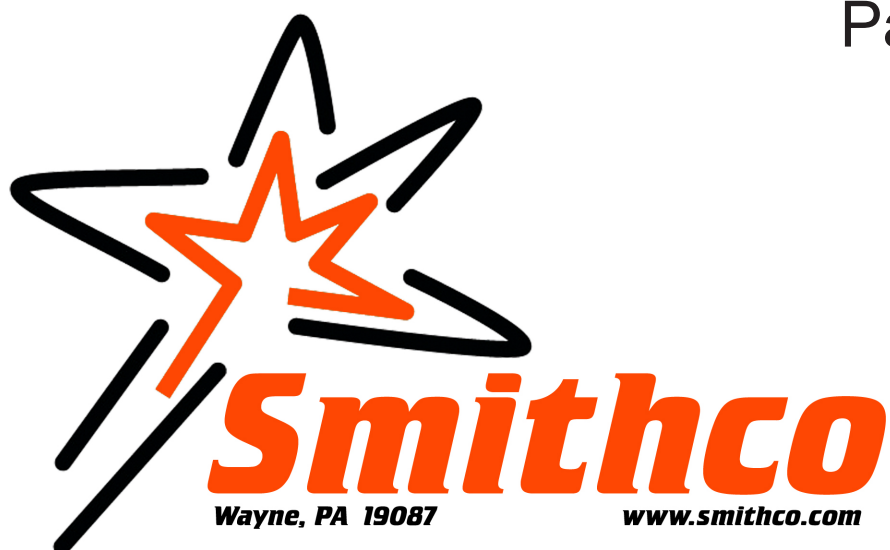


Parts & Service



# **SweepStar V62 with Electric Clutch**

**78-200**

**SN: 78836**

**December 2020**

**Product Support:**

**Hwy 55 & Poplar Ave; Cameron WI 54822**

**1-800-891-9435    [productsupport@smithco.com](mailto:productsupport@smithco.com)**

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Thank you for purchasing a **Smithco** product.

Read this manual and all other manuals pertaining to the Sweep Star V62 carefully as they contain safety, operating, assembly and maintenance instructions. Failure to do so could result in personal injury or equipment damage.

Keep manuals in a safe place after operator and maintenance personnel have read them. Right and left sides are from the operator's seat, facing forward.

 **WARNING:**

**Engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.**

**For more information visit**  
**[www.P65Warning.ca.gov](http://www.P65Warning.ca.gov)**

**WARNING**

*Failure to follow cautious operating practices can result in serious injury to the operator or other persons. The owner must understand these instructions, and must allow only trained persons who understand these instructions to operate this vehicle.*


All **Smithco** machines have a Serial Number and Model Number. Both numbers are needed when ordering parts. Refer to engine manual for placement of engine serial number.

For product and accessory information, help finding a dealer, or to register your product please contact us at [www.Smithco.com](http://www.Smithco.com).

Information needed when ordering replacement parts:

1. Model Number of machine
2. Serial Number of machine
3. Name and Part Number of part
4. Quantity of parts

For easy access record your Serial and Model numbers here.

|  |                      |   |
|--|----------------------|---|
| <b>SMITHCO</b>   |                      |  |
| WAYNE, PENNSYLVANIA 19087 USA<br>610-688-4009 Fax 610-688-6069 |                      |   |
| SERIAL NO.   | kW/hp                | DATE OF MFG.  |
| <input type="text"/>   | <input type="text"/> | <input type="text"/>  |
| MODEL NO.  | lb/kg Empty          | lb/kg Full  |
| <input type="text"/>   | <input type="text"/> | <input type="text"/>  |

**SMITHCO CUSTOMER SERVICE 1-800-891-9435**

# SAFE PRACTICES

1. It is your responsibility to read this manual and all publications associated with this machine (engine, accessories and attachments).
2. Never allow anyone to operate or service the machine or its attachments without proper training and instructions. Never allow minors to operate any equipment.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears, hands and feet. Operate the machine only in daylight or in good artificial light.
5. Inspect the area where the equipment will be used. Beware of overhead obstructions and underground obstacles. Stay alert for hidden hazards.
6. Never operate equipment that is not in perfect working order or without decals, guards, shields, or other protective devices in place.
7. Never disconnect or bypass any switch.
8. Carbon monoxide in the exhaust fumes can be fatal when inhaled, never operate a machine without proper ventilation.
9. Fuel is highly flammable, handle with care.
10. Keep engine clean. Allow the engine to cool before storing and always remove the ignition key.
11. Never use your hands to search for oil leaks. Hydraulic fluid under pressure can penetrate the skin and cause serious injury.
12. This machine demands your attention. To prevent loss of control or tipping of the vehicle:
  - A. Use extra caution in backing up the vehicle. Ensure area is clear.
  - B. Do not stop or start suddenly on any slope.
  - C. Reduce speed on slopes and in sharp turns. Use caution when changing directions on slopes.
  - D. Stay alert for holes in the terrain and other hidden hazards.
  - E. Run up and down slopes, never across the face.
13. Before leaving operator's position for any reason:
  - A. Disengage all drives.
  - B. Lower all attachments to the ground.
  - C. Shut engine off and remove the ignition key.
14. Keep hands, feet and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
15. The rubber fingers, sweeper and vacuum pick up and propel debris and small objects in its path during operation. Keep the area of operation clear of all bystanders.
16. Never carry passengers.
17. Stop engine before making repairs/adjustments or checking/adding oil to the crankcase.
18. Use parts and materials supplied by SMITHCO only. Do not modify any function or part.
19. Do not remove the radiator cap when the engine is hot. When cooled, loosen cap slightly to the stop to relieve any pressure before removing the cap completely.
20. Avoid sharp turns. Watch the tires of the tractor while turning to make sure they do not contact the tongue of the Sweep Star V62.
21. Shut down power source before attempting to unclog any part of the machine.
22. If reel deck begins to vibrate abnormally, immediately shut off power and determine the cause.
23. Do not tow on public roads.
24. Always drive at a safe towing speed relative to conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Smithco recommends a maximum speed of 8mph (12 kph).

***These machines are intended for professional maintenance on golf courses, sports turf, and any other area maintained turf and related trails, paths and lots. No guaranty as to the suitability for any task is expressed or implied.***

# SPECIFICATIONS FOR SWEEP STAR V62

## WEIGHTS AND DIMENSIONS

|        |                  |
|--------|------------------|
| Length | 151" (384 cm)    |
| Width  | 68" (172 cm)     |
| Height | 87" (221 cm)     |
| Weight | 1500 lb (680 kg) |

## SOUND LEVEL

|                  |          |
|------------------|----------|
| At ear level     | 98 dBA   |
| At 30 ft (9.14m) | 92.5 dBA |

## ENGINE

|                    |  |
|--------------------|--|
| Make               | Briggs & Stratton                      |
| Model#             | 613477                                 |
| Type / Spec#       | 0271-J1                                |
| Horsepower         | 35 Hp (26 kw)                          |
| Fuel               | Unleaded 87 Octane<br>Gasoline Minimum |
| Cooling System     | Air Cooled                             |
| Lubrication System | Full Pressure                          |
| Alternator         | 24 Amp                                 |

## TIRES & WHEELS

Two 24 x 13.00 x 12 NHS (18 psi (1.3 bar))  
Castor: 9 x 3.5 x 4 (20 psi (1.4 bar))

## BATTERY (optional)

|                          |                             |
|--------------------------|-----------------------------|
| BCI Group                | Automotive type 45- 12 volt |
| Cold Cranking Amps       | Size 45                     |
| Ground Terminal Polarity | 480 minimum                 |
| Maximum Length           | Negative (-)                |
| Maximum Width            | 9" (23 cm)                  |
| Maximum Height           | 5.38" (14 cm)               |
|                          | 9" (23 cm)                  |

## FLUID CAPACITY

|                          |   |
|--------------------------|---|
| Crankcase Oil            | See Engine Manual                             |
| Fuel                     | 6 gallon (22.7 liters)                        |
| Hydraulic Fluid          | 3.2 gallon (12.2 liters)                      |
| Cooling                  | 2.8 quarts (2.7 liters)                       |
| Grade of Hydraulic Fluid | SAE 10W-40 API Service SJ or higher Motor Oil |

## OPTIONAL EQUIPMENT

|                                    |                              |
|------------------------------------|------------------------------|
| 78-201 Replacement Brush Reel      | 78-207 Hydraulic Lift System |
| 78-202 Replacement Finger Reel     | 78-208 Filter System         |
| 78-204 5 <sup>th</sup> Wheel Hitch | 78-210 Nylon Brush Head      |
| 78-205 Remote Vacuum Hose          | 78-211 Rubber Finger Head    |
| 78-206 Clevis Hitch                | 22-073 Battery               |
| 78-215 Electric Brake              | 78-209 Ball Hitch            |
| 78-542 Blower Lining Kit           |                              |

# MAINTENANCE

## ⚠ CAUTION

Before servicing or making adjustments to machine, stop engine and remove key from ignition.

## ⚠ IMPORTANT

Use all procedures and parts prescribed by the manufacturer's. Read the engine manual before operation.

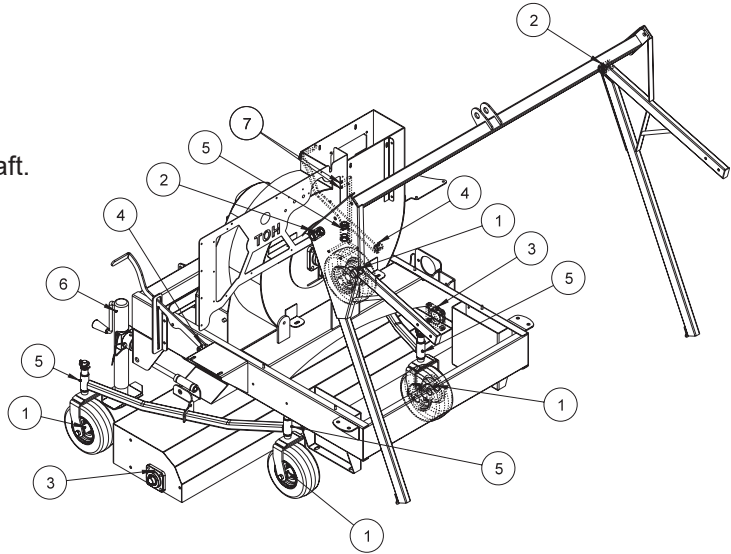
### LUBRICATION

Use No. 2 General Purpose Lithium Base Grease and lubricate every 100 hours. The Sweep Star V62 has seventeen grease fittings. All bearings are sealed bearings. When inserting grease, be careful not to ruin the seal, if this happens, replace the bearing at once.

Be sure to wipe grease fitting clean before injecting grease. Give only one or two pumps of grease at each lubrication.

### REF# LOCATION

- 1 One on all four castor wheels.
- 2 One on right and left hopper door arms.
- 3 One on each mounted bearing for reel shaft.
- 4 One on right and left deck lift arm.
- 5 one on all four castor wheel mount brackets.
- 6 One on the jack stand.
- 7 Two on machine control panel that go to the blower shaft mounted bearing.



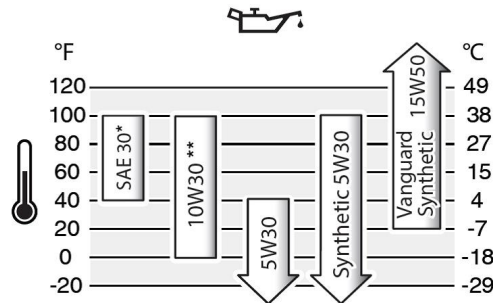
### HYDRAULIC OIL

1. Use SAE 10W-40 API Service SJ or higher motor oil.
2. For proper warranty, change oil every 500 hours or annually, which ever is first and change the filter after the first 50 hours, then every 250 hours thereafter.
3. The oil level should be 2" to 2 $\frac{1}{2}$ " from top of the tank when fluid is cold. Do not overfill.
4. After changing oil and/or filter, run the machine for a few minutes. Check oil level and for leaks.
5. Always use caution when filling hydraulic oil tank or checking level to keep system free of contaminants. Check and service more frequently when operating in extremely cold, hot or dusty conditions.
6. If natural color of fluid is now black or smells burnt, it is possible that an overheating problem exists.
7. If fluid becomes milky, water contamination may be a problem.
8. If either of the above conditions happen, change oil and filter immediately after fluid is cool and find cause. Take fluid level readings when system is cold.
9. In extreme temperatures you can use straight weight oil. We recommend SAE 30W API Service SJ or higher when hot (above 90°F (33°C)) and SAE 10W API Service SJ or higher when cold (below 32°F (0°C)) ambient temperature. Use either motor oil or hydraulic oil, but do not mix.
10. Oil being added to the system must be the same as what is already in the tank. Mark tank fill area as to which type you put in.

## ENGINE OIL

Change and add oil according to chart below based on air temperature at the time of operation. Do not over-fill. Use a high-quality detergent oil classified for service SF, SG, SH, SJ or higher. Use no special additives with recommended oils. Do not mix oil with gasoline.

### SAE Viscosity Grades



*Starting Temperature Range Anticipated Before Next Oil Change*

## TIRE PRESSURE

Caution must be used when inflating a low tire to recommended pressure. Over inflating can cause tires to explode. Tires on the machine should be 18 psi (1.3 bar), castor wheels should be 20 psi (1.4 bar). Improper inflation will reduce tire life considerably.

## WHEEL MOUNTING PROCEDURE

### MACHINE WHEELS

1. Turn machine off and remove key.
2. Be sure unit is on a level surface. Unhitch from tow vehicle if possible.
3. Block the opposite wheel then the one you are working on.
4. Loosen nuts slightly on wheel to be removed.
5. Jack up machine being careful not to damage underside of machine.
6. Remove nuts, remove wheel.
7. Place new wheel on hub lining up Hex Bolt holes.
8. Torque nuts to 64-74 ft/lb (87-100 Nm) using a cross pattern. Torque again after first 8 hours and every 200 hours thereafter.
9. Lower machine to ground and remove blocks and jack.

## FILTER SYSTEM

Filter pack may be cleaned by shaking or spraying off with low pressure water. Filter will disintegrate if high pressure is used on it.

## MAINTENANCE (CONTINUED)

### BATTERY

Batteries normally produce explosive gases which can cause personal injury. Do not allow flames, sparks or any ignited object to come near the battery. When charging or working near battery, always shield your eyes and always provide proper ventilation.

Battery cable should be disconnected before using "Fast Charge".

Charge battery at 15 amps for 10 minutes or 7 amps for 30 minutes. Do not exceed the recommended charging rate. If electrolyte starts boiling over, decrease charging.

Always remove grounded (-) battery clamp first and replace it last. Avoid hazards by:

1. Filling batteries in well-ventilated areas.
2. Wear eye protection and rubber gloves.
3. Avoid breathing fumes when electrolyte is added.
4. Avoid spilling or dripping electrolyte.

#### WARNING

**Battery Electrolyte is an acidic solution and should be handled with care. If electrolyte is splashed on any part of your body, flush all contact areas immediately with liberal amounts of water. Get medical attention immediately.**

### JUMP STARTING

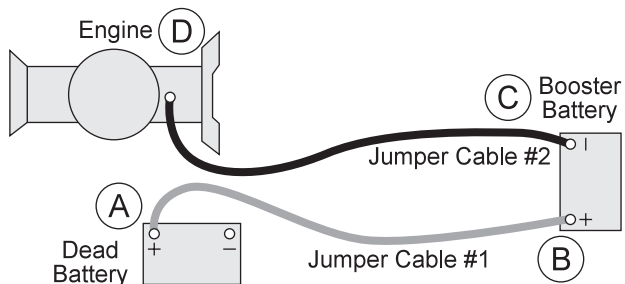
#### WARNING

**Use of booster battery and jumper cables. Particular care should be used when connecting a booster battery. Use proper polarity in order to prevent sparks.**

To jump start (negative grounded battery):

1. Shield eyes.
2. Connect ends of one cable to positive (+) terminals of each battery, first (A) then (B).
3. Connect one end of other cable to negative (-) terminal of "good" battery (C).
4. Connect other end of cable (D) to engine block on unit being started (NOT to negative (-) terminal of battery)

To prevent damage to other electrical components on unit being started, make certain that engine is at idle speed before disconnecting jumper cables.





# OVERLOADING DEBRIS HOPPER AND WEAR ON VACUUM HOUSING

## MAXIMUM LOAD CAPACITY

There are decals on each side of the hopper to indicate the maximum depth of aeration cores. The maximum depth for aeration cores in the hopper is 40" (101 cm). The maximum depth of sand and dirt in hopper is 20" (50cm). The maximum load capacity of the Sweep Star V-62 is 860 lbs (400 kg).

**Overloading will cause damage that is not covered by the warranty.**

## OVERLOADING DEBRIS HOPPER

Smithco Sweeper-Vacs are designed to carry the following maximum loads:

|                                      |                    |
|--------------------------------------|--------------------|
| Model 72-000 Big Vac                 | 1500 lbs. (608 kg) |
| Model 78-200 & 78-500 Sweep Star V62 | 860 lbs. (400 kg)  |

## PLEASE NOTE THE FOLLOWING:

1. Loads heavier than that will damage the unit.
2. Such damage is not covered by warranty.
3. Overloading is particularly easy when collecting aerifier cores.
4. The hoppers on the Big Vac and V62 are large in order to hold 7 and 4 cubic yards respectively, of thatch, grass clippings, leaves and trash.
5. They will not hold 7 or 4 cubic yards of aerifier cores.
6. The maximum depth (in the debris hopper) of aerifier cores is:

|                                      |                 |
|--------------------------------------|-----------------|
| Model 72-000 Big Vac                 | 12 in. (30 cm)  |
| Model 78-200 & 78-500 Sweep Star V62 | 40 in. (101 cm) |

## VACUUM HOUSING WEAR

Smithco Sweeper-Vacs are fitted with a wear resistant liner in the vacuum housing. This will provide additional housing life. Be sure the following points are explained to the user:

1. The vacuum housing and impeller must be cleaned each time the unit is used so the housing liner is inspected daily. Only Smithco Sweeper-Vacs provide a clean out/inspection port for easy inspection and cleaning.
2. When bare steel is visible at any point in the housing lining, the lining must be replaced. It is expected the liner will wear and be replaced. It is a vast improvement over competitive units with no liners.
3. Replacement of the liner or the vacuum housing due to wear is normal and is not covered by warranty.
4. Collection of aerifier cores causes extreme wear on the liner (and if unchecked, on the housing).
5. Caution users that, while Smithco Sweeper-Vacs do an excellent job collecting cores, the lining (and the housing) will wear quickly in such use.

## RUBBERIZED BOOT

The rubberized boot between main unit and sweeper head is subject to wear and damage from debris. Unless defective, replacement of this boot is not covered by warranty.

# SERVICE CHART

**⚠ CAUTION**

Before servicing or making adjustments to the machine, stop engine, set park break, block wheels and remove key from ignition.

**⚠ IMPORTANT**

Follow all procedures and **ONLY** use parts prescribed by the manufacturer. Read the engine manual before maintenance.

The suggested maintenance checklist is not offered as a replacement for the manufacturer's engine manual but as a supplement. You must adhere to the guidelines established by the manufacturer for warranty coverage. In adverse conditions such as dirt, mud or extreme temperatures, maintenance should be more frequent.

| Maintenance Service Interval  | Maintenance Procedure                                 |
|---|---|
| After the first 5 operating hours   | Torque the wheel lug nuts. (64-74 ft/lb (87-100 Nm))  |
|   | Change the engine oil filter.                         |
| Before each use daily   | Check the engine oil level.                           |
|   | Clean area around muffler and controls.               |
|   | Check the tire pressure.                              |
|   | Inspect and clean the machine.                        |
| Every 50 hours  | Clean or change air filter.1&2                        |
|   | Clean pre-cleaner.1                                   |
|   | Change engine oil and filter.                         |
| Every 100 hours   | Replace spark plug.                                   |
|   | Lubricate machine.                                    |
|   | Clean or change remote air cleaner.                   |
|   | Check the battery fluid level and cable connections.. |
|   | Change engine oil and filter                          |
|   | Check belt tension .                                  |
| Every 250 hours   | Check Idle Speed.                                     |
|   | Clean battery terminals.                              |
|   | Torque the wheel lug nuts. (64-74 ft/lb (87-100 Nm))  |
| Every 400 hours or yearly   | Change fuel filter.                                   |
|   | Clean oil cooler fins.1                               |
|   | Replace air filter2                                   |
|   | Replace fuel filter                                   |
|   | Clean air cooling system.1                            |
|   | Check safety filter in remote air cleaner.            |
| 1 In dusty conditions or when airborne debris is present, clean more often. |   |
| 2 Every third air filter change, replace the inner safety filter.           |   |

# SERVICE CHART

DUPLICATE THIS PAGE FOR ROUTINE USE

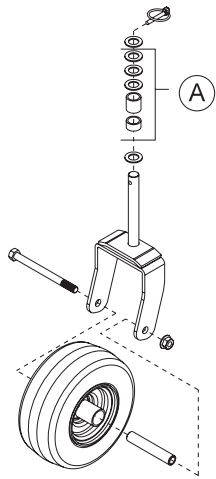
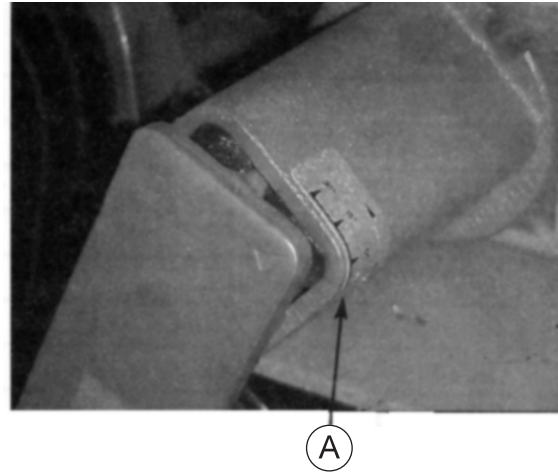
| Maintenance Check Item                     | For the week of: |       |             |        |      |      |      |
|--|------------------|-------|-------------|--------|------|------|------|
|  | Mon              | Tues. | Wed.        | Thurs. | Fri. | Sat. | Sun. |
| Check the fuel level                       |                  |       |             |        |      |      |      |
| Check the engine oil level.                |                  |       |             |        |      |      |      |
| Check the condition of the air filter      |                  |       |             |        |      |      |      |
| Clean the engine cooling fins.             |                  |       |             |        |      |      |      |
| Check for unusual engine noises            |                  |       |             |        |      |      |      |
| Check the tire pressure (18 psi)           |                  |       |             |        |      |      |      |
| Check the Instrumentation                  |                  |       |             |        |      |      |      |
| Inspect electrical system for frayed wires |                  |       |             |        |      |      |      |
| Change oil filter.                         |                  |       |             |        |      |      |      |
| Change oil.                                |                  |       |             |        |      |      |      |
| Lubricate Machine and Booms                |                  |       |             |        |      |      |      |
| Ensure all warning decals are intact.      |                  |       |             |        |      |      |      |
| Areas of Concern                           |                  |       |             |        |      |      |      |
| Inspection Performed by:                   |                  |       |             |        |      |      |      |
| Item                                       | Date             |       | Information |        |      |      |      |
|  |                  |       |             |        |      |      |      |
|  |                  |       |             |        |      |      |      |
|  |                  |       |             |        |      |      |      |
|  |                  |       |             |        |      |      |      |
|  |                  |       |             |        |      |      |      |
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|  |                  |       |             |        |      |      |      |
|  |                  |       |             |        |      |      |      |
|  |                  |       |             |        |      |      |      |
|  |                  |       |             |        |      |      |      |
|  |                  |       |             |        |      |      |      |

Service

# ADJUSTMENTS

## ADJUSTMENT OF BELT TENSIONER

There are two belt tensioners on the Sweep Star V62. One controls the tension on the belt from the engine to blower shaft the other controls the belt on the finger or brush reel. The proper tension of the idler should be 12 to 15 as per the gauge (A) on the side of the tightener. Over tightening the belt will shorten the life of the belt and the machine may not perform to the best of its ability. To adjust belt tensioner, loosen Hex Bolt holding tensioner. Bring idler pulley tight to belts and turn tensioner into belts to 15°. Tighten holder Hex Bolt.

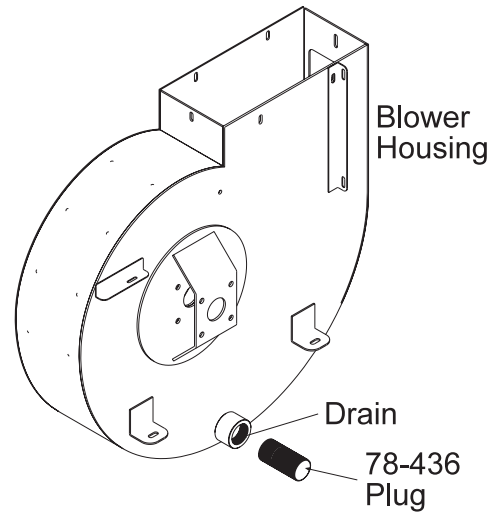


## CASTOR WHEELS

Install castor wheels onto the brush/finger head assembly. You may put the machine bushings and spacers (A) on in any combination to get desired height. You should leave one machine bushing on the very bottom and one on the very top next to the lock pin. Check the tire pressure on Castor Wheels they should be 20 psi (1.4 bar).

## DRAIN

The drain is used to flush out any water or debris that accumulates in the bottom of the blower housing.



### V62 TAILGATE LEVELING

If the tailgate is not sitting level against the hopper it can be leveled by loosening the  $\frac{3}{8}$  inch Hex Bolts that hold the pivot bracket to the upper lift arms then rotate the pivot brackets until tailgate level then tighten. Once it is level it must be readjusted using steps 1, 2 and 3.

### V62 TAILGATE ADJUSTMENT PROCEDURE

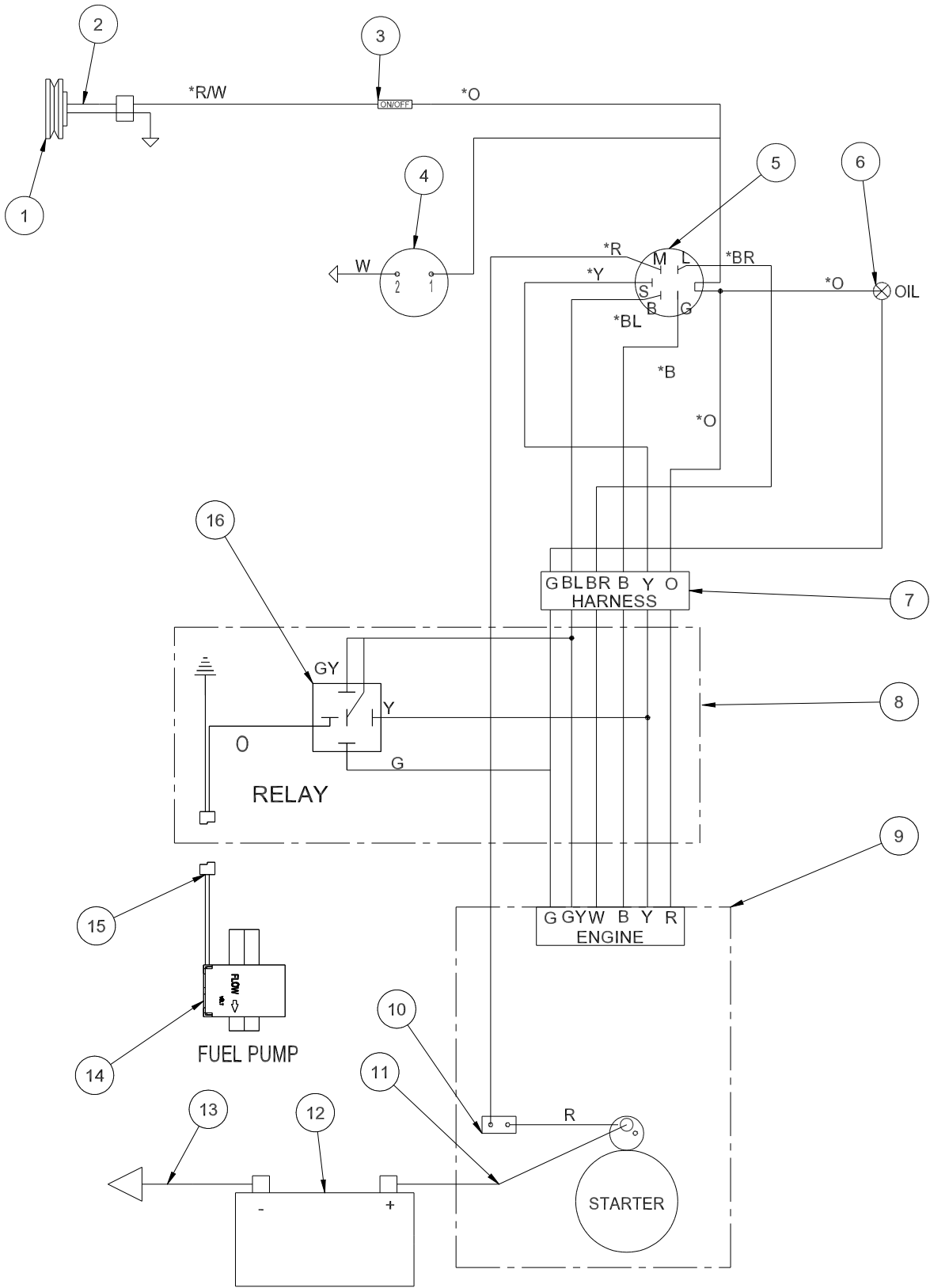
1. Open tailgate approximately 10 inches and shut off engine. Locate the  $\frac{3}{8}$  inch Hex Bolts that connect the lower lift arm to the tailgate (Connected by springs). Loosen them about  $1\frac{1}{2}$  turns.
2. Find at top corners of the tailgate the  $\frac{1}{2}$  inch Hex Bolt that connects the upper lift arms to the tailgate. Loosen both sides then push the tailgate in towards the hopper. The Hex Bolts will slide in the slots of the brackets on the end of the lift arms when pushed tight against the hopper. Tighten the outside nut just tight enough to hold it from moving in the slot, repeat on other side. (Do not over tighten).
3. Start the machine move the valve handle to the lower position and close the tailgate, as the tailgate comes in contact with the hopper it will push the top of the tailgate outward in the slots in the top lift arm as the Hex Bolts slide outward in the slots. As the Hex Bolts slide outward in the slots the tailgate will also glide downward approximately  $\frac{1}{2}$  inch. Check to see that the tailgate fits tight against the hopper. Then tighten the nuts together on both of the top corners of the tailgate using two  $\frac{3}{4}$  inch wrenches. Then tighten the nuts on the  $\frac{3}{8}$  inch Hex Bolts on the lower sides of the tailgate using two  $\frac{9}{16}$  inch wrenches.

## STORAGE

When storing, remove the key from the key switch to avoid unauthorized persons from operating machine.

1. Before storing clean machine thoroughly.
2. Check Hex Bolts and nuts, tighten as necessary.
3. Make all repairs that are needed and remove any debris.
4. Remove the battery, adjust the electrolyte level and recharge it. Store the battery in a dry, dark place.
5. Store in a clean and dry area, but NOT near a stove, furnace or water heater which uses a pilot light or any device that can create a spark.
6. Engines stored over 30 days need to be protected or drained of fuel to prevent gum from forming in a fuel system or on essential carburetor parts. Check the engine manual and follow the instructions for the storage of the engine.

# WIRING DRAWING

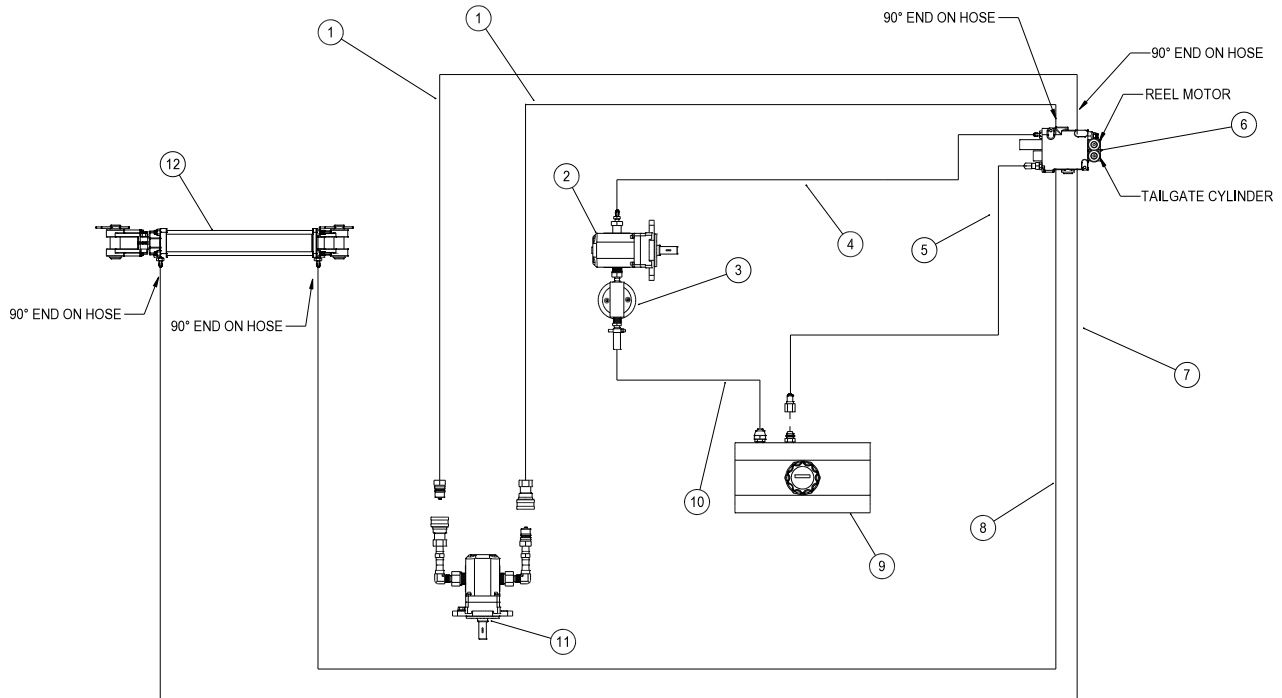


Diagrams

## WIRING PARTS LIST

| REF# | PART#     | DESCRIPTION   | QUANTITY |
|------|-----------|---|----------|
| 1    | 78-368    | Electric Clutch                                     | 1        |
| 2    | 17-271    | Pigtail Harness for Electric Clutch                 | 1        |
| 3    | 15-314    | Toggle Switch                                       | 1        |
|      | 15-472    | Switch Boot   | 1        |
| 4    | 12-804    | Hour Meter  | 1        |
| 5    | 13-488    | Ignition Switch                                     | 1        |
| 6    | 50-359    | Oil Light   | 1        |
|      | 8874      | Line Connector                                      | 1        |
|      | 8875      | Male Bullet Connector                               | 1        |
|      | 8963      | Heat Shrink   | 2        |
| 7    | 78-442    | Main Wire Harness (includes all wire colors with *) | 1        |
| 8    | 76-633    | Fuel Pump Wire Harness                              | 1        |
| 9    |           | Plug on Engine                                      | 1        |
| 10   | 8975      | 30 Amp Circuit Breaker                              | 1        |
|      | 8977      | Circuit Breaker Boot                                | 1        |
| 11   | 78-325    | Red Battery Cable with Boot                         | 1        |
| 12   | 22-073    | Battery   | 1        |
| 13   | 22-054    | Battery Cable Black                                 | 1        |
| 14   | 76-757    | Electric Fuel Pump                                  | 1        |
| 15   | 9016      | 2-Contact Tower                                     | 1        |
|      | 9017      | Weather Pack Terminal                               | 2        |
|      | 9018      | Seal  | 2        |
| 16   | 30-042-06 | Relay   | 1        |
|      | 78-442    | Wire Harness (includes all wire colors with *)      |          |
|      | 76-633    | Electric Fuel Pump Wire Harness                     |          |

# HYDRAULIC DRAWING



Diagrams



## HYDRAULIC PARTS LIST

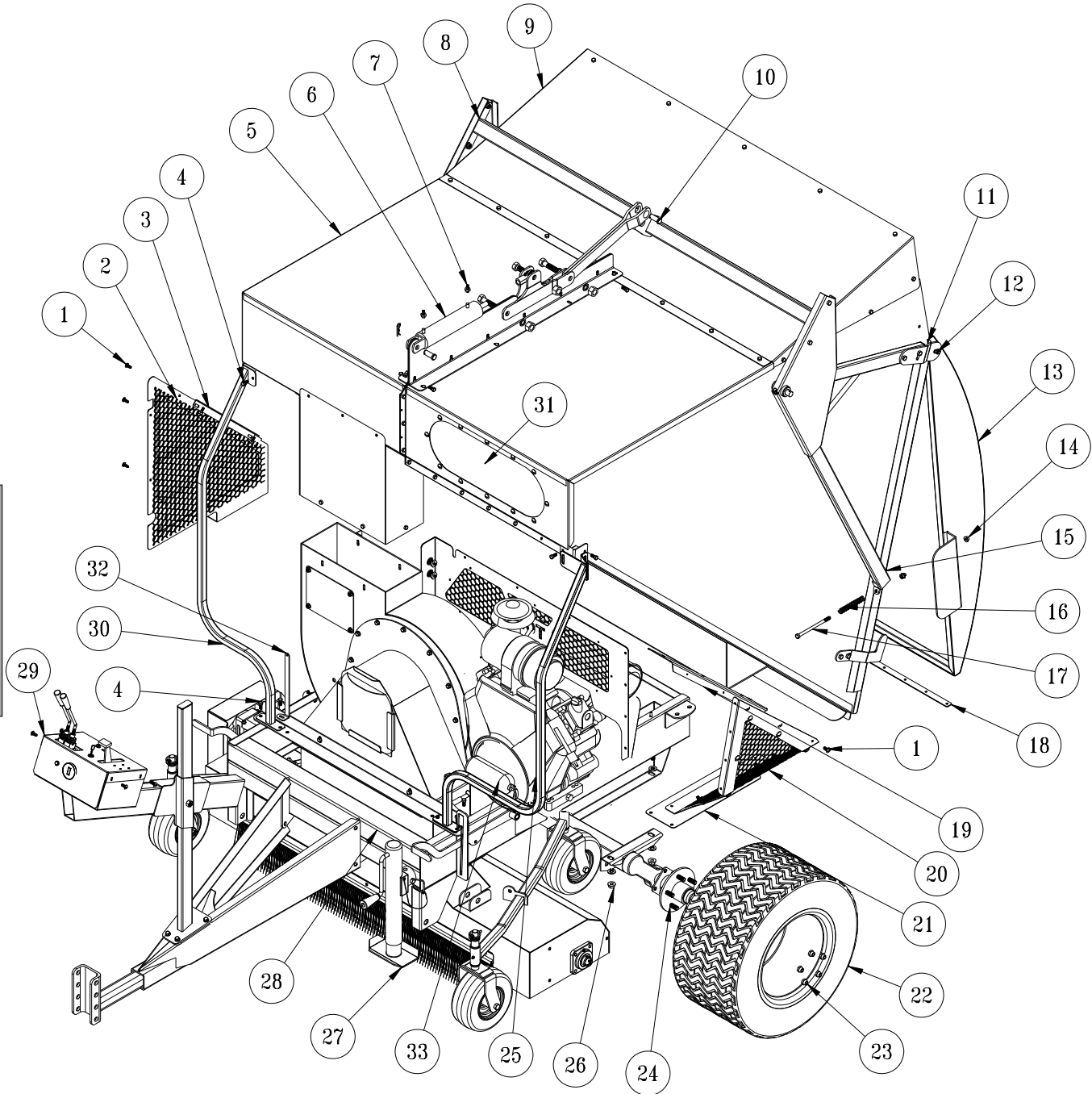
| REF# | PART#   | DESCRIPTION                                    | QUANTITY |
|------|---------|--|----------|
| 1    | 78-247  | Hydraulic Hose (brush motor to valve)          | 2        |
| 2    | 78-413  | Hydraulic Pump                                 | 1        |
| 3    | 23-006  | Oil Filter                                     | 1        |
|      | 23-031  | Filter Element (replacement only)              | 1        |
| 4    | 78-249  | Hydraulic Hose (pump to valve)                 | 1        |
| 5    | 78-250  | Hydraulic Hose (return to tank )               | 1        |
| 6    | 78-415  | 2-Bank Hydraulic Valve                         | 1        |
| 7    | 78-246  | Hydraulic Hose (rear hyd. cyl. to front valve) | 1        |
| 8    | 78-248  | Hydraulic Hose (front hyd. cyl. to rear valve) | 1        |
| 9    | 13-584  | Oil Tank                                       | 1        |
| 10   | 8917-14 | Suction Hose $\frac{5}{8}$ ID x 14             | 1        |
|      | 18-040  | Hose Clamp                                     | 2        |
| 11   | 78-414  | Hydraulic Motor                                | 1        |
| 12   | 15-839  | Hydraulic Cylinder                             | 1        |

### HYDRAULIC PRESSURES

|                                 |                         |
|---------------------------------|-------------------------|
| Pump Displacement               | .4 in <sup>3</sup> /rev |
| Pump Input Speed (up to)        | 3600 rpm                |
| Max. Operating Pressure         | 2500 psi                |
| Max. Inlet Vacuum               | 10 in. Hg               |
| Max. Case Pressure              | 80 psi                  |
| 78-415 Hydraulic Valve (2 bank) | 2500 psi                |

# BODY AND FRAME DRAWING

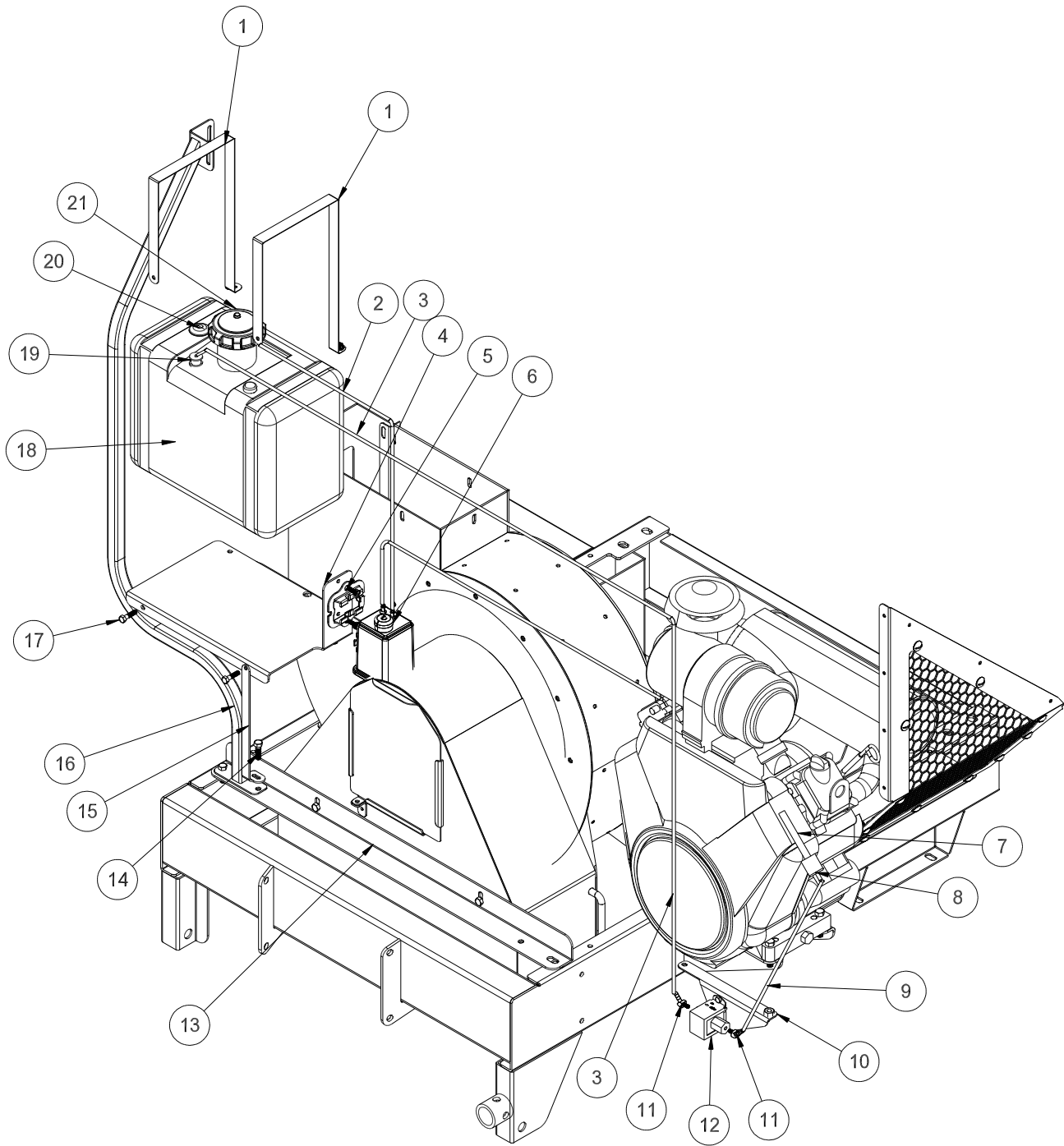
PARTS



# BODY AND FRAME PARTS LIST

| REF# | PART#           | DESCRIPTION                                       | QUANTITY |
|------|-----------------|---|----------|
| 1    | HSTP-14-20-075  | Phillips Truss Head Machine Screw, 1/4 - 20 x 3/4 | 8        |
| 2    | 78-253          | Right Guard                                       | 1        |
|      | 78-274          | Cage Nuts   | 2        |
| 3    | 78-315          | Right Guard Mount                                 | 1        |
|      | 78-274          | Cage Nuts   | 2        |
|      | HBFL-516-18-075 | Flange Whiz-Loc Bolt, 5/16 - 18 x 3/4             | 2        |
|      | HNFL-516-18     | Flange Whiz-Loc Nut, 5/16 - 18                    | 2        |
| 4    | HBFL-516-18-075 | Flange Whiz-Loc Bolt, 5/16 - 18 x 3/4             | 8        |
|      | HNFL-516-18     | Flange Whiz-Loc Nut, 5/16 - 18                    | 8        |
| 5    | 78-260          | Right Hopper                                      | 1        |
| 6    | 15-839          | Hydraulic Cylinder                                | 1        |
|      | 14-531          | Seal Kit  | 1        |
| 7    | 18-169          | Adapter, 3/8 SAE                                  | 2        |
| 8    | 78-265          | Cross Bar   | 1        |
| 9    | 78-272          | Hopper Cover                                      | 1        |
| 10   | HCP-58-175      | Clevis Pin, 5/8 x 1 3/4                           | 2        |
|      | HHP-18-100      | Cotter Pin, 1/8 x 1                               | 2        |
| 11   | 78-319          | Hopper Door Adjustment                            | 2        |
| 12   | HNFL-12-13      | Flange Whiz-Loc Nut, 1/2 - 13                     | 4        |
|      | HW-12           | Flat Washer, 1/2                                  | 4        |
|      | HB-12-13-250    | Hex Bolt, 1/2 - 13 x 2 1/2                        | 2        |
| 13   | 78-266          | Hopper Door                                       | 1        |
| 14   | HNFL-38-16      | Flange Whiz-Loc Nut, 3/8 - 16                     | 4        |
| 15   | 78-264          | Left Door Arm                                     | 1        |
| 16   | 19-205          | Spring  | 2        |
| 17   | HB-38-16-575    | Hex Bolt, 3/8 - 16 x 5 3/4                        | 2        |
| 18   | 78-387          | Weatherstripping Bracket                          | 2        |
|      | 8979-61         | Door Weatherstripping                             | 2        |
|      | HSD-8-050       | Drill Screw, #8 x 1/2                             | 32       |
| 19   | 78-448          | Left Guard Mount                                  | 1        |
|      | 78-274          | Cage Nuts   | 3        |
|      | HBFL-516-18-075 | Flange Whiz-Loc Bolt, 5/16 - 18 x 3/4             | 3        |
|      | HNFL-516-18     | Flange Whiz-Loc Nut, 5/16 - 18                    | 3        |
| 20   | 78-339          | Left Guard  | 1        |
|      | 78-274          | Cage Nuts   | 4        |
| 21   | 78-447          | LH Guard Extension                                | 1        |
| 22   | 78-221          | Tire and Wheel                                    | 2        |
|      | 16-225-01       | Tire, 24 x 13 -12                                 | 2        |
|      | 78-221-02       | Wheel   | 2        |
| 23   | HNL-12-20       | Lug Nut, 1/2 - 20 (part of 78-216)                | 10       |
| 24   | 78-216          | Rear Axle   | 1        |
| 25   | 78-444          | Left Brush Guard                                  | 1        |
| 26   | HB-12-13-125    | Hex Bolt, 1/2 - 13 x 1 1/4                        | 4        |
|      | HW-12           | Flat Washer, 1/2                                  | 4        |
|      | HNTL-12-13      | Nylon Lock Nut, 1/2 - 13                          | 4        |
| 27   | 78-240          | Jack  | 1        |
| 28   | 78-449          | Main Frame  | 1        |
|      | HLC-A-200       | Loom Clamp  | 4        |
|      | HSDPS-14-075    | Stainless Steel Pan Head Drill Screw, 1/4 x 3/4   | 4        |
| 29   | 78-446          | Operator Control Panel                            | 1        |
| 30   | 78-269          | Right Brush Guard                                 | 1        |
| 31   | 78-345          | Clear Lexan Window                                | 1        |
| 32   | 78-458          | Tank Brace  | 1        |
| 33   | 76-354          | 2 1/2 # ABC Dry Chemical Fire Extinguisher        | 1        |

# FUEL TANK DRAWING

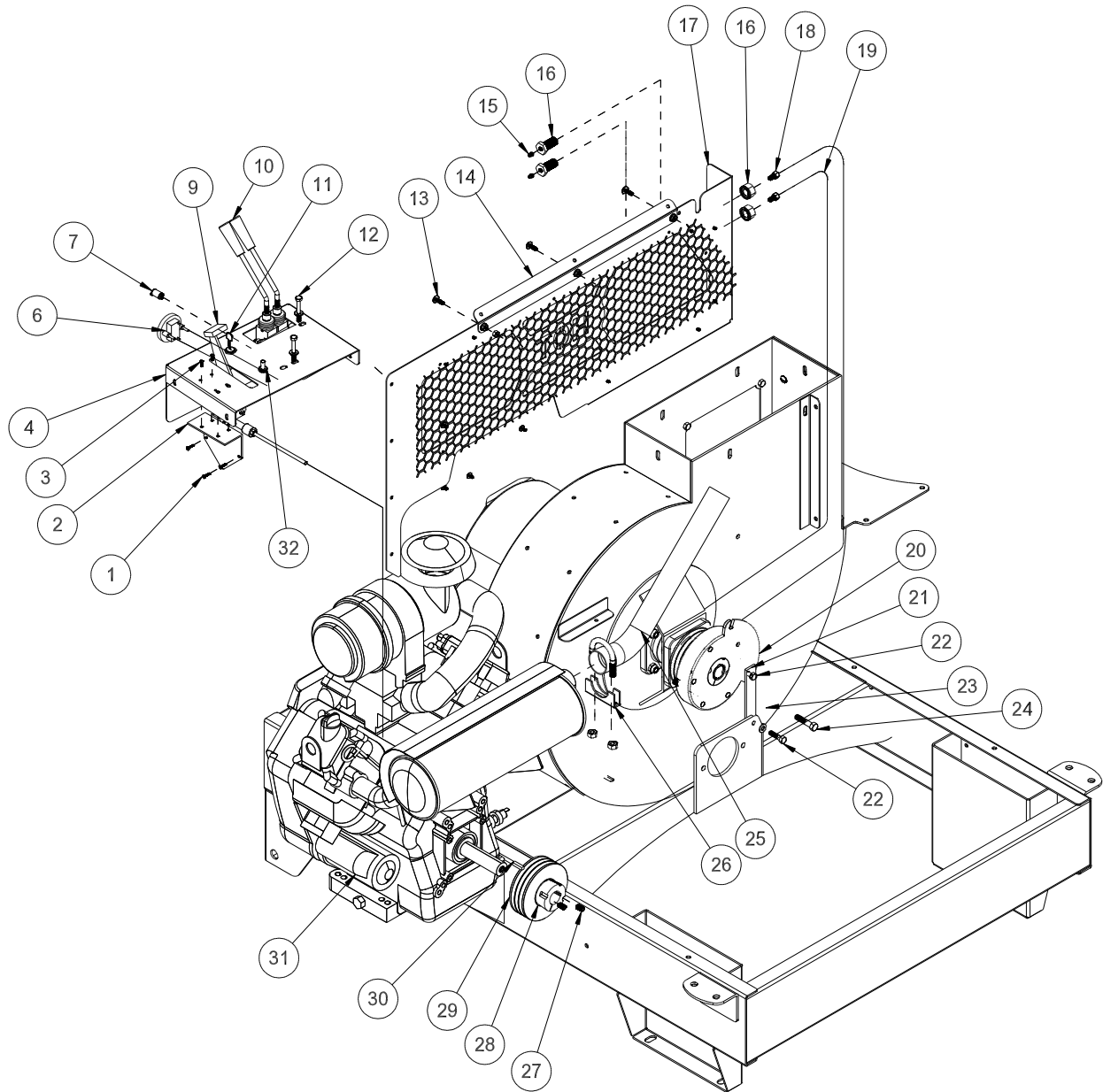


Parts

## FUEL TANK PARTS LIST

| REF# | PART#          | DESCRIPTION                            | QUANTITY |
|------|----------------|--|----------|
| 1    | 78-456         | Tank Strap                             | 2        |
|      | HSTP-14-20-075 | Machine Screw, 1/4 - 20 x 3/4          | 2        |
|      | HNFL-14-20     | Flange Whiz-Loc Nut, 1/4 - 20          | 2        |
| 2    | 8800-100       | Fuel Hose, 1/4 x 100"                  | 1        |
|      | 18-186         | Hose Clamp                             | 2        |
| 3    | 8800-86        | Fuel Hose, 1/4 x 86"                   | 1        |
|      | 18-186         | Hose Clamp                             | 2        |
| 4    | 78-455         | Tank Bracket                           | 1        |
| 5    | 8-688          | Canister Mount                         | 1        |
|      | HB-14-20-075   | Hex Bolt, 5/16 - 18 x 3/4              | 2        |
|      | HW-14          | Flat Washer, 1/4                       | 2        |
|      | HNTL-14-20     | Top Loc Nut, 1/4 - 20                  | 2        |
| 6    | 8-689          | Carbon Canister                        | 1        |
| 7    | 8800-12        | Fuel Hose, 1/4 x 12"                   | 1        |
|      | 18-186         | Hose Clamp                             | 2        |
| 8    | 50-403         | In-line Fuel Filter                    | 1        |
| 9    | 8800-14        | Fuel Hose, 1/4 x 14"                   | 1        |
|      | 18-186         | Hose Clamp                             | 2        |
| 10   | 78-459         | Electric Fuel Pump Mount               | 1        |
| 11   | 18-420         | 45° Fitting                            | 2        |
| 12   | 76-757         | Electric Fuel Pump                     | 1        |
| 13   | 78-276         | Vacuum Housing Support                 | 1        |
| 14   | HB-38-16-125   | Hex Bolt, 3/8 - 16 x 1 1/4             | 2        |
|      | HNFL-38-16     | Flange Whiz-Loc Nut, 3/8 - 16          | 2        |
| 15   | 78-458         | Tank Brace                             | 1        |
| 16   | 78-269         | Right Brush Guard                      | 1        |
| 17   | HB-14-20-125   | Hex Bolt, 1/4 - 20 - 1 1/4             | 4        |
|      | HNFL-14-20     | Flange Whiz-Loc Nut, 1/4 - 20          | 4        |
| 18   | 15-838         | 6 Gal CARB Gas Tank (includes * items) | 1        |
| 19*  |                | Top Draw                               | 1        |
| 20*  | 15-838-01      | Dial Fuel Level Gauge                  | 1        |
| 21*  | 73-050         | Gas Cap (replacement only)             | 1        |

# ENGINE AND CONTROLS DRAWING



**Cyclonic air cleaner**  
76-395-04

42-078-02  
Hood

76-395-09  
Mounting Band

Safety Filter Cartridge  
76-395-02

Air cleaner cartridge  
76-395-01

76-395-06  
Hose

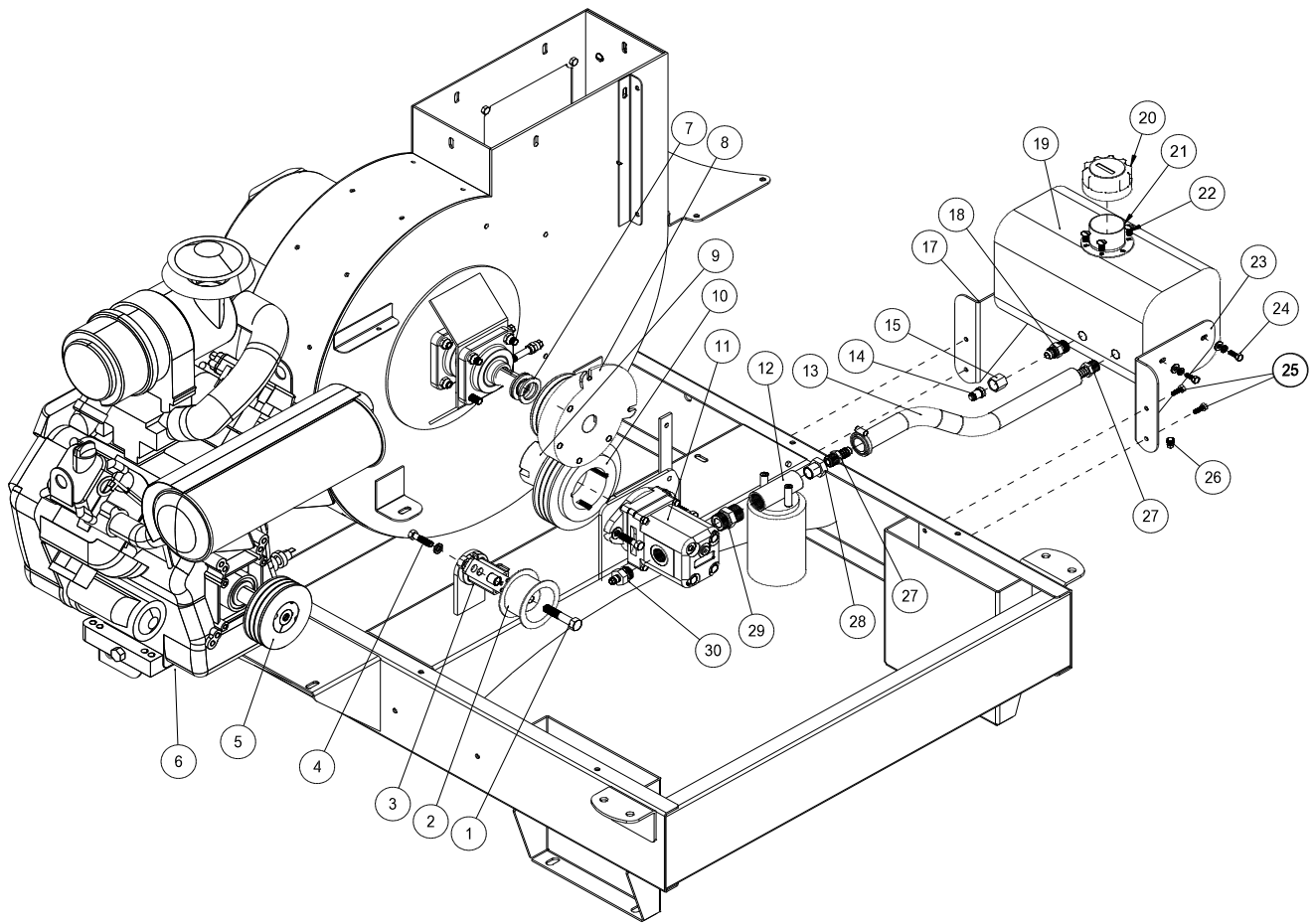
Rubber Valve  
76-395-08

Parts

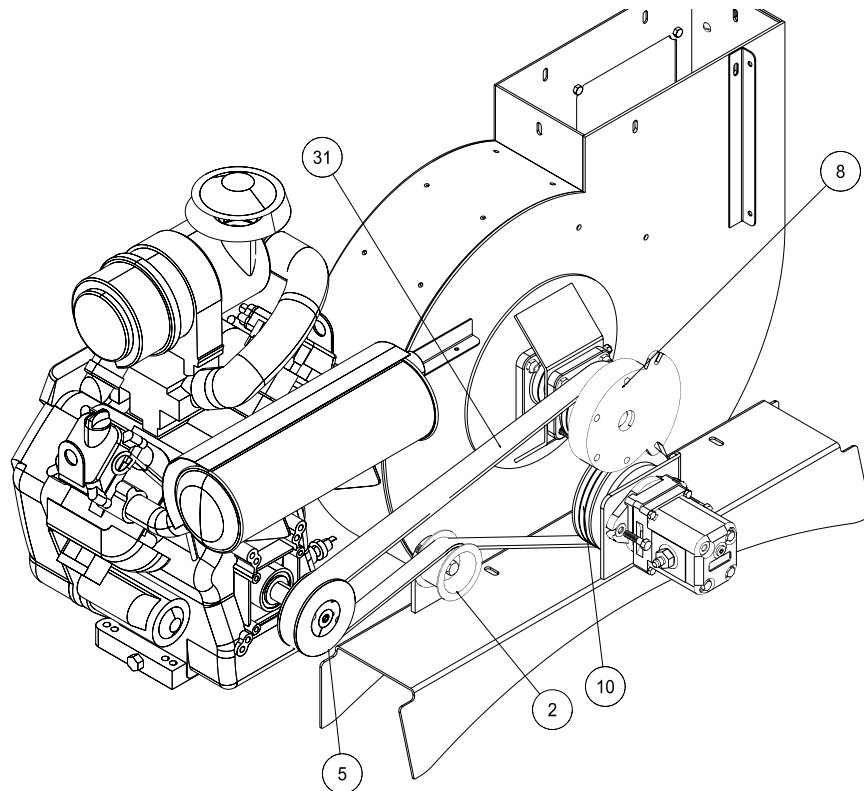
## ENGINE AND CONTROLS PARTS LIST

| REF# | PART#           | DESCRIPTION   | QUANTITY |
|------|-----------------|---|----------|
| 1    | HSM-10-32-063   | Machine Screw, #10 - 32 x $\frac{5}{8}$                               | 4        |
|      | HNFL-10-32      | Flange Whiz-Loc Nut, #10 - 32   | 4        |
| 2    | 34-159          | Throttle Mounting Bracket   | 1        |
| 3    | HSM-10-32-063   | Machine Screw, #10 - 32 x $\frac{5}{8}$                               | 4        |
|      | HNFL-10-32      | Flange Whiz-Loc Nut, #10 - 32   | 4        |
| 4    | 78-446          | Operator Control Panel V62  | 1        |
|      | 78-217          | Decal, Operator Control Panel V62                                     | 1        |
|      | HB-14-20-075    | Hex Bolt, $\frac{1}{4}$ - 20 x $\frac{3}{4}$                          | 2        |
|      | HW-14           | Washer, $\frac{1}{4}$   | 2        |
|      | HNFL-14-20      | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                               | 2        |
| 6    | 12-804          | Hour Meter  | 1        |
| 7    | 78-340          | Oil Light   | 1        |
| 9    | 78-337          | Throttle  | 1        |
|      | HN-38-24        | Hex Nut, $\frac{3}{8}$ - 24   | 2        |
| 10   | 78-415          | 2-Bank Valve  | 1        |
|      | 78-418          | Bent Handle   | 2        |
| 11   | 13-488          | Ignition Switch   | 1        |
| 12   | HB-14-20-200    | Hex Bolt, $\frac{1}{4}$ - 20 x 2                                      | 2        |
|      | HW-14           | Flat Washer, $\frac{1}{4}$  | 2        |
|      | HNFL-14-20      | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                               | 2        |
| 13   | HSTP-14-20-075  | Phillips Truss Head Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 8        |
|      | HNFL-14-20      | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                               | 8        |
| 14   | 78-317          | Front Guard Mount   | 1        |
| 15   | HG-18-45        | Grease Fitting, $\frac{1}{8}$ Pipe x 45°                              | 2        |
| 16   | 18-339          | Anchor Coupling   | 2        |
| 17   | 78-445          | Front Guard   | 1        |
| 18   | 18-338          | Male Connector  | 2        |
| 19   | 78-324          | $\frac{3}{16}$ Brake Line 20"   | 2        |
| 20   | 78-368          | Electric Clutch   | 1        |
| 21   | 76-340          | Clutch Strap  | 1        |
| 22   | HB-516-18-100   | Hex Bolt, $\frac{5}{16}$ - 18 x 1                                     | 2        |
|      | HW-516          | Flat Washer, $\frac{5}{16}$   | 3        |
|      | HNTL-516-18     | Nylon Lock Nut, $\frac{5}{16}$ - 18                                   | 2        |
| 23   | 78-370          | Washer  | 1        |
| 24   | HB-38-16-125    | Hex Bolt, $\frac{3}{8}$ - 16 x $1\frac{1}{4}$                         | 1        |
|      | HWL-38          | Lock Washer, $\frac{3}{8}$  | 1        |
| 25   | 15-651          | Exhaust Pipe  | 1        |
| 26   | 50-394          | Muffler Clamp, $1\frac{3}{4}$   | 1        |
| 27   | HSSHS-38-16-063 | Set Screw, $\frac{3}{8}$ - 16 x $\frac{5}{8}$ (part of 78-427)        | 2        |
| 28   | 78-427          | Hub, $1\frac{1}{8}$   | 1        |
| 29   | 78-424          | Pulley  | 1        |
| 30   | HKSQ-14-100     | Machine Key, $\frac{1}{4}$ x $\frac{1}{4}$ x 1                        | 1        |
| 31   | 76-636          | Engine, 35 HP Briggs & Stratton                                       | 1        |
|      | 76-448          | Muffler   | 1        |
| 32   | 15-314          | Toggle Switch   | 1        |
|      | 15-472          | Switch Boot   | 1        |

# PULLEY AND PUMP DRAWING



Parts



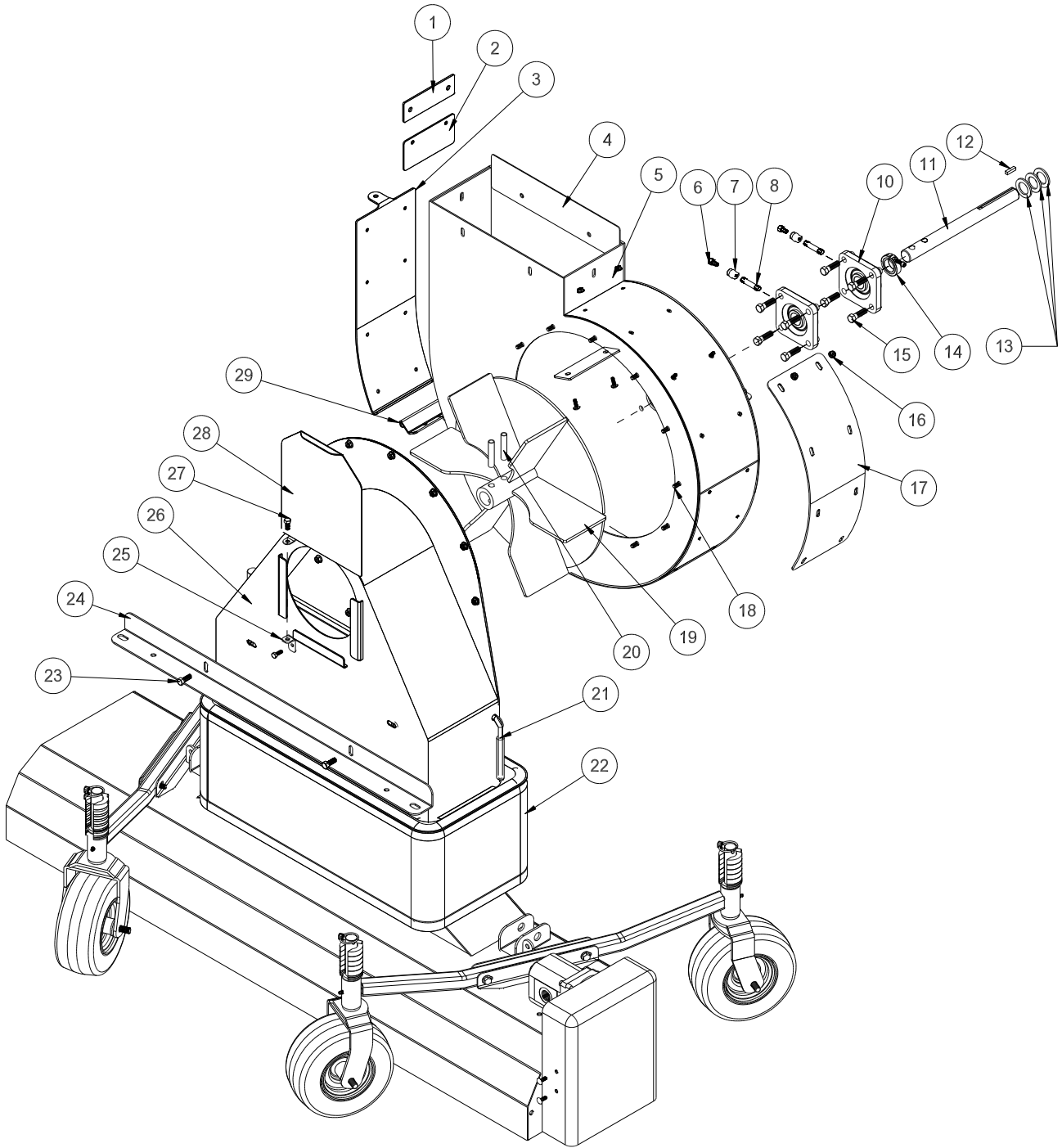


## PULLEY AND PUMP PARTS LIST

| REF# | PART#           | DESCRIPTION                                      | QUANTITY |
|------|-----------------|--|----------|
| 1    | HB-12-13-250    | Hex Bolt, 1/2 - 13 x 2 1/2 (part of 78-224)      | 1        |
|      | HMB-12-14       | Machine Bushing, 1/2 - 14GA                      | 2        |
|      | 76-275          | Spacer (part of 78-224)                          | 1        |
|      | HNCL-12-13      | Center Nylon Lock Nut, 1/2 - 13 (part of 78-224) | 1        |
| 2    | 16-013          | Idler Pulley                                     | 1        |
| 3    | 78-224          | Belt Tensioner                                   | 1        |
| 4    | HBM-10-1.5-30   | Metric Hex Bolt, 10-1.5 x 30 (part of 78-224)    | 1        |
|      | HWLM-10         | Metric Lock Washer, #10 (part of 78-224)         | 1        |
| 5    | 78-424          | Pulley   | 1        |
|      | 78-427          | Hub, 1 1/8                                       | 1        |
|      | HSSHS-38-16-063 | Set Screw, 3/8 - 16 x 5/8 (part of 78-427)       | 2        |
| 6    | 76-636          | Engine, 35 HP Briggs & Stratton                  | 1        |
|      | 76-448          | Muffler  | 1        |
| 7    | HMB-118-10      | Machine Bushing, 1 1/8 x 10GA                    | 2        |
|      | HMB-118-14      | Machine Bushing, 1 1/8 x 14GA                    | 1        |
| 8    | 78-368          | Electric Clutch                                  | 1        |
| 9    | 42-246          | Hub, 3/4   | 1        |
|      | HSSHS-12-13-100 | Set Screw, 1/2 - 13 x 1                          | 2        |
| 10   | 78-426          | Pulley 3-Groove (pump)                           | 1        |
| 11*  | 78-413          | Hydraulic Pump                                   | 1        |
|      | HWK-316-063     | Woodruff Key, 3/16 x 5/8                         | 1        |
|      | HB-38-16-150    | Hex Bolt, 3/8 - 16 x 1 1/2                       | 2        |
|      | HW-38           | Flat Washer, 3/8                                 | 4        |
|      | HNTL-38-16      | Nylon Lock Nut, 3/8 - 16                         | 2        |
| 12   | 23-006          | Oil Filter                                       | 1        |
|      | 23-031          | Replacement Filter Only                          |          |
| 13   | 8917-14         | Suction Hose, 5/8 ID                             | 1        |
|      | 18-040          | Hose Clamp                                       | 2        |
| 14   | 18-229          | 90° Elbow  | 1        |
| 15   | 18-362          | Adapter  | 1        |
| 17   | 78-278          | Front Oil Tank Bracket                           | 1        |
| 18   | 23-121          | Fitting  | 1        |
| 19   | 13-584          | Oil Tank   | 1        |
| 20   | 13-747          | Filter Breather                                  | 1        |
|      | 13-586-01       | Cap Gasket                                       | 1        |
| 21   | 13-586-03       | Neck   | 1        |
|      | 13-586-02       | Bottom Gasket                                    | 1        |
| 22   | HSM-10-32-063   | Machine Screw, 10 -32 x 5/8                      | 6        |
| 23   | 78-277          | Rear Oil Tank Bracket                            | 1        |
| 24   | HB-14-20-075    | Hex Bolt, 1/4 - 20 x 3/4                         | 4        |
|      | HWL-14          | Lock Washer, 1/4                                 | 4        |
|      | HW-14           | Flat Washer, 1/4                                 | 4        |
| 25   | HB-14-20-075    | Hex Bolt, 1/4 - 20 x 3/4                         | 4        |
|      | HNFL-14-20      | Flange Whiz-Loc Nut, 1/4 - 20                    | 4        |
| 26   | 18-118          | Pipe Plug, 1/8                                   | 1        |
| 27   | 23-139          | Barb Fitting                                     | 2        |
| 28   | 18-008          | Pipe Reducer                                     | 1        |
| 29   | 18-332          | Adapter  | 1        |
| 30   | 18-331          | Adapter  | 1        |
| 31   | 78-443          | Belt, 3-V  | 1        |

\* NO OTHER PARTS ARE REPLACEABLE FOR HYDRAULIC PUMP.

# BLOWER AND VACUUM HOUSING DRAWING

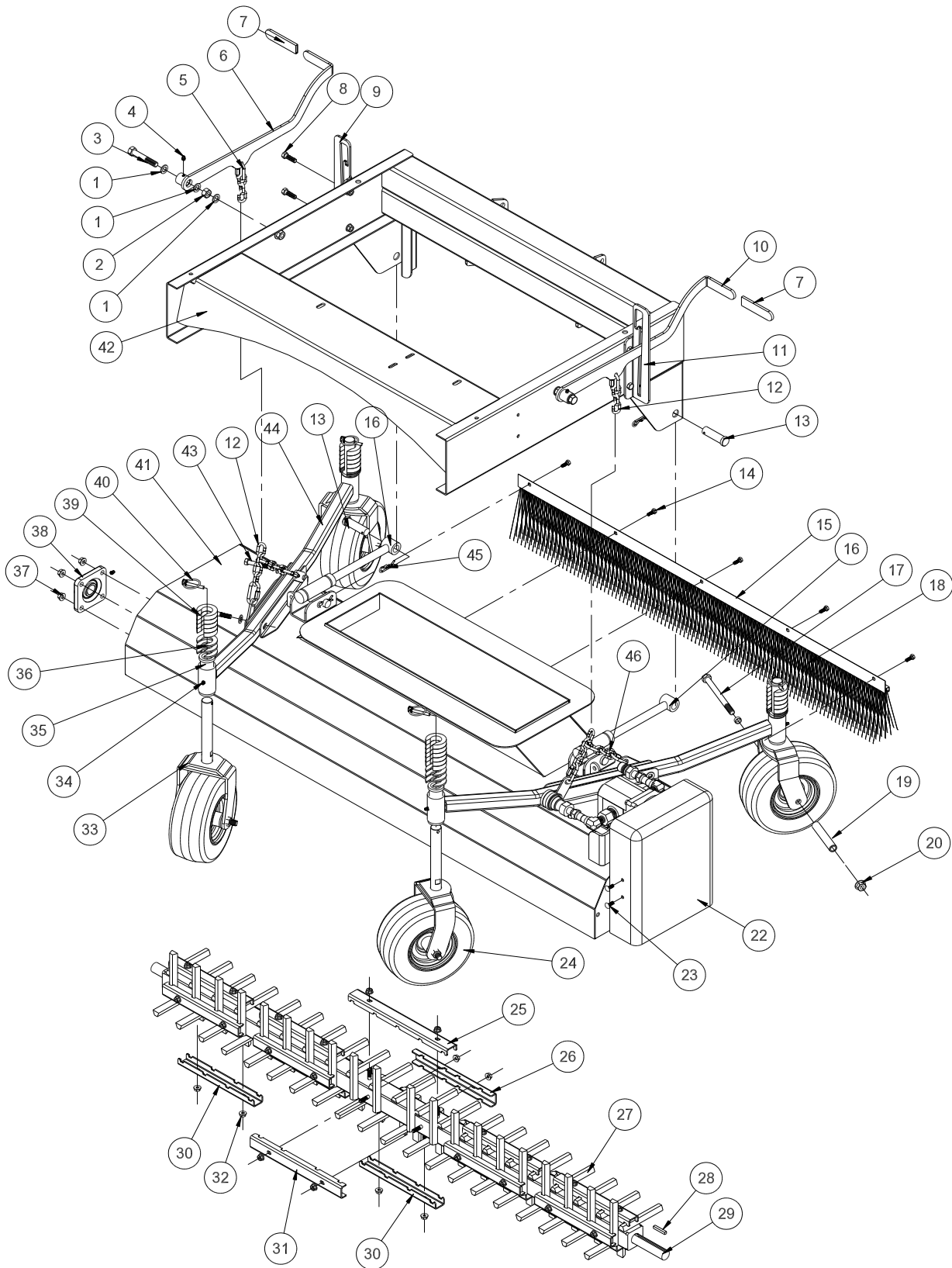


PARTS

# BLOWER AND VACUUM HOUSING PARTS LIST

| REF# | PART#           | DESCRIPTION                                       | QUANTITY |
|------|-----------------|---|----------|
| 1    | 78-419          | Bottom Lining Holder                              | 1        |
| 2    | 78-411          | Top Lining Holder                                 | 1        |
| 3    | 78-439          | Trap Door   | 1        |
|      | 78-403          | Trap Door Lining                                  | 1        |
|      | 8828-19         | Foam Tape, 19"                                    | 2        |
|      | 8828-6          | Foam Tape, 6"                                     | 1        |
| 4    | 78-355          | Splice  | 1        |
| 5    | 78-375          | Blower Housing                                    | 1        |
|      | 78-436          | Pipe Plug   | 1        |
|      | 78-402          | Blower Lining                                     | 1        |
|      | HWF-14-150      | Fender Washer, 1/4 x 1 1/2                        | 32       |
| 6    | 18-338          | Male Connector                                    | 2        |
| 7    | 18-269          | Coupling, 1/8                                     | 2        |
| 8    | 18-027          | Nipple, 1/8 x 2                                   | 2        |
| 10   | 78-223          | Mounted Bearing (1 1/8" Bore)                     | 2        |
| 11   | 78-336          | Vacuum Housing Shaft                              | 1        |
| 12   | HKSQ-14-100     | Machine Key, 1/4 x 1/4 x 1                        | 1        |
| 13   | HMB-118-10      | Machine Bushing, 1 1/8 x 10GA                     | 2        |
|      | HMB-118-14      | Machine Bushing, 1 1/8 x 14GA                     | 1        |
| 14   | 78-437          | Shaft Collar                                      | 1        |
| 15   | HB-716-14-150   | Hex Bolt, 7/16 - 14 x 1 1/2                       | 8        |
|      | HNTL-716-14     | Nylon Lock Nut, 7/16 - 14                         | 8        |
| 16   | HSTP-14-20-075  | Phillips Truss Head Machine Screw, 1/4 - 20 x 3/4 | 20       |
|      | HSTP-14-20-100  | Phillips Truss Head Machine Screw, 1/4 - 20 x 1   | 12       |
|      | HNTL-14-20      | Nylon Lock Nut, 1/4 - 20                          | 32       |
| 17   | 78-412          | Wear Cover  | 1        |
| 18   | HBFL-516-18-075 | Flange Whiz-Loc Bolt, 5/16 - 18 x 3/4             | 11       |
|      | HNTL-516-18     | Nylon Lock Nut, 5/16 - 18                         | 11       |
| 19   | 78-301          | Balanced Fan                                      | 1        |
| 20   | 78-347          | Spiral Spring Pin                                 | 2        |
| 21   | 25-120          | Handle Grip                                       | 1        |
|      | 72-132          | Spring  | 1        |
| 22   | 78-243          | Sweeper Boot                                      | 1        |
| 23   | HBFL-38-16-075  | Flange Whiz-Loc Bolt, 3/8 - 16 x 3/4              | 2        |
|      | HNFL-38-16      | Flange Whiz-Loc Nut, 3/8 - 16                     | 2        |
| 24   | 78-276          | Vacuum Housing Support                            | 1        |
| 25   | 78-433          | Cover Plate Hex Bolt Tab                          | 1        |
|      | HB-14-20-075    | Hex Bolt, 1/4 - 20 x 3/4                          | 1        |
|      | HNTL-14-20      | Nylon Lock Nut, 1/4 - 20                          | 1        |
| 26   | 78-257          | Vacuum Housing                                    | 1        |
|      | 8803-80         | Trim Black  | 1        |
| 27   | HB-516-18-075   | Hex Bolt, 5/16 - 18 x 3/4                         | 1        |
|      | HNTL-516-18     | Nylon Lock Nut, 5/16 - 18                         | 1        |
| 28   | 78-293          | Cover Plate                                       | 1        |
| 29   | 78-440          | Door Pivot  | 1        |

# FINGER REEL DRAWING



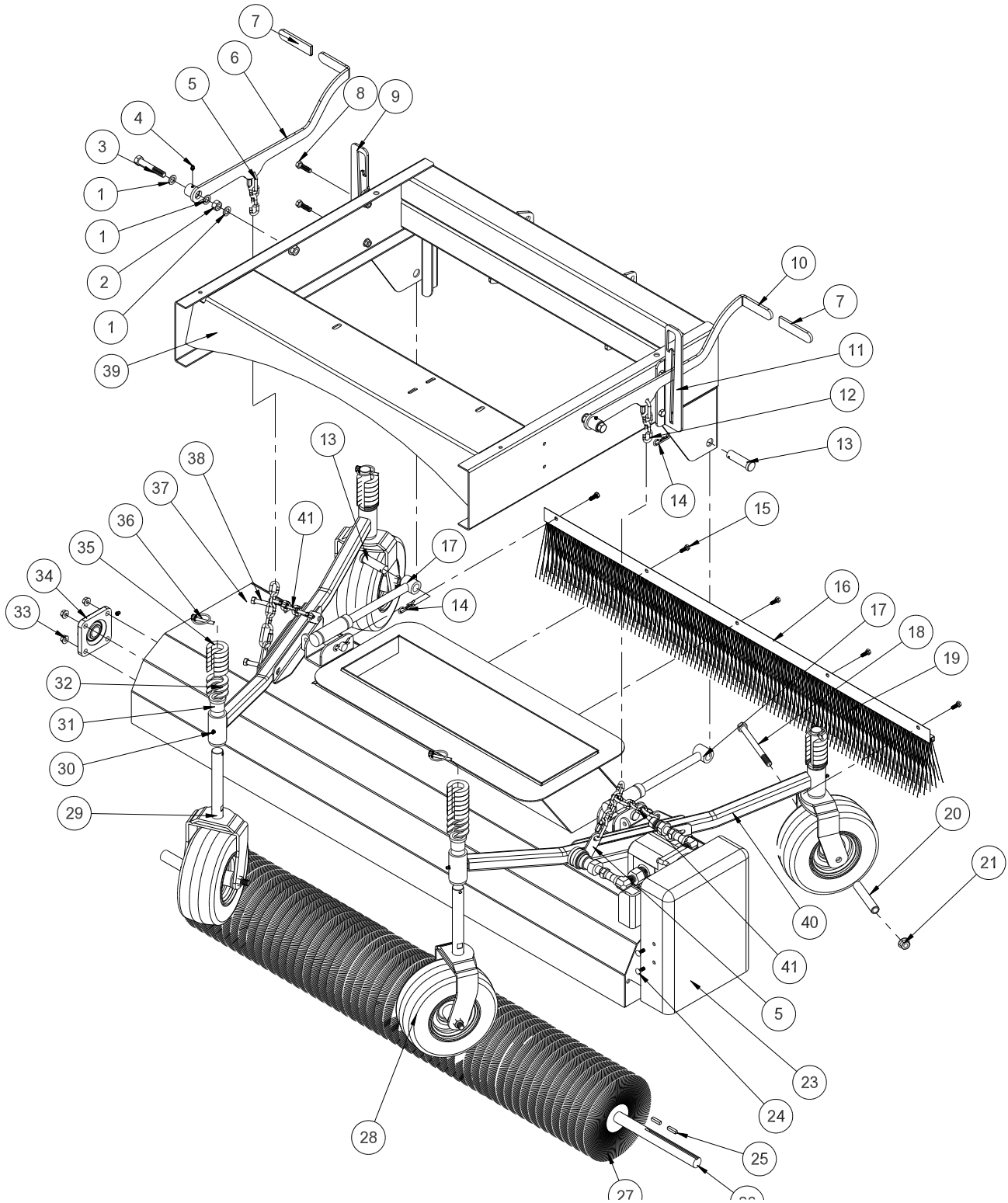
Parts

# FINGER REEL PARTS LIST

| REF# | PART#         | DESCRIPTION  | QUANTITY |
|------|---------------|--|----------|
| 1    | HMB-58-14     | Machine Bushing, $\frac{5}{8}$ x 14GA                        | 6        |
| 2    | HN-58-11      | Hex Nut, $\frac{5}{8}$ - 11                                  | 2        |
| 3    | HB-58-11-300  | Hex Bolt, $\frac{5}{8}$ - 11 x 3                             | 2        |
|      | HNTL-58-11    | Nylon Lock Nut, $\frac{5}{8}$ - 11                           | 2        |
| 4    | HG-14-28-180  | Grease Fitting, $\frac{1}{4}$ - 28 x 180°                    | 2        |
| 5    | 78-241        | Chain Connector  | 8        |
| 6    | 78-284        | Left Hand Deck Lift  | 1        |
|      | 20-018        | Bushing (part of 78-284)                                     | 1        |
| 7    | 15-020        | Hand Grip  | 2        |
| 8    | HB-38-16-125  | Hex Bolt, $\frac{3}{8}$ - 16 x 1 $\frac{1}{4}$               | 4        |
|      | HNFL-38-16    | Flange Whiz-Loc Nut, $\frac{3}{8}$ - 16                      | 4        |
| 9    | 78-286        | Left Hand Lift Arm Latch                                     | 1        |
| 10   | 78-283        | Right hand Deck Lift   | 1        |
|      | 20-018        | Bushing (part of 78-283)                                     | 1        |
| 11   | 78-285        | Right Hand Lift arm Latch                                    | 1        |
| 12   | 8820-8        | Machine Chain Straight Link                                  | 2        |
| 13   | HCP-34-250    | Clevis Pin, $\frac{3}{4}$ x 2 $\frac{1}{2}$                  | 4        |
| 14   | HB-14-20-075  | Hex Bolt, $\frac{1}{4}$ - 20 x $\frac{3}{4}$                 | 5        |
|      | HNFL-14-20    | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                      | 5        |
| 15   | 78-344        | Strip Brush Holder (drilled)                                 | 1        |
| 16   | 78-271        | Reel Lift Rod  | 2        |
| 17   | HB-12-13-600  | Hex Bolt, $\frac{1}{2}$ - 13 x 6                             | 4        |
| 18   | 78-322        | Strip Brush  | 1        |
| 19   | 33-338        | Axle Bearing   | 4        |
| 20   | HMB-12-14     | Machine Bushing, $\frac{1}{2}$ x 14GA                        | 4        |
|      | HNTL-12-13    | Nylon Lock Nut, $\frac{1}{2}$ - 13                           | 4        |
| 22   | 72-056        | Plastic Belt Guard   | 1        |
| 23   | HST-14-20-075 | Truss Head Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 4        |
|      | HNFL-14-20    | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                      | 4        |
| 24   | 42-202        | Tire & Wheel   | 4        |
|      | 42-202-01     | Tire, 9 x 3.5 x 4 Ply  | 4        |
|      | 42-202-02     | Wheel  | 4        |
| 25   | 78-287        | Finger Clamp, 13"  | 1        |
| 26   | 78-327        | Finger Clamp, 10.5"  | 1        |
| 27   | 8969-5.250    | Sweeper Finger   | 81       |
| 28   | HKSQ-14-100   | Machine Key, $\frac{1}{4}$ x $\frac{1}{4}$ x 1               | 1        |
| 29   | 78-303        | Finger Reel Bar  | 1        |
| 30   | 78-297        | Finger Clamp, 10"  | 17       |
| 31   | 78-326        | Finger Clamp, 12"  | 1        |
| 32   | HNFL-516-18   | Flange Whiz-Loc Nut, $\frac{5}{16}$ - 18                     | 42       |
| 33   | 78-434        | Castor Fork  | 4        |
| 34   | HG-14-28-180  | Grease Fitting, $\frac{1}{4}$ - 28 x 180° (part of 78-434)   | 2        |
| 35   | 18-223        | Flange Bushing (part of 78-434)                              | 4        |
| 36   | 72-136        | Quick Spacer, 10GA   | 12       |
| 37   | HNFL-38-16    | Flange Whiz-Loc Nut, $\frac{3}{8}$ - 16                      | 4        |
|      | HB-38-16-125  | Hex Bolt, $\frac{3}{8}$ - 16 x 1 $\frac{1}{4}$               | 4        |
| 38   | 78-222        | Mounted Bearing (1" bore)                                    | 2        |
| 39   | 72-053        | Quick Spacer   | 24       |
| 40   | 42-539        | Lynch Pin, $\frac{5}{16}$                                    | 4        |
| 41   | 78-401        | Reel Housing   | 1        |
|      | 8803-80       | Trim Black   | 1        |
| 42   | 78-449        | Main Frame   | 1        |
| 43   | HB-38-16-225  | Hex Bolt, $\frac{3}{8}$ - 16 x 2 $\frac{1}{4}$               | 4        |
|      | HW-38         | Washer $\frac{3}{8}$   | 4        |
|      | HNFL-38-16    | Flange Whiz-Loc Nut, $\frac{3}{8}$ - 16                      | 4        |
| 44   | 78-393        | Castor Arm   | 2        |
| 45   | HHP-18        | Bridge Pin, $\frac{1}{8}$                                    | 4        |
| 46   | 8820-3        | Machine Chain Straight Link                                  | 2        |

# BRUSH REEL DRAWING

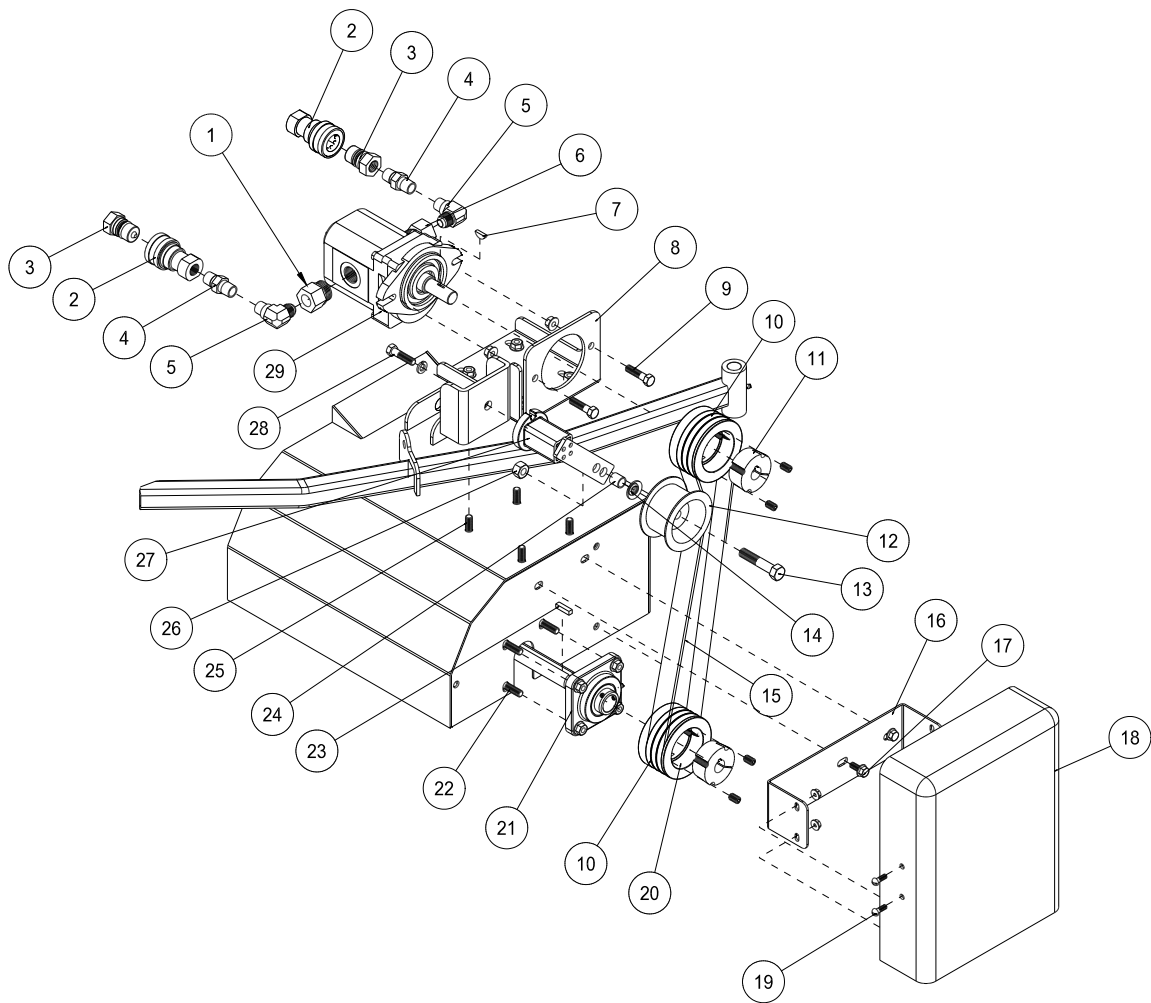
PARTS



# BRUSH REEL PARTS LIST

| REF# | PART#          | DESCRIPTION  | QUANTITY |
|------|----------------|--|----------|
| 1    | HMB-58-14      | Machine Bushing, $\frac{5}{8}$ x 14GA                        | 6        |
| 2    | HN-58-11       | Hex Nut, $\frac{5}{8}$ - 11                                  | 2        |
| 3    | HB-58-11-300   | Hex Bolt, $\frac{5}{8}$ - 11 x 3                             | 2        |
|      | HNTL-58-11     | Nylon Lock Nut, $\frac{5}{8}$ - 11                           | 2        |
| 4    | HG-14-28-180   | Grease Fitting, $\frac{1}{4}$ - 28 x 180°                    | 2        |
| 5    | 78-241         | Chain Connector  | 8        |
| 6    | 78-284         | Left Hand Deck Lift  | 1        |
|      | 20-018         | Bushing (part of 78-284)                                     | 1        |
| 7    | 15-020         | Hand Grip  | 2        |
| 8    | HB-38-16-125   | Hex Bolt, $\frac{3}{8}$ - 16 x 1 $\frac{1}{4}$               | 4        |
|      | HNFL-38-16     | Flange Whiz-Loc Nut, $\frac{3}{8}$ - 16                      | 4        |
| 9    | 78-286         | Left Hand Lift Arm Latch                                     | 1        |
| 10   | 78-283         | Right hand Deck Lift   | 1        |
|      | 20-018         | Bushing (part of 78-283)                                     | 1        |
| 11   | 78-285         | Right Hand Lift arm Latch                                    | 1        |
| 12   | 8820-8         | Machine Chain Straight Link                                  | 2        |
| 13   | HCP-34-250     | Clevis Pin, $\frac{3}{4}$ x 2 $\frac{1}{2}$                  | 4        |
| 14   | HHP-18         | Bridge Pin, $\frac{1}{8}$                                    | 4        |
| 15   | HB-14-20-075   | Hex Bolt, $\frac{1}{4}$ - 20 x $\frac{3}{4}$                 | 5        |
|      | HNFL-14-20     | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                      | 5        |
| 16   | 78-344         | Strip Brush Holder (drilled)                                 | 1        |
| 17   | 78-271         | Reel Lift Rod  | 2        |
| 18   | HB-12-13-600   | Hex Bolt, $\frac{1}{2}$ - 13 x 6                             | 4        |
| 19   | 78-322         | Strip Brush  | 1        |
| 20   | 33-338         | Axle Bearing   | 4        |
| 21   | HMB-34-10      | Machine Bushing, $\frac{3}{4}$ x 10GA                        | 4        |
|      | HNTL-12-13     | Nylon Lock Nut, $\frac{1}{2}$ - 13                           | 4        |
| 23   | 72-056         | Plastic Belt Guard   | 1        |
| 24   | HSTP-14-20-075 | Truss Head Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 4        |
|      | HNFL-14-20     | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                      | 4        |
| 25   | HKSQ-14-100    | Machine Key, $\frac{1}{4}$ x $\frac{1}{4}$ x 1               | 2        |
| 26   | 78-348         | Shaft Spiral Brush   | 1        |
| 27   | 78-321         | Spiral Brush   | 1        |
| 28   | 42-202         | Tire and Wheel   | 4        |
|      | 42-202-01      | Tire, 9 x 3.5 x 4 Ply  | 4        |
|      | 42-202-02      | Wheel  | 4        |
| 29   | 78-434         | Castor Fork  | 4        |
| 30   | HG-14-28-180   | Grease Fitting, $\frac{1}{8}$ x 28 x 180° (part of 78-434)   | 2 per    |
| 31   | 18-223         | Flange Bushing (part of 78-434)                              | 4 per    |
| 32   | 72-136         | Quick Spacer, 10GA   | 12       |
| 33   | HNFL-38-16     | Flange Whiz-Loc Nut, $\frac{3}{8}$ - 16                      | 4        |
|      | HB-38-16-125   | Hex Bolt, $\frac{3}{8}$ - 16 x 1 $\frac{1}{4}$               | 4        |
| 34   | 78-222         | Mounted Bearing (1" bore)                                    | 2        |
| 35   | 72-053         | Quick Spacer, $\frac{1}{2}$ "                                | 24       |
| 36   | 42-539         | Lynch Pin, $\frac{5}{16}$                                    | 4        |
| 37   | 78-401         | Reel Housing   | 1        |
|      | 8803-80        | Trim Black   | 1        |
| 38   | HB-38-16-250   | Hex Bolt, $\frac{3}{8}$ - 16 x 2 $\frac{1}{2}$               | 4        |
|      | HW-38          | Flat Washer, $\frac{3}{8}$                                   | 4        |
|      | HNFL-38-16     | Flange Whiz-Loc Nut, $\frac{3}{8}$ - 16                      | 4        |
| 39   | 78-449         | Main Frame   | 1        |
| 40   | 78-393         | Castor Arm   | 1        |
| 41   | 8820-3         | Machine Chain Straight Link                                  | 2        |

# REEL & HYDRAULIC PUMP DRAWING



PARTS

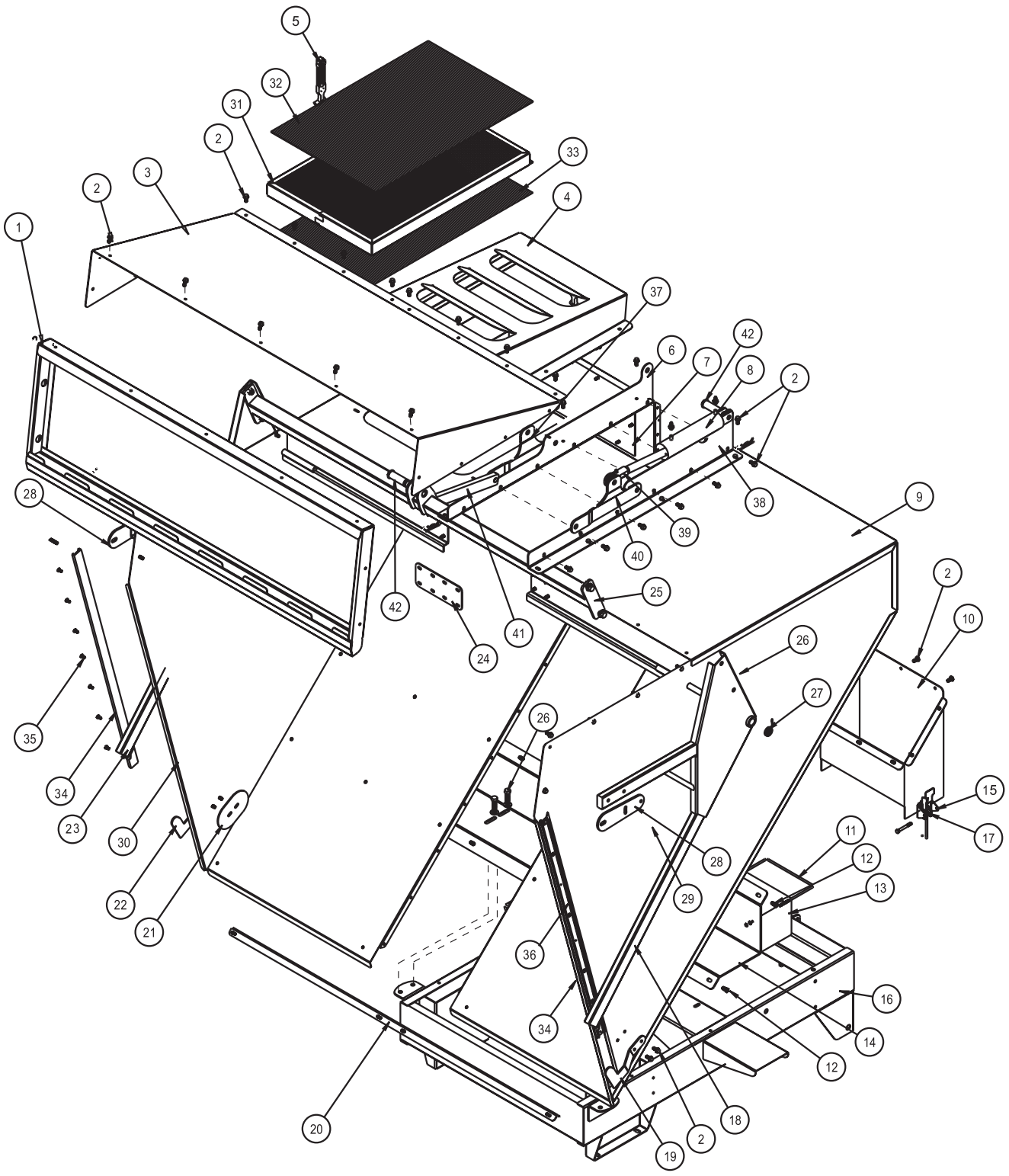


## REEL & HYDRAULIC PUMP PARTS LIST

| REF# | PART#           | DESCRIPTION                                      | QUANTITY |
|------|-----------------|--|----------|
| 1    | 18-240          | Pipe Adapter                                     | 1        |
| 2    | 78-228          | Coupler, 1/2"                                    | 2        |
| 3    | 78-229          | Nipple, 1/2"                                     | 2        |
| 4    | 18-334          | Nipple   | 2        |
| 5    | 18-009          | Elbow  | 2        |
| 6    | 18-333          | Adapter  | 1        |
| 7    | HWK-316-063     | Woodruff Key, 3/16 x 5/8                         | 1        |
| 8    | 78-259          | Hydraulic Motor Mount                            | 1        |
| 9    | HB-38-16-150    | Hex Bolt, 3/8 - 16 x 1 1/2                       | 2        |
|      | HNFL-38-16      | Flange Whiz-Loc Nut, 3/8 - 16                    | 2        |
| 10   | 78-424          | Pulley   | 2        |
| 11   | 78-428          | Hub, 3/4   | 1        |
|      | HSSHS-38-16-063 | Set Screw, 3/8 - 16 x 5/8 (part of 78-428)       | 2        |
| 12   | 16-013          | Idler Pulley                                     | 1        |
| 13   | HB-12-13-250    | Hex Bolt, 1/2 - 13 x 2 1/2 (part of 78-224)      | 1        |
| 14   | HMB-12-14       | Machine Bushing, 1/2 x 14GA                      | 2        |
| 15   | 78-226          | Belt, Single                                     | 3        |
| 16   | 72-058          | Belt Guard Mount Bracket                         | 1        |
| 17   | HBFL-516-18-075 | Flange Whiz-Loc Bolt, 5/16 - 18 x 3/4            | 2        |
|      | HNFL-516-18     | Flange Whiz-Loc Nut, 5/16 - 18                   | 2        |
| 18   | 72-056          | Plastic Belt Guard                               | 1        |
| 19   | HSTP-14-20-075  | Truss Head Machine Screw, 1/4 - 20 x 3/4         | 4        |
|      | 78-274          | Cage Nuts  | 4        |
| 20   | 78-429          | Hub, 1"  | 1        |
|      | HSSHS-38-16-063 | Set Screw, 3/8 - 16 x 5/8 (part of 78-429)       | 2        |
| 21   | 78-222          | Mounted Bearing (1" bore)                        | 2        |
| 22   | HB-38-16-125    | Hex Bolt, 3/8 - 16 x 1 1/4                       | 8        |
|      | HNFL-38-16      | Flange Whiz-Loc Nut, 3/8 - 16                    | 8        |
| 23   | HKSQ-14-100     | Machine Key, 1/4 x 1 1/4 x 1                     | 1        |
| 24   | 76-275          | Spacer (part of 78-224)                          | 1        |
| 25   | HB-38-16-100    | Hex Bolt, 3/8 - 16 x 1                           | 4        |
|      | HNFL-38-16      | Flange Whiz-Loc Nut, 3/8 - 16                    | 4        |
| 26   | HNCL-12-13      | Center Nylon Lock Nut, 1/2 - 13 (part of 78-224) | 1        |
| 27   | 78-224          | Belt Tensioner                                   | 1        |
| 28   | HBM-10-1.5-30   | Metric Hex Bolt, 10-1.5 x 30 (part of 78-224)    | 1        |
|      | HWLM-10         | Metric Lock Washer, #10 (part of 78-224)         | 1        |
| 29*  | 78-414          | Hydraulic Motor                                  | 1        |

\* **NO OTHER PARTS ARE REPLACEABLE FOR HYDRAULIC MOTOR.**

# HOPPER DRAWING



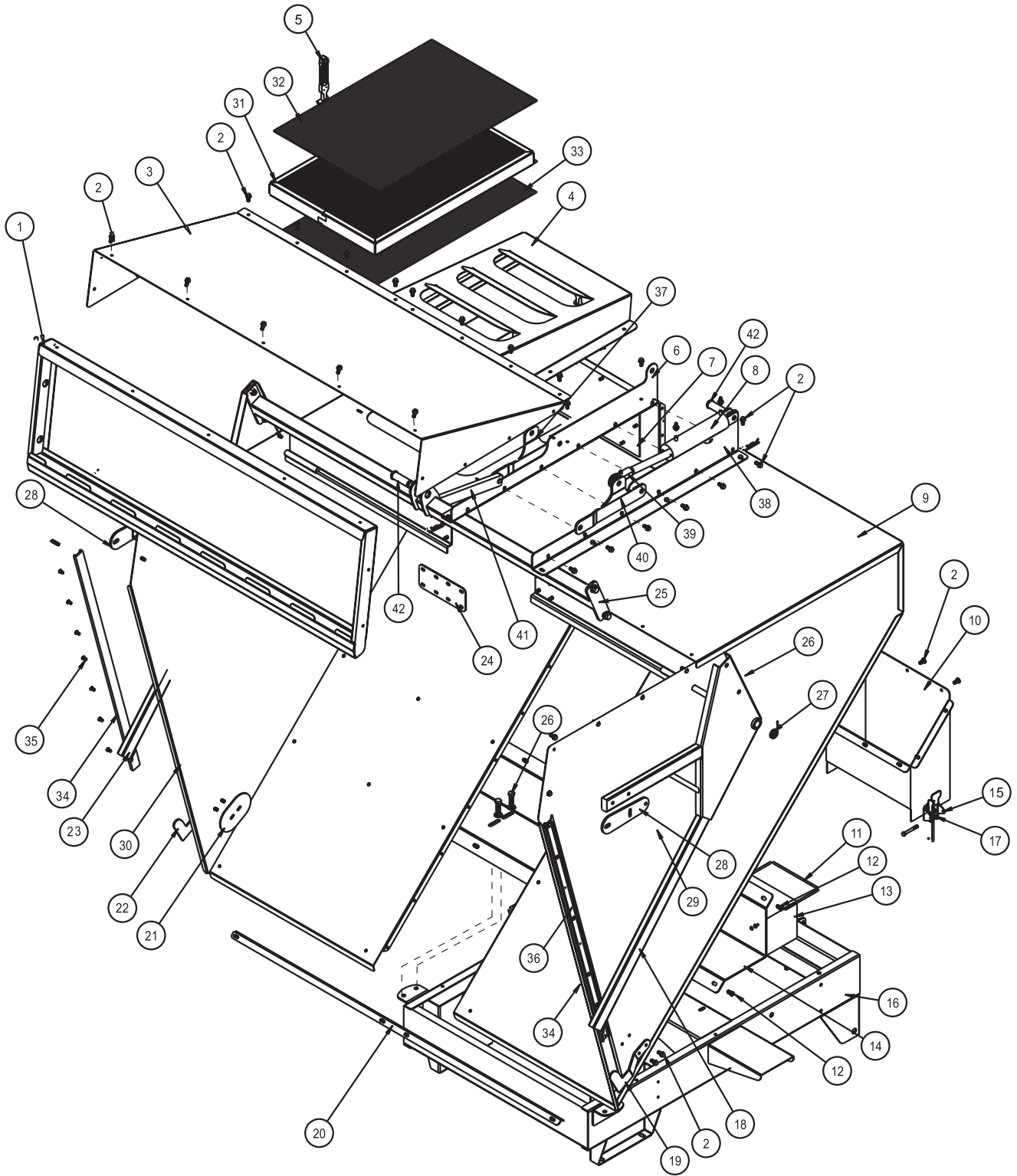
Parts

# HOPPER PARTS LIST

| REF# | PART#           | DESCRIPTION   | QUANTITY |
|------|-----------------|---|----------|
| 1    | 78-305          | Filter Insert   | 1        |
| 2    | HBFL-516-18-075 | Flange Whiz-Loc Bolt, $\frac{5}{16}$ - 18 x $\frac{3}{4}$             | 72       |
|      | HNFL-516-18     | Flange Whiz-Loc Nut, $\frac{5}{16}$ - 18                              | 72       |
| 3    | 78-272          | Hopper Cover  | 1        |
| 4    | 78-395          | Filter Hood   | 1        |
|      | HB-14-20-125    | Hex Bolt, $\frac{1}{4}$ - 20 x 1 $\frac{1}{2}$                        | 6        |
|      | HNFL-14-20      | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                               | 6        |
| 5    | 78-384          | Flex Draw Latch   | 1        |
|      | HRS-316-100     | Rivet, $\frac{3}{16}$ x 1   | 3        |
|      | HRW-316         | Rivet Washer, $\frac{3}{16}$  | 3        |
| 6    | 78-549          | Left Cylinder Plate   | 1        |
| 7    | 78-345          | Clear Lexan Window  | 1        |
|      | HSTP-14-20-075  | Phillips Truss Head Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 12       |
|      | HNFL-14-20      | Flange Whiz-Loc Nut, $\frac{1}{4}$ - 20                               | 12       |
| 8    | 15-839          | Hydraulic Cylinder  | 1        |
|      | 18-169          | Adapter   | 2        |
| 9    | 78-260          | Right Hopper  | 1        |
| 10   | 78-262          | Chute   | 1        |
| 11   | 78-304          | Battery Hold Down   | 1        |
|      | HWL-14          | Lock Washer, $\frac{1}{4}$  | 2        |
|      | HN-14-20        | Hex Nut, $\frac{1}{4}$ - 20   | 2        |
| 12   | HBFL-516-18-075 | Flange Whiz-Loc Bolt, $\frac{5}{16}$ - 18 x $\frac{3}{4}$             | 12       |
|      | HNFL-516-18     | Flange Whiz-Loc Nut, $\frac{5}{16}$ - 18                              | 12       |
| 13   | 22-073          | Battery (optional)  | 1        |
| 14   | 78-273          | Hopper Mount  | 1        |
| 15   | 78-432          | Latch Keeper  | 1        |
|      | HB-516-18-250   | Hex Bolt, $\frac{5}{16}$ - 18 x 2 $\frac{1}{2}$                       | 1        |
|      | HNTL-516-18     | Nylon Lock Nut, $\frac{5}{16}$ - 18                                   | 1        |
| 16   | 78-449          | Main Frame  | 1        |
| 17   | 48-115          | Adjustable Draw Latch   | 1        |
|      | HSTP-14-20-075  | Phillips Truss Head Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 2        |
| 18   | 78-263          | Right Door Arm  | 1        |
| 19   | 78-389          | Right Hopper Door Latch   | 1        |
| 20   | 78-282          | Hopper Strap  | 1        |
| 21   | 78-292          | Door Latch Support  | 2        |
| 22   | 78-388          | Left Hopper Door Latch  | 1        |
| 23   | 78-264          | Left Door Arm   | 1        |
| 24   | 78-291          | Connecting Plate  | 1        |
| 25   | 78-265          | Cross Bar   | 1        |
| 26   | HB-12-13-150    | Hex Bolt, $\frac{1}{2}$ - 13 x 1 $\frac{1}{2}$                        | 8        |
|      | HW-12           | Flat Washer, $\frac{1}{2}$  | 8        |
|      | HNTL-12-13      | Nylon Lock Nut, $\frac{1}{2}$ - 13                                    | 8        |

(Continued on next page)

# HOPPER DRAWING

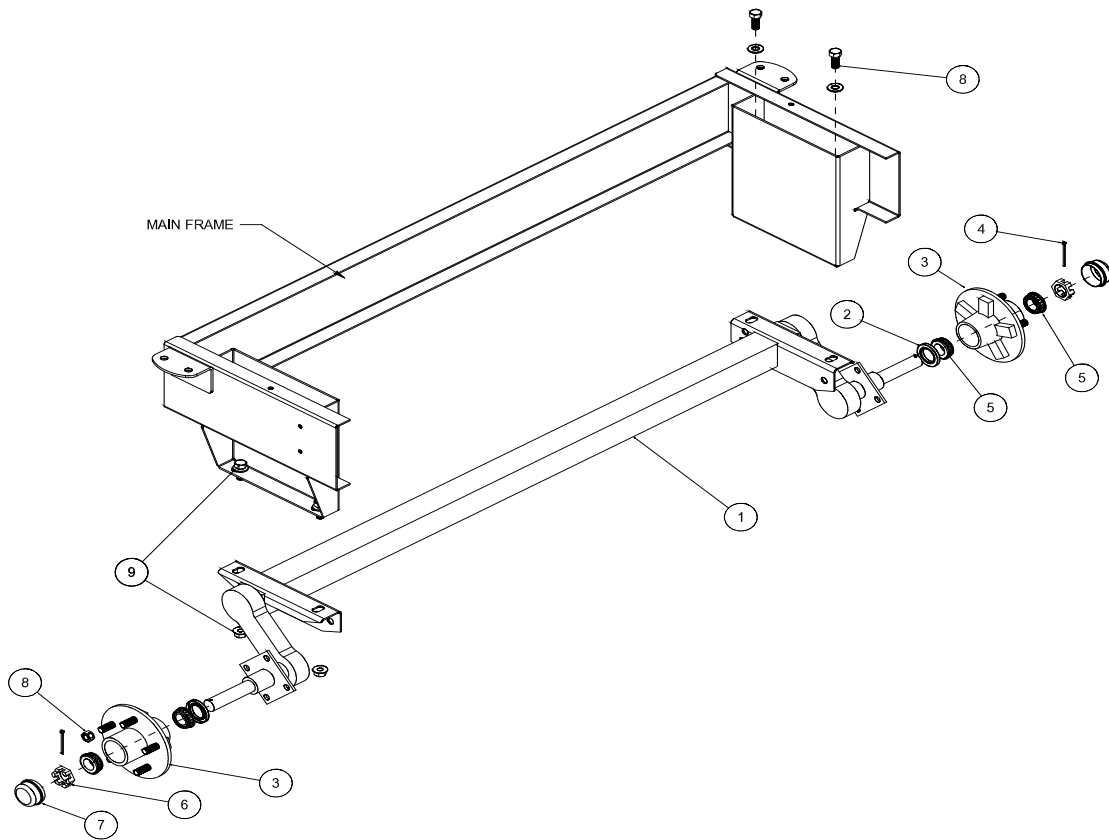


PARTS

## HOPPER PARTS LIST

| REF# | PART#         | DESCRIPTION                                   | QUANTITY |
|------|---------------|---|----------|
| 27   | HMB-34-10     | Machine Bushing, $\frac{3}{4}$ x 10GA         | 4        |
|      | HP-18-150     | Cotter Pin, $\frac{1}{8}$ x $1\frac{1}{2}$    | 2        |
| 28   | 78-319        | Tailgate Adjustment                           | 2        |
| 29   | HB-38-16-175  | Hex Bolt, $\frac{3}{8}$ - 16 x $1\frac{3}{4}$ | 4        |
|      | HNFL-38-16    | Flange Whiz-Loc Nut, $\frac{3}{8}$ -16        | 4        |
| 30   | 78-383        | Left Hopper                                   | 1        |
| 31   | 78-394        | Filter Case                                   | 1        |
| 32   | 78-386        | Hopper Filter                                 | 1        |
| 33   | 78-382        | Screen  | 1        |
| 34   | 78-385        | Wear Strip Bracket                            | 2        |
|      | 8946-42       | Wear Strip 42"                                | 2        |
| 35   | HSD-8-075     | Pan Head Drill Screw, #8 x $\frac{3}{4}$      | 14       |
| 36   | HSM-10-32-100 | Machine Screw, #10 -32 x 1                    | 2        |
|      | HWL-10        | Lock Washer, #10                              | 2        |
|      | HN-10-32      | Hex Nut, #10 - 32                             | 2        |
| 37   | 78-547        | Left Cylinder Arm                             | 1        |
| 38   | 78-548        | Right Cylinder Plate                          | 1        |
| 39   | 18-154        | Rod End                                       | 1        |
|      | HNJ-58-18     | Jam Nut, $\frac{5}{8}$ - 18                   | 1        |
| 40   | 78-546        | Right Cylinder Arm                            | 1        |
| 41   | 78-550        | Crossbar Link Arm                             | 1        |
| 42   | HCP-58-175    | Clevis Pin, $\frac{5}{8}$ x $1\frac{3}{4}$    | 2        |
|      | HHP-.177      | Bridge Pin, .177 x $3\frac{3}{4}$             | 2        |
| NS   | 8979-61       | Weather Stripping                             | 2        |

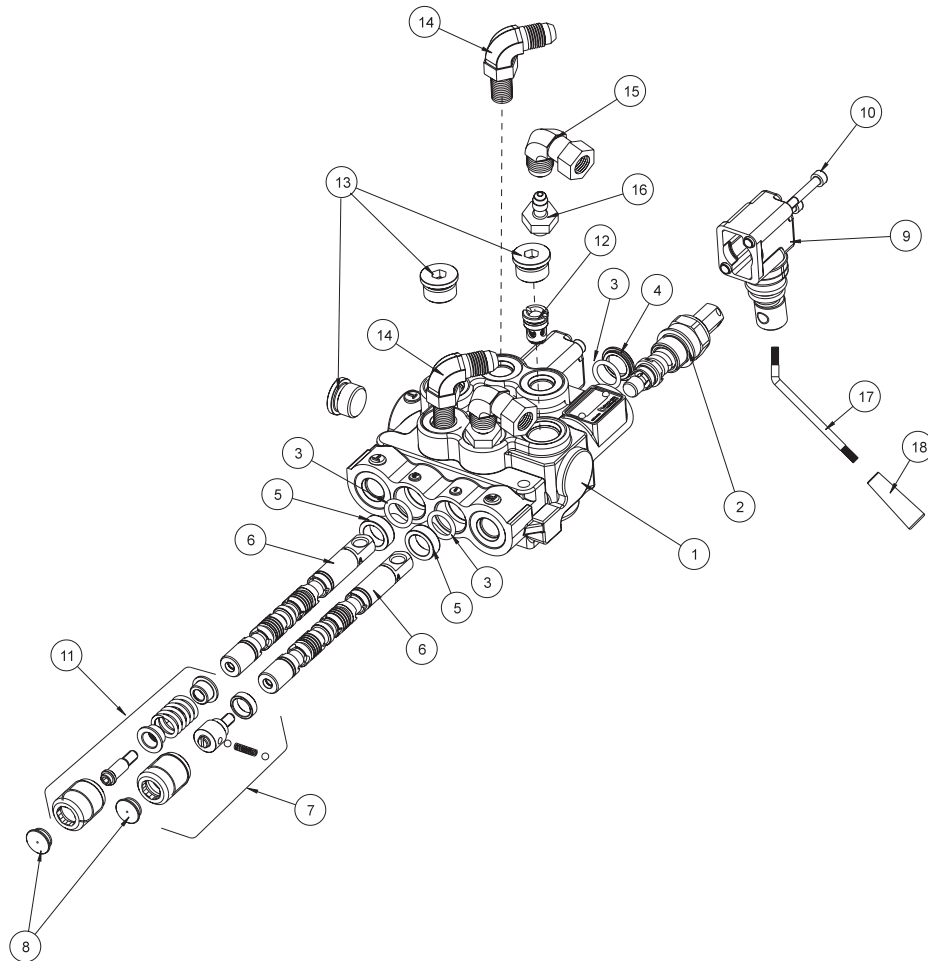
# REAR AXLE DRAWING



Parts

| REF# | PART#       | DESCRIPTION                          | QUANTITY |
|------|-------------|--------------------------------------|----------|
| 1*   | 78-216      | Axle Complete (includes all * items) | 1        |
| 2*   | 78-216-02   | Grease Seal                          | 2        |
| 3*   | 78-216-01   | Hub Assembly                         | 2        |
| 4    | HP-18-200   | Cotter Pin, 1/8 x 2                  | 2        |
| 5*   | 78-119      | Bearing Cup and Cone                 | 2        |
| 6*   | HNAR-100-14 | Slotted Jam Nut, 1 - 14              | 2        |
| 7*   | 80-167      | Grease Cap                           | 2        |
| 8    | HNL-12-20   | Lug Nut, 1/2 - 20                    | 10       |

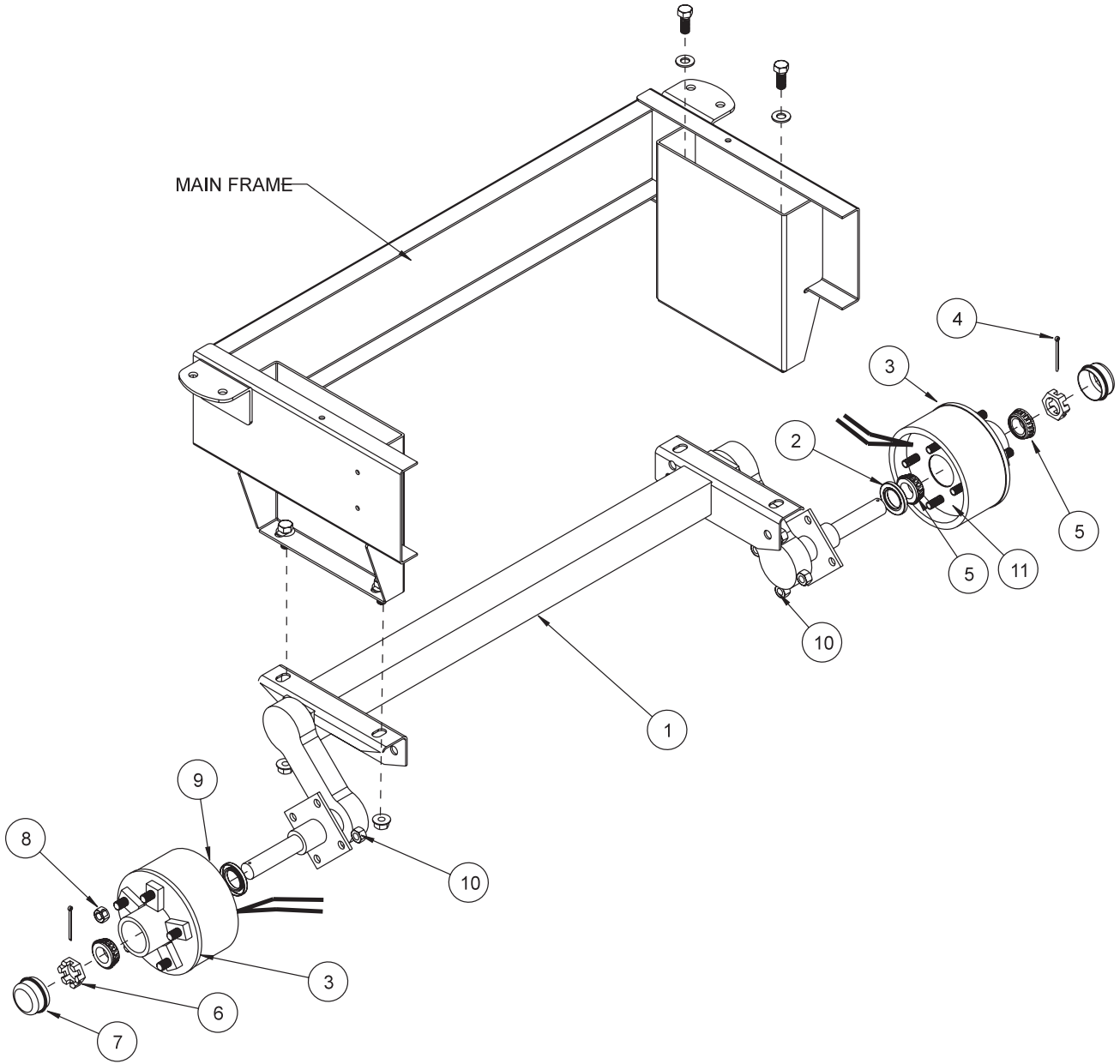
# 78-415 2-BANK VALVE DRAWING



| REF# | PART#     | DESCRIPTION                                 | QUANTITY |
|------|-----------|---|----------|
| 1*   | 78-415-01 | Body (complete with spacer and check valve) | 1        |
| 2*   | 78-415-02 | Spool HDM10                                 | 1        |
| 3*   | 78-415-03 | O-Ring Seal                                 | 4        |
| 4*   | 78-415-04 | Flanged Washer HDM10                        | 2        |
| 5*   | 78-415-05 | Spacer                                      | 2        |
| 6*   | 78-415-06 | A Type Spool HDS11                          | 2        |
| 7*   | 78-415-07 | Positioner                                  | 1        |
| 8*   | 78-415-08 | Plug  | 2        |
| 9*   | 78-415-09 | Lever Group HDS11                           | 2        |
| 10*  | 78-415-10 | Metric Socket Screw M5 x .8 x 45            | 4        |
| 11*  | 78-415-11 | Positioner                                  | 1        |
| 12*  | 78-415-12 | Check Valve Assembly HDM12                  | 1        |
| 13*  | 78-415-13 | 3/4 - 16 SAE 8 Screw Plug                   | 3        |
| 14   | 18-168    | Elbow 3/8 Straight Thread                   | 2        |
| 15   | 18-202    | Elbow                                       | 2        |
| 16   | 18-169    | Adapter SAE 3/8                             | 2        |
| 17   | 78-418    | Bent Handle                                 | 2        |
| 18   |           | Tapered Knob                                | 2        |

\* 78-415 2 – Bank Hydraulic Valve (includes all \* items)

# 78-215 ELECTRIC BRAKE PARTS LIST



Accessories



## 78-215 ELECTRIC BRAKE PARTS LIST

| REF# | PART#       | DESCRIPTION                         | QUANTITY |
|------|-------------|-------------------------------------|----------|
| 1    |             | Axle Complete                       | 1        |
| 2    | 78-216-02   | Grease Seal                         | 2        |
| 3*   | 78-406      | Hub Assembly (includes all * items) | 2        |
| 4    | HP-18-200   | Cotter Pin, 1/8 x 2                 | 2        |
| 5*   | 78-119      | Bearing Cup and Cone                | 2        |
| 6    | HNAR-100-14 | Slotted Jam Nut, 1 - 14             | 2        |
| 7*   | 80-167      | Grease Cap                          | 2        |
| 8    | HNL-12-20   | Lug Nut, 1/2 - 20                   | 10       |
| 9    | 78-409      | RH Brake Assembly                   | 1        |
| 10   | HN-716-20   | Hex Nut, 7/16 - 20                  | 8        |
|      | HWL-716     | Lock Washer, 7/16                   | 8        |
| 11   | 78-408      | LH Brake Assembly                   | 1        |
|      | 78-410      | Wire Harness                        | 1        |

### INSTALLATION INSTRUCTIONS

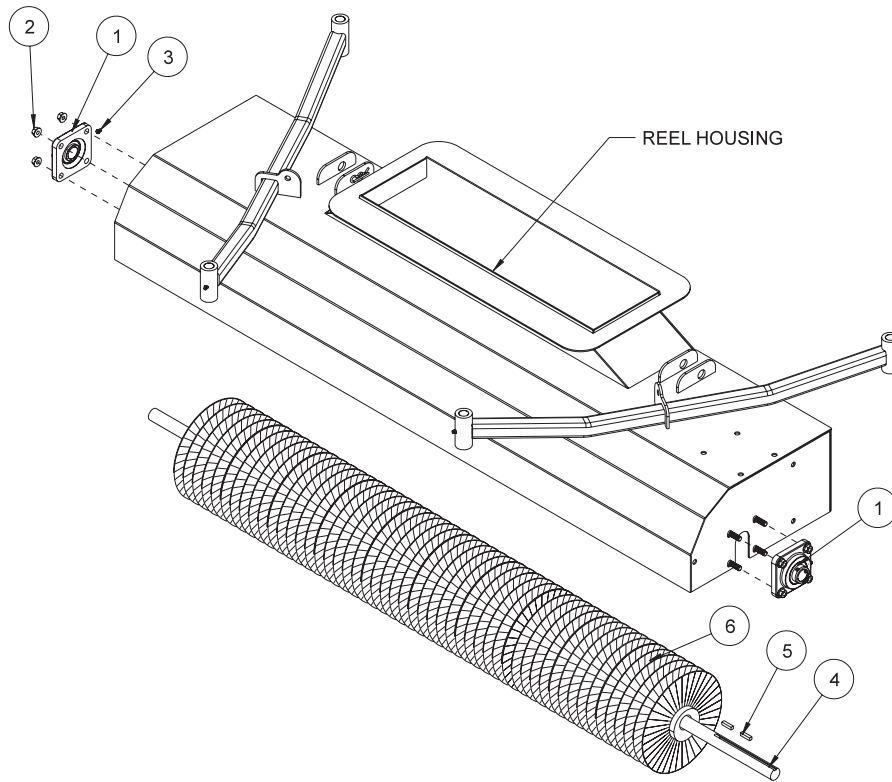
1. Block rear of machine up. Remove the rear tires and rear hubs. All parts except hubs to be reused.
2. There is a right and left brake (Ref 9 & 11). Place the brake on the axle and Hex Bolt to axle using the 7/16 - 20 nuts and Lock Washers (Ref 10).
3. Then place the hub and drum assembly (Ref 3) over the brake. Be sure to install the grease seal (Ref 2) and the bearing cup and cone (Ref 5) as shown in the drawing.
4. Put tires back on and hold in place with the 1/2-20 lug nuts (Ref 8). Put slotted jam nut (Ref 6), cotter pin (Ref 4) and dust cap (Ref 7) on axle end.
5. Check all nuts and be sure they are tight.
6. Take the wire harness and hook the female space connectors to the male spade connectors on the brake assemblies. Run wire harness up side of main frame to front of machine. Hold wire harness in place with the tie straps.
7. Dealer must provide the connector that hooks to the tow unit. Place one side of connector onto wire harness, connect the other half to the tow unit.
8. Check all connections and hardware. Test brakes before putting machine into service.



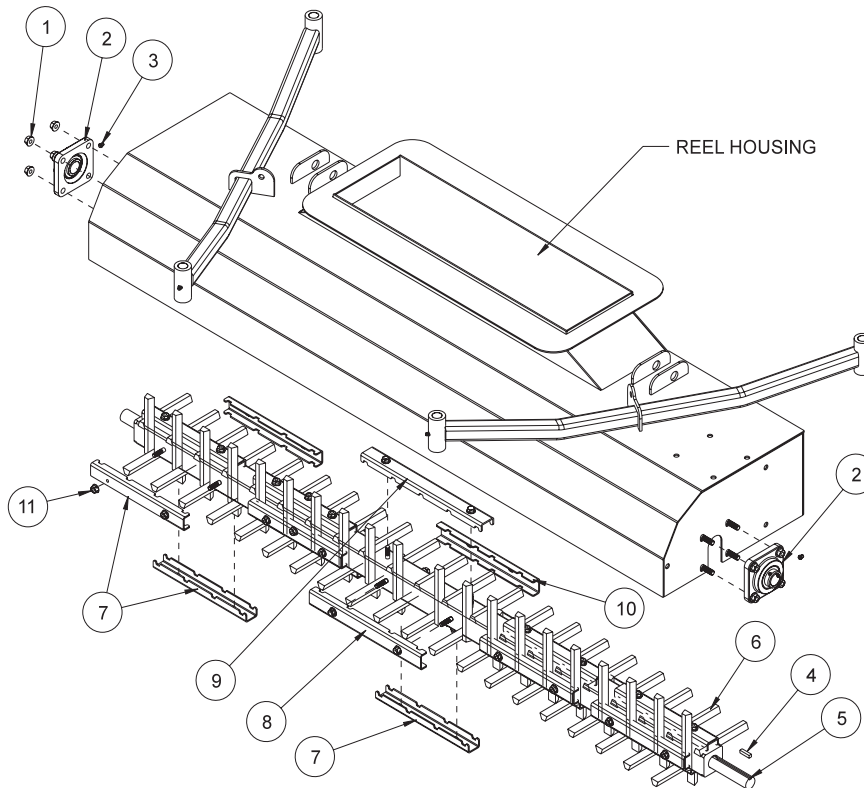
**IMPORTANT**

**This unit is not intended for highway use.**

## 78-201 REPLACEMENT BRUSH REEL DRAWING



## 78-202 REPLACEMENT FINGER REEL DRAWING



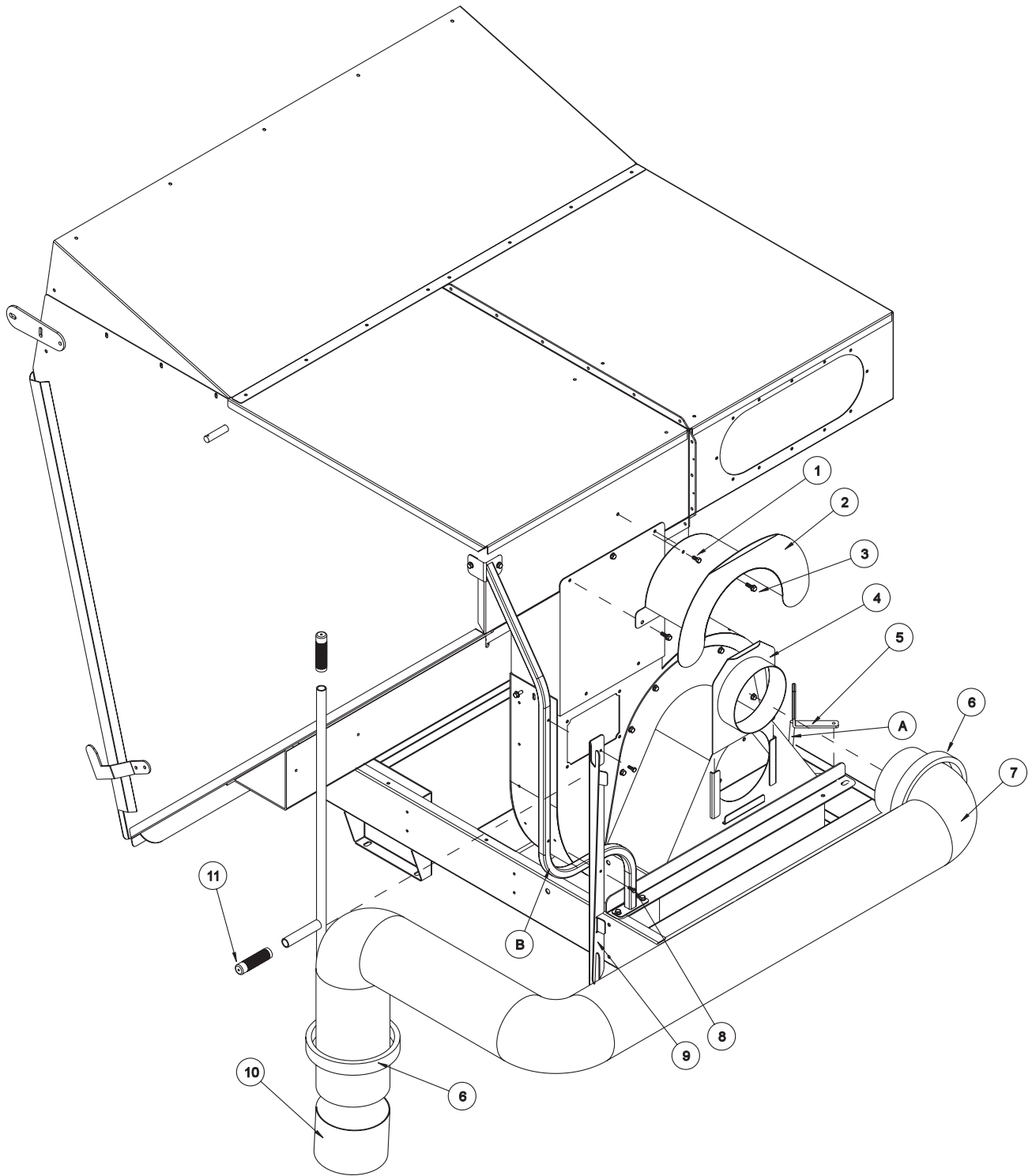
## 78-201 REPLACEMENT BRUSH REEL PARTS LIST

| REF# | PART#        | DESCRIPTION  | QUANTITY |
|------|--------------|--|----------|
| 1    | 78-222       | Mounted Bearing  | 2        |
| 2    | HB-38-16-125 | Hex Bolt, $\frac{3}{8}$ - 16 x $1\frac{1}{4}$                | 8        |
|      | HNFL-38-16   | Flange Whiz-loc Nut, $\frac{3}{8}$ - 16                      | 8        |
| 3    | HG-14-28-180 | Grease Fitting, $\frac{1}{4}$ -20 x 180° (comes with 78-222) | 2        |
| 4    | 78-348       | Spiral Brush Shaft   | 1        |
| 5    | HKSQ-14-100  | Machine Key, $\frac{1}{4}$ x $\frac{1}{4}$ x 1               | 2        |
| 6    | 78-321       | Spiral Brush   | 1        |

## 78-202 REPLACEMENT FINGER REEL PARTS LIST

| REF# | PART#        | DESCRIPTION  | QUANTITY |
|------|--------------|--|----------|
| 1    | HB-38-16-125 | Hex Bolt, $\frac{3}{8}$ - 16 x $1\frac{1}{4}$                | 8        |
|      | HNFL-38-16   | Flange Whiz-loc Nut, $\frac{3}{8}$ - 16                      | 8        |
| 2    | 78-222       | Mounted Bearing  | 2        |
| 3    | HG-14-28-180 | Grease Fitting, $\frac{1}{4}$ -20 x 180° (comes with 78-222) | 2        |
| 4    | HKSQ-14-100  | Machine Key, $\frac{1}{4}$ x $\frac{1}{4}$ x 1               | 1        |
| 5    | 78-303       | Finger Reel Bar  | 1        |
| 6    | 8969-5.250   | Sweeper Finger   | 81       |
| 7    | 78-297       | Finger Clamp, 10"  | 17       |
| 8    | 78-326       | Finger Clamp, 12"  | 1        |
| 9    | 78-287       | Finger Clamp, 13"  | 1        |
| 10   | 78-327       | Finger Clamp, 10.5"  | 1        |
| 11   | HNFL-516-18  | Flange Whiz-loc Nut, $\frac{5}{16}$ - 18                     | 40       |

# 78-205 REMOTE VACUUM HOSE DRAWING



Accessories

## 78-205 REMOTE VACUUM HOSE PARTS LIST

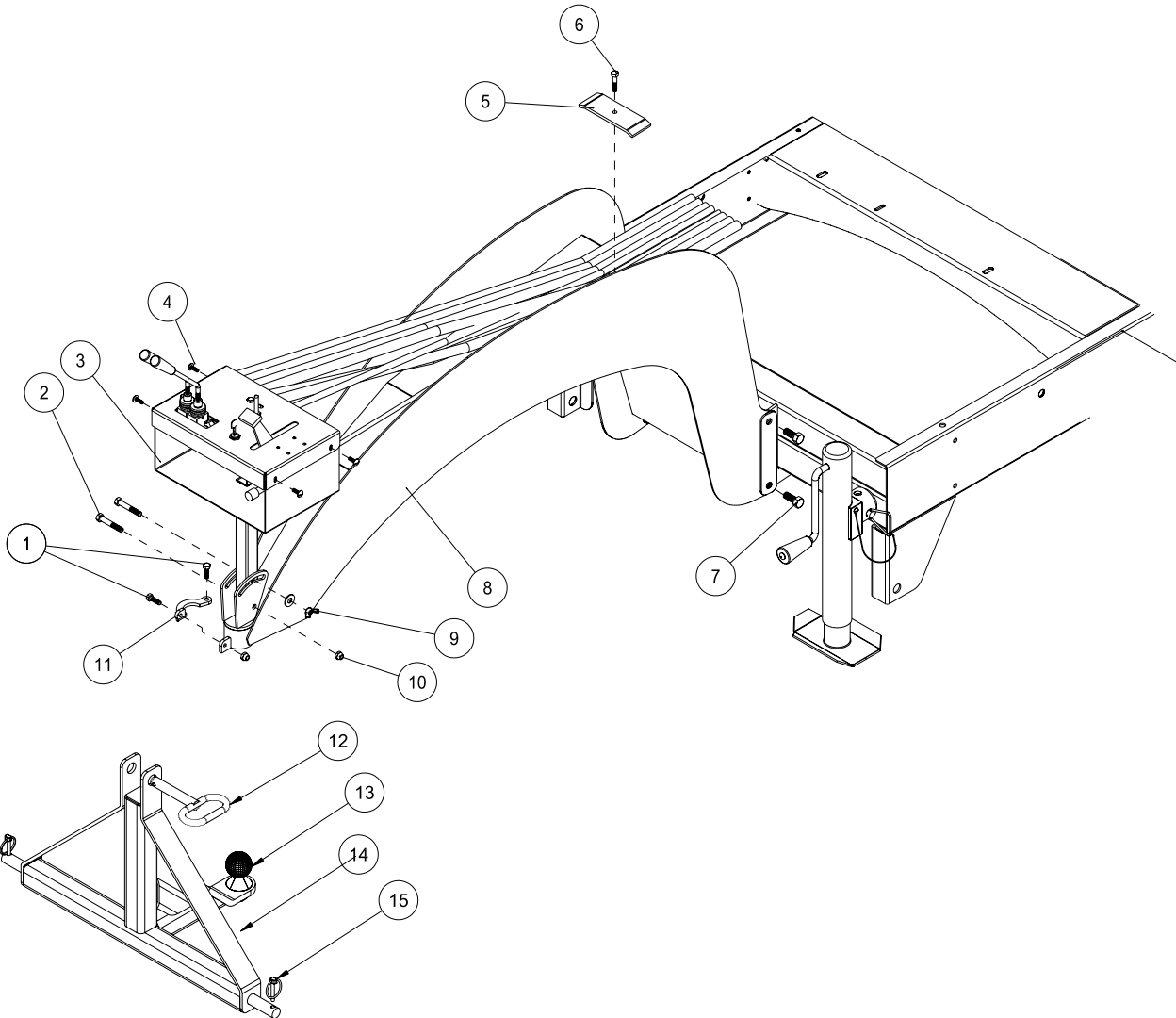
| REF# | PART#           | DESCRIPTION   | QUANTITY |
|------|-----------------|---|----------|
| 1    | HBFL-516-18-075 | Flange Whiz-loc Bolt, $\frac{5}{16}$ - 18 x $\frac{3}{4}$                   | 1        |
|      | HNFL-516-18     | Flange Whiz-loc Nut, $\frac{5}{16}$ - 18                                    | 1        |
| 2    | 78-318          | Hose Rack   | 1        |
| 3    | HBFL-516-18-075 | Flange Whiz-loc Bolt, $\frac{5}{16}$ - 18 x $\frac{3}{4}$ (part of machine) | 2        |
|      | HNFL-516-18     | Flange Whiz-loc Nut $\frac{5}{16}$ - 18 (part of machine)                   | 2        |
| 4    | 78-314          | Remote Hose Connector   | 1        |
| 5    | 78-311          | Handle Stop (part of machine)   | 1        |
| 6    | 18-340          | Hose Clamp  | 2        |
| 7    | 8970-150        | Vacuum Hose 8" x 150"   | 1        |
| 8    | HB-14-20-150    | Hex Bolt $\frac{1}{4}$ - 20 x $1\frac{1}{2}$                                | 2        |
|      | HNTL-14-20      | Nylon Lock Nut $\frac{1}{4}$ -20  | 2        |
| 9    | 78-350          | Handle Holder   | 1        |
|      | 8803-17         | Trim  | 1        |
| 10   | 78-354          | Hose Handle   | 1        |
| 11   | 15-019          | Round Grip  | 2        |

## INSTALLATION INSTRUCTIONS

You will need two people and the tailgate open with an empty hopper. One person will have to be inside hopper. Be sure engine is off. You will need an  $\frac{11}{32}$  and  $\frac{9}{32}$  drill.

1. Remove the two Hex Bolts (Ref 3) from the chute. Hex Bolt the hose rack (Ref 2) in place using the two Hex Bolts you removed from the chute. Using an  $\frac{11}{32}$  drill, drill through the hopper using the hose rack as a guide. Use the  $\frac{5}{16}$  -18 x  $\frac{3}{4}$  Hex Bolt and Nylon Lock Nut (Ref 1). The nut should be on the inside of the hopper. The person in the hopper can get out now.
2. Center the handle holder (Ref 9) between the bends on the brush guard (Ref B) with the handle holder flush on the inside of the brush guard. Mark the two holes and drill through the brush guard with a  $\frac{9}{32}$  drill. Use the two  $\frac{1}{4}$  - 20 x  $1\frac{1}{2}$  Hex Bolts and Nylon Lock Nuts (Ref 8) to Hex Bolt handle holder to the brush guard. Cut and put trim into the two notches that hold the hose handle.
3. Connect the hose to the hose handle (Ref 10) with the hose on the same side as the long handle. Then put other end of hose to remote hose connector (Ref 4). Use the two hose clamps (Ref 6) to hold hose in place.
4. Remove cover plate from in front of the vacuum housing and place in pocket on chute. Place the remote hose connector into the pocket that the cover plate came out of. The cover plate and the remote hose connector must be switched depending which operation you are doing.
5. For storage, loop the vacuum hose over the hose rack (Ref 2) and place the hose handle (Ref 10) into the handle holder (Ref 9).
6. When you are going to operate the vacuum, pull handle stop (Ref 5) towards the front of machine and lift up handle (Ref A). While holding handle (Ref A) up, push handle stop (Ref 5) back so that it holds the handle (Ref A) up.
7. You may want to remove the hose handle, hose and remote hose connector if you are not going to use the vacuum for an extended amount of time.

# 78-204 5<sup>TH</sup> WHEEL HITCH DRAWING



Accessories

## 78-204 5<sup>TH</sup> WHEEL HITCH PARTS LIST

| REF# | PART#         | DESCRIPTION   | QUANTITY |
|------|---------------|---|----------|
| 1    | HB-516-18-100 | Hex Bolt $\frac{5}{16}$ - 18 x 1  | 2        |
|      | HNTL-516-18   | Nylon Lock Nut $\frac{5}{16}$ - 18  | 2        |
| 2    | HB-38-16-225  | Hex Bolt $\frac{3}{8}$ - 16 x $2\frac{1}{4}$                                  | 2        |
| 3    | 78-352        | Control Panel Mount   | 1        |
| 4    | HST-14-20-075 | Truss Head Machine Screw $\frac{1}{4}$ - 20 x $\frac{3}{4}$ (part of machine) | 4        |
|      | HNFL-14-20    | Flange Whiz-loc Nut $\frac{1}{4}$ - 20 (part of machine)                      | 4        |
| 5    | 78-353        | Hose Hold Down  | 1        |
| 6    | HB-516-18-150 | Hex Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{2}$                                 | 1        |
|      | HNTL-516-18   | Nylon Lock Nut $\frac{5}{16}$ - 18  | 1        |
| 7    | HB-12-13-125  | Hex Bolt $\frac{1}{2}$ - 13 x $1\frac{1}{4}$                                  | 4        |
|      | HNTL-12-13    | Nylon Lock Nut $\frac{1}{2}$ - 13   | 4        |
| 8    | 78-391        | Gooseneck   | 1        |
| 9    | HNW-38-16     | Wing Nut $\frac{3}{8}$ - 16   | 1        |
|      | HW-38         | Washer $\frac{3}{8}$ 1  |          |
| 10   | HNTL-38-16    | Nylon Lock Nut $\frac{3}{8}$ - 16   | 1        |
| 11   | 78-390        | Ball Lock Arm   | 1        |
| 12*  | 7-029         | Hitch Pin   | 1        |
| 13*  | 18-371        | 2" Ball   | 1        |
| 14*  | 73-039        | 3-Point hitch   | 1        |
| 15*  | 42-539        | Lynch Pin   | 2        |
| *    | 73-007        | 3-Point Add On Kit (optional to mount to a Tractor)                           | 1        |

## INSTALLATION INSTRUCTIONS

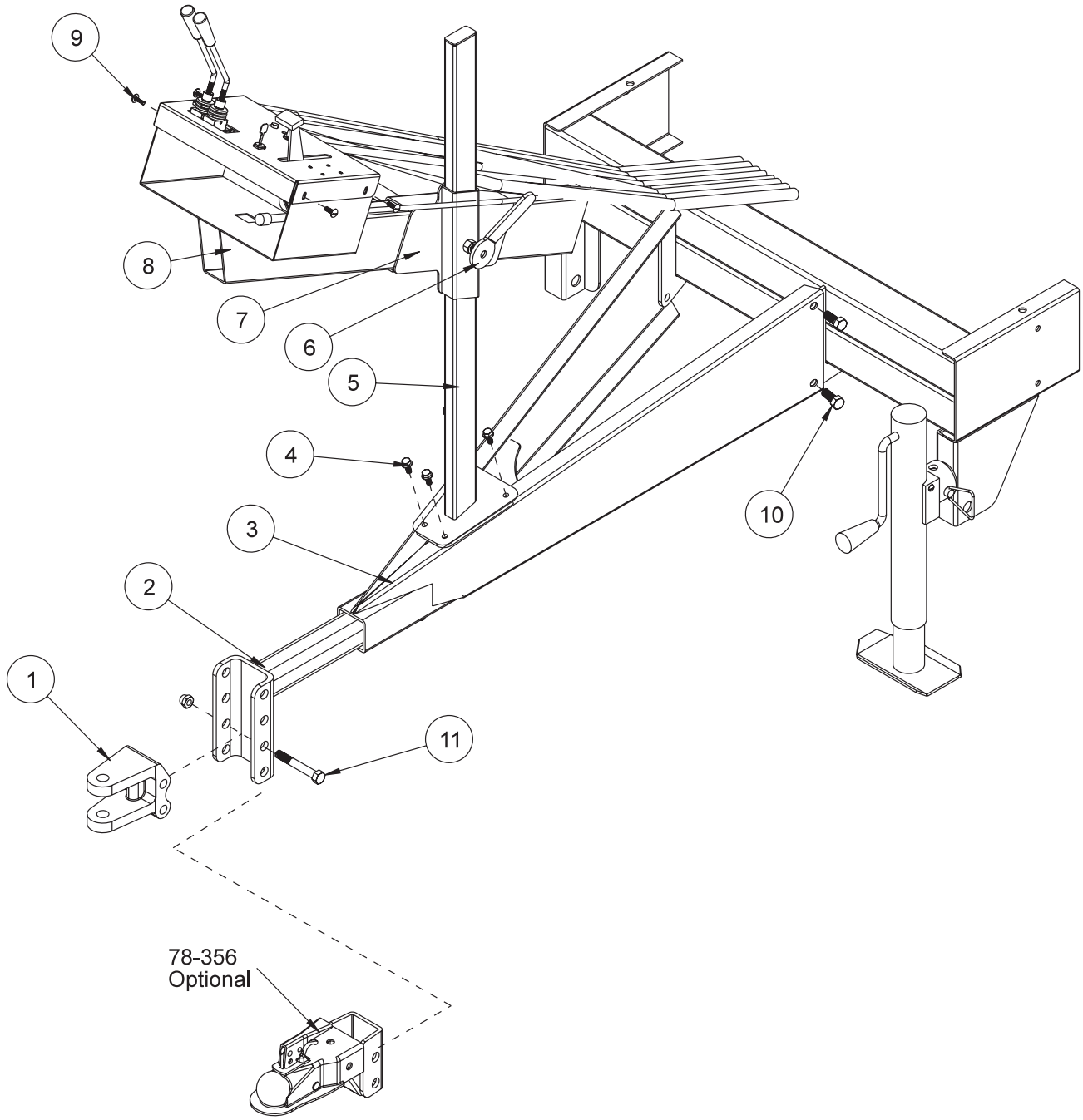
Use two people to install hitches.

1. Block both wheels so machine does not roll.
2. Use the jack that is part of the sweeper to raise or lower sweeper to comfortable working height.
3. Slide the gooseneck (Ref 8) over the tabs on the front of the sweeper frame. Hitch must be on the outside. Use the four  $\frac{1}{2}$  - 13 x  $1\frac{1}{4}$  Hex Bolts (Ref 7) on the outside and four Nylon Lock Nuts on the inside. Tighten all four Hex Bolts.
4. Install the control panel mount (Ref 3) on the front of the gooseneck (Ref 8) as shown, using two  $\frac{3}{8}$  - 16 x  $2\frac{1}{4}$  Hex Bolts (Ref 2). On the bottom Hex Bolt use Nylon Lock Nut (Ref 9) and just tighten snug. On the top Hex Bolt use the  $\frac{3}{8}$  washer and wing nut (Ref 10). Tighten both after adjusting for the proper position.
5. The control panel has all hose, wiring and throttle cable connected to it and the sweeper. The control panel is wrapped and fastened to the front of the sweeper.
6. Remove the control panel from the sweeper, bring it forward with the hoses to the rear and the throttle on the left hand side.
7. Fasten the control panel to the control panel mount with the four truss head machine screws  $\frac{1}{4}$  - 20 x  $\frac{3}{4}$  (Ref 4) and four Flange Whiz-loc Nuts  $\frac{1}{4}$  - 20.
8. Put the two handles onto the valve and tighten the Nylon Lock Nuts with the handles pointing forward.
9. Lay the hoses, wiring and throttle cable on top of the gooseneck and place the hose hold-down (Ref 5) over the top. At the rear most hole on top of the gooseneck fasten the hose hold-down with  $\frac{5}{16}$  - 18 x  $1\frac{1}{2}$  Hex Bolt and Nylon Lock Nut (Ref 6).

### CAUTION

**Do not tow on public roads.**

# 78-206 CLEVIS HITCH DRAWING



Accessories



## 78-206 CLEVIS HITCH PARTS LIST

| REF# | PART#           | DESCRIPTION  | QUANTITY |
|------|-----------------|--|----------|
| 1    | 78-244          | $\frac{3}{4}$ " Clevis   | 1        |
| 2    | 78-268          | Hitch Insert   | 1        |
| 3    | 78-267          | Tongue   | 1        |
|      | HB-12-13-350    | Hex Bolt, $\frac{1}{2}$ - 13 x $3\frac{1}{2}$                                      | 1        |
|      | HNTL-12-13      | Nylon Lock Nut, $\frac{1}{2}$ - 13   | 1        |
| 4    | HBFL-516-18-075 | Flange Whiz-loc Bolt, $\frac{5}{16}$ - 18 x $\frac{3}{4}$                          | 4        |
|      | HNFL-516-18     | Flange Whiz-loc Nut, $\frac{5}{16}$ - 18   | 4        |
| 5    | 78-299          | Adjustment Slide   | 1        |
| 6    | 78-295          | Adjustment Lock  | 2        |
|      | 15-020          | Hand Grip  | 2        |
| 7    | 78-298          | Control Panel Adjustment   | 1        |
| 8    | 78-312          | Control Panel Mount  | 1        |
| 9    | HSTP-14-20-075  | Phillips Truss Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ (part of machine) | 4        |
|      | HNFL-14-20      | Flange Whiz-loc Nut, $\frac{1}{4}$ - 20 (part of machine)                          | 4        |
| 10   | HB-12-13-125    | Hex Bolt, $\frac{1}{2}$ - 13 x $1\frac{1}{4}$                                      | 4        |
|      | HNTL-12-13      | Nylon Lock Nut, $\frac{1}{2}$ - 13   | 4        |
| 11   | HB-58-11-400    | Hex Bolt, $\frac{5}{8}$ - 11 x 4   | 2        |
|      | HNCL-58-11      | Center Nylon Lock Nut, $\frac{5}{8}$ - 11  | 2        |

## INSTALLATION INSTRUCTIONS

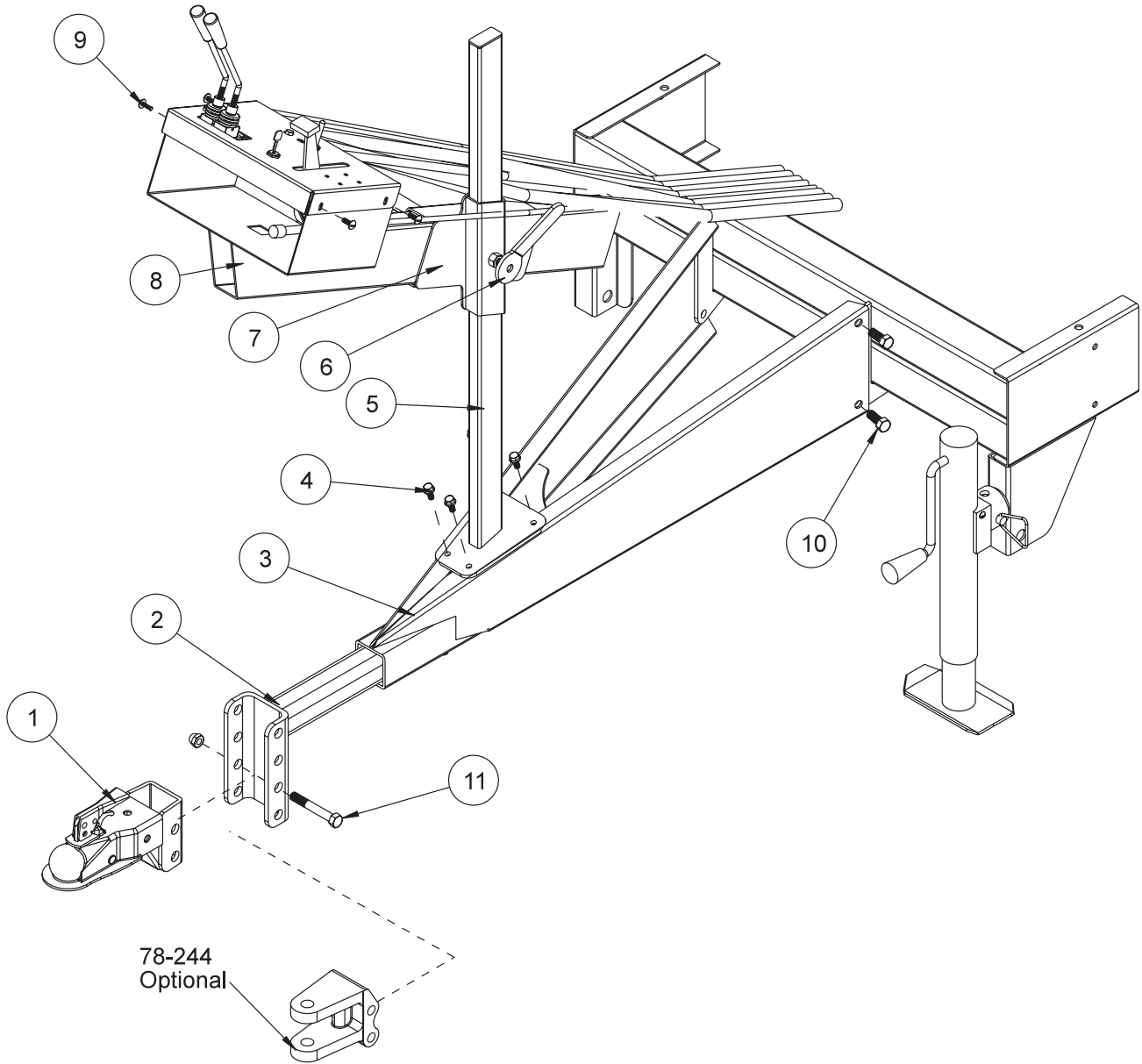
Use two people to install hitches.

- Block both wheels so machine does not roll.
- Use the jack that is part of the sweeper to raise or lower sweeper to comfortable working height.
- Slide the tongue (Ref 3) over the tabs on the front of the sweeper frame. Hitch must be on the outside. Use the four  $\frac{1}{2}$  - 13 x  $1\frac{1}{4}$  Hex Bolts (Ref 10) on the outside and four Nylon Lock Nuts on the inside. Tighten all four Hex Bolts.
- Install adjustment slide (Ref 5) to tongue (Ref 3) using the four Flange Whiz-loc Bolts  $\frac{1}{4}$  - 20 x  $\frac{3}{4}$  and four Flange Whiz-loc Nuts  $\frac{1}{4}$  - 20 (Ref 4).
- Loosen adjustment locks (Ref 6) on control panel adjustment (Ref 7) and put control panel adjustment onto the adjustment slide.
- Tighten one adjustment lock (Ref 6).
- Slide the control panel mount (Ref 8) through the control panel adjustment (Ref 7) and tighten the other adjustment lock (Ref 6).
- The control panel has all the hoses, wiring and throttle cable connected to it and to the sweeper. The control panel is wrapped and fastened to the front of the sweeper.
- Remove the control panel from the sweeper, bring it forward with the hoses to the rear and the throttle on the left hand side.
- Fasten the control panel to the control panel mount with the four truss head machine screws  $\frac{1}{4}$  - 20 x  $\frac{3}{4}$  and four Flange Whiz-loc Nuts  $\frac{1}{4}$  - 20 (Ref 9).
- Put the two handles onto the valve and tighten the Nylon Lock Nuts with the handles pointing forward.
- Place three hoses and the throttle cable on the left hand side of the adjustment slide.



**Do not tow on public roads.**

# 78-209 BALL HITCH DRAWING



Accessories

## 78-209 BALL HITCH PARTS LIST

| REF# | PART#           | DESCRIPTION  | QUANTITY |
|------|-----------------|--|----------|
| 1    | 78-356          | 2" Ball Coupler  | 1        |
| 2    | 78-268          | Hitch Insert   | 1        |
| 3    | 78-267          | Tongue   | 1        |
| 4    | HBFL-516-18-075 | Flange Whiz-loc Bolt, $\frac{5}{16}$ - 18 x $\frac{3}{4}$                      | 4        |
|      | HNFL-516-18     | Flange Whiz-loc Nut, $\frac{5}{16}$ - 18                                       | 4        |
| 5    | 78-299          | Adjustment Slide   | 1        |
| 6    | 78-295          | Adjustment Lock  | 2        |
|      | 15-020          | Hand Grip  | 2        |
| 7    | 78-298          | Control Panel Adjustment   | 1        |
| 8    | 78-312          | Control Panel Mount  | 1        |
| 9    | HST-14-20-075   | Truss Head Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ (part of machine) | 4        |
|      | HNFL-14-20      | Flange Whiz-loc Nut, $\frac{1}{4}$ - 20 (part of machine)                      | 4        |
| 10   | HB-12-13-125    | Hex Bolt, $\frac{1}{2}$ - 13 x $1\frac{1}{4}$                                  | 4        |
|      | HNTL-12-13      | Nylon Lock Nut, $\frac{1}{2}$ - 13   | 4        |
| 11   | HB-58-11-400    | Hex Bolt, $\frac{5}{8}$ - 11 x 4   | 2        |
|      | HNCL-58-11      | Center Nylon Lock Nut, $\frac{5}{8}$ - 13                                      | 2        |

## INSTALLATION INSTRUCTIONS

Use two people to install hitches.

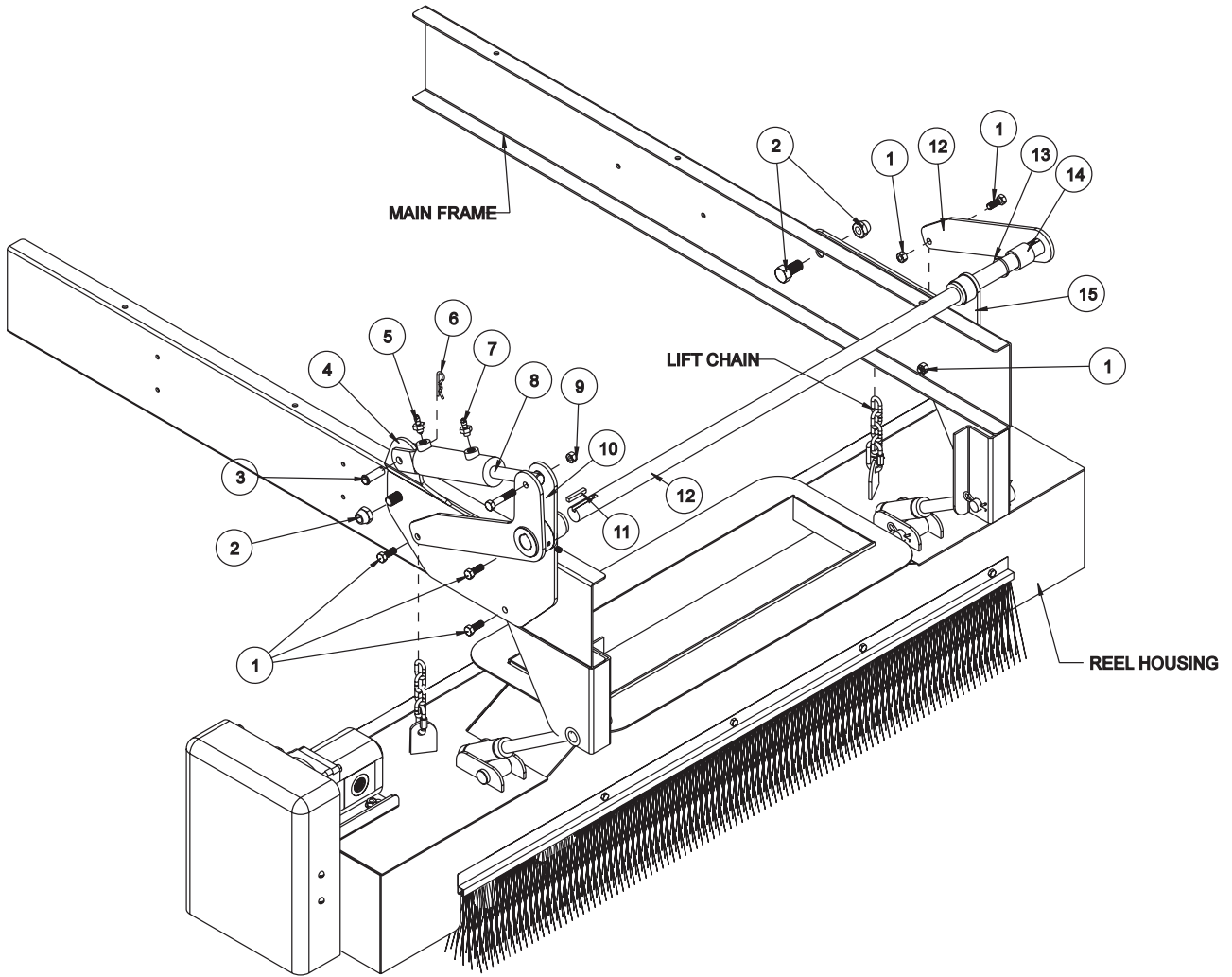
1. Block both wheels so machine does not roll.
2. Use the jack that is part of the sweeper to raise or lower sweeper to comfortable working height.
3. Slide the tongue (Ref 3) over the tabs on the front of the sweeper frame. Hitch must be on the outside. Use the four  $\frac{1}{2}$  - 13 x  $1\frac{1}{4}$  Hex Bolts (Ref 10) on the outside and four Nylon Lock Nuts on the inside. Tighten all four Hex Bolts.
4. Install adjustment slide (Ref 5) to tongue (Ref 3) using the four Flange Whiz-loc Bolts  $\frac{1}{4}$  - 20 x  $\frac{3}{4}$  and four Flange Whiz-loc Nuts  $\frac{1}{4}$  - 20 (Ref 4).
5. Loosen adjustment locks (Ref 6) on control panel adjustment (Ref 7) and put control panel adjustment onto the adjustment slide.
6. Tighten one adjustment lock (Ref 6).
7. Slide the control panel mount (Ref 8) through the control panel adjustment (Ref 7) and tighten the other adjustment lock (Ref 6).
8. The control panel has all the hoses, wiring and throttle cable connected to it and to the sweeper. The control panel is wrapped and fastened to the front of the sweeper.
9. Remove the control panel from the sweeper, bring it forward with the hoses to the rear and the throttle on the left hand side.
10. Fasten the control panel to the control panel mount with the four truss head machine screws  $\frac{1}{4}$  - 20 x  $\frac{3}{4}$  and four Flange Whiz-loc Nuts  $\frac{1}{4}$  - 20 (Ref 9).
11. Put the two handles onto the valve and tighten the Nylon Lock Nuts with the handles pointing forward.
12. Place three hoses and the throttle cable on the left hand side of the adjustment slide.



**CAUTION**

**Do not tow on public roads.**

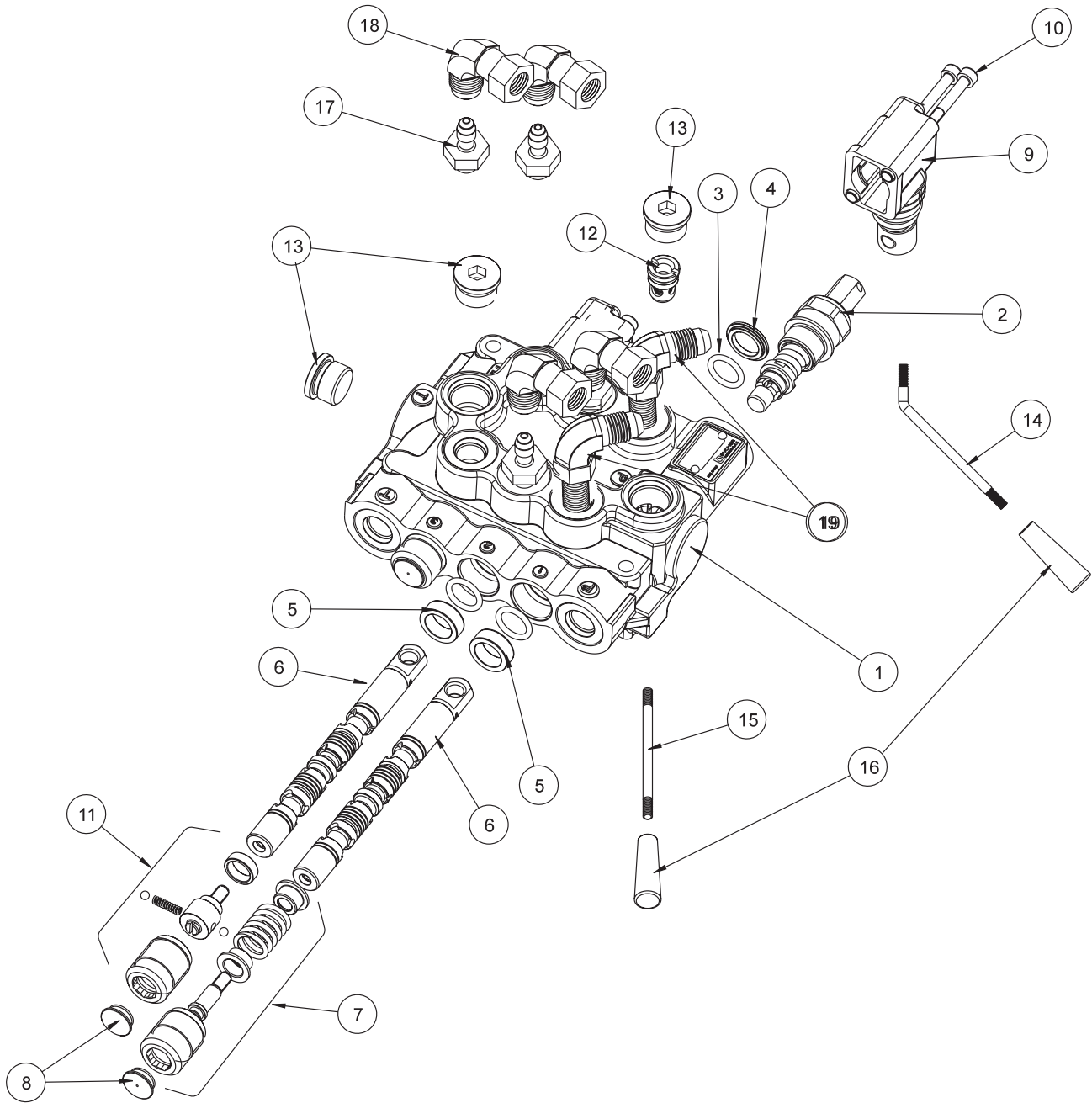
# 78-207 HYDRAULIC LIFT KIT DRAWING



## 78-207 HYDRAULIC LIFT KIT PARTS LIST

| REF# | PART#           | DESCRIPTION   | QUANTITY |
|------|-----------------|---|----------|
| 1    | HB-38-16-100    | Hex Bolt, $\frac{3}{8}$ - 16 x 1  | 6        |
|      | HNFL-38-16      | Whiz Nylon Lock Nut, $\frac{3}{8}$ - 16   | 6        |
| 2    | HB-58-11-200    | Hex Bolt, $\frac{5}{8}$ - 11 x 2  | 2        |
|      | HNTL-58-11      | Nylon Lock Nut, $\frac{5}{8}$ - 11  | 2        |
| 3    | HCP-12-150      | Clevis Pin, $\frac{1}{2}$ x $1\frac{1}{2}$  | 1        |
| 4    | 78-357          | Right Hydraulic Lift Mount  | 1        |
|      | 18-223          | Flange Bushing (part of 78-357)   | 1        |
|      | HMB-100-10      | Machine Bushing, 1 x 10GA   | 1        |
| 5    | 78-365          | Adapter with Orifice  | 1        |
|      | 78-364          | Hydraulic Hose  | 1        |
| 6    | HHP-18          | Bridge Pin, $\frac{1}{8}$   | 1        |
| 7    | 18-169          | Adapter, $\frac{3}{8}$  | 1        |
|      | 78-364          | Hydraulic Hose  | 1        |
| 8*   | 13-292          | Hydraulic Cylinder  | 1        |
| 9    | HB-38-16-200    | Hex Bolt, $\frac{3}{8}$ - 16 x 2  | 1        |
|      | HW-38           | Flat Washer, $\frac{3}{8}$  | 2        |
|      | HNTL-38-16      | Nylon Lock Nut, $\frac{3}{8}$ - 16  | 1        |
| 10   | 78-358          | Chain Lift  | 1        |
|      | HSSHS-38-16-063 | Set Screw, $\frac{3}{8}$ - 16 x $\frac{5}{8}$ (comes with 78-358)                             | 2        |
| 11   | HKSQ-14-150     | Machine Key, $\frac{1}{4}$ x $\frac{1}{4}$ x $1\frac{1}{2}$                                   | 2        |
| 12   | 78-360          | Lift Pivot  | 1        |
| 13   | HMB-100-10      | Machine Bushing, 1 x 10GA   | 1        |
| 14   | 78-366          | Spacer  | 1        |
| 15   | 78-361          | Left Hydraulic Lift Mount   | 1        |
|      | 18-223          | Flange Bushing (part of 78-361)   | 1        |
| *    | 14-253          | Seal Kit for cylinders with part number stamped on cylinder and a retaining ring on rod end.  |          |
| *    | 14-267          | Seal Kit for cylinders with part number stamped on cylinder and a spanner nut on the rod end. |          |

# 78-416 3 - BANK HYDRAULIC VALVE DRAWING



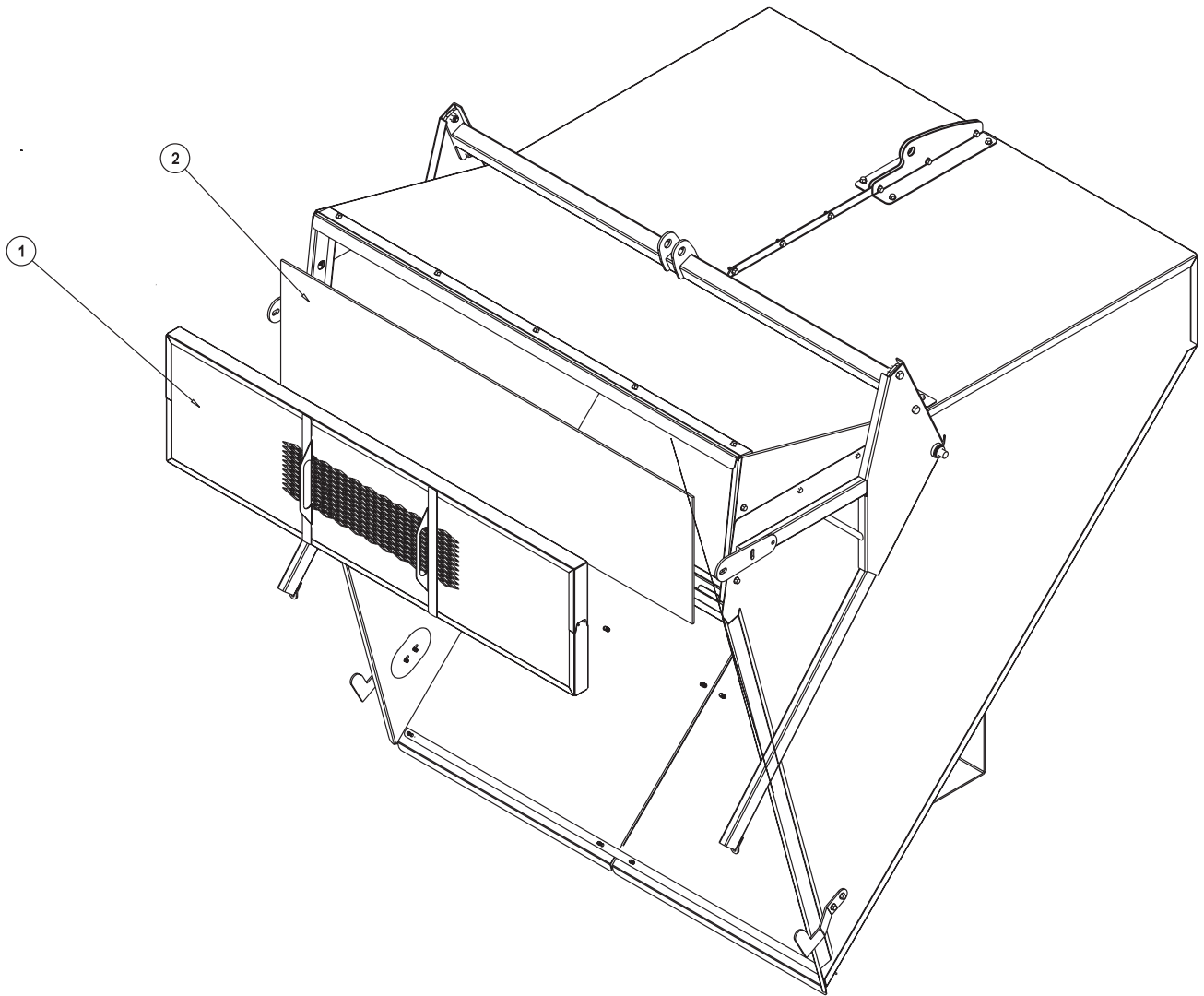
Accessories

## 78-416 3 - BANK HYDRAULIC VALVE PARTS LIST

| REF# | PART#     | DESCRIPTION                                       | QUANTITY |
|------|-----------|---|----------|
| 1*   | 78-416-01 | Body (complete with spacer and check valve)       | 1        |
| 2*   | 78-415-02 | Spool HDM10                                       | 1        |
| 3*   | 78-415-03 | O-Ring Seal                                       | 6        |
| 4*   | 78-415-04 | Flanged Washer HDM10                              | 3        |
| 5*   | 78-415-05 | Spacer  | 3        |
| 6*   | 78-415-06 | A Type Spool HDS11                                | 3        |
| 7*   | 78-415-11 | Positioner HDM10                                  | 2        |
| 8*   | 78-415-08 | Plug  | 3        |
| 9*   | 78-415-09 | Lever Group HDS11                                 | 3        |
| 10*  | 78-415-10 | Metric Socket Screw M5 x .8 x 45                  | 6        |
| 11*  | 78-415-07 | Positioner  | 1        |
| 12*  | 78-415-12 | Check Valve Assembly HDM12                        | 1        |
| 13*  | 78-415-13 | <sup>3</sup> / <sub>4</sub> - 16 SAE 8 Screw Plug | 3        |
| 14   | 78-418    | Bent Handle                                       | 2        |
| 15   | 78-417    | Straight Handle (center)                          | 1        |
| 16   |           | Tapered Knob                                      | 3        |
| 17   | 18-169    | Adapter SAE <sup>3</sup> / <sub>8</sub>           | 4        |
| 18   | 18-202    | Elbow   | 4        |
| 19   | 18-168    | Elbow <sup>3</sup> / <sub>8</sub> Straight Thread | 2        |

\* 78-416 3 – Bank Hydraulic Valve (includes all \* items)

# 78-208 FILTER SYSTEM DRAWING



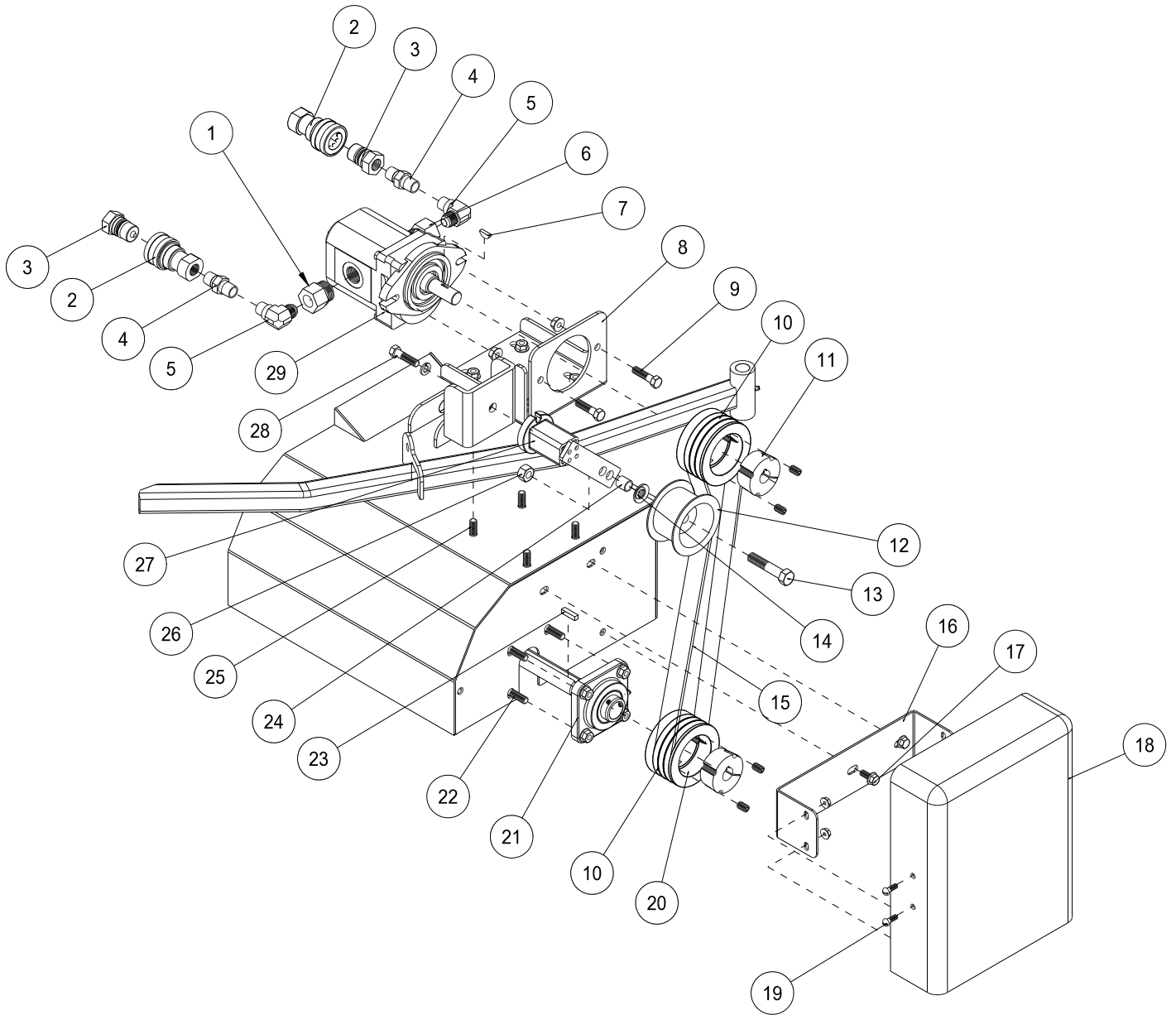
Accessories



## 78-208 FILTER SYSTEM PARTS LIST

| REF# | PART#  | DESCRIPTION | QUANTITY |
|------|--------|-------------|----------|
| 1    | 78-288 | Filter Case | 1        |
| 2    | 78-328 | Filter      | 1        |

# 78-210 &78-211 REEL AND HYDRAULIC PUMP DRAWING



Accessories

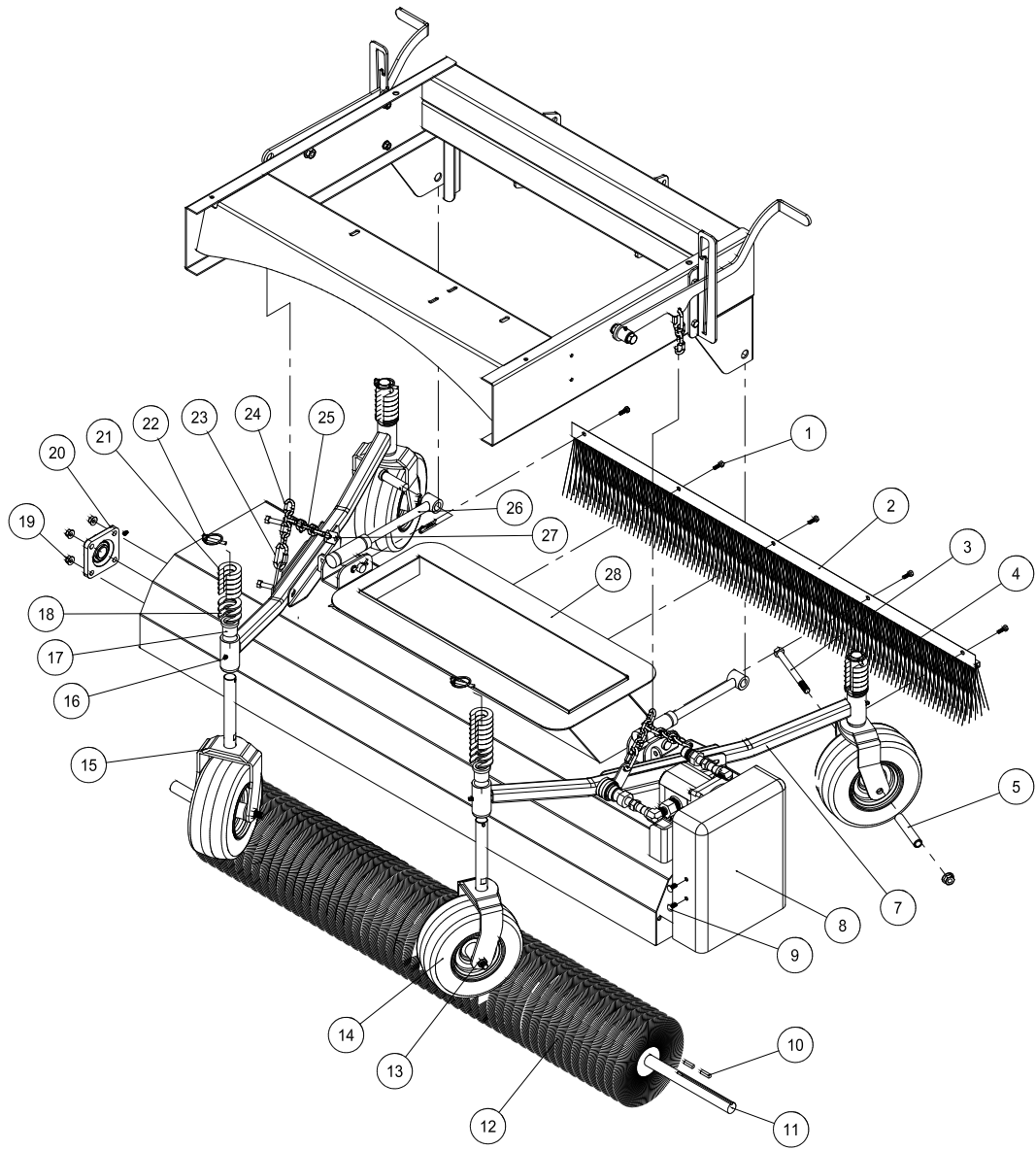
## 78-210 & 78-211 REEL AND HYDRAULIC PUMP DRAWING

| REF# | PART#           | DESCRIPTION                                      | QUANTITY |
|------|-----------------|--|----------|
| 1    | 18-240          | Pipe Adapter                                     | 1        |
| 2    | 78-228          | Coupler, 1/2"                                    | 2        |
| 3    | 78-229          | Nipple, 1/2"                                     | 2        |
| 4    | 18-334          | Nipple   | 2        |
| 5    | 18-009          | Elbow  | 2        |
| 6    | 18-333          | Adapter  | 1        |
| 7    | HWK-316-063     | Woodruff Key, 3/16 x 5/8                         | 1        |
| 8    | 78-259          | Hydraulic Motor Mount                            | 1        |
| 9    | HB-38-16-250    | Hex Bolt, 3/8 - 16 x 2 1/2                       | 2        |
|      | HNFL-38-16      | Flange Whiz-loc Nut 3/8 - 16                     | 2        |
| 10   | 78-424          | Pulley   | 2        |
| 11   | 78-428          | Hub, 3/4   | 1        |
|      | HSSHS-38-16-063 | Set Screw, 3/8 - 16 x 5/8 (part of 78-237)       | 2        |
| 12   | 16-013          | Idler Pulley                                     | 1        |
| 13   | HB-12-13-250    | Hex Bolt, 1/2 - 13 x 2 1/2 (part of 78-224)      | 1        |
| 14   | HMB-12-14       | Machine Bushing, 1/2 x 14GA                      | 2        |
| 15   | 78-226          | Belt, Single                                     | 3        |
| 16   | 72-058          | Belt Guard Mount Bracket                         | 1        |
| 17   | HBFL-516-18-075 | Flange Whiz-loc Bolt, 5/16 - 18 x 3/4            | 2        |
|      | HNFL-516-18     | Flange Whiz-loc Nut, 5/16 - 18                   | 2        |
| 18   | 72-056          | Plastic Belt Guard                               | 1        |
| 19   | HST-14-20-075   | Truss Head Machine Screw, 1/4 - 20 x 3/4         | 4        |
|      | HNFL-14-20      | Flange Whiz-loc Nut, 1/4 - 20                    | 4        |
| 20   | 78-429          | Hub 1"   | 1        |
|      | HSSHS-38-16-063 | Set Screw, 3/8 - 16 x 5/8 (part of 78-351)       | 2        |
| 21   | 78-222          | Mounted Bearing (1" bore)                        | 2        |
| 22   | HB-38-16-125    | Hex Bolt, 3/8 - 16 x 1 1/4                       | 8        |
|      | HNFL-38-16      | Flange Whiz-loc Nut, 3/8 - 16                    | 8        |
| 23   | HKSQ-14-100     | Machine Key, 1/4 x 1/4 x 1                       | 1        |
| 24   | 76-275          | Spacer (part of 78-224)                          | 1        |
| 25   | HB-38-16-150    | Hex Bolt, 3/8 - 16 x 1 1/2                       | 4        |
|      | HNFL-38-16      | Flange Whiz-loc Nut, 3/8 - 16                    | 4        |
| 26   | HNCL-12-13      | Center Nylon Lock Nut, 1/2 - 13 (part of 78-224) | 1        |
| 27   | 78-224          | Belt Tensioner                                   | 1        |
| 28   | HBM-10-1.5-30   | Metric Hex Bolt, 10 - 1.5 x 30 (part of 78-224)  | 1        |
|      | HWLM-10         | Metric Lock Washer, 10 (part of 78-224)          | 1        |
| 29*  | 78-414          | Hydraulic Motor                                  | 1        |

\*

**NO OTHER PARTS ARE REPLACEABLE FOR HYDRAULIC PUMP.**

# 78-210 NYLON BRUSH HEAD DRAWING

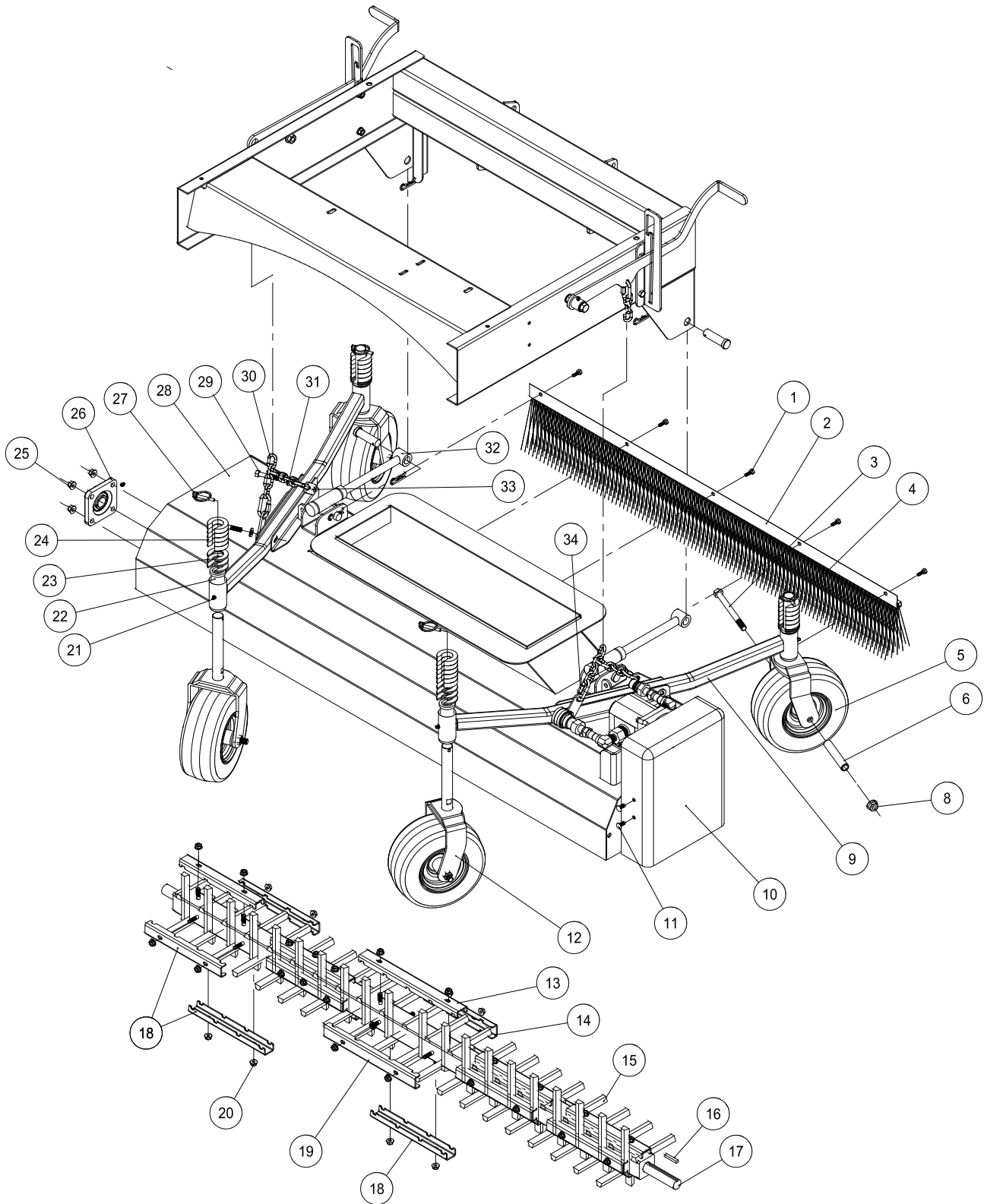


Accessories

## 78-210 NYLON BRUSH HEAD PARTS LIST

| REF# | PART#          | DESCRIPTION   | QUANTITY |
|------|----------------|---|----------|
| 1    | HB-14-20-075   | Hex Bolt, $\frac{1}{4}$ - 20 x $\frac{3}{4}$                          | 5        |
|      | HNFL-14-20     | Flange Whiz-loc Nut, $\frac{1}{4}$ - 20                               | 5        |
| 2    | 78-344         | Strip Brush Holder (drilled)  | 1        |
| 3    | HB-12-13-600   | Hex Bolt, $\frac{1}{2}$ - 13 x 6                                      | 4        |
| 4    | 78-322         | Strip Brush   | 1        |
| 5    | 33-338         | Axle Bearing  | 4        |
| 7    | 78-393         | Castor Arm  | 2        |
|      | HB-38-16-250   | Hex Bolt, $\frac{3}{8}$ - 16 x $2\frac{1}{2}$                         | 4        |
|      | HW-38          | Flat Washer, $\frac{3}{8}$  | 4        |
|      | HNFL-38-16     | Flange Whiz-loc Nut, $\frac{3}{8}$ - 16                               | 4        |
| 8    | 72-056         | Plastic Belt Guard  | 1        |
| 9    | HSTP-14-20-075 | Phillips Truss Head Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 4        |
|      | HNFL-14-20     | Flange Whiz-loc Nut, $\frac{1}{4}$ - 20                               | 4        |
| 10   | HKSQ-14-100    | Machine Key, $\frac{1}{4}$ x $\frac{1}{4}$ x 1                        | 2        |
| 11   | 78-348         | Shaft Spiral Brush  | 1        |
| 12   | 78-321         | Spiral Brush  | 1        |
| 13   | HNTL-12-13     | Nylon Lock Nut, $\frac{1}{2}$ - 13                                    | 4        |
| 14   | 42-202         | Tire and Wheel  | 4        |
|      | 42-202-01      | Tire, 9 x 3.5 x 4 Ply   | 4        |
|      | 42-202-02      | Wheel   | 4        |
|      | 42-202-03      | Cap   | 4        |
|      | 42-202-04      | Bearing   | 8        |
|      | 42-202-05      | Seal  | 8        |
| 15   | 78-434         | Castor Fork   | 4        |
| 16   | HG-14-28-180   | Grease Fitting, $\frac{1}{4}$ - 28 x 180° (part of 78-393)            | 2 per    |
| 17   | 18-223         | Flange Bushing (part of 78-393)                                       | 4 per    |
| 18   | 72-136         | Quick Spacer, 10GA  | 12       |
| 19   | HNFL-38-16     | Flange Whiz-loc Nut, $\frac{3}{8}$ - 16                               | 8        |
|      | HB-38-16-125   | Hex Bolt, $\frac{3}{8}$ - 16 x $1\frac{1}{4}$                         | 8        |
| 20   | 78-222         | Mounted Bearing (1" bore)   | 2        |
| 21   | 72-053         | Quick Spacer, $\frac{1}{2}$ "   | 24       |
| 22   | 42-539         | Lynch Pin, $\frac{1}{4}$  | 4        |
| 23   | 78-241         | Chain Connector   | 8        |
| 24   | 8820-8         | Machine Chain Straight Link   | 2        |
| 25   | 8820-3         | Machine Chain Straight Link   | 2        |
| 26   | 78-271         | Reel Lift Rod   | 2        |
|      | HCP-34-250     | Clevis Pin, $\frac{3}{4}$ x $2\frac{1}{2}$                            | 2        |
|      | HHP-18         | Bridge Pin, $\frac{1}{8}$   | 2        |
| 27   | 78-421         | Chain Bracket   | 4        |
| 28   | 78-401         | Reel Housing  | 1        |
|      | 8803-80        | Trim Black  | 1        |

# 78-211 RUBBER FINGER HEAD DRAWING



Accessories

## 78-211 RUBBER FINGER HEAD PARTS LIST

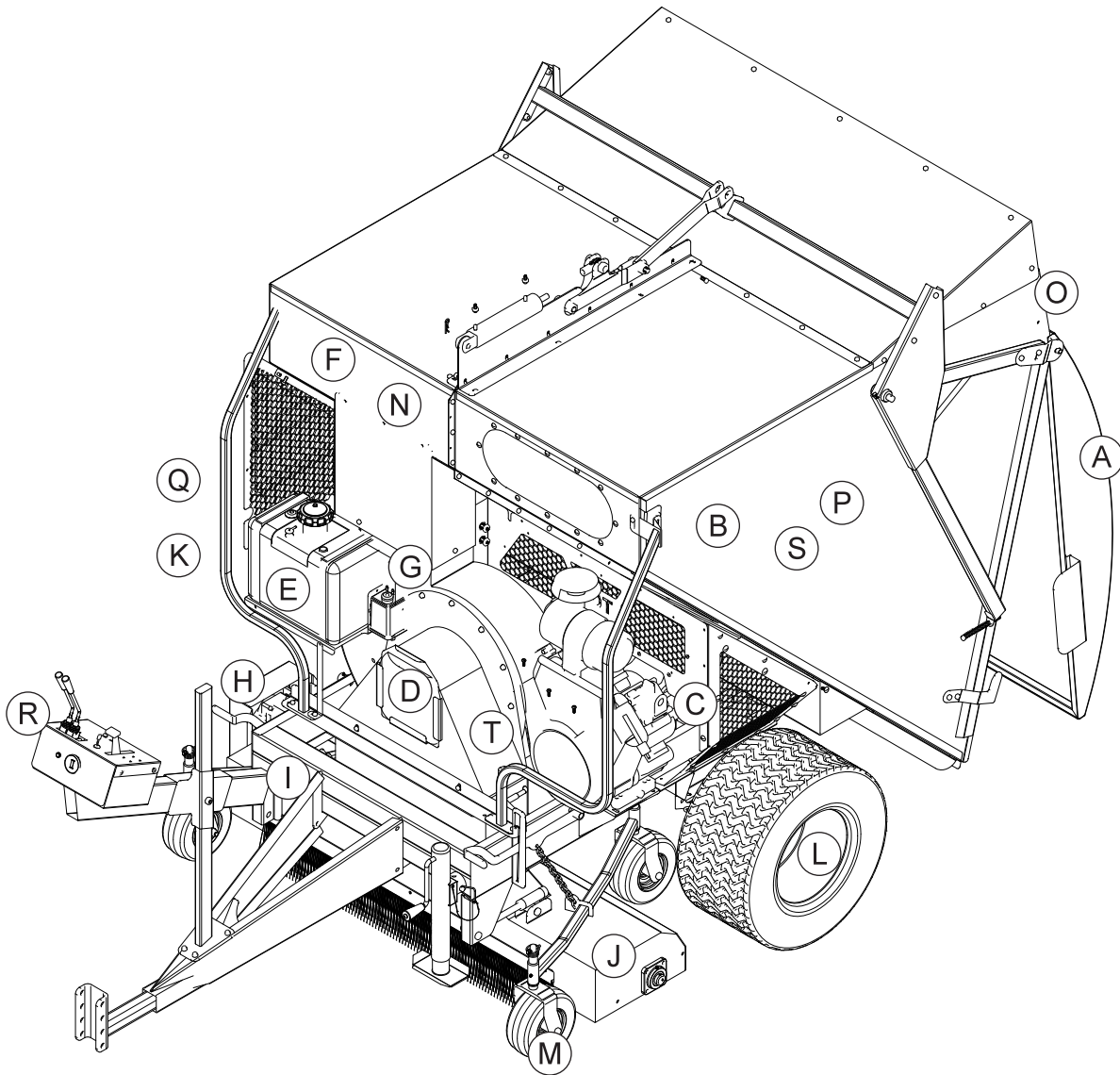
| REF# | PART#          | DESCRIPTION  | QUANTITY |
|------|----------------|--|----------|
| 1    | HB-14-20-075   | Hex Bolt, $\frac{1}{4}$ - 20 x $\frac{3}{4}$                         | 5        |
|      | HNFL-14-20     | Flange Whiz-loc Nut, $\frac{1}{4}$ - 20                              | 5        |
| 2    | 78-344         | Strip Brush Holder (drilled)   | 1        |
| 3    | HB-12-13-600   | Hex Bolt, $\frac{1}{2}$ - 13 x 6                                     | 4        |
| 4    | 78-322         | Strip Brush  | 1        |
| 5    | 42-202         | Tire & Wheel   | 4        |
| 6    | 33-338         | Axle Bearing   | 4        |
| 8    | HNTL-12-13     | Nylon Lock Nut, $\frac{1}{2}$ - 13                                   | 4        |
| 9    | 78-393         | Castor Arm   | 2        |
| 10   | 72-056         | Plastic Belt Guard   | 1        |
| 11   | HSTP-14-20-075 | Phillip Truss Head Machine Screw, $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 4        |
|      | HNFL-14-20     | Flange Whiz-loc Nut, $\frac{1}{4}$ - 20                              | 4        |
| 12   | 78-434         | Castor Fork  | 4        |
| 13   | 78-287         | Finger Clamp, 13"  | 1        |
| 14   | 78-327         | Finger Clamp, 10.5"  | 1        |
| 15   | 8969-5.250     | Sweeper Finger   | 81       |
| 16   | HKSQ-14-100    | Machine Key, $\frac{1}{4}$ x $\frac{1}{4}$ x 1                       | 1        |
| 17   | 78-303         | Finger Reel Bar  | 1        |
| 18   | 78-297         | Finger Clamp, 10"  | 17       |
| 19   | 78-326         | Finger Clamp, 12"  | 1        |
| 20   | HNFL-516-18    | Flange Whiz-loc Nut, $\frac{5}{16}$ - 18                             | 40       |
| 21   | HG-14-28-180   | Grease Fitting, $\frac{1}{4}$ - 28 x 180° (part of 78-393)           | 2 per    |
| 22   | 18-223         | Flange Bushing (part of 78-393)                                      | 4 per    |
| 23   | 72-136         | Quick Spacer, 10GA   | 12       |
| 24   | 72-053         | Quick Spacer, $\frac{1}{2}$ "  | 24       |
| 25   | HNFL-38-16     | Flange Whiz-loc Nut, $\frac{3}{4}$ - 16                              | 8        |
|      | HB-38-16-125   | Hex Bolt, $\frac{3}{4}$ - 16 x $1\frac{1}{4}$                        | 8        |
| 26   | 78-222         | Mounted Bearing (1" bore)  | 2        |
| 27   | 42-539         | Lynch Pin, $\frac{1}{4}$   | 4        |
| 28   | 78-401         | Reel Housing   | 1        |
|      | 8803-80        | Trim Black   | 1        |
| 29   | HB-38-16-250   | Hex Bolt, $\frac{3}{8}$ - 16 x $2\frac{1}{2}$                        | 4        |
|      | HW-38          | Flat Washer, $\frac{3}{8}$   | 4        |
|      | HNFL-38-16     | Flange Whiz-loc Nut, $\frac{3}{8}$ - 16                              | 4        |
| 30   | 8820-8         | Machine Chain Straight Link  | 2        |
| 31   | 8820-3         | Machine Chain Straight Link  | 2        |
| 32   | 78-271         | Reel Lift Rod  | 2        |
|      | HCP-34-250     | Clevis Pin, $\frac{3}{4}$ x $2\frac{1}{2}$                           | 2        |
|      | HHP-18         | Bridge Pin, $\frac{1}{8}$  | 2        |
| 33   | 78-421         | Chain Bracket  | 4        |
| 34   | 78-241         | Chain Connector  | 4        |

# SAFETY DECAL LOCATION

**⚠ WARNING**

**REMEMBER: If Safety Decals have been damaged, removed, become illegible or parts replaced without decals, new decals must be applied. New decals are available from your authorized distributor.**

This is a list of decals located on the V62 Sweeper. Part number, description and location will help in reordering a decals.





## DECAL LIST

This is a list of decals on the Sweep Star V62. Part numbers, description, and location will help in reordering decals.

| REF# | PART#  | DESCRIPTION                          |
|------|--------|--------------------------------------|
| A    | 25-286 | Decal, Pinch Point                   |
| B    | 78-407 | Decal, Max. Load                     |
| C    | 25-298 | Decal, Warning Hot                   |
| D    | 76-305 | Decal, Rotating Parts                |
| E    | 25-307 | Decal, Refueling w/ Gasoline         |
| F    | 25-362 | Decal, Danger Fire                   |
| G    | 25-277 | Decal, Battery Warning               |
| H    | 16-088 | Decal, Moving Parts/Hot              |
| I    | 25-367 | Decal, Serial #                      |
| J    | 25-279 | Decal, safety                        |
| K    | 25-344 | Decal, 3" Star                       |
| L    | 25-355 | Decal, Tire Pressure (18 psi)        |
| M    | 25-356 | Decal, Tire Pressure (20 psi)        |
| N    | 25-359 | Decal, Smithco (3.25 x 17.312)       |
| O    | 25-374 | Decal, Smithco                       |
| P    | 25-363 | Decal, Max. Depth                    |
| Q    | 27-093 | Decal, Hydraulic Oil                 |
| R    | 78-217 | Decal, Operator Control Panell Panel |
| S    | 78-369 | Decal, Sweep Star V62                |
| T    | 78-552 | Decal, Open/Close                    |

# QUICK REFERENCE

## REPLACEMENT FILTERS

|           |                              |                            |
|-----------|------------------------------|----------------------------|
| 23-031    | Hydraulic Oil Filter Element |                            |
| 50-403    | In-Line Fuel Filter          |                            |
| 76-487    | Engine Oil Filter            | Briggs & Stratton # 842921 |
| 76-395-01 | Air Cleaner                  |                            |
| 76-395-02 | Safety Filter                |                            |

## REPLACEMENT BELTS

|        |          |
|--------|----------|
| 78-443 | 3-V Belt |
|--------|----------|

## SEAL KITS

|           |                        |
|-----------|------------------------|
| 78-414    | Hydraulic Motor (reel) |
| 72-199-01 | Seal Kit               |
| 15-839    | Tailgate Cylinder      |
| 14-531    | Seal Kit               |
| 78-415    | 2-Bank Hydraulic Valve |
| 78-415-03 | O-ring (4 required)    |
| 78-413    | Hydraulic Pump         |
| 78-413-01 | Seal Kit               |
| 78-207    | Lift Kit               |
| 14-534    | Lift Cylinder          |
| 14-529    | Seal Kit               |

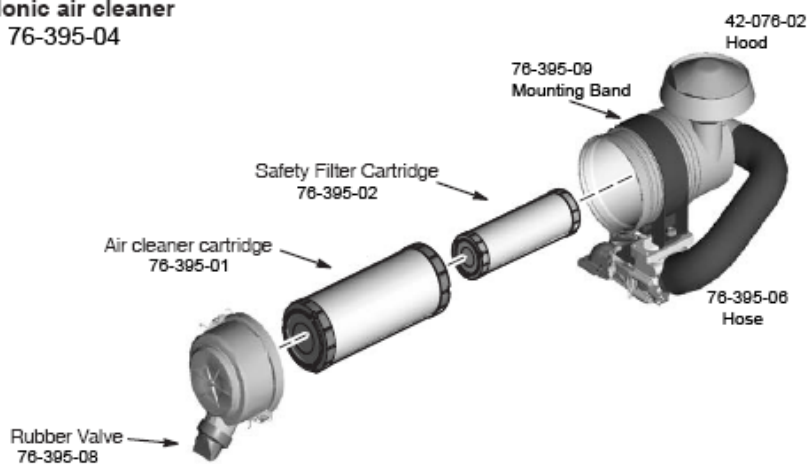
## OTHER PARTS

|                                     |  |
|-------------------------------------|--|
| Spark Plug NGK BMR 6A or equivalent | Gap .024-.028 in. (.6-.7 mm)<br>Torque 12 Ft. Lbs. (17 Nm) |
| 76-354                              | 2 1/2 # ABC Dry Chemical Fire Extinguisher                 |

## FLUIDS

|                 |   |
|-----------------|---|
| Engine Oil      | SAE 10W-40 API Service SJ or higher Motor Oil   |
| Hydraulic Fluid | SAE 10W-40 API Service SJ or higher Motor Oil   |
| Coolant         | Permanent Type Antifreeze for Aluminum Engine and Radiator Green. 50% Solution of Ethylene Glyco. |

**Cyclonic air cleaner**  
76-395-04



# The Smithco Commercial Products Two-Year Limited Warranty

Smithco, Inc. (Smithco) warrants your 2016 or newer Smithco Commercial Product (“Product”) purchased after October 1, 2016 to be free from defects in materials or workmanship for the period of time listed below. Where a warrantable condition exists, Smithco will repair the Product at no cost to you including diagnosis, labor (at the Smithco standard labor rate, subject to the Smithco flat rate schedule), and parts.

## Warranty Duration is:

- (1) Two years, 1500 operational hours\* from the date of delivery to the original purchaser or Five years from the date of original manufacturer of the product, whichever occurs first. (\*Products equipped with hour meter).
- (2) Products used in rental situations are covered for 90 days from date of delivery to original user/renter.

## Owner Responsibilities:

As the Product owner, you are responsible for required maintenance and adjustments stated in your Owner’s Manual. Failure to perform required maintenance and adjustments can be grounds for disallowing a warranty claim. **You are particularly responsible to train all present and future operators of this product on the safe operation of this product at your location.**

## Instructions for Obtaining Warranty Service:

You are responsible for notifying the Authorized Smithco Products Distributor from whom you purchased the Product as soon as you believe a warrantable condition exists and not later than 30 days from discovery of the condition.

If you need help locating an Authorized Smithco Distributor, or if you have questions regarding your warranty rights or responsibilities, you may contact us at:

Smithco Product Support Department  
200 West Poplar Ave.  
Cameron, Wisconsin 54822  
Telephone: 800-891-9435 E-Mail: [ProductSupport@Smithco.com](mailto:ProductSupport@Smithco.com)

## Maintenance Parts:

Parts scheduled for replacement as required maintenance (“Maintenance Parts”), are warranted for the period of time up to the scheduled replacement time for that part.

## Items/Conditions Not Covered:

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. The items/conditions listed below are not covered by this warranty:



Product failures which result from the use of non-Smithco replacement parts, or from installation and use of add-on, modified, or unapproved accessories are not covered.



Product failures which result from failure to perform required maintenance and/or adjustments are not covered.



Product failures that result from operating the Product in an abusive, negligent or reckless manner are not covered.



This warranty does not apply to parts subject to consumption through use, unless found to be defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to: blades, tines, teeth, scarifiers, rakes, plates, wear plates, castor wheels, tires, batteries, filters, belts, nozzles, etc.



This warranty does not apply to failures caused by outside influence. Items considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved coolants, lubricants, additives, or chemicals, etc.



This warranty does not apply to normal “wear and tear” items. Normal “Wear and Tear” includes, but is not limited to, damage to seats due to wear or abrasion, worn painted surfaces, scratched decals or windows, etc.



Smithco may require the return of failed parts or components in order to determine the validity of any warranty claim.



Smithco will not be obligated to replace components of other manufacturers if inspection by the original component manufacturer indicates that failure was due to normal wear and tear, expected consumption through use or improper care or service.

#### **Other Legal Disclaimers:**

The above remedy for product defects through repair or replacement by an authorized Smithco distributor or dealer is the purchaser’s sole remedy for any defect. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**THERE ARE NO OTHER EXPRESS WARRANTIES OTHER THAN THOSE SET FORTH ABOVE. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE DURATION OF THE LIMITED WARRANTIES CONTAINED HEREIN.**

Some states may not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

**THE SMITHCO COMPANY IS NOT LIABLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE USE OF THE PRODUCT, INCLUDING ANY COST OR EXPENSE OF PROVIDING A SUBSTITUTE PRODUCT OR SERVICE DURING PERIODS OF MALFUNCTION OR NON-USE.**

Some states may not allow the exclusion of indirect, incidental or consequential damages, so the above exclusion may not apply to you.

**Smithco neither assumes, nor authorizes any person to assume for it, any other liability in connection with the sale or use of this product.**

