

SweepStar 60
Gas and Diesel
76-000-D and 77-100-C
SN: 2449

July 2015

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

Read this manual and all other manuals pertaining to the Sweep Star 60 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

CALIFORNIA
Proposition 65 Warning
*Engine exhaust and some of its constituents
 are known to the State of California to
 cause cancer, birth defects, and other
 reproductive harm.*

All **Smithco** machines have a Serial Number and Model Number. Both numbers are needed when ordering parts. The serial number plate on the Sweep Star 60 is located on the left front main frame, in front of the engine. 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.

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.

| | | | |
|--|----------------------|----------------------|-----------|
| SMITHCO | | | CE |
| WAYNE, PENNSYLVANIA 19087 USA 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"/> | |

SAFE PRACTICES

- 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. After engine has started, machine must not move. If movement is evident, the neutral mechanism is not adjusted correctly. Shut engine off and readjust so the machine does not move when in neutral position.
 13. Never use your hands to search for oil leaks. Hydraulic fluid under pressure can penetrate the skin and cause serious injury.
 14. 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 operate on a slope greater than 10°. Pay careful attention to the inclinometer on your machine.
 - C. Do not stop or start suddenly on sloped surfaces.
 - D. Reduce speed on slopes and in all turns. Use caution when changing directions on all surfaces.
 - E. Do not change directions of travel on any slope.
 - F. Do not operate debris hopper lift or tailgate while on slopes.
 - G. Stay alert for holes in the terrain and other hidden hazards.
 15. Before leaving operator's position for any reason:
 - A. Disengage all drives.
 - B. Lower all attachments to the ground.
 - C. Set park brake.
 - D. Shut engine off and remove the ignition key.
 16. Keep hands, feet and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
 17. Keep the area of operation clear of all bystanders.
 18. Never carry passengers.
 19. Stop engine before making repairs/adjustments or checking/adding oil to the crankcase.
 20. Use parts and materials supplied by SMITHCO only. Do not modify any function or part.
 21. 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.

These machines are intended for operation by well trained persons performing 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 60 GAS & DIESEL

WEIGHTS AND DIMENSIONS

| | |
|-------------------------|-------------------|
| Length | 129" (328 cm) |
| Width | 74.5" (179 cm) |
| Height with Hopper Down | 82" (208 cm) |
| Height with Hopper Up | 127" (323 cm) |
| Wheel Base | 68.5" (174 cm) |
| Weight | 2200 lbs (998 kg) |

ROLL OVER PROTECTION BAR

Standard on all Machines

SOUND LEVEL

| | GAS ENGINE | DIESEL ENGINE |
|-------------------|------------|---------------|
| At ear level | 92 dB | 98 dB |
| At 3 ft (0.914 m) | 86 dB | 96 dB |
| At 30 ft (9.14 m) | 64 dB | 74 dB |

ENGINE

| | GAS | DIESEL |
|--------------------|--|---------------|
| Make | Briggs & Stratton | Kubota |
| Model# | 543477 | D 722 EB3 |
| Type / Spec# | 0175G1 | |
| Horsepower | 31 Hp (23 kw) | 19Hp (14 kw) |
| Fuel | Unleaded 87 Octane Gasoline Minimum | No. 2 Diesel |
| Cooling System | Air Cooled | Liquid Cooled |
| Lubrication System | Full Pressure | Full Pressure |
| Alternator | 24 Amp | 40 Amp |

Tire & Wheels

Front: One 18 x 9.50 x 8 Multi-rib (20 psi; 1.4 bar)
 Front tire and wheel fluid filled to 50 lbs. total. 28 pints of windshield washer fluid or equivalent.
 Rear: Two 24 x 13.00 x 12 Super Soft (18 psi; 1.3 bar)
 Castor: 9 x 3.5 - 4 (20 psi; 1.4 bar)

SPEED

| | |
|---------------|---------------------------|
| Forward Speed | 0 to 12 m.p.h. (0-19 kph) |
| Reverse Speed | 0 to 4 m.p.h. (0-6 kph) |

BATTERY

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

FLUID CAPACITY

| | | |
|--------------------------|---|--|
| Crankcase Oil | See Engine Manual | See Engine Manual |
| Fuel | 6 gallon (22,7 liters) | 5 gallon (19 liters) |
| Hydraulic Fluid | 5 gallon (19 liters) | 5 gallon (19 liters) |
| Cooling | | Kubota approximately 1 gallon (3.8 liters) |
| Grade of Hydraulic Fluid | SAE 10W-40 API Service SJ or higher Motor Oil | |

OPTIONAL EQUIPMENT

| | |
|--------|-------------------------|
| 77-328 | 60" Brush Kit |
| 76-329 | 60" Finger Reel Kit |
| 76-271 | Filtration Pack |
| 77-218 | Triple Castor Wheel Kit |



MAINTENANCE

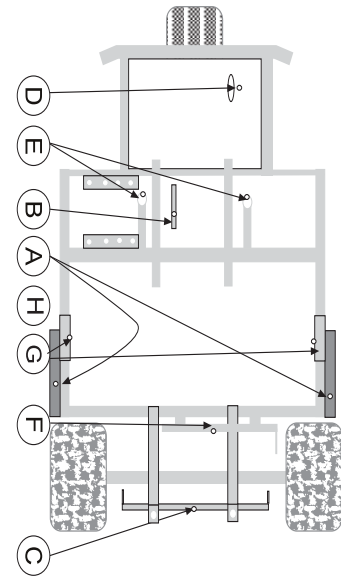
LUBRICATION

Use No. 2 General Purpose Lithium Base Grease and lubricate every 100 hours. The Sweep Star 60 has eleven grease fittings.

- A. One on the outside of each tower.
- B. One on hydrostatic forward and reverse relay.
- C. One on the center of park brake relay on rear axle.
- D. One on hydrostatic pedal under the floorboard.
- E. One on each castor wheel mount bracket.
- F. One on rear skid pivot.
- G. One on each pillow block bearing on end of finger reel.
- H. One on rod end of the tailgate cylinder.

Every 500 hours of operation, separate the hydrostatic pump from the engine. Clean the splined areas and lightly grease the male portion of the pump spline. Use either Dow Corning® G-N Metal Assembly Paste or #77 Assembly Paste (Kohler # 25 357 12-s).

As you remount the pump to the engine, be certain the mating surface are clean and free of any foreign material and that the pump is correctly aligned.



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 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.

TIRE PRESSURE

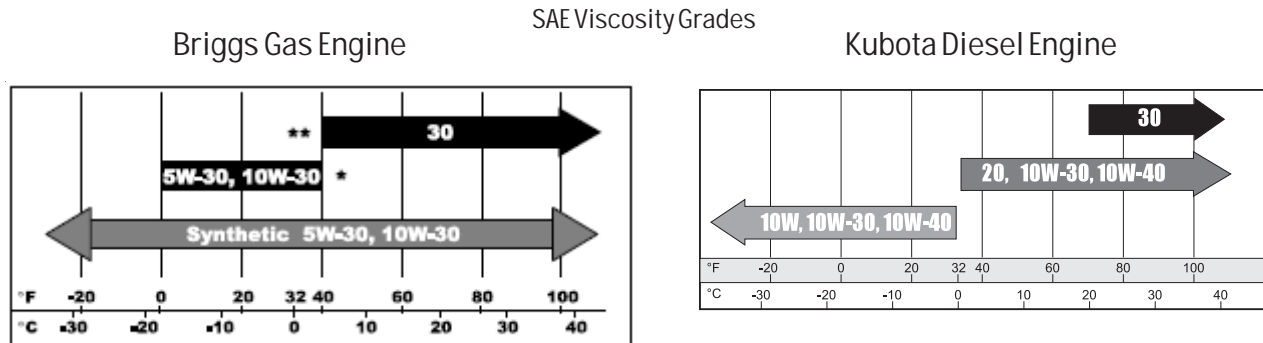
Caution must be used when inflating a low tire to recommended pressure. Over inflating can cause tires to explode. Front tires and castor wheel should be 20 psi (1.4 bar), rear tires should be 18 psi (1.3 bar) maximum. Improper inflation will reduce tire life considerably.

ENGINE OIL

Change and add oil according to charts below. Do not overfill. Use a high quality detergent oil. **For Briggs engine** use oil classified "For Service SJ or higher" SAE 30 oil. **For Kubota Diesel engine** use oil classified "For Service CC, CD or CE" API oil. Use no special additives with recommended oils. Do not mix oil with gasoline. If the CF-4 or CG-4 lubrication oil is used with high-sulfur fuel, change the lubricating oil more often.

SAE 30 oil, if used below 40° F (4° C), will result in hard starting and possible engine bore damage due to inadequate lubrication.

The use of non-synthetic multi-viscosity oils in temperatures above 80°F (27° C) will result in higher than normal oil consumption. Check oil level more frequently when using a multi-viscosity oil.



Starting Temperature Range Anticipated Before Next Oil Change

TOWING

When it is necessary to move the Sweep Star 60 without engine running, the bypass valve built into hydrostatic pump must be "open" by turning it counterclockwise. The valve is located on bottom left of pump. An "open" valve allows fluid to pass through the wheels freely. When normal, driven, operation is desired, valve should be closed by turning it clockwise. Failure to "close" the valve with engine running means no power to wheels.

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.

FILTER PACK

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)

WHEEL MOUNTING PROCEDURE

REAR WHEELS

1. Set park brake. Turn machine off and remove key.
2. Block one of the other wheels.
3. Loosen nuts slightly on wheel to be removed.
4. Jack up machine being careful not to damage underside of machine.
5. Remove nuts, remove wheel.
5. Place new wheel on hub lining up bolt holes.
6. 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.
7. Lower machine to ground and remove blocks and jack.

FRONT WHEEL

1. Set park brake. Turn machine off and remove key.
2. Block one of the other wheels.
3. Remove cotter pins from each end of the axle.
4. Remove axle nuts, machine bushings and axle locks.
5. Jack up front of machine being careful not to damage underside of machine.
6. Wheel and axle will come out of slots in the u-bracket, pull wheel forward.
7. Place new wheel on hub lining up bolt holes.
8. Torque nuts to 64-74 ft/lb (87-100 Nm) using a cross pattern. Torque again after first 10 hours and every 200 hours thereafter.
9. Lower machine to ground and remove blocks and jack.

JUMPSTARTING



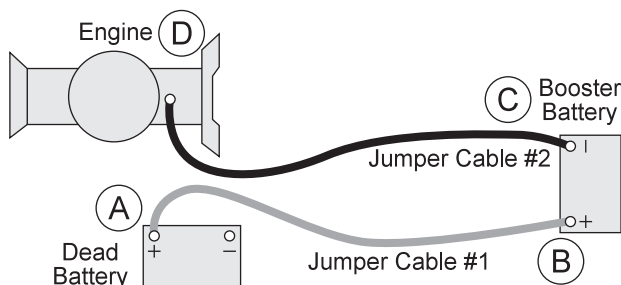
WARNING

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.



SWEEPING

While sweeping close tailgate frequently to ensure tailgate does not creep open.



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



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 8 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 hydraulic fluid level. Check the tire pressure. Check and clean Debris Filter Pack ¹ Check condition of hydraulic hoses and fittings. Check for oil or water leaks. Proper function of glow lamp timer. Color of exhaust fumes. Inspect and clean the machine. |
| After the first 50 hours | Change Hydraulic Oil Filter. Change Engine oil and filter. |
| Every 100 hours | Clean or change air filter. ¹ Clean pre-cleaner. ¹ Change engine oil and filter. Replace spark plug . Lubricate machine. Clean or change remote air cleaner. Check the battery fluid level and cable connections.. Check belt tension . |
| Every 200 hours | Check radiator hoses and clamp bands. Check idle speed. Repalce oil filter cartridge. Change hydraulic oil filter. Check air intake line Torque the wheel lug nuts. (64-74 ft/lb (87-100 Nm)) |
| Every 500 hours or yearly | Change fuel filter. Change hydraulic oil and filter. Clean oil cooler fins. ¹ Clean air cooling system. ¹ Change radiator coolant. Check safety filter in remote air cleaner. |

¹ In dusty conditions or when airborne debris is present, clean more often.

SERVICE CHART DIESEL



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



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 8 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 hydraulic fluid level. Check the tire pressure. Check and clean Debris Filter Pack ¹ Check condition of hydraulic hoses and fittings. Inspect and clean the machine. |
| After the first 50 hours | Change Hydraulic Oil Filter. |
| Every 100 hours | Clean or change air filter. ^{1&2} Clean pre-cleaner. ¹ Change engine oil and filter. Replace spark plug . Lubricate machine. Clean or change remote air cleaner. Check the battery fluid level and cable connections.. Service exhaust sytem. Check belt tension . |
| Every 250 hours | Check engine valve clearance and adjust if necessary. Check idle speed. Clean battery terminals. Change hydraulic oil filter. Torque the wheel lug nuts. (64-74 ft/lb (87-100 Nm)) |
| Every 500 hours or yearly | Change fuel filter. Change hydraulic oil and filter. Clean oil cooler fins. ¹ Replace air filter ² 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.

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END USER SERVICE CHART

Duplicate this page for routine use.

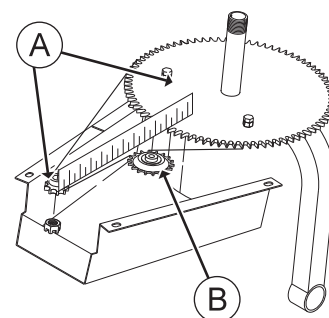
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PARK BRAKE ADJUSTMENT

By turning knob on end of park brake lever you can tighten or loosen brake a small amount. To tighten turn the knob clockwise. To loosen turn counter clockwise. If this is not enough turn clevis on brake cable to adjust length of cable.

STEERING CHAIN ADJUSTMENT

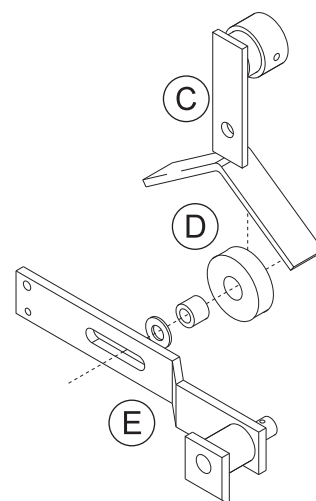
Steering Sprockets (A) should be level with each other. Check with straight edge. Make any adjustments. Slide Idler Pulley (B) so that it is snug onto the chain. Tighten all nuts and bolts in place.



WHEEL 'CREEP' ADJUSTMENT

'Creep' is when engine is running and hydrostatic transmission is in neutral, but due to inadequate alignment, wheels still move. Do the following procedures to stop this motion.

1. Lift up and support the unit so rear wheels are off the ground and can turn freely.
2. On the side of hydrostatic transmission is the Shift Arm (C) . In the 'V' shaped notch of shift arm rests Idler Pulley (D). This Pulley is mounted on an Idler Arm (E).
3. Loosen bolt and nut holding Pulley to Idler Arm. Leave finger tight.
4. With engine running, slide the Pulley in Idler Arm slot until it centers on Shift Arm on hydrostatic and wheel 'creep' stops.
5. Tighten all fasteners and test by using foot pedal linkage to see that the 'creep' is removed.
6. Turn the engine off and lower the machine.



STORAGE

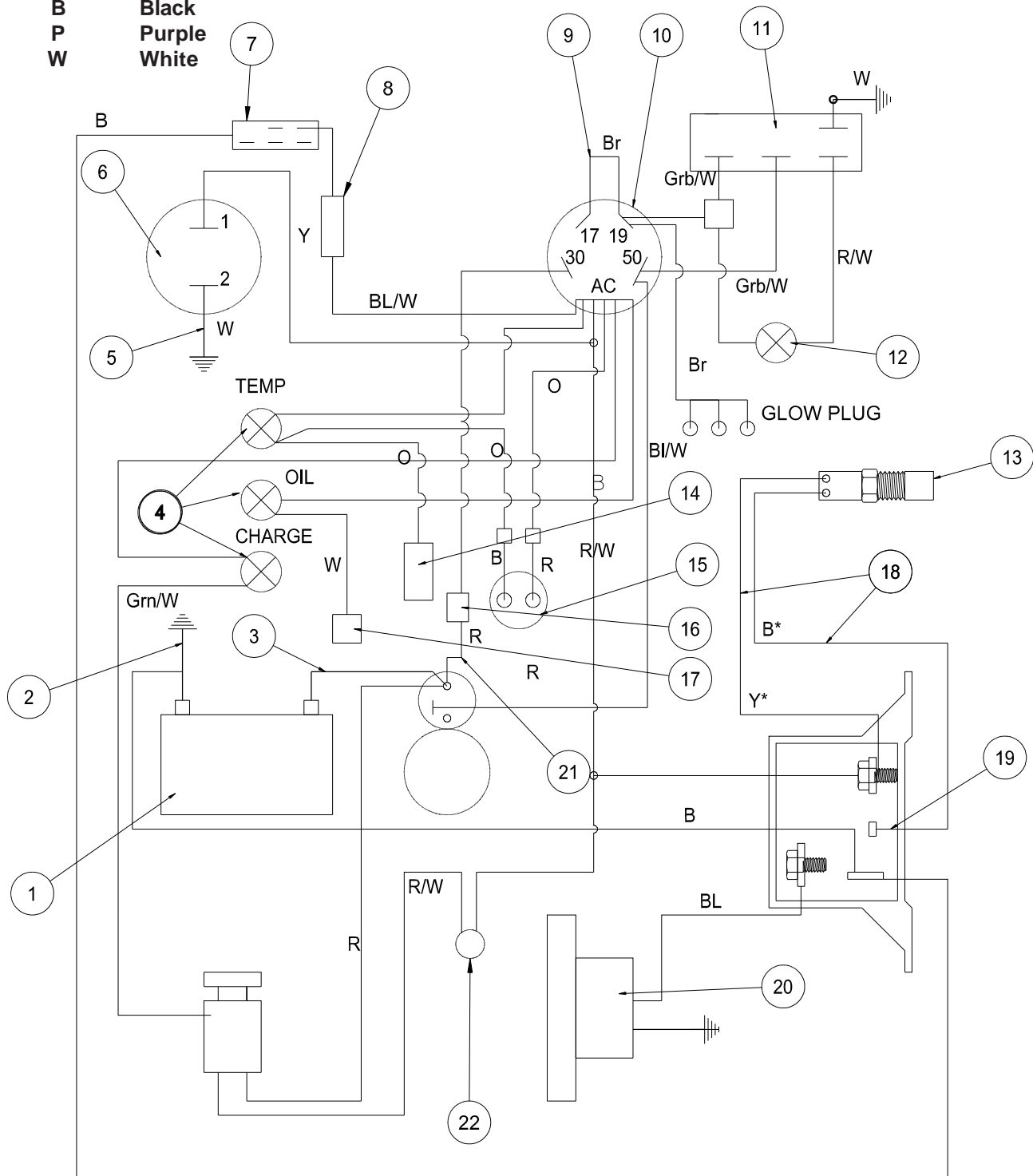
When storing, remove the key from the key switch to avoid unauthorized persons from operating machine.

1. Before storing clean machine thoroughly.
2. Check 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.

DIESEL WIRING DIAGRAM

Color Code Chart

| | |
|-----|--------|
| Bl | Blue |
| Br | Brown |
| Y | Yellow |
| Grn | Green |
| O | Orange |
| R | Red |
| B | Black |
| P | Purple |
| W | White |

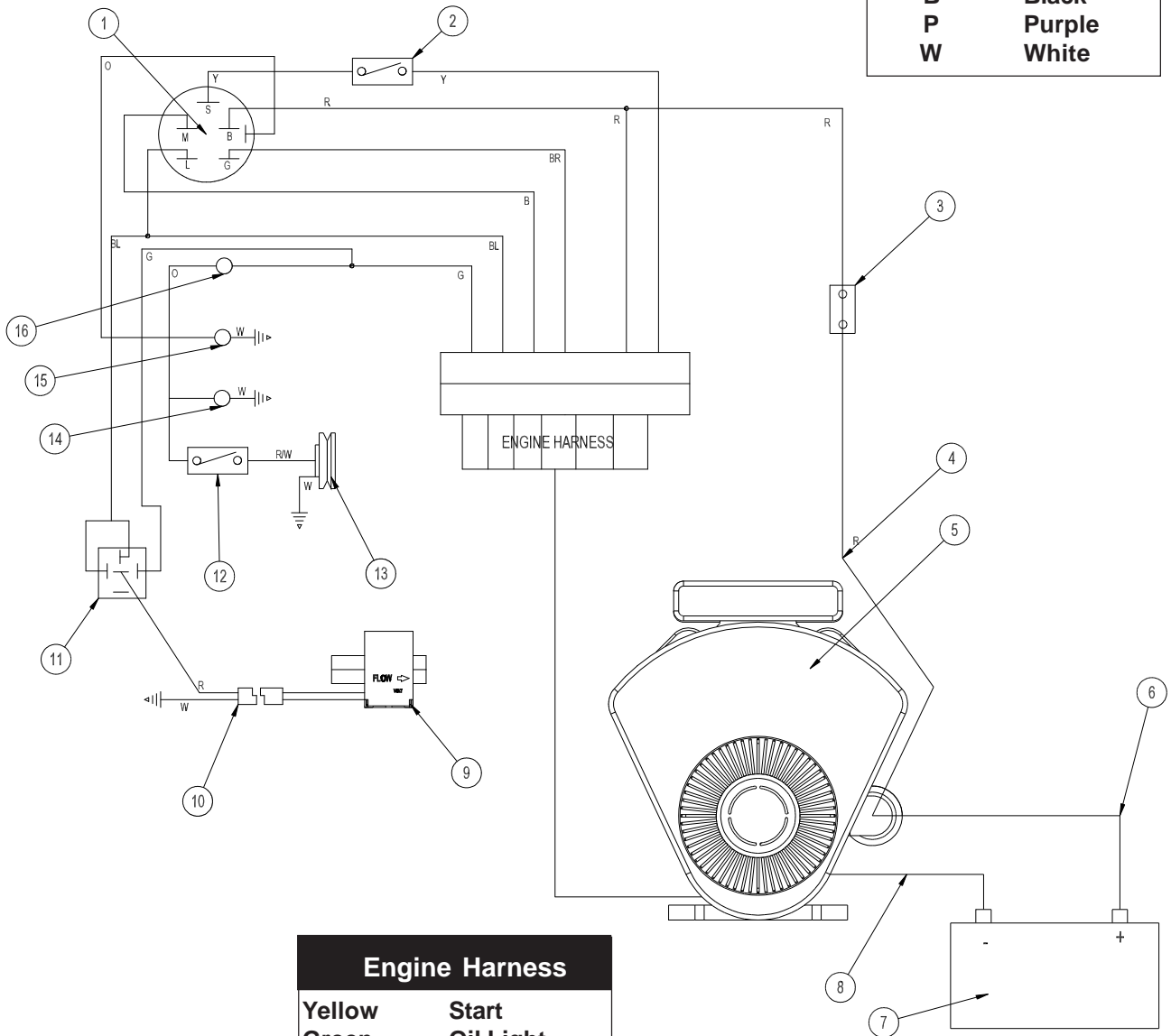


| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------|--|----------|
| 1 | 22-073 | Battery | 1 |
| | 48-166 | Battery Holddown | 1 |
| 2 | 48-147 | Black Battery Cable | 1 |
| 3 | 48-157 | Red Battery Cable | 1 |
| | 8892-46.5 | Hose Wrap 1/4 x 46.5 | 1 |
| 4 | 50-359 | Warning Indicator Lights | 3 |
| 5 | 77-209 | Hour Meter to Ground Wire | 1 |
| 6 | 12-017 | Hour Meter | 1 |
| 7 | 76-337 | Electric Clutch | 1 |
| | 17-271 | Pigtail | 1 |
| 8 | 15-314 | Toggle Switch | 1 |
| | 15-472 | Boot | 1 |
| 9 | 77-226 | Wire 17 to 19 Ignition Switch | 1 |
| 10 | 17-068 | Key Switch | 1 |
| | 17-079 | Key Set | 1 |
| 11 | 77-223 | Glow Lamp Timer | 1 |
| 12 | 50-359 | Glow Plug Indicator Light | 1 |
| | 8875 | Bullet Terminal | 1 |
| | 8874 | Line Connector | 1 |
| | 8963 | Heat Shrink | 2 |
| 13* | 77-208-05 | Air Pack Switch (part of engine) | 1 |
| 14 | 77-208-01 | Temperature Sender (part of engine) | 1 |
| 15 | 77-207 | Buzzer | 1 |
| 16 | 77-261 | 40 Amp Circuit Breaker | 1 |
| | 8977 | Circuit Breaker Boot | 1 |
| 17 | | Oil Sender (part of engine) | 1 |
| 18* | 77-234 | Thermostat Wire Harness | 1 |
| 19* | 77-233 | Bosch Power Relay | 1 |
| 20 | 77-201 | Electric Fan | 1 |
| | 8844-9 | Light Blue Wire | 1 |
| | 8849-14 | Black Wire | 1 |
| | 8900-14 | Flex Loom | 1 |
| | 8854 | Fork terminal | 1 |
| | 8860 | Butt Connector | 2 |
| | 8933 | Ring terminal | 1 |
| 21 | 48-144 | Circuit Breaker Wire | 1 |
| 22 | 14-292 | Seat Switch | 1 |
| | 77-262 | Wire Harness (contains all wires except # 5 & 15) | 1 |
| * | 77-235 | Thermostat Kit | |
| | 22-065 | Auxillary Ground | 1 |

GAS WIRING DIAGRAM

Color Code Chart

| | |
|-----|--------|
| Bl | Blue |
| Br | Brown |
| Y | Yellow |
| Grn | Green |
| O | Orange |
| R | Red |
| B | Black |
| P | Purple |
| W | White |



Engine Harness

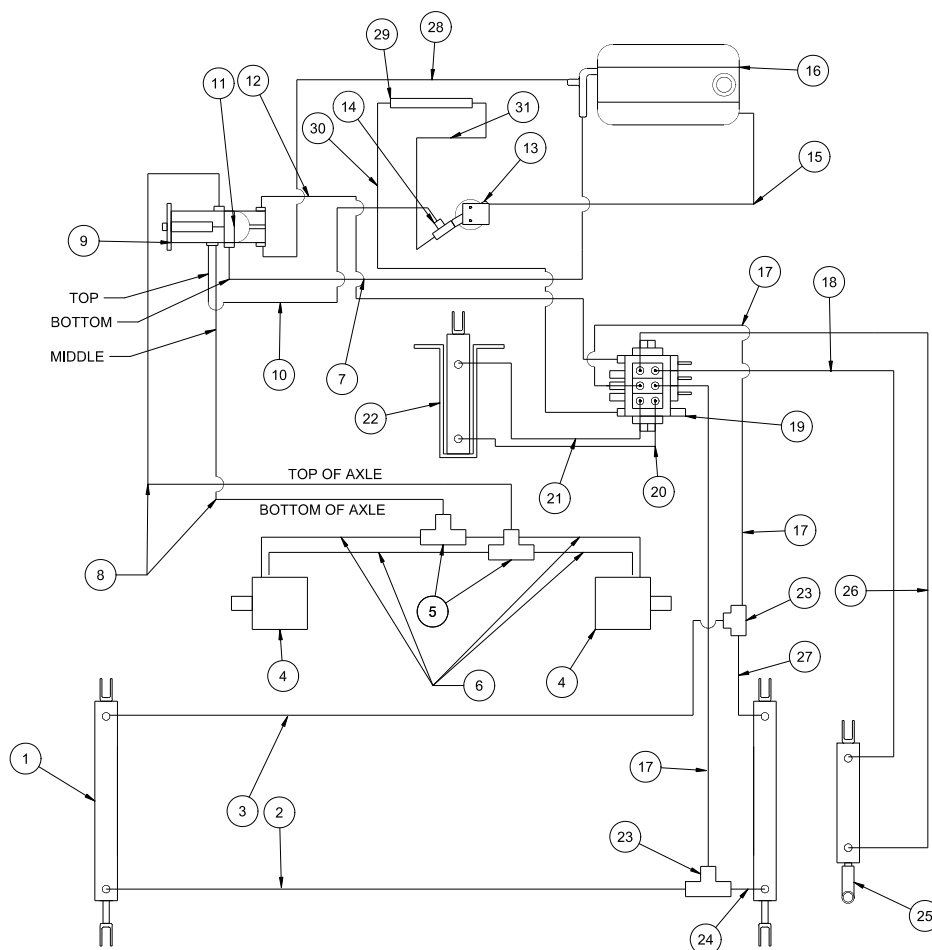
| | |
|--------|---------------|
| Yellow | Start |
| Green | Oil Light |
| Brown | Ground |
| Red | Rectifier |
| Black | Magneto |
| Gray | Fuel Solenoid |

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------|--------------------------|----------|
| 1 | 13-488 | Key Switch with Hardware | 1 |
| 2 | 14-292 | Seat Switch | 1 |
| 3 | 77-261 | Circuit Breaker 40 AMP | 1 |
| | 8977 | Circuit Breaker Boot | 1 |
| 4 | 48-144 | Circuit Breaker Wire | 1 |
| 5 | | Engine | 1 |
| 6 | 48-157 | Red Battery Cable | 1 |
| | 8892-46.5 | Hose Wrap 1/4 x 46.5 | 1 |
| 7 | 22-073 | Battery | 1 |
| 8 | 48-147 | Black Battery Cable | 1 |
| 9* | 76-471 | Fuel Pump | 1 |
| | 9016 | Weather Pack Connector | 1 |
| | 9017 | Female Terminal | 2 |
| | 9018 | Seal | 2 |
| | 9027 | Terminal Tap | 1 |
| 10* | 76-472 | Fuel Pump Wire Harness | 1 |
| 11* | 30-042-06 | Relay | 1 |
| 12 | 15-314 | Toggle Switch | 1 |
| | 15-472 | Switch Boot | 1 |
| 13 | 76-412 | Electric Clutch | 1 |
| 14 | 76-397 | Voltmeter | 1 |
| 15 | 12-017 | Hour Meter | 1 |
| 16 | 50-359 | Warning Indicator Light | 1 |

* 76-473 **OPTIONAL** Elec Fuel Pump Kit

76-394 Wire Harness 1

HYDRAULIC DIAGRAM



76-023 Hydraulic Valve

Relief Valve set at

2000 psi (137.93 bar)

76-398 Hydrostatic Pump

Displacement

Variable to 1.44 in³/R (23.6 cm³/R)
22.44 gpm (84.94 lpm) at 3600 rpm

Max Operating Speed

3600 rpm

Rated Pressure

3000 psi (206.8 bar)

Max Pressure

5000 psi (344.7 bar)

Max Inlet Vacuum

6 in Hg (.203 bar)

Max Inlet Temperature

225°F (107°C)

Max Allowable Case Pressure 25 psi (1.72 bar)

76-197 Gear Pump

Displacement

.40 in³/R (6.6 cm³/R) 6.23 gpm (25.39 lpm)

HYDRAULIC DIAGRAM PARTS LIST

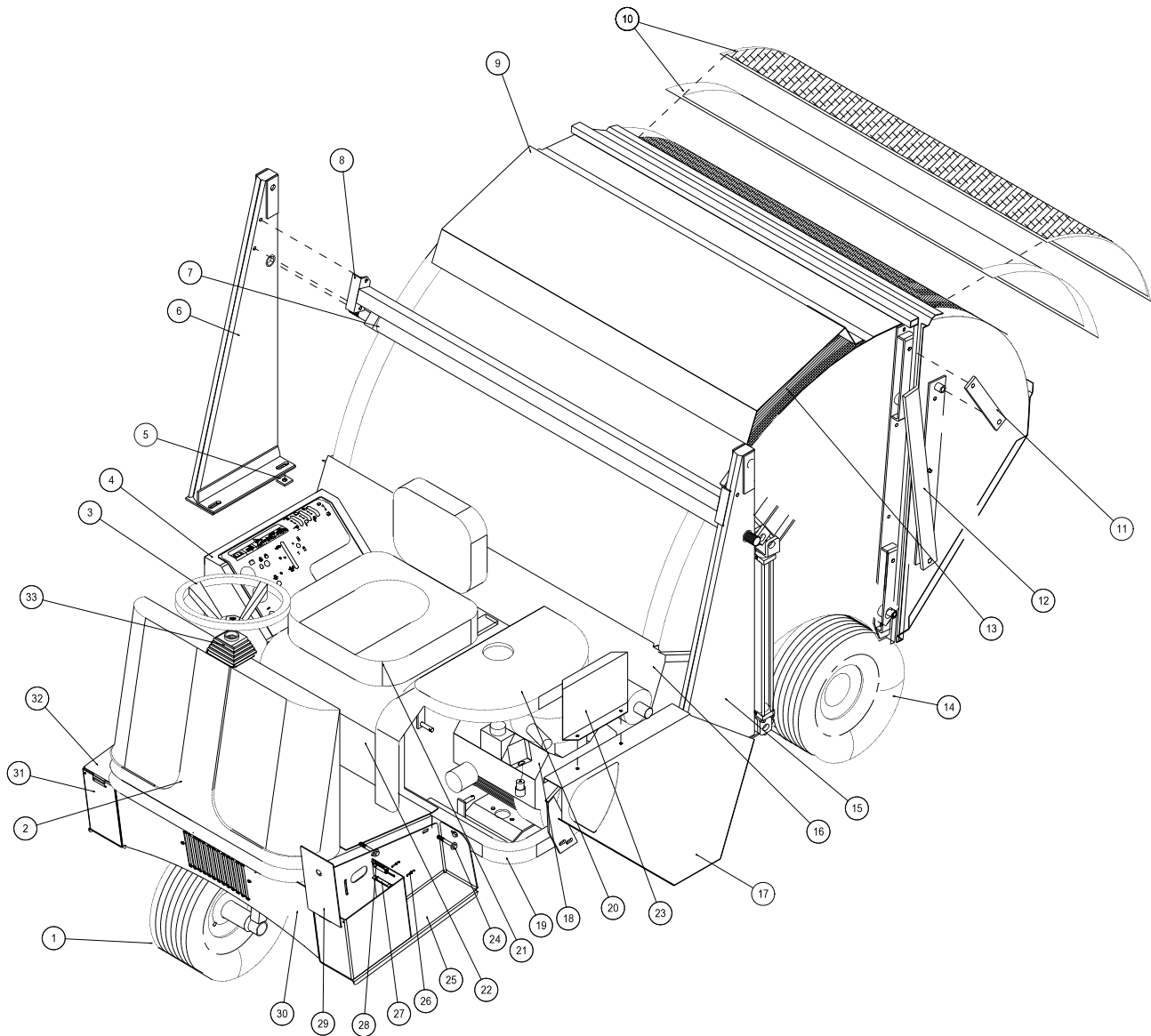
| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------|-----------------------------------|----------|
| 1 | 76-242 | Hydraulic Cylinder | 2 |
| 2 | 76-115 | Hydraulic Hose | 1 |
| 3 | 76-114 | Hydraulic Hose | 1 |
| 4 | 76-238 | Wheel Motor | 2 |
| 5 | 34-057 | Tee | 2 |
| 6 | 76-208 | Hydraulic Hose | 4 |
| 7 | 8832-18.5 | Suction Hose (gas) | 1 |
| | 8832-24 | Suction Hose (diesel) | 1 |
| | 18-040 | Hose Clamp | 2 |
| 8 | 76-209 | Hydraulic Hose | 2 |
| | 8895-48 | 1" Hose Wrap | 2 |
| 9 | 76-398 | Hydrostatic Pump (Gas) | 1 |
| | 77-239 | Hydrostatic Pump (Diesel) | |
| 10 | 76-207 | Hydraulic Hose | 1 |
| | 8892-21 | 1/4" Hose Wrap | 1 |
| 11 | 76-197 | Gear Pump | 1 |
| 12 | 76-104 | Hydraulic Hose | 1 |
| | 8892-29 | 1/4" Hose Wrap | 1 |
| 13 | 23-006 | Oil Filter | 1 |
| | 23-031 | Filter Element (Replacement Only) | 1 |
| 14 | 18-190 | Tee | 1 |
| 15 | 8917-38 | Suction Hose 5/8 ID | 1 |
| | 18-040 | Hose Clamp | 2 |
| 16 | 60-473 | Oil Tank | 1 |
| 17 | 76-202 | Hydraulic Hose | 2 |
| 18 | 76-204 | Hydraulic Hose | 1 |
| | 8892-26 | 1/4" Hose Wrap | 1 |
| 19 | 76-023 | Hydraulic Valve | 1 |
| 20 | 76-205 | Hydraulic Hose | 1 |
| | 8892-31 | 1/4" Hose Wrap | 1 |
| 21 | 76-206 | Hydraulic Hose | 1 |
| | 8892-27 | 1/4" Hose Wrap | 1 |
| 22 | 76-478 | Hydraulic Cylinder | 1 |
| 23 | 18-173 | Tee 3/8 Junction Union | 2 |
| 24 | 76-117 | Hydraulic Hose | 1 |
| 25 | 77-263 | Hydraulic Cylinder | 1 |
| 26 | 76-203 | Hydraulic Hose | 1 |
| | 8892-26 | 1/4" Hose Wrap | 1 |
| 27 | 76-116 | Hydraulic Hose | 1 |
| 28 | 8832-17.5 | Suction Hose (gas) | 1 |
| | 8832-17 | Suction Hose (diesel) | 1 |
| | 18-040 | Hose Clamp | 2 |
| 29 | 23-172 | Cooler | 1 |
| | 76-458 | Cooler Mount Kit | 1 |
| 30 | 76-459 | Hydraulic Hose 75" | 1 |
| | 8892-44 | Hose Wrap | 1 |
| 31 | 76-460 | Hydraulic Hose 63" | 1 |
| | 8892-44 | Hose Wrap | 1 |
| 32 | 18-190 | Tee | 1 |

8892 1/4" Hose Wrap

BODY AND FRAME DRAWING

When Filtration System is to be installed, Ref. 9 Hopper Screen Cover is to be removed.

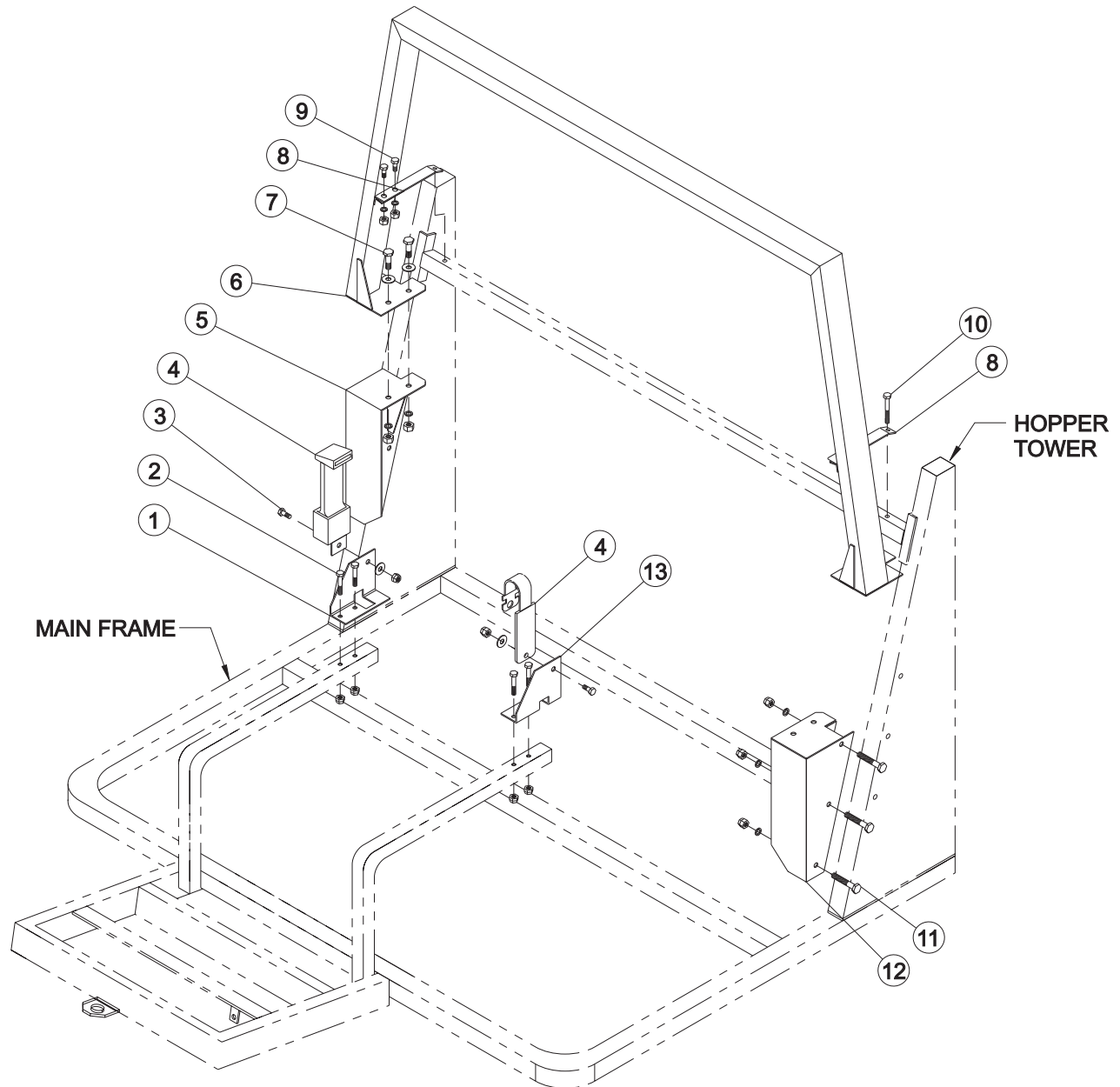
When Filters are used, 76-262 Tailgate Screen is replaced by 76-249 Tailgate Filter Screen. 76-261 Hopper Screen is replaced by 76-248 Hopper Filter Screen.



BODY AND FRAME PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---|---|------------|
| 1§ | 60-130 | Tire and Wheel | 1 |
| | 60-130-01 | Tire 18 x 9.50 - 8 | 1 |
| | 60-130-02 | Wheel | 1 |
| | 8839 | Windshield Washer Fluid or Equivalent | 28 pints |
| 2 | 76-264 | Nose Cone | 1 |
| | 76-354 | 2 1/2 # ABC Dry Chemical Fire Extinguisher | 1 |
| NS | 76-372 | Inclinometer | 1 |
| NS | 76-373 | Inclinometer Bracket | 1 |
| 3 | 13-718 | Steering Wheel | 1 |
| 4 | 76-265 | Gas Console | 1 |
| | 77-193 | Diesel Console | 1 |
| | 76-219 | Console Support | 1 |
| 5 | 76-151 | Washer | 2 |
| 6 | 75-561 | Right Tower | 1 |
| 7 | 76-211 | Arm Pivot Tube | 1 |
| 8 | 75-570 | Cross Bar | 1 |
| 9 | 76-359 | Hopper Screen Cover | 1 |
| | HB-516-18-075 | Bolt 5/16 - 18 x 3/4 | 6 |
| | HNTL-516-18 | Lock Nut 5/16 - 18 | 6 |
| 10* | 76-249 | Tailgate Filter Screen | 1 |
| | 76-247 | Tailgate Filter Pack | 1 |
| 11 | 75-564 | Tailgate Hinge | 2 |
| 12 | 76-413 | Right Tailgate Dump Arm | 1 |
| 13* | 76-248 | Hopper Filter Screen | 1 |
| | 76-246 | Hopper Filter Pack | 1 |
| 14 | 16-225 | Tire and Wheel | 2 |
| | 16-225-01 | Tire 24 x 13 - 12NHS | 2 |
| | 16-225-02 | Wheel | 2 |
| 15 | 75-629 | Left Tower | 1 |
| 16 | 76-235 | Grass Chute Frame | 1 |
| | 8947-60 | Trim Seal | 2 |
| | 8842-14 | Foam Tape | 2 |
| 17 | 76-341 | Side Belt Guard | 1 |
| | 13-388 | Spacer | 2 |
| 18 | 76-484 | Briggs & Stratton 31hp Gas Engine | 1 |
| | 77-208 | D-722 Diesel Kubota Engine | 1 |
| 19 | 76-290 | Main Frame | 1 |
| 20 | 76-435 | Gas Engine Cover | 1 |
| | 77-250 | Diesel Engine Cover | 1 |
| 21 | 14-270 | Seat | 1 |
| 22 | 76-289 | Seat Assembly | 1 |
| 23 | 77-180 | Belt Guard (diesel only) | 1 |
| 24 | HB-38-16-300 | Bolt 3/8 - 16 x 3 | 6 |
| | HW-38 | Washer 3/8 | 6 |
| | HNTL-38-16 | Lock Nut 3/8- 16 | 6 |
| 25 | 48-160 | Right Step | 1 |
| | 8803-10 | Black Trim 10" | 1 |
| 26 | HRS-18-050 | Rivet 1/8 x 1/2 | 4 |
| | HW-6 | Washer #6 | 4 |
| 27 | 48-164 | Magnet | 2 |
| 28 | 48-165 | Magnet Bracket | 2 |
| 29 | 48-159 | Battery Box Cover | 2 |
| 30 | 76-457 | Front Cover | 1 |
| 31 | 48-161 | Left Step | 1 |
| 33 | 76-362 | Tilt Steering | 1 |
| § | Front tire and wheel fluid filled to 50 lbs. total. | | |
| * | Optional 76-271 | Filtration System (includes Ref. 10 and 13) | 1 |
| NS | 75-703 | Tower Washers | 2 Per Side |

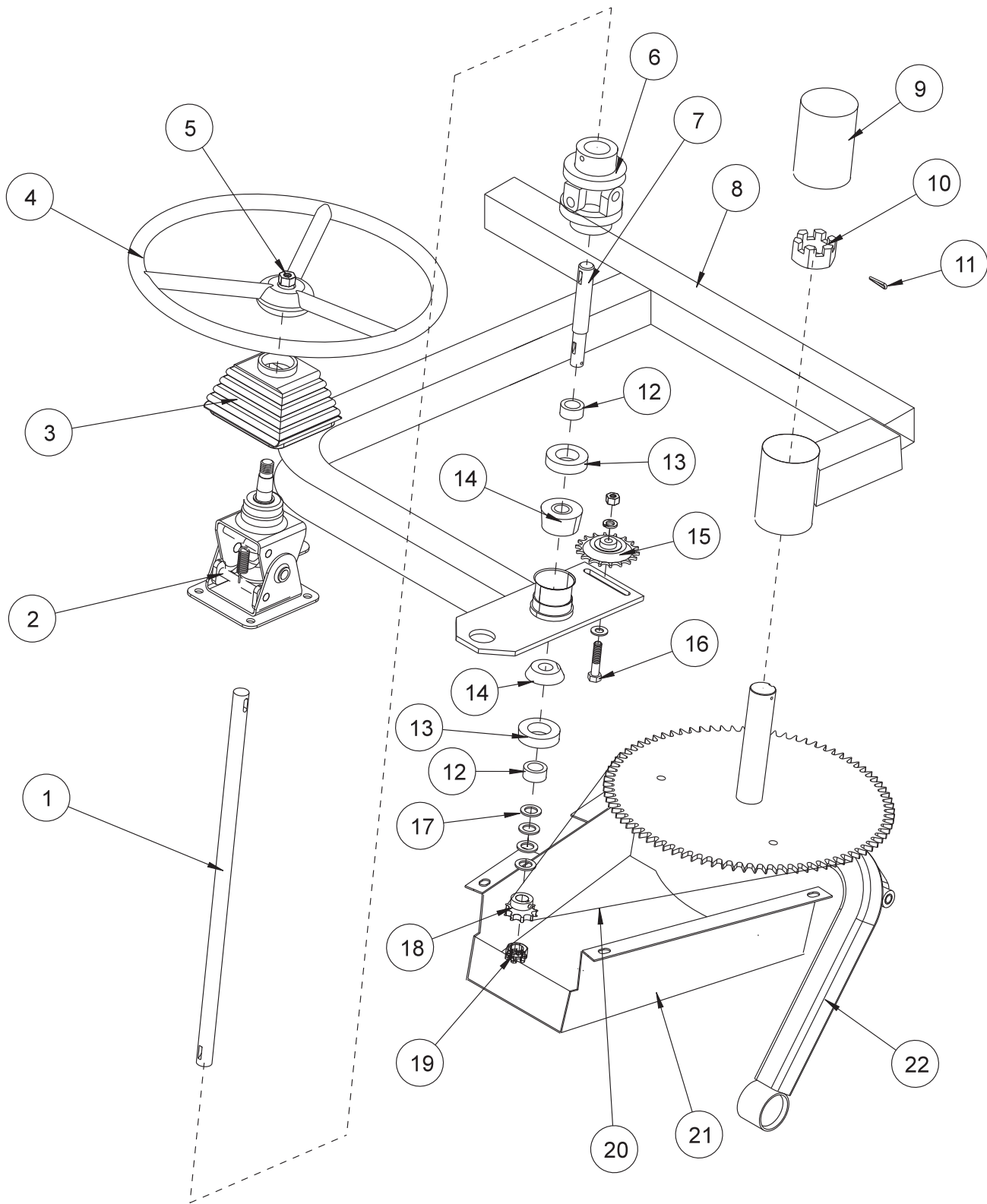
ROLL-OVER PROTECTION DRAWING



ROLL-OVER PROTECTION PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|--|----------|
| 1 | 76-377 | Right Seat Belt Bracket | 1 |
| 2 | HB-38-16-200 | Bolt $\frac{3}{8}$ - 16 x 2 | 4 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 4 |
| 3 | HB-716-14-100 | Bolt $\frac{7}{16}$ - 14 x 1 | 2 |
| | HNTL-716-14 | Lock Nut $\frac{7}{16}$ - 14 | 2 |
| 4 | 76-198-03 | Seat Belt | 1 |
| 5 | 76-379 | Right Support | 1 |
| 6 | 76-381 | Roll Bar | 1 |
| 7 | HB-12-13-125 | Bolt $\frac{1}{2}$ - 13 x $1\frac{1}{4}$ | 4 |
| | HW-12 | Washer $\frac{1}{2}$ | 4 |
| | HWL-12 | Lockwasher $\frac{1}{2}$ | 4 |
| | HNTL-12-13 | Lock Nut $\frac{1}{2}$ - 13 | 4 |
| 8 | 76-376 | Strap | 2 |
| 9 | HB-38-16-100 | Bolt $\frac{3}{8}$ - 16 x 1 | 4 |
| | HWL-38 | Lockwasher $\frac{3}{8}$ | 4 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 4 |
| 10 | HB-38-16-300 | Bolt $\frac{3}{8}$ - 16 x 3 | 2 |
| | HWL-38 | Lockwasher $\frac{3}{8}$ | 2 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 2 |
| 11 | HB-12-13-300 | Bolt $\frac{1}{2}$ - 13 x 3 | 6 |
| | HNTL-12-13 | Lock Nut $\frac{1}{2}$ - 13 | 6 |
| 12 | 76-380 | Left Support | 1 |
| 13 | 76-378 | Left Seat Belt Bracket | 1 |

STEERING DRAWING



Parts

STEERING PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|------------------|---|----------|
| 1 | 48-186 | Steering Shaft | 1 |
| | HWK-316-075 | Woodruff Key $\frac{3}{16}$ x $\frac{3}{4}$ | 1 |
| 2 | 76-362 | Tilt Steering Mechanism | 1 |
| 3 | 76-364 | Tilt Steering Boot | 1 |
| 4 | 13-718 | Steering Wheel | 1 |
| | 13-726 | Steering Wheel Cap | 1 |
| 5 | HN-58-18 | Nut $\frac{5}{8}$ - 18 | 1 |
| 6 | 75-833 | Universal Joint | 1 |
| | HSSHS-516-18-038 | Socket Head Set Screw $\frac{5}{16}$ - 18 x $\frac{3}{8}$ | 4 |
| 7 | 75-813 | Bottom Steering Shaft | 1 |
| | HWK-316-075 | Woodruff Key $\frac{3}{16}$ x $\frac{3}{4}$ | 1 |
| 8 | | Main Frame | |
| 9 | 76-301 | Rubber Cap | 1 |
| 10 | HNA-114-12 | Axle Nut $1\frac{1}{4}$ - 12 | 1 |
| 11 | HP-18-150 | Cotter Pin $\frac{1}{8}$ x $1\frac{1}{2}$ | 1 |
| 12 | 11-040 | Spacer $\frac{3}{4}$ | 2 |
| | HMB-34-14 | Machine Bushing $\frac{3}{4}$ | 1 |
| 13 | 11-039 | Seal | 2 |
| 14 | 11-038 | Bearing Cup and Cone | 2 |
| 15 | 76-156 | Idler Sprocket | 1 |
| 16 | HB-38-16-175 | Bolt $\frac{3}{8}$ - 16 x $1\frac{3}{4}$ | 1 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 1 |
| 17 | HMB-58-14 | Machine Bushing $\frac{5}{8}$ - 14 | as Req'd |
| 18 | 76-153 | Sprocket | 1 |
| | HWK-316-063 | Woodruff Key $\frac{3}{16}$ - $\frac{5}{8}$ | 1 |
| 19 | HNA-58-18 | Axle Nut $\frac{5}{8}$ - 18 | 1 |
| | HP-18-150 | Cotter Pin $\frac{1}{8}$ x $1\frac{1}{2}$ | 1 |
| 20 | 8827-59 | Roller Chain | 1 |
| | 18-032 | Master Link #40 | 1 |
| 21 | 75-803 | Chain Guard | 1 |
| | HSTP-516-18-100 | Phillips Truss Machine Screw $\frac{5}{16}$ - 18 x 1 | 4 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 4 |
| 22 | 76-155 | Front Fork | 1 |

FRONT FORK DRAWING

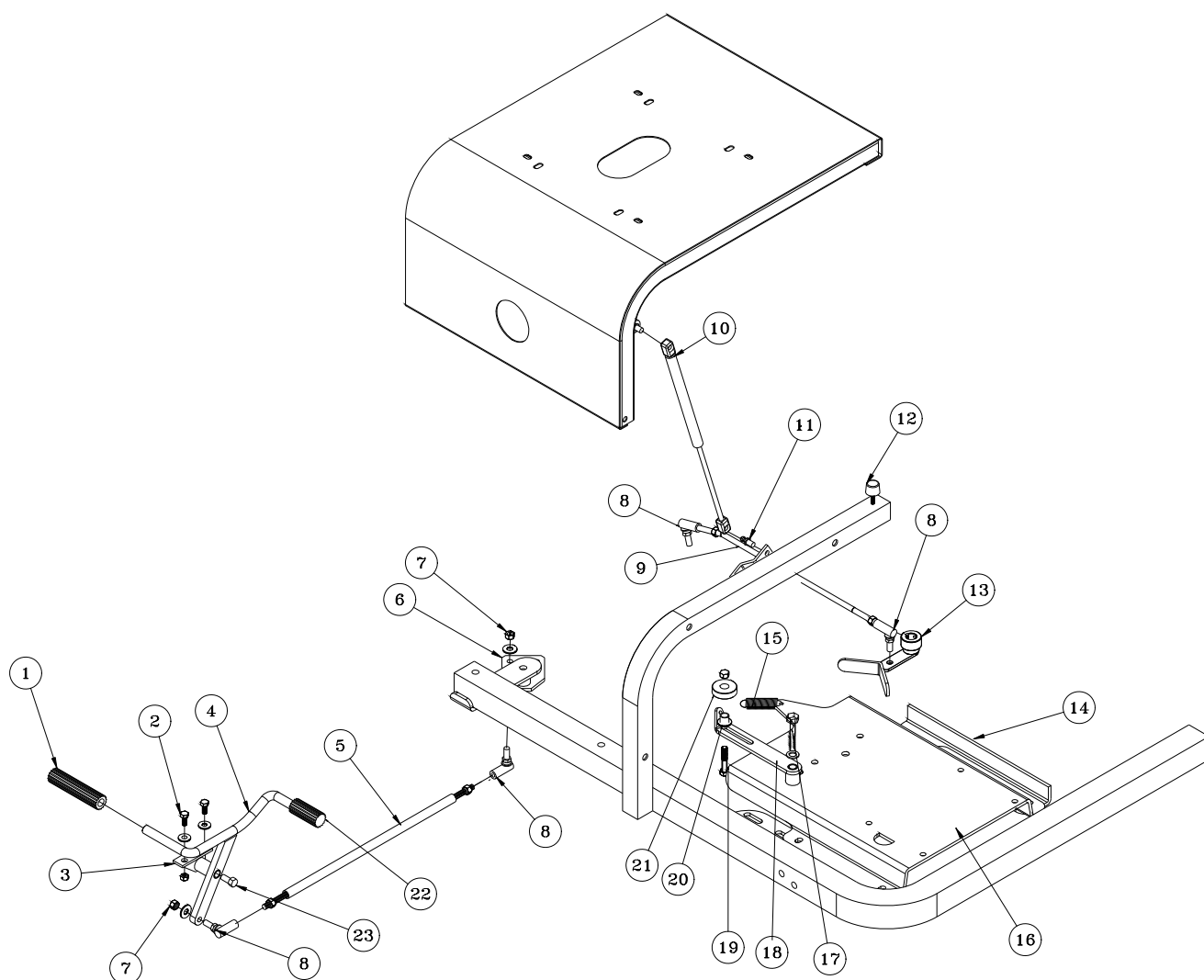
FRONT FORK PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|--------------|--|-------------|
| 1 | HW-38 | Washer $\frac{3}{8}$ (as Req'd) | 14 |
| 2 | HB-38-16-200 | Bolt $\frac{3}{8}$ - 16 x 2 | 2 |
| | HNTL-38-16 | Locknut $\frac{3}{8}$ - 16 | 2 |
| 3 | HB-38-16-250 | Bolt $\frac{3}{8}$ - 16 x 2 $\frac{1}{2}$ | 2 |
| | HNTL-38-16 | Locknut $\frac{3}{8}$ - 16 | 2 |
| 4 | 75-715 | Shock Absorber | 2 |
| | 75-866 | Bushing Kit | 2 per Shock |
| 5 | HN-38-16 | Nut $\frac{3}{8}$ - 16 | 2 |
| 6 | HB-38-16-100 | Bolt $\frac{3}{8}$ - 16 x 1 | 2 |
| 7 | 20-142 | Grease Seal $1\frac{1}{4}$ | 2 |
| 8 | HNA-114-12 | Axle Nut $1\frac{1}{4}$ - 12 | 1 |
| 10 | 20-143 | Bearing Cup and Cone $1\frac{1}{4}$ ID | 2 |
| 11 | 20-141 | Spacer $1\frac{5}{8}$ OD x $1\frac{1}{4}$ ID x $\frac{7}{16}$ | 1 |
| 12 | HWL-38 | Lockwasher $\frac{3}{8}$ | 2 |
| 13 | 76-155 | Front Fork | 1 |
| 14* | 27-022-02 | Bolt Stud $\frac{1}{2}$ - 20 x $1\frac{1}{2}$ (just bolt; comes with Ref 24) | 5 |
| | HNL-12-20 | Lug Nut $\frac{1}{2}$ - 20 | 5 |
| 15* | 11-039 | Grease Seal $1\frac{1}{8}$ ID (comes with Ref 24) | 2 |
| 16 | 11-040 | Spacer $1\frac{1}{8}$ OD x $\frac{3}{4}$ ID x $\frac{17}{32}$ | 2 |
| 17 | HB-58-18-350 | Bolt $\frac{5}{8}$ - 18 x $3\frac{1}{2}$ | 2 |
| 18 | HNJ-34-16 | Jam Nut $\frac{3}{4}$ - 16 | 2 |
| 19 | HNA-34-16 | Axle Nut $\frac{3}{4}$ - 16 | 2 |
| | HMB-34-10 | Machine Bushing $\frac{3}{4}$ x 10GA | 2 |
| | HMB-34-14 | Machine Bushing $\frac{3}{4}$ x 14GA | 2 |
| 20 | 60-511 | Axle Lock | 2 |
| 21 | 60-510 | U-Bracket | 1 |
| 22 | 60-407 | Front Axle | 1 |
| 23* | 11-038 | Bearing Cup and Cone $\frac{3}{4}$ ID (comes with Ref 24) | 2 |
| 24 | 11-010 | Wheel Hub (includes * items) | 1 |
| 25 | 60-130 | Tire & Wheel | 1 |
| | 60-130-01 | Tire 18 x 9.5 - 8 | 1 |
| | 60-130-02 | Wheel | 1 |
| | 8839 | Windshield Washer Fluid or Equivalent | 28 pints |
| 26 | 60-128 | Rubber Bushing | 4 |
| 27 | 60-406 | Spacer 1 OD x $\frac{5}{8}$ ID x 2 | 2 |
| 28 | HW-58 | Washer $\frac{5}{8}$ | 2 |
| 29 | HNTL-58-18 | Lock Nut $\frac{5}{8}$ - 18 | 2 |
| | HP-18-100 | Cotter Pin $\frac{1}{8}$ x 1 | 2 |
| 30 | 76-158 | Spacer Seal | 1 |
| 31 | HP-18-200 | Cotter Pin $\frac{1}{8}$ x 2 | 1 |
| 32 | HNCL-38-16 | Center Lock Nut $\frac{3}{8}$ - 16 | 2 |

* Front tire and wheel fluid filled to 50 lbs. total.

GAS LINKAGE DRAWING

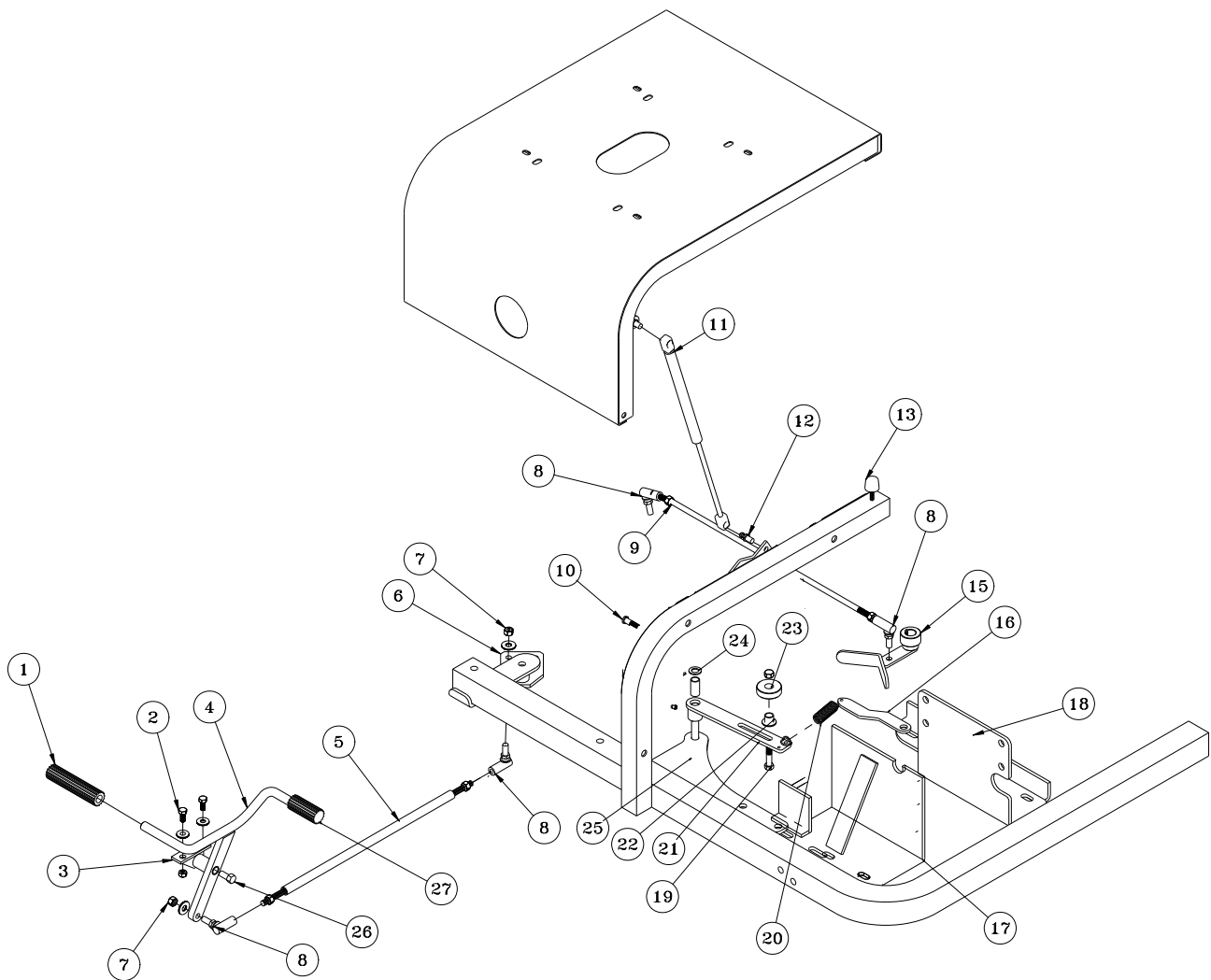
Parts



| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------------|---|----------|
| 1 | 76-299 | Pedal Pad Long | 1 |
| 2 | HB-516-18-075 | Bolt $\frac{5}{16}$ - 18 x $\frac{3}{4}$ | 2 |
| | HW-516 | Washer $\frac{5}{16}$ | 2 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 2 |
| 3 | 76-296 | Pedal Mount | 1 |
| | 18-234 | Oilite Bushing | 2 |
| | HG-14-28-180 | Grease Fitting $\frac{1}{4}$ - 28 x 180° | 1 |
| 4 | 48-059 | Foot Pedal | 1 |
| | 18-234 | Oilite Bushing | 1 |
| 5 | 76-282 | Foot Pedal Rod | 1 |
| | HN-38-24 | Nut $\frac{3}{8}$ - 24 | 2 |
| 6 | 75-791 | Shift Relay | 1 |
| | 10-007 | Bushing | 1 |
| 7 | HN-38-24 | Nut $\frac{3}{8}$ - 24 | 4 |
| | HWL-38 | Lockwasher $\frac{3}{8}$ | 4 |
| 8 | 21-173 | Ball Joint $\frac{3}{8}$ - 24 | 4 |
| 9 | 76-403 | Rear Linkage Rod | 1 |
| | HN-38-24 | Nut $\frac{3}{8}$ - 24 | 2 |
| 10 | 13-569 | Gas Spring 60# | 1 |
| 11 | 26-034 | Ball Stud | 2 |
| 12 | 15-013 | Rubber Bumper | 2 |
| | HWL-14 | Lockwasher $\frac{1}{4}$ | 2 |
| | HN-14-20 | Nut $\frac{1}{4}$ -20 | 2 |
| 13 | 76-401 | Shift Arm | 1 |
| | HSSHS-14-28-031 | Set Screw $\frac{1}{4}$ - 28 x $\frac{5}{16}$ (comes with 76-401) | 1 |
| 14 | | Mainframe | 1 |
| 15 | 48-109 | Spring | 1 |
| | 9019-5.5 | $\frac{3}{4}$ Heat Shrink Tubing x 5.5" | 1 |
| 16 | 76-404 | Motor Mount | 1 |
| 17 | HB-12-13-275 | Bolt $\frac{1}{2}$ - 13 x $2\frac{3}{4}$ | 1 |
| | HN-12-13 | Nut $\frac{1}{2}$ - 13 | 2 |
| | HWL-12 | Lock washer $\frac{1}{2}$ | 1 |
| | HMB-12-14 | Machine Bushing $\frac{1}{2}$ x 14GA | 2 |
| 18 | 76-402 | Idler Arm | 1 |
| | 10-007 | Bushing (part of 76-402) | 1 |
| | HG-14-28-180 | Grease Fitting $\frac{1}{4}$ - 28 x 180° | 1 |
| 19 | HB-38-16-200 | Bolt $\frac{3}{8}$ - 16 x 2 | 1 |
| | HW-38 | Washer $\frac{3}{8}$ | 2 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 1 |
| 20 | 18-270 | Oilite Bushing | 1 |
| 21 | 14-266 | Ball Bearing $\frac{5}{8}$ ID x $1\frac{3}{4}$ OD | 1 |
| 22 | 76-332 | Pedal Pad Short | 1 |
| 23 | HB-12-13-250 | Bolt $\frac{1}{2}$ - 13 x $2\frac{1}{2}$ | 1 |
| | HNTL-12-13 | Lock Nut $\frac{1}{2}$ - 13 | 1 |

DIESEL LINKAGE DRAWING

Parts

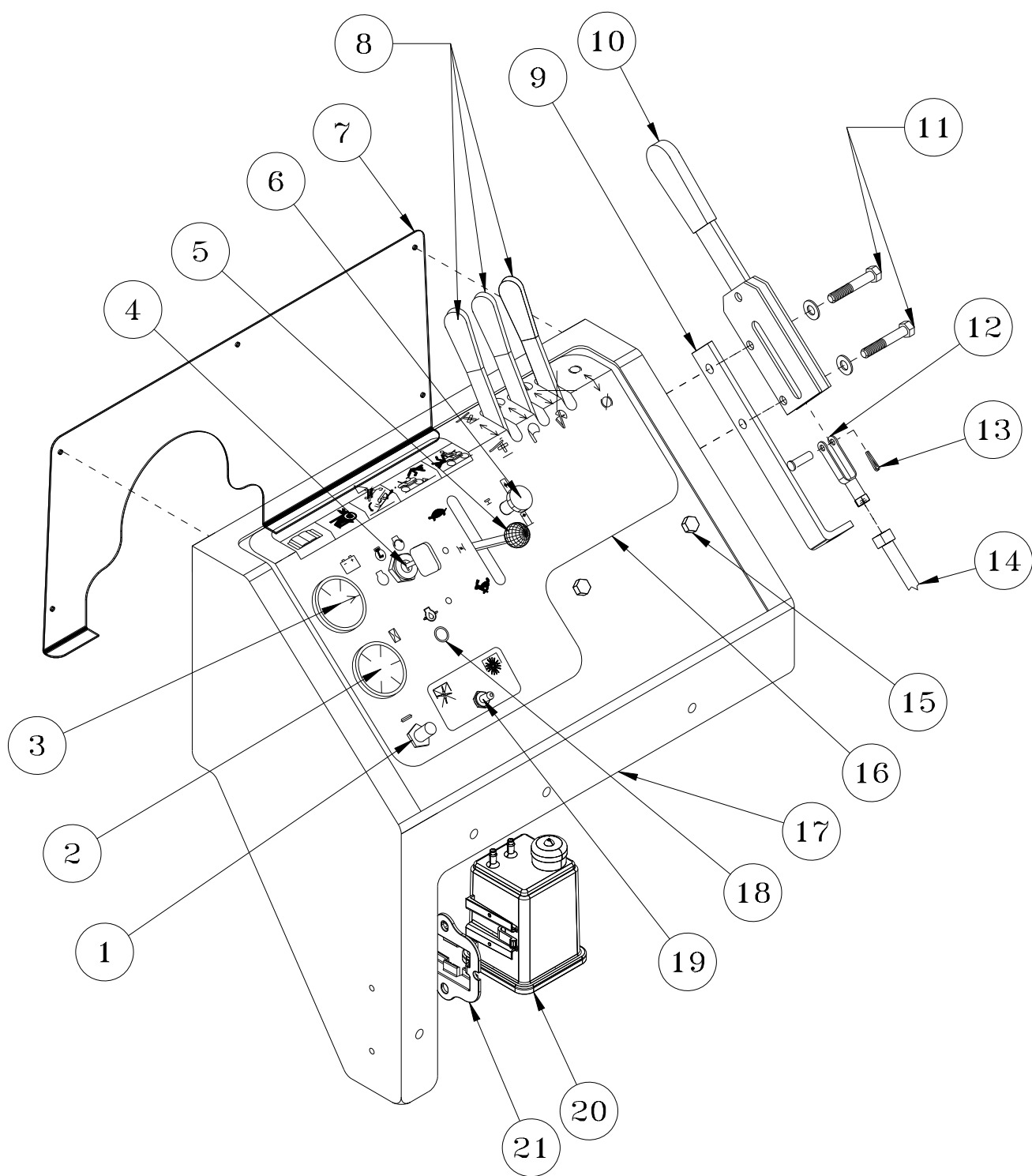


DIESEL LINKAGE PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------------|--|----------|
| 1 | 76-299 | Pedal Pad Long | 1 |
| 2 | HB-516-18-075 | Bolt $\frac{5}{16}$ - 18 x $\frac{3}{4}$ | 2 |
| | HW-516 | Washer $\frac{5}{16}$ | 2 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 2 |
| 3 | 76-296 | Pedal Mount | 1 |
| | 18-234 | Oilite Bushing | 2 |
| | HG-14-28-180 | Grease Fitting $\frac{1}{4}$ - 28 x 180° | 1 |
| 4 | 48-059 | Foot Pedal | 1 |
| | 18-234 | Oilite Bushing | 1 |
| 5 | 76-282 | Foot Pedal Rod | 1 |
| | HN-38-24 | Nut $\frac{3}{8}$ - 24 | 2 |
| 6 | 75-791 | Shift Relay | 1 |
| | 10-007 | Bushing | 1 |
| 7 | HN-38-24 | Nut $\frac{3}{8}$ - 24 | 4 |
| | HWL-38 | Lockwasher $\frac{3}{8}$ | 4 |
| 8 | 21-173 | Ball Joint $\frac{3}{8}$ - 24 | 4 |
| 9 | 77-197 | Rear Linkage Rod | 1 |
| | HN-38-24 | Nut $\frac{3}{8}$ - 24 | 2 |
| 10 | HSDPS-14-075 | Stainless Steel Pan Head Drill Screw $\frac{1}{4}$ x $\frac{3}{4}$ | 1 |
| 11 | 13-569 | Gas Spring 60# | 1 |
| 12 | 26-034 | Ball Stud | 2 |
| 13 | 15-013 | Rubber Bumper | 2 |
| | HWL-14 | Lockwasher $\frac{1}{4}$ | 2 |
| | HN-14-20 | Nut $\frac{1}{4}$ -20 | 2 |
| 15 | 77-241 | Shift Arm | 1 |
| | HSSHS-14-28-031 | Set Screw $\frac{1}{4}$ - 28 x $\frac{5}{16}$ (comes with 77-241) | 1 |
| 16 | 77-265 | Spring Bracket | 1 |
| 17 | 77-185 | Front Engine Mount | 1 |
| 18 | 77-186 | Rear Engine Mount | 1 |
| 19 | HB-38-16-200 | Bolt $\frac{3}{8}$ - 16 x 2 | 1 |
| | HW-38 | Washer $\frac{3}{8}$ | 2 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 1 |
| | 22-065 | Auxillary Ground (to back of engine) | 1 |
| 20 | 21-445 | Spring | 1 |
| 21 | 76-370 | Idler Arm | 1 |
| 22 | 76-275 | Spacer | 1 |
| 23 | 14-266 | Ball Bearing $\frac{5}{8}$ ID x $1\frac{3}{4}$ OD | 1 |
| 24 | HP-18-075 | Cotter Pin $\frac{1}{8}$ x $\frac{3}{4}$ | 1 |
| | HMB-12-14 | Machine Bushing $\frac{1}{2}$ x 14GA | 2 |
| 25 | 76-371 | Linkage Plate | 1 |
| | HG-14-28-180 | Grease Fitting $\frac{1}{4}$ - 28 x 180° | 1 |
| 26 | HB-12-13-250 | Bolt $\frac{1}{2}$ - 13 x $2\frac{1}{2}$ | 1 |
| | HNTL-12-13 | Lock Nut $\frac{1}{2}$ - 13 | 1 |
| 27 | 76-332 | Pedal Pad Short | 1 |

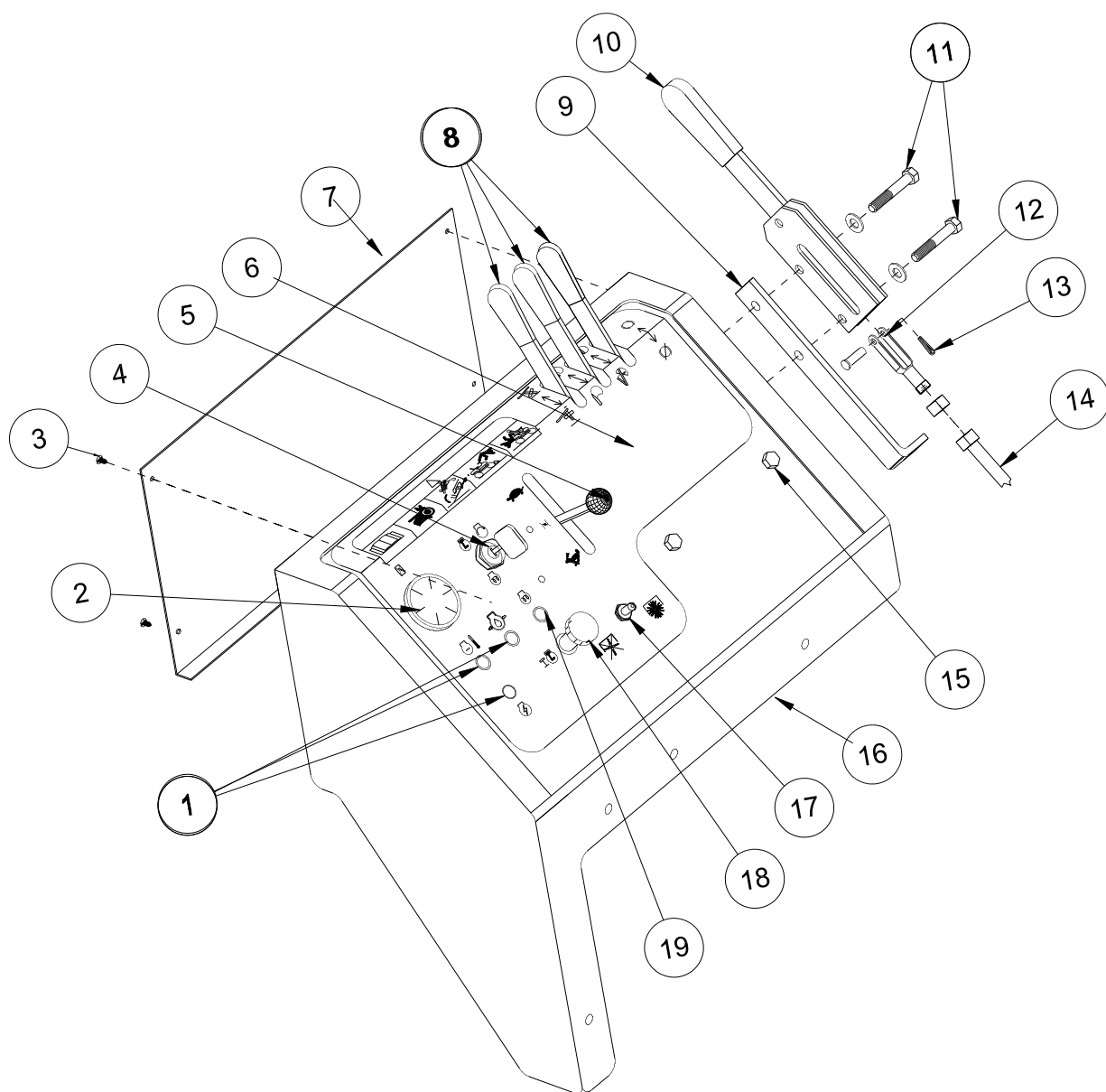
GAS CONSOLE DRAWING

Parts



| REF# | PART# | DESCRIPTION | QUANTITY |
|------|----------------|---|----------|
| 1 | 77-261 | Circuit Breaker | 1 |
| | 8977 | Circuit Breaker Boot | 1 |
| 2 | 12-017 | Hour Meter | 1 |
| 3 | 76-397 | Voltmeter | 1 |
| 4 | 13-488 | Key Switch | 1 |
| | 76-310 | Key Set | 1 |
| 5 | 76-528 | Throttle Cable | 1 |
| | HSM-10-32-063 | Machine Screw 10 - 32 x 5/8 | 6 |
| | HWL-10 | Lockwasher 10 | 6 |
| | HN-10-32 | Nut 10 - 32 | 6 |
| 6 | 80-020 | Choke Cable | 1 |
| 7 | 76-479 | Side Panel | 1 |
| | HSA-8-075 | Tapping Screw #8 x 3/4 | 4 |
| 8 | 76-309 | Valve Handle (with Linkage Kit) | 1 |
| | 76-023 | Hydraulic Valve (3 bank) | 1 |
| 9 | 76-224 | Park Brake Handle Mount | 1 |
| 10 | 60-106 | Brake Lever | 1 |
| 11 | HB-516-18-250 | Bolt 5/16 - 18 x 2 1/2 | 2 |
| | HW-516 | Washer 5/16 | 6 |
| | HNTL-516-18 | Lock Nut 5/16 - 18 | 2 |
| 12 | 11-100 | Linkage Yoke 5/16 (one each end of brake cable) | 2 |
| | HN-516-24 | Nut 5/16 - 24 | 2 |
| 13 | HP-18-100 | Cotter Pin 1/8 x 1 | 1 |
| | HCP- 516-100 | Clevis Pin 5/16 x 1 | 1 |
| 14 | 76-225 | Brake Cable (with nuts) | 1 |
| | 60-536 | Bellows (one each end of brake cable) | 2 |
| 15 | HB-38-16-100 | Bolt 3/8 - 16 x 1 (holds 76-023 Valve) | 2 |
| | HW-38 | Washer 3/8 | 2 |
| | HW-516 | Washer 5/16 | 2 |
| | HNTL-38-16 | Lock Nut 3/8 - 16 | 2 |
| 16 | 76-199 | Decal, Control Panel | 1 |
| 17 | 76-265 | Console | 1 |
| 18 | 50-359 | Warning Indicator Light | 1 |
| 19 | 15-314 | Electric Clutch Switch | 1 |
| | 15-472 | Switch Boot | 1 |
| 20 | 8-689 | Carbon Canister | 1 |
| 21 | 8-688 | Carbon Canister Mount | 1 |
| | HSTP-14-20-075 | Truss Head Screw 1/4 -20 x 3/4 | 2 |
| | HNFL-14-20 | Flange Nut 1/4 - 20 | 2 |

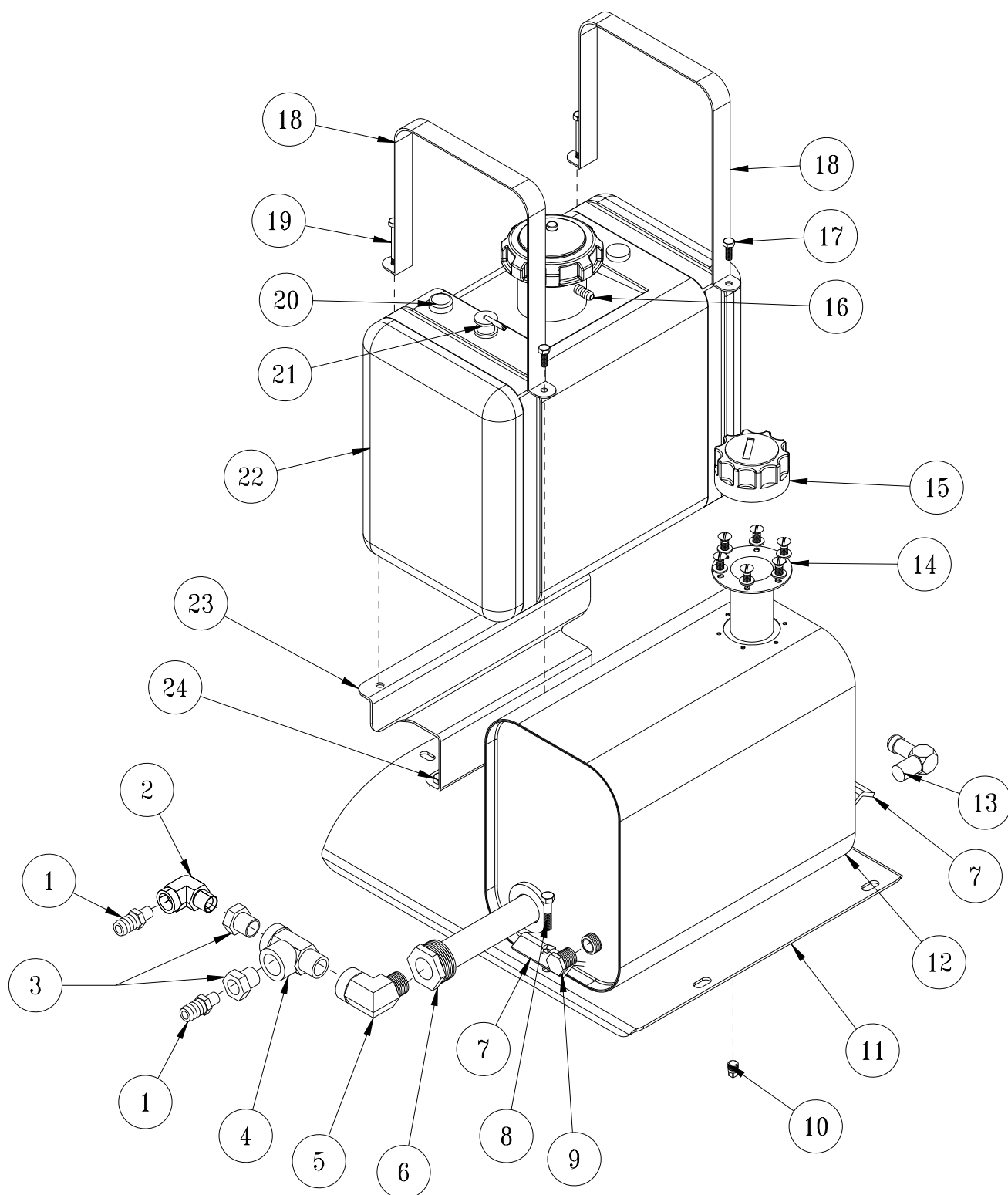
DIESEL CONSOLE DRAWING



Parts

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|--|----------|
| 1 | 50-359 | Warning Indicator Light | 3 |
| 2 | 12-017 | Hour Meter | 1 |
| 3 | HSA-8-075 | Tapping Screw #8 x 3/4 | 4 |
| 4 | 17-068 | Key Switch | 1 |
| | 17-079 | Key Set | 1 |
| 5 | 34-160 | Throttle 48" | 1 |
| | 34-159 | Throttle Mounting Bracket | 1 |
| | HSM-10-32-063 | Machine Screw 10 - 32 x 5/8 | 6 |
| | HWL-10 | Lockwasher 10 | 6 |
| | HN-10-32 | Nut 10 - 32 | 6 |
| 6 | 77-178 | Decal, Control Panel | 1 |
| 7 | 76-214 | Side Panel | 1 |
| 8 | 76-309 | Valve Handle (with Linkage Kit) | 1 |
| | 76-023 | Hydraulic Valve (3 bank) | 1 |
| 9 | 76-224 | Park Brake Handle Mount | 1 |
| 10 | 60-106 | Brake Lever | 1 |
| 11 | HB-516-18-250 | Bolt 5/16 - 18 x 2 1/2 | 2 |
| | HW-516 | Washer 5/16 | 6 |
| | HNTL-516-18 | Lock Nut 5/16 - 18 | 2 |
| 12 | 11-100 | Linkage Yoke 5/16 | 1 |
| | HN-516-24 | Nut 5/16 - 24 | 2 |
| 13 | HP-18-100 | Cotter Pin 1/8 x 1 | 1 |
| | HCP-516-125 | Clevis Pin 5/16 x 1 1/4 | 1 |
| 14 | 76-225 | Brake Cable (with nuts) | 1 |
| | 60-536 | Bellows (one each end of brake cable) | 2 |
| 15 | HB-38-16-100 | Bolt 3/8 - 16 x 1 (holds 76-023 Valve) | 2 |
| | HW-38 | Washer 3/8 | 2 |
| | HNTL-38-16 | Lock Nut 3/8 - 16 | 2 |
| 16 | 77-193 | Console | 1 |
| 17 | 15-314 | Electric Clutch Toggle Switch | 1 |
| | 15-472 | Boot | 1 |
| 18 | 77-206 | Kill Control | 1 |
| | 18-275 | Ball Joint | 1 |
| 19 | 50-359 | Glow Plug Indicator Light | 1 |

GASTANK AND OIL TANK DRAWING

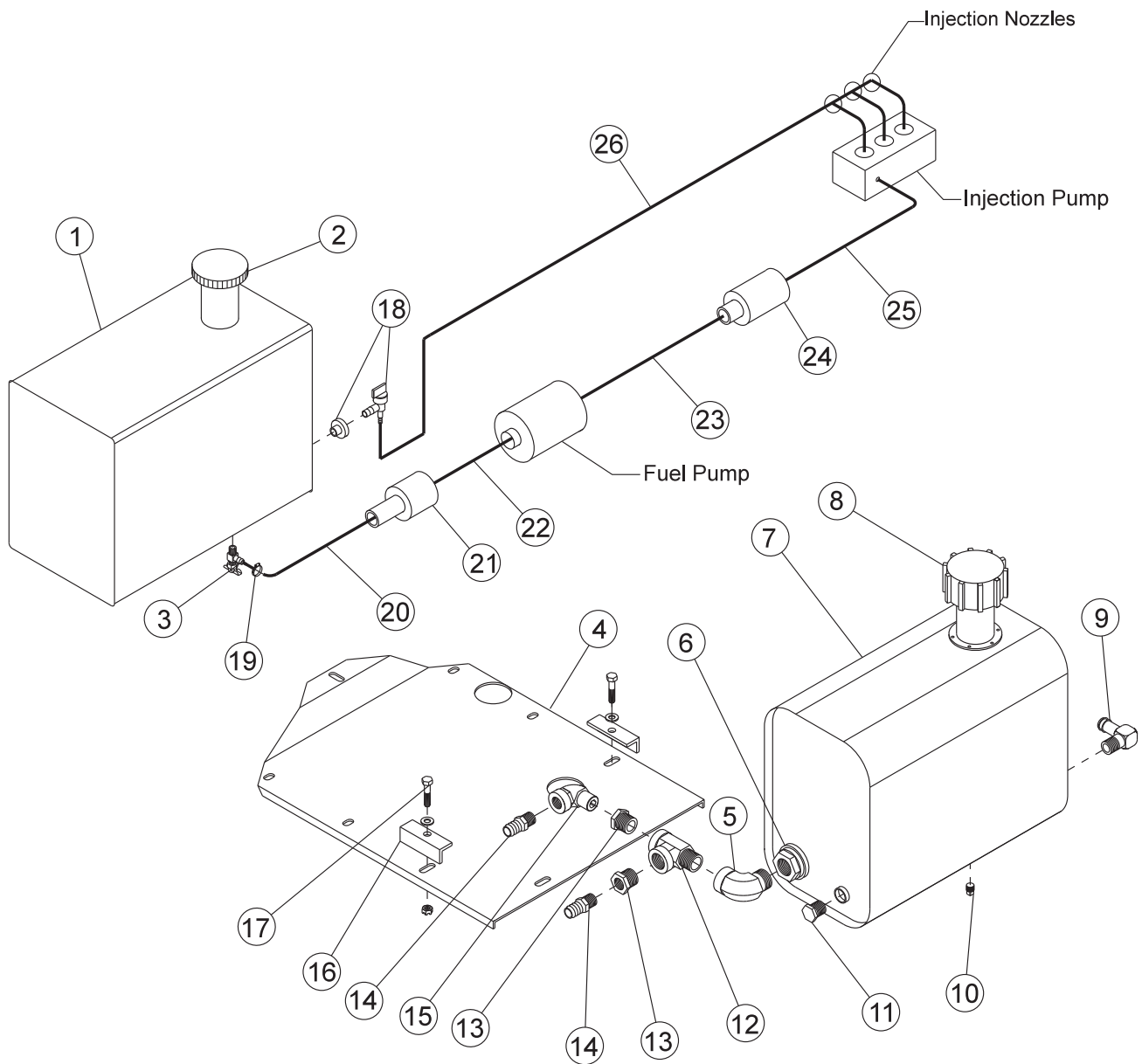


Accessories

GAS TANK AND OIL TANK PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|---|----------|
| 1 | 18-133 | Barb Fitting | 2 |
| 2 | 18-009 | Street Elbow $\frac{1}{2}$ | 1 |
| 3 | 18-008 | Pipe Reducer $\frac{3}{4} \times \frac{1}{2}$ | 2 |
| 4 | 18-093 | Male Run Tee $\frac{3}{4}$ | 1 |
| 5 | 18-140 | Street Elbow $\frac{3}{4}$ | 1 |
| 6 | 60-213 | Strainer | 1 |
| 7 | 75-792 | Mounts | 2 |
| 8 | HB-516-18-150 | Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{2}$ | 2 |
| | HW-516 | Washer $\frac{5}{16}$ | 1 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 2 |
| 9 | 18-069 | Pipe Plug $\frac{1}{2}$ | 1 |
| 10 | 18-118 | Pipe Plug $\frac{1}{8}$ | 1 |
| 11 | 76-477 | Tank Mount | 1 |
| 12 | 60-473 | Oil Tank | 1 |
| 13 | 23-142 | Connector | 1 |
| | 18-040 | Hose Clamp | 1 |
| | 8917-38 | Suction Hose $\frac{5}{8}$ ID | 1 |
| 14 | 13-586-03 | Filler Neck | 1 |
| | 13-586-02 | Bottom Gasket | 1 |
| | HSM-10-32-063 | Machine Screw | 6 |
| | HWL-10 | Lock Washer M10 | 6 |
| 15 | 13-747 | Filler Breather | 1 |
| | 13-586-01 | Cap Gasket | 1 |
| 16 | * | Neck Vent Port | 1 |
| | 8800-24 | Fuel Hose (tank to carb canister) | 1 |
| | 18-186 | Hose Clamp | 2 |
| 17 | HB--14-20-075 | Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 2 |
| | HNTL-14-20 | Lock Nut $\frac{1}{4}$ - 20 | 2 |
| 18 | 76-476 | Tank Straps | 2 |
| 19 | HB-14-20-250 | Bolt $\frac{1}{4}$ - 20 x $2\frac{1}{2}$ | 2 |
| | HNTL-14-20 | Lock Nut $\frac{1}{4}$ - 20 | 2 |
| 20 | * | Dial Fuel Level Gage | 1 |
| 21 | * | Top Draw | 1 |
| | 8800-77 | Fuel Hose (tank to engine) | 1 |
| | 18-186 | Hose Clamp | 2 |
| 22 | 15-838 | CARB Gas Tank (includes all * items) | 1 |
| | 73-050 | Vented Cap With Gauge | 1 |
| | 50-403 | Inline Fuel Filter | 1 |
| 23 | 76-475 | Tank Brackets | 2 |
| 24 | HB-516-18-100 | Bolt $\frac{5}{16}$ - 18 x 1 | 4 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 4 |

DIESEL FUEL TANK AND OIL TANK DRAWING

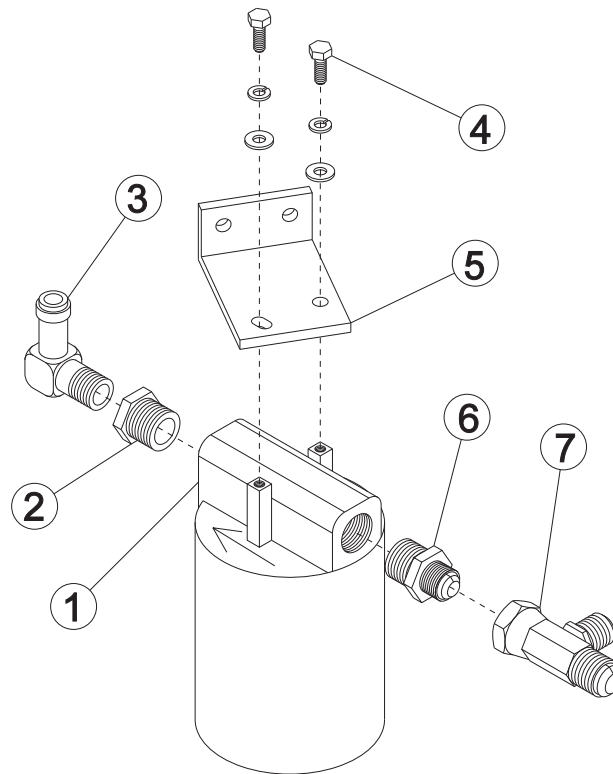


Parts

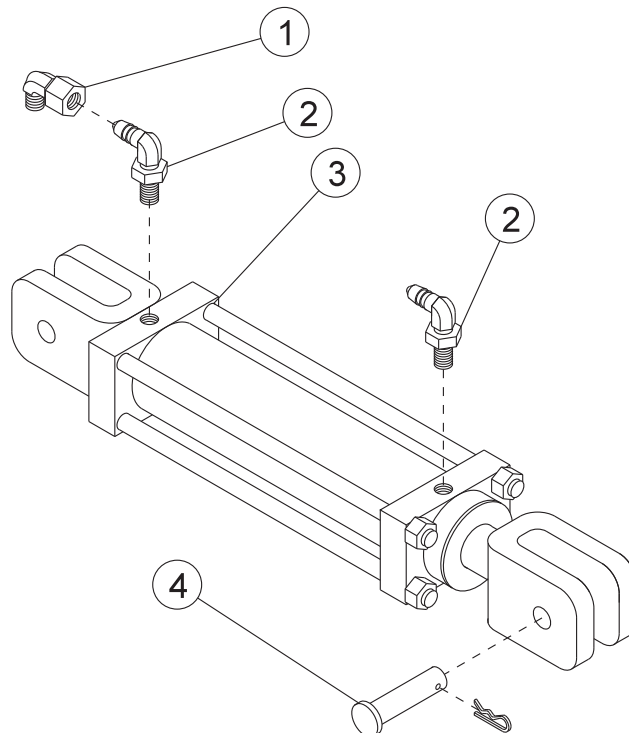
DIESEL FUEL TANK AND OIL TANK PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|---|----------|
| 1 | 15-491 | Fuel Tank | 1 |
| | HB 14-20-075 | Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 4 |
| | HWL-14 | Lockwasher $\frac{1}{4}$ | 4 |
| | HW-14 | Washer $\frac{1}{4}$ | 4 |
| 2 | 15-492 | Gas Cap with Gauge | 1 |
| | 77-179 | Diesel Fuel Cap with Gauge | 1 |
| 3 | 15-039 | Fuel Valve | 1 |
| | 18-042 | Reducer Bushing $\frac{1}{4}$ x $\frac{1}{8}$ | 1 |
| 4 | 76-221 | Tank Mount | 1 |
| 5 | 18-140 | Street Elbow $\frac{3}{4}$ | 1 |
| 6 | 60-213 | Strainer | 1 |
| 7 | 60-473 | Oil Tank (includes * items) | 1 |
| 8 | 13-747 | Filler Breather | 1 |
| | 13-586-03 | Neck | 1 |
| | HSM-10-32-063 | Machine Screw | 6 |
| | HWL-10 | Lock Washer M10 | 6 |
| 9 | 23-142 | Connector | 1 |
| | 18-040 | Hose Clamp | 1 |
| | 8917-38 | Suction Hose $\frac{5}{8}$ ID | 1 |
| 10* | 18-118 | Pipe Plug $\frac{1}{8}$ | 1 |
| 11* | 18-069 | Pipe Plug $\frac{1}{2}$ | 1 |
| 12 | 18-093 | Male Run Tee $\frac{3}{4}$ | 1 |
| 13 | 18-008 | Pipe Reducer $\frac{3}{4}$ x $\frac{1}{2}$ | 2 |
| 14 | 18-133 | Barb Fitting | 2 |
| 15 | 18-009 | Street Elbow $\frac{1}{2}$ | 1 |
| 16 | 75-792 | Mounts | 2 |
| 17 | HB-516-18-150 | Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{2}$ | 2 |
| | HW-516 | Washer $\frac{5}{16}$ | 1 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 2 |
| 18 | 26-054 | Bushing Insert (part of tank) | 1 |
| | 26-055 | Shut-Off Valve (part of tank) | 1 |
| 19 | 18-186 | Hose Clamp $\frac{7}{32}$ - $\frac{5}{8}$ | 10 |
| 20 | 8800-14 | Fuel Hose $\frac{1}{4}$ x 14 | 1 |
| 21 | 50-403 | In-Line Fuel Filter | 1 |
| 22 | 8800-49 | Fuel Hose $\frac{1}{4}$ x 49 | 1 |
| 23 | 8800-16 | Fuel Hose $\frac{1}{4}$ x 16 | 1 |
| 24 | 77-214 | Fuel Filter Assembly (part of engine) | 1 |
| | 17-043 | Fuel Filter Element (part of engine) | 1 |
| 25 | 8800-11 | Fuel Hose $\frac{1}{4}$ x 11 | 1 |
| 26 | 8800-51 | Fuel Hose $\frac{1}{4}$ x 51 | 1 |

OIL FILTER DRAWING



HYDRAULIC LIFT CYLINDER DRAWING



OIL FILTER PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|--------------|--|----------|
| 1 | 23-006 | Oil Filter | 1 |
| | 23-031 | Filter Element (replacement only) | 1 |
| 2 | 18-008 | Pipe Reducer $\frac{3}{4}$ x $\frac{1}{2}$ | 1 |
| 3 | 23-142 | Connector | 1 |
| 4 | HB-14-20-075 | Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 2 |
| | HWL-14 | Lockwasher $\frac{1}{4}$ | 2 |
| | HW-14 | Washer $\frac{1}{4}$ | 2 |
| 5 | 75-806 | Filter Bracket | 1 |
| 6 | 23-183 | Male Connector | 1 |
| 7 | 18-190 | Tee | 1 |

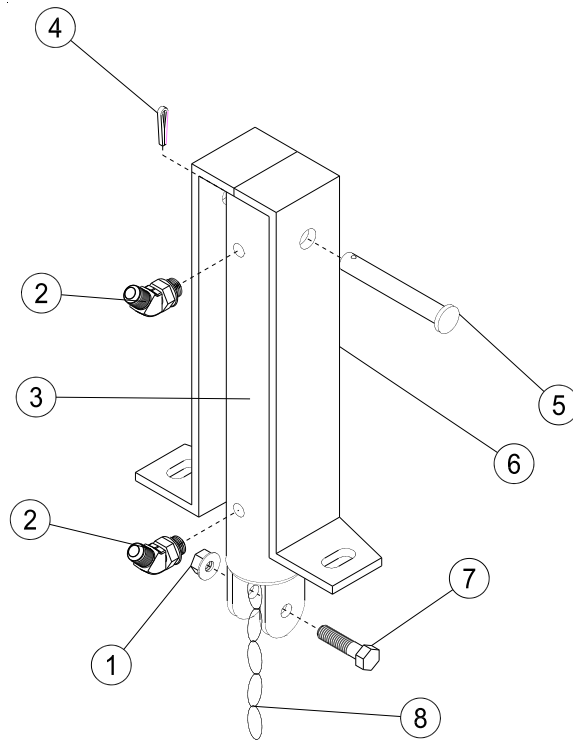
HYDRAULIC LIFT CYLINDER PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------|----------------------|----------|
| 1 | 18-202 | Elbow | 1 |
| 2 | 23-167 | Elbow | 2 |
| 3 | 76-242 | Hydraulic Cylinder | 1 |
| | 76-242-01 | Seal Kit | 1 |
| 4 | 76-242-02 | Clevis pin with Clip | 2 |

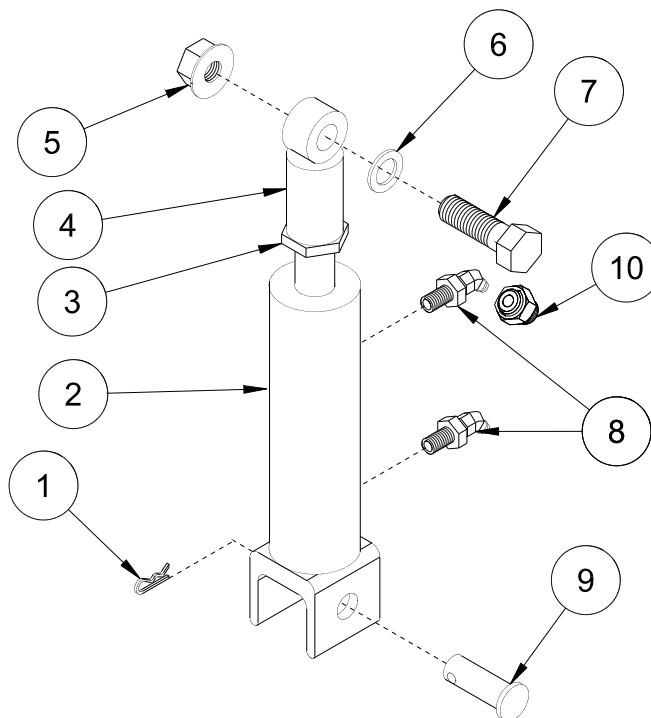
Torque Specification

| | |
|-------------|-----------------------|
| Piston Nut | 165 ft/lbs (214.5 Nm) |
| Tie Rod Nut | 30 ft/lbs (39 Nm) |
| Clevis Nut | 46 ft/lbs (59.8 Nm) |

REEL LIFT CYLINDER DRAWING



TAILGATE CYLINDER DRAWING

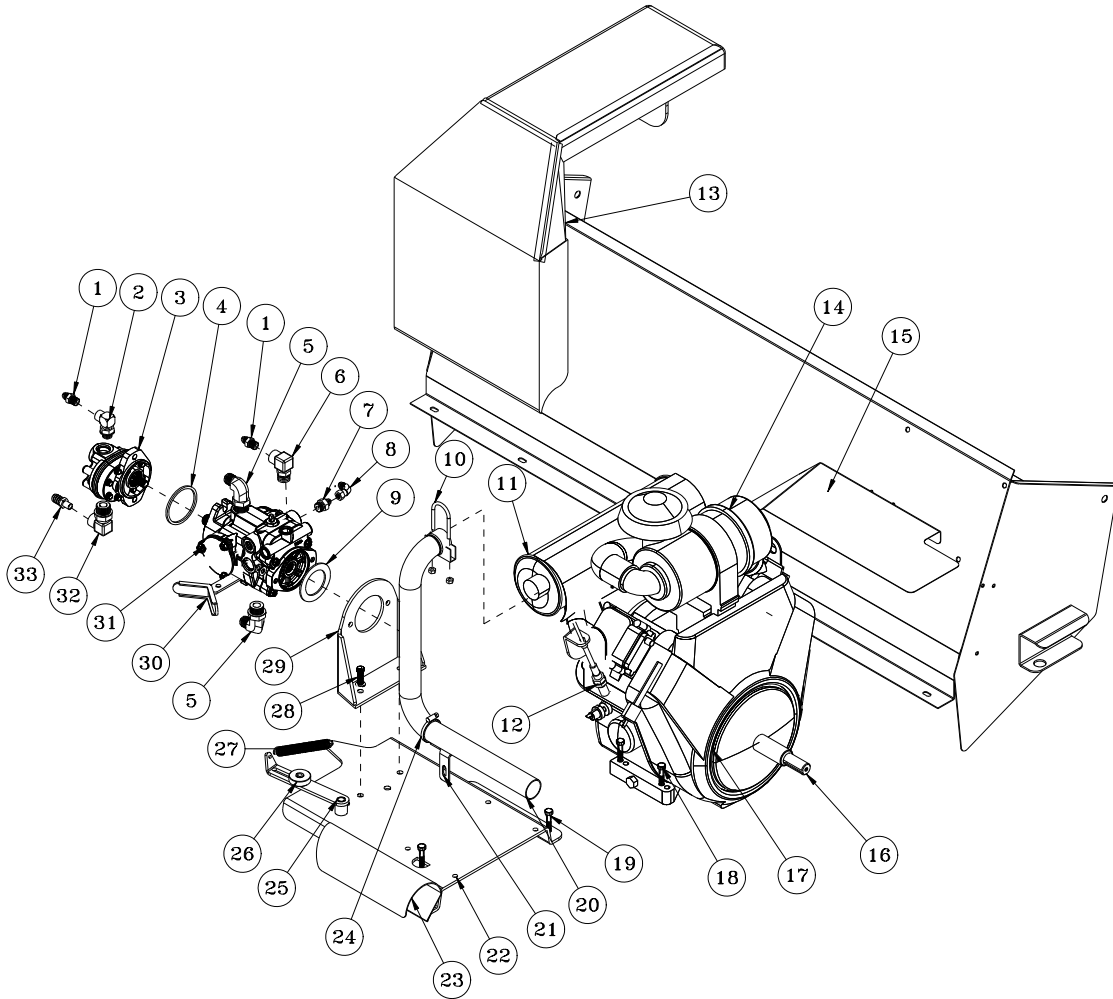


REEL LIFT CYLINDER PARTS LIST

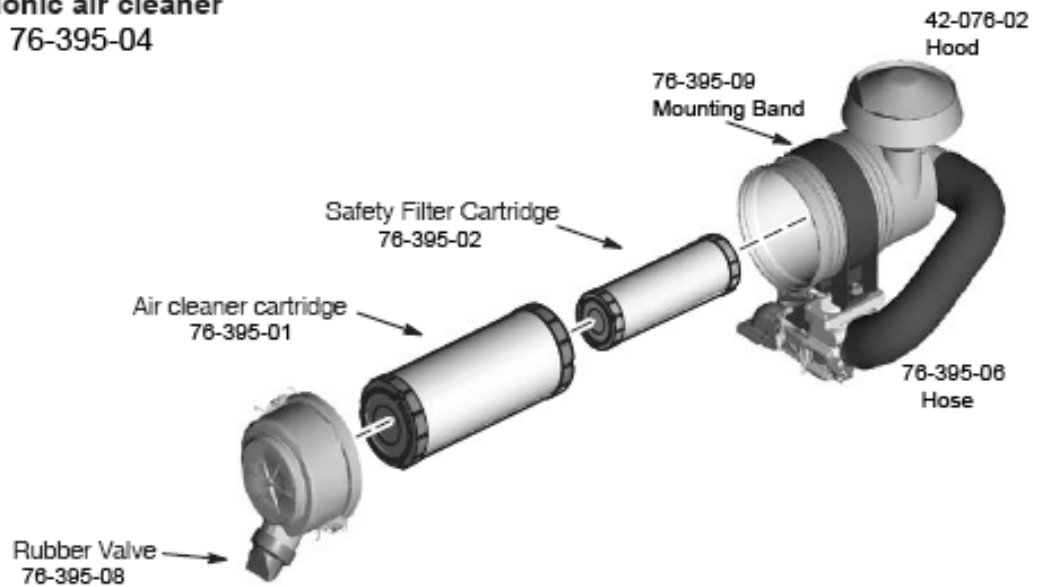
| REF# | PART# | DESCRIPTION | QUANTITY |
|------|--------------|---|----------|
| 1 | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 2 |
| 2 | 18-188 | Elbow $\frac{3}{8}$ SAE | 2 |
| 3 | 76-478 | Hydraulic Cylinder 2 x 7 x $\frac{3}{4}$ | 1 |
| | 14-531 | Seal Kit | |
| 4 | HP-18-100 | Cotter Pin $\frac{1}{8}$ x 1 | 1 |
| 5 | HCP-12-350 | Clevis Pin $\frac{1}{2}$ - $3\frac{1}{2}$ | 1 |
| 6 | 75-827 | Cylinder Bracket | 1 |
| 7 | HB-38-16-150 | Bolt $\frac{3}{8}$ - 16 x $1\frac{1}{2}$ | 1 |
| 8 | 8820-8 | Machine Chain St. Link | 1 |

TAILGATE CYLINDER PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|--------------|---|----------|
| 1 | HHP-18 | Bridge Pin $\frac{1}{8}$ | 1 |
| 2 | 77-263 | Hydraulic Cylinder $1\frac{1}{2}$ x 7 | 1 |
| | 14-530 | Seal Kit | 1 |
| 3 | HNJ-58-18 | Jam Nut $\frac{5}{8}$ - 18 | 1 |
| 4 | 18-154 | Rod End | 1 |
| | HG-14-28-180 | Grease Fitting $\frac{1}{4}$ - 28 x 180° | 1 |
| 5 | HNTL-58-11 | Lock Nut $\frac{5}{8}$ - 11GA | 1 |
| 6 | HMB-58-14 | Machine Bushing $\frac{5}{8}$ - 14GA | 1 |
| 7 | HB-58-11-200 | Bolt $\frac{5}{8}$ - 11 x 2 | 1 |
| 8 | 18-168 | Elbow | 2 |
| 9 | HCP-58-150 | Clevis Pin $\frac{5}{8}$ x $1\frac{1}{2}$ | 1 |
| 10 | 18-392 | Orifice Fitting | 1 |

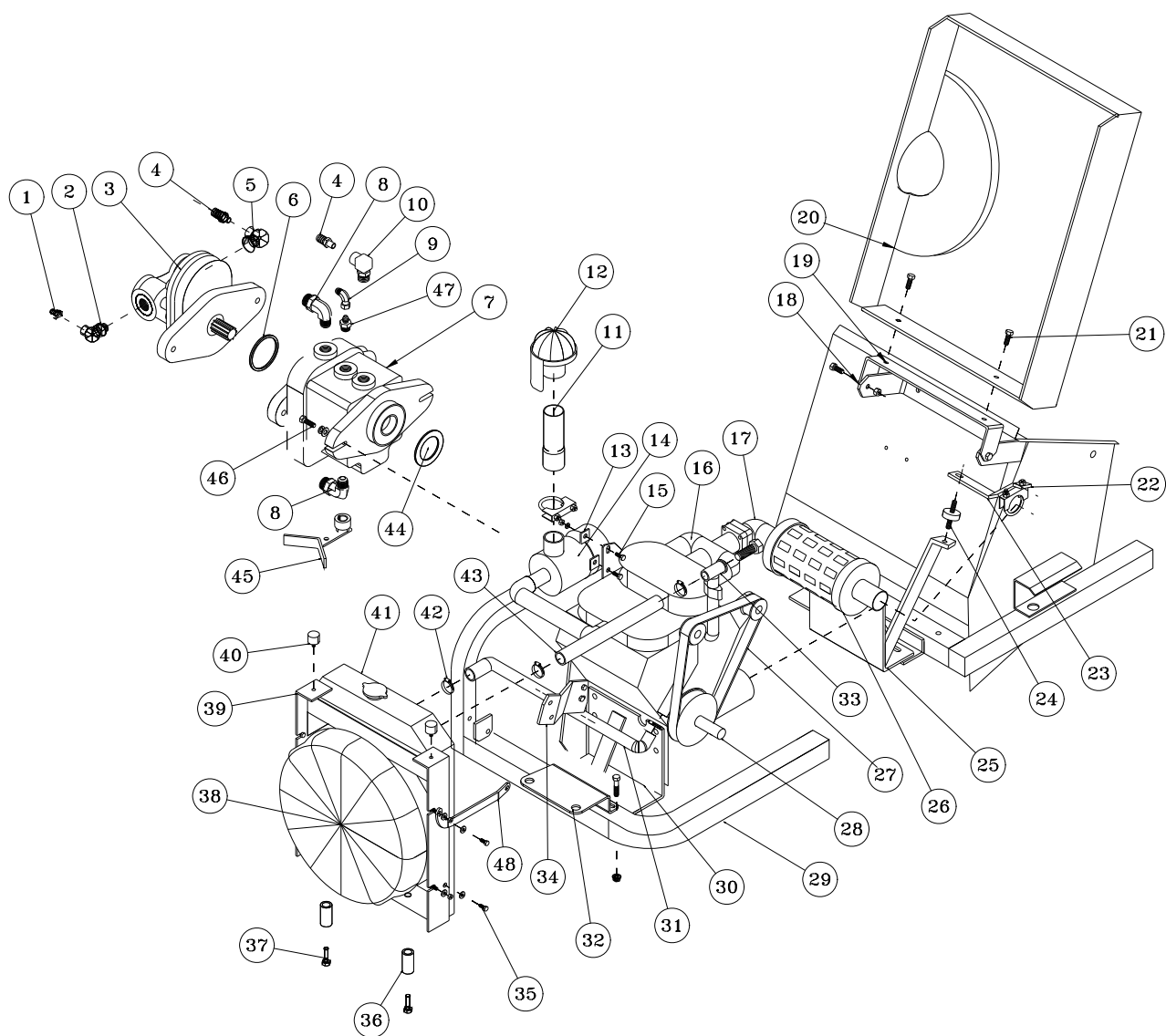


Cyclonic air cleaner
76-395-04



GAS ENGINE AND EXHAUST PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|------------------------------------|----------|
| 1 | 18-133 | Barb Fitting | 2 |
| 2 | 23-133 | Adjustable Elbow 90° | 1 |
| 3 | 76-197 | Gear Pump | 1 |
| 4 | 23-145 | O-Ring 3 1/4 ID x 3 3/8 OD | 1 |
| 5 | 18-204 | Elbow 90° | 2 |
| 6 | 23-130 | Elbow 90° | 1 |
| 7 | 18-241 | Straight Thread Connector | 1 |
| 8 | 18-202 | Elbow | 1 |
| 9 | 76-465 | Pump Coupling Complete | 1 |
| | 76-466 | 7/8 Coupling Half | 1 |
| | 76-467 | 1 1/8 Coupling HALF | 1 |
| | 76-468 | Sleeve M42 | 1 |
| 10 | 50-394` | Muffler Clamp | 1 |
| 11 | 76-448 | Muffler | 1 |
| 12 | 16-046 | Spring | 1 |
| | HSM-10-32-075 | Bolt 10- 32 x 3/4 | 1 |
| | HNFL-10-32 | Flange Nut 10 - 32 | 2 |
| 15 | 76-528 | Throttle Cable | 1 |
| 17 | 76-435 | Engine Cover (Fiberglass) | 1 |
| | 9013-32 | Heat Reflective Fabric (16 x 32) | 1 |
| 18 | 76-405 | Debris Shield | 1 |
| 19 | 76-411 | Stub Shaft | 1 |
| 20 | 76-484 | 31HP Briggs & Stratton Engine | 1 |
| | 8983-6 | Fire Sleeve | 1 |
| | 76-463 | Foil Face Insulation 15.5" x 15" | 1 |
| | 76-464 | Foil face Insulation 19.5" x 22.5" | 1 |
| | 18-222 | Hose Clamp | 1 |
| | 21-161 | Wire Block | 1 |
| 21 | HB-516-18-200 | Bolt 5/16 - 18 x 2 | 4 |
| | HNTL-516-18 | Lock Nut 5/16 - 18 | 4 |
| 22 | HB-38-16-125 | Bolt 3/8 - 16 x 1 1/4 | 4 |
| | HNTL-38-16 | Lock Nut 3/8 - 16 | 4 |
| 23 | 76-436 | Tailpipe Bracket | 1 |
| 24 | 76-410 | Tailpipe Shield | 1 |
| 25 | 18-116 | Hose Clamp | 1 |
| 26 | 76-370 | Idler Arm | 1 |
| 27 | 14-266 | Ball Bearing | 1 |
| 28 | 48-109 | Spring | 1 |
| 29 | HB-38-16-125 | Bolt 3/8 - 16 x 1 1/4 | 2 |
| | HW-38 | Washer 3/8 | 4 |
| | HNTL-38-16 | Lock Nut 3/8 - 16 | 2 |
| 30 | 76-407 | Pump Mount | 1 |
| 31 | 76-401 | Shift Arm | 1 |
| 32 | 76-398 | Hydrostatic Pump | 1 |
| | HB-38-16-150 | Bolt 3/8 - 16 x 1 1/2 | 2 |
| | HW-38 | Washer 3/8 | 2 |
| | HWL-38 | Lockwasher 3/8 | 2 |
| 33 | 23-129 | Elbow 90° | 1 |
| 34 | 23-188 | Male Connector 3/8 | 1 |
| 35 | 76-395-04 | Cyclonic Air Cleaner | 1 |
| | 76-395-01 | Air Cleaner Cartridge | 1 |
| | 76-395-02 | Safety Filter Cartridge | 1 |
| 36 | 76-396 | Tailpipe | 1 |
| 37 | 76-404 | Motor Mount | 1 |

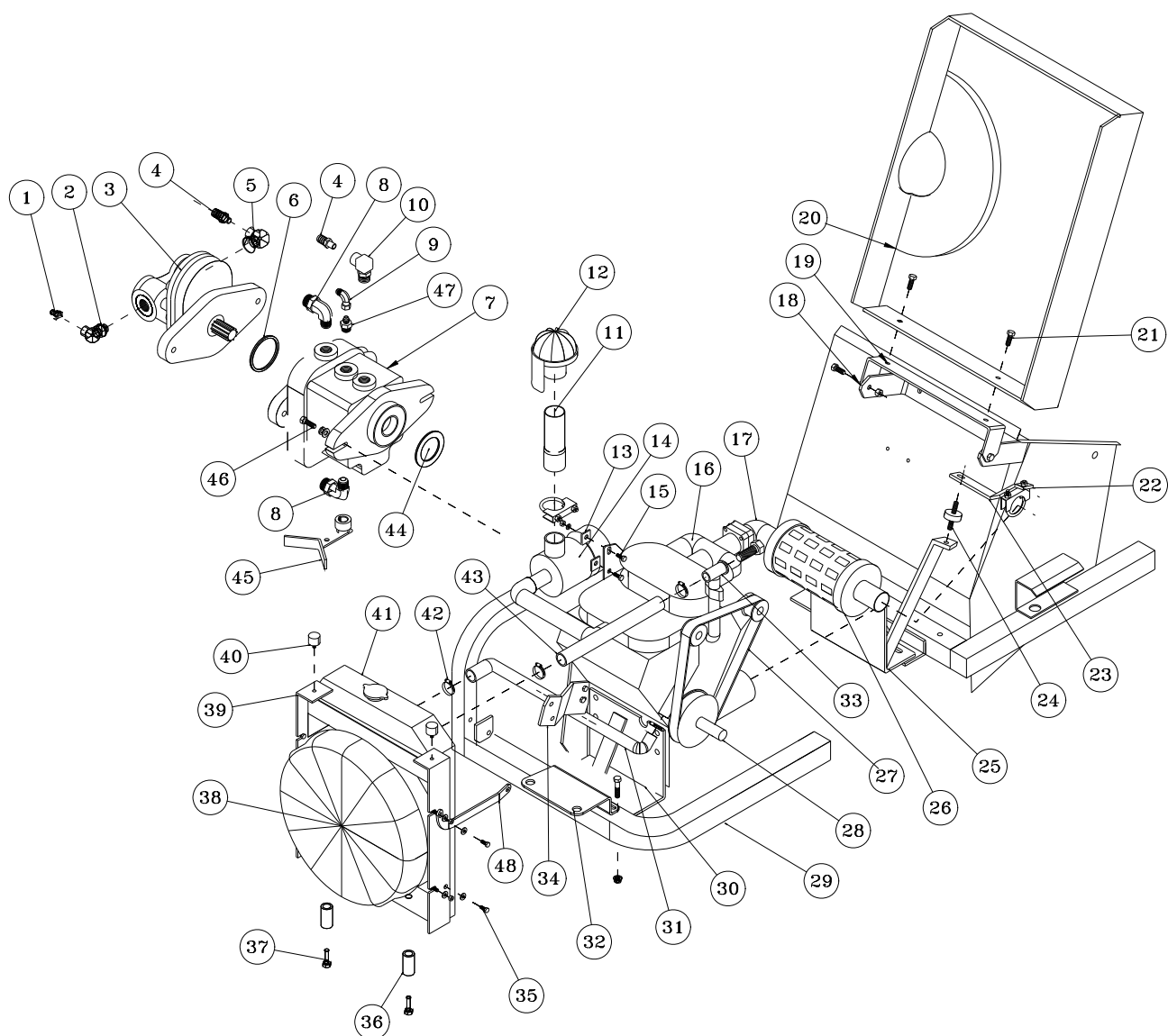


KUBOTA DIESEL ENGINE AND EXHAUST PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|------------------|---|----------|
| 1 | 23-188 | Male Connector $\frac{3}{8}$ | 1 |
| 2 | 23-129 | Elbow 90° | 1 |
| 3 | 76-197 | Gear Pump | 1 |
| 4 | 18-133 | Barb Fitting | 2 |
| 5 | 23-133 | Adjustable Elbow 90° | 1 |
| 6 | 23-145 | O-Ring | 1 |
| 7 | 77-264 | Hydrostatic Pump | 1 |
| 8 | 18-204 | Elbow 90° | 2 |
| 9 | 18-202 | Elbow | 1 |
| 10 | 23-130 | Elbow 90° | 1 |
| 11 | 77-249 | Diesel Air Intake | 1 |
| 12 | 42-004-02 | Filter Head | 1 |
| 13 | 11-132 | Mounting Band (part of engine) | 1 |
| | HB-14-20-075 | Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$ | 2 |
| | HWL-14 | Lockwasher $\frac{1}{4}$ | 2 |
| | HN-14-20 | Nut $\frac{1}{4}$ - 20 | 2 |
| 14† | 77-213 | Air Cleaner Element (Steel Canister) | 1 |
| | 42-076-03 | Air Cleaner Element (Plastic Canister) | 1 |
| 15 | 77-248 | Air Cleaner Mount | 1 |
| | HSD-8-50 | Drill Screw #8 - 50 | 2 |
| 16 | 77-208 | D-722 Diesel Kubota Engine | 1 |
| | 77-208-02 | Pump Housing | 1 |
| | 77-208-03 | Drive Shaft | 1 |
| | 22-065 | Auxillary Ground | 1 |
| 17* | 77-208-05 | Air Pack Switch (part of engine) | 1 |
| 18 | 77-182 | Hood Hinge Mount | 1 |
| | HB-38-16-100 | Bolt $\frac{3}{8}$ - 16 x 1 | 4 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 4 |
| 19 | 77-236 | Hood Hinge | 1 |
| 20 | 77-250 | Engine Cover | 1 |
| | 15-437 | Latch | 1 |
| 21 | HB-38-16-100 | Bolt $\frac{3}{8}$ - 16 x 1 | 2 |
| | HN-38-16 | Nut $\frac{3}{8}$ - 16 | 2 |
| 22 | 50-111 | Muffler Clamp $1\frac{1}{2}$ | 1 |
| 23 | 77-192 | Muffler Brace | 1 |
| 24 | 11-021 | Rubber Mount | 1 |
| 25 | 77-186 | Rear Engine Mount | 1 |
| | HB-38-16-175 | Bolt $\frac{3}{8}$ - 16 x $1\frac{3}{4}$ | 2 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 2 |
| 26 | 77-216 | Muffler Assembly (part of engine) | 1 |
| | 77-217 | Muffler Gasket (part of engine) | 1 |
| 27 | 77-212 | Fan Belt (part of engine) | 1 |
| 28 | HWK-14-100 | Woodruff Key $\frac{1}{4}$ x 1 | 1 |
| | 77-242 | Stub Shaft | 1 |
| | HWLI-516 | Internal Lockwasher $\frac{5}{16}$ | 3 |
| | HSSHSM-8-1.25-20 | Socket Set Cap Screw Metric 8 - 1.25 x 20 | 3 |
| 29 | | Main Frame | 1 |
| * | 77-235 | Thermostat Kit (includes * items) | |
| † | 77-221 | Air Cleaner Assembly | |

(Continued on Next Page)

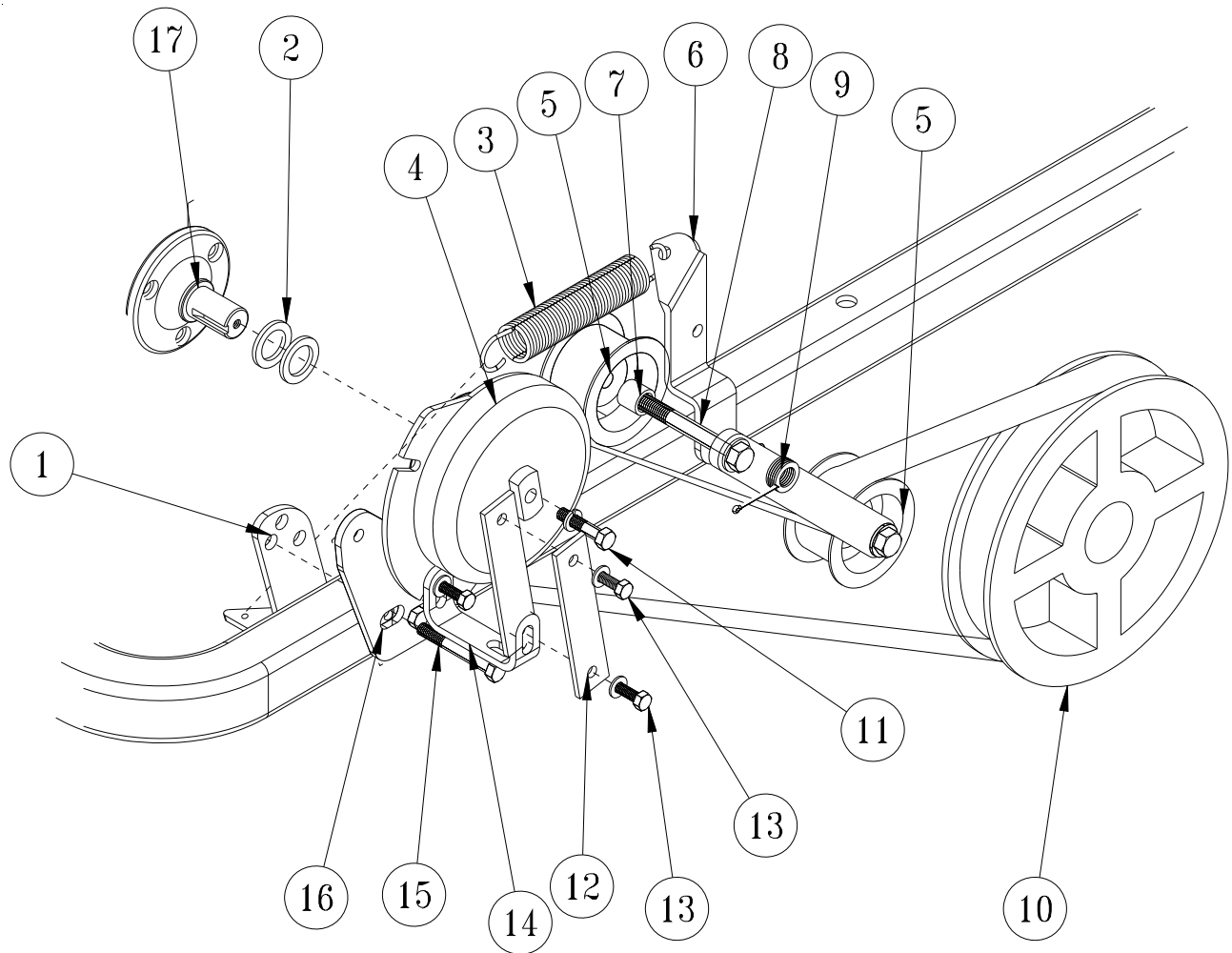
KUBOTA DIESEL ENGINE AND EXHAUST DRAWING (CONTINUED)



KUBOTA DIESEL ENGINE AND EXHAUST PARTS LIST (CONTINUED)

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|------------------|---|----------|
| 30 | 77-185 | Front Engine Mount | 1 |
| | HB-38-16-175 | Bolt $\frac{3}{8}$ - 16 x $1\frac{3}{4}$ | 2 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 2 |
| 31 | 8951-24 | Lower Radiator Hose | 1 |
| 32 | 77-243 | Radiator Mount | 1 |
| 33* | 77-208-04 | Goose Neck (part of engine) | 1 |
| 34 | 77-184 | Cable Bracket | 1 |
| | HBM-8-1.25 x 20 | Metric Bolt #8 - 1.25 x 20 | 1 |
| 35 | HBM-6-1-16 | Metric Bolt #6 - 1 - 16 | 3 |
| | HBM-6-1-20 | Metric Bolt #6 - 1 - 20 | 1 |
| | HW-14 | Washer $\frac{1}{4}$ | 4 |
| | HWLM-6 | Metric Lockwasher #6 | 4 |
| 36 | 60-406 | Spacer | 2 |
| 37 | HBM-10-1.25-110 | Metric Bolt 10 - 1.25 x 110 | 2 |
| 38 | 77-201 | Electric Fan | 1 |
| 39 | 77-238 | Radiator Mount | 1 |
| | 15-437 | Latch | 1 |
| 40 | 15-013 | Rubber Bumper | 2 |
| | HWL-14 | Lockwasher $\frac{1}{4}$ | 2 |
| | HN-14-20 | Nut $\frac{1}{4}$ - 20 | 2 |
| 41 | 77-210 | Radiator (on engine) | 1 |
| 42 | 18-222 | Hose Clamp $\frac{13}{16}$ to $1\frac{1}{2}$ | 4 |
| 43 | 8951-11.5 | Upper Radiator Hose | 1 |
| 44 | 23-145 | O-Ring $3\frac{1}{4}$ ID x $3\frac{3}{8}$ OD | 1 |
| 45 | 77-241 | Shift Arm | 1 |
| | HSSHS-516-18-050 | Socket Head Set Screw $\frac{5}{16}$ - 18 x $\frac{1}{2}$ | 1 |
| 46 | HB-38-16-125 | Bolt $\frac{3}{8}$ - 16 x $1\frac{1}{4}$ | 2 |
| - | HW-38 | Washer $\frac{3}{8}$ | 2 |
| | HWL-38 | Lockwasher $\frac{3}{8}$ | 2 |
| 47 | 18-241 | Straight Thread Connector | 1 |
| 48 | 77-237 | Radiator Brace | 1 |
| | | | |
| * | 77-235 | Thermostat Kit (includes * items) | |

ELECTRIC CLUTCH DRIVEN BELT DRIVE DRAWING

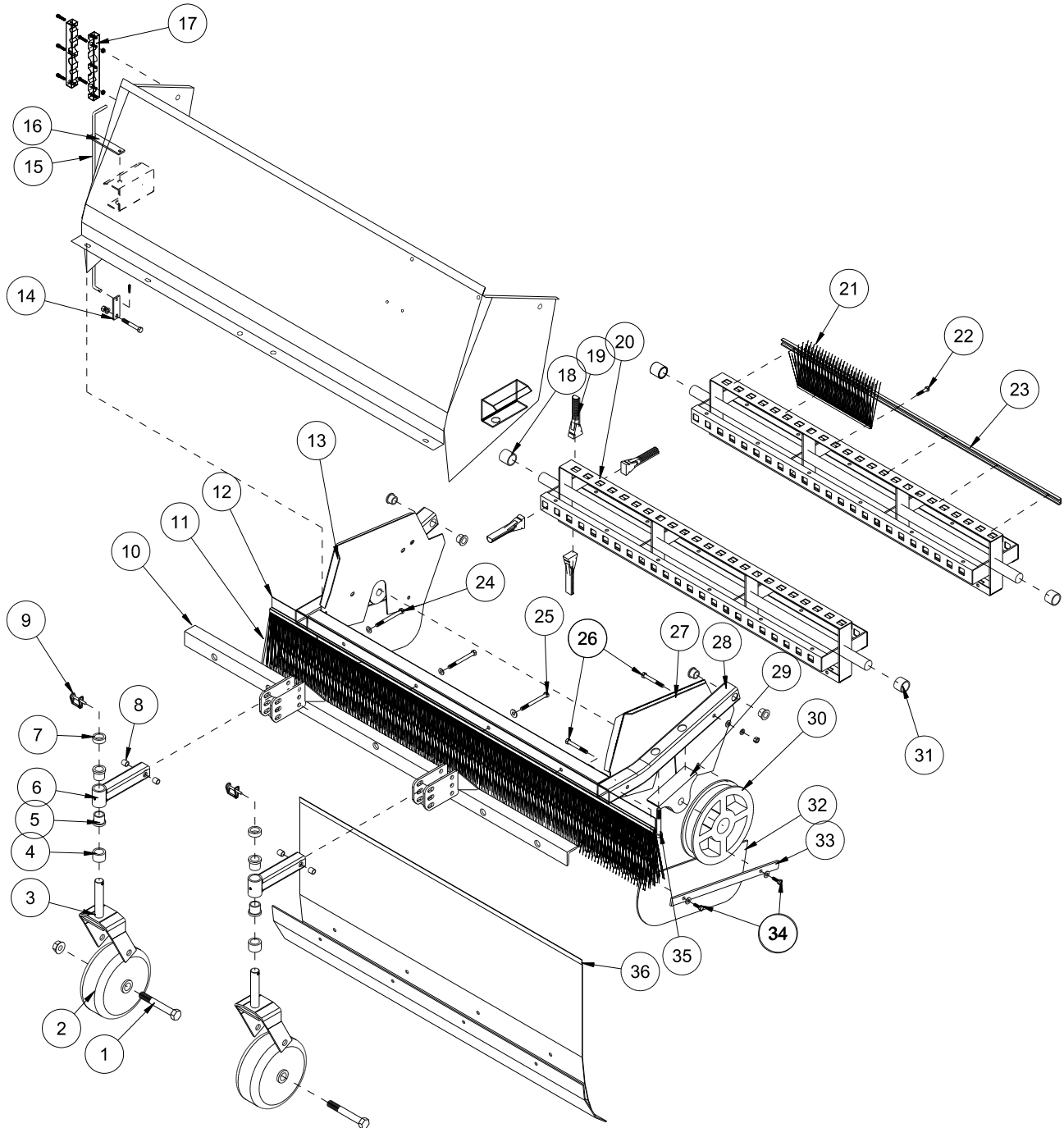


Parts

ELECTRIC CLUTCH DRIVEN BELT DRIVE PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|--|----------|
| 1 | 48-038 | Spring Bracket | 1 |
| 2 | HMB-100-10 | Machine Bushing 1 x 10GA | 2 |
| 3 | 21-445 | Spring | 1 |
| | 9020-8.5 | Heat Shrink Tubing | 1 |
| 4 | 76-412 | Electric Clutch (Gas) | 1 |
| | 76-337 | Electric Clutch (Diesel) | 1 |
| | 17-271 | Pigtail (Diesel) | 1 |
| 5 | 16-013 | Idler Pulley | 2 |
| 6 | 76-217 | Idler Arm | 1 |
| 7 | 76-298 | Spacer | 2 |
| 8 | HB-12-13-400 | Bolt $\frac{1}{2}$ - 13 x 3 | 2 |
| | HW-12 | Washer $\frac{1}{2}$ | 2 |
| | HNTL-12-13 | Lock Nut $\frac{1}{2}$ - 13 | 2 |
| 9 | HMB-12-14 | Machine Bushing $\frac{1}{2}$ x 14GA | 5 |
| | HP-18-150 | Cotter Pin $\frac{1}{8}$ x $1\frac{1}{2}$ | 1 |
| 10 | 76-102 | Pulley 2AK104H | 1 |
| | 76-102-01 | Hub $1\frac{1}{4}$ ID | 1 |
| | HKSQ-14-150 | Machine Key $\frac{1}{4}$ x $\frac{1}{4}$ x $1\frac{1}{2}$ | 1 |
| | 76-200 | Belt 2/A74 | 1 |
| 11 | HB-38-16-175 | Bolt $\frac{3}{8}$ - 16 x $1\frac{3}{4}$ | 1 |
| | HWL-38 | Lock Washer $\frac{3}{8}$ | 1 |
| 12 | 76-340 | Clutch Strap | 2 |
| 13 | HB-516-18-100 | Bolt $\frac{5}{16}$ - 18 x 1 | 3 |
| | HW-516 | Washer $\frac{5}{16}$ | 3 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 3 |
| 14 | 76-409 | Belt Guard Support (Gas) | 1 |
| | 76-339 | Belt Guard Support (Diesel) | 1 |
| 15 | HB-38-16-300 | Bolt $\frac{3}{8}$ - 16 x 3 | 2 |
| | HNTL-38-16 | Top Lock Nut $\frac{3}{8}$ - 16 | 2 |
| 16 | 76-408 | Clutch Mount (Gas) | 1 |
| | 76-338 | Clutch Mount (Diesel) | 1 |
| 17 | 76-411 | Stub Shaft (Gas) | 1 |
| | 77-242 | Stub Shaft (Diesel) | 1 |

FINGER/BRUSH REEL DRAWING

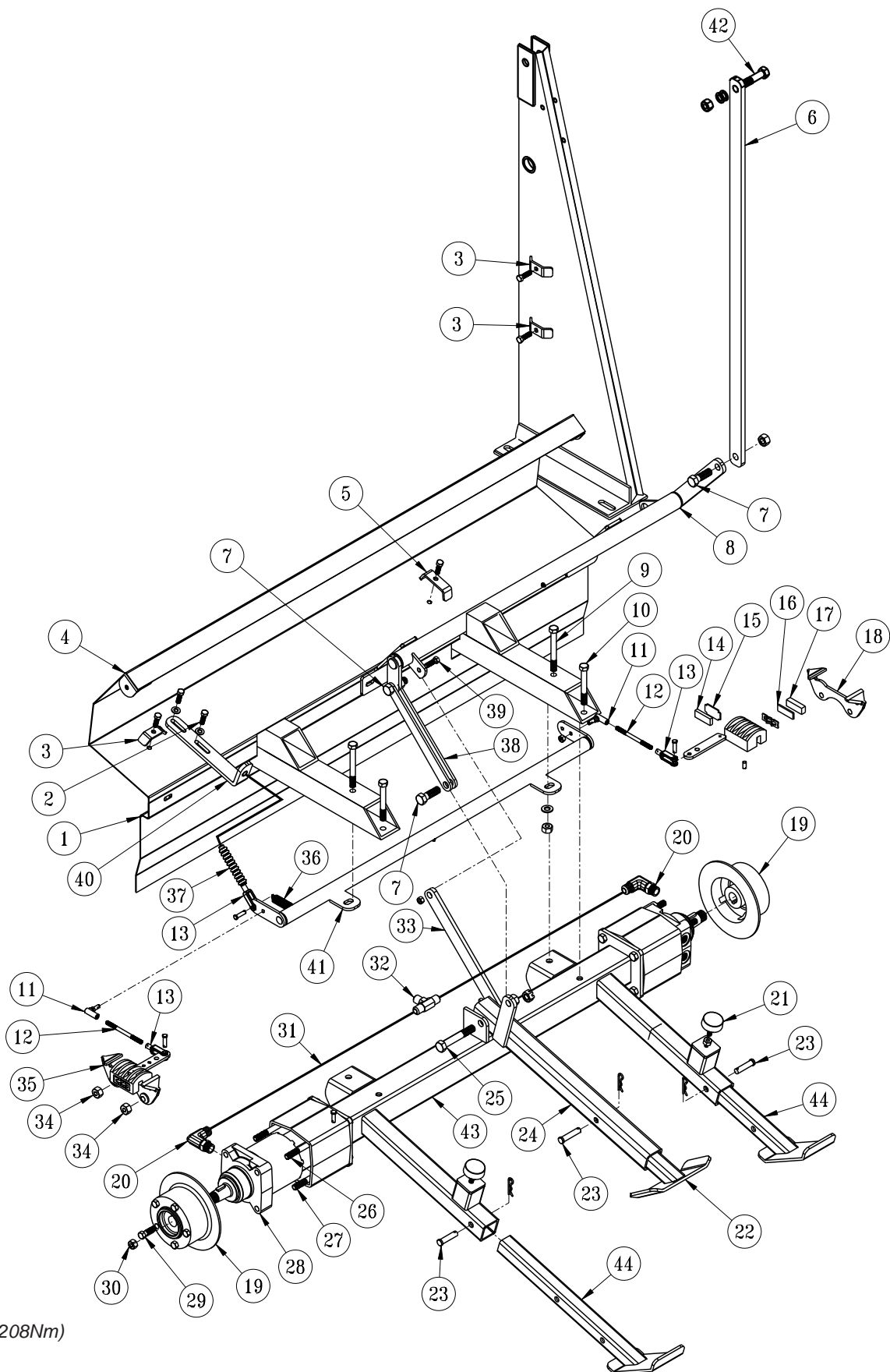


FINGER / BRUSH REEL PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|---|------------|
| 1 | HB-34-10-550 | Bolt $\frac{3}{4}$ - 10 x $5\frac{1}{2}$ | 2 |
| | HNTL-34-10 | Lock Nut $\frac{3}{4}$ - 10 | 2 |
| 2 | 33-435 | Tire and Wheel | 2 |
| 3 | 48-046 | Castor Fork | 2 |
| | HMB-100-10 | Machine Bushing 1 x 10GA | 4 |
| 4 | 29-585 | Spacer Height Adjustment | 2 |
| 5 | 18-223 | Bushing (part of 76-355) | 2 per |
| 6 | 76-355 | Arm | 2 |
| 7 | 29-584 | Height Adjustment Spacer $\frac{1}{2}$ " | 2 |
| 8 | 20-019 | Bushing (part of 76-355) | 2 per |
| 9 | 29-541 | Lock Pin $\frac{1}{4}$ | 2 |
| 10 | 76-356 | Castor Mount Bracket | 1 |
| | HCP-12-150 | Clevis Pin $\frac{1}{2}$ x $1\frac{1}{2}$ | 4 |
| | 78-463 | Kick-out Ring | 4 |
| 11 | 76-439 | Brush | 1 |
| 12 | 76-438 | Brush Channel | 1 |
| 13 | 75-799 | Side Plate RH. | 1 |
| 14 | 76-278 | Bottom Mount | 1 |
| | HB-38-16-300 | Bolt $\frac{3}{8}$ - 16 x 3 | 1 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 1 |
| 15 | 76-277 | Height Indicator Rod | 1 |
| 16 | 76-279 | Top Mount | 1 |
| 17 | 76-336 | Hose Clamp | 1 |
| 18 | 75-686 | Spacer $1\frac{1}{4}$ ID x $1\frac{3}{8}$ | 1 |
| 19 | 75-506 | Sweeper Finger | 116 |
| 20 | 75-780 | Finger Reel | 1 |
| 21 | 76-330 | Brush | 4 |
| 22 | HB-516-18-125 | Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{4}$ | 28 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 28 |
| 23 | 76-313 | Clamp | 4 |
| 24 | HB-38-16-350 | Bolt $\frac{3}{8}$ - 16 x $3\frac{1}{2}$ | 2 |
| | HW-38 | Washer $\frac{3}{8}$ | 4 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 2 |
| 25 | HB-38-16-400 | Bolt $\frac{3}{8}$ - 16 x 4 | 1 |
| | HW-38 | Washer $\frac{3}{8}$ | 2 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 1 |
| 26 | HB-38-16-350 | Bolt $\frac{3}{8}$ - 16 x $3\frac{1}{2}$ | 1 |
| | HB-38-16-275 | Bolt $\frac{3}{8}$ - 16 x $2\frac{3}{4}$ | 3 |
| | HW-38 | Washer $\frac{3}{8}$ | 7 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 4 |
| 27 | 75-800 | Left Side Plate | 1 |
| 28 | 75-787 | Reel Frame | 1 |
| | 18-221 | Flange Bushing(part of 75-787) | 4 |
| 29 | 75-511 | Pillow Block $1\frac{1}{4}$ Bore | 2 |
| 30 | 76-102 | Pulley with Hub | 1 |
| | 76-102-01 | Hub $1\frac{1}{4}$ ID | 1 |
| | HMB-114-10 | Machine Bushing $1\frac{1}{4}$ x 10 GA | 2 As Req'd |
| | HMB-114-14 | Machine Bushing $1\frac{1}{4}$ x 14 GA | 1 As Req'd |
| 31 | 75-834 | Spacer $1\frac{1}{4}$ ID x $1\frac{1}{8}$ | 1 |
| 32 | 76-210 | Matting $7\frac{1}{2}$ x 18 | 2 |
| 33 | 76-213 | Reel Guard Strap | 2 |
| 34 | HB-516-18-100 | Bolt $\frac{5}{16}$ - 18 x 1 | 4 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 4 |
| 35 | HB-12-13-350 | Bolt $\frac{1}{2}$ - 13 x $3\frac{1}{2}$ | 4 |
| | HMB-12-14 | Machine Bushing $\frac{1}{2}$ - 14 | 4 |
| | HNTL-12-13 | Lock Nut $\frac{1}{2}$ - 13 | 4 |
| 36 | 75-808 | Front Baffle | 1 |

REAR AXLE DRAWING

Parts



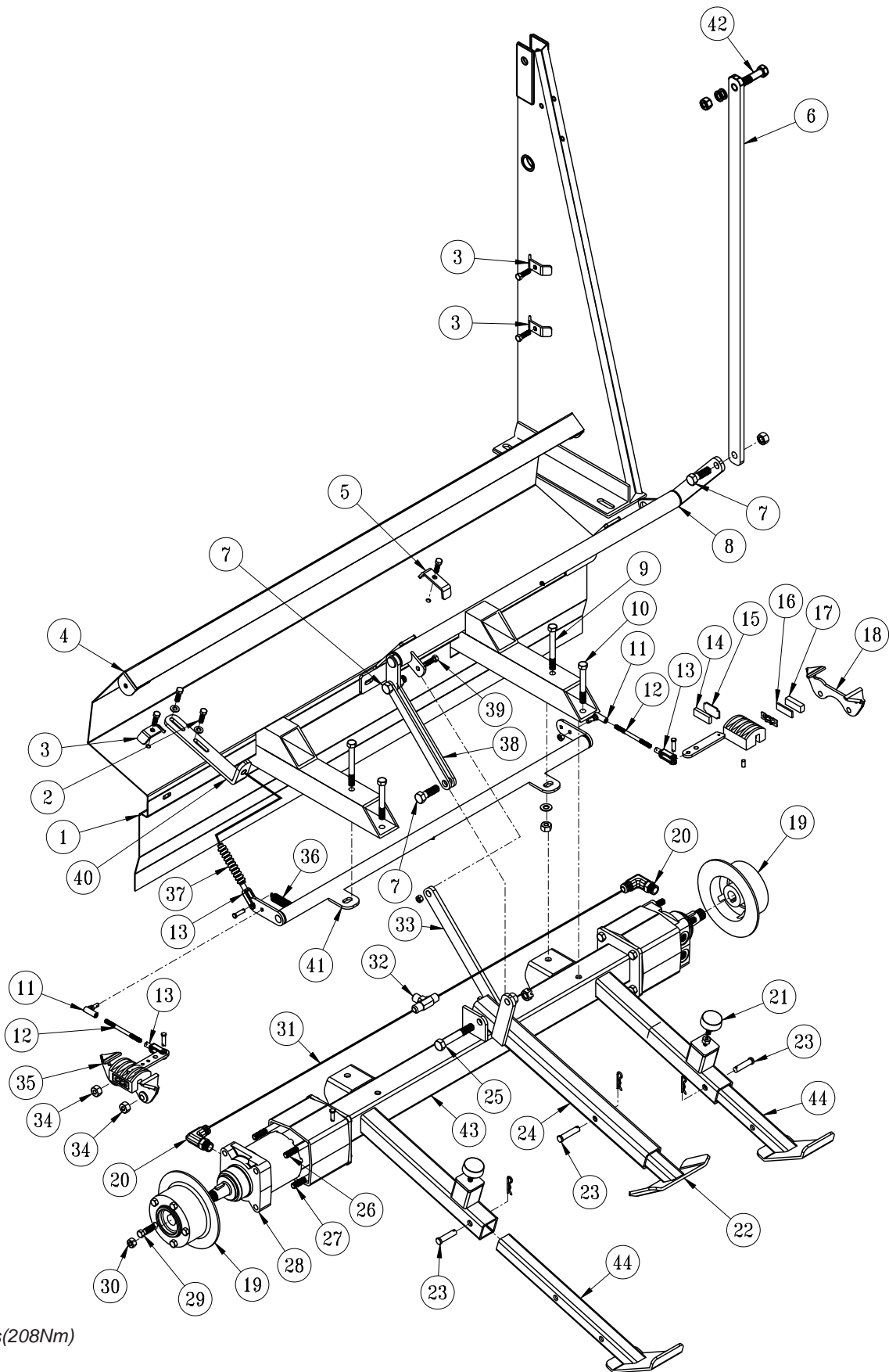
Torque to 160 ft/lbs(208Nm)

REAR AXLE PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|--|-----------------------|
| 1 | 76-233 | Rear Beater Panel | 1 |
| 2 | HB-38-16-125 | Bolt $\frac{3}{8}$ - 16 x $1\frac{1}{4}$ | 2 |
| | HW-38 | Washer $\frac{3}{8}$ | 4 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8}$ - 16 | 2 |
| 3 | 13-099 | Hose Clamp | 3 |
| | HB-516-18-125 | Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{4}$ | 2 |
| | HWL-516 | Lockwasher $\frac{5}{16}$ | 2 |
| | HB-516-18-150 | Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{2}$ | 1 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 1 |
| 4 | 76-234 | Rear Chute Baffle | 1 |
| | 8947-60 | Trim Seal x 60" | 1 |
| 5 | 75-614 | Hose Clamp | 1 |
| | HB-516-18-150 | Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{2}$ | 1 |
| | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 1 |
| 6 | 76-386 | Long Linkage Strap | 1 |
| 7 | HB-58-11-200 | Bolt $\frac{5}{8}$ - 11 x 2 | 3 |
| | HNTL-58-11 | Lock Nut $\frac{5}{8}$ - 11 | 3 |
| 8 | 76-387 | Rear Skid Pivot | 1 |
| 9 | HB-12-13-400 | Bolt $\frac{1}{2}$ - 13 x 4 | 2 |
| | HNTL-12-13 | Lock Nut $\frac{1}{2}$ - 13 | 2 |
| 10 | HB-12-13-400 | Bolt $\frac{1}{2}$ - 13 x 4 | 2 |
| 11 | 21-462 | Ball Joint $\frac{5}{16}$ - 24 | 2 |
| 12 | 76-300 | Brake Rod | 2 |
| | HN-516-24 | Nut $\frac{5}{16}$ - 24 | 4 |
| 13 | 11-100 | Linkage Yoke $\frac{5}{16}$ | 3 |
| | HCP-516-100 | Clevis Pin $\frac{5}{16}$ x 1 | 3 |
| | HP-18-075 | Cotter Pin $\frac{1}{8}$ x $\frac{3}{4}$ | 3 |
| 14* | | Carrier Side Pad | 1 |
| 15* | | Carrier Side Pad Support | 1 |
| 16* | | Cam Side Pad Support | 1 |
| 17* | | Cam Side Pad | 1 |
| 18 | 76-241 | Right Caliper Clockwise | 1 |
| | HN-516-24 | Nut $\frac{5}{16}$ - 24 | 1 |
| 19 | 76-239 | Brake Disk 8" 5 Hole | 2 |
| 20 | 34-122 | Short 90° Elbow | 4 |
| 21 | 50-081 | Rubber Bumper | 2 |
| | HN-38-16 | Nut $\frac{3}{8}$ - 16 | 2 |
| 22 | 48-039 | Rear Skid | 1 |
| 23 | HCP-12-225 | Clevis Pin $\frac{1}{2}$ x $2\frac{1}{4}$ | 4 |
| | HHP-18 | Bridge Pin $\frac{1}{8}$ | 4 |
| 24 | 48-040 | Rear Skid Arm | 1 |
| 25 | HB-58-11-400 | Bolt $\frac{5}{8}$ - 11 x 4 | 1 |
| | HNTL-58-11 | Top Lock Nut $\frac{5}{8}$ - 11 | 1 |
| 26 | HB-12-13-800 | Bolt $\frac{1}{2}$ - 13 x 8 | 4 |
| 27 | HB-12-13-750 | Bolt $\frac{1}{2}$ - 13 x $7\frac{1}{2}$ | 4 |
| | HMB-12-14 | Machine Bushing $\frac{1}{2}$ x 14GA | 4 |
| | HNTL-12-13 | Lock Nut $\frac{1}{2}$ - 13 | 8 |
| | | | |
| * | 34-101-02 | Pad Kit with 2 Pads and Steel Backing Plates | 2 Kits Req'd per Axle |
| | 34-101-01 | Pads Only | |

(Continued on Next Page)

REAR AXLE DRAWING

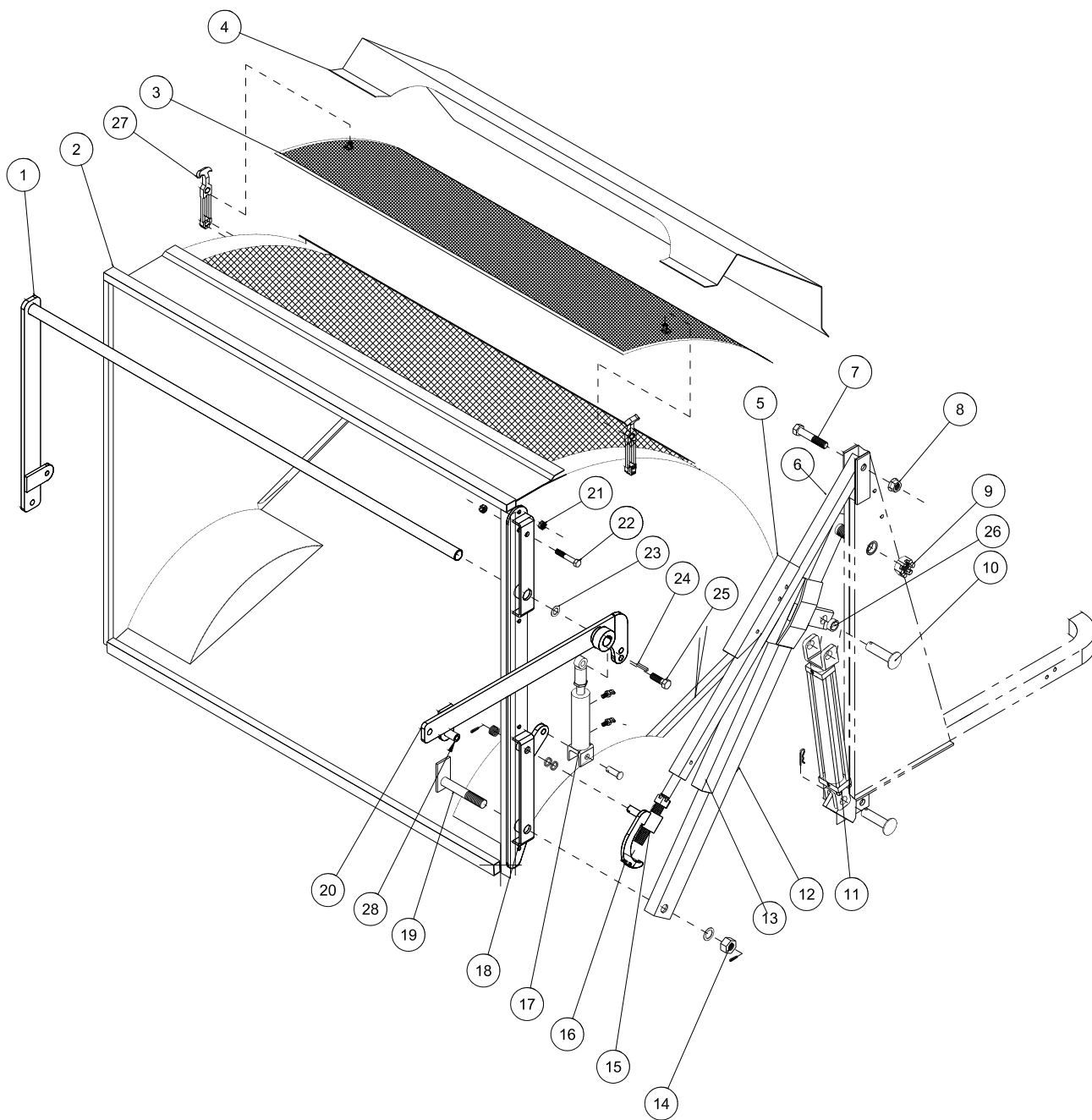


Torque to 160 ft/lbs(208Nm)

REAR AXLE PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|--------------|---|-----------------------|
| 28 | 76-238 | Wheel Motor | 2 |
| | HWK-516-100 | Woodruff Key $\frac{5}{16} \times 1$ | 2 |
| 29 | 60-268 | Lug Nut $\frac{1}{2} - 20 \times 1\frac{5}{16}$ | 10 |
| 30 | 14-265 | Nut 1 - 20 | 2 |
| 31 | 76-208 | Hydraulic Hose 23.5" | 4 |
| 32 | 34-057 | Tee Fitting | 2 |
| 33 | 76-385 | Brace | 2 |
| 34 | HNTL-12-13 | Lock Nut $\frac{1}{2} - 13$ | 4 |
| 35 | 76-240 | Left Caliper Counterclockwise | 1 |
| 36 | 29-118 | Zinc Plated Spring | 1 |
| 37 | 60-536 | Bellows | 2 |
| | 76-225 | Brake Cable with Nuts | 1 |
| 38 | 48-042 | Linkage Strap Short | 1 |
| 39 | HB-38-16-125 | Bolt $\frac{3}{8} - 16 \times 1\frac{1}{4}$ | 1 |
| | HNTL-38-16 | Lock Nut $\frac{3}{8} - 16$ | 1 |
| 40 | 76-218 | Brake Cable Bracket | 1 |
| 41 | 76-229 | Park Brake Relay | 1 |
| 42 | HB-58-18-325 | Bolt $\frac{5}{8} - 18 \times 3\frac{1}{4}$ | 1 |
| | HMB-58-14 | Machine Bushing $\frac{5}{8} \times 14GA$ | 2 |
| | HNCL-58-18 | Center Nut $\frac{5}{8} - 18$ | 1 |
| 43 | 76-226 | Rear Axle | 1 |
| 44 | 75-723 | Rear Skid | 2 |
| | | | |
| * | 34-101-02 | Pad Kit with 2 Pads and Steel Backing Plates | 2 Kits Req'd per Axle |
| | 34-101-01 | Pads Only | |

HOPPER DRAWING



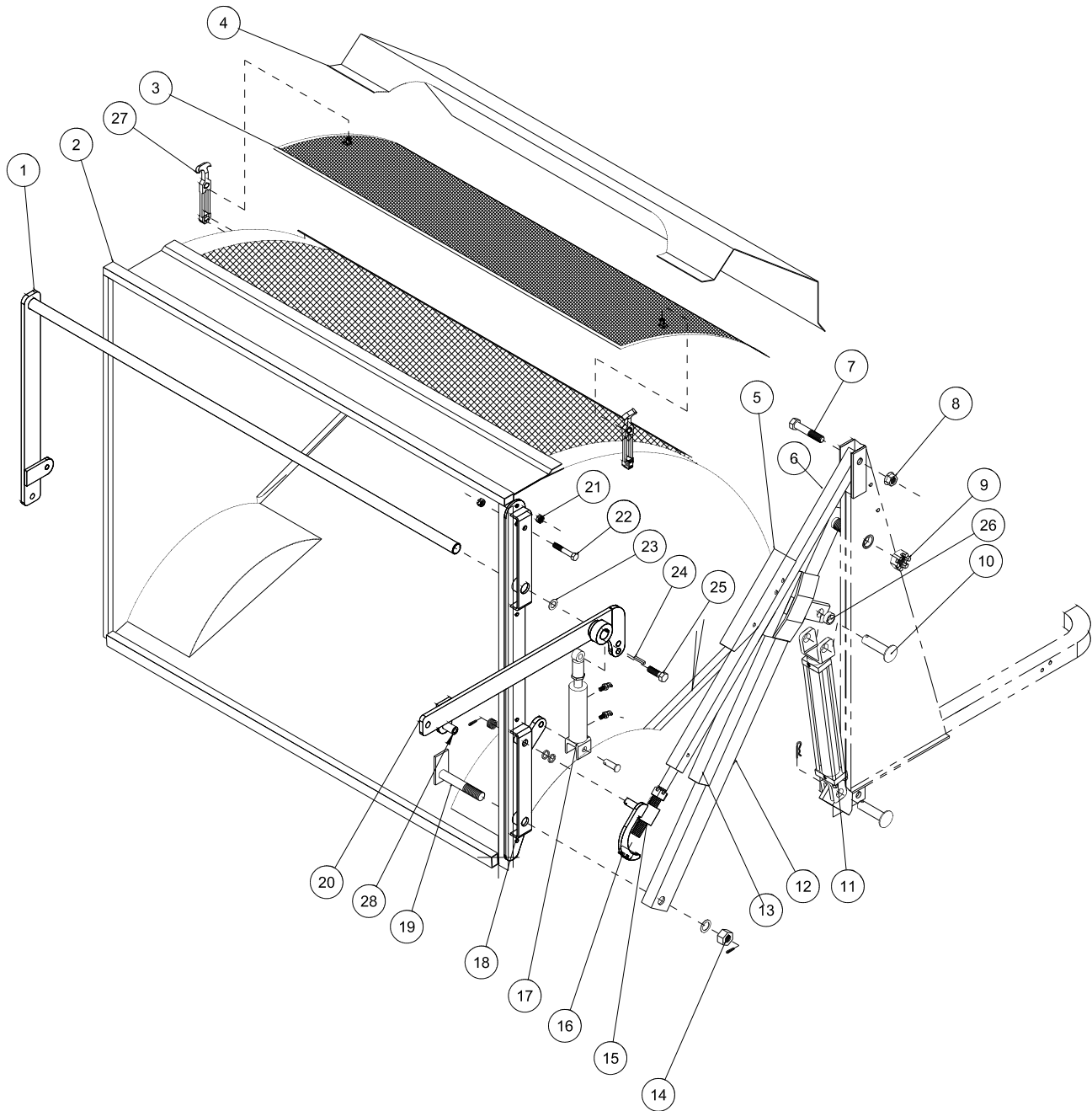
Parts

HOPPER PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|---------------|--|----------|
| 1 | 76-414 | Left Tailgate Dump Bar | 1 |
| | HMB-114-10 | Machine Bushing 1 ¹ / ₄ x 10 GA | 1 |
| 2 | 76-237 | Hopper | 1 |
| 3 | 76-261 | Hopper Screen | 1 |
| 4 | 76-359 | Hopper Screen Cover | 1 |
| | HB-516-18-075 | Bolt ⁵ / ₁₆ - 18 x ³ / ₄ | 6 |
| | HW-516 | Washer ⁵ / ₁₆ | 6 |
| | HNTL-516-18 | Lock Nut ⁵ / ₁₆ - 18 | 6 |
| 5 | 75-653 | Hopper Safety Lift | 2 |
| | HB-38-16-225 | Bolt ³ / ₈ - 16 x 2 ¹ / ₄ | 4 |
| | HNW-38-16 | Wing Nut ³ / ₈ - 16 | 4 |
| 6 | 76-230 | Hopper Dump Arm | 2 |
| | HNA-100-14 | Slotted Hex Nut 1 - 14 | 2 |
| 7 | HB-34-10-400 | Bolt ³ / ₄ - 10 x 4 | 2 |
| | HMB-34-14 | Machine Bushing ³ / ₄ - 14GA | 2 |
| 8 | HNTL-34-10 | Lock Nut ³ / ₄ - 10 | 2 |
| 9 | HNAT-114-12 | Thick Axle Nut 1 ¹ / ₄ - 12 | 2 |
| | HP-316-100 | Cotter Pin ³ / ₁₆ x 1 | 2 |
| 10 | 76-242-02 | Clevis Pin with/ Clip | 4 |
| 11 | 76-242 | Hydraulic Cylinder | 2 |
| 12 | 76-211 | Arm Pivot Tube | 1 |
| | 76-161 | Hose Guard, Short | 1 |
| 13 | 76-159 | Hose Guard, Long | 1 |
| 14 | HMB-100-14 | Machine Bushing 1 x 14GA | 2 |
| | HNA-100-14 | Slotted Hex Nut 1 - 14 | 2 |
| | HP-18-150 | Cotter Pin ¹ / ₈ x 1 ¹ / ₂ | 2 |
| 15 | 48-148 | Right Adjustment Sleeve (shown) | 1 |
| | 48-153 | Left Adjutment Sleeve | 1 |
| | HMB-34-14 | Machine Bushing ³ / ₄ x 14GA | 2 |
| | HMB-34-10 | Machine Bushing ³ / ₄ x 10GA | 8 |
| | HP-18-150 | Cotter Pin ¹ / ₈ x 1 ¹ / ₂ | 2 |
| 16 | 75-704 | Castle Nut 1 - 14 | 2 |
| 17 | 77-263 | Hydraulic Cylinder 1 ¹ / ₂ x 7 | 1 |
| | 18-168 | Elbow | 2 |
| | 18-154 | Rod End | 1 |
| | HG-14-28-180 | Grease Fitting ¹ / ₄ - 28 x 180° (part of rod end) | 1 |
| | HCP-58-150 | Clevis Pin ⁵ / ₈ x 1 ¹ / ₂ | 1 |
| | HHP-18 | Bridge Pin ¹ / ₈ | 1 |
| 18 | 76-215 | Right Hinge Strap (Shown) | 1 |
| | 76-216 | Left Hinge Strap | 1 |
| 19 | 75-569 | Swivel Pin | 2 |
| 20 | 76-413 | Right Tailgate Dump Bar | 1 |
| 21 | HNCL-38-16 | Center Lock Nut ³ / ₈ - 16 | 8 |
| | HB-38-16-075 | Bolt ³ / ₈ - 16 x ³ / ₄ | 8 |
| 22 | HB-12-13-300 | Bolt ¹ / ₂ - 13 x 3 | 2 |
| | HN-12-13 | Nut ¹ / ₂ - 13 | 2 |
| | HNCL-12-13 | Center Lock Nut ¹ / ₂ - 13 | 2 |

(Continued on next page)

HOPPER DRAWING



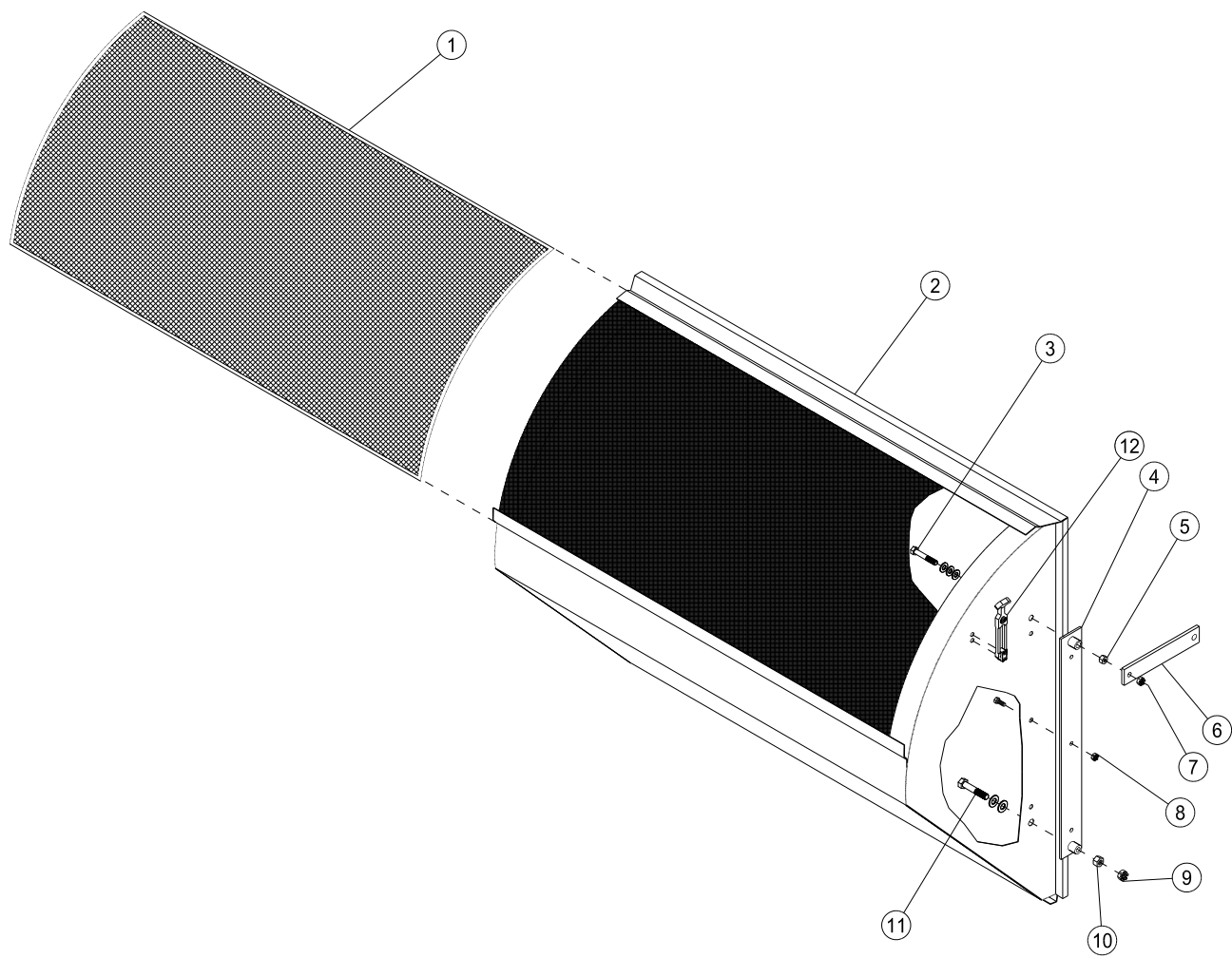
Parts

HOPPER PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|------------------|---|------------|
| 23 | HMB-114-10 | Machine Bushing 1 ¹ / ₄ x 10GA | 2 As Req'd |
| 24 | HKSQ-14-150 | Machine Key 1 ¹ / ₄ x 1 ¹ / ₄ x 1 ¹ / ₂ | 1 |
| | HSSHS-516-18-038 | Set Screw 5 ⁵ / ₁₆ - 18 x 3 ³ / ₈ | 1 |
| | HRP-38-250 | Roll Pin 3 ³ / ₈ x 2 ¹ / ₂ | 1 |
| 25 | HB-58-11-200 | Bolt 5 ⁵ / ₈ - 11 x 2 | 1 |
| | HMB-58-14 | Machine Bushing 5 ⁵ / ₈ x 14GA | 3 |
| | HNCL-58-11 | Center Lock Nut 5 ⁵ / ₈ - 11 | 1 |
| *26 | 76-288 | Spacer | 2 |
| 27 | 15-437 | Latch | 2 |
| | HRS-316-1125 | Rivet 3 ³ / ₁₆ x 1 ¹ / ₈ | 4 |
| | HRW-316 | Rivet Washer 3 ³ / ₁₆ | 6 |
| 28 | 42-702 | Spacer | 2 |
| | HB-12-13-250 | Bolt 1 ¹ / ₂ - 13 x 2 ¹ / ₂ | 2 |
| | HNCL-12-13 | Center Lock Nut 1 ¹ / ₂ - 13 | 2 |

*Spacer **MUST** be to the outside of the tab on the Pivot Arm with the tab and the spacer inside the cylinder yoke.

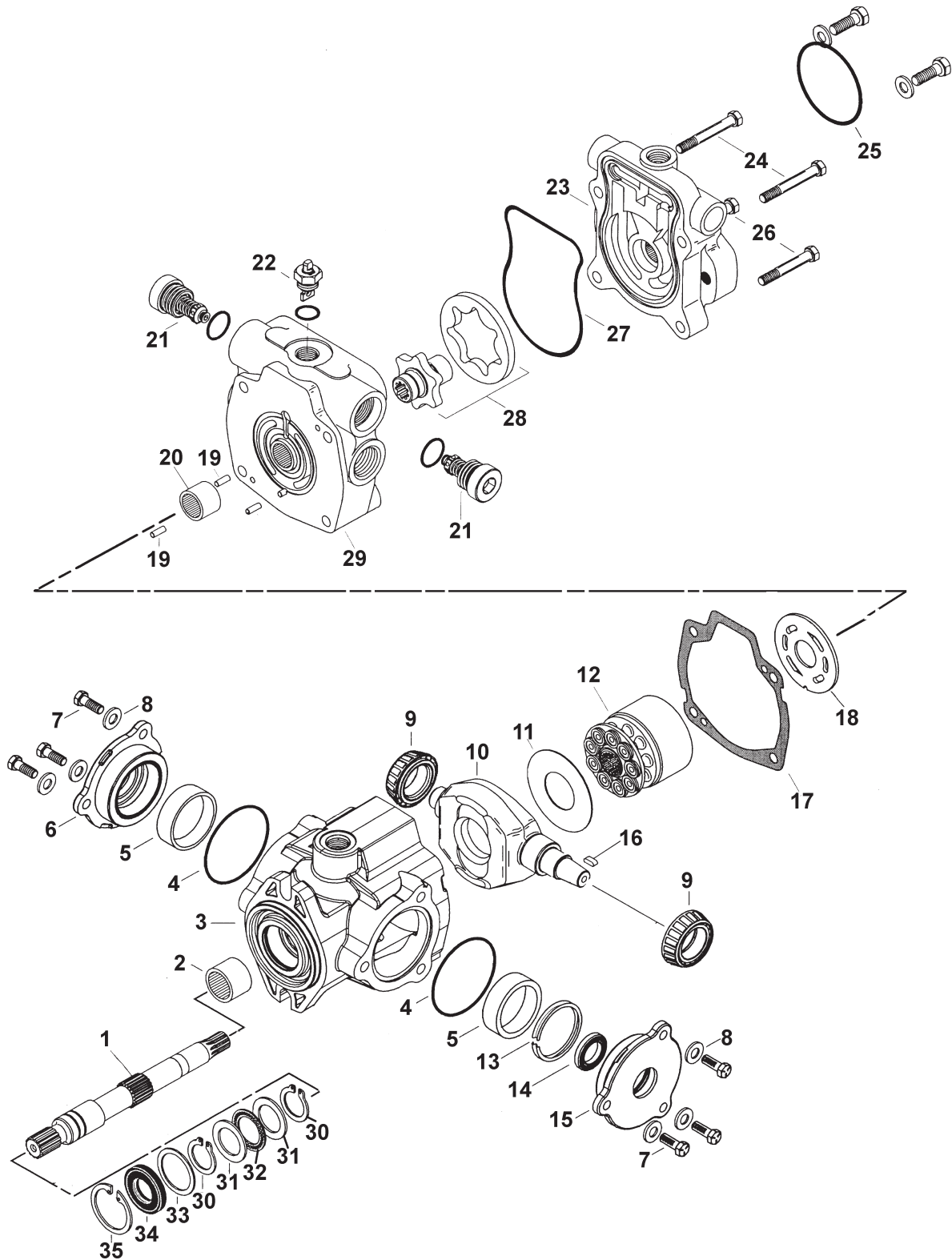
TAILGATE DRAWING



TAILGATE PARTSLIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|--------------|---|----------|
| 1 | 76-262 | Tailgate Screen | 1 |
| 2 | 76-243 | Tailgate | 1 |
| 3 | HB-12-13-300 | Bolt $\frac{1}{2}$ - 13 x 3 | 2 |
| | HMB-12-14 | Machine Bushing $\frac{1}{2}$ x 14GA | 6 |
| 4 | 75-565 | Tailgate Hinge Strap | 2 |
| 5 | HN-12-13 | Nut $\frac{1}{2}$ - 13 | 2 |
| 6 | 75-564 | Tailgate Hinge | 2 |
| 7 | HNCL-12-13 | Center Lock Nut $\frac{1}{2}$ - 13 | 2 |
| 8 | HNCL-38-16 | Center Lock Nut $\frac{3}{8}$ - 16 | 6 |
| | HB-38-16-075 | Bolt $\frac{3}{8}$ - 16 x $\frac{3}{4}$ | 6 |
| 9 | HNCL-58-18 | Center Lock Nut $\frac{5}{8}$ - 18 | 2 |
| 10 | HNJ-58-18 | Jam Nut $\frac{5}{8}$ - 18 | 2 |
| 11 | HB-58-18-325 | Bolt $\frac{5}{8}$ - 18 x $3\frac{1}{4}$ | 2 |
| | HMB-58-14 | Machine Bushing $\frac{5}{8}$ x 14GA | 10 |
| 12 | 15-437 | Latch | 2 |
| | HRS-316-1125 | Rivet Steel $\frac{3}{16}$ x $1\frac{1}{8}$ | 4 |
| | HRS-316-100 | Rivet Steel $\frac{3}{16}$ x 1 | 2 |
| | HRW-316 | Rivet Washer $\frac{3}{16}$ | 6 |
| NS | 8828-60 | Weather Stripping (60") | 1 |

77-264 EATON HYDROSTATIC PUMP DRAWING (DIESEL)

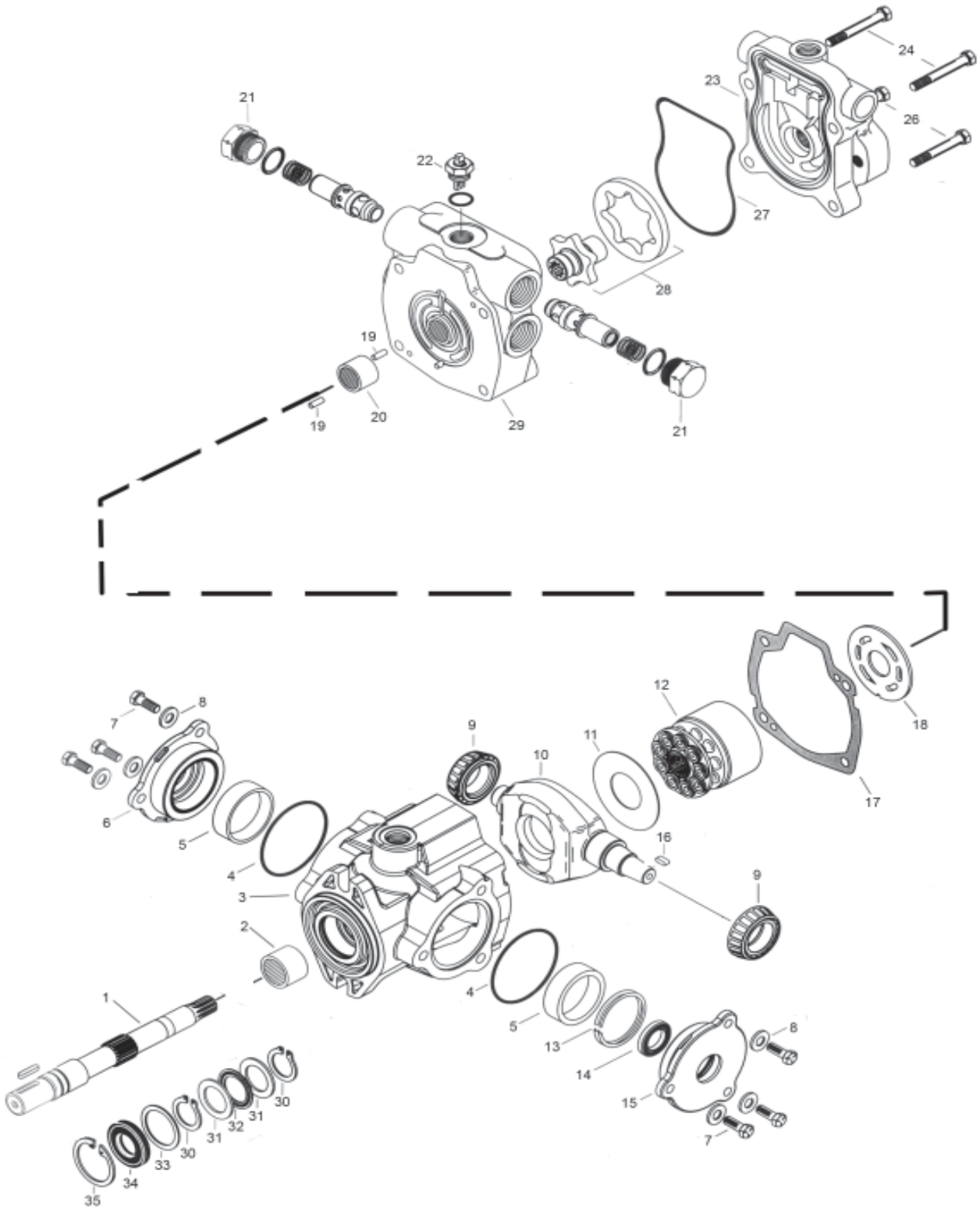


77-264 EATON HYDROSTATIC PUMP PARTS LIST (DIESEL)

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------|-------------------------------|----------|
| 1 | 60-343-52 | Drive Shaft (splined) | 1 |
| 2 | 60-343-08 | Needle Bearing (with housing) | 1 |
| 3 | 77-239-01 | Housing | 1 |
| 4 | 77-239-02 | O-Ring | 1 |
| 5 | 77-239-03 | Thrust Bearing | 2 |
| 6 | 77-239-04 | Trunnion Cover | 1 |
| 7 | 77-239-05 | Pan Head Screw | 2 |
| 8 | 77-239-06 | Washer | 6 |
| 9 | 77-239-07 | Cone Bearing | 2 |
| 10 | 77-239-08 | Cam Plate | 1 |
| 11 | 77-239-09 | Swash Plate Insert | 1 |
| 12 | 60-343-21 | Rotating Kit | 1 |
| 13 | 77-239-10 | Crush Ring | 1 |
| 14* | 60-343-12 | Shaft Seal | 1 |
| 15 | 77-239-11 | Seal Cover | 1 |
| 16 | 77-239-12 | Key | 1 |
| 17* | 77-239-13 | Gasket | 1 |
| 18 | 76-482-01 | Valve Plate | 1 |
| 19 | 33-058-27 | Dowel Pin | 2 |
| 20 | 60-343-23 | Bearing | 1 |
| 21 | 77-239-15 | Relief Valve (4000 psi) | 2 |
| 22 | 77-239-16 | Tow Valve Assembly | 1 |
| 23 | | Charge Pump Adaptor | 1 |
| 24 | 77-239-17 | Cap Screw | 2 |
| 25* | 77-130 | O-Ring (mounting kit) | 1 |
| 26 | 77-239-18 | Cap Screw | 2 |
| 27* | 77-239-19 | O-Ring | 1 |
| 28 | | Gerotor and Coupler | 1 |
| 29 | 77-239-20 | Endcover Assembly | 1 |
| 30* | 77-239-21 | Retaining Ring | 2 |
| 31 | 60-343-05 | Bearing Race | 1 |
| 32 | 60-343-06 | Thrust Bearing | 1 |
| 33 | 60-343-03 | Washer | 2 |
| 34* | 60-343-02 | Shaft Seal | 1 |
| 35* | 60-343-01 | Retaining Ring | 1 |

* 77-239-23 Seal Repair Kit

76-398 EATON HYDROSTATIC PUMP DRAWING (GAS)



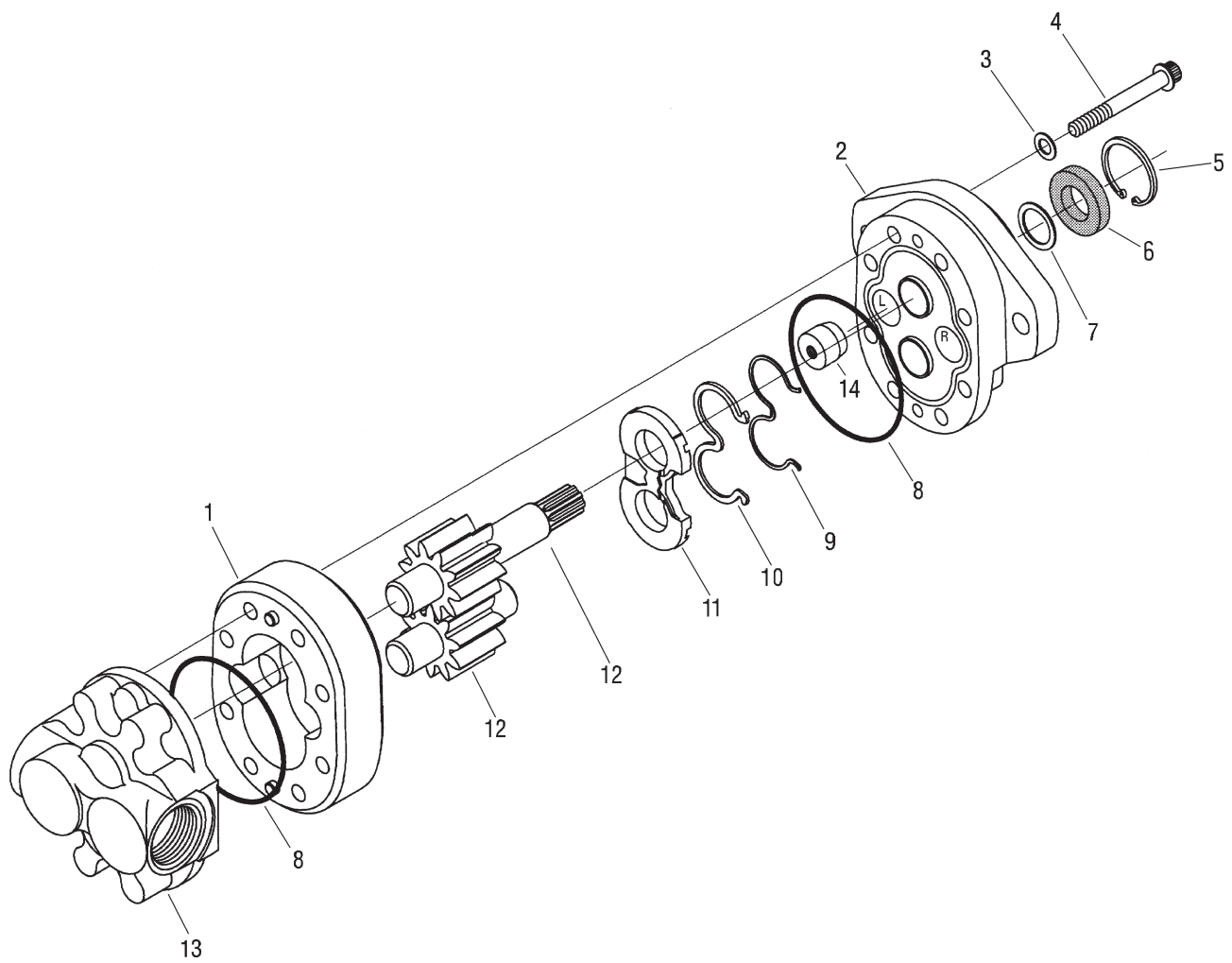
76-398 EATON HYDROSTATIC PUMP PARTS LIST (GAS)

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------|-------------------------------|----------|
| 1 | 76-398-01 | Drive Shaft (splined) | 1 |
| 2 | 60-343-08 | Needle Bearing (with housing) | 1 |
| 3 | 77-239-01 | Housing | 1 |
| 4 | 77-239-02 | O-Ring | 1 |
| 5 | 77-239-03 | Thrust Bearing | 2 |
| 6 | 77-239-04 | Trunnion Cover | 1 |
| 7 | 77-239-05 | Pan Head Screw | 2 |
| 8 | 77-239-06 | Washer | 6 |
| 9 | 77-239-07 | Cone Bearing | 2 |
| 10 | 77-239-08 | Cam Plate | 1 |
| 11 | 77-239-09 | Swash Plate Insert | 1 |
| 12 | 60-343-21 | Rotating Kit | 1 |
| 13 | 77-239-10 | Crush Ring | 1 |
| 14* | 60-343-12 | Shaft Seal | 1 |
| 15 | 77-239-11 | Seal Cover | 1 |
| 16 | 77-239-12 | Key | 1 |
| 17* | 77-239-13 | Gasket | 1 |
| 18 | 77-239-14 | Back Plate | 1 |
| 19 | 33-058-27 | Dowel Pin | 2 |
| 20 | 60-343-23 | Bearing | 1 |
| 21 | 77-239-15 | Relief Valve | 2 |
| 22 | 77-239-16 | Tow Valve Assembly | 1 |
| 23 | | Charge Pump Adaptor | 1 |
| 24 | 77-239-17 | Cap Screw | 2 |
| 26 | 77-239-18 | Cap Screw | 2 |
| 27* | 77-239-19 | O-Ring | 1 |
| 28 | 60-343-43 | Gerotor and Coupler | 1 |
| 29 | 77-239-20 | Endcover Assembly | 1 |
| 30* | 77-239-21 | Retaining Ring | 2 |
| 31 | 60-343-05 | Bearing Race | 1 |
| 32 | 60-343-06 | Thrust Bearing | 1 |
| 33 | 60-343-03 | Washer | 2 |
| 34* | 60-343-02 | Shaft Seal | 1 |
| 35* | 60-343-01 | Retaining Ring | 1 |

* 77-239-23 Seal Repair Kit

76-197 EATON GEAR PUMP DRAWING

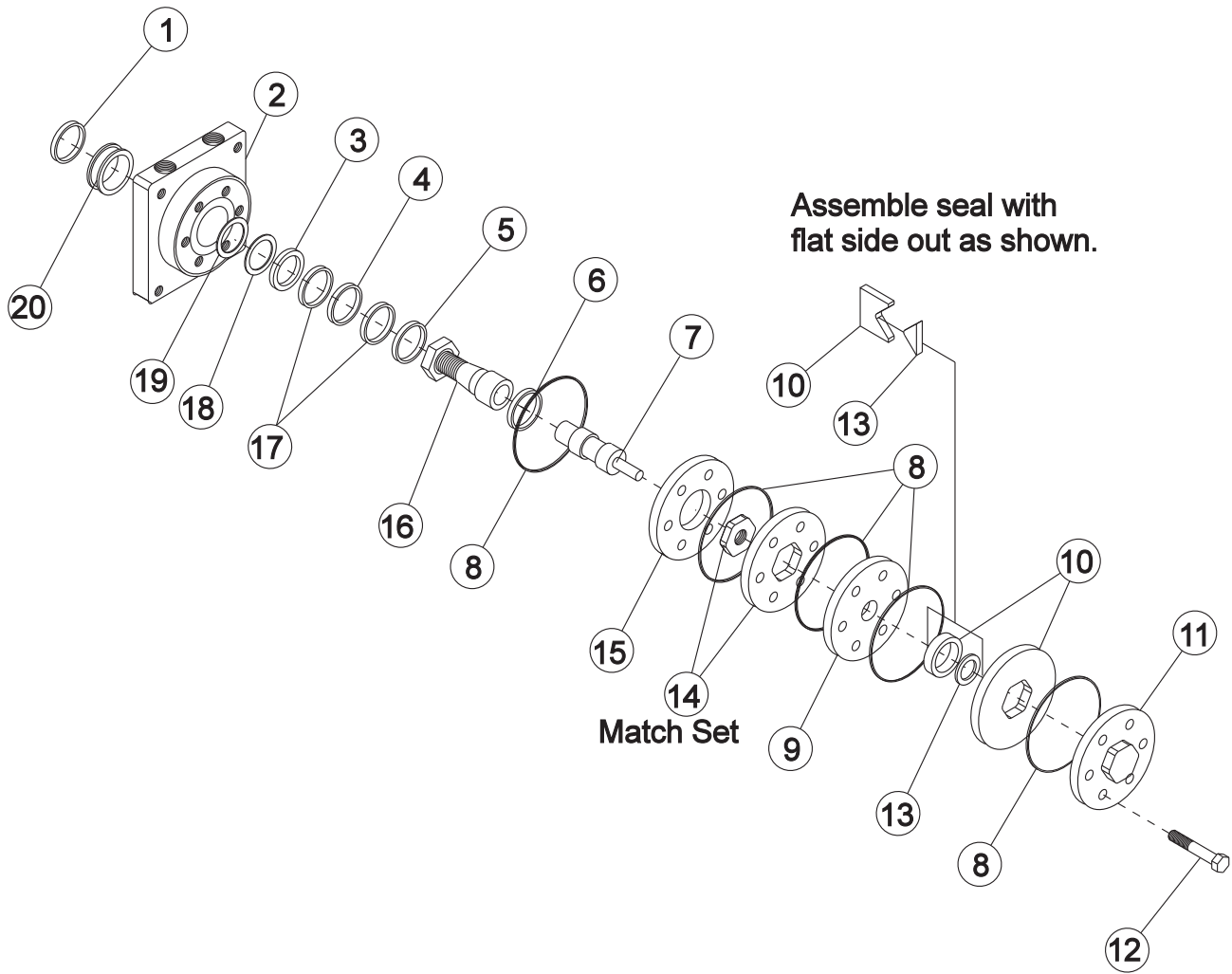
Parts



76-197 EATON GEAR PUMP PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------|-------------------------------|----------|
| 1 | | Body | 1 |
| 2 | 76-197-01 | Front Plate | 1 |
| 3* | | Washer | 4 |
| 4 | 76-197-06 | Cap Screw | 8 |
| 5 | 76-197-07 | Retaining Ring | 1 |
| 6* | | Shaft Seal | 1 |
| 7 | 33-061-15 | Washer | 1 |
| 8* | | O-Ring | 2 |
| 9* | | Backup Gasket | 1 |
| 10* | | Seal | 1 |
| 11* | | Wear Plate | 1 |
| 12 | 76-197-04 | Shaft (comes with Idler Gear) | 1 |
| 13 | 76-197-02 | Back Plate | 1 |
| 14* | | Plug | 1 |
| * | 76-197-08 | Seal Kit | |

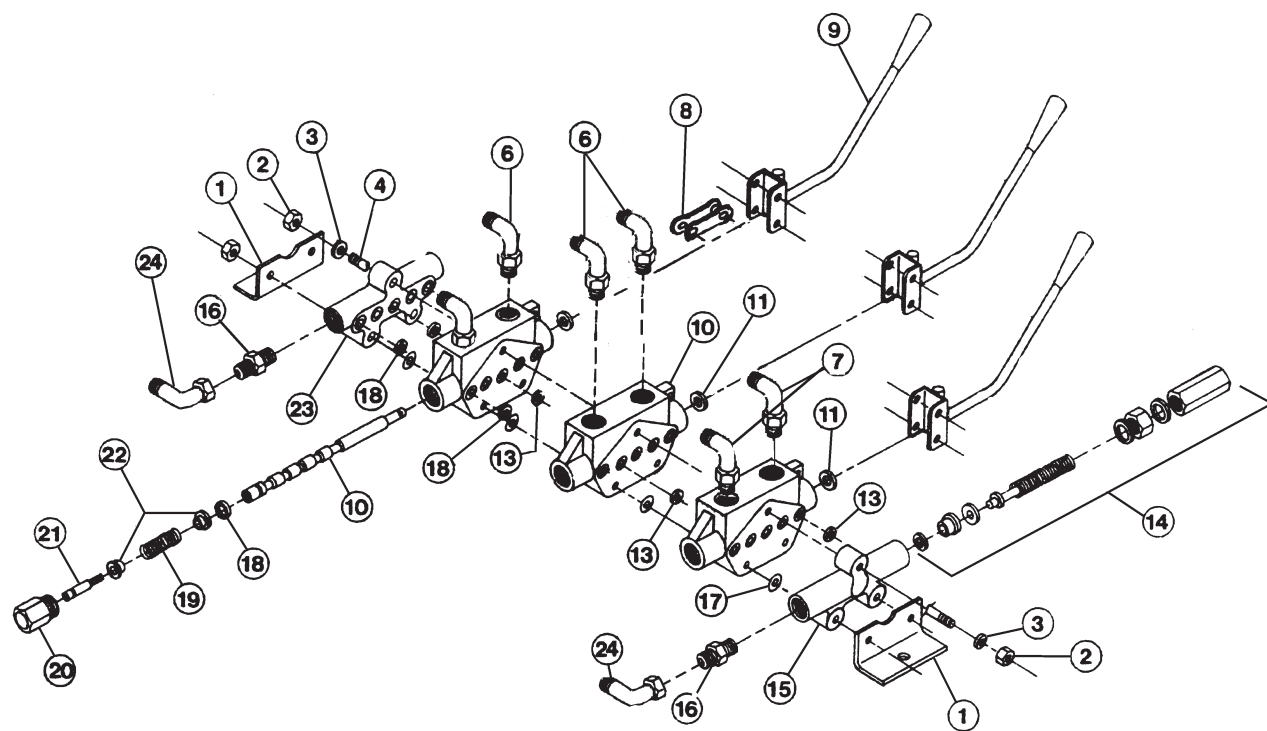
76-238 REAR WHEEL MOTOR DRAWING (14.5 CI)



76-238 REAR WHEEL MOTOR PARTS LIST (14.5 CI)

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|--|--------------------------------------|----------|
| 1* | | Water & Dirt Seal | 1 |
| 2† | 13-615-05 | Service Housing Assembly | 1 |
| 3* | | Inner Seal | 1 |
| 4† | 13-032-27 | Thrust Bearing | 1 |
| 5† | 13-032-28 | Inner Bearing | 1 |
| 6 | 13-032-29 | Thrust Bearing | 1 |
| 7 | 76-238-03 | Drive Link | 1 |
| 8* | | Ring Seal | 5 |
| 9 | 13-032-31 | Manifold | 1 |
| 10 | 13-032-32 | Commutator Assembly (matched set) | 1 |
| 11 | 13-032-33 | End Cover | 1 |
| 12 | 76-238-01 | Bolt | 7 |
| 13* | | Commutator Seal (matches with #10) | 1 |
| 14 | 76-238-02 | Rotor Set (matched set) | 1 |
| 15 | 13-032-35 | Plate Wear | 1 |
| 16 | 13-615-04 | Coupling Shaft | 1 |
| | HWK-516-100 | Woodruff Key $\frac{5}{16} \times 1$ | 1 |
| | 14-265 | Nut 1 - 20 | 1 |
| 17† | 13-032-37 | Thrust Washer | 2 |
| 18* | | Backup Washer | 1 |
| 19* | | Backup Washer | 1 |
| 20† | 13-032-38 | Outer Bearing | 1 |
| * | 14-080 | Seal Kit | 1 |
| † | Included in 13-615-05 Service Housing Assembly | | |

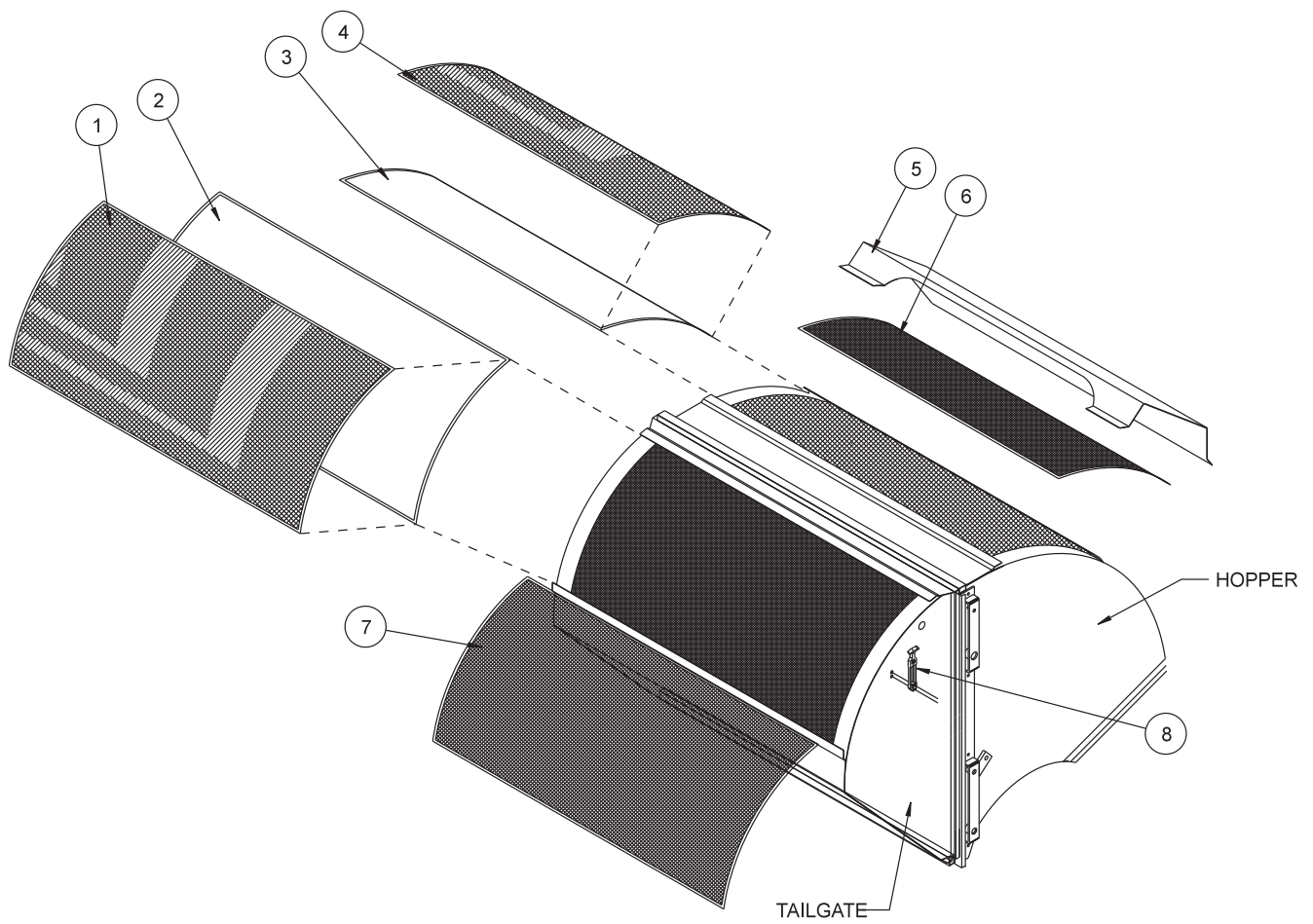
76-023 3-BANK HYDRAULIC VALVE DRAWING



76-023 3-BANK HYDRAULIC VALVE PARTS LIST

| REF# | PART# | DESCRIPTION | QUANTITY |
|------|-----------|---|--------------|
| 1 | 76-023-03 | Mounting Bracket | 2 |
| 2 | HN-516-18 | Hex Nut ⁵ / ₁₆ - 18 | 6 |
| 3 | HW-14 | Washer ¹ / ₄ | 2 |
| 4 | 76-023-06 | Tie Rod | 3 |
| 6 | 18-188 | Elbow 45° | 4 |
| 7 | 18-168 | Elbow 90° | 2 |
| 8 | | Linkage (comes with handle) | |
| 9 | 76-309 | Valve Handle (sold as a set of 3) | 1 |
| | 76-125-01 | Knob | 1 per handle |
| 10 | 76-023-07 | Body and Spool (matching set) | 3 |
| 11* | | In-body O-Ring | 3 |
| 13* | | O-Ring | 15 |
| 14 | 76-023-08 | Inlet Kit (load check and relief, 2000 psi) | 1 |
| 15 | | Inlet with Load Check | 1 |
| 16 | 18-169 | Adapter | 2 |
| 17* | | Mylar Shim | 9 |
| 18* | | O-Ring | 3 |
| 19 | | Spring (type 10 spool) | 3 |
| 20 | 76-023-01 | Spring Cap | 3 |
| 21 | 76-023-02 | Spring Shaft | 3 |
| 22 | 76-023-09 | Spring Guide | 6 |
| 23 | 76-023-10 | Outlet Open Center | 1 |
| 24 | 18-214 | Elbow 45° | 2 |
| | | | |
| * | 14-096 | O-Ring Seal Kit (includes all * items) | 1 |

76-271 DUST/DIRT FILTRATION SYSTEM

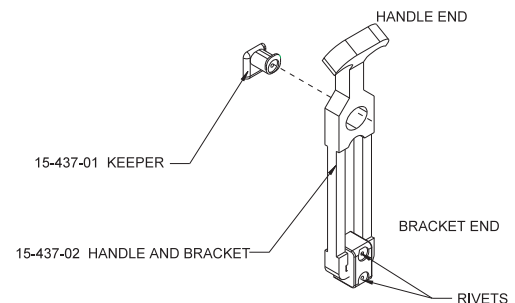


76-271 DUST/DIRT FILTRATION SYSTEM

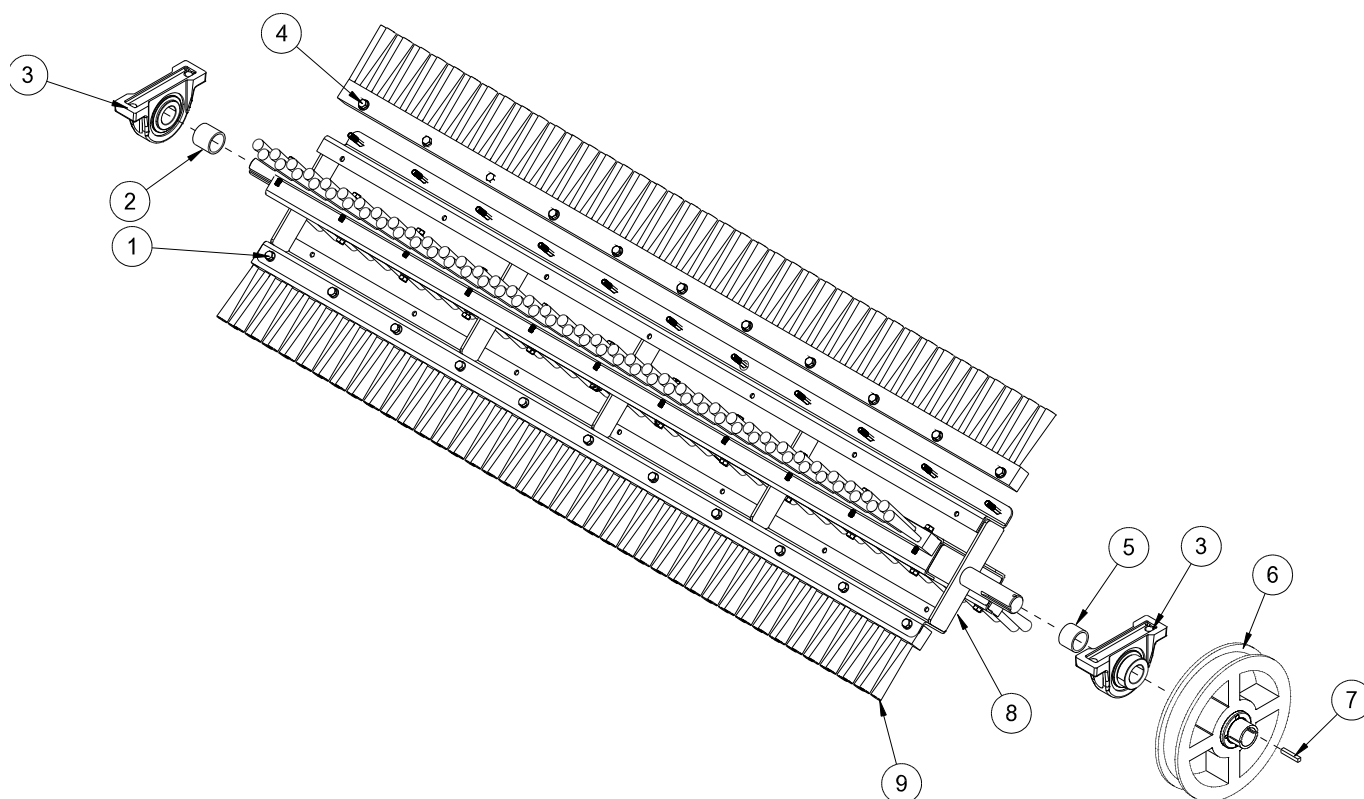
| REF# | PART# | DESCRIPTION | QUANTITY |
|------|--------------|---|----------|
| 1* | 76-249 | Tailgate Screen for Filter (28 x 58) | 1 |
| | *15-437-01 | Keeper | 2 |
| | HRS-316-1125 | Steel Rivet $\frac{3}{16} \times 1\frac{1}{8}$ | 2 |
| 2* | 76-247 | Tailgate Filter (28 x 57) | 1 |
| 3* | 76-246 | Hopper Filter (24 x 57) | 1 |
| 4* | 76-248 | Hopper Screen for Filter (24 x 28) | 1 |
| | *15-437-01 | Keeper | 2 |
| 5 | 76-263 | Hopper Screen Cover (Serial Number 1000-1497) | 1 |
| | 76-359 | Hopper Screen Cover (Serial Number 1498 and Up) | 1 |
| 6 | 76-261 | Hopper Screen | 1 |
| 7 | 76-262 | Tailgate Screen | 1 |
| 8 | *15-437-02 | Handle and Bracket | 4 |
| | HRS-316-1125 | Steel Rivet $\frac{3}{16} \times 1\frac{1}{8}$ | 8 |
| * | 15-437 | Latch (comes with 15-437-01 and 15-437-02) | 2 |

INSTALLATION INSTRUCTIONS

1. If your sweeper has a latch (Ref 8) on the tailgate screen, release the latch.
2. There is enough rubber trim to place on each short ends of the hopper and tailgate screens. This will make a tighter seal. Do this before installing screens.
3. Remove tailgate screen (Ref 7) from tailgate. Unwedge the top and lift out of the bottom tab.
4. If your machine does not have the latch, please install it using the two steel $\frac{3}{16} \times 1\frac{1}{8}$ rivets we provide.
5. First, place the cloth filter (Ref 2) onto the tailgate screen, then place tailgate filter screen (Ref 1) over the top of the cloth filter by placing the screen in to the bottom tab and wedging it into the top tab. The keeper part of the latch is already riveted onto the tailgate filter screen.
6. Place the handle and bracket onto the keeper and bend over the side of the tailgate to the desired tension, mark where the two holes from the handle and bracket line up on the tailgate side panel.
7. You need to drill two $\frac{3}{16}$ holes where your marks are, approximately centered on the curve and 1" from edge of material, on each tailgate side.
8. Release handle end from keeper and place bracket end of latch handle over holes you drilled, attach with two steel rivets.
9. Do this too both sides.
10. Remove the hopper screen cover (Ref 5) by unwedging the top and pulling it out of the bottom tab. You cannot use this cover with the filtration kit.
11. Remove the hopper screen (Ref 6) from the hopper by unwedging the top and pulling it out the bottom tab.
12. Place the cloth filter (Ref 3) onto the hopper, then place the hopper filter screen (Ref 4) over the top of the cloth filter by placing the screen in to the bottom tab and wedging it into the top tab.



76-488 FRENCH BRUSH REEL KIT



| REF | PART# | DESCRIPTION | QUANTITY |
|-----|---------------|---|----------|
| 1 | HB-516-18-175 | Bolt $\frac{5}{16}$ - 18 x $1\frac{3}{4}$ | 44 |
| | HW-14 | Washer $\frac{1}{4}$ | 44 |
| 2 | 75-686 | Spacer | 1 |
| 3 | 75-511 | Pillow Block | 2 |
| 4 | HNTL-516-18 | Lock Nut $\frac{5}{16}$ - 18 | 44 |
| 5 | 75-834 | Spacer | 1 |
| 6 | 76-102 | Pulley with Hub | 1 |
| | 76-102-01 | Hub Only | |
| 7 | HKSQ-14-150 | Square Key $\frac{1}{4}$ x $1\frac{1}{2}$ | 1 |
| 8 | 76-456 | Brush Reel Frame | 1 |
| 9 | 76-455 | Brush | 4 |

This is a list of decals located on the Sweep Star 60. Part number, description and location will help in reordering decals.

| | | |
|---------|----------------------------------|--|
| 16-088* | Moving Parts Hot | Belt Guard |
| 13-690 | Diesel | Side Panel (diesel only) |
| 25-078 | Caution No Riders | Engine Cover |
| 25-277* | Alternator/Battery | Under Seat on Hopper Panel |
| 25-286 | Pinch point | On Each Side Bottom Tailgate |
| 25-307* | Gasoline | Console Back Above Fuel Tank (gas only) |
| 25-313* | Slope 10° Max | Nose Cone |
| 25-320* | Load Limit | Left Hopper Front |
| 25-321 | Diesel Fuel Only | Console Back Above Fuel Tank (diesel only) |
| 25-352 | By Pass valve | Hang Tag |
| 25-355 | Tire Pressure 18 psi | Rear Wheels |
| 25-356 | Tire Pressure 20 psi | Front Wheel and Castor Wheel |
| 25-359 | Smithco | Tailgate |
| 25-362 | Danger Fire | Hopper |
| 25-376 | 98 dBA | Console |
| 27-077 | Round Smithco | Steering Wheel |
| 27-093* | Hydraulic Oil Level | Console Back Above Hydraulic Tank |
| 30-117 | Ultra Fuel | Fuel Tank (diesel only) |
| 34-147 | Smithco Star | Front Nose Cone |
| 75-651 | Hopper Lift Safety | Hopper Lift Safety Bar |
| 76-417 | Sweep Star 60 | One each Side of Hopper |
| 76-199 | Control Panel | Control Panel (gas only) |
| 76-245 | Reel Height | Right Tower on Front |
| 76-304* | Crush/Pinch | Right and Left Hopper Front |
| 76-305* | Rotating Parts | Right and Left Sides of Grass Chute |
| 76-306* | Attachment Clutch | Engine Cover (diesel only) |
| 76-307* | Tower Warning | Left and Right Towers |
| 76-315* | Belt Routing | Behind Belt Guard |
| 77-178 | Control Panel | Control Panel (diesel only) |
| 48-136 | Decal, Sweeper Set (all * items) | |
| 76-744 | Decal Set CE | |

QUICK REFERENCE REPLACEMENT PARTS

REPLACEMENT FILTERS

| | | |
|-----------|-------------------------|-----------------|
| 23-031 | Hydraulic Oil Filter | |
| 76-487 | Engine Oil filter | Briggs # 842921 |
| 76-395-01 | Air Cleaner Cartridge | Briggs # 841497 |
| 76-395-02 | Safety Filter Cartridge | Briggs # 821136 |
| 50-403 | Fuel Filter | |

REPLACEMENT FILTERS KUBOTA ENGINE

| | | |
|-----------|--|----------------------|
| 17-255 | Oil Filter Cartridge | |
| 77-213 | Air Cleaner Element (steel canister) | Kubota# 70000-11221 |
| 42-076-03 | Air Cleaner Element (plastic canister) | |
| 77-214 | Fuel Filter Assembly | Kubota# 19204-43013 |
| 17-043 | Fuel Filter Element | Kubota# 15231-4356-0 |

REPLACEMENT BELTS

| | | |
|--------|------------------|---------------------|
| 76-200 | Finger Reel Belt | 2/A74 |
| 77-212 | Kubota Fan Belt | Kubota# 15881-97011 |

SEAL KITS

| | | |
|-----------|---------------------------|--|
| 76-023 | 3-Bank Hydraulic Valve | |
| 14-096 | O-Ring Seal Kit | |
| 76-398 | Hydrostatic Pump (Gas) | |
| 77-239 | Hydrostatic Pump (Diesel) | |
| 77-239-22 | Seal Kit | |
| 76-197 | Gear Pump | |
| 76-197-08 | Seal Kit | |
| 76-238 | Wheel Motor | |
| 14-080 | Seal Kit | |
| 76-242 | Hydraulic Cylinder | |
| 76-242-01 | Seal Kit | |
| 77-263 | Hydraulic Cylinder | |
| 14-530 | Seal Kit | |
| 76-478 | Hydraulic Cylinder | |
| 14-531 | Seal Kit | |

FLUIDS

| | |
|------------------------------|--|
| Engine Oil Vanguard | SJ or Higher 10W-30 |
| Engine Oil Kubota CC/ CD/ CE | 10W-40 |
| Hydraulic Fluid | SJ or Higher 10W-40 |
| Anti-Freeze | Use permanent type mixed with water. The anti-freeze mixing ratio must be less than 50%. |

OTHER PARTS

| | | |
|--------|-------------------|--|
| 13-488 | Key Switch | |
| 17-068 | Key Switch Kubota | |
| | Spark Plugs | Champion® type RC 12 YC or Equivalent Gap 0.030 (.76 mm) Torque 18/22 ft. lbs (24.4/29.8 Nm) |

| | | |
|--------|--|--|
| 76-354 | 2 1/2 # ABC Dry Chemical Fire Extinguisher | |
|--------|--|--|

The Smithco Commercial Products Two-Year Limited Warranty

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

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.

