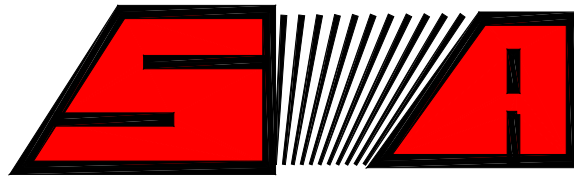




# Starfire S-5s Sweeper Body Safety, Operations and Maintenance Manual



# **STEWART-AMOS**

**Sweeper Co.**

**SN 5506 & UP**





Sweeper Co.

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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  | _____ |
| Hydraulic Pump Mount             | _____ |                        |       |
| Hydraulic Tank Mount             | _____ | Hydraulic Valve Mounts | _____ |
| 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**

|               |       |
|---------------|-------|
| Hydraulic Oil | _____ |
|---------------|-------|



**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 | _____                           |
| 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                | _____ |                           |



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**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 Chassis operating rpm (1100 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                      | 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 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.

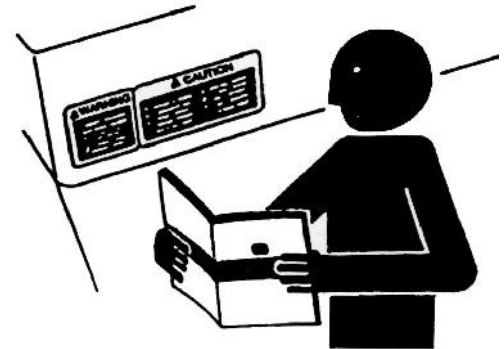
If there are concerns, report to your supervisor or maintenance department.

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.

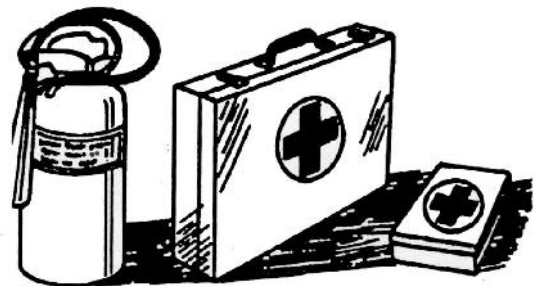


## HANDLE FUEL SAFELY-AVOID FIRES

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.

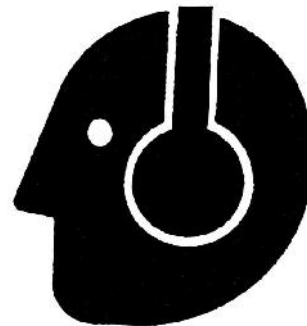
Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



## 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.)

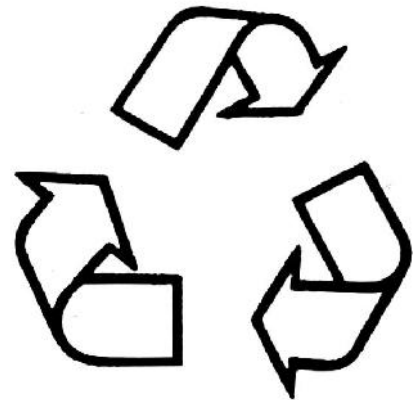
### **DISPOSE OF WASTE PROPERLY**

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.



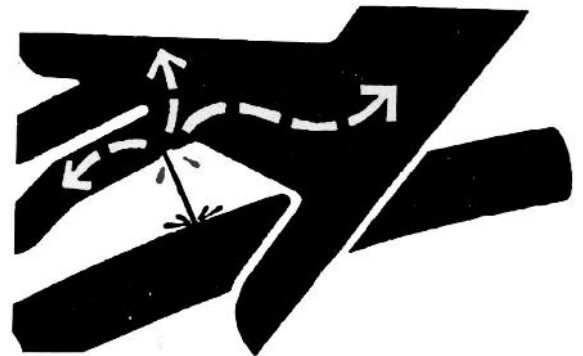
### **AVOID HIGH-PRESSURE FLUIDS**

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.





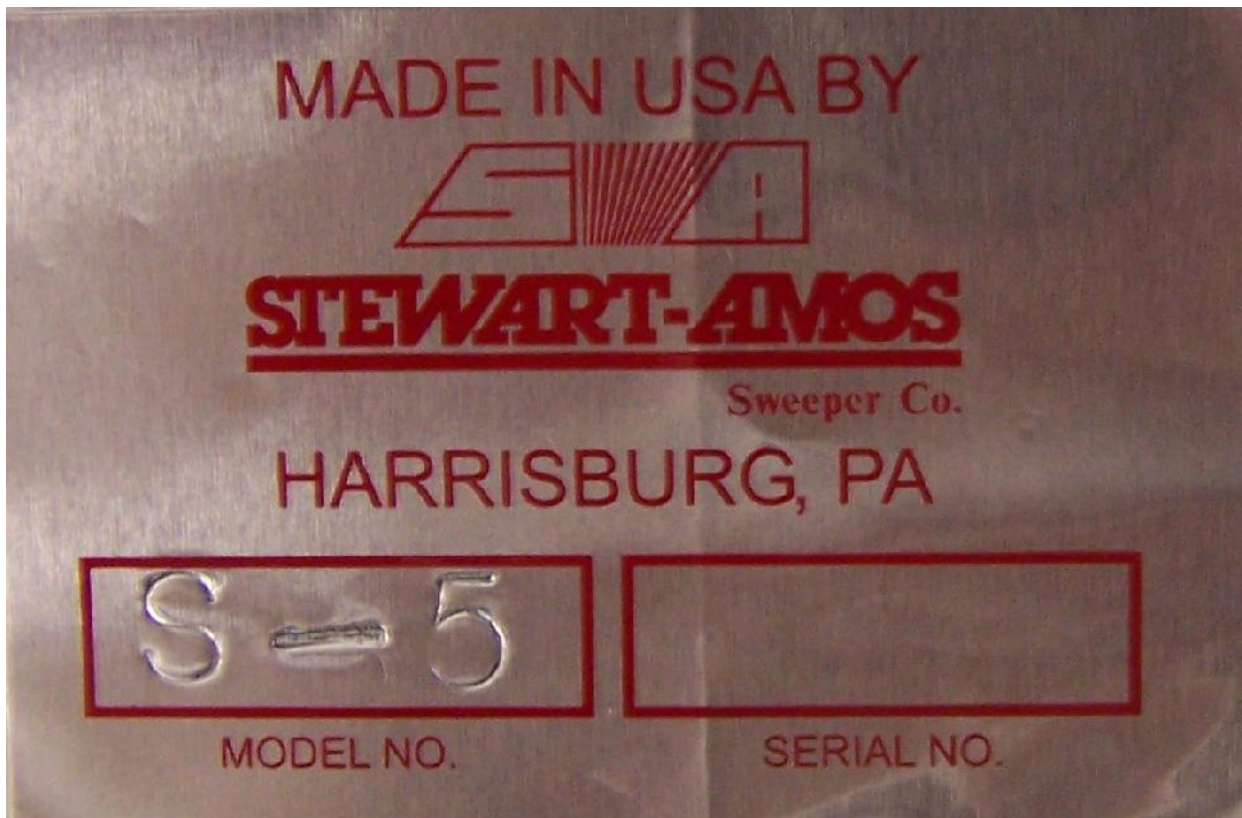
# General Specifications



### 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"                |

**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,<br>front to back angle and sweep path width |
| Controls:               | Up / down, forward / reverse   |
| Design:                 | Free-floating spring suspension<br>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 piston/ var. disp/load sense |
| Pump Capacity:          | 10 gpm / 12 gpm @ 1000 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.

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:

### **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.



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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.

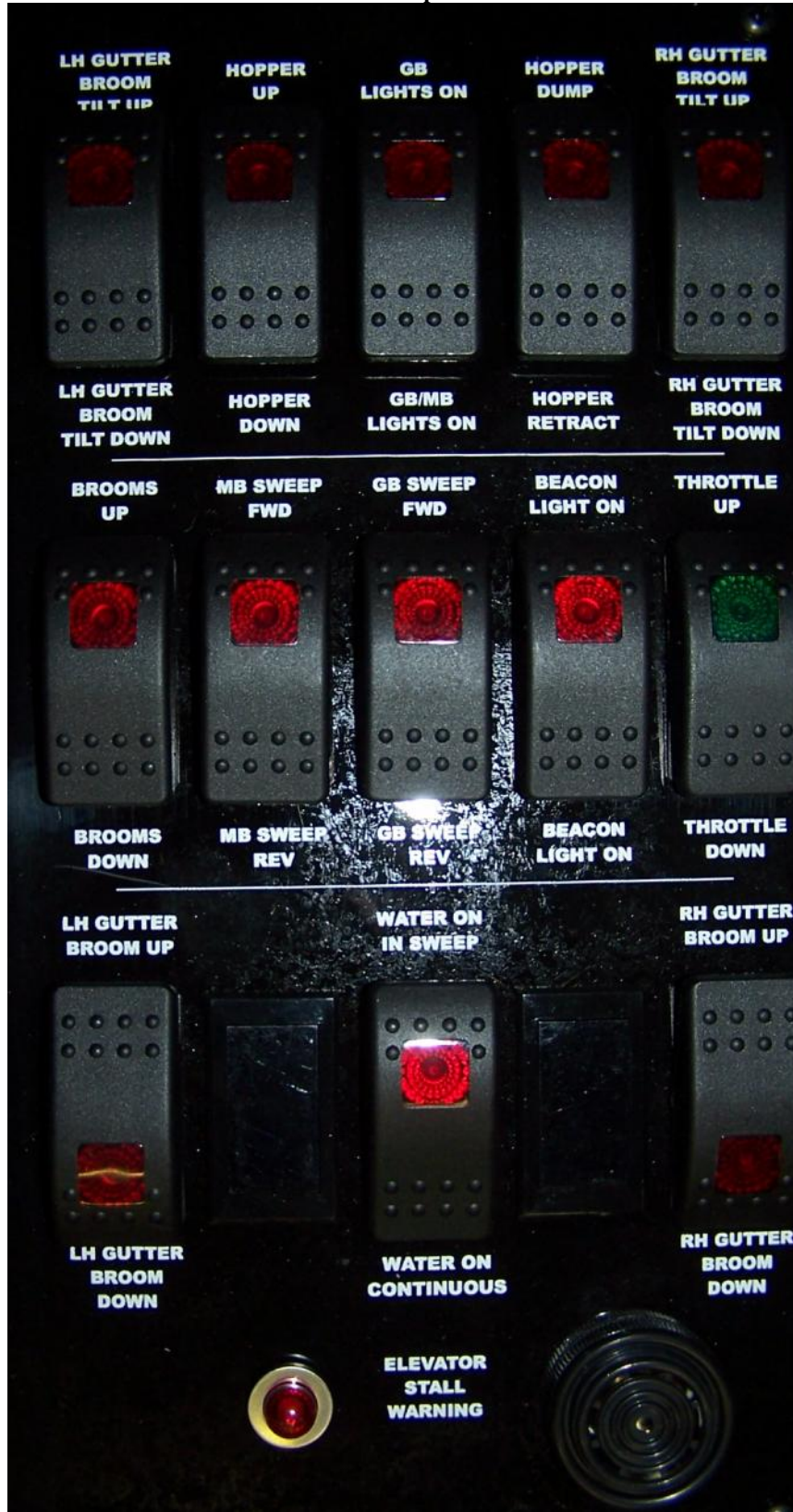


Figure 3: Sweeper Control Box to SN 8501 and up





# Operation



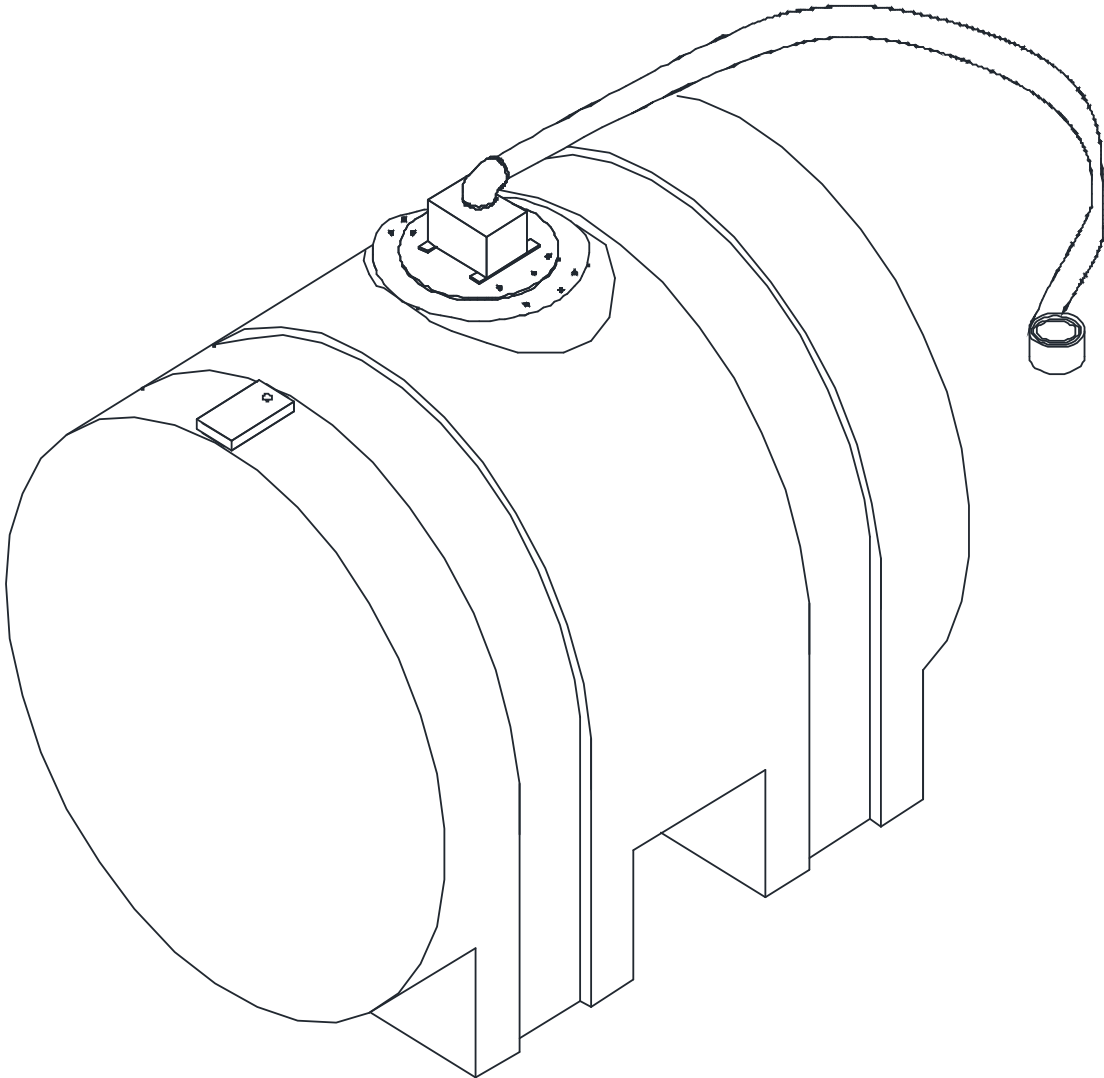
## **Water Fill Up**

(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 rear 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 chassis engine up to 900 – 1100 rpm in low range axle position. This is the rpm range for normal street sweepings. If sweeping becomes heavy, engine rpm can be increased by riding the brakes and working the throttle peddle.
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 engine at the maximum rpm as possible.



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

## Dumping

**IMPORTANT:** When the hopper is full, it must be dumped before sweeping can continue.

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.

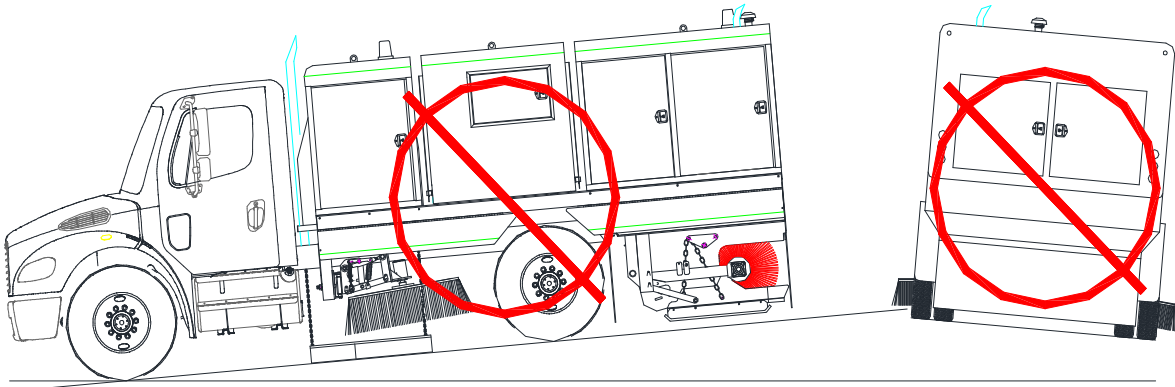


**NOTE:** The hopper is capable of being dumped at any height and can be raised or lowered while dumping, provided the sweeper is being operated on level ground.

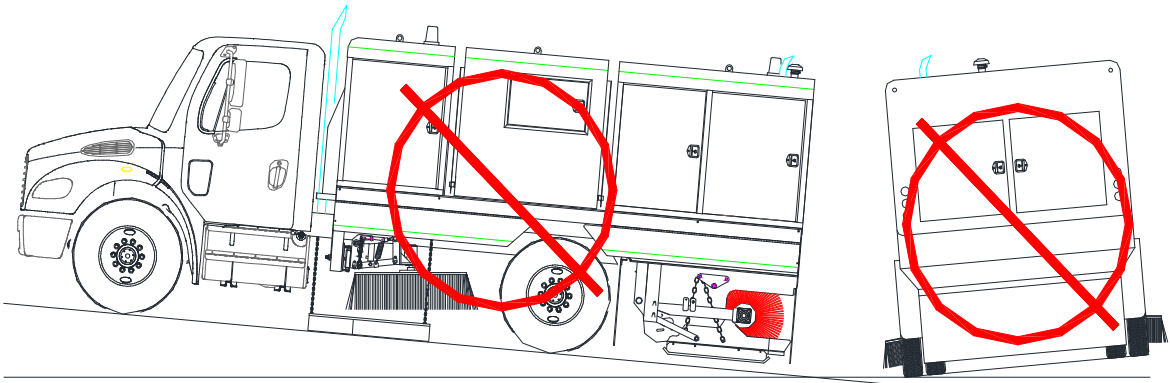
5. Tilt the hopper to dump its contents by pressing the HOPPER DUMP/RETRACT switch to the “DUMP” position.
6. When the hopper is empty, return it back to its home position by retracting the hopper using the HOPPER DUMP/RETRACT switch and lowering the hopper with the HOPPER RAISE/LOWER switch.
7. To resume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

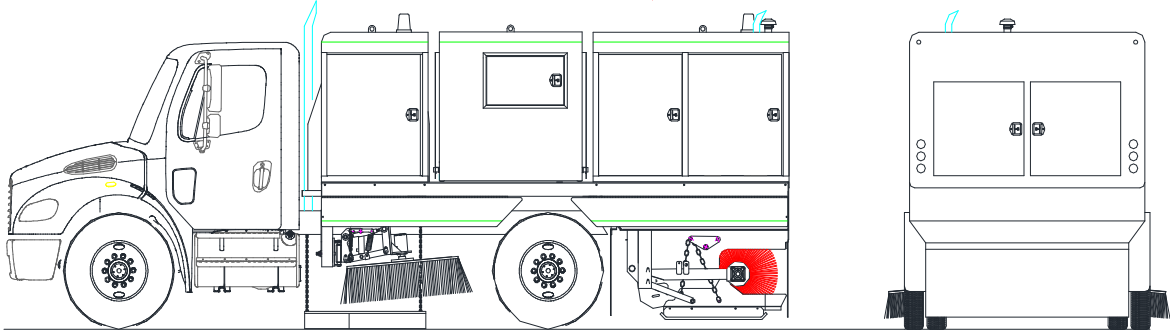
NOT A SAFE HOPPER LIFT AND/OR DUMP ANGLE



NOT A SAFE HOPPER LIFT AND/OR DUMP ANGLE



SAFE HOPPER LIFT AND/OR DUMP ANGLE





## **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-5s 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 -35<sup>0</sup> 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.**







### **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.

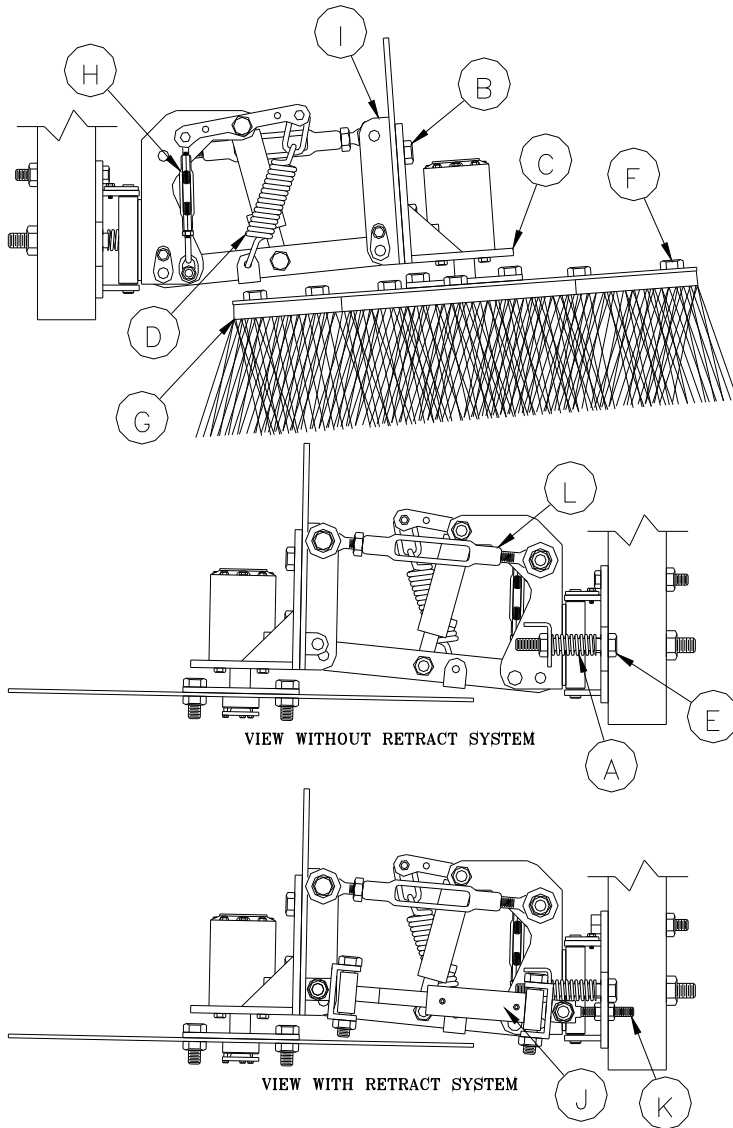


## Gutter Broom Impact Protection Spring

(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

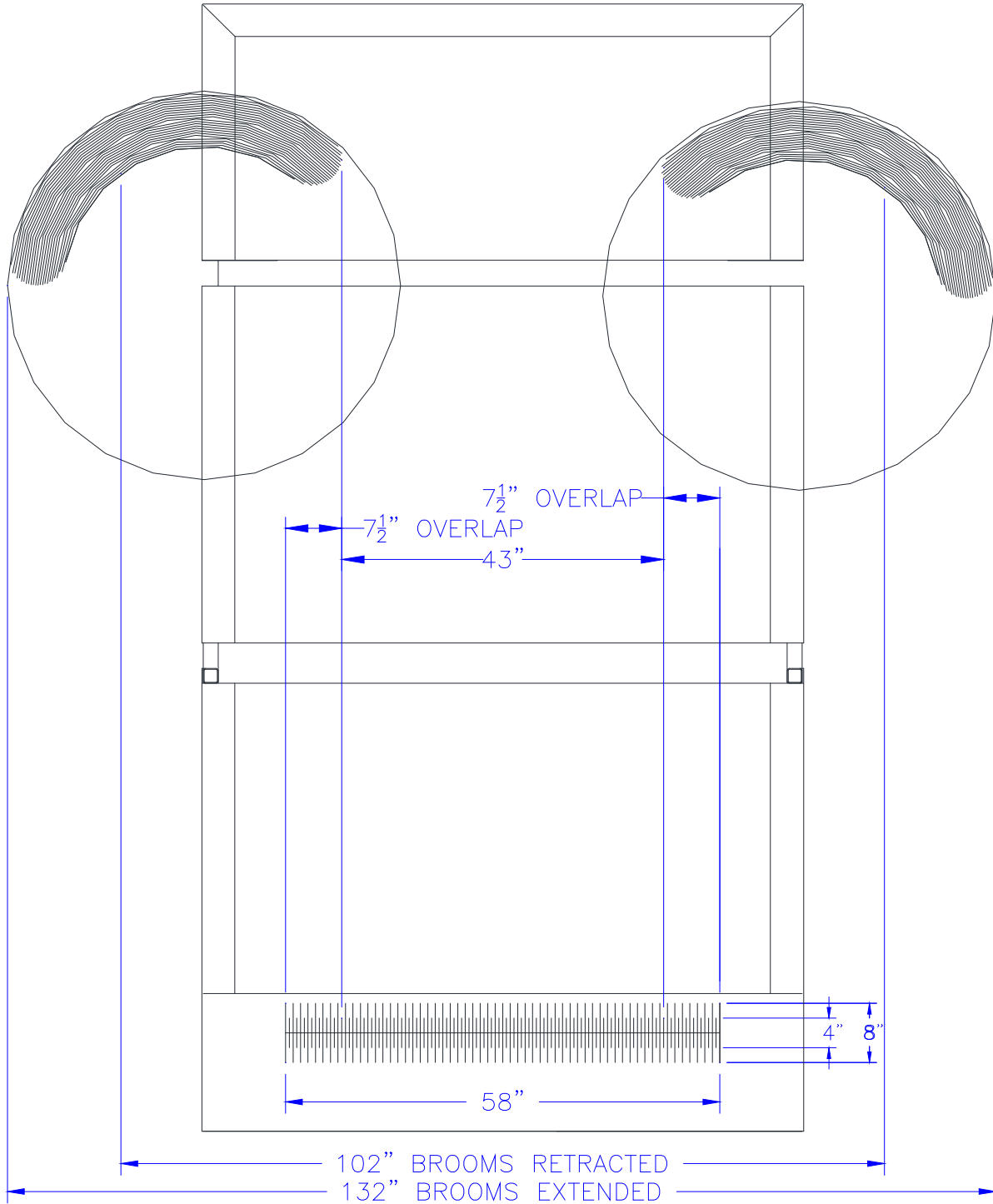


FIGURE 7: CORRECT BROOM PATTERN WITH BROOMS EXTENDED  
(Measurements Are Approximate Only)

*Figure 7: Correct Broom Pattern*

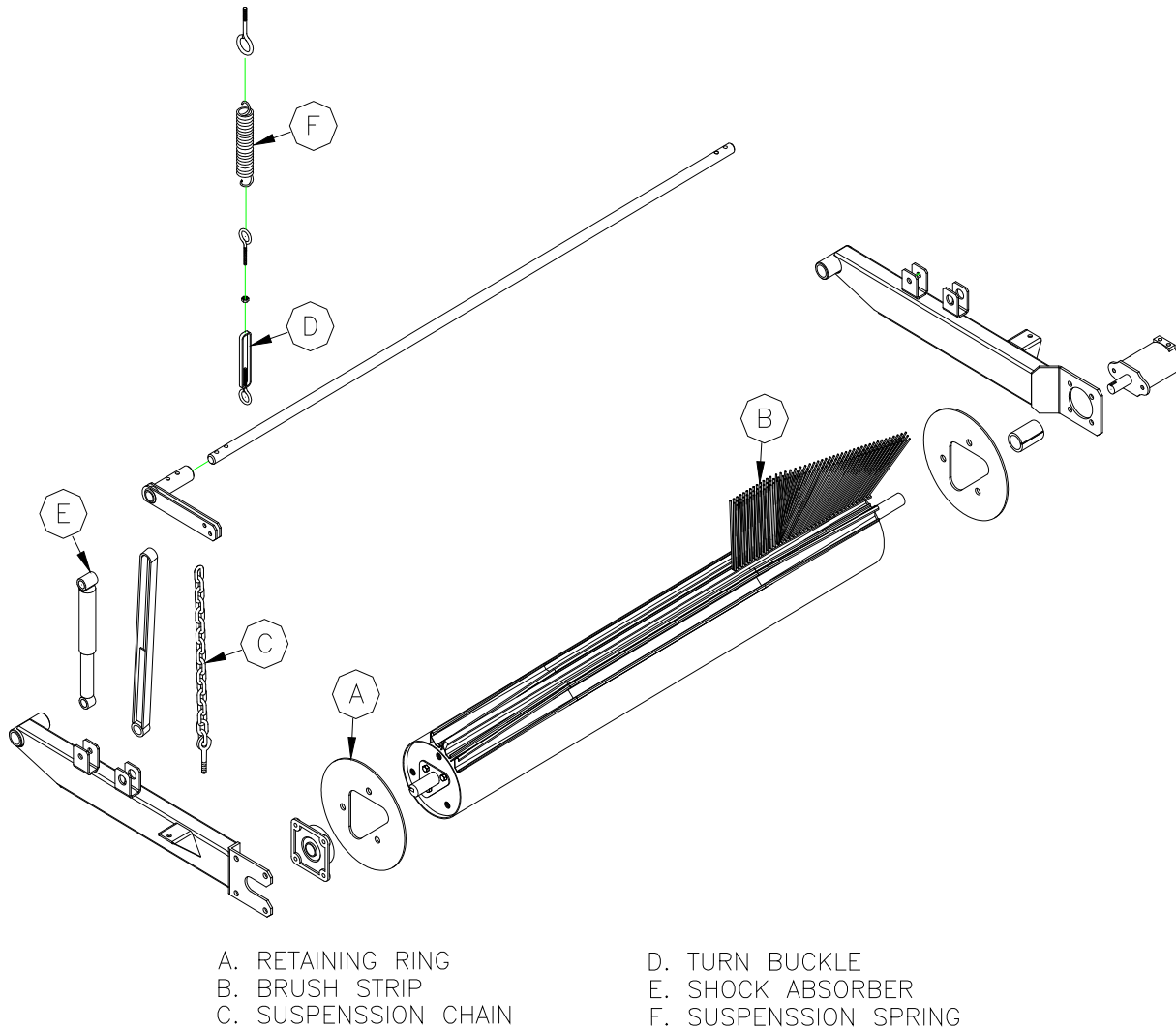


## Main Broom Pressure

(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

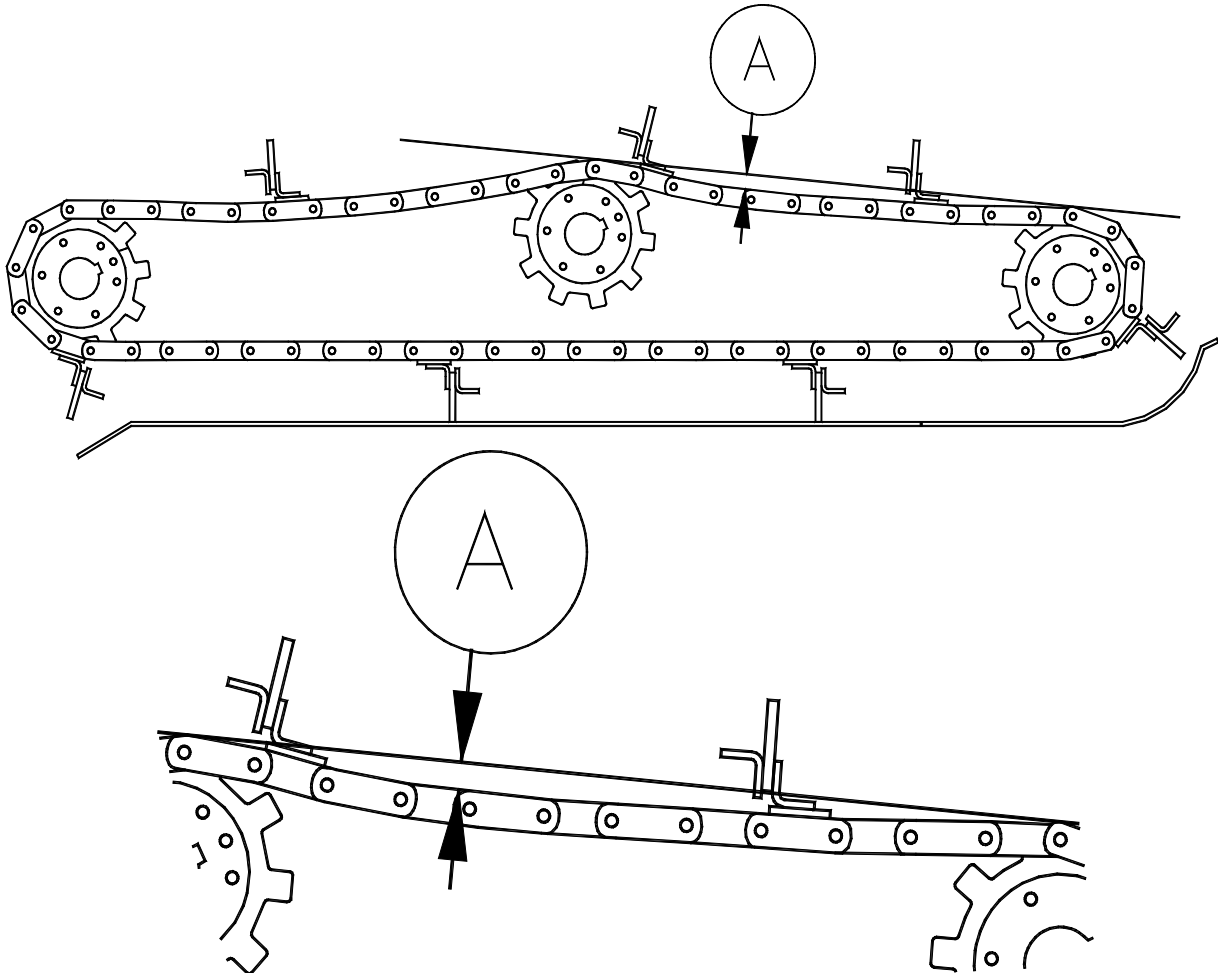
1. Loosen bolts on bearing (H).
2. Loosen lock nut (G).
3. Tighten bolt (F) until desired chain tension is reached.
4. Tighten bolts on bearing (H).
5. Tighten lock nut (G).

**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.

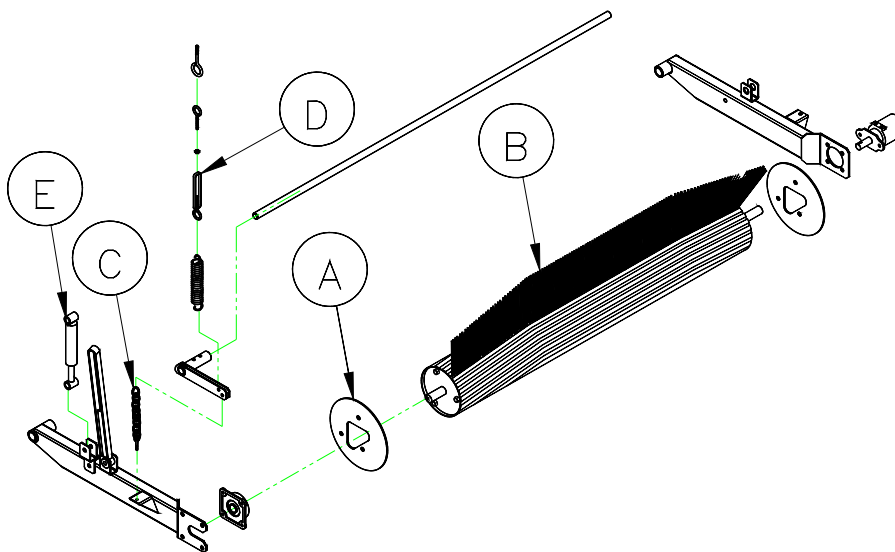
## Main Broom Strip Replacement

(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).

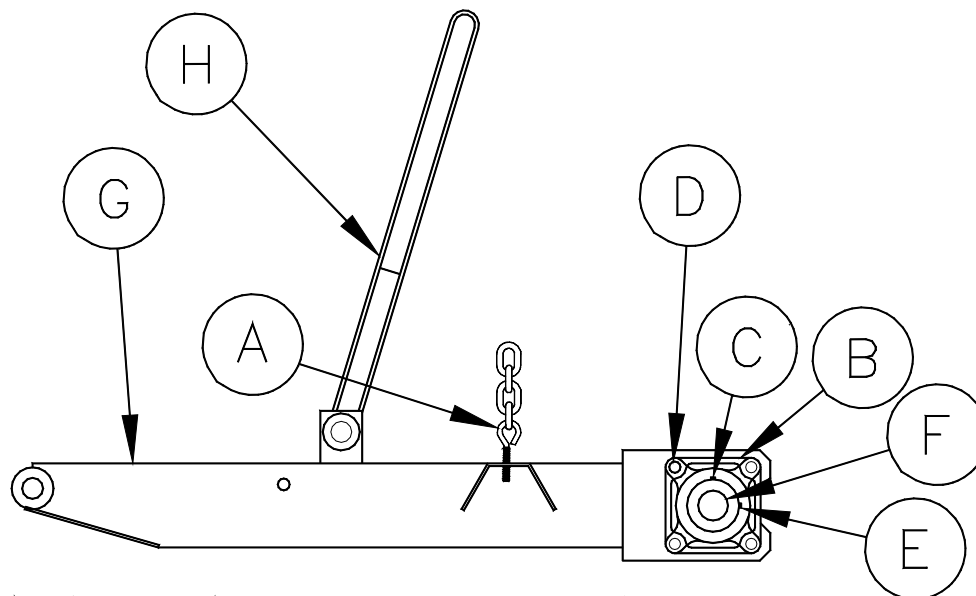


*Figure 10: Main Broom Assembly*

## 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.



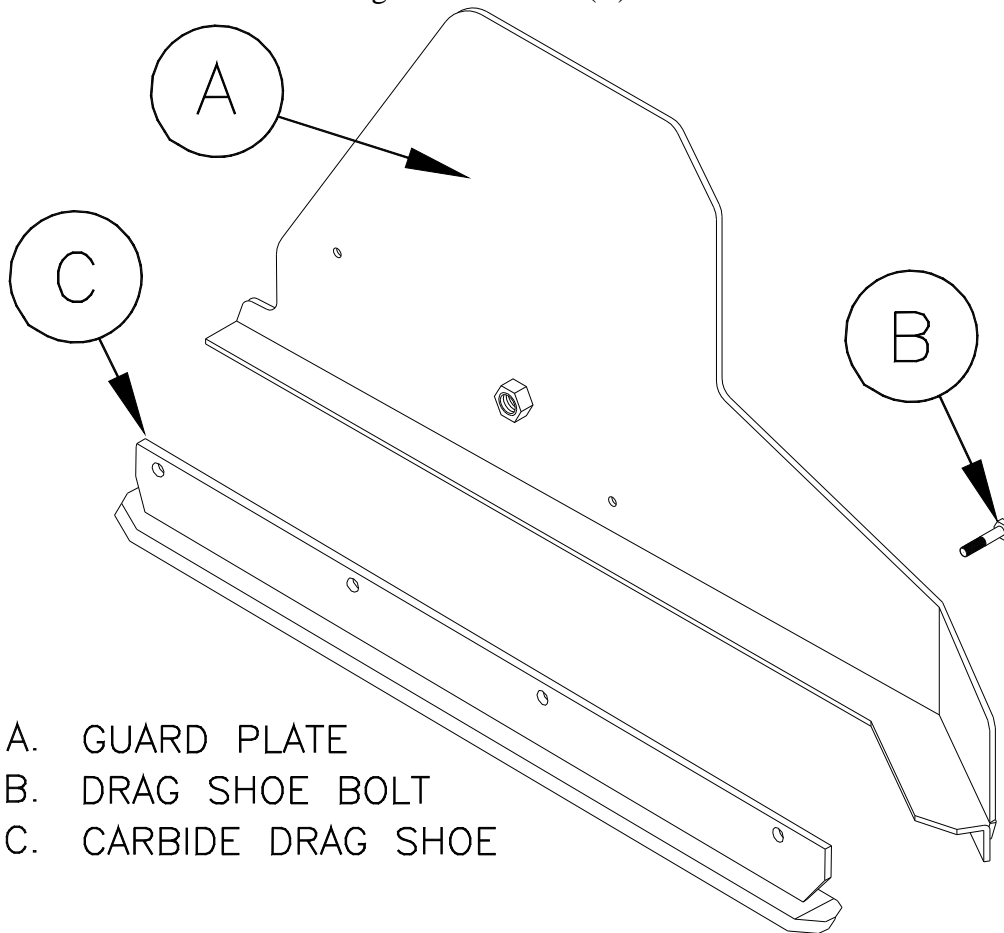
- |                       |                          |
|-----------------------|--------------------------|
| A. ADJUSTMENT BOLT    | E. GREASE NIPPLE         |
| B. MAIN BROOM BEARING | F. MAIN BROOM SHAFT      |
| C. SET SCREW          | G. MAIN BROOM ARM        |
| D. RETAINING NUT      | H. MAIN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

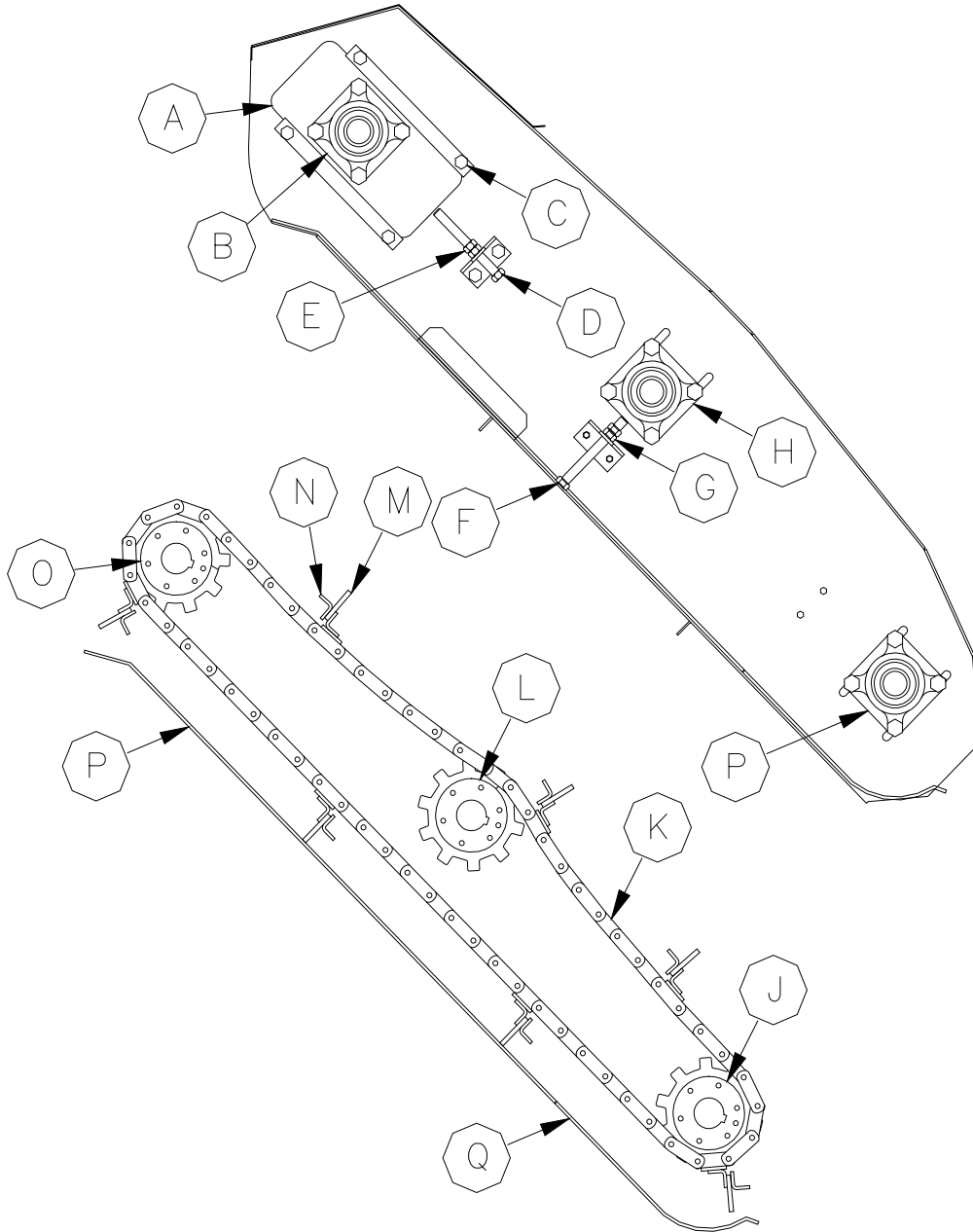
**NOTE:** Do not add to the tension of the chain at this time. The purpose of the center shaft is to reduce chain slap when going from sweeping forward to sweeping reverse and to adjust for chain stretch as chain wears.

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.

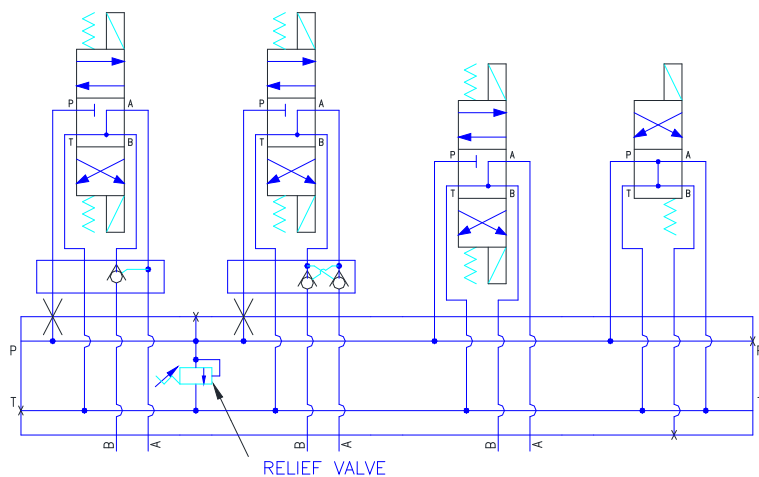


## Hydraulic Pressure Adjustment

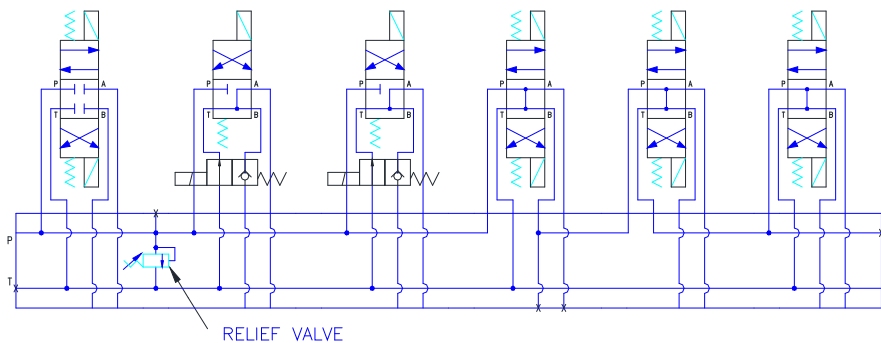
(for RH VALVE STACK (Cab Side))  
(set pressure to **2,850 psi @ 1000 rpm**)

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 1,000 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 (Driver's Side)  
(set pressure to 2,350 psi @ 1000 rpm)

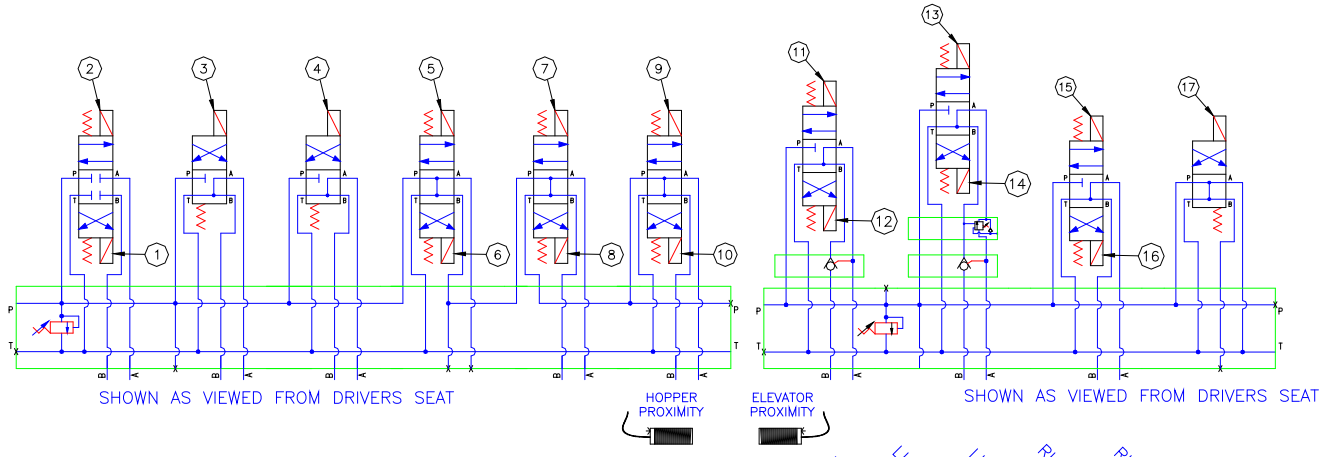
1. Install a 0-5000 psi pressure gauge in test port A on top of valve.
2. Loosen lock nut on the relief valve.
3. Take engine to 1,000 rpm.
4. Push hopper dump switch and dump hopper until cylinders are bottomed.
5. While holding switch, read pressure gauge.
6. Turn relief screw clockwise to increase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



HOPPER RAISE  
 HOPPER LOWER  
 HOPPER DUMP  
 HOPPER RETRACT  
 BROOMS RAISE  
 BROOMS LOWER  
 MB SWEEP FORWARD  
 MB SWEEP REVERSE  
 LH GB LOWER (FLOAT)  
 LH GB RAISE  
 RH GB LOWER (FLOAT)  
 RH GB RAISE  
 LH GB SWEEP FORWARD  
 LH GB SWEEP REVERSE  
 RH GB SWEEP FORWARD  
 RH GB SWEEP REVERSE

| DIN # | HOPPER RAISE | HOPPER LOWER | HOPPER DUMP | HOPPER RETRACT | BROOMS RAISE | BROOMS LOWER | MB SWEEP FORWARD | MB SWEEP REVERSE | LH GB LOWER (FLOAT) | LH GB RAISE | RH GB LOWER (FLOAT) | RH GB RAISE | LH GB SWEEP FORWARD | LH GB SWEEP REVERSE | RH GB SWEEP FORWARD | RH GB SWEEP REVERSE |
|-------|--------------|--------------|-------------|----------------|--------------|--------------|------------------|------------------|---------------------|-------------|---------------------|-------------|---------------------|---------------------|---------------------|---------------------|
| 1     | X            |              |             |                |              |              |                  |                  |                     |             |                     |             |                     |                     |                     |                     |
| 2     |              | X            |             |                |              |              |                  |                  |                     |             |                     |             |                     |                     |                     |                     |
| 3     |              |              |             |                | X            |              |                  |                  | X                   |             |                     |             |                     |                     |                     |                     |
| 4     |              |              |             |                | X            |              |                  |                  |                     |             | X                   |             |                     |                     |                     |                     |
| 5     |              |              |             |                | X            |              |                  |                  | 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           |                |              |              |                  |                  | X                   |             |                     |             |                     |                     |                     |                     |
| 15    |              |              |             |                |              |              |                  | X                |                     |             |                     |             |                     |                     |                     |                     |
| 16    |              |              |             |                |              |              |                  |                  | 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>             |
|-----------|---|--------------------------|
| <b>1</b>  | 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"/> |
| <b>2</b>  | Check Engine Oil (dipstick) and Coolant Levels on Engine.   | <input type="checkbox"/> |
| <b>3</b>  | Check Hydraulic Oil Level on the site tube on side of hydraulic oil tank.   | <input type="checkbox"/> |
| <b>4</b>  | Check Air Filter Restriction Indicator(AFRI) for Engine. 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      | <input type="checkbox"/> |
| <b>5</b>  | Check ALL tires for proper inflation and tread wear.  | <input type="checkbox"/> |
| <b>6</b>  | Check that Back-up Alarm, Lights, and Strobes are working properly.   | <input type="checkbox"/> |
| <b>7</b>  | Clean water sytem filter. Inspect water system spray nozzles. Clean, if necessary.  | <input type="checkbox"/> |
| <b>8</b>  | Check sweeper functions for proper operation. "Note" any exceptions.  | <input type="checkbox"/> |
| <b>9</b>  | Check broom sweeping pattern of side and main brooms. Correct any bad pattern.  | <input type="checkbox"/> |
| <b>10</b> | Service truck chassis - refer to Owners Manual.   | <input type="checkbox"/> |
| <b>11</b> | Check power steering, transmission, and windshield washer fluids.   | <input type="checkbox"/> |
| <b>12</b> | 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:**

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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 engine 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.   | <input type="checkbox"/> |
|   | Note: the shafts should be rotating while being greased to insure proper distribution of lubricant.   |                          |
| 4 | Check for and remove any tape, string, etc., wound around broom motor shafts.   | <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:**

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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>             |
|----------|---|--------------------------|
| <b>1</b> | 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"/> |
| <b>2</b> | Perform the DAILY ROUTINE.  | <input type="checkbox"/> |
| <b>3</b> | Grease the pivot point on the main broom and gutter broom "arms".   | <input type="checkbox"/> |
| <b>4</b> | Perform an extra thorough cleaning of the hydraulic oil cooler.   | <input type="checkbox"/> |
| <b>5</b> | Service truck chassis - refer to Owners Manual.   | <input type="checkbox"/> |
| <b>6</b> | 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:**

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**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:                   |
|-------------------------------------|--|--------|--------------------------|
| <b>This CHECKLIST PERFORMED BY:</b> |  |        |                          |
|                                     |  |        | <u>Done:</u>             |
| <b>1</b>                            | Change engine oil AND filter - Write Date and Hours on filter housing.   |        | <input type="checkbox"/> |
| <b>2</b>                            | Replace hydraulic oil filter - Write Date and Hours on filter housing.   |        | <input type="checkbox"/> |
| <b>3</b>                            | Clean hydraulic oil tank breather filter.  |        | <input type="checkbox"/> |
| <b>4</b>                            | 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:**

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**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

|                                     |              |               |               |
|-------------------------------------|--------------|---------------|---------------|
| <b>Sweeper S/N:</b>                 | <b>Date:</b> | <b>Hours:</b> | <b>Miles:</b> |
| <b>This CHECKLIST PERFORMED BY:</b> |              |               |               |

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

**NOTES and REMARKS:**

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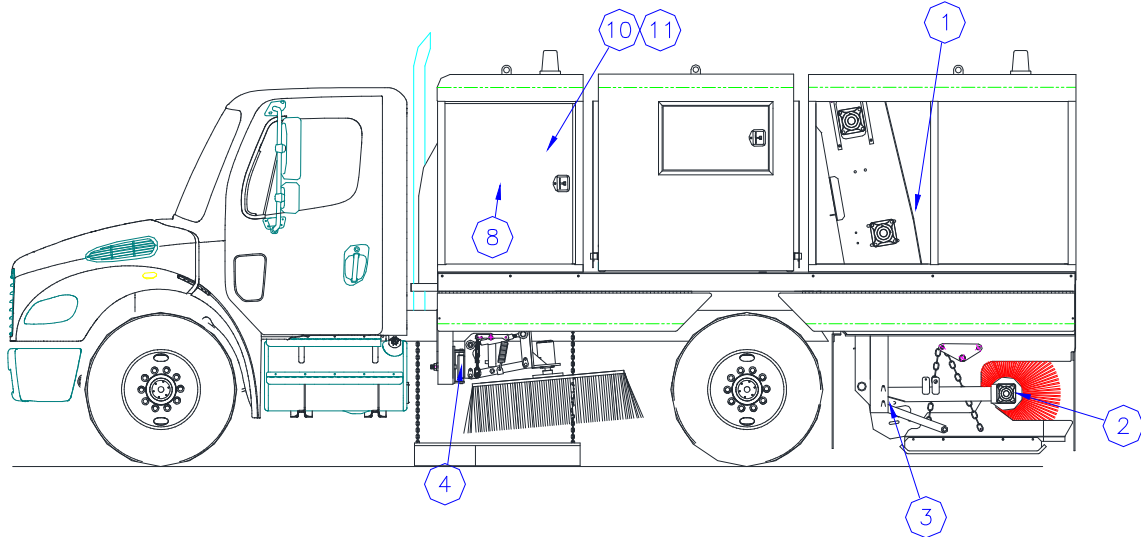
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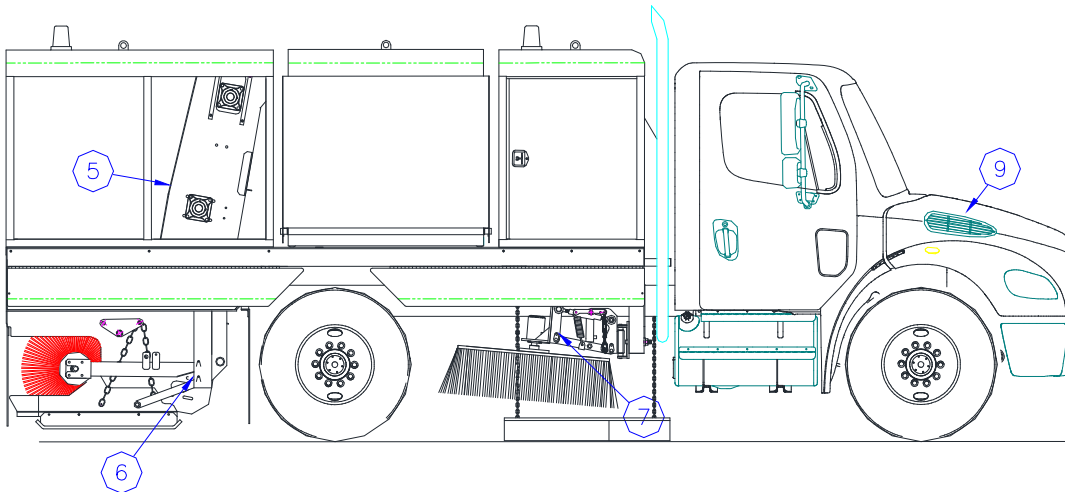
**Thank you for choosing Stewart-Amos Sweepers! HAPPY SWEEPING!!!**

## S-5s SERVICE POINTS

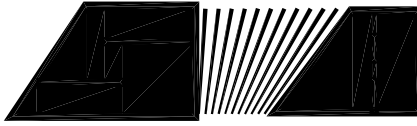


### S-5s SWEEPER SERVICE POINTS

| 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     | HYDRAULIC OIL LEVEL                |
| 9        | 1             | DAILY     | AIR FILTER (CHASSIS)               |
| 10       | 1             | 200 HR.   | HYDRAULIC OIL FILTER               |
| 11       | 1             | 1000 HRS. | HYDRAULIC OIL                      |







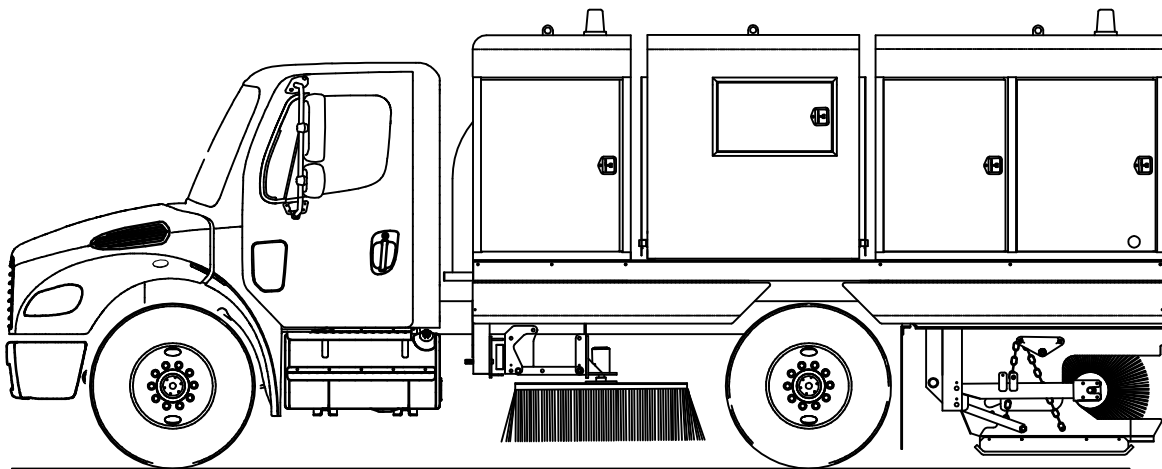
**STEWART-AMOS**

**Sweeper Co.**

STARFIRE

S-5s

PARTS MANUAL



SN 5506 and UP  
Last Updated July, 2013

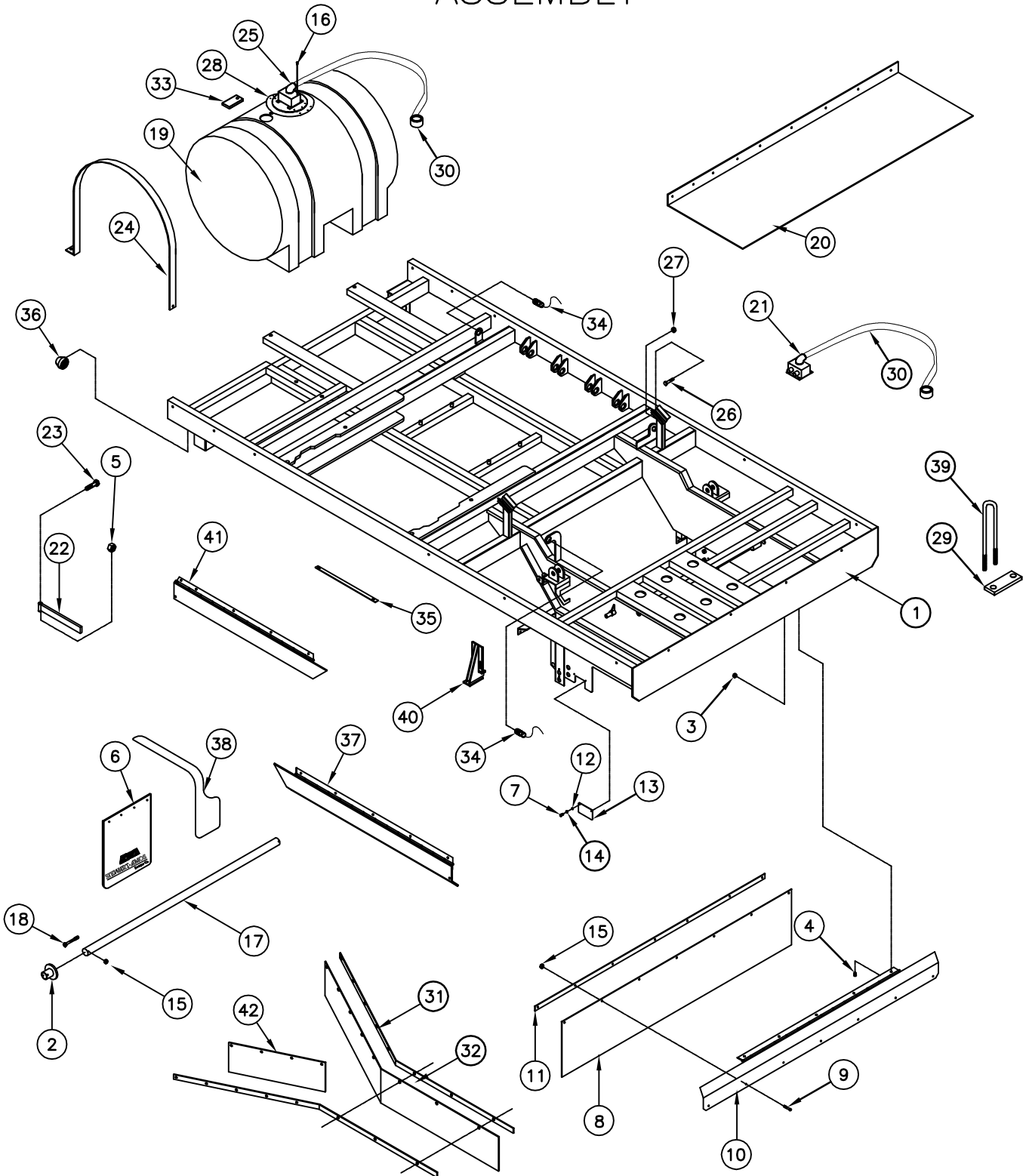


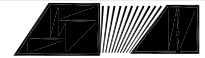


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# MAIN FRAME ASSEMBLY





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# MAIN FRAME ASSEMBLY

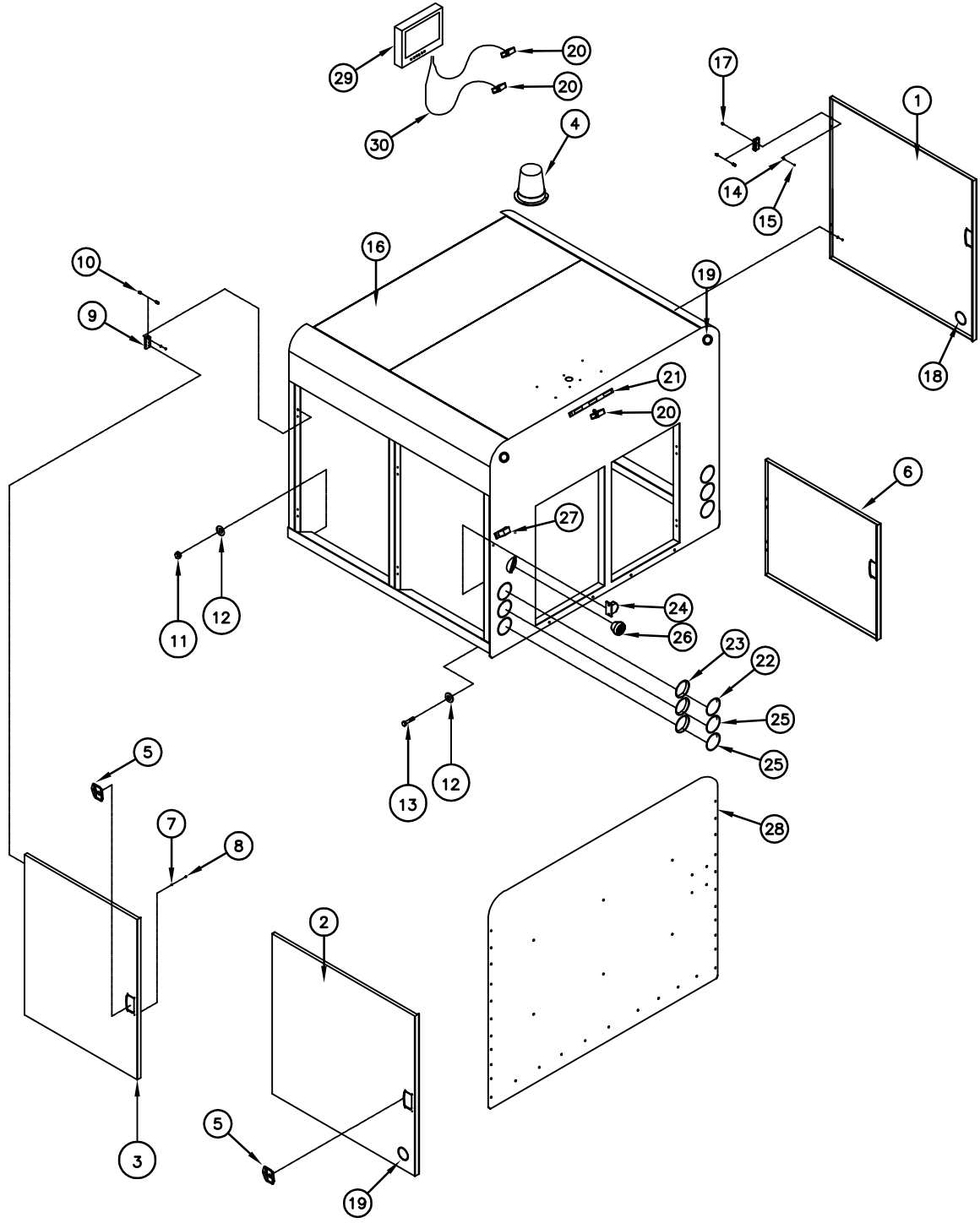
| ITEM | PART # | DESCRIPTION                       | QTY |
|------|--------|-----------------------------------|-----|
| 1    | 32001  | MAIN FRAME WELDMENT               | 1   |
| 2    | 43129  | CENTERING BUSHING                 | 2   |
| 3    | 1502   | NUT                               | 17  |
| 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   | 31623  | 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 FOR AIR RIDE SYS. | 1   |
|      | 62121  | RH AXLE SUPPORT FOR AIR RIDE SYS. | 1   |
| 41   | 62119  | LH FRONT/SIDE SHIELD              | 1   |
|      | 62121  | RH FRONT/SIDE SHIELD              | 1   |
| 42   | 42147  | CENTER DRAG RUBBER                | 1   |

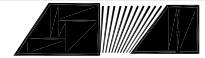


## FRONT CANOPY ASSEMBLY

| 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   | 1975   | CASE DRAIN COOLER      | 1   |
| 15   | 1750   | INSERT                 | 8   |
| 16   | 41504  | SPACER                 | 4   |
|      | 42107  | LIMB GUARD (NOT SHOWN) | 1   |

# REAR CANOPY ASSEMBLY





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# REAR CANOPY ASSEMBLY

| ITEM | PART # | DESCRIPTION                       | QTY |
|------|--------|-----------------------------------|-----|
| 1    | 31607  | RIGHT REAR DOOR                   | 1   |
| 2    | 31608  | 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 <sub>(NOT SHOWN)</sub> | 1   |
| 28   | 31622  | INNER SHIELD                      | 1   |
| 29   | 1769   | CAMER/MONITOR                     | 1   |
| 30   | 1768   | CAMERA CABLE                      | 2   |

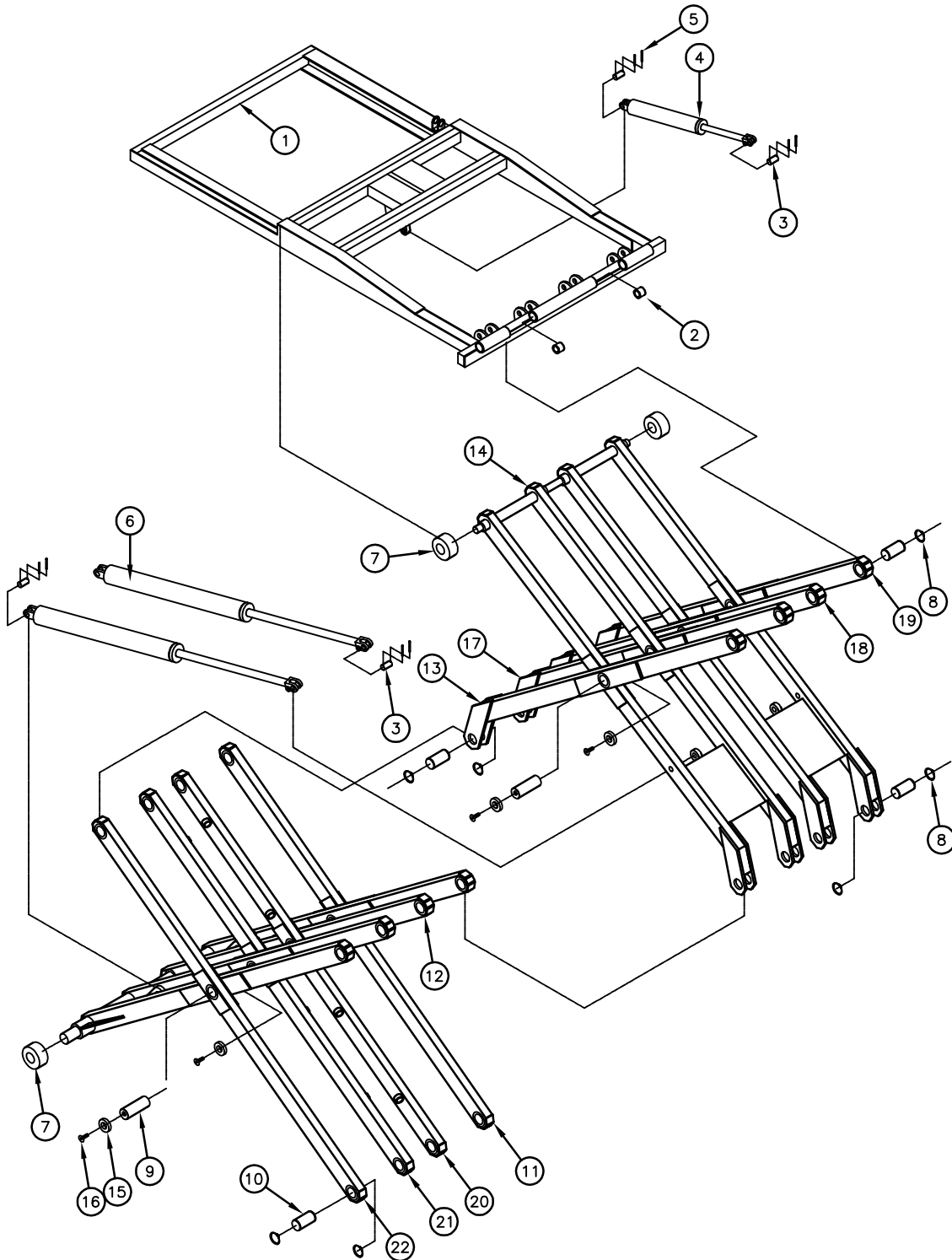


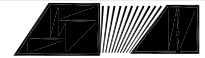


## HOPPER ASSEMBLY

| 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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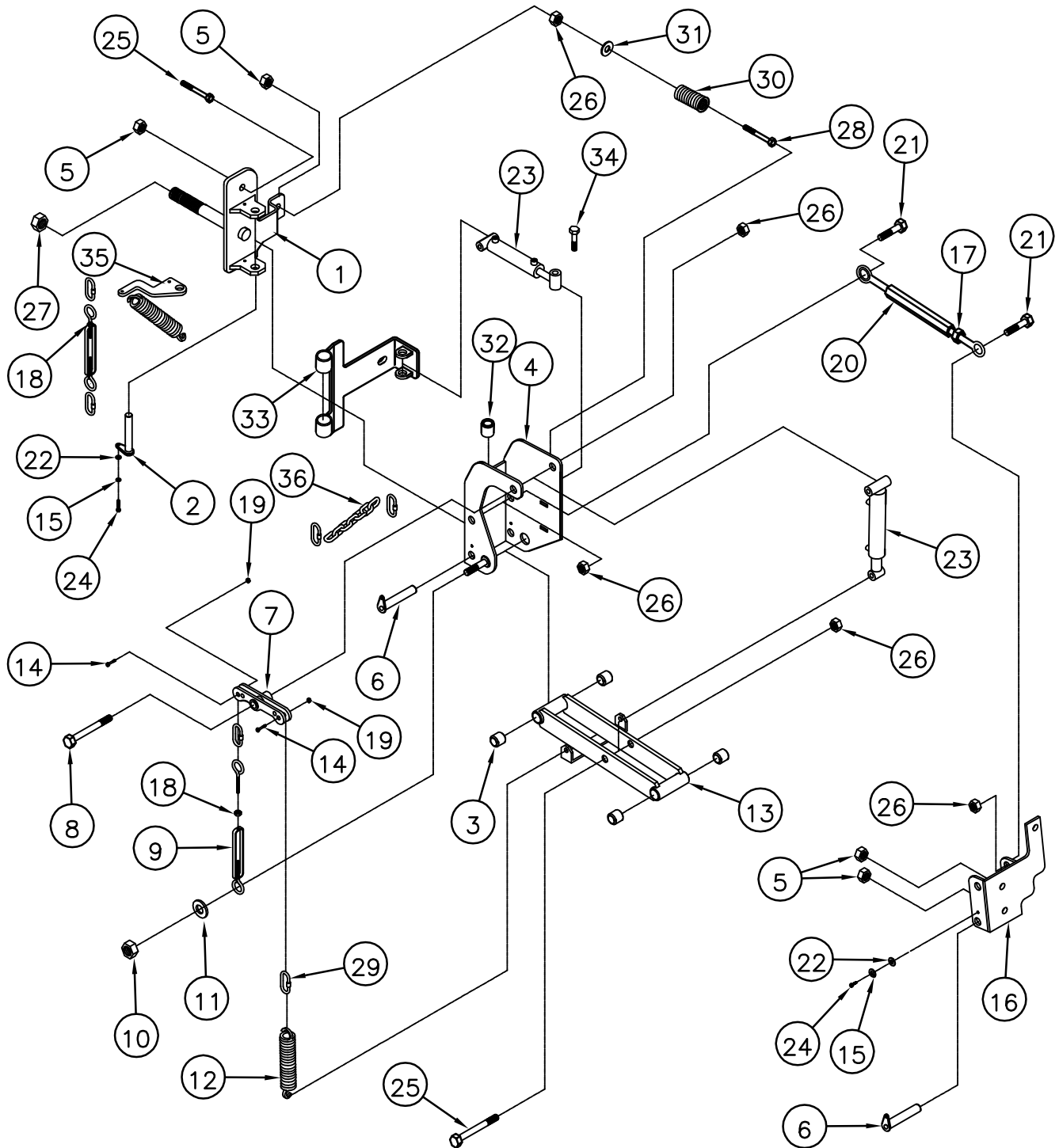
Sweeper Co

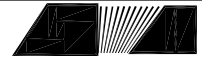
# LIFT FRAME SCISSOR ASSEMBLY

| 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)





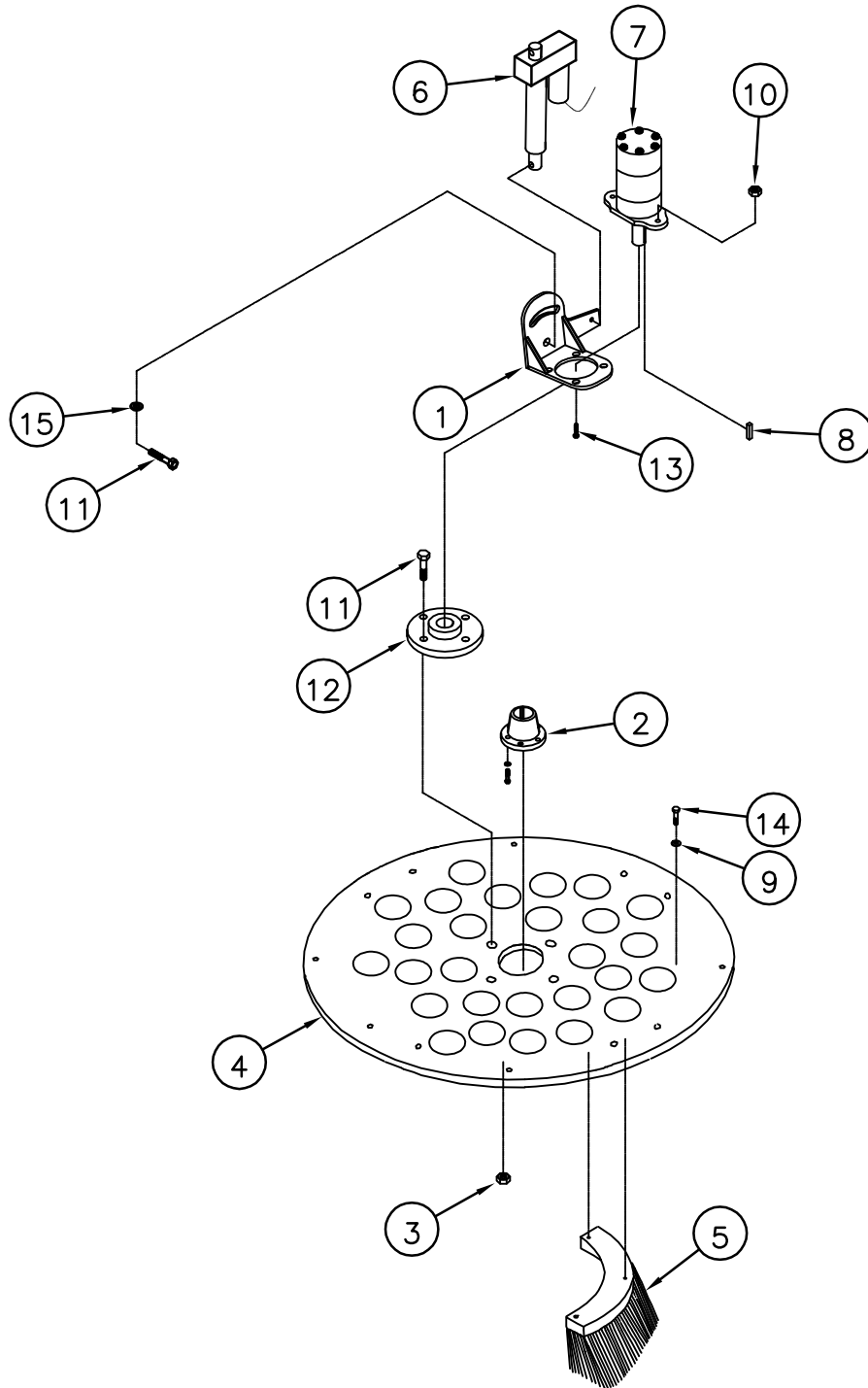
# GUTTER BROOM ASSEMBLY UPPER SECTION

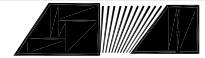
(QUANTITIES SHOWN ARE FOR ONE SIDE ONLY)

| 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      | 1   |
| 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               | 4   |
| 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)





**STEWART-AMOS**

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   |

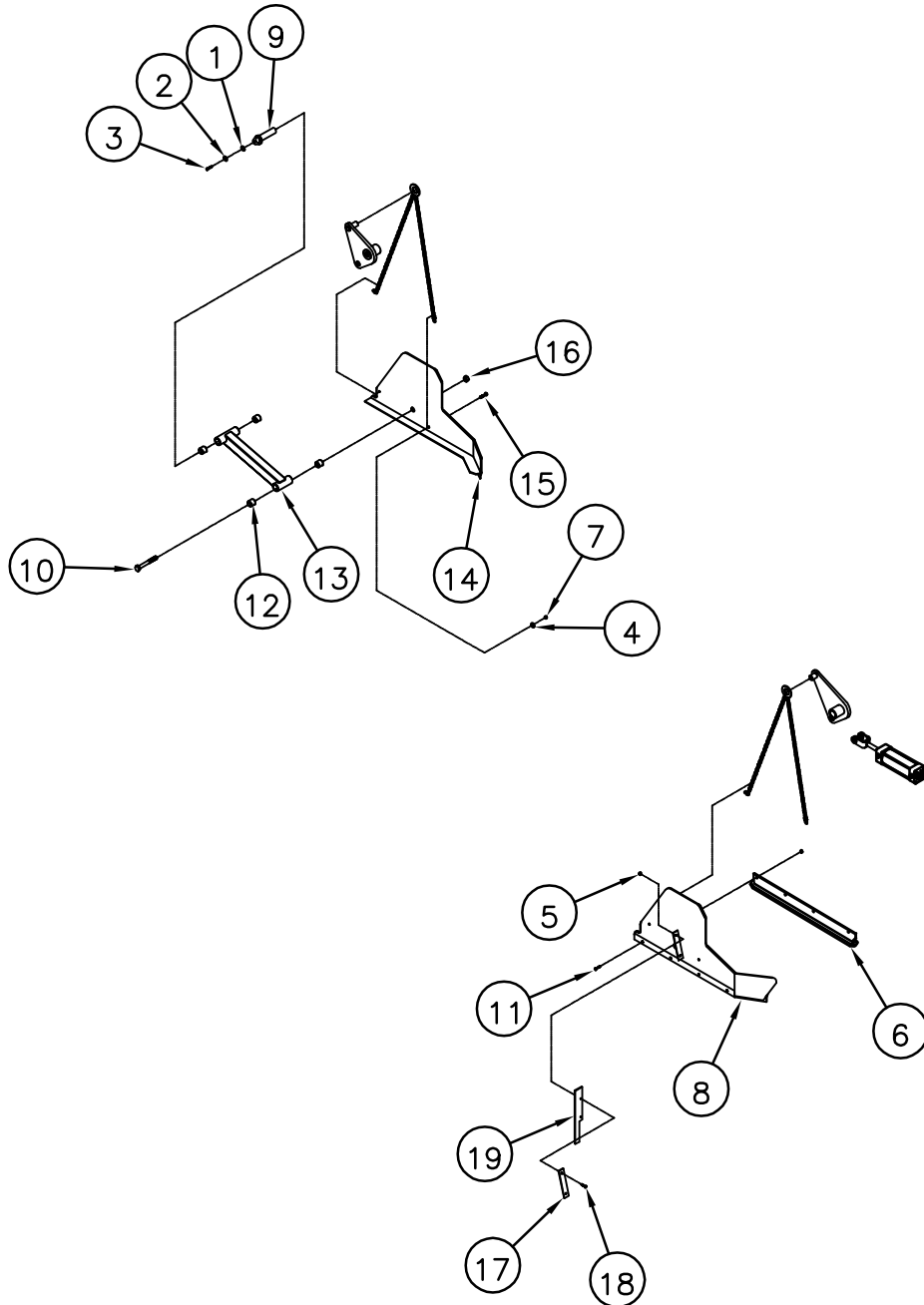




## MAIN BROOM ASSEMBLY

| 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   |

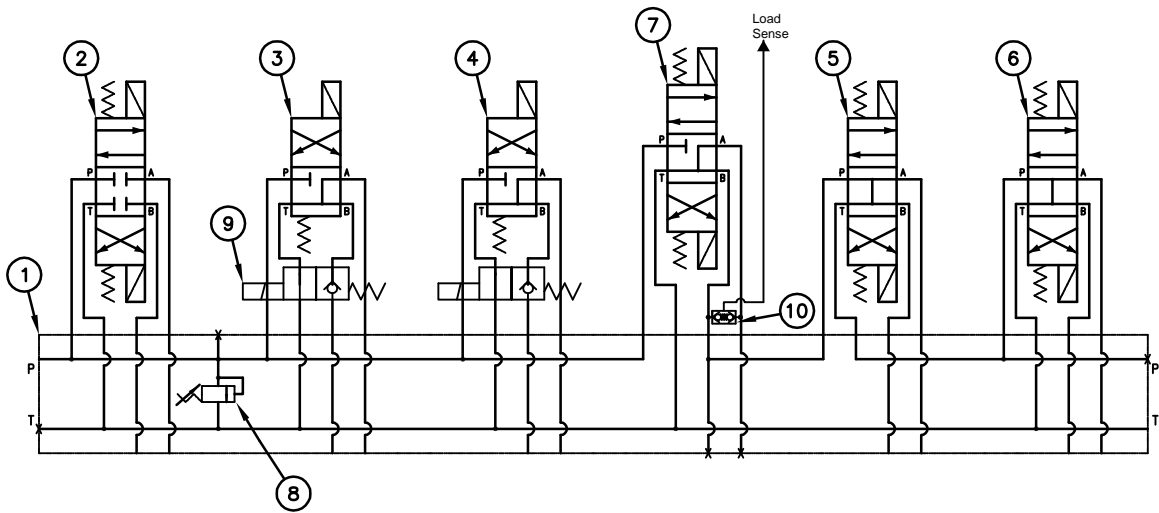
# DRAG SHOE ASSEMBLY



## 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   |

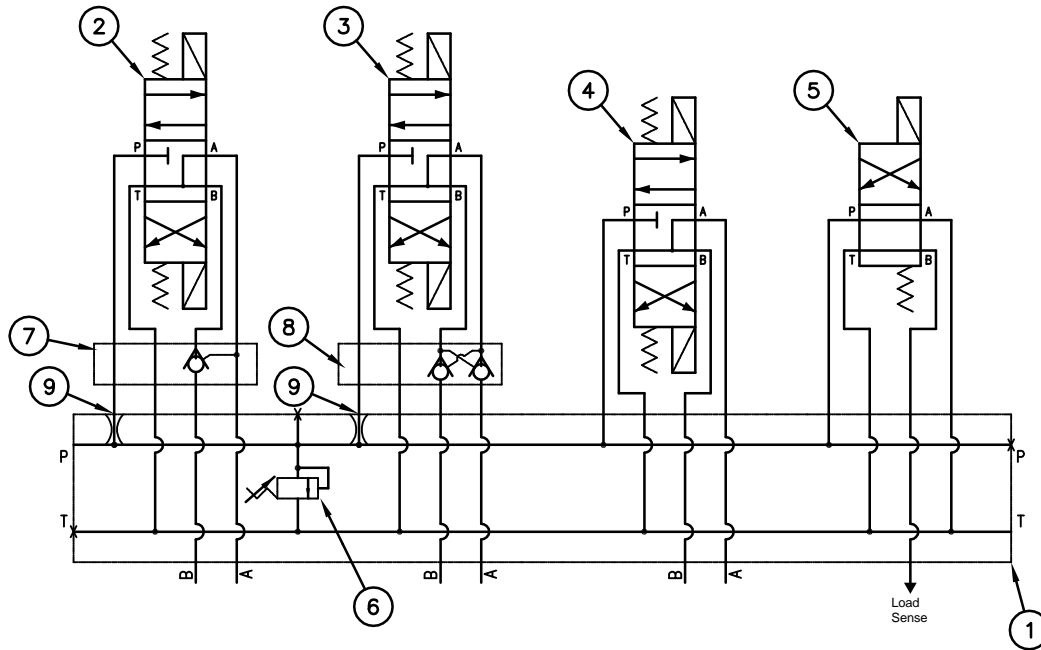
80122  
VALVE ASSEMBLY  
SN 5503 & UP



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    | 1993   | DUMP VALVE                          | 1   |
| 8    | 2000   | RELIEF VALVE                        | 1   |
| 9    | 1990   | FLOAT VALVE                         | 2   |
| 10   | 2089   | LOAD SENSE SHUTTLE                  | 1   |

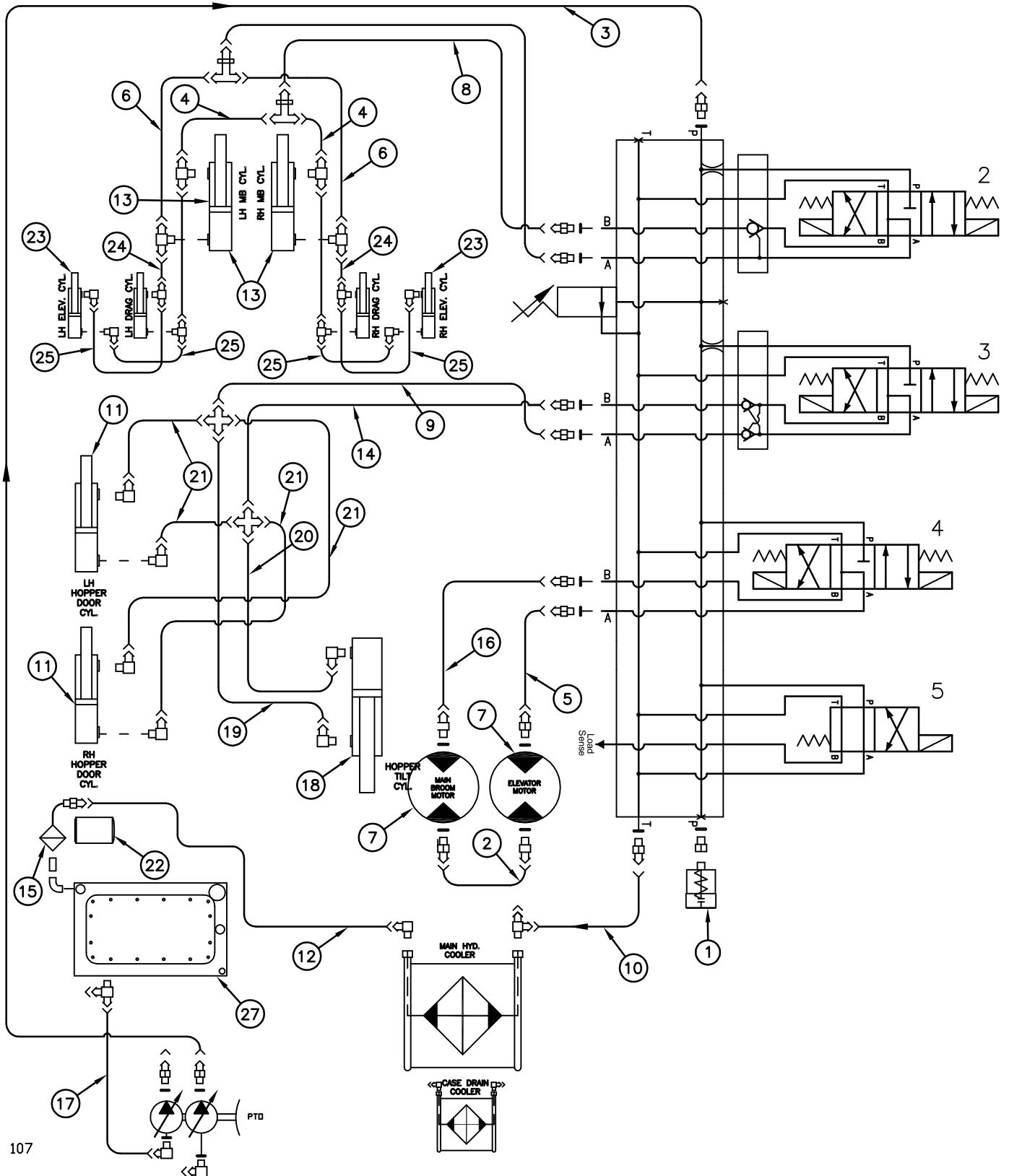
# 80121 VALVE ASSEMBLY

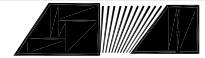


SHOWN AS VIEWED FROM DRIVERS SEAT

| 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    | 1998   | 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





**STEWART-AMOS**

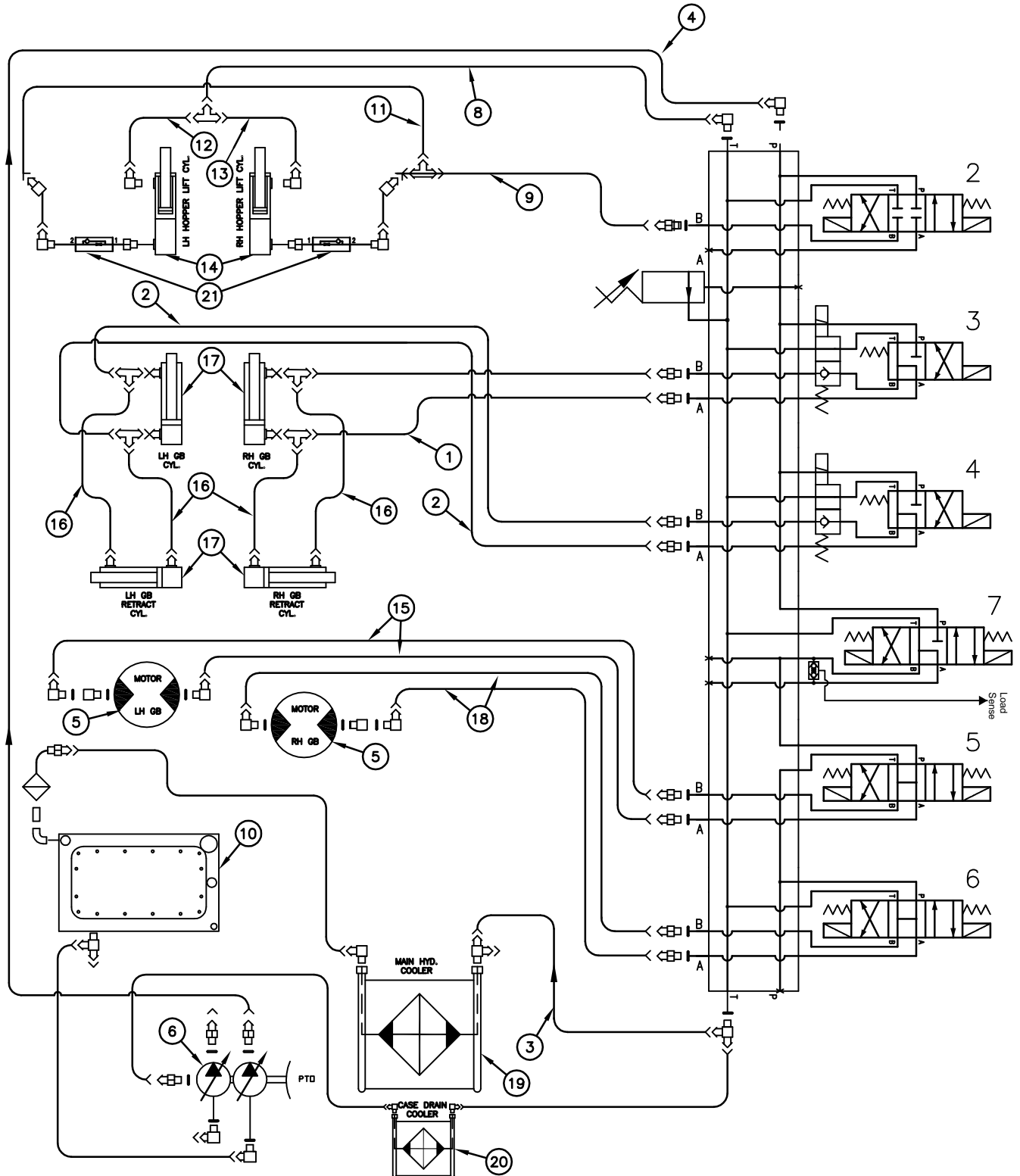
Sweeper Co

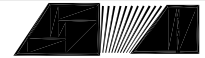
# DRIVERS SIDE HYDRAULIC HOSE SCHEMATIC

| 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





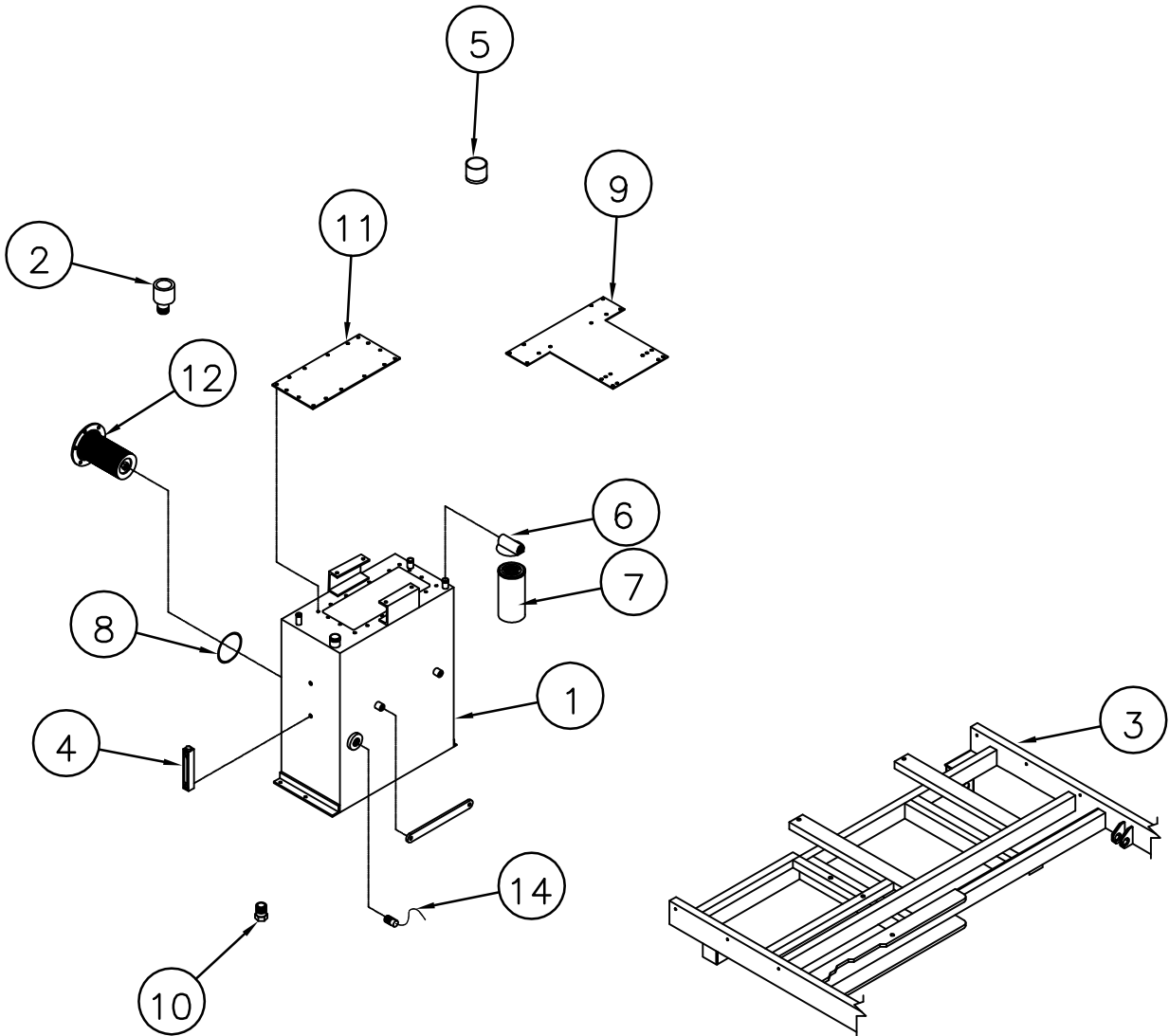
**STEWART-AMOS**

Sweeper Co

# 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    | 2069   | HYDRAULIC PUMP ASSEMBLY     | 1   |
| 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   | 1955   | ELECTRIC HYD COOLER         | 1   |
| 20   | 1956   | CASE DRAIN COOLER           | 1   |
| 21   | 2031   | DIRECTIONAL RESTRICTOR      | 2   |

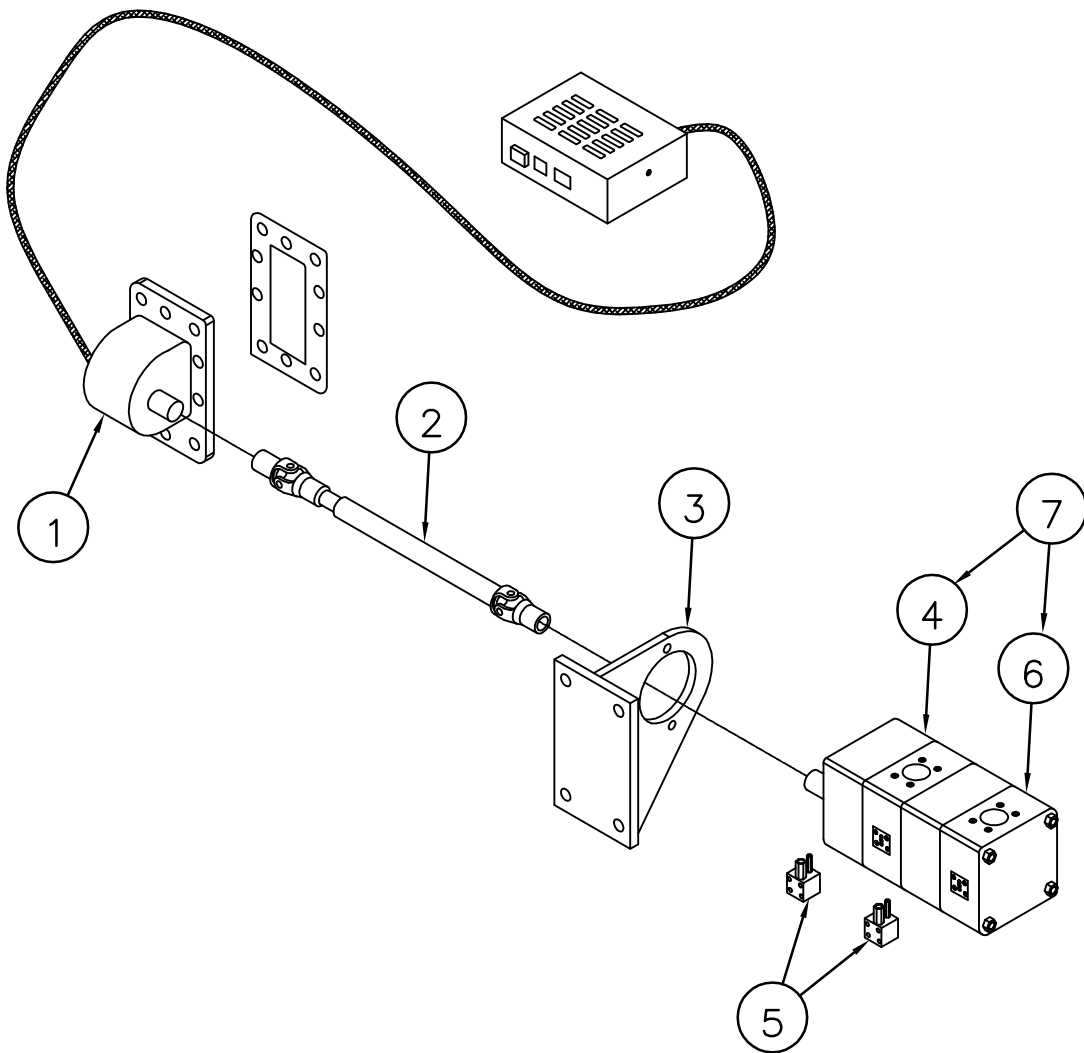
# HYDRAULIC TANK

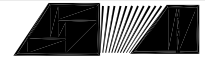


## HYDRAULIC TANK

| 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   |

# POWER TAKE OFF ASSEMBLY





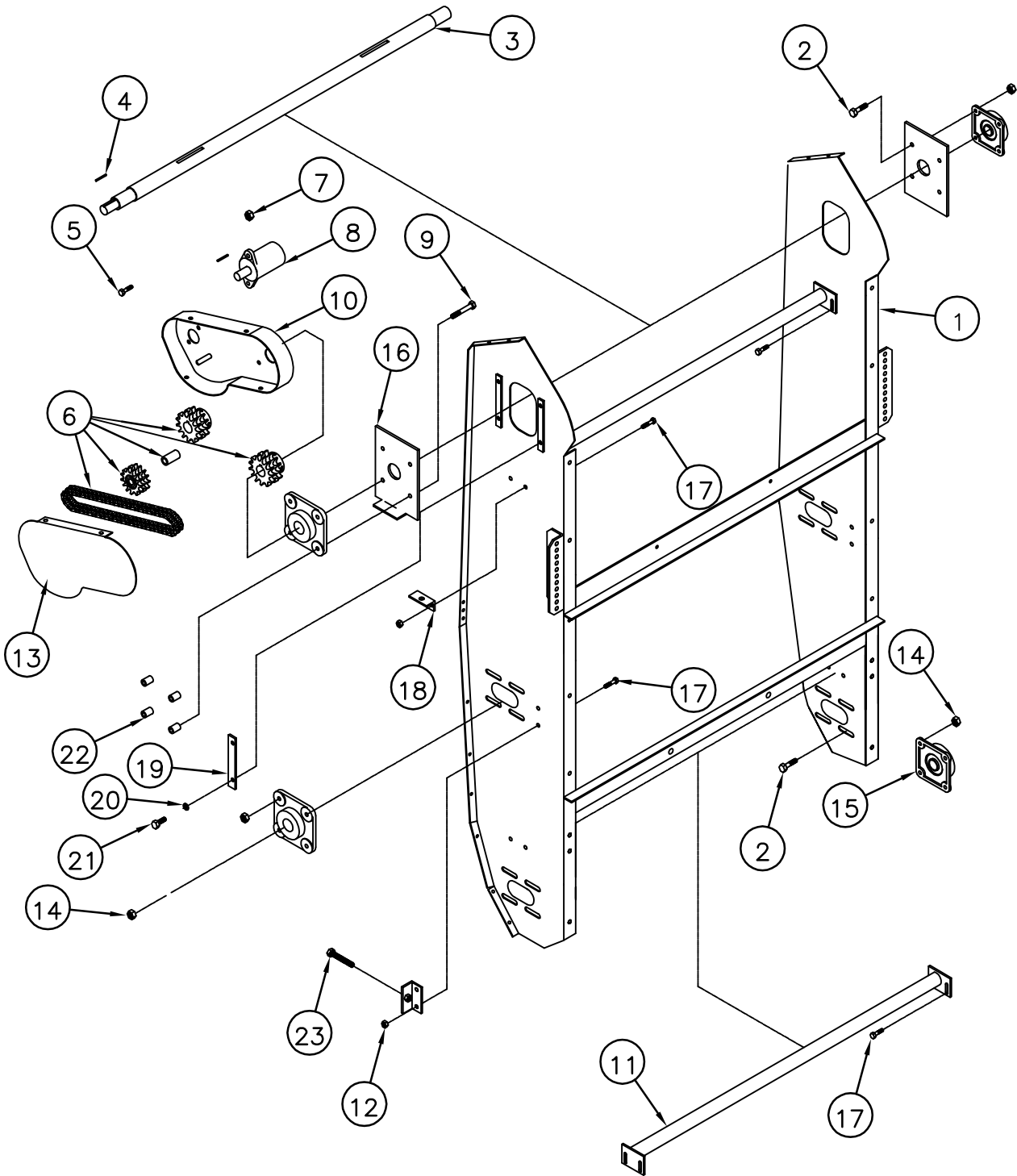
**STEWART-AMOS**

Sweeper Co

# POWER TAKE OFF ASSEMBLY

| ITEM | PART # | DESCRIPTION         | QTY |
|------|--------|---------------------|-----|
| 1    | 1953   | PTO WITH CONTROLLER | 1   |
| 2    | 52101  | DRIVE SHAFT         | 1   |
| 3    | 32103  | MOUNT               | 1   |
| 4    | 1952   | FRONT SECTION PUMP  | 1   |
| 5    | 2062   | COMPENSATOR VALVE   | 2   |
| 6    | 2068   | REAR SECTION PUMP   | 1   |
| 7    | 2069   | HYD. PUMP ASSEMBLY  | 1   |

# ELEVATOR ASSEMBLY

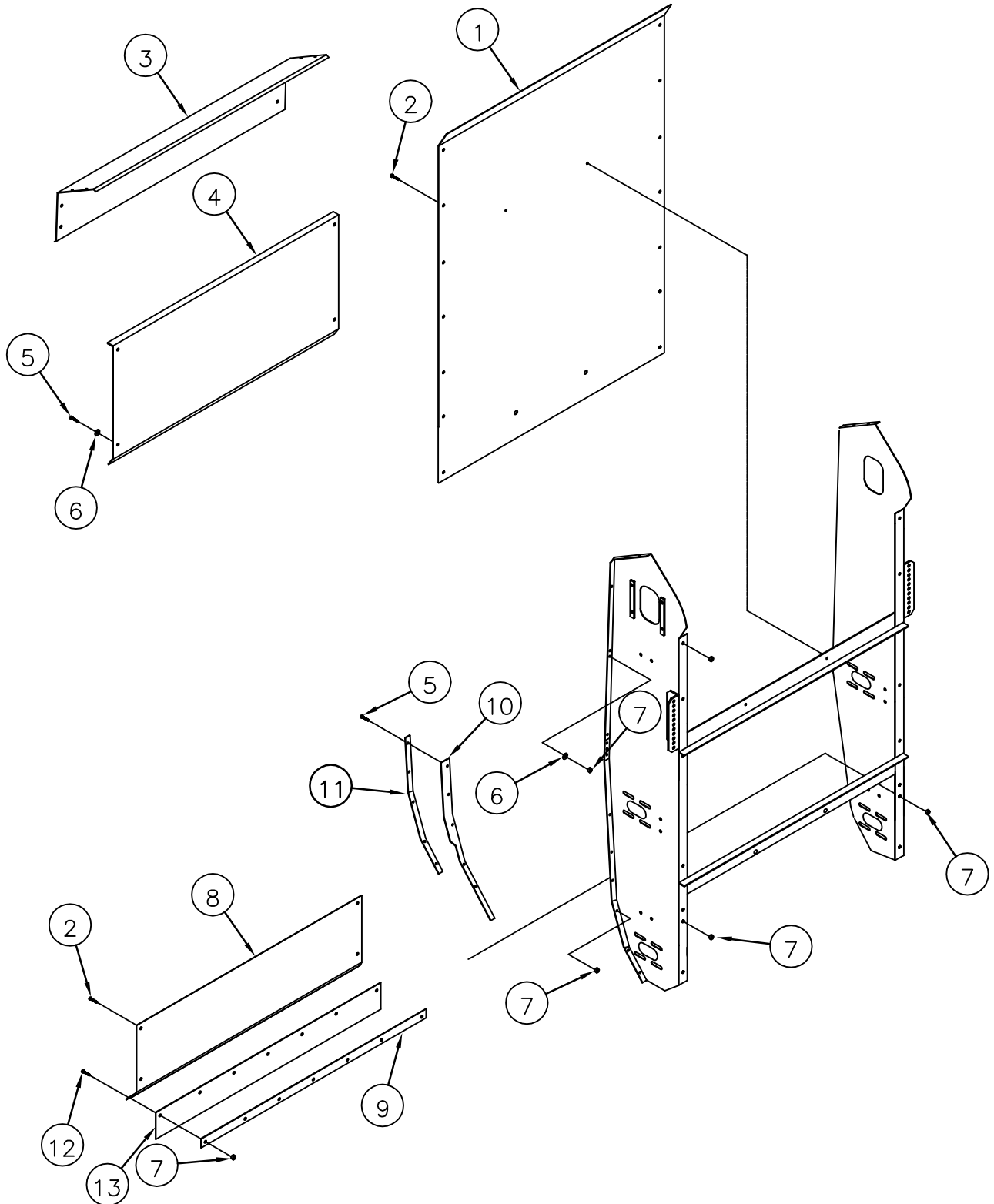


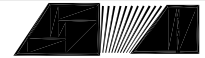
## ELEVATOR ASSEMBLY

| 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





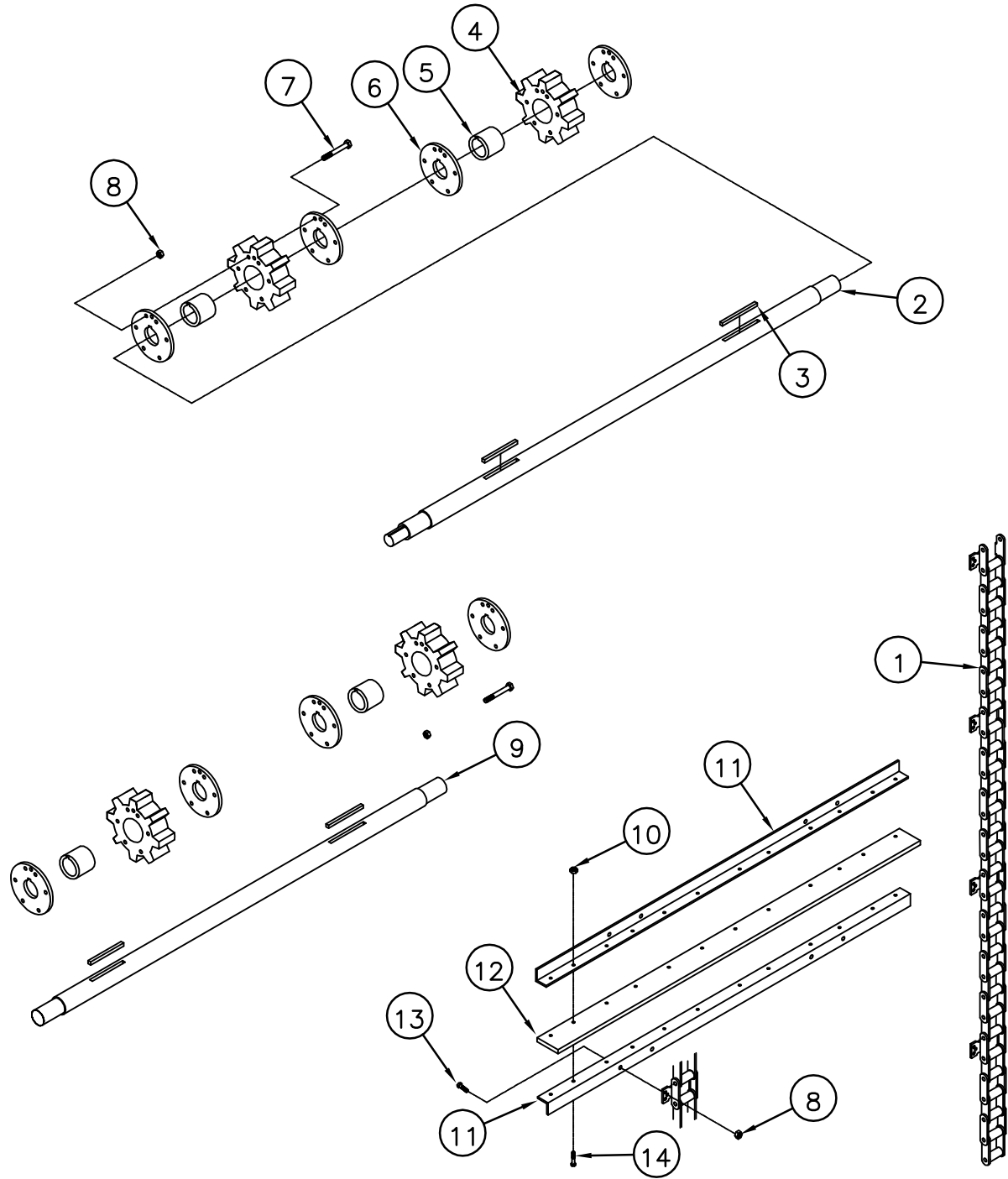
**STEWART-AMOS**

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   |

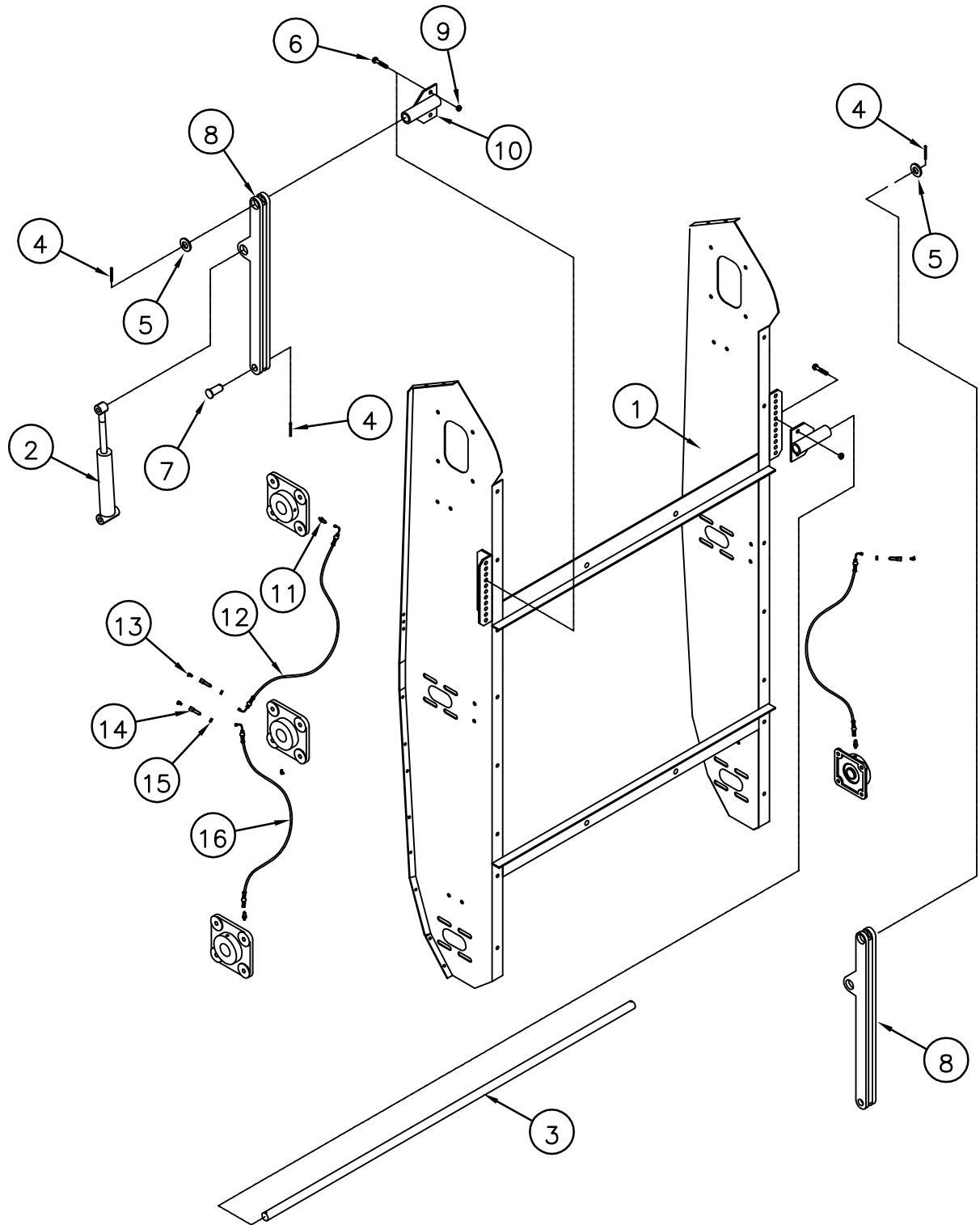
# ELEVATOR ASSEMBLY



## 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 |

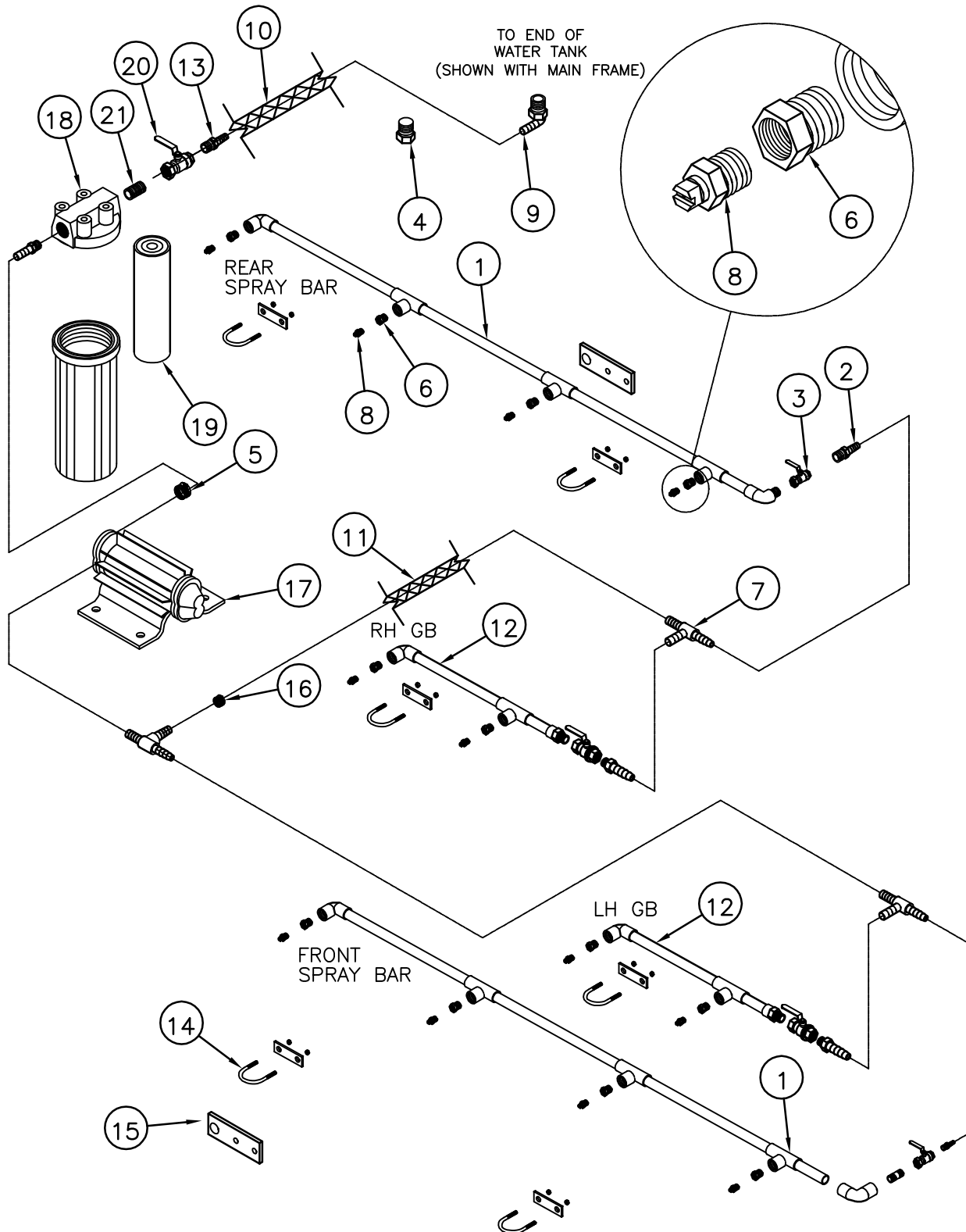
# ELEVATOR LIFT ASSEMBLY



## 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

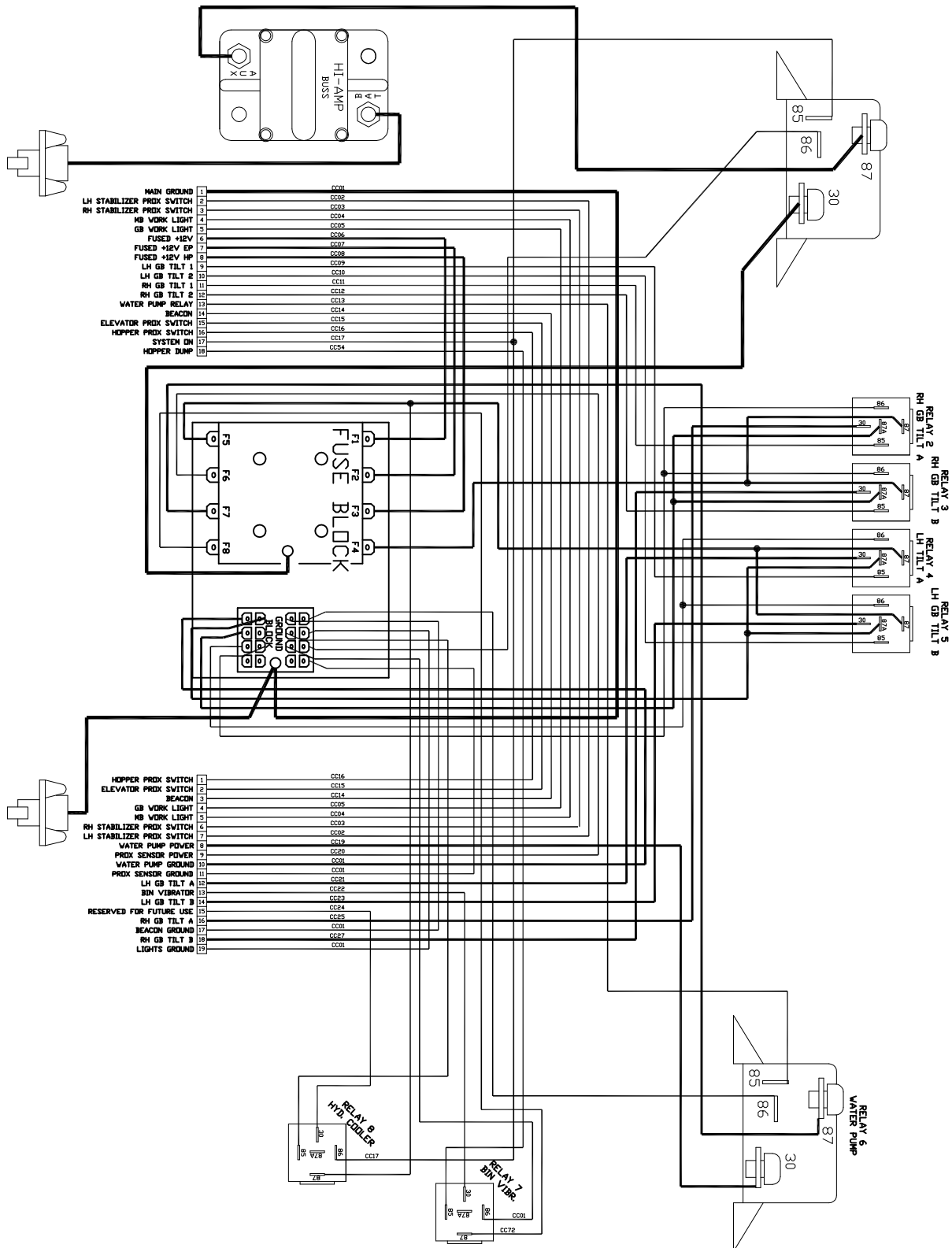


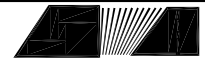
## WATER SYSTEM

| 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   |



62512  
AUXILIARY CONTROL  
BOX SCHEMATIC

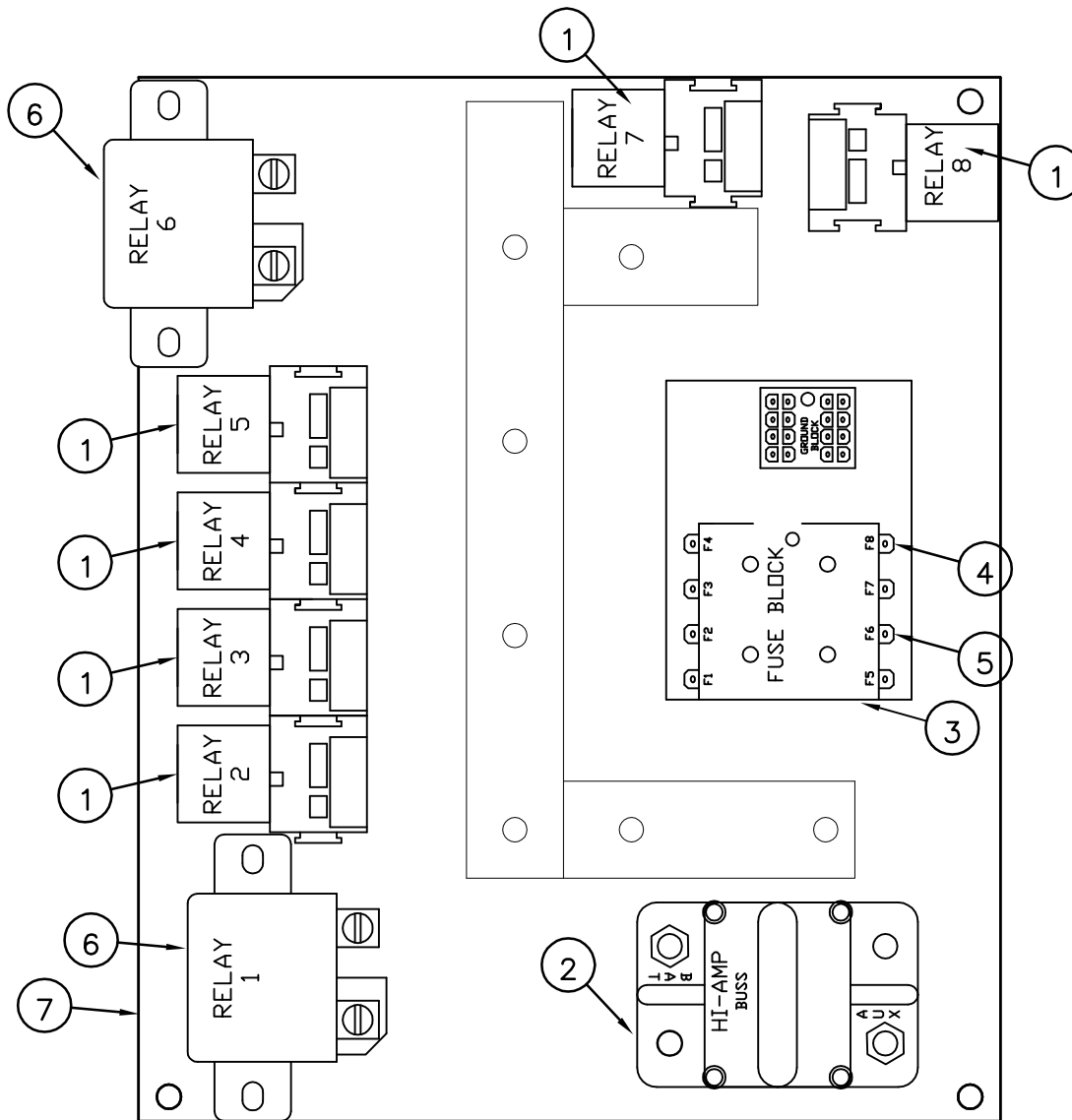




**STEWART-AMOS**

Sweeper Co

# 80207 AUXILIARY CONTROL BOX LAYOUT

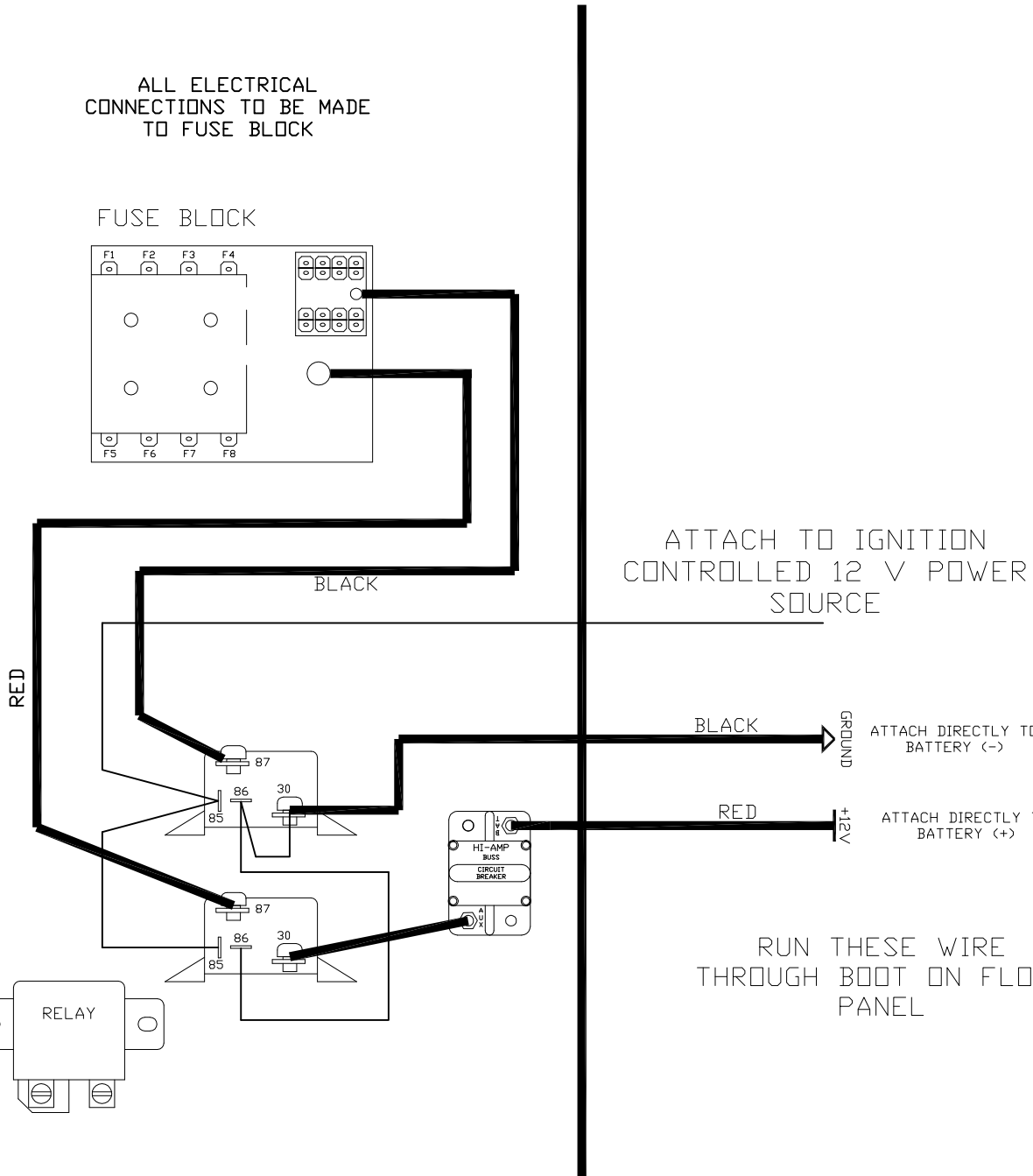
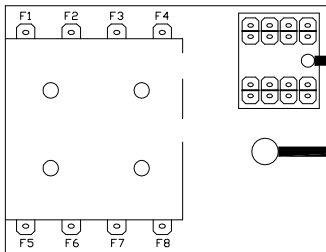


| ITEM | PART # | DESCRIPTION             | QTY |
|------|--------|-------------------------|-----|
| 1    | 1947   | RELAY                   | 6   |
| 2    | 2043   | CIRCUIT BREAKER         | 1   |
| 3    | 2041   | FUSE HOLDER 8 POSITION  | 1   |
| 4    | 2042   | FUSE 15 amp F1-5/7/8    | 7   |
| 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

BLACK → GROUND ATTACH DIRECTLY TO BATTERY (-)

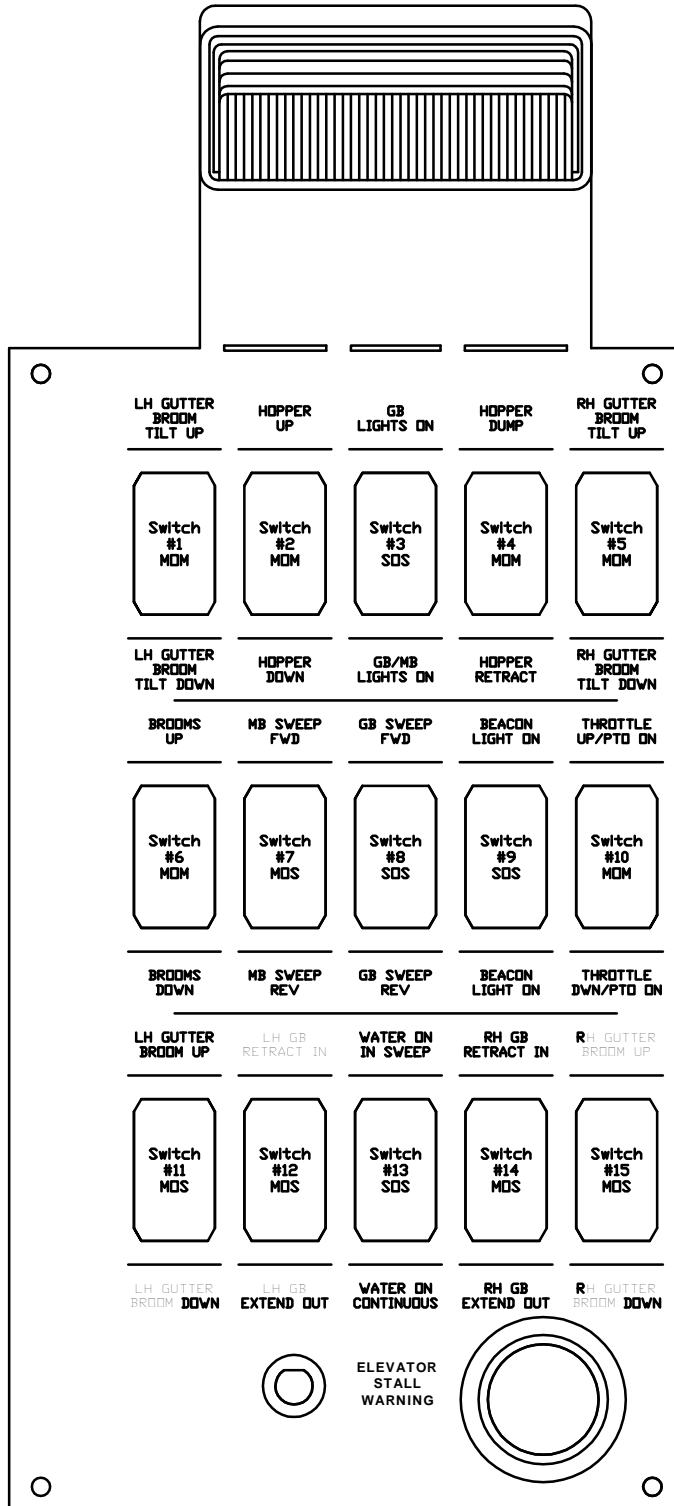
RED → +12V ATTACH DIRECTLY TO BATTERY (+)

RUN THESE WIRE THROUGH BOOT ON FLOOR PANEL

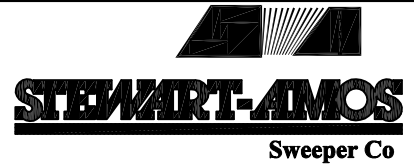
MOUNT THESE RELAYS AND WIRES INSIDE CONTROL BOX BETWEEN SEATS



# 62506 SWEEPER CONTROL PANEL

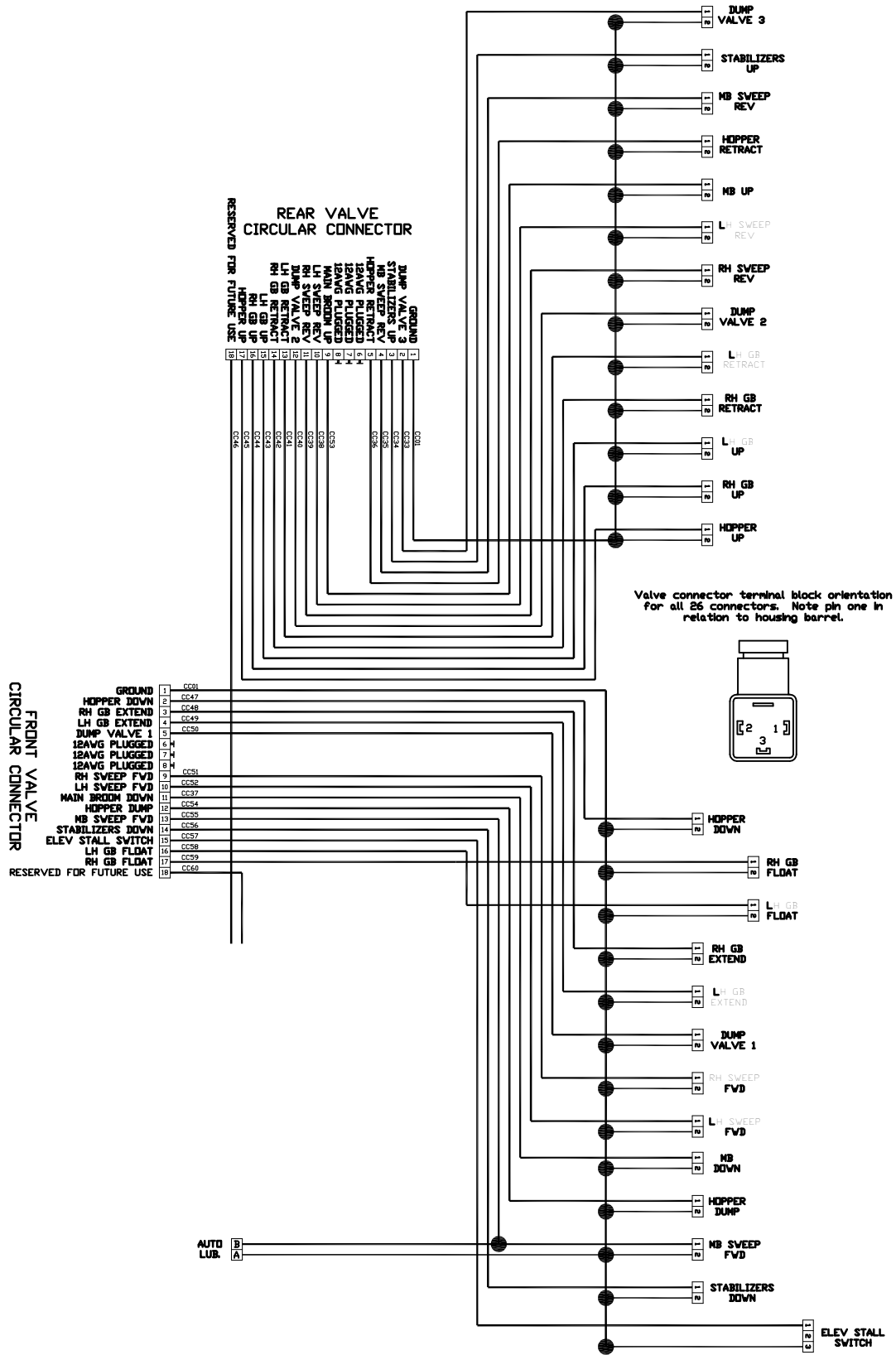


62506  
SWEEPER CONTROL  
BOX



| 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) | 8   |
| 8    | 1684   | SWITCH (S-O-S) | 4   |
| 9    | 1685   | SWITCH (S-O-M) | 3   |
| 10   | 1691   | COURTESY LIGHT | 1   |

# 62510 VALVE HARNESS



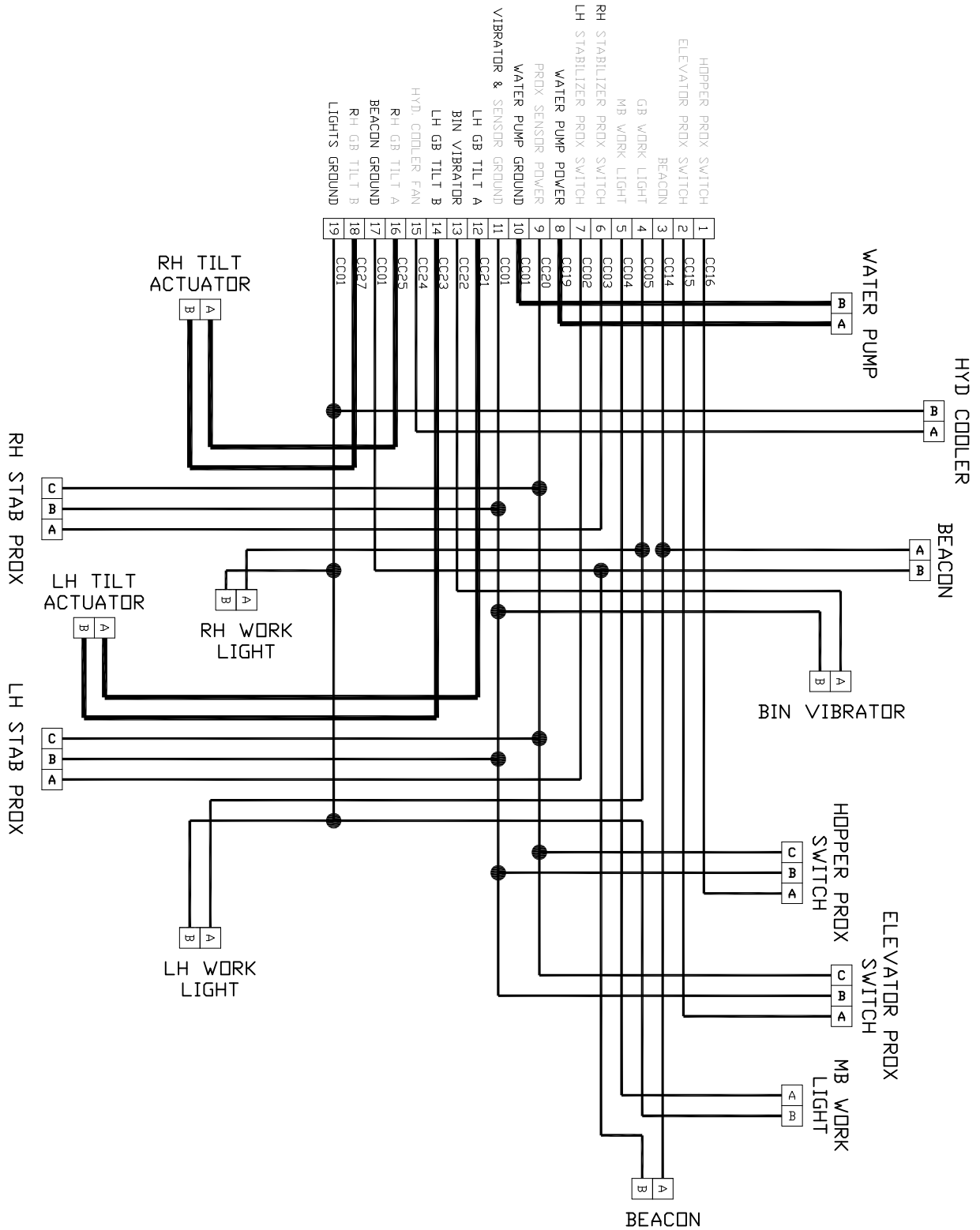


**STEWART-AMOS**

Sweeper Co

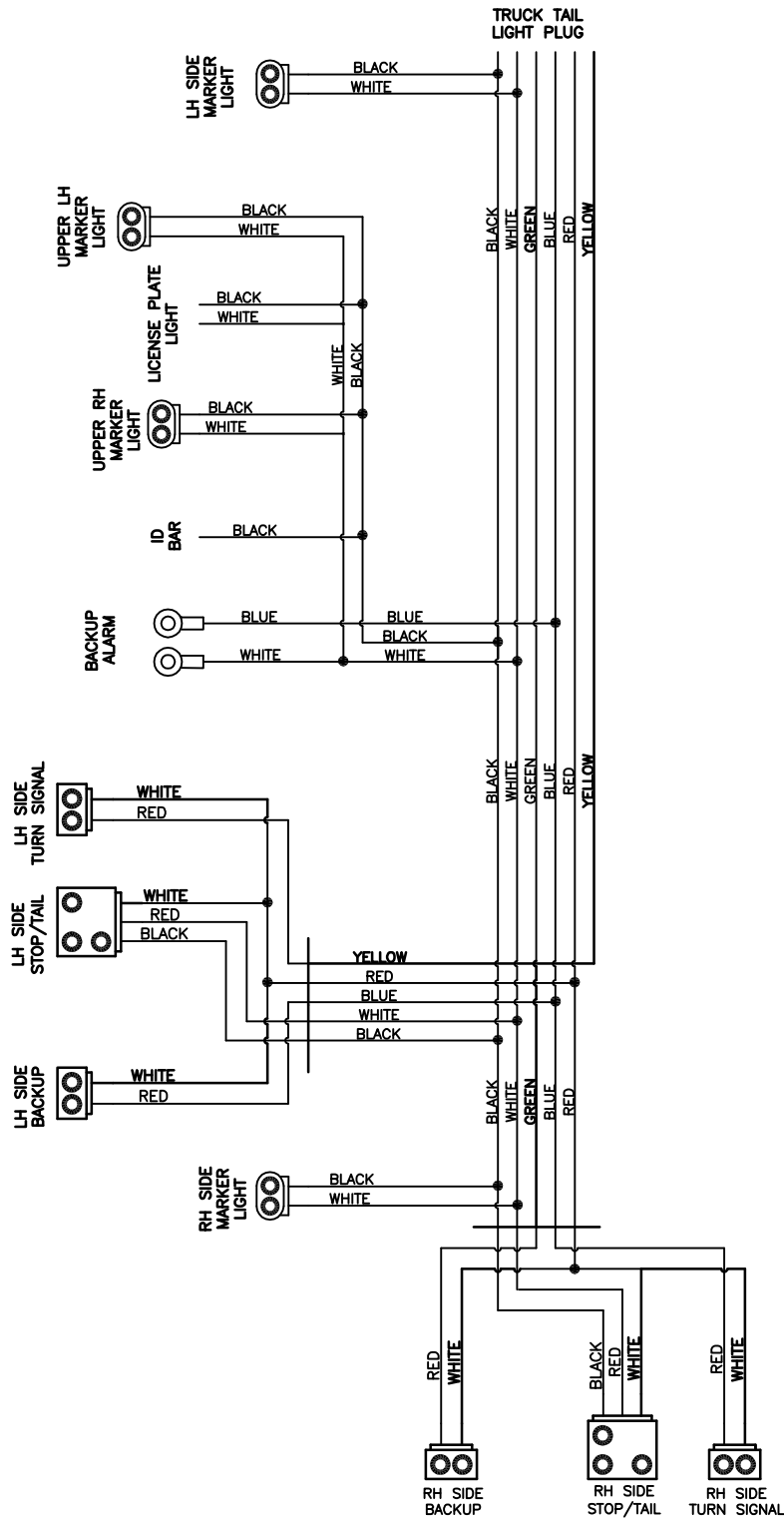
# 62513 SWEEPER HARNESS

## CHASSIS HARNESS CONNECTOR

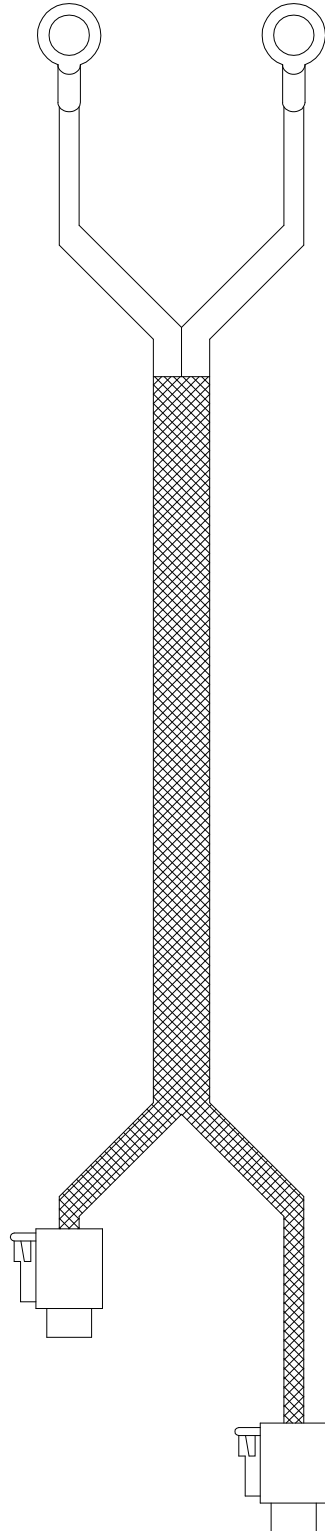




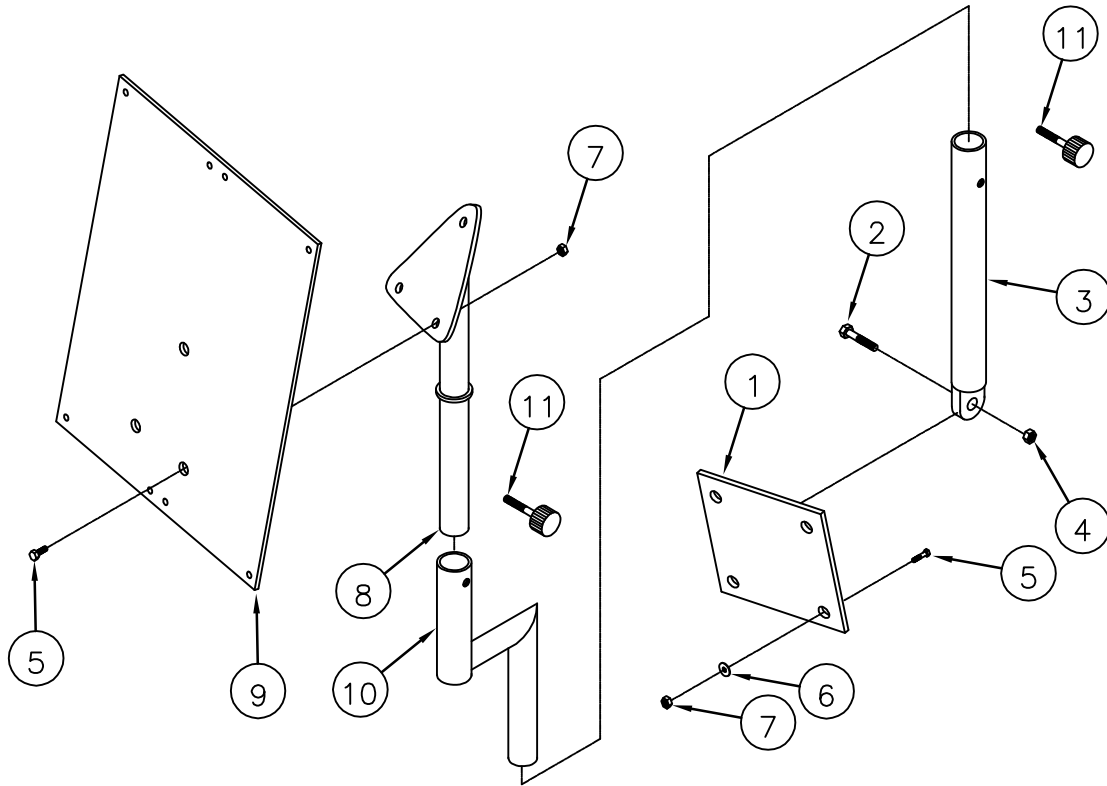
# 62508 REAR LIGHT HARNESS



# 3225 POWER CABLE



## IN CAB PANEL MOUNTING



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



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**

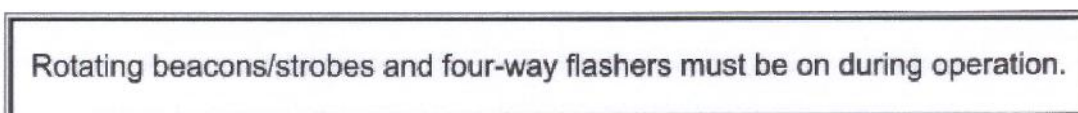




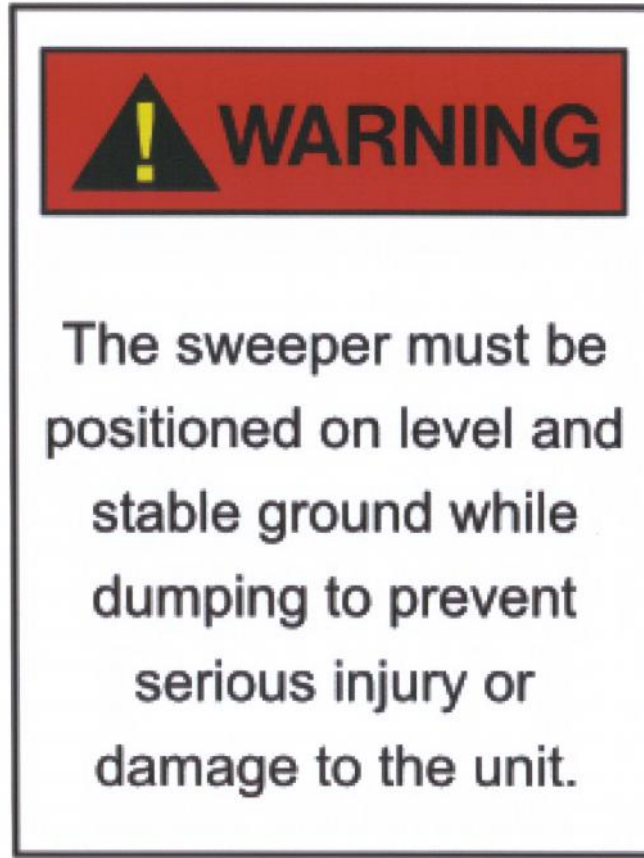
**PT # 43221 1/UNIT**



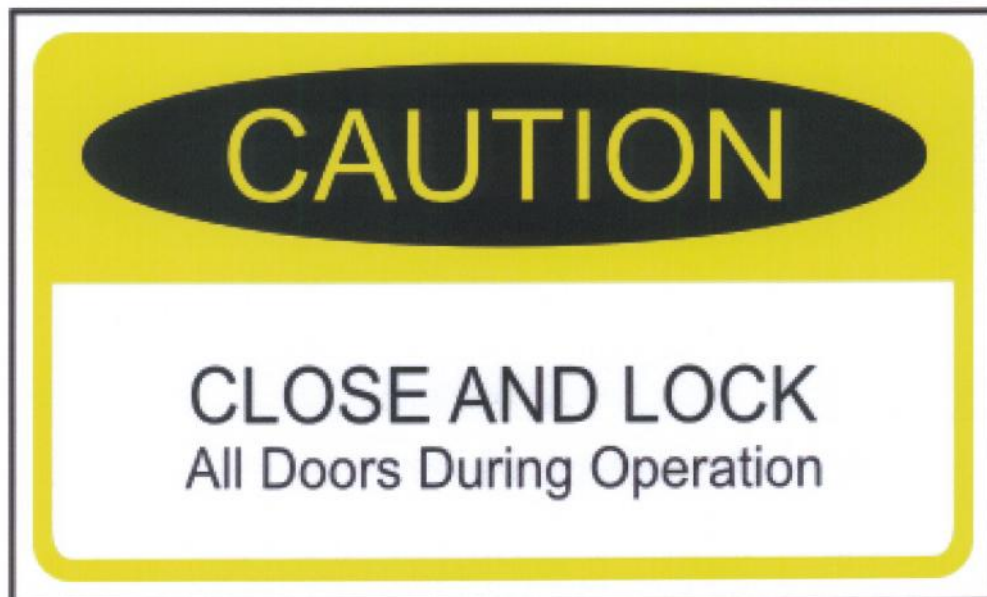
**PT # 43223 4/UNIT**



**PT # 43225 1/UNIT**



PT # 43227 2/UNIT



PT # 43229 7/UNIT



PT # 43231 2/UNIT



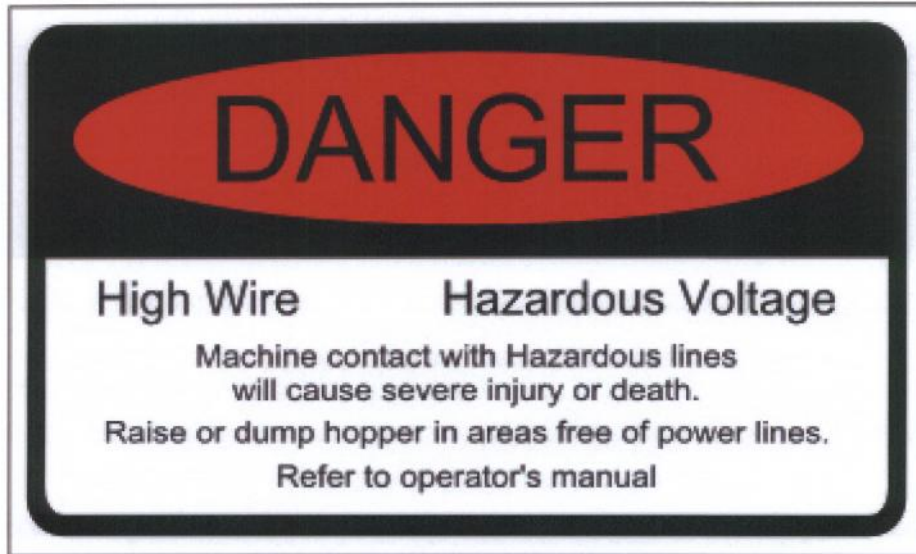
PT # 43233 2/UNIT



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



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