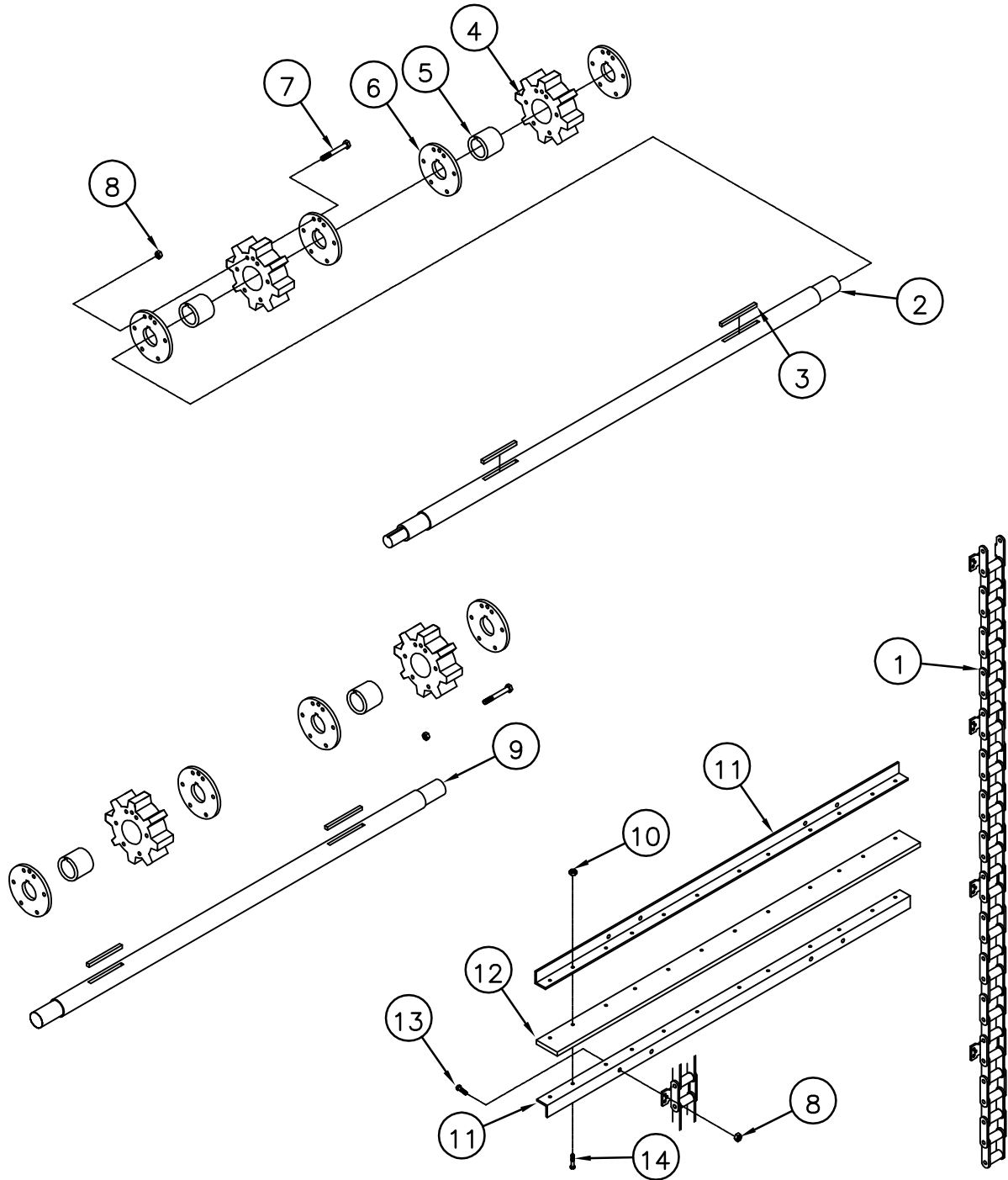
STEWART-AMOS

Sweeper Co

ELEVATOR ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	33103	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

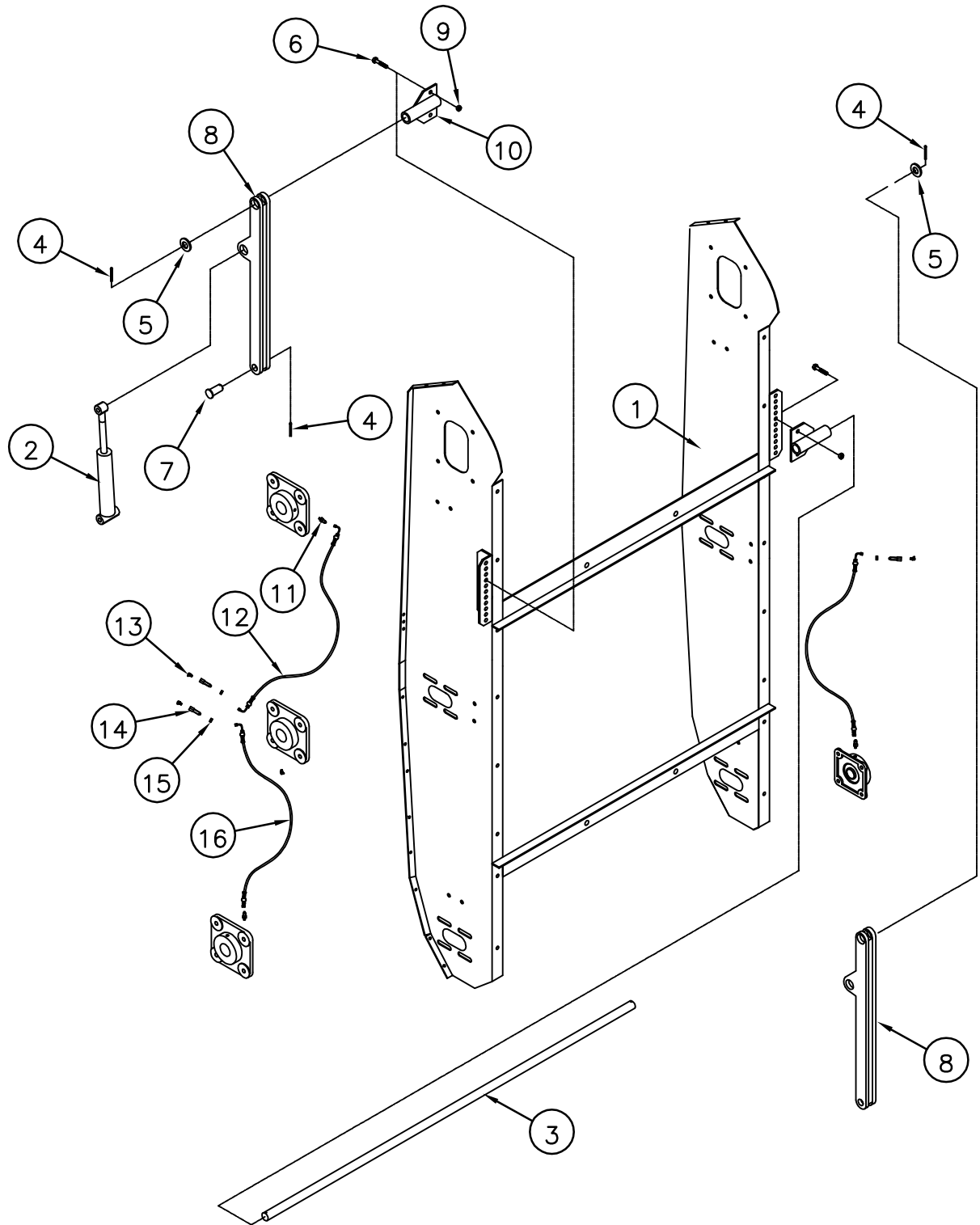
ELEVATOR ASSEMBLY



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

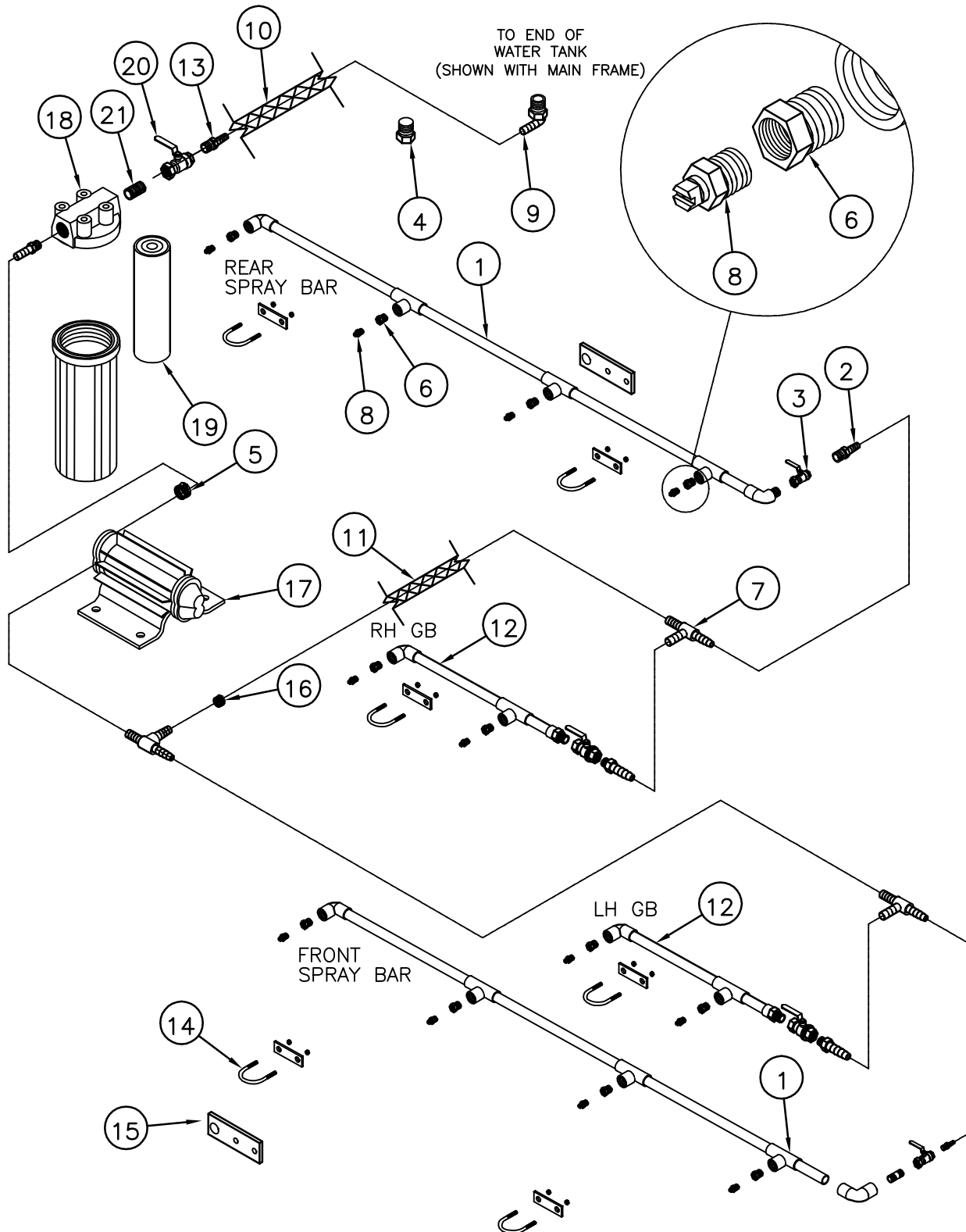
ELEVATOR LIFT ASSEMBLY



ELEVATOR LIFT ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	33101	ELEVATOR FRAME	—
2	1985	ELEVATOR CYLINDER	2
3	63105	SWIVEL SHAFT	1
4	1604	COTTER PIN	2
5	1527	WASHER	4
6	1546	BOLT	12
7	41441	PIN	2
8	33104	LIFT ARM	2
9	1505	NUT	12
10	63104	PIVOT SHAFT MOUNT	2
11	1140	FITTING	3
12	6635	HOSE	2
13	1139	GREASE FITTING	6
14	1141	BULKHEAD FITTING	3
15	1142	NUT	3
16	6636	HOSE	2

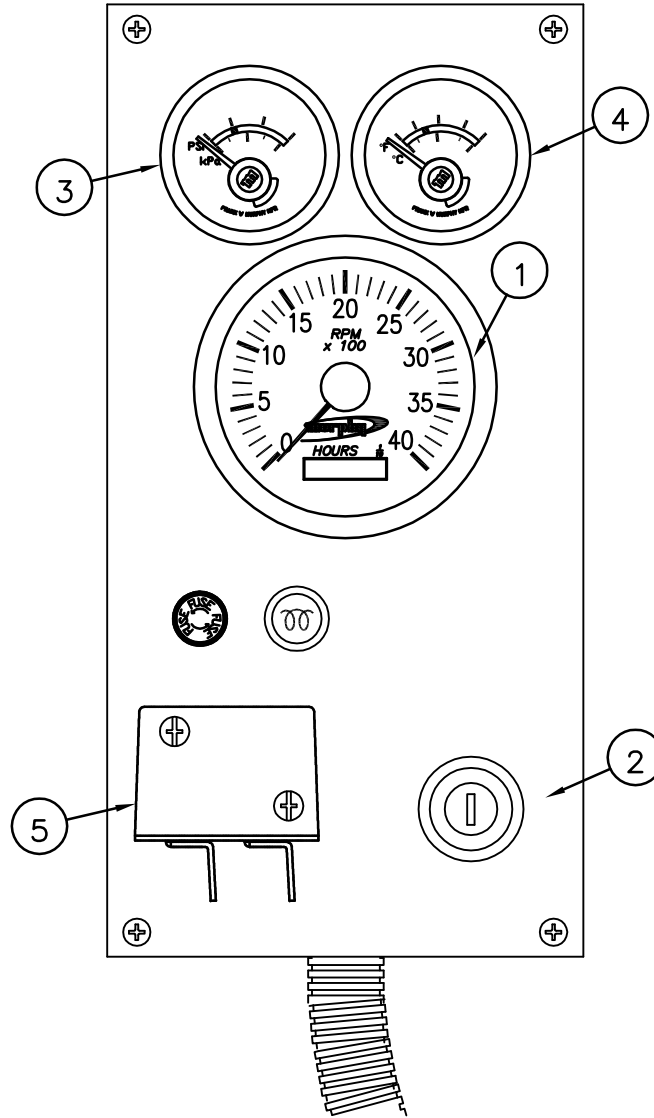
WATER SYSTEM



WATER SYSTEM

ITEM	PART #	DESCRIPTION	QTY
1	42201	SPRAY BAR	2
2	1158	HOSE BARB FITTING	4
3	1204	BALL VALVE	4
4	1185	PLUG	1
5	1203	HOSE CLAMP	4
6	1162	ADAPTER	12
7	1163	HOSE BARB TEE ADAPTER	5
8	1164	NOZZLE	12
9	1130	WATER TANK ELBOW	1
10	1116	HOSE	35'
11	1166	HOSE	50'
12	62216	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	28
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

42527 ENGINE CONTROL BOX LAYOUT



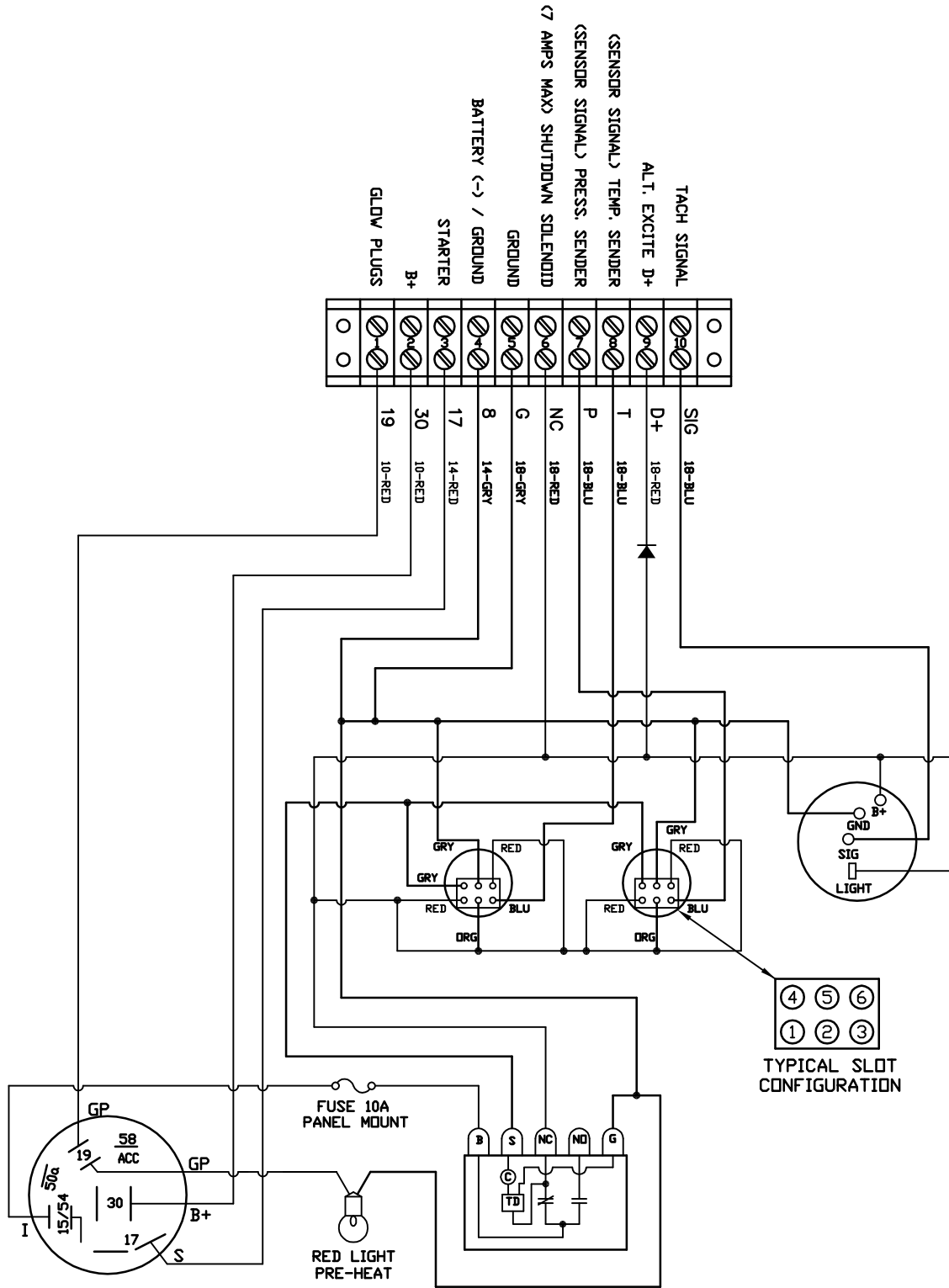
ITEM	PART #	DESCRIPTION	QTY
1	1092	TACH/HOUR METER	1
2	1095	IGNITION SWITCH	1
3	1090	OIL PRESSURE GAUGE	1
4	1091	WATER TEMP GAUGE	1
5	1094	SHUT DOWN MODULE	1



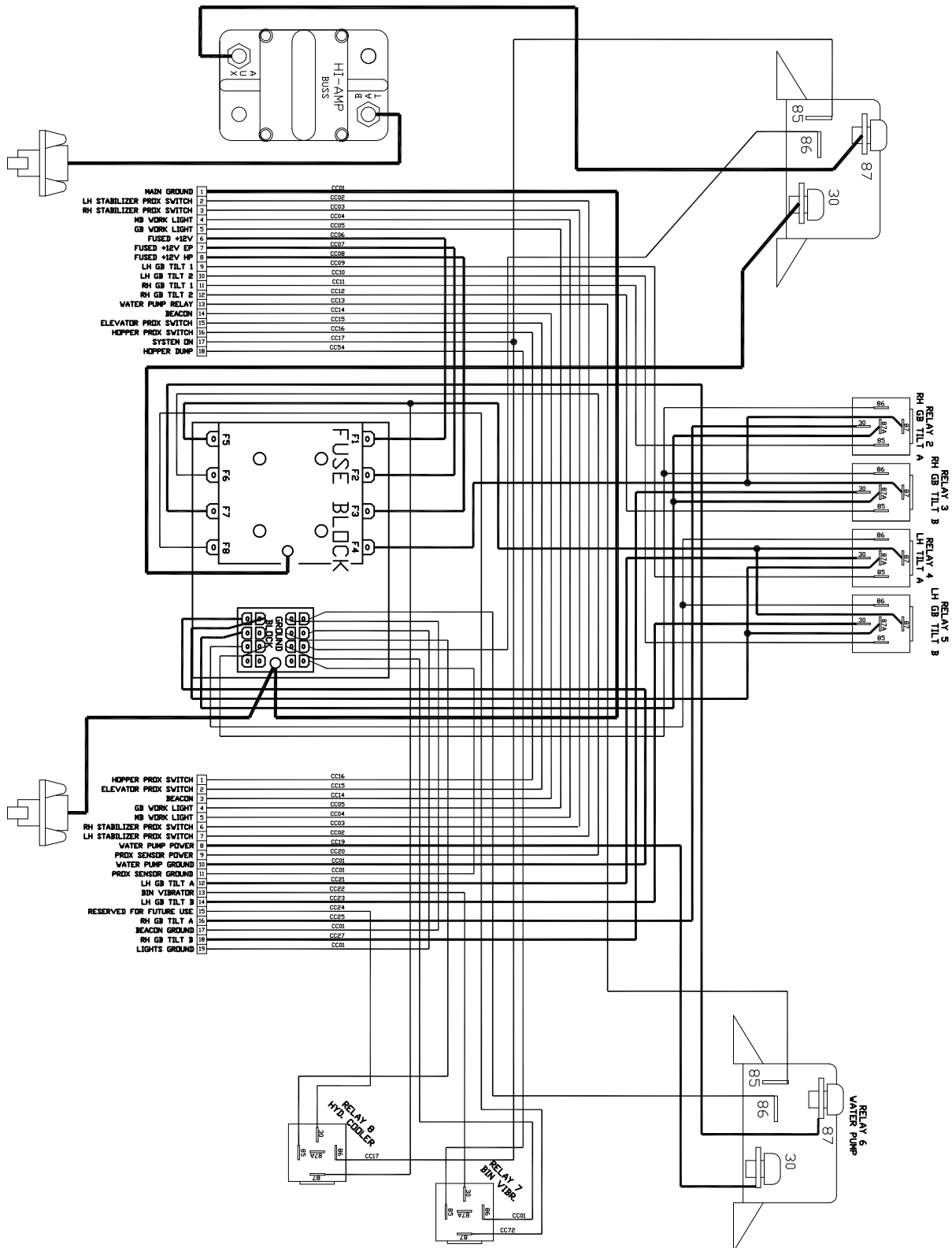
STEWART-AMOS

Sweeper Co

42527 ENGINE CONTROL BOX SCHEMATIC



62512
AUXILIARY CONTROL
BOX SCHEMATIC

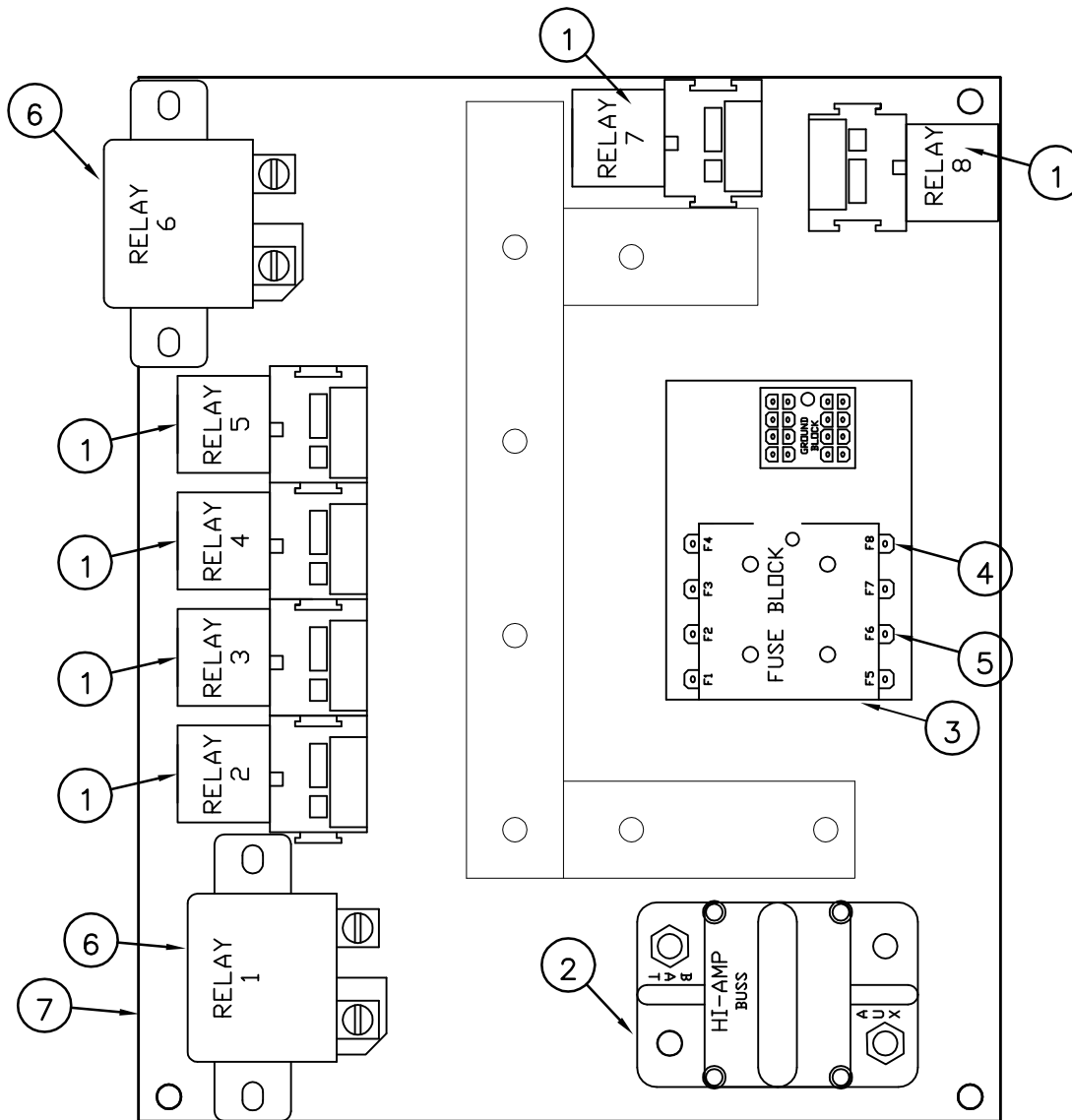




STEWART-AMOS

Sweeper Co

80207 AUXILIARY CONTROL BOX LAYOUT

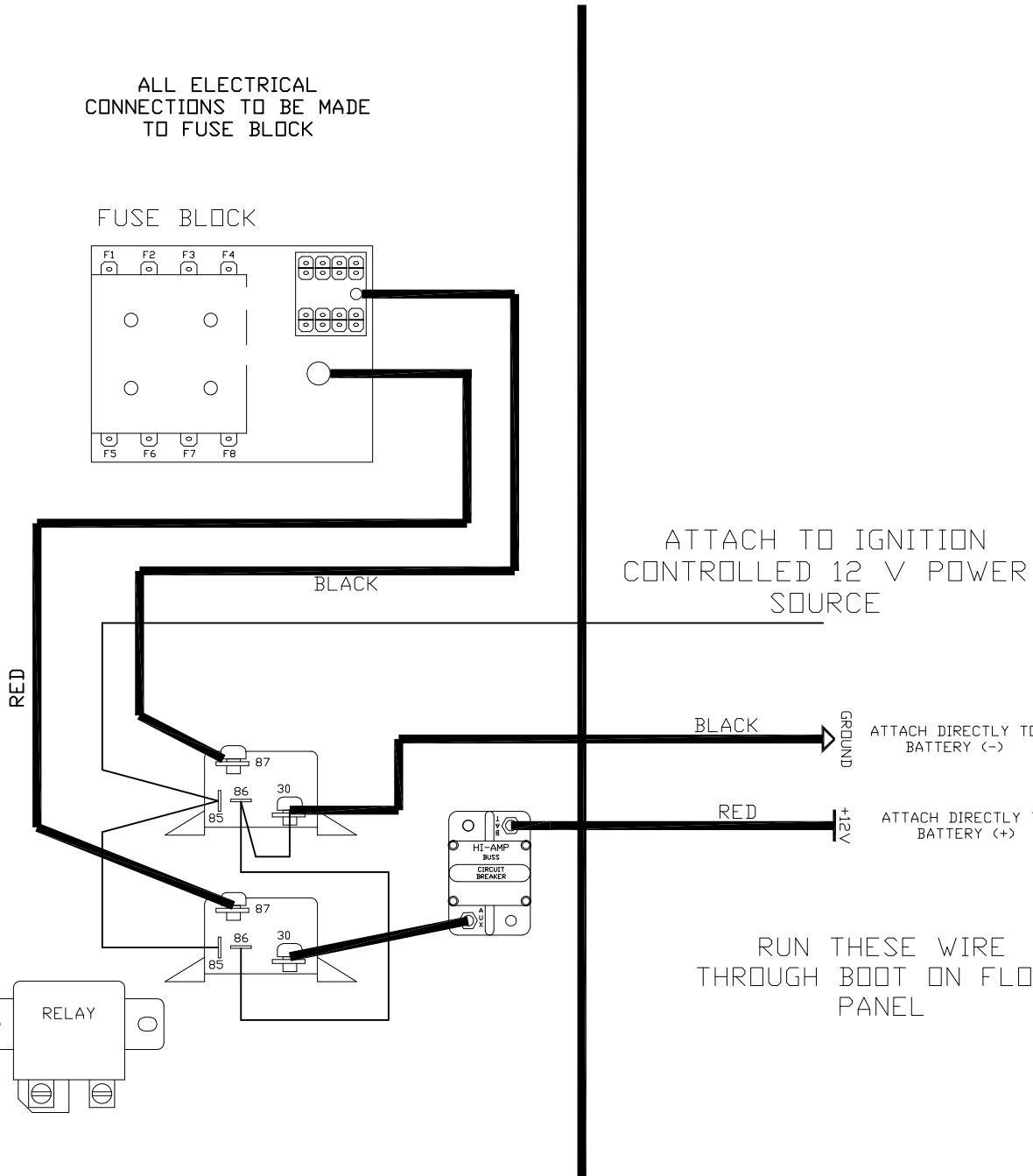
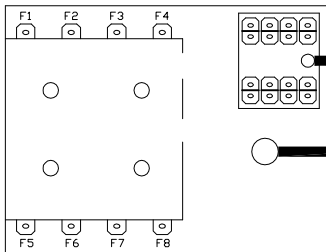


ITEM	PART #	DESCRIPTION	QTY
1	1947	RELAY	6
2	2043	CIRCUIT BREAKER	1
3	2041	FUSE HOLDER 8 POSITION	1
4	2042	FUSE 15 amp F1-5/7/8	7
5	1193	FUSE 5 amp F6	1
6	1946	RELAY	2
7	62507	Aux. Box Mounting Plate	1
8	62512	Harness (not shown)	1

POWER CONECTION BOX

ALL ELECTRICAL CONNECTIONS TO BE MADE TO FUSE BLOCK

FUSE BLOCK



ATTACH TO IGNITION CONTROLLED 12 V POWER SOURCE

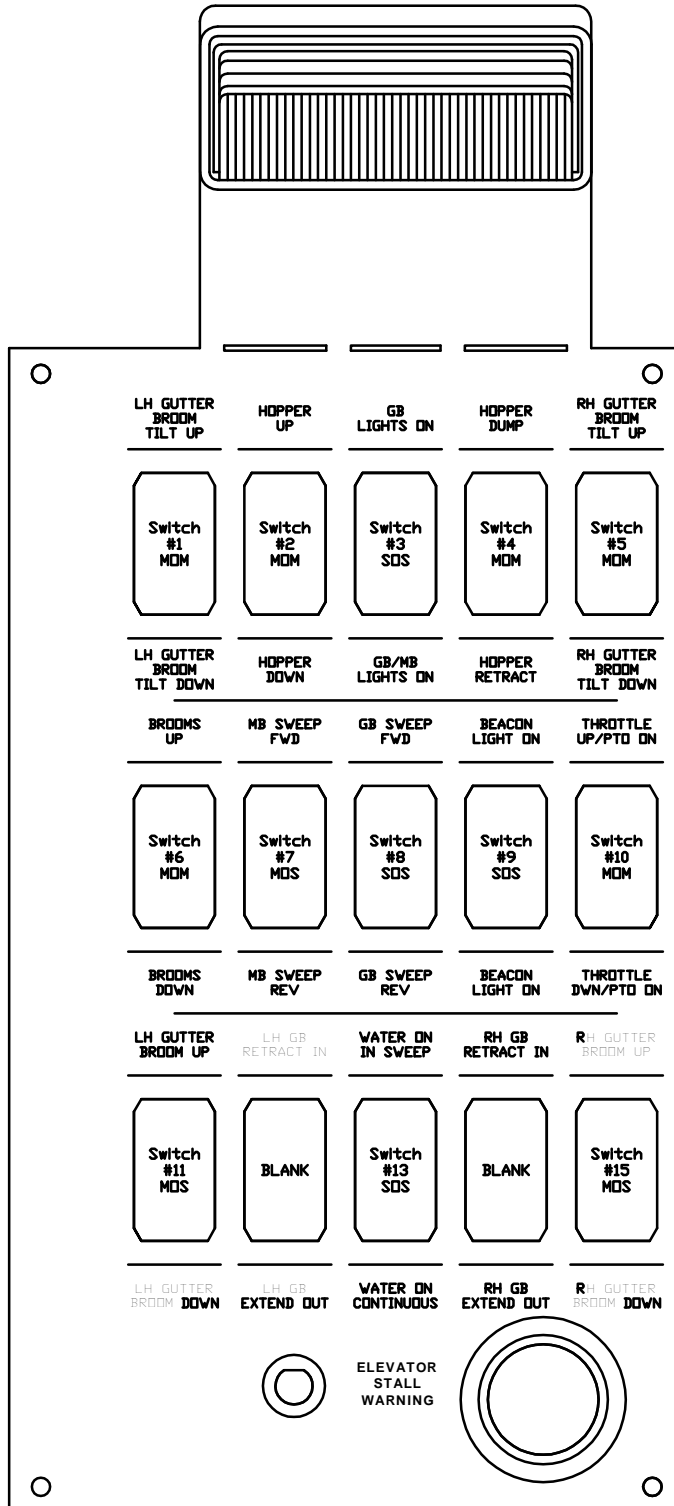
GROUND ATTACH DIRECTLY TO BATTERY (-)

+12V ATTACH DIRECTLY TO BATTERY (+)

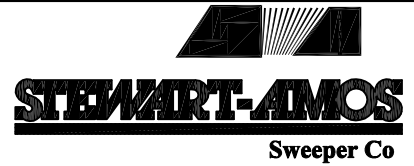
RUN THESE WIRE THROUGH BOOT ON FLOOR PANEL

MOUNT THESE RELAYS AND WIRES INSIDE CONTROL BOX BETWEEN SEATS

62506 SWEEPER CONTROL PANEL

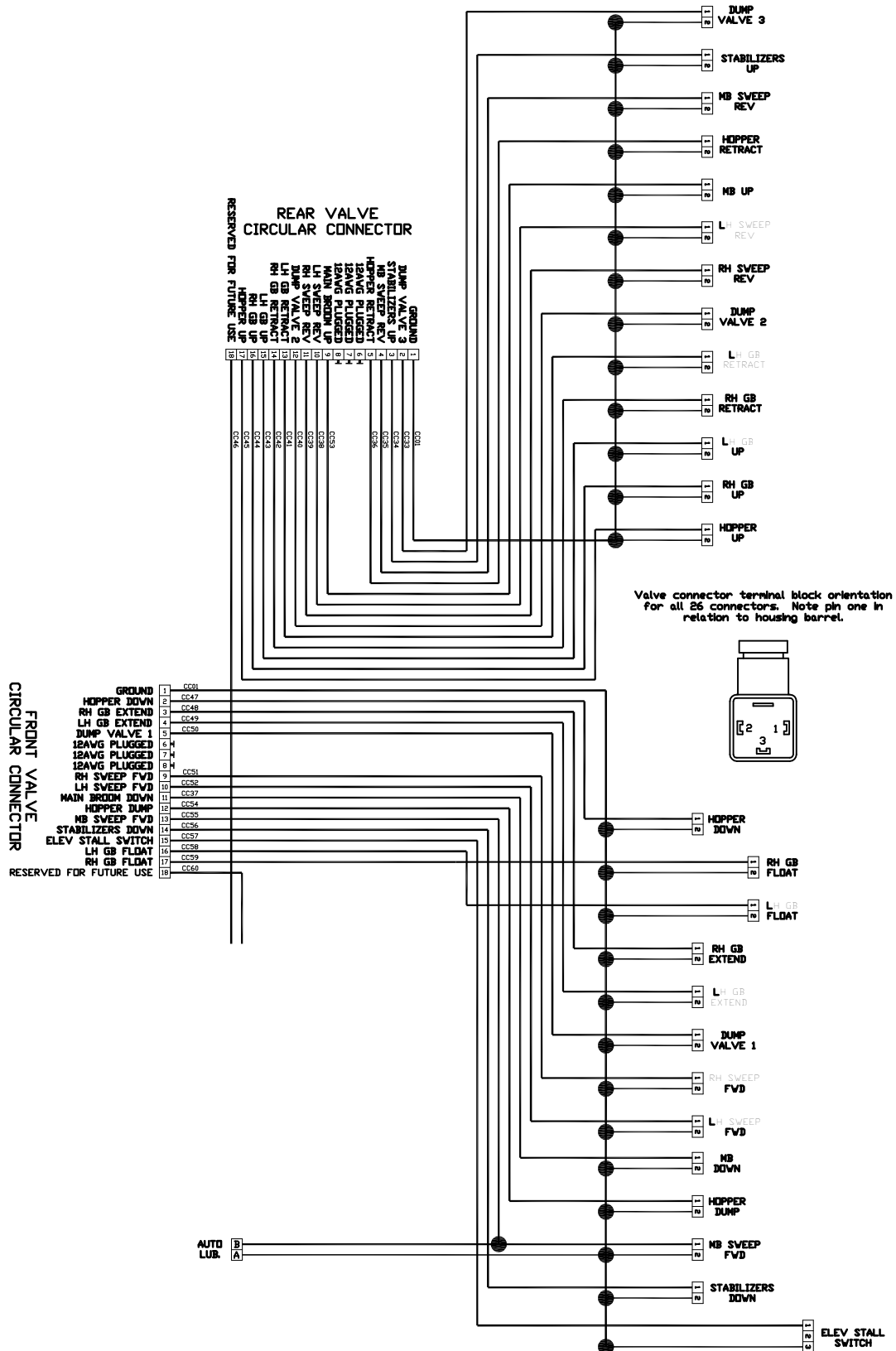


62506
SWEEPER CONTROL
BOX



ITEM	PART #	DESCRIPTION	QTY
1	1101	SHOCK MOUNT	4
2	62505	BOX	1
3	62506	PANEL	1
4	42531	PANEL DECAL	1
5	1127	STALL ALARM	1
6	1128	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



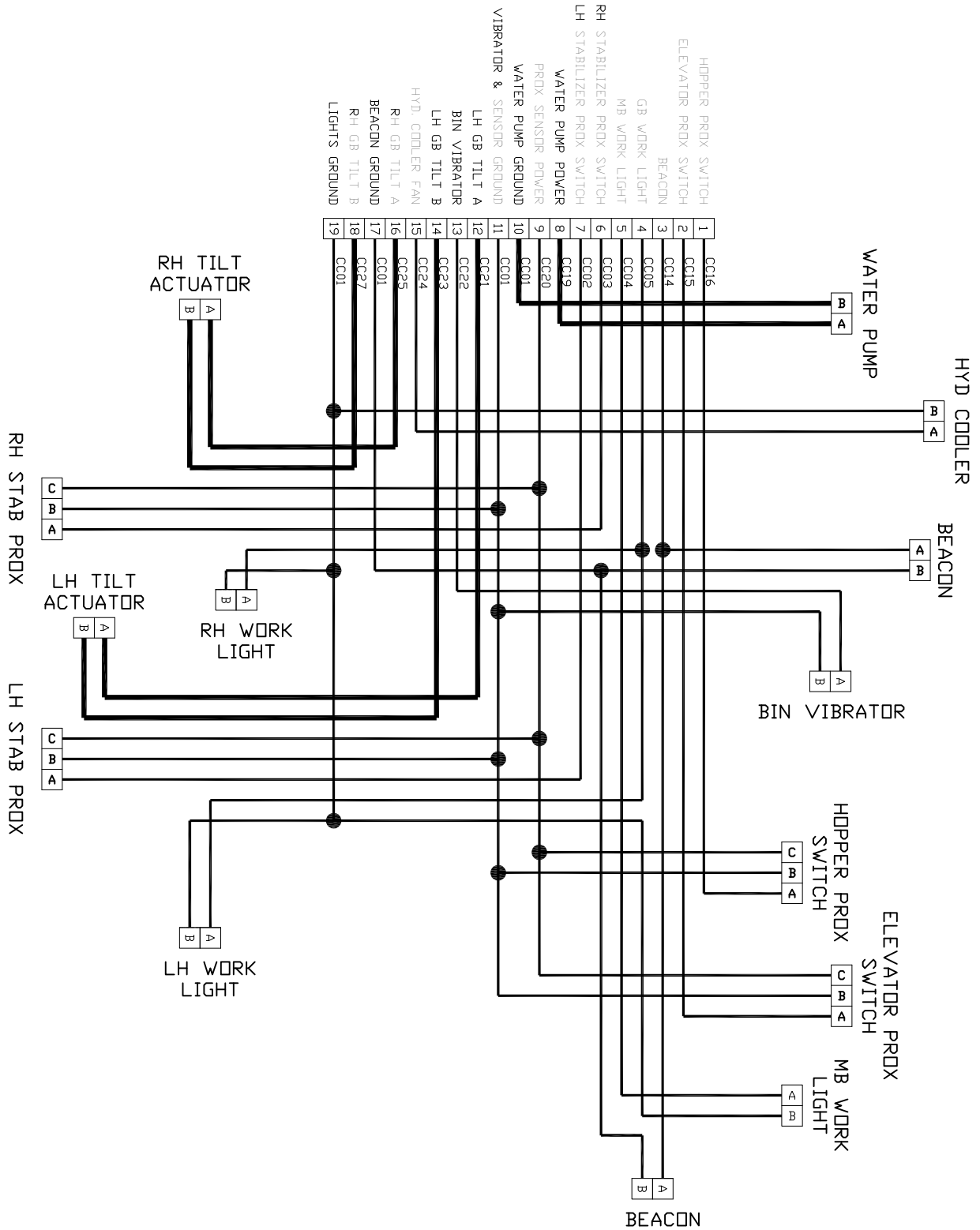


STEWART-AMOS

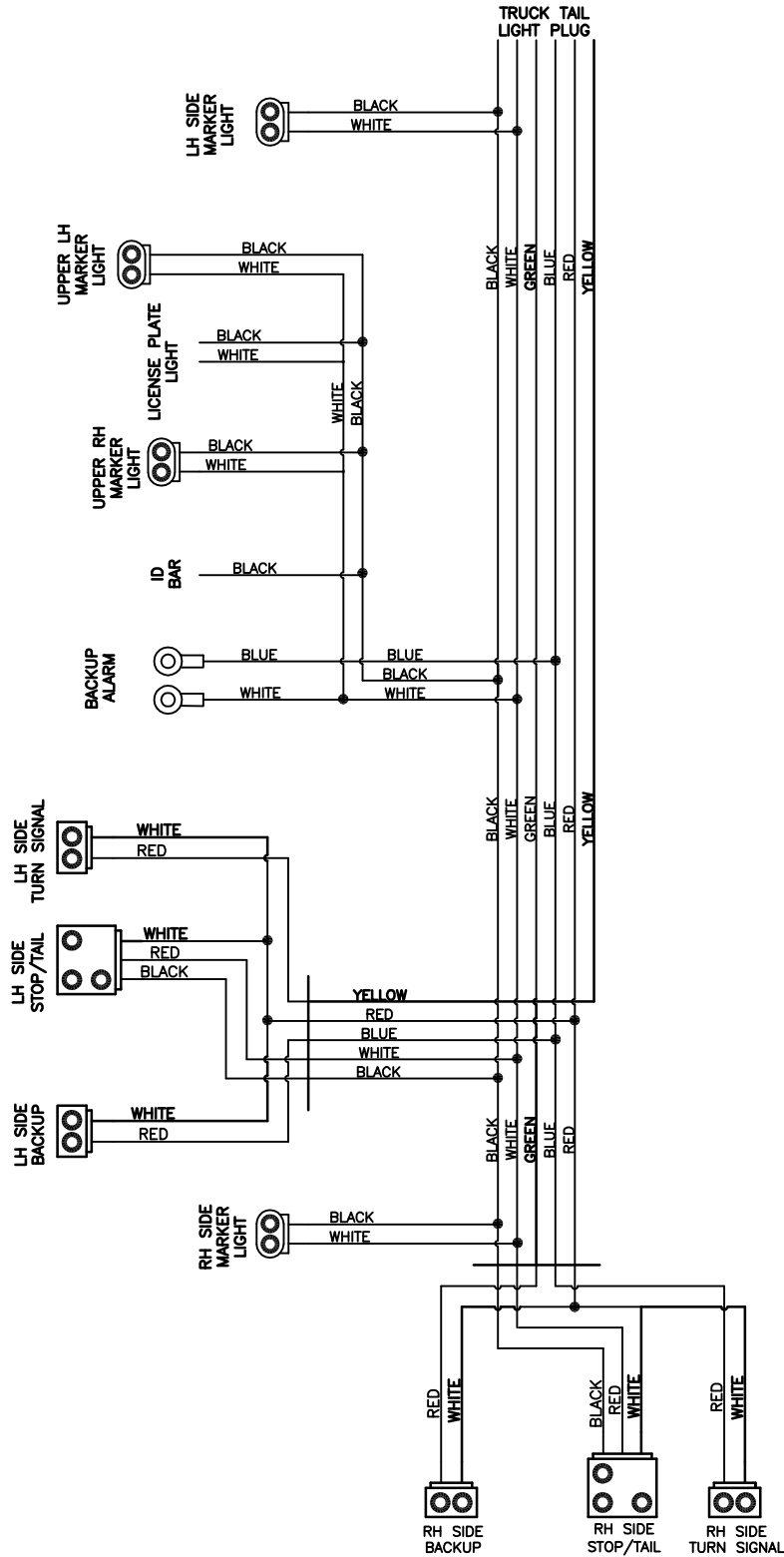
Sweeper Co

62513 SWEEPER HARNESS

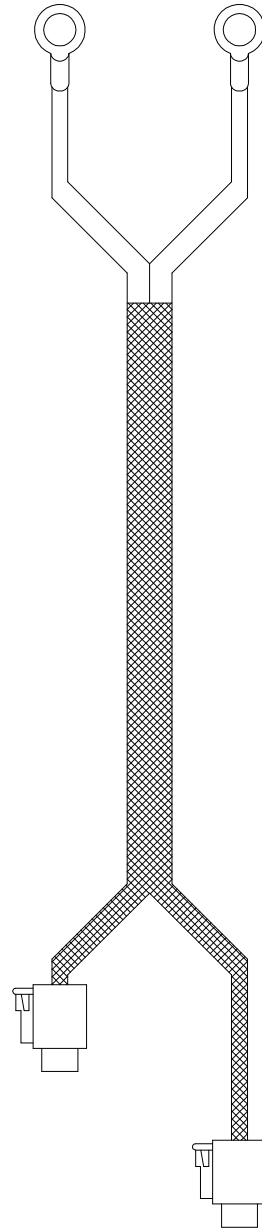
CHASSIS HARNESS
CONNECTOR



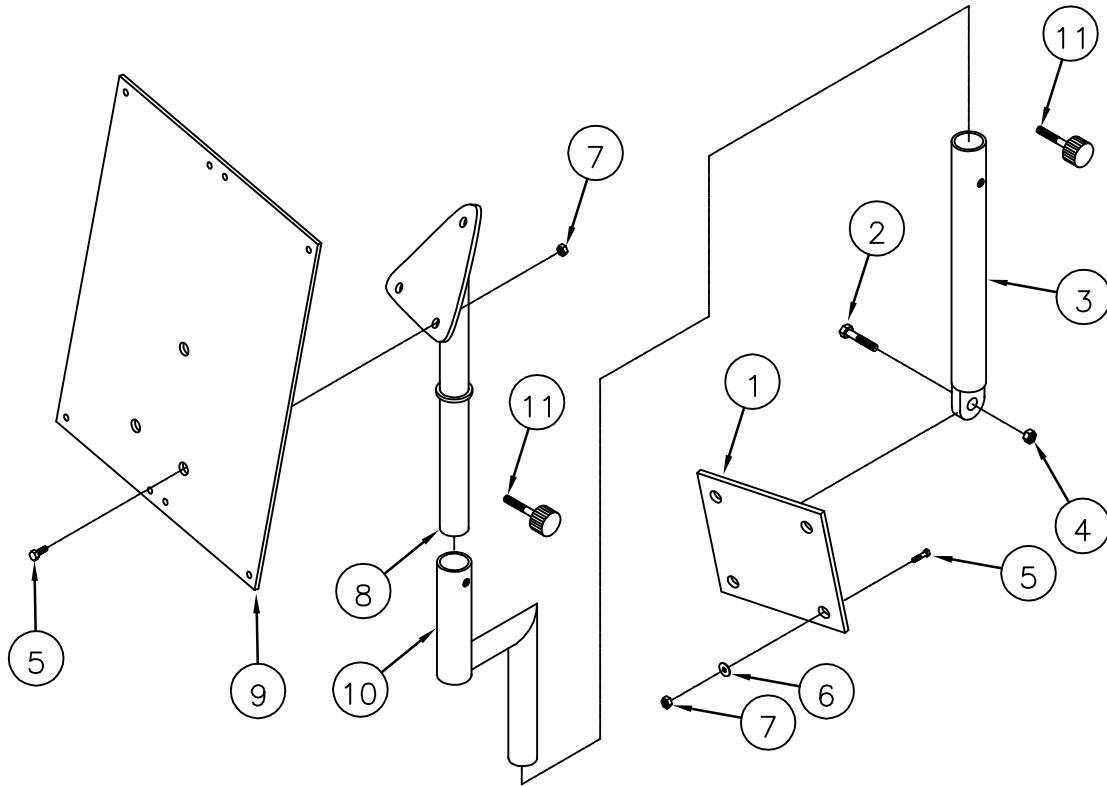
62508 REAR LIGHT HARNESS



62509 POWER
HARNESS



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



PT # 43201 8/UNIT



PT # 43205 4/UNIT



PT # 43207 4/UNIT



PT # 43209 2/UNIT



PT # 43211 4/UNIT

IMPORTANT

The operator is responsible for the safe operation of this vehicle. To avoid possible injury or property damage, thoroughly read and understand the operators manual before using this machine.

PT # 43213 1/UNIT



PT # 43215 4/UNIT

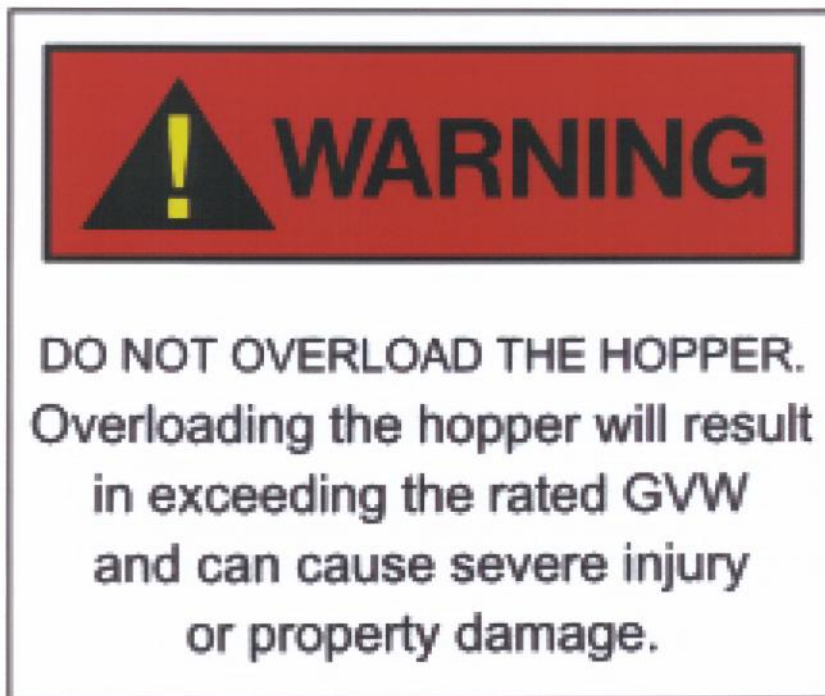
**HYDRAULIC OIL
MUST CONFORM
TO ISO VG 68
STANDARDS**

PT # 43217 2/UNIT



**This vehicle is equipped
with a backup alarm.
Alarm must sound when
operating this vehicle in
reverse. Failure to maintain
a clear view in the direction
of travel could result in
serious injury or death.**

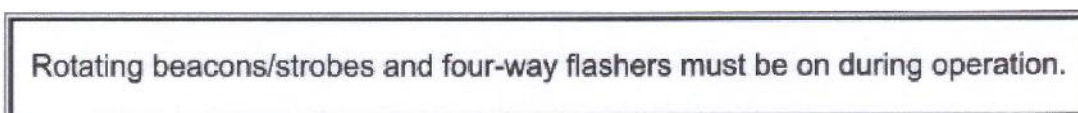
PT # 43219 1/UNIT



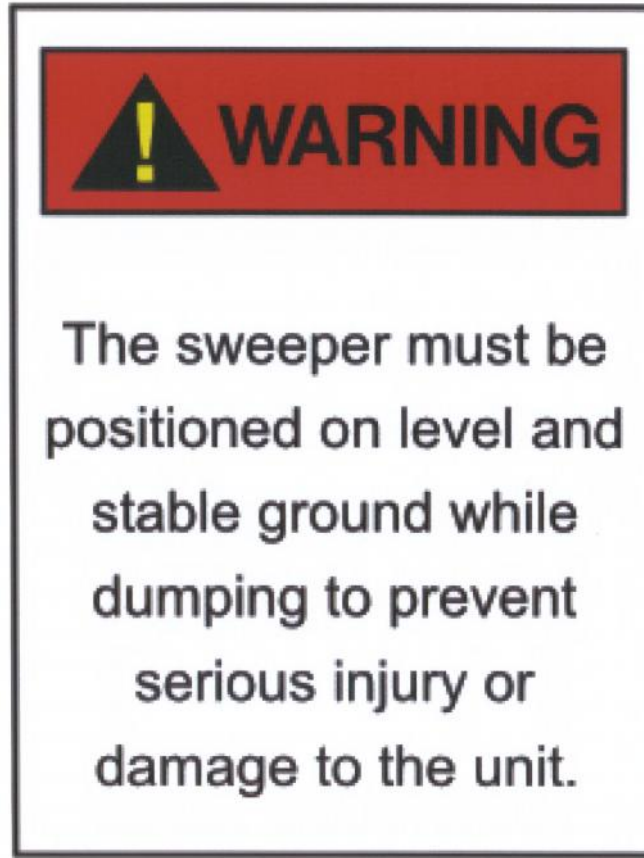
PT # 43221 1/UNIT



PT # 43223 4/UNIT



PT # 43225 1/UNIT



PT # 43227 2/UNIT



PT # 43229 7/UNIT



PT # 43231 2/UNIT



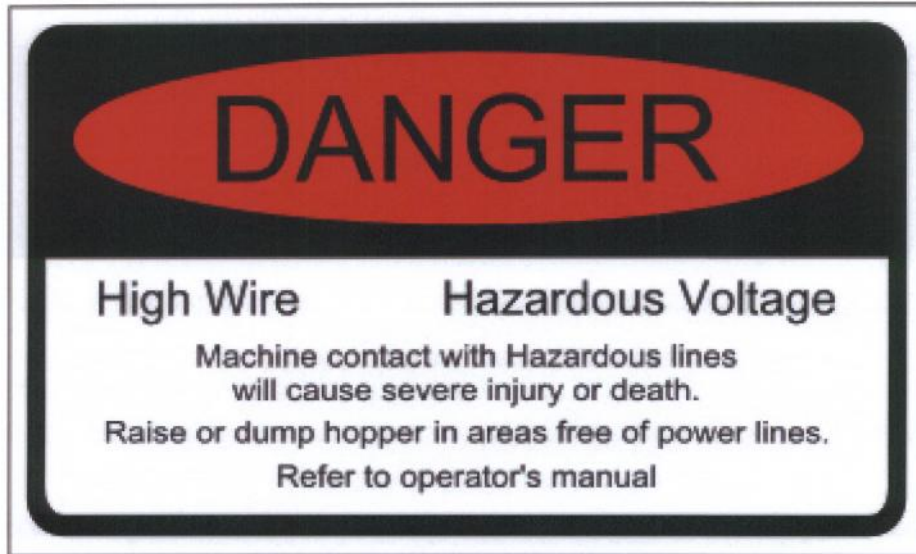
PT # 43233 2/UNIT



PT # 43235 1/UNIT



PT # 43237 1/UNIT



PT # 43239 1/UNIT



STEWART-AMOS

Sweeper Co.

PT # 43243 3/UNIT



STARFIRE

PT # 43258 1/UNIT



PT # 43259 2/UNIT

STAR**FIRE**

S-5

STAR**FIRE**

S-5

PT # 43256 1/UNIT

INDEX BY PAGE

PART #	DESCRIPTION	QTY	PG NO.
32001	MAIN FRAME WELDMENT	1	88
43129	CENTERING BUSHING	2	88
1502	NUT	17	88
1535	BOLT	17	88
1507	NUT	4	88
3206	MUD FLAP	2	88
1537	BOLT	5	88
62012	SKIRT	1	88
1540	BOLT	12	88
32012	REAR SHIELD	1	88
62011	REAR SKIRT BACKING	1	88
1822	WASHER	16	88
42077	BEARING INSPECTION COVER	2	88
1670	WASHER	4	88
1503	NUT	12	88
1591	SCREW	6	88
41771	REST TUBE	1	88
1843	BOLT	2	88
2028	WATER TANK	1	88
31610	INNER BROOM SHIELD	4	88
32209	WASHOUT CONNECTION	4	88
42085	SAFETY PROP	2	88
1560	BOLT	2	88
32205	SADDLE STRAP	2	88
32207	WATER ;FILLER	1	88
1546	BOLT	2	88
1640	NUT	2	88
52205	WATER TANK ADAPTOR	1	88
62103	U BOLT MOUNT PLATE	6	88
1116	HYDRANT HOSE	2	88
42103	CENTER DRAG SUPPORT	2	88
42101	CENTER DRAG RUBBER	1	88
42114	FILL RELIEF RUBBER	1	88
1087-3	PROXIMITY SWITCH	2	88
62014	FENDER FLARE RETAINER	2	88
1026	WORK LIGHT	2	88
62007	LH SIDE SHIELD	1	88
62008	RH SIDE SHIELD	1	88
1029	FENDER SKIRT	2	88
3201	BODY MOUNT U BOLT	6	88
62119	LH AXLE SUPPORT	1	88
62121	RH AXLE SUPPORT	1	88
52119	LH FRONT/SIDE SHIELD	1	88
62121	RH FRONT/SIDE SHIELD	1	88

42147	CENTER DRAG RUBBER	1	88
31502	DOOR	2	90
31501	FRONT CANOPY	1	90
1025	STROBE	1	90
1520	WASHER	4	90
1501	NUT	4	90
1031	HINGE	4	90
1555	BOLT	8	90
1005	DOOR LATCH	4	90
1543	BOLT	6	90
1529	WASHER	12	90
1508	NUT	12	90
1503	NUT	6	90
1522	WASHER	6	90
1750	INSERT	8	90
42107	LIMB GUARD (NOT SHOWN)	1	90
31628	RIGHT REAR DOOR	1	92
31627	LEFT REAR DOOR	1	92
41503	DOOR	2	92
1025	STROBE	1	92
1005	DOOR LATCH	6	92
31609	REAR DOOR	2	92
1520	WASHER	24	92
1501	NUT	24	92
1031	HINGE	12	92
1579	BOLT	48	92
1503	NUT	8	92
1822	WASHER	8	92
1843	BOLT	8	92
1520	WASHER	24	92
1501	NUT	24	92
31601	REAR CANOPY	1	92
1750	INSERT	24	92
1028	CLEARANCE LIGHT	4	92
1131	GROMMET	4	92
1152	CAMERA	2	92
1002	ID BAR	1	92
1136	BACKUP LIGHT	2	92
1134	GROMMET	6	92
1024	BACKUP ALARM	1	92
1132	BRAKE LIGHT	2	92
1026	WORK LIGHT	1	92
1027	LICENSE PLATE LIGHT	1	92
42107	LIMB GUARD (NOT SHOWN)	1	92
31603	INNER SHIELD	1	92
31605	BACKING	1	92
31602	ENGINE AIR SHIELD	1	92

31606	BACKING	1	92
31604	SHIELD SPACER	1	92
31621	REAR TOP PANEL	1	92
1151	CAMERA/MONITOR	1	92
11535	CAMERA CABLE	2	92
32901	HOPPER	1	94
1185	BUSHING	18	94
1033	WINDOW RUBBER	37	94
42913	WINDOW	1	94
1031	HINGE	2	94
1579	BOLT	8	94
1005	DOOR LATCH	1	94
1501	NUT	20	94
62907	ACCESS DOOR	1	94
1520	WASHER	34	94
62905	HOPPER DOOR	1	94
42905	DOOR LINK	4	94
32904	PIN	1	94
1583	NUT	4	94
1530	BOLT	13	94
42915	RUBBER FLASHING	2	94
42917	UPRIGHT FLASHING	1	94
1560	BOLT	2	94
1061	CYLINDER	2	94
1558	BOLT	4	94
32912	HOPPER STONE SHIELD	1	94
32910	DRAIPER MOUNT	1	94
32911	DRAIPER RUBBER	1	94
1173	CHAIN	2	94
33001	HOPPER LIFT FRAME	1	96
1185	BUSHING	8	96
1623	PIN	6	96
1985	CYLINDER	1	96
1604	COTTER PIN	6	96
3210	CYLINDER	2	96
42813	SCISSOR ROLLER	4	96
1074	SNAP RING	16	96
62812	CENTER PIN	8	96
62811	SCISSOR PIN	16	96
32815	LOWER ANCHOR SECTION LEG #1	1	96
32806	LOWER SCISSOR, ROLLER SECTION	1	96
32811	UPPER ANCHOR SECTION LEG #1	1	96
32801	UPPER SCISSOR, ROLLER SECTION	1	96
62813	RETAIN WASHER	16	96
1782	BOLT	16	96
32812	UPPER ANCHOR SECTION LEG #2	1	96
32813	UPPER ANCHOR SECTION LEG #3	1	96

32814	UPPER ANCHOR SECTION LEG #4	1	96
32816	LOWER ANCHOR SECTION LEG #2	1	96
32817	LOWER ANCHOR SECTION LEG #3	1	96
32818	LOWER ANCHOR SECTION LEG #4	1	96
61201	GB MOUNT (LEFT HAND)	1	98
61301	GB MOUNT (RIGHT HAND)	1	98
61213	PIN	1	98
1020	BUSHING	4	98
61203	GB PIVOT (LEFT)	1	98
61303	GB PIVOT (RIGHT)	1	98
1506	NUT	5	98
41211	PIN	2	98
41215	SPRING BELL CRANK	1	98
1561	BOLT	1	98
1023	TURN BUCKLE	2	98
1505	NUT	1	98
1581	WASHER	1	98
1018	SUSPENSION SPRING	2	98
41221	LINK	1	98
1540	BOLT	2	98
1670	WASHER	3	98
61205	LINKAGE MOUNT (LEFT)	1	98
61305	LINKAGE MOUNT (RIGHT)	1	98
1642	NUT	2	98
1640	NUT	2	98
1503	NUT	2	98
1022	TURN BUCKLE	2	98
1559	BOLT	5	98
1822	WASHER	3	98
1379	CYLINDER	2	98
1537	BOLT	3	98
1556	BOLT	2	98
1507	NUT	7	98
1508	NUT	1	98
1574	BOLT	1	98
1042	QUICK LINK	4	98
1019	RETRACT SPRING	1	98
1526	WASHER	2	98
1185	BUSHING	4	98
61235	RETRACT PLATE (LEFT)	1	98
61309	RETRACT PLATE (RIGHT)	1	98
1560	BOLT	2	98
41230	EXTEND SPRING MOUNT	1	98
	7 LINKS 3/8" X 2 CHAIN	1	98
41207	MOTOR BRACKET (LEFT)	1	100
41318	MOTOR BRACKET (RIGHT)	1	100
3248	BUSHING	1	100

1506	NUT	4	100
61307	PLATE	1	100
3229	GB BRUSH SET OF 5 SEG.	1	100
1078	LINEAR ACTUATOR (OPTION)	1	100
3243	HYDRAULIC MOTOR	1	100
1683	KEY	1	100
1670	WASHER	20	100
1505	NUT	2	100
1549	NUT	4	100
41209	DRIVE HUB	1	100
1546	BOLT	2	100
1540	BOLT	20	100
1525	WASHER	2	100
1976	MAIN BROOM MANDREL	1	102
41413	MAIN BROOM ROCK SHAFT	1	102
1604	COTTER PIN	8	102
31402	RH DRAG BELL CRANK	1	102
1782	BOLT	6	102
31406	LIFT BELL CRANK (LEFT)	1	102
41421	MAIN BROOM LIFT STRAP	2	102
1822	WASHER	4	102
1670	WASHER	4	102
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1986	CYLINDER	2	102
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1030	BEARING	1	102
34501	MAIN BROOM LEFT ARM (LEFT)	1	102
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1046	SHOCK	2	102
3243	HYDRAULIC MOTOR	1	102
1843	BOLT	4	102
34502	MAIN BROOM LEFT ARM (RIGHT)	1	102
1822	WASHER	24	102
80129	MAIN BROOM COUPLER	1	102
1185	BUSHING	4	102
1683	KEY	1	102
1671	WASHER	6	102
1545	BOLT	6	102
1781	BOLT	6	102
1505	NUT	2	102

31403	LH DRAG BELL CRANKI	1	102
41437	DRAG SHOE LIFT CHAIN	2	102
3212	LONG MANDREL SHAFT	1	102
3213-3	SHORT MANDREL SHAFT	1	102
1266	MANDREL END PLATE	2	102
62813	RETAINER WASHERS	6	102
41427	MB LIFT CHAIN	2	102
1822	WASHER	2	104
1670	WASHER	2	104
1537	BOLT	2	104
1521	WASHER	12	104
1501	NUT	4	104
1970	CARBIDE DRAG SHOE	2	104
1502	NUT	8	104
51405	DRAG SHOE MOUNT (RIGHT)	1	104
41401	PIN	2	104
1562	BOLT	2	104
1575	BOLT	8	104
1185	BUSHING	8	104
41429	DRAG LINK	2	104
51404	DRAG SHOE MOUNT (LEFT)	1	104
1534	BOLT	8	104
1508	NUT	2	104
41431	BACKING	2	104
1530	BOLT	4	104
42067	DIRT DEFLECTOR RUBBER	2	104
34501	LH BROOM ARM	1	106
64505	SUPPORT	2	106
64506	BRUSH ATTACHMENT	2	106
64503	LH DRAG BRUSH HOLDER	1	106
64507	RETAINER	2	106
1016	BRUSH STRIP	2	106
34502	RH BROOM ARM	8	106
64504	RH DRAG BRUSH HOLDER	1	106
80134	VALVE ASSEMBLY	1	107
1293	MANIFOLD	1	107
2001	HOPPER LIFT CYLINDER VALVE	1	107
1989	LH GUTTER BROOM LIFT CYLINDER VALVE	1	107
1989	RH GUTTER BROOM CYLINDER VALVE	1	107
1295	LH GUTTER BROOM MOTOR VALVE	1	107
1295	RH GUTTER BROOM MOTOR VALVE	1	107
1295	DUMP VALVE	1	107
2000	RELIEF VALVE	1	107
1990	FLOAT VALVE	2	107
80120	VALVE ASSEMBLY	1	108
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1993	MAIN BROOM/ELEVATOR LEFT CYLINDER VALVE	1	108

1993	HOPPER TILT/DOOR CYLINDER VALVE	1	108
1993	MAIN BROOM/ELEVATOR MOTOR VALVE	1	108
1291	DUMP VALVE	1	108
2000	RELIEF VALVE	1	108
1994	P.O. CHECK VALVE	1	108
2010	DOUBLE P.O. CHECK VALVE	1	108
1839	1/16" RESTRICTOR	2	108
1037	ELEVATOR STALL SWITCH	1	110
1453	HOSE-MB MOTOR TO ELEVATOR MOTOR	1	110
1466	HOSE-FRONT OF PUMP TO LH VALVE	1	110
1456	HOSE-MB ROD TO "T"	2	110
1488	HOSE-ELEVATOR MOTOR TO VALVE	1	110
1455	HOSE-MB HEAD TO "T"	2	110
3243	HYDRAULIC MOTOR	2	110
1454	HOSE-MB VALVE TO "T"	2	110
1440	HOSE-HOPPER TILT VALVE TO CROSS	1	110
1468	HOSE-VALVE RETURN TO COOLER "T"	1	110
1061	HOPPER DOOR CYLINDER	2	110
1469	HOSE-COOLER TO FILTER	1	110
1043	MB CYLINDER	2	110
1440	HOSE-HOPPER TILT VALVE TO CROSS	1	110
1988	HYDRAULIC OIL FILTER BASE	1	110
1452	HOSE-MB MOTOR TO VALVE	1	110
1489	HOSE-SUCTION	1	110
1985	HOPPER TILT CYLINDER	1	110
1441	HOSE-HOPPER TILT ROD TO CROSS	1	110
1442	HOSE-HOPPER TILT HEAD TO CROSS	1	110
1443	HOSE-HOOPER DOOR CYLINDER	4	110
1987	HYDRAULIC OIL FILTER	1	110
1986	ELEVATOR/DRAG SHOE CYLINDER	4	110
1490	HOSE-MB CYLINDER "T" TO ELEVATE CYLINDER "T"	4	110
1491	HOSE-ELEVATE CYLINDER TO DRAG SHOE CYLINDER	4	110
1445	HOSE - RH GB CYLINDER TO VALVE	2	112
1446	HOSE - LH GB CYLINDER TO VALVE	1	112
1492	HOSE - VALVE RETURN TO "T"	1	112
1467	HOSE - PUMP TO VALVE	1	112
3243	HYDRAULIC MOTOR	2	112
3203	HYDRAULIC PUMP	1	112
1493	HOSE - HOPPER LIFT RETURN	1	112
1494	HOSE - VALVE TO HOPPER LEFT	1	112
32301	HYDRAULIC TANK	1	112
1495	HOSE - LIFT CROSSOVER	1	112
1496	HOSE - RETURN CROSSOVER	1	112
1497	HOSE - ROD RETURN	1	112
3235	HOPPER LEFT CYLINDER	2	112
1450	HOSE - LH GB MOTOR TO VALVE	2	112
1428	HOSE - RETRACT CYLINDER	4	112

3238	GB CYLINDER	4	112
1451	HOSE - RH GB MOTOR TO VALVE	2	112
2031	DIRECTIONAL RESTRICTOR	2	112
32301	HYDRAULIC TANK	1	114
1177	HYDRAULIC TANK BREATHER	1	114
32001	MAIN FRAME	1	114
1062	SITE GAUGE	1	114
1178	FILL CAP	1	114
1988	FILTER BASE	1	114
1987	HYDRAULIC FILTER	1	114
2063	O RING	1	114
32303	VALVE MOUNT PLATE	1	114
1179	MAGNETIC DRAIN PLUG	2	114
32302	TANK COVER	1	114
2070	SUCTION SCREEN	1	114
42310	HOSE TIE STRAP	2	114
2061	OIL LEVEL SWITCH OPTION	1	114
1156	EXHAUST PIPE	1	116
1155	HOSE CLAMP	2	116
1049	INTAKE HOSE	30	116
42527	ENGINE CONTROL BOX	1	116
1154	EXHAUST CLAMP	1	116
42404	THROTTLE MOUNT	1	116
1118	ENGINE	1	116
3203	HYDRAULIC PUMP	1	116
1524	WASHER	4	116
1545	BOLT	4	116
1387	THROTTLE ACTUATOR	1	116
1299	THROTTLE GUIDE	1	116
1388	THROTTLE ACTUATOR CABLE	1	116
1108	FUEL FILTER	1	116
1106	ENGINE OIL FILTER	1	116
1390	ENGINE OUTER AIR FILTER	1	116
1175	RAIN CAP	1	116
1176	MUFFLER	1	116
1260	CLAMP	1	116
1104	OIL PRESSURE SENDER	1	116
1391	ENGINE INNER AIR FILTER	1	116
1766	BATTERY BOX C/W COVER	1	116
1767	BATTERY 12 V	1	116
33101	ELEVATOR FRAME	1	118
1549	BOLT	20	118
43113	TOP SHAFT	1	118
1680	KEY	1	118
1546	BOLT	2	118
80133	ELEVATOR DRIVE SYSTEM	1	118
1505	NUT	2	118

3243	HYDRAULIC MOTOR	1	118
1556	BOLT	4	118
43134	CHAIN GUARD	1	118
43107	SEPARATOR	2	118
1503	NUT	12	118
43135	COVER	1	118
1506	NUT	24	118
1030	BEARING	6	118
43125	SLIDE	2	118
1540	BOLT	12	118
43127	ADJUSTMENT ANGLE	4	118
43123	GUIDE	4	118
1671	WASHER	8	118
1539	BOLT	8	118
43115	SPACER	4	118
1147	BOLT	4	118
33103	TOP LINER	1	120
1711	BOLT	14	120
43121	CANOPY	1	120
43131	CANOPY EXTENSION	1	120
1530	BOLT	30	120
1520	WASHER	60	120
1501	NUT	50	120
43105	BOTTOM LINER	1	120
41744	END STRAP	1	120
41776	RUBBER SEAL	2	120
41710	HOLD DOWN	2	120
1713	BOLT	7	120
41772	BOTTOM RUBBER	1	120
33109	ELEVATOR CHAIN	2	122
43113	TOP SHAFT	1	122
1149	SHAFT KEY	6	122
1039	RUBBER SPROCKET	6	122
41738	SHAFT SPACER	6	122
41740	LOCK PLATE	12	122
1544	BOLT	42	122
1503	NUT	70	122
43109	BOTTOM SHAFT	2	122
1501	NUT	144	122
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41726	SQUEEGEE RUBBER	10	122
1540	BOLT	48	122
1531	BOLT	144	122
33101	ELEVATOR FRAME	1	124
1985	ELEVATOR CYLINDER	2	124
63105	SWIVEL SHAFT	1	124
1604	COTTER PIN	2	124

1527	WASHER	4	124
1546	BOLT	12	124
41441	PIN	2	124
33104	LIFT ARM	2	124
1505	NUT	12	124
63104	PIVOT SHAFT MOUNT	2	124
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1139	GREASE FITTING	6	124
1141	BULKHEAD FITTING	3	124
1142	NUT	3	124
6636	HOSE	2	124
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1158	HOSE BARB FITTING	4	126
1204	BALL VALVE	4	126
1185	PLUG	1	126
1203	HOSE CLAMP	4	126
1162	ADAPTER	12	126
1163	HOSE BARB TEE ADAPTER	5	126
1164	NOZZLE	12	126
1130	WATER TANK ELBOW	1	126
1116	HOSE	35	126
1166	HOSE	50	126
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1167	HOSE BARB FITTING	2	126
1168	U BOLT	8	126
42205	SPRAY BAR HANGER	4	126
1169	HOSE CLAMP	28	126
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1117	WATER FILTER HOUSING	1	126
1172	WATER FILTER ELEMENT	1	126
1159	BALL VALVE	1	126
1160	NIPPLE	1	126
42727	ENGINE CONTROL BOX	1	127
1092	TACHOMETER/HOUR METER	1	127
1095	IGNITION SWITCH	1	127
1090	OIL PRESSURE GAUGE	1	127
1091	WATER TEMP GAUGE	1	127
1094	SHUTDOWN MODULE	1	127
62512	AUX CONTROL BOX HARNESS	1	129
80207	AUX CONTROL BOX	1	130
1947	RELAY	6	130
2043	CIRCUIT BREAKER	1	130
2041	FUSE HOLDER 8 POSITION	1	130
2042	FUSE 15 amp F1 - 5/7/8	7	130
1193	FUSE 5 amp F6	1	130
1946	RELAY	2	130

62507	AUXILIARY BOX MOUNTING PLATE	1	130
62512	HARNESS (NOT SHOWN)	1	130
62511	SWITCH BOX HARNESS	1	132
62506	SWEEPER CONTROL BOX	1	134
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1684	SWITCH (S-O-S)	4	134
1685	SWITCH (S-O-M)	3	134
1689	HOLE PLUG	2	134
1691	COURTESY LIGHT	1	134
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62513	SWEEPER HARNESS	1	136
62508	REAR LIGHT HARNESS	1	137
62509	POWER HARNESS	1	138
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1546	BOLT	1	139
42502	SUPPORT POST	1	139
1505	NUT	1	139
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1520	WASHER	4	139
1501	NUT	7	139
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62501	OFFSET POST	1	139
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1005	DOOR LATCH	6	92
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1016	BRUSH STRIP	2	106
1018	SUSPENSION SPRING	2	98
1019	RETRACT SPRING	1	98
1020	BUSHING	4	98
1022	TURN BUCKLE	2	98
1023	TURN BUCKLE	2	98
1024	BACKUP ALARM	1	92
1025	STROBE	1	90

1025	STROBE	1	92
1026	WORK LIGHT	2	88
1026	WORK LIGHT	1	92
1027	LICENSE PLATE LIGHT	1	92
1028	CLEARANCE LIGHT	4	92
1029	FENDER SKIRT	2	88
1030	BEARING	1	102
1030	BEARING	6	118
1031	HINGE	4	90
1031	HINGE	12	92
1031	HINGE	2	94
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1037	ELEVATOR STALL SWITCH	1	110
1039	RUBBER SPROCKET	6	122
1042	QUICK LINK	4	98
1043	CYLINDER	2	102
1043	MB CYLINDER	2	110
1046	SHOCK	2	102
1049	INTAKE HOSE	30	116
1061	CYLINDER	2	94
1061	HOPPER DOOR CYLINDER	2	110
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1078	LINEAR ACTUATOR (OPTION)	1	100
1090	OIL PRESSURE GAUGE	1	127
1091	WATER TEMP GAUGE	1	127
1092	TACHOMETER/HOUR METER	1	127
1094	SHUTDOWN MODULE	1	127
1095	IGNITION SWITCH	1	127
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1128	STALL LIGHT	1	134
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1155	HOSE CLAMP	2	116
1156	EXHAUST PIPE	1	116
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1159	BALL VALVE	1	126
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1162	ADAPTER	12	126
1163	HOSE BARB TEE ADAPTER	5	126
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1167	HOSE BARB FITTING	2	126
1168	U BOLT	8	126
1169	HOSE CLAMP	28	126
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1173	CHAIN	2	94
1175	RAIN CAP	1	116
1176	MUFFLER	1	116
1177	HYDRAULIC TANK BREATHER	1	114
1178	FILL CAP	1	114
1179	MAGNETIC DRAIN PLUG	2	114
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1185	BUSHING	8	96
1185	BUSHING	4	98
1185	BUSHING	4	102
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1440	HOSE-HOPPER TILT VALVE TO CROSS	1	110
1441	HOSE-HOPPER TILT ROD TO CROSS	1	110
1442	HOSE-HOPPER TILT HEAD TO CROSS	1	110
1443	HOSE-HOOPER DOOR CYLINDER	4	110
1445	HOSE - RH GB CYLINDER TO VALVE	2	112
1446	HOSE - LH GB CYLINDER TO VALVE	1	112
1450	HOSE - LH GB MOTOR TO VALVE	2	112
1451	HOSE - RH GB MOTOR TO VALVE	2	112
1452	HOSE-MB MOTOR TO VALVE	1	110
1453	HOSE-MB MOTOR TO ELEVATOR MOTOR	1	110
1454	HOSE-MB VALVE TO "T"	2	110
1455	HOSE-MB HEAD TO "T"	2	110
1456	HOSE-MB ROD TO "T"	2	110
1466	HOSE-FRONT OF PUMP TO LH VALVE	1	110
1467	HOSE - PUMP TO VALVE	1	112
1468	HOSE-VALVE RETURN TO COOLER "T"	1	110
1469	HOSE-COOLER TO FILTER	1	110
1488	HOSE-ELEVATOR MOTOR TO VALVE	1	110
1489	HOSE-SUCTION	1	110
1490	HOSE-MB CYLINDER "T" TO ELEVATE CYLINDER "T"	4	110
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1495	HOSE - LIFT CROSSOVER	1	112
1496	HOSE - RETURN CROSSOVER	1	112
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1501	NUT	24	92
1501	NUT	24	92
1501	NUT	20	94
1501	NUT	4	104
1501	NUT	50	120
1501	NUT	144	122
1501	NUT	7	139
1502	NUT	17	88
1502	NUT	8	104
1503	NUT	12	88
1503	NUT	6	90
1503	NUT	8	92
1503	NUT	2	98
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1505	NUT	1	98
1505	NUT	2	100
1505	NUT	2	102
1505	NUT	2	118
1505	NUT	12	124
1505	NUT	1	139
1506	NUT	5	98
1506	NUT	4	100
1506	NUT	24	118
1507	NUT	4	88
1507	NUT	7	98
1508	NUT	12	90
1508	NUT	1	98
1508	NUT	2	104
1520	WASHER	4	90
1520	WASHER	24	92
1520	WASHER	24	92
1520	WASHER	34	94
1520	WASHER	60	120
1520	WASHER	4	139
1521	WASHER	12	104
1522	WASHER	6	90
1524	WASHER	4	116
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1527	WASHER	4	124
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1531	BOLT	144	122
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1535	BOLT	17	88
1537	BOLT	5	88
1537	BOLT	3	98
1537	BOLT	4	102
1537	BOLT	2	104
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1540	BOLT	20	100
1540	BOLT	12	118
1540	BOLT	48	122
1543	BOLT	6	90
1544	BOLT	42	122
1545	BOLT	6	102

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1546	BOLT	2	88
1546	BOLT	2	100
1546	BOLT	6	102
1546	BOLT	2	118
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1546	BOLT	1	139
1549	NUT	4	100
1549	BOLT	4	102
1549	BOLT	20	118
1555	BOLT	8	90
1556	BOLT	2	98
1556	BOLT	4	118
1558	BOLT	4	94
1559	BOLT	5	98
1560	BOLT	2	88
1560	BOLT	2	94
1560	BOLT	2	98
1561	BOLT	1	98
1562	BOLT	2	104
1574	BOLT	1	98
1575	BOLT	8	104
1579	BOLT	48	92
1579	BOLT	8	94
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1583	NUT	4	94
1591	SCREW	6	88
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1640	NUT	2	98
1642	NUT	2	98
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1670	WASHER	3	98
1670	WASHER	20	100
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1671	WASHER	6	102
1671	WASHER	8	118
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1681	KEY	1	102
1683	KEY	1	100
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1713	BOLT	7	120
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1750	INSERT	24	92
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1782	BOLT	16	96
1782	BOLT	6	102
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1822	WASHER	8	92
1822	WASHER	3	98
1822	WASHER	4	102
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3243	HYDRAULIC MOTOR	2	112
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32813	UPPER ANCHOR SECTION LEG #3	1	96
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32816	LOWER ANCHOR SECTION LEG #2	1	96
32817	LOWER ANCHOR SECTION LEG #3	1	96
32818	LOWER ANCHOR SECTION LEG #4	1	96
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32910	DRAIPER MOUNT	1	94
32911	DRAIPER RUBBER	1	94
32912	HOPPER STONE SHIELD	1	94
33001	HOPPER LIFT FRAME	1	96
33101	ELEVATOR FRAME	1	118
33101	ELEVATOR FRAME	1	124
33103	TOP LINER	1	120
33104	LIFT ARM	2	124
33109	ELEVATOR CHAIN	2	122
34501	MAIN BROOM LEFT ARM (LEFT)	1	102
34501	LH BROOM ARM	1	106
34502	MAIN BROOM LEFT ARM (RIGHT)	1	102
34502	RH BROOM ARM	8	106
41207	MOTOR BRACKET (LEFT)	1	100
41209	DRIVE HUB	1	100
41211	PIN	2	98
41215	SPRING BELL CRANK	1	98
41221	LINK	1	98
41230	EXTEND SPRING MOUNT	1	98
41318	MOTOR BRACKET (RIGHT)	1	100
41401	PIN	2	102
41401	PIN	2	104
41413	MAIN BROOM ROCK SHAFT	1	102
41417	PIN	2	102
41421	MAIN BROOM LIFT STRAP	2	102
41427	MB LIFT CHAIN	2	102
41429	DRAG LINK	2	104
41431	BACKING	2	104

41437	DRAG SHOE LIFT CHAIN	2	102
41441	PIN	2	124
41503	DOOR	2	92
41710	HOLD DOWN	2	120
41726	SQUEEGEE RUBBER	10	122
41728	SQUEEGEE ANGLE	20	122
41738	SHAFT SPACER	6	122
41740	LOCK PLATE	12	122
41744	END STRAP	1	120
41771	REST TUBE	1	88
41772	BOTTOM RUBBER	1	120
41776	RUBBER SEAL	2	120
42067	DIRT DEFLECTOR RUBBER	2	104
42077	BEARING INSPECTION COVER	2	88
42085	SAFETY PROP	2	88
42101	CENTER DRAG RUBBER	1	88
42103	CENTER DRAG SUPPORT	2	88
42107	LIMB GUARD (NOT SHOWN)	1	90
42107	LIMB GUARD (NOT SHOWN)	1	92
42114	FILL RELIEF RUBBER	1	88
42147	CENTER DRAG RUBBER	1	88
42201	SPRAY BAR	2	126
42205	SPRAY BAR HANGER	4	126
42310	HOSE TIE STRAP	2	114
42404	THROTTLE MOUNT	1	116
42501	ADAPTER PLATE	1	139
42502	SUPPORT POST	1	139
42503	TOP MOUNT	1	139
42506	BOX MOUNT PLATE	1	139
42527	ENGINE CONTROL BOX	1	116
42531	PANEL DECAL	1	134
42727	ENGINE CONTROL BOX	1	127
42813	SCISSOR ROLLER	4	96
42905	DOOR LINK	4	94
42913	WINDOW	1	94
42915	RUBBER FLASHING	2	94
42917	UPRIGHT FLASHING	1	94
43105	BOTTOM LINER	1	120
43107	SEPARATOR	2	118
43109	BOTTOM SHAFT	2	122
43113	TOP SHAFT	1	118
43113	TOP SHAFT	1	122
43115	SPACER	4	118
43121	CANOPY	1	120
43123	GUIDE	4	118
43125	SLIDE	2	118
43127	ADJUSTMENT ANGLE	4	118

43129	CENTERING BUSHING	2	88
43131	CANOPY EXTENSION	1	120
43134	CHAIN GUARD	1	118
43135	COVER	1	118
51404	DRAG SHOE MOUNT (LEFT)	1	104
51405	DRAG SHOE MOUNT (RIGHT)	1	104
52119	LH FRONT/SIDE SHIELD	1	88
52205	WATER TANK ADAPTOR	1	88
61201	GB MOUNT (LEFT HAND)	1	98
61203	GB PIVOT (LEFT)	1	98
61205	LINKAGE MOUNT (LEFT)	1	98
61213	PIN	1	98
61235	RETRACT PLATE (LEFT)	1	98
61301	GB MOUNT (RIGHT HAND)	1	98
61303	GB PIVOT (RIGHT)	1	98
61305	LINKAGE MOUNT (RIGHT)	1	98
61307	PLATE	1	100
61309	RETRACT PLATE (RIGHT)	1	98
62007	LH SIDE SHIELD	1	88
62008	RH SIDE SHIELD	1	88
62011	REAR SKIRT BACKING	1	88
62012	SKIRT	1	88
62014	FENDER FLARE RETAINER	2	88
62103	U BOLT MOUNT PLATE	6	88
62119	LH AXLE SUPPORT	1	88
62121	RH AXLE SUPPORT	1	88
62121	RH FRONT/SIDE SHIELD	1	88
62216	GB SPRAY BAR	2	126
62501	OFFSET POST	1	139
62505	BOX	1	134
62506	SWEEPER CONTROL BOX	1	134
62506	PANEL	1	134
62507	AUXILIARY BOX MOUNTING PLATE	1	130
62508	REAR LIGHT HARNESS	1	137
62509	POWER HARNESS	1	138
62510	VALVE HARNESS	1	135
62511	SWITCH BOX HARNESS	1	132
62512	AUX CONTROL BOX HARNESS	1	129
62512	HARNESS (NOT SHOWN)	1	130
62513	SWEEPER HARNESS	1	136
62811	SCISSOR PIN	16	96
62812	CENTER PIN	8	96
62813	RETAIN WASHER	16	96
62813	RETAINER WASHERS	6	102
62905	HOPPER DOOR	1	94
62907	ACCESS DOOR	1	94
63104	PIVOT SHAFT MOUNT	2	124

63105	SWIVEL SHAFT	1	124
64503	LH DRAG BRUSH HOLDER	1	106
64504	RH DRAG BRUSH HOLDER	1	106
64505	SUPPORT	2	106
64506	BRUSH ATTACHMENT	2	106
64507	RETAINER	2	106
80120	VALVE ASSEMBLY	1	108
80129	MAIN BROOM COUPLER	1	102
80133	ELEVATOR DRIVE SYSTEM	1	118
80134	VALVE ASSEMBLY	1	107
80207	AUX CONTROL BOX	1	130
1087-3	PROXIMITY SWITCH	2	88
3213-3	SHORT MANDREL SHAFT	1	102
	7 LINKS 3/8" X 2 CHAIN	1	98