

SMITHCO

Wayne, Pennsylvania 19087

PARTS & SERVICE MANUAL

SWEEP STAR 48

**Low Dump & High Dump
Models 48-000 and 48-001**

Starting Serial #: GH or GL 4946

May, 2001

SMITHCO PRODUCT SUPPORT
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Thank you for purchasing a **SMITHCO** product.

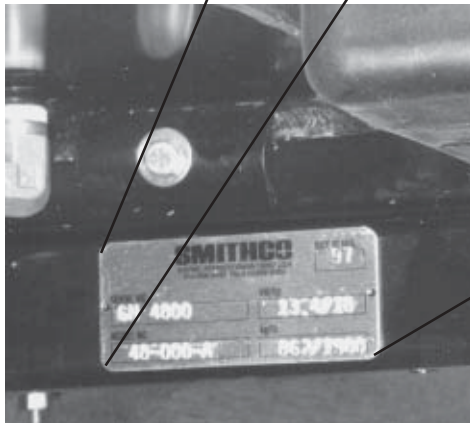
Read this manual and all other manuals pertaining to the Sweep Star 48 carefully as they have safety, operating, assembly and maintenance instructions. Failure to do so could result in personal injury or equipment damage.

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.

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 48 is located on the right main frame, in front of the oil and gas tanks. Refer to engine manual for placement of engine serial number.

For easy access record your Serial and Model numbers here.

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



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

SAFE PRACTICES

1. It is your responsibility to read this manual and all publications associated with this machine (engine, accessories and attachments).
2. Never allow anyone to operate or service the machine or its attachments without proper training and instructions. Never allow minors to operate any equipment.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears, hands and feet. Operate the machine only in daylight or in good artificial light.
5. Inspect the area where the equipment will be used. Beware of overhead obstructions and underground obstacles. Stay alert for hidden hazards.
6. Never operate equipment that is not in perfect working order or without decals, guards, shields, or other protective devices in place.
7. Never disconnect or bypass any switch.
8. Carbon monoxide in the exhaust fumes can be fatal when inhaled, never operate a machine without proper ventilation.
9. Fuel is highly flammable, handle with care.
10. Keep engine clean. Allow the engine to cool before storing and always remove the ignition key.
11. 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 stop or start suddenly on any slope.
 - C. Reduce speed on slopes and in sharp turns. Use caution when changing directions on slopes.
 - D. Stay alert for holes in the terrain and other hidden hazards.
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.

SPECIFICATIONS FOR SWEEP STAR 48 HIGH LIFT & GROUND DUMP

WEIGHTS AND DIMENSIONS	HIGH LIFT	GROUND DUMP
Length	121" (307 cm)	108" (274 cm)
Width	60" (153 cm)	60" (153 cm)
Height with Hopper Down	63" (160 cm)	63" (160 cm)
Height with Hopper Up	126" (320 cm)	na
Wheel Base	70" (179 cm)	70" (179 cm)
Weight	1800 lbs(818 kg)	1700 lbs(772 kg)
SOUND LEVEL (DBA)		
At ear level	90 dba	
At 3 ft (0.914 m)	91 dba	
At 30 ft (9.14 m)	76 dba	
ENGINE		
Make	Kohler	
Model#	TH18S	
Type / Spec#	PA-54517	
Horsepower	18 Hp (13.4 kw)	
Fuel	Unleaded 87 Octane	
	Gasoline Minimum	
Cooling System	Air Cooled	
Lubrication System	Full Pressure	
Alternator	15 Amp	
WHEELS & TIRE		
	Front: One 18 x 9.50 x 8 Multi-rib	
	Rear: Two 23 x 10.50 x 12 NHS (20 psi max)	
	Castor: 9 x 3.50 - 4	
BRAKES		
	Dynamic Through Hydrostat	
PARK BRAKE		
	Hand Operated Lever, Discs on Rear Axle	
SPEED		
Forward Speed	0 to 10 mph (0-16kph)	
Reverse Speed	0 to 4 mph (0-6 kph)	
BATTERY		
	12 Volt Automotive IBS type 45-50	
Cold Cranking Amps	48 minimum	
Ground Terminal Polarity	Negative (-)	
Maximum Length	9" (23cm)	
Maximum Width	5.38" (14cm)	
Maximum Height	9" (23cm)	
FLUID CAPACITY		
Crankcase Oil	See Engine Manual	
Fuel	5 gallon (19 liters)	
Hydraulic Fluid	5 gallon (19 liters)	
Grade of Hydraulic Fluid	SAE 10W-40 API Service SG Motor Oil	

OPTIONAL EQUIPMENT

- 48-084 48" Brush Reel Kit (includes pillow blocks and pulley drive)
- 48-085 48" Finger Reel Kit (includes pillow blocks and pulley drive)
- 48-120 Dust and Filtration pack - High lift
- 48-121 Dust and Filtration Pack - Ground Dump





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



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

LUBRICATION

Use No. 2 General Purpose Lithium Base Grease and lubricate every 100 hours. The Sweep Star 48 has eleven grease fittings.

- One on the top of each tower. (High Lift Only)
- One on the center of park brake relay on rear axle.
- One on hydrostatic pedal under the floorboard.
- One on the pillow block bearing on each end of finger/brush reel.
- One on castor wheel mount bracket.
- One on reel clutch relay.
- One on reel clutch belt tightener.
- One on rod end of the tailgate cylinder. (High Lift Only)

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 surfaces are clean and free of any foreign material, and that the pump is correctly aligned.

HYDRAULIC OIL

1. Use SAE 10W-40 API Service SG motor oil.
2. For proper warranty, change oil every 500 hours or annually, whichever is first and change the filter after the first 20 hours, then at 100 hours, then every 250 hours thereafter.
3. The oil level should be 2" to 2¹/₂" (5 - 6.4 cm) from top of fill neck 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 SG when hot (above 90°F (33°C)) and SAE 10W API Service SG 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 and rear tires and castor wheel should be 20 psi (1.4bar) maximum. Improper inflation will reduce tire life considerably.

WHEEL MOUNTING PROCEDURE

REAR WHEELS

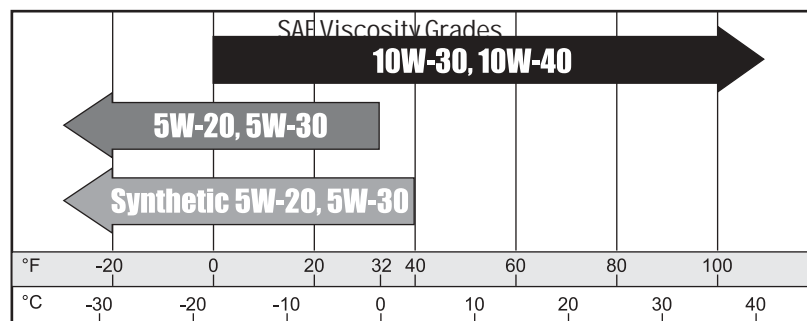
1. Set park brake. Turn machine off and remove key.
2. Block one of the other wheels.
3. Loosen nuts slightly on wheel to be removed.
4. Jack up machine being careful not to damage underside of machine.
5. Remove nuts, remove wheel.
5. Place new wheel on hub lining up bolt holes.
6. Torque nuts to 64-74 ft/lb (87-100Nm) using a cross pattern. Retorque after first 10 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 (87-100Nm) using a cross pattern. Retorque after first 10 hours and every 200 hours thereafter.
9. Place wheel back on front fork. Tighten all bolts.
10. Lower machine to ground and remove blocks and jack.

ENGINE OIL

Change and add oil according to charts below. Do not overfill. Use a high quality detergent oil. For Kohler engine use oil classified "For Service SG or SH".



Starting Temperature Range Anticipated Before Next Oil Change

MAINTENANCE (CONTINUED)

BATTERY

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

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

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

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

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



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

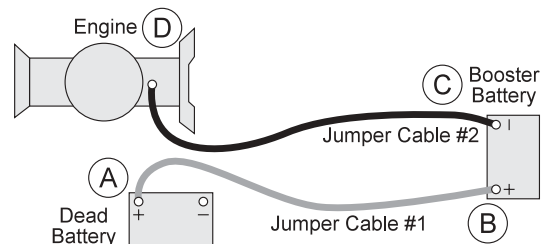
JUMP STARTING



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.

TOWING

When it is necessary to move the Sweep Star 48 without engine running, the by-pass valve built into hydrostatic pump must be "open" by turning it counter-clockwise. 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. Tow slowly. 2 mph or less.

The by-pass valve is a $\frac{3}{8}$ diameter shaft with a $\frac{11}{64}$ hole for inserting something for leverage so you can turn it. On the high lift it is on the top of the hydrostatic. On the ground level dump it is on the bottom of the hydrostatic.

FILTER PACK

Filter pack can be removed and cleaned by shaking or use a low pressure water hose. Filter will disintegrate if cleaned under high pressure.

TAILGATE

Must raise hopper to open and close tailgate to disengage the locks.



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.

	Daily	As Required	100 Hours	200 Hours	250 Hours	300 Hours	400 Hours	Every 500 Hours/Yearly
§ Engine Oil	C		R	R		R	R	R
§ Engine Oil Filter				R			R	R
Engine for Leaks and Loose Parts	C		C	C		C	C	C
¤ Air Cleaner (Paper Element)		C	C	C		C	C	R
¤ Pre-Cleaner (Every 25 hours)		C	C	C	C	C	C	R
‡ Spark Plugs		R		C			C	R
Idle Speed					C			C
£ Air Cooling System		C	C	C		C	C	C
Belts and Hoses	C				C			C
* Tire Pressure	C		C	C		C	C	C
Fuel Level	C	C						
Fuel Filter		R						R
Hydraulic Oil	C		C	C		C	C	R
**Hydraulic Oil Filter					R			R
Hydraulic System for Leaks and Loose Parts	C		C	C		C	C	C
Battery Electrolyte Level			C	C		C	C	C
Clean Battery Terminals					C			C
† Torque Lug Nuts				C			C	C
Lubricate			C	C		C	C	C
Lubricate Splines on Hydrostatic Pump	Every 500 hours							

C=Check or Clean at specified intervals

R=Replace at specified intervals

* Tire pressure: 20 psi (1.4 bar) maximum on all.

† Torque tire nuts after the first 10 hours and every 200 hours there after (64 to 74 ft/lb (87-100Nm))

§ Change Oil and Filter after first 5 hours.

¤ Clean more often under dusty conditions or when airborne debris is present , replace air cleaner parts, if very dirty.

£ Remove cooling shrouds and clean cooling areas more frequently under extremely dusty and dirty conditions.

‡ Gap .030 (.76 mm) Torque to 18-22 ft/lb (24-30 Nm)

** Replace hydraulic filter after first 20, 100, and every 250 thereafter.

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.



END USERS SERVICE CHART

	Daily	As Required	100 Hours	200 Hours	250 Hours	300 Hours	400 Hours	Every 500 Hours/Yearly
§ Engine Oil								
§ Engine Oil Filter								
Engine for Leaks and Loose Parts								
α Air Cleaner (Paper Element)								
α Pre-Cleaner (Every 25 hours)								
‡ Spark Plugs								
Idle Speed								
£ Air Cooling System								
Belts and Hoses								
* Tire Pressure								
Fuel Level								
Fuel Filter								
Hydraulic Oil								
**Hydraulic Oil Filter								
Hydraulic System for Leaks and Loose Parts								
Battery Electrolyte Level								
Clean Battery Terminals								
† Torque Lug Nuts								
Lubricate								
Lubricate splines on Hydrostatic Pump								

C=Check or Clean at specified intervals

R=Replace at specified intervals

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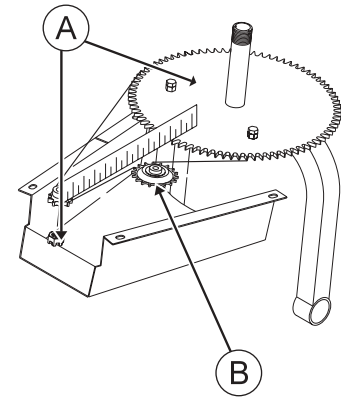
‡ Gap .030 (.76 mm) Torque to 18-22 ft/lb (24-30 Nm)

**** Replace hydraulic filter after first 20, 100, and every 250 thereafter.**

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.

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 the rear of the brake cable to adjust length of cable. Do not adjust the clevis on the front of the machine.



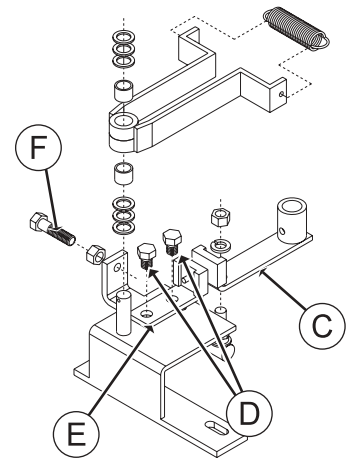
STEERING CHAIN ADJUSTMENT

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. Below seat of machine, on the bottom of the hydrostatic transmission is the shift arm (C). Loosen bolts (D).
3. With engine running, move stop (E) so it moves shift arm (C) to center and wheel creep stops.
4. Tighten all fasteners and test by using foot pedal linkage to see that the 'creep' is removed.
5. The reverse speed is controlled by bolt (F). Turn clockwise to reduce reverse speed and counter clockwise to increase speed.
6. Turn the engine off and lower the machine.



RUBBER FINGERS AND NYLON BRUSHES

In normal use, rubber fingers and nylon brushes wear out and require replacement. They will break, dislodge, and wear pre-maturely if used in less than ideal conditions.

STORAGE

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

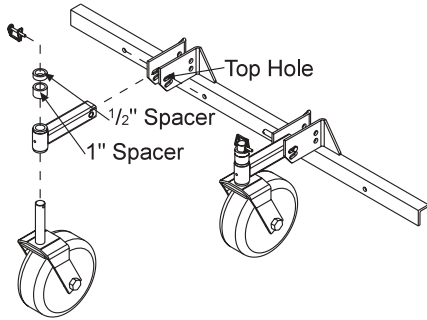
1. Before storing clean machine thoroughly.
2. Check bolts and nuts, tighten as necessary.
3. Make all repairs that are needed and remove any debris.
4. Remove the battery, adjust the electrolyte level and recharge it. Store the battery in a dry, dark place.
5. Store in a clean and dry area, but NOT 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.

REEL HEIGHT ADJUSTMENT

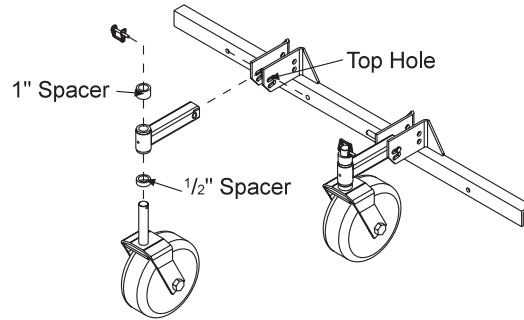
Below are the various ways that the Sweep Star 48 castor wheels can be adjusted to accommodate for the finger/brush reel height. By changing the two spacers around on the castor wheel fork you can experience a range of ground clearances on the finger/brush reel. Keep both castor wheels at the same height.



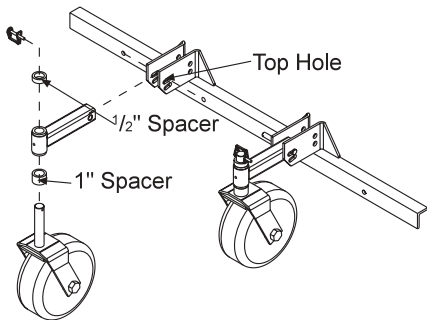
These clearances change as the brush and finger reels wear.



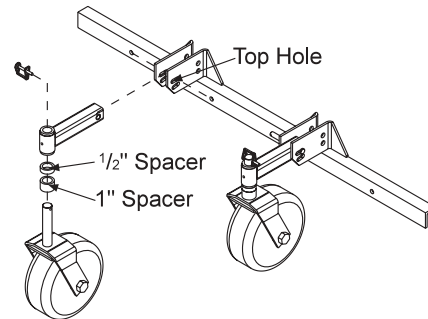
No Spacer
 Top Hole
Ground Clearance
 Brush Reel $\frac{7}{8}$ "
 Finger Reel $\frac{1}{2}$ "



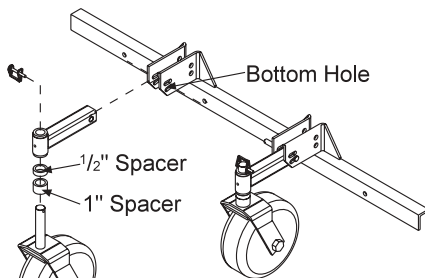
$\frac{1}{2}$ " Spacer
 Top Hole
Ground Clearance
 Brush Reel $\frac{3}{4}$ "
 Finger Reel $1\frac{1}{8}$ "



1" Spacer
 Top Hole
Ground Clearance
 Brush Reel $\frac{5}{8}$ "
 Finger Reel $1\frac{1}{4}$ "

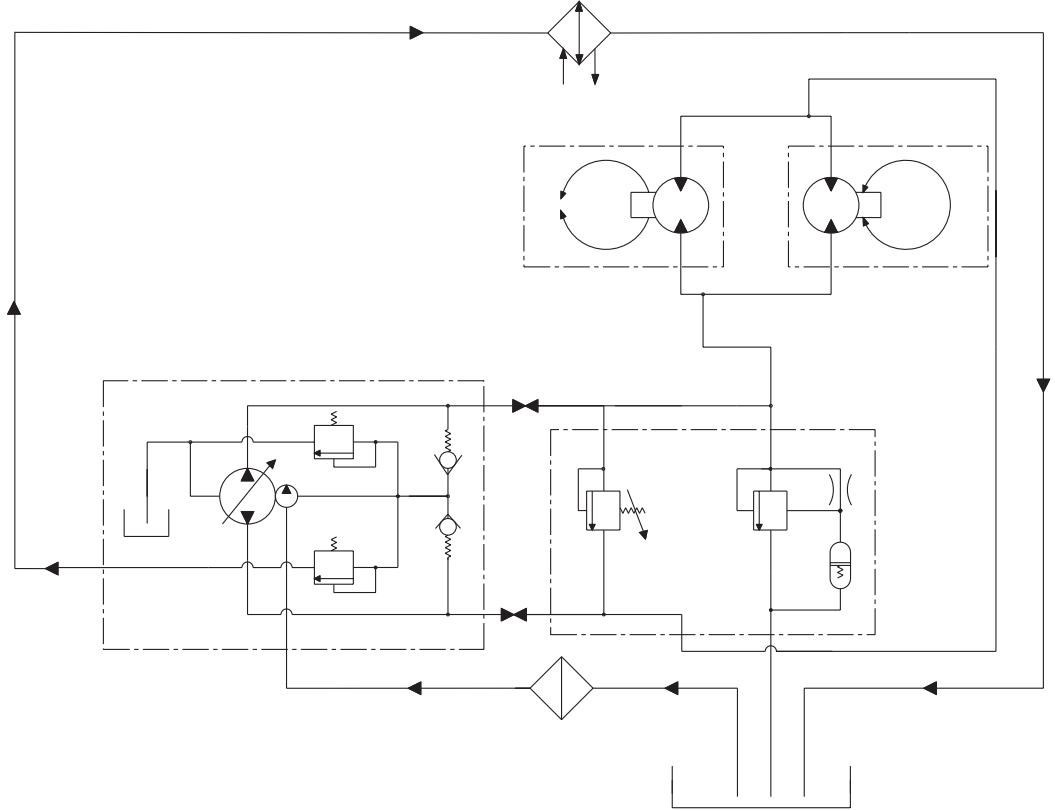


1" Spacer
 $\frac{1}{2}$ " Spacer
 Top Hole
Ground Clearance
 Brush Reel $1\frac{1}{8}$ "
 Finger Reel $1\frac{7}{16}$ "



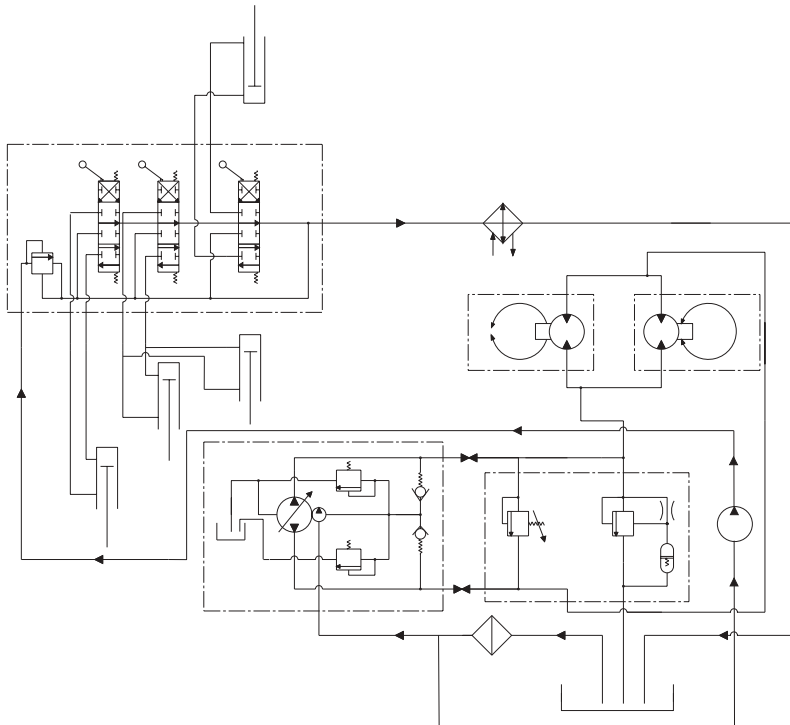
1" Spacer (2 per)
 $\frac{1}{2}$ " Spacer (1 per)
 Bottom Hole
Ground Clearance
 Brush Reel $1\frac{1}{2}$ "
 Finger Reel $1\frac{7}{8}$ "

GROUND DUMP HYDRAULIC SCHEMATIC



Diagrams

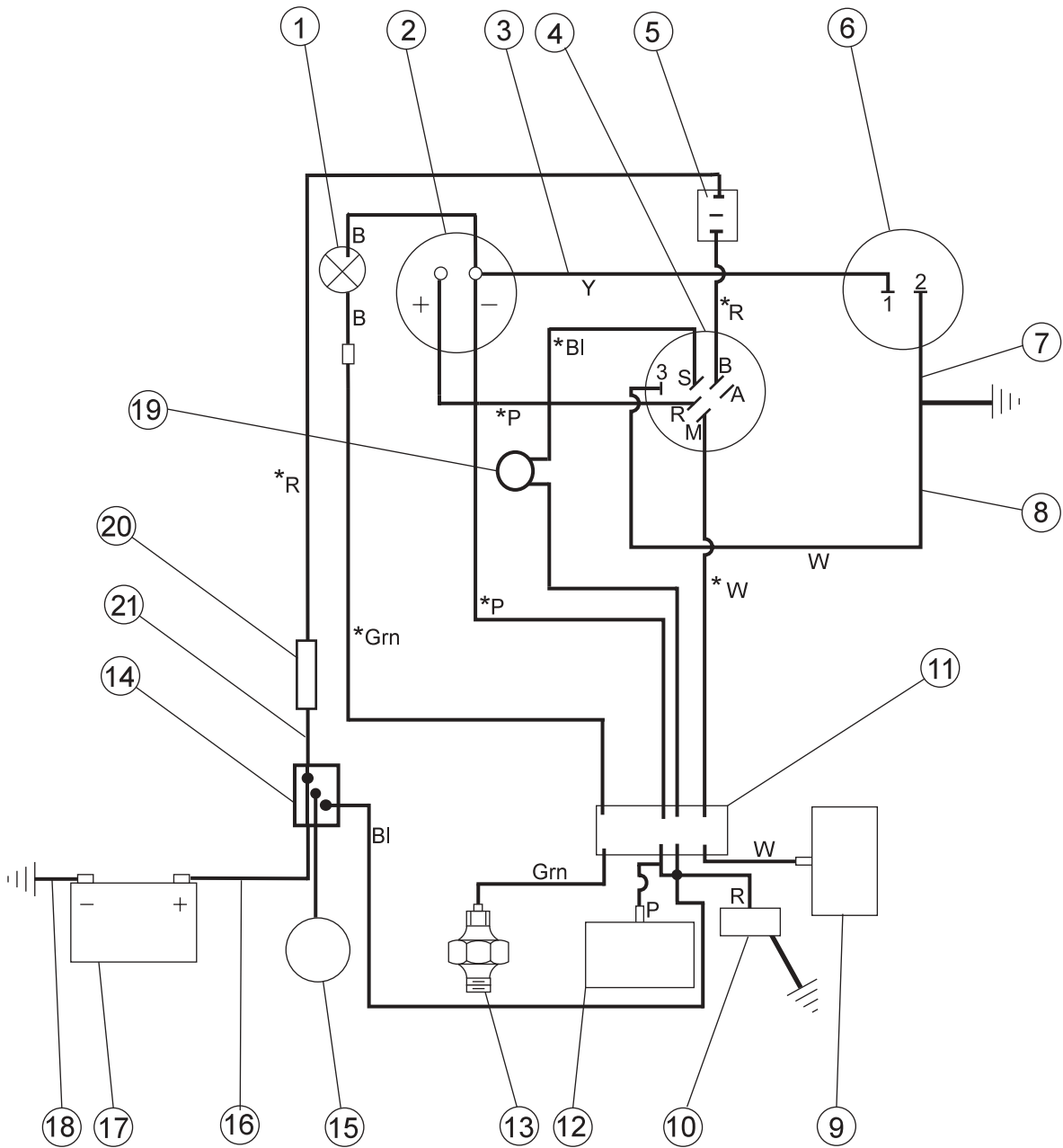
HIGH LIFT HYDRAULIC SCHEMATIC



WIRING DIAGRAM

Color Code Chart

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



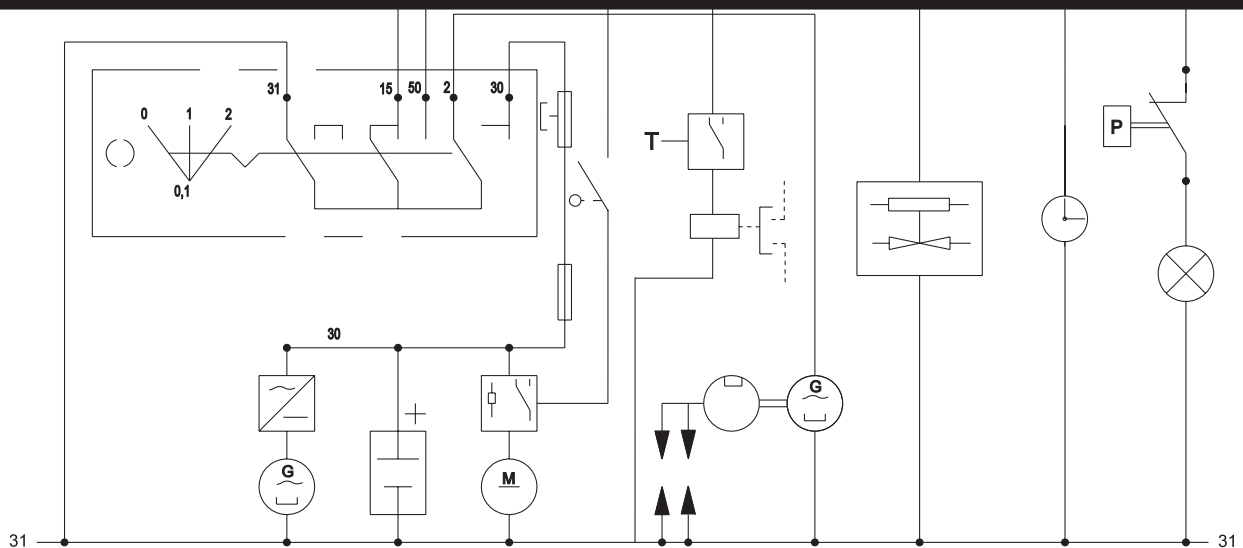
Diagrams

WIRING DIAGRAM PARTSLIST

REF#	PART#	DESCRIPTION	QUANTITY
1	50-359	Oil Pressure Warning Indicator Light	1
2	22-003	Ammeter	1
3	76-269	Power Wire to Hour Meter	
4	13-288	Key Switch with Hardware	1
	76-310	Key Set	1
5	34-146	Panel Mount Circuit Breaker	1
	34-145	Circuit Breaker Boot	1
6	12-017	Hour Meter	1
7	76-259	Ground Wire for Hour Meter	1
8	76-260	Ground Wire for Ignition Switch	1
9		Ignition Module (Part of Engine)	
10		Fuel Shut-Off Solenoid (Part of Engine)	
11		Plug-In Connector (Wire Harness & Engine Wire Harness)	
12		Rectifier (Part of Engine)	
13		Oil Sender (Part of Engine)	
14	42-113	Cranking Relay (Part Of Engine)(Kohler #25 435 02)	
15		Starter (Part of Engine)	
16	48-157	Red Battery Cable	1
	8892-21	Hose Wrap	1
17	22-073	Battery	1
	48-166	Battery Holddown	2
18	48-147	Black Battery Cable	1
19	22-002	Interlock Switch	1
20	8975	30 Amp Curcuit Breaker	1
	8977	Circuit Breaker Boot	1
21	48-144	Circuit Breaker Wire	1
*	76-325	Wire Harness (Includes all wire colors with *)	1

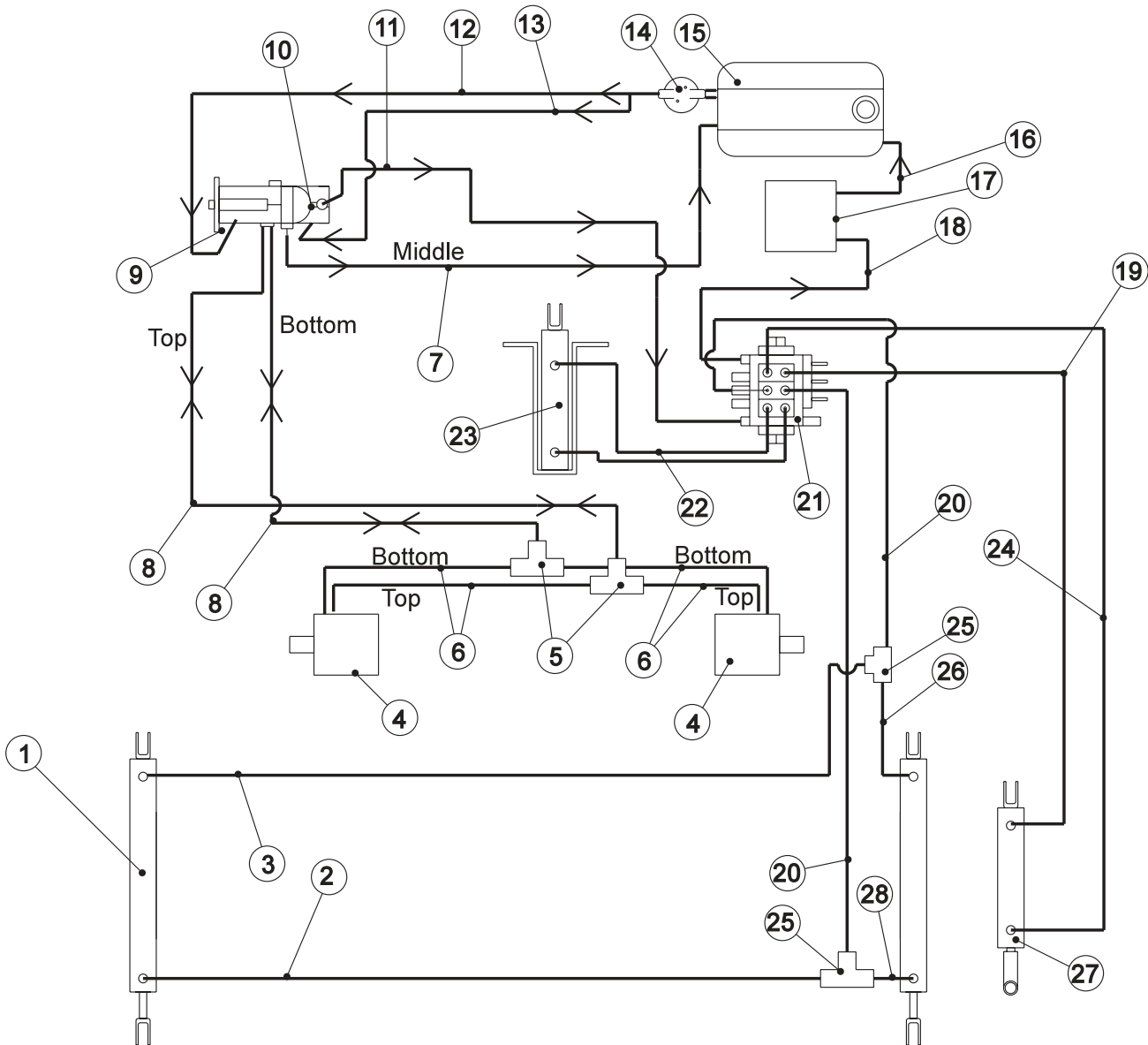
Diagrams

WIRING SCHEMATIC



0		31	15	2
1			15	30
2			50	30

HYDRAULIC DIAGRAM (HIGH LIFT)



76-023 3-Bank Hydraulic Valve
Relief Valve set at 2000 PSI(137.93 Bar)

76-322 Hydrostat Pump
Displacement Variable to .913 in³/R(15 cc³/R)
14.23 GPM(53.85LPM) at 3600 RPM
Max Operating Speed 3600 RPM
Rated Pressure 3000 PSI(206.8 Bar)
Max Pressure 4500 PSI(310 Bar)
Max Inlet Vacuum 5 in Hg(.17 Bar)
Max Inlet Temperature 220°F(104°C)
Max Allowable Case Pressure 25 PSI(1.72 Bar)

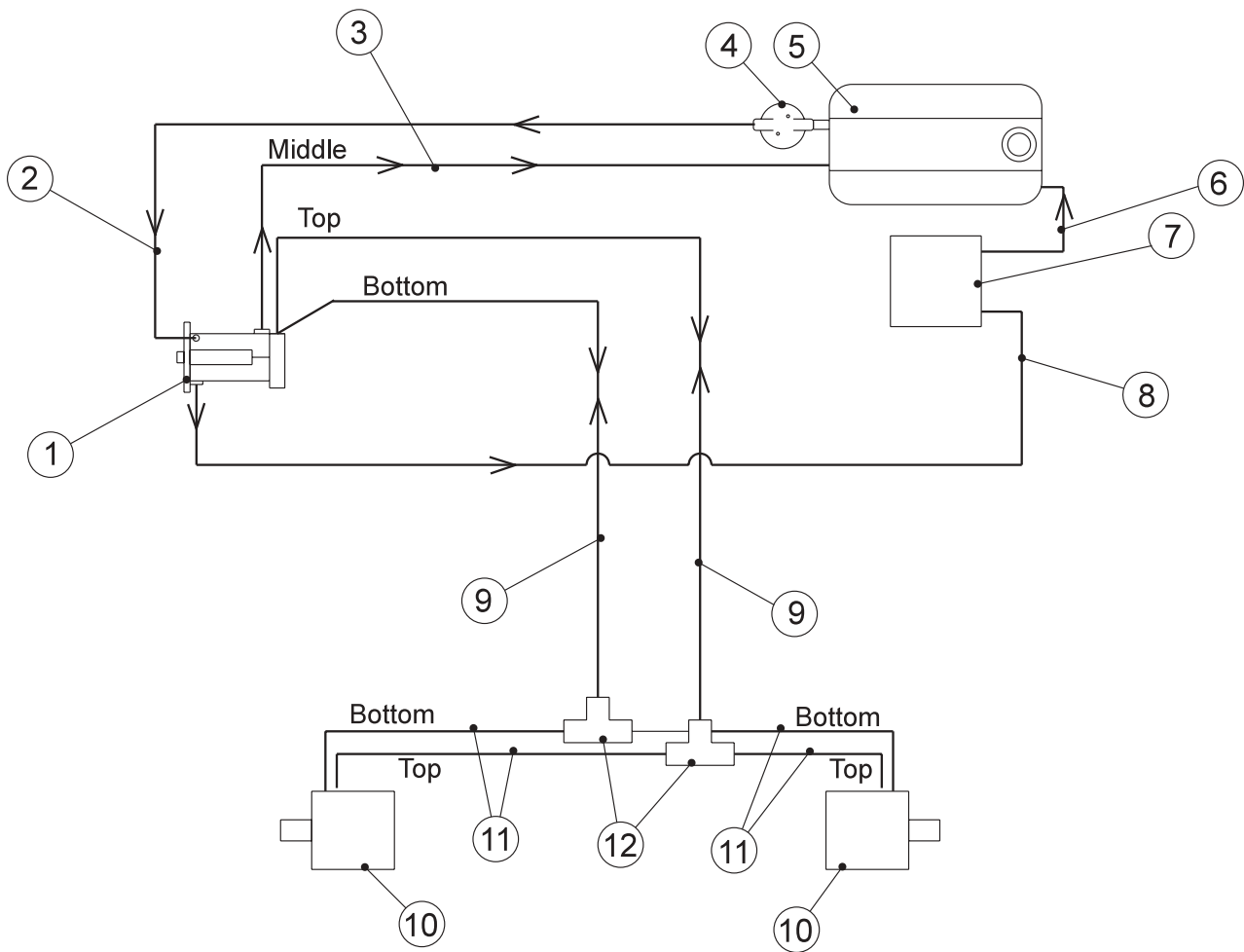
76-323 Gear Pump
Displacement .366 in³/R(6 cm³/R) 5.7GPM(21.6 IPM)

HYDRAULIC DIAGRAM PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	76-242	Hydraulic Cylinder	2
2	48-012	Hydraulic Hose	1
3	48-013	Hydraulic Hose	1
4	76-321	Wheel Motor	2
5	34-057	Tee	2
6	48-015	Hydraulic Hose	4
7	8810-19	Hose $\frac{5}{8}$ ID	1
	18-077	Hose Clamp	2
	8895-22	Hose Wrap 22"	1
	18-222	Hose Clamp	2
8	48-016	Hydraulic Hose	2
	8895-44	Hose Wrap 44"	2
	18-222	Hose Clamp	4
9	76-322	Hydrostatic Pump	1
10	76-323	Gear Pump	1
11	48-020	Hydraulic Hose	1
	8895-40	Hose Wrap 40"	1
	18-222	Hose Clamp	2
12	8810-07	Hose $\frac{5}{8}$ ID x 7"	1
	18-077	Hose Clamp	2
	8895-8	Hose Wrap 8"	1
	18-222	Hose Clamp	2
13	8832-19	Hose $\frac{3}{4}$ ID x 19"	1
	18-040	Hose Clamp	2
	8895-22	Hose Wrap 22"	1
	18-222	Hose Clamp	2
14	48-083	Oil Filter	1
	48-083-01	Filter Element (replacement only)	1
15	48-135	Oil Tank	1
16	48-062	Hydraulic Hose	1
	8895-67	Hose Wrap 67"	1
	18-222	Hose Clamp	2
17	34-105	Oil Cooler	1
18	48-021	Hydraulic Hose	1
	8895-92	Hose Wrap 92"	1
	18-222	Hose Clamp	2
19	48-018	Hydraulic Hose	1.
	8895-73	Hose Wrap 73"	1
	18-222	Hose Clamp	2
20	76-115	Hydraulic Hose	2
	8895-74	Hose Wrap 74"	2
	18-222	Hose Clamp	4
21	76-023	3-Bank Hydraulic Valve	1
22	48-019	Hydraulic Hose	2
	8895-54.5	Hose Wrap 54.5"	2
	18-222	Hose Clamp	4
23	75-634	Hydraulic Cylinder	1
24	48-017	Hydraulic Hose	1
	8895-73	Hose Wrap 73"	1
	18-222	Hose Clamp	2
25	18-173	Tee $\frac{3}{8}$ Junction Union	2
26	48-014	Hydraulic Hose	1
27	75-714	Hydraulic Cylinder	1
28	27-065	Hydraulic Hose	1

HYDRAULIC DIAGRAM (GROUND DUMP)

Diagrams



HYDRAULIC DIAGRAM PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	42-003	Hydrostatic Pump	1
2	8917-17	Hose $\frac{3}{4}$ ID	1
	18-077	Hose Clamp	2
	8895-20	Hose Wrap 20"	1
	18-222	Hose Clamp	2
3	8810-19	Hose $\frac{5}{8}$ ID	1
	18-077	Hose Clamp	2
	8895-34.5	Hose Wrap 34.5"	1
	18-222	Hose Clamp	2
4	23-006	Oil Filter	1
	23-031	Filter Element (replacement only)	1
5	48-135	Oil Tank	1
6	48-060	Hydraulic Hose	1
	8895-73.5	Hose Wrap 73.5"	1
	18-222	Hose Clamp	2
7	34-105	Oil Cooler	1
8	76-104	Hydraulic Hose	1
	8895-20	Hose Wrap 20"	1
	18-222	Hose Clamp	2
9	48-016	Hydraulic Hose	2
	8895-60	Hose Wrap 60"	2
	18-222	Hose Clamp	4
10	76-321	Wheel Motor	2
11	48-015	Hydraulic Hose	4
12	34-057	Tee	2

42-003 Hydrostat Pump
Displacement

Variable to .913 in³/R(15 cc³/R)
14.23 GPM(53.85LPM) at 3600 RPM

Max Operating Speed

3600 RPM

Rated Pressure

3000 PSI(206.8 Bar)

Max Pressure

4500 PSI(310 Bar)

Max Inlet Vacuum

5 in Hg(.17 Bar)

Max Inlet Temperature

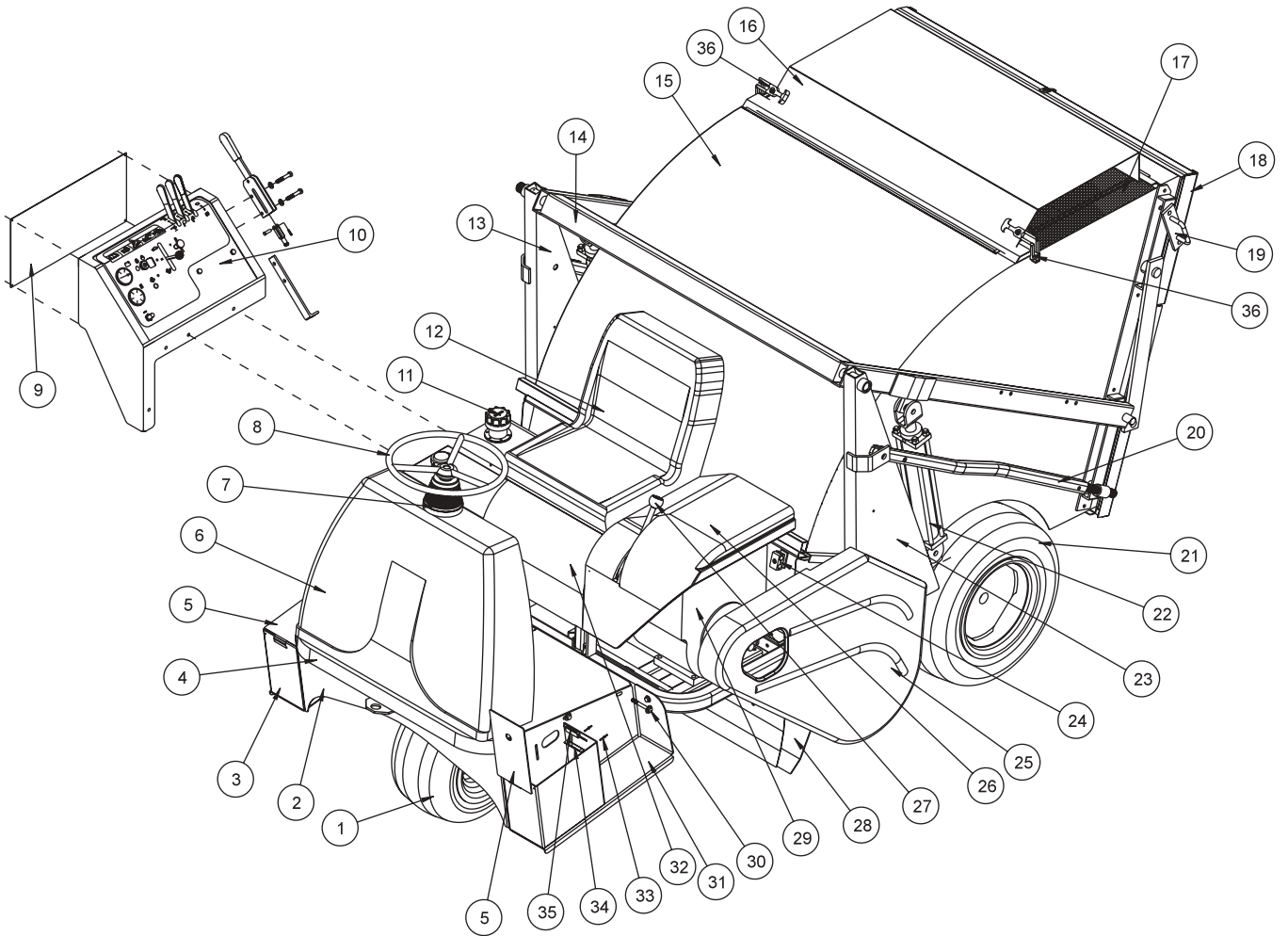
220°F(104°C)

Max Allowable Case Pressure

25 PSI(1.72 Bar)

BODY AND FRAME DRAWING (HIGH LIFT)

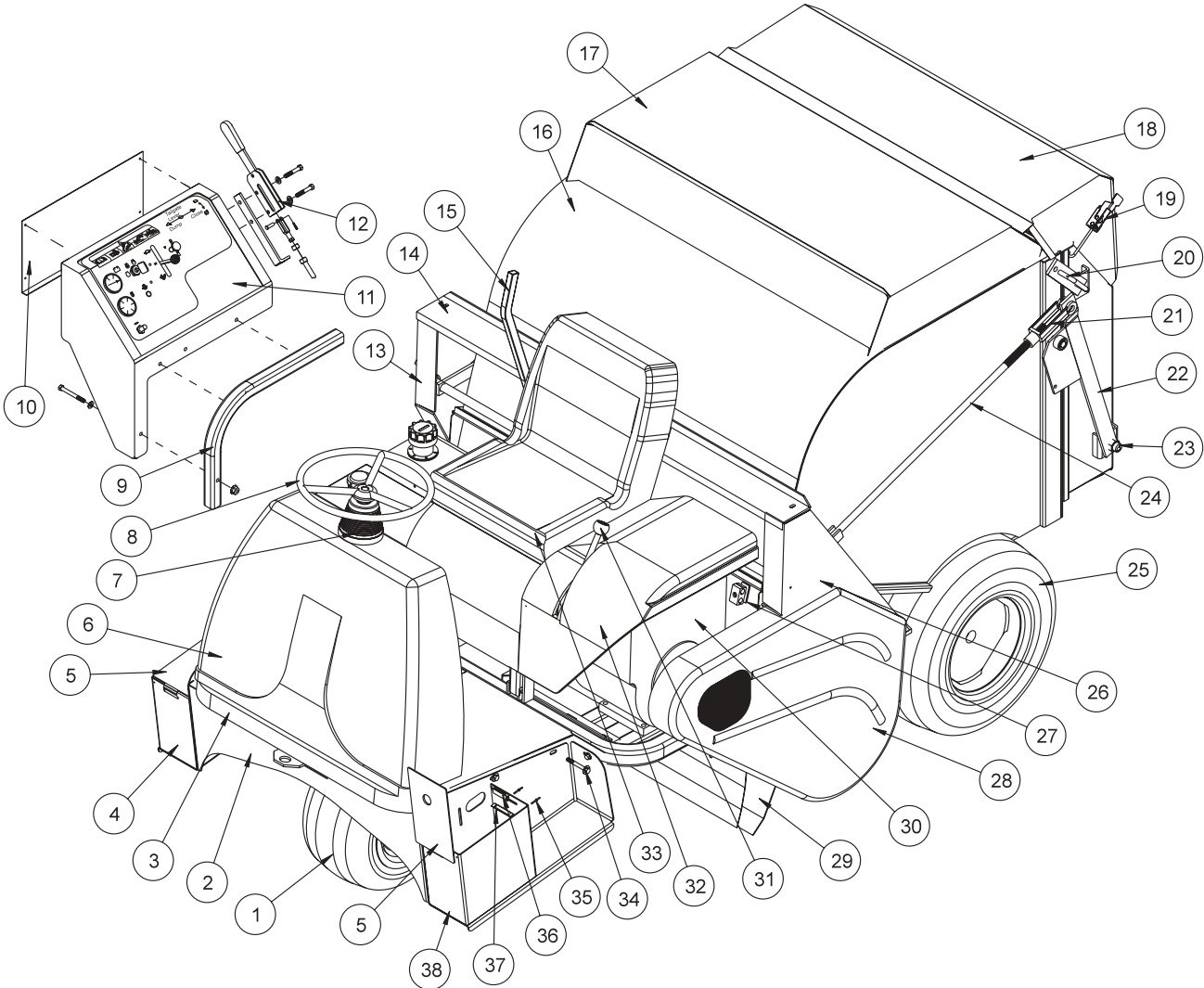
Diagrams



BODY AND FRAME PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	60-130	Tire and Wheel	1
	60-130-01	Tire 18 x 9.5 x 8	1
	60-130-02	Wheel	1
2	48-158	Front Cover	1
	HB-14-20-075	Bolt 1/4 - 20 x 3/4	4
	HW-14	Washer 1/4	4
	HNFL-14-20	Flange Whiz Lock Nut 1/4 -20	4
3	48-161	Left Step	1
4	48-162	Main Frame	1
5	48-159	Battery Box Cover	2
	8803-10	Black Trim 10" (along side closest to machine)	2
6	76-264	Nose Cone	1
	76-354	2 1/2 # ABC Dry Chemical Fire Extinguisher	1
7	76-294	Black Boot 90°	1
8	76-302	Steering Wheel 15"	1
	76-301	Rubber Cap	1
	76-303	Cap Nut 5/8 - 18	1
9	76-214	Side Panel	1
10	76-265	Console	1
11	48-135	Oil Tank	1
	13-586	Filler Breather	1
12	76-285	Seat	1
	14-270	High Back Seat with Smithco Logo	1
13	48-008	Right Tower	1
14	48-044	Arm Pivot Tube	1
15	48-007	Hopper	1
16	48-004	Hopper Screen Cover	1
17	48-022	Hopper Screen	1
18	48-005	Tailgate	1
	48-023	Tailgate Screen	1
19	48-053	Tailgate Hinge	2
20	48-061	Hopper Dump Arm	2
21	33-175	Tire and Wheel	2
	33-175-01	Tire 23.5 x 10.5 x 12	2
	33-175-02	Wheel	2
22	76-242	Lift Cylinder	2
23	48-009	Left Tower	1
24	48-029	Grass Chute	1
25	48-112	Belt Guard	1
	48-080	Belt Guard Screen	1
	48-047	Side Belt Guard Tab	1
26	48-111	Engine Cover	1
27	48-051	Clutch Lever	1
	16-259	Shift Knob	1
28	48-028	Front Baffle	1
29	76-324	Engine Kohler T-18	1
30	HB-38-16-300	Bolt 3/8 - 16 x 3	3
	HW-38	Washer 3/8	3
	HNTL-38-16	Lock Nut 3/8 - 16	3
31	48-160	Right Step	1
	8803-10	Black Trim 10"	1
32	48-026	Seat Support	1
33	HRS-18-050	Rivet 1/8 x 1/2	4
	HW-6	Washer #6	4
34	48-165	Magnet Bracket	2
35	48-164	Magnet	2
36	15-437	Latch	2
	HRS-316-1125	Steel Pop Rivet 3/16 x 1 1/8	6

BODY AND FRAME DIAGRAM (GROUND DUMP)

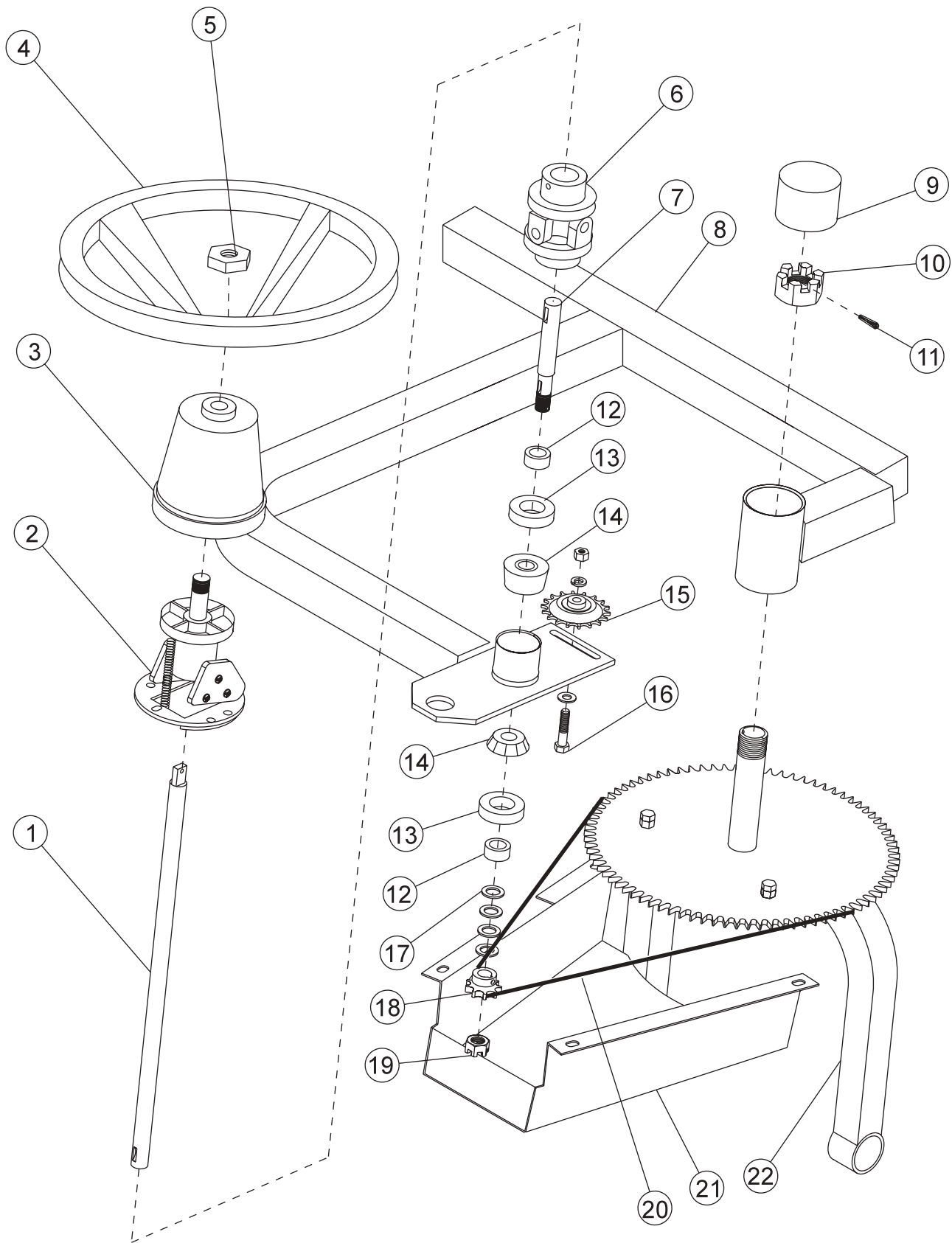


Parts

BODY AND FRAME PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	60-130	Tire and Wheel	1
	60-130-01	Tire 18 x 9.5 x 8	1
	60-130-02	Wheel	1
2	48-158	Front Cover	1
	HB-14-20-075	Bolt 1/4 - 20 x 3/4	4
	HW-14	Washer 1/4	4
	HNFL-14-20	Flange Whiz Lock Nut 1/4 -20	4
3	48-162	Main Frame	1
4	48-161	Left Step	1
5	48-159	Battery Box Cover	2
	8803-10	Black Trim 10" (along side closest to machine)	2
6	76-264	Nose Cone	1
	76-354	2 1/2 # ABC Dry Chemical Fire Extinguisher	1
7	76-294	Black Boot 90°	1
8	76-302	Steering Wheel 15"	1
	76-301	Rubber Cap	1
	76-303	Cap Nut 5/8 - 18	1
9	48-118	Valve Console Spacer	1
10	76-214	Side Panel	1
11	48-110	Console	1
12	60-106	Park Brake	1
13	48-090	Right Tower	1
14	48-094	Tower Support	1
15	48-095	Tailgate Dump Handle	1
	48-078	Rubber Grip	1
16	48-101	Hopper	1
17	48-102	Hopper Cover	1
18	48-103	Tailgate Cover	1
	48-104	Tailgate	1
19	48-115	Latch	2
20	48-053	Tailgate Hinge	2
21	42-040	Yoke 3/4	2
	HNJ-34-16	Jam Nut 3/4 - 16	2
22	48-099	Left Dump Arm	1
	48-098	Right Dump Arm	1
23	48-096	Tailgate Adjuster	2
24	48-097	Lift Rod	2
25	33-175	Tire and Wheel	2
	33-175-01	Tire 23.5 x 10.5 x 12	2
	33-175-02	Wheel	2
26	48-091	Left Tower	1
27	48-029	Grass Chute	1
28	48-114	Belt Guard	1
29	48-028	Front Baffle	1
30	76-324	Engine Kohler TH-18	1
31	48-051	Clutch Lever	1
	16-259	Shift Knob	1
32	48-111	Engine Cover	1
33	48-026	Seat Support	1
	13-547	Seat	1
	14-269	Low Back Seat with Smithco Logo	1
34	HB-38-16-300	Bolt 3/8 - 16 x 3	3
	HW-38	Washer 3/8	3
	HNTL-38-16	Lock Nut 3/8 - 16	3
35	HRS-18-050	Rivet 1/8 x 1/2	4
	HW-6	Washer #6	4
36	48-165	Magnet Bracket	2
37	48-164	Magnet	2
38	48-162	Right Step	1
	8803-10	Black Trim 10"	1

STEERING DRAWING



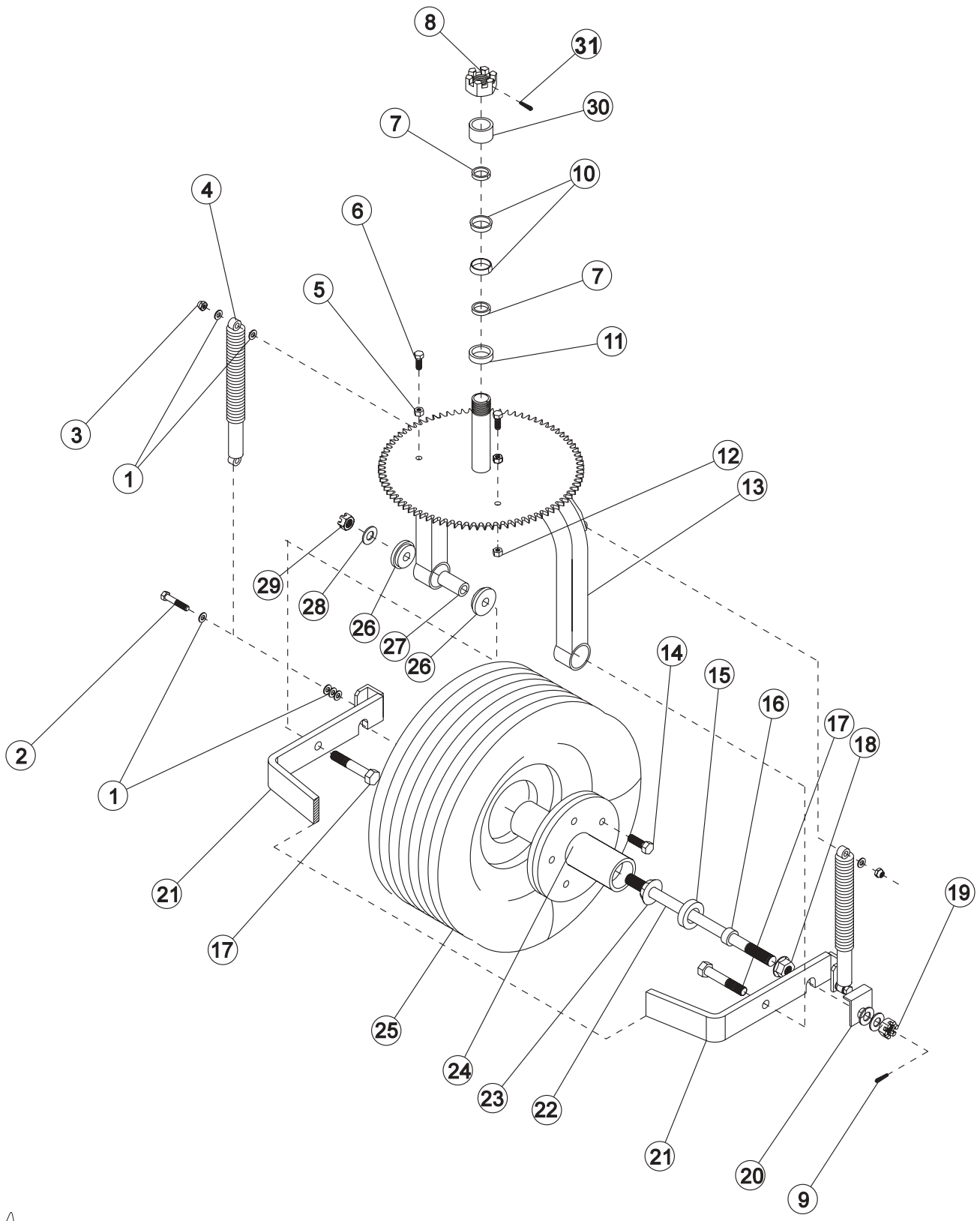
Parts

STEERING PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	76-297	Steering Shaft	1
	HWK-316-075	Woodruff Key $\frac{3}{16} \times \frac{3}{4}$	1
2	76-293	Tilt Steering Mechanism	1
	76-293-01	Release Lever (replacement part)	1
3	76-294	90° Black Boot	1
4	76-302	15" Steering Wheel	1
5	76-303	Cap Nut $\frac{5}{8}$ - 18	1
6	75-833	Universal Joint	1
	HSSHS-38-16-038	Socket Head Set Screw $\frac{3}{8}$ - 16 x $\frac{3}{8}$	4
7	75-813	Bottom Steering Shaft	1
	HWK-316-075	Woodruff Key $\frac{3}{16} \times \frac{3}{4}$	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 $\frac{1}{8} \times 1\frac{1}{2}$	1
12	11-040	Spacer $\frac{3}{4}$	2
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
	HW-38	Washer $\frac{3}{8}$	1
	HWL-38	Lockwasher $\frac{3}{8}$	1
	HN-38-16	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 $\frac{1}{8} \times 1\frac{1}{2}$	1
20	8827-59	Roller Chain	1
	18-032	Master Link #40	1
21	75-803	Chain Guard	1
	HST-38-16-100	Truss Machine Screw $\frac{3}{8}$ - 16 x 1	4
	HW-38	Washer $\frac{3}{8}$	4
	HWL-38	Lockwasher $\frac{3}{8}$	4
	HN-38-16	Nut $\frac{3}{8}$ - 16	4
22	76-155	Front Fork	1

FRONT FORK DRAWING

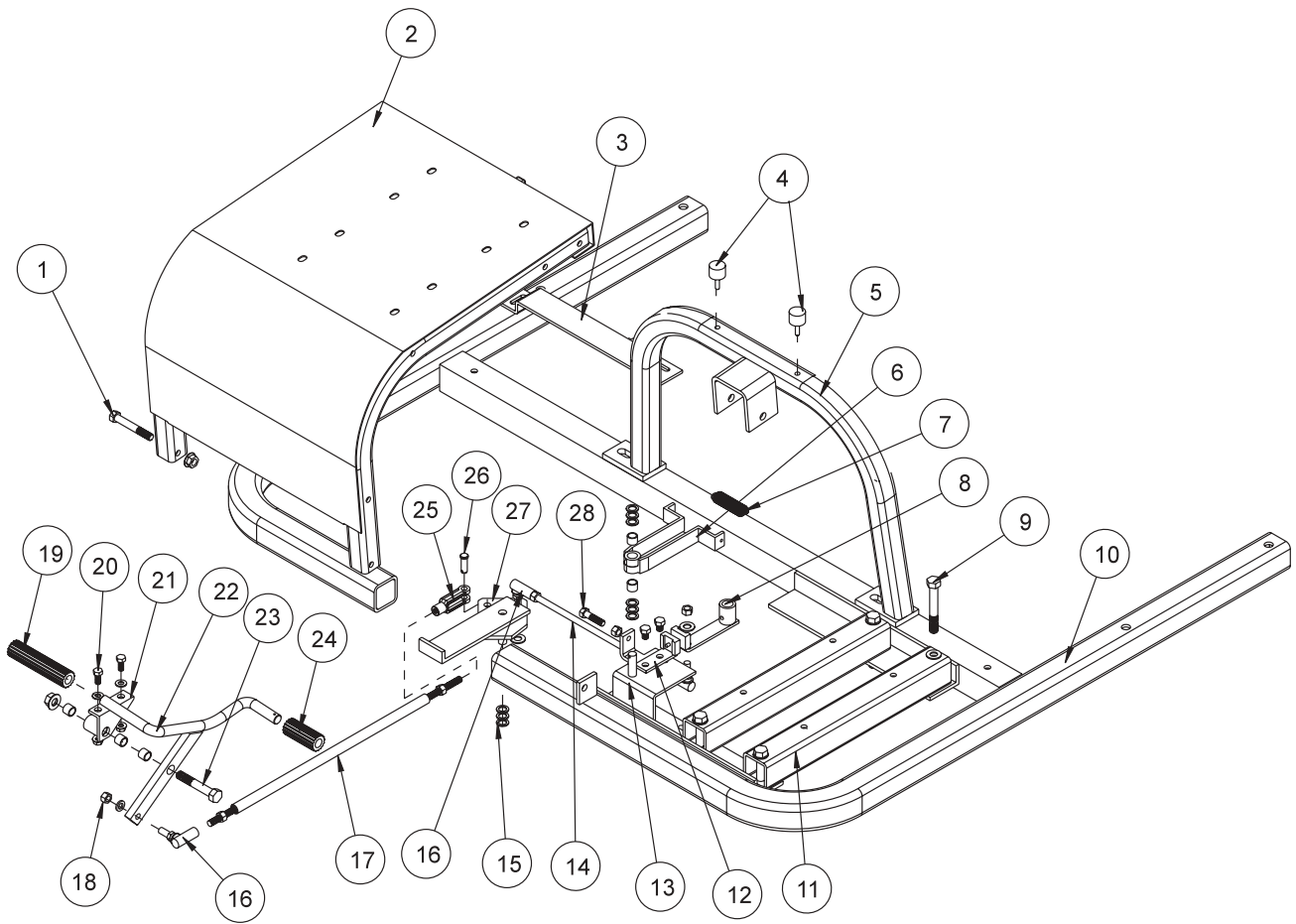
Parts



FRONT FORK PARTSLIST

REF#	PART#	DESCRIPTION	QUANTITY
1	HW-516	Washer $\frac{5}{16}$ (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
	75-715-01	Bushing with Insert	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
9	HP-18-150	Cotter Pin $\frac{1}{8}$ x $1\frac{1}{2}$	2
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	HNCL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
13	76-155	Front Fork	1
14	27-022-02	Bolt Stud $\frac{1}{2}$ - 20 x $1\frac{1}{2}$ (comes with hub)	5
	HNL-12-20	Lug Nut $\frac{1}{2}$ - 20	5
15	11-039	Grease Seal $1\frac{1}{8}$ ID	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
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	2
24	11-010	Wheel Hub	1
25	60-130	Wheel and Tire	1
	60-130-01	Tire 18 x 9.5 - 8 6 Ply	1
	60-130-02	Wheel	1
	8839	Windshield Washer Fluid	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
30	75-676	Spacer Seal	1
31	HP-18-200	Cotter Pin $\frac{1}{8}$ x 2	1

LINKAGE DRAWING (HIGH LIFT)



Parts

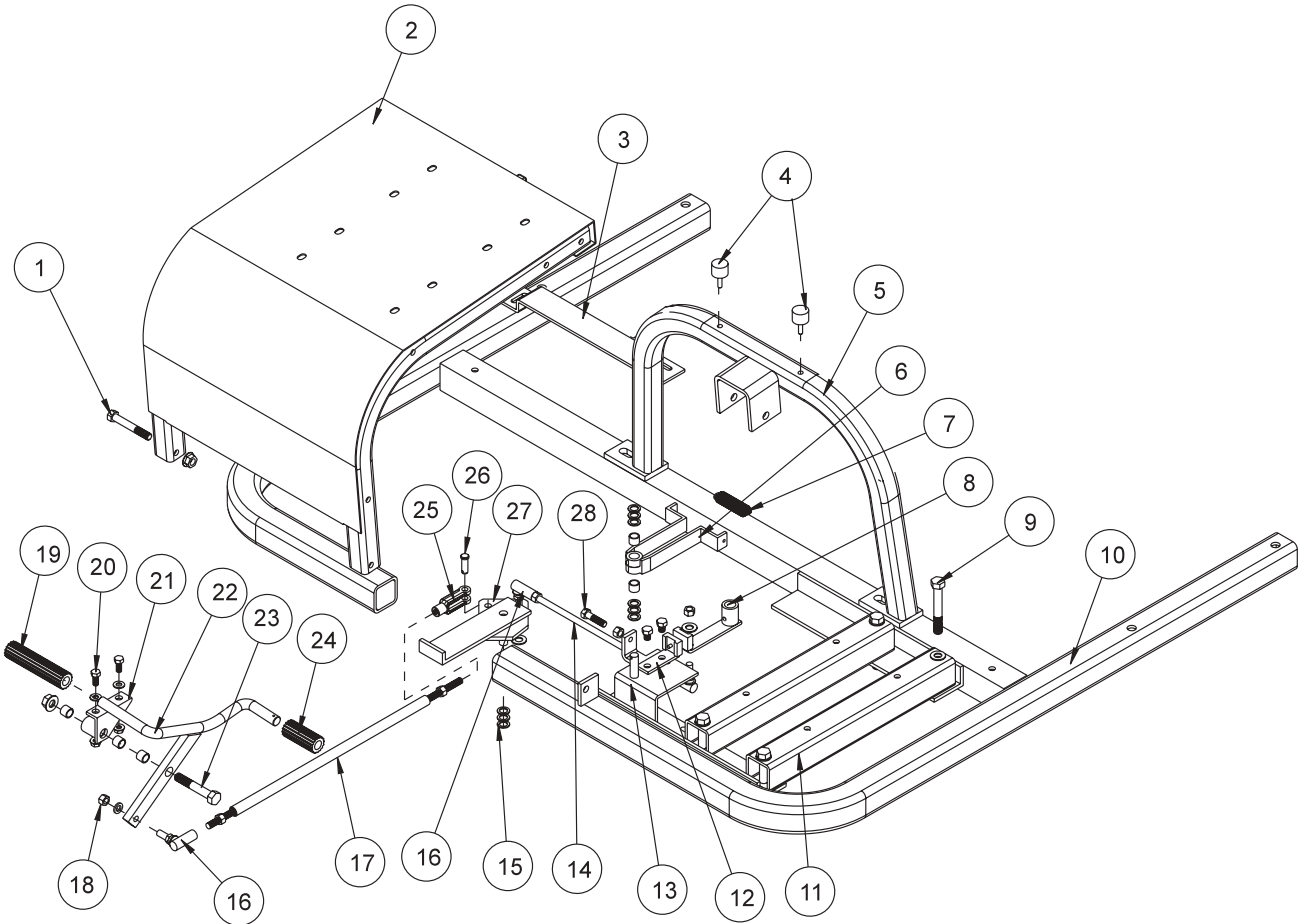
LINKAGE PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	HB-38-16-250	Bolt $\frac{3}{8}$ - 16 x $2\frac{1}{2}$	2
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
2	48-026	Seat Panel	1
3	48-163	Filter Bracket	1
	HB-516-18-300	Bolt $\frac{5}{16}$ - 18 x 3	1
	HW-516	Washer $\frac{5}{16}$	1
	HNTL-516-18	Lock Nut $\frac{5}{16}$ - 18	1
4	15-013	Rubber Bumper	2
5	48-056	Seat Support	1
6	34-038	Centering Arm	2
	HMB-12-14	Machine Bushing $\frac{1}{2}$ x 14GA	6
	18-234	Bushing	2
7	48-109	Spring	1
8	48-035	Shift Arm	1
	HRP-14-150	Roll Pin $\frac{1}{4}$ x $1\frac{1}{2}$	1
	HRS-316-050	Rivet $\frac{3}{16}$ x $\frac{1}{2}$	1
	8946-1	Plastic Wear Strip	1
9	HB-38-16-350	Bolt $\frac{3}{8}$ - 16 x $3\frac{1}{2}$	4
	HW-38	Washer $\frac{3}{8}$	4
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	4
10		Main Frame	
11	48-033	Engine Mount	2
12	13-624-01	Stop	1
	HRS-316-050	Rivet $\frac{3}{16}$ x $\frac{1}{2}$	1
	8946-1	Plastic Wear Strip	1
	HB-38-16-100	Bolt $\frac{3}{8}$ - 16 x 1	2
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
13	48-034	Centering Arm Mount Bracket	1
	HB-38-16-100	Bolt $\frac{3}{8}$ - 16 x 1	2
	HW-38	Washer $\frac{3}{8}$	2
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	1
14	48-032	Foot Pedal Rod	1
	HN-38-24	Nut $\frac{3}{8}$ - 24	2
15	HMB-12-14	Machine Bushing $\frac{1}{2}$ - 14GA	3
16	21-173	Ball Joints	3
17	76-282	Foot Pedal Rod	1
	HN-38-24	Nut $\frac{3}{8}$ - 24	2
18	HN-38-24	Nut $\frac{3}{8}$ - 24	4
	HWL-38	Lock Washer $\frac{3}{8}$	4
19	76-299	Pedal Pad	1
20	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
21	76-296	Pedal Mount	1
	18-234	Bushing	2
	HG-14-28-180	Grease Fitting $\frac{1}{4}$ - 28 x 180°	1
22	48-059	Foot Pedal	1
	18-234	Bushing	1

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LINKAGE DRAWING (HIGH LIFT) CONTINUED

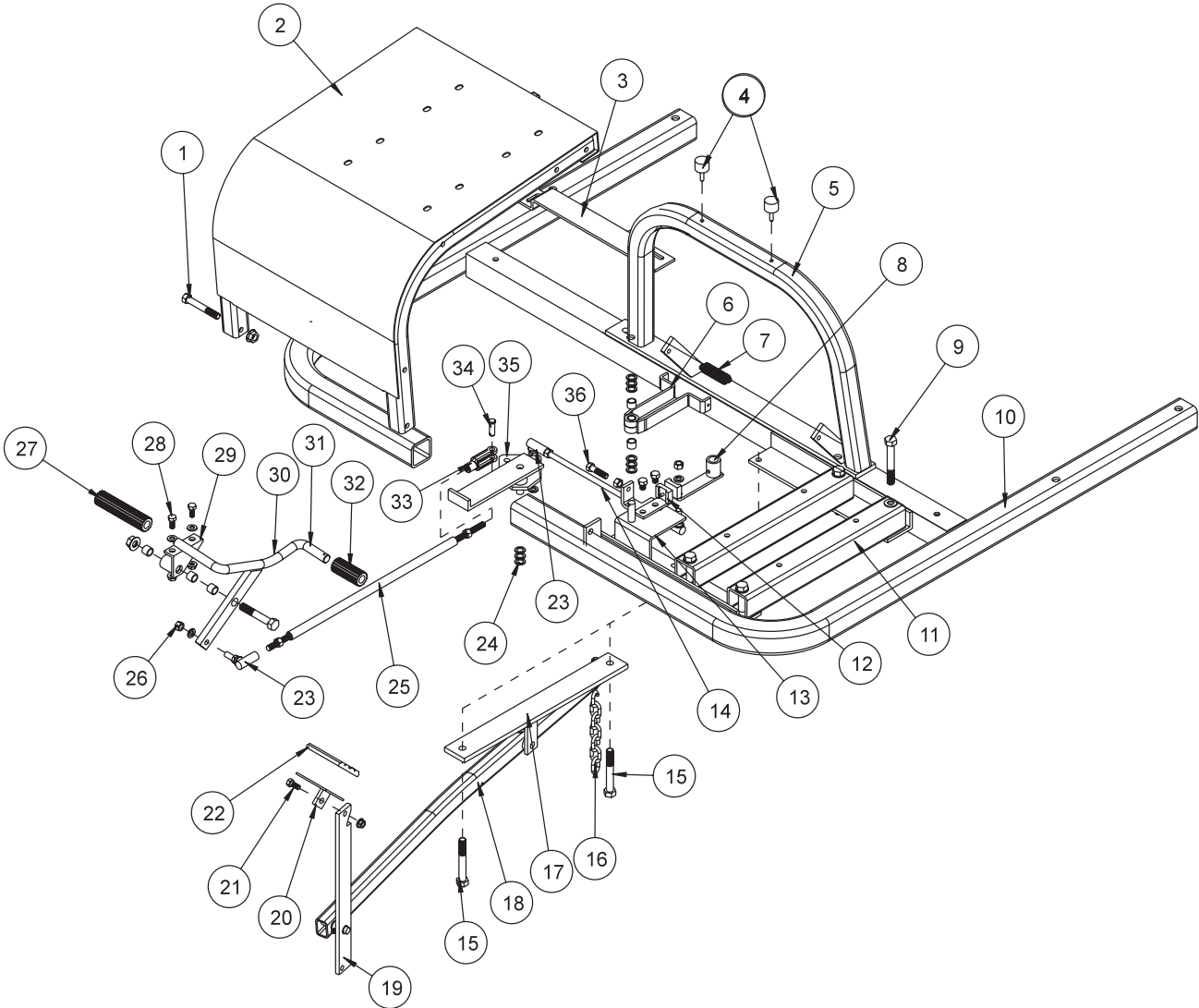


Parts

LINKAGE PARTS LIST (HIGH LIFT) CONTINUED

REF#	PART#	DESCRIPTION	QUANTITY
23	HB-12-13-300	Bolt $\frac{1}{2}$ - 13 x 3	1
	HNTL-12-13	Lock Nut $\frac{1}{2}$ - 13	1
24	76-332	Pedal Pad	1
25	21-351	Yoke $\frac{3}{8}$ - 24	1
26	HCP-38-113	Clevis Pin $\frac{3}{8}$ x $1\frac{1}{8}$	1
	HP-18-075	Cotter Pin $\frac{1}{8}$ x $\frac{3}{4}$	1
27	75-791	Shift Relay	1
	10-007	Bushing	1
	HP-18-100	Cotter pin $\frac{1}{8}$ x 1	1
28	HSSQ-38-16-150	Square Head Set Screw $\frac{3}{8}$ - 16 x $1\frac{1}{2}$	1
	HN-38-16	Nut $\frac{3}{8}$ - 16	1

LINKAGE DRAWING (GROUND DUMP)



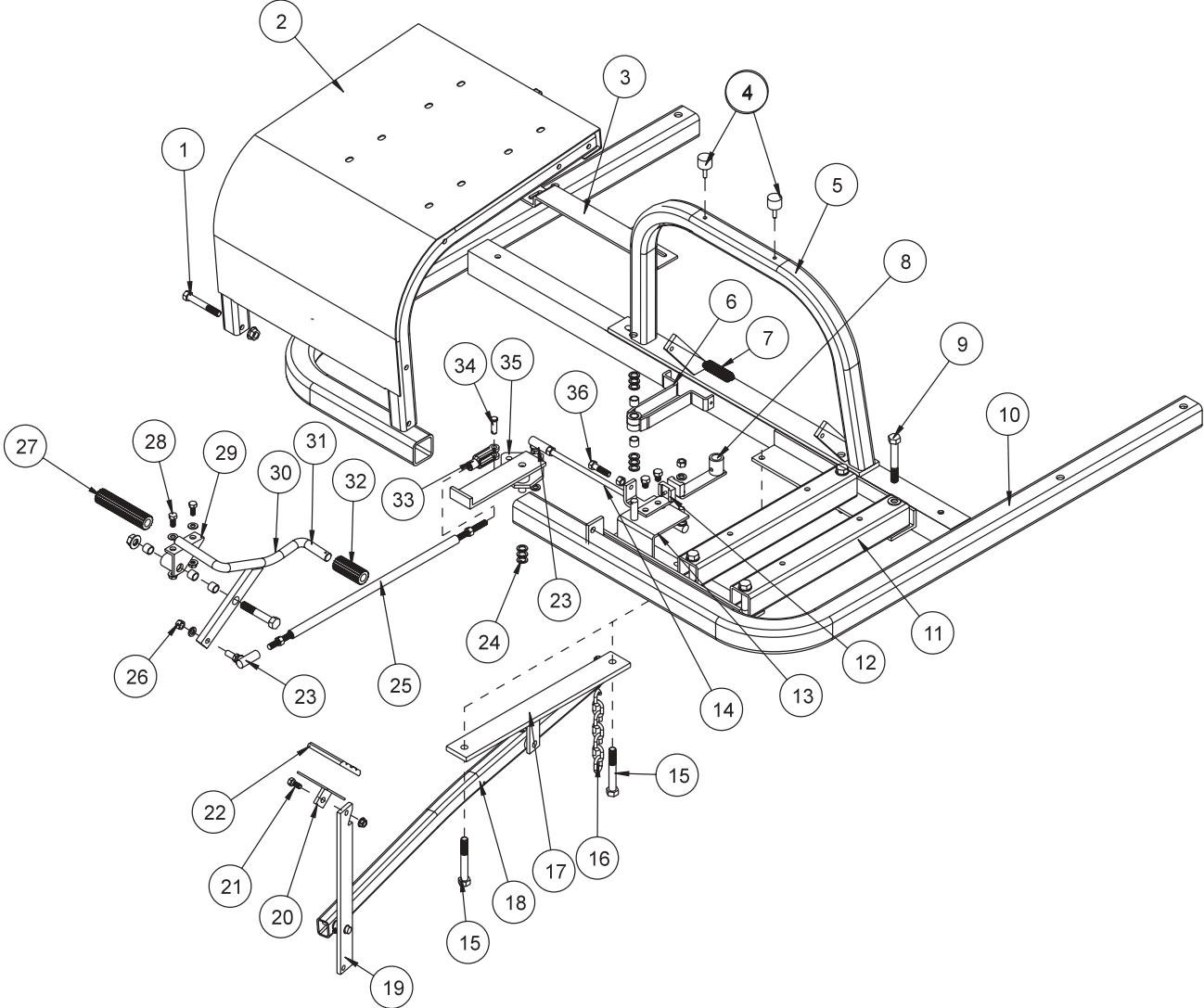
Parts

LINKAGE PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	HB-38-16-250	Bolt $\frac{3}{8}$ - 14 x 2 $\frac{1}{2}$	2
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
2	48-026	Seat Panel	1
3	48-163	Filter Bracket	1
	HB-516-18-300	Bolt $\frac{5}{16}$ - 18 x 3	1
	HW-516	Washer $\frac{5}{16}$	1
	HNTL-516-18	Lock Nut $\frac{5}{16}$ - 18	1
4	15-013	Rubber Bumper	2
5	48-088	Seat Support	1
6	34-038	Centering Arm	2
	HMB-12-14	Machine Bushing $\frac{1}{2}$ x 14GA	6
	18-234	Bushing	2
7	48-109	Spring	1
8	48-035	Shift Arm	1
	HRP-14-150	Roll Pin $\frac{1}{4}$ x 1 $\frac{1}{2}$	1
	HRS-316-050	Rivet $\frac{3}{16}$ x $\frac{1}{2}$	1
	8946-1	Plastic Wear Strip	1
	9	HB-38-16-350	Bolt $\frac{3}{8}$ - 16 x 3 $\frac{1}{2}$
9	HW-38	Washer $\frac{3}{8}$	4
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	4
	10		Main Frame
11	48-033	Engine Mount	2
12	13-624-01	Stop	1
	HRS-316-050	Rivet $\frac{3}{16}$ x $\frac{1}{2}$	1
	8946-1	Plastic Wear Strip	1
	HB-38-16-100	Bolt $\frac{3}{8}$ - 16 x 1	2
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
13	48-034	Centering Arm Mount Bracket	1
	HB-38-16-100	Bolt $\frac{3}{8}$ - 16 x 1	2
	HW-38	Washer $\frac{3}{8}$	2
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	1
14	48-032	Foot Pedal Rod	1
	HN-38-24	Nut $\frac{3}{8}$ - 24	2
15	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
16	8820-6	Chain (8820 st. link x 6)	1
	20-008	Eye Bolt	1
	HN-516-18	Nut $\frac{5}{16}$ - 18	2
	HW-516	Washer $\frac{5}{16}$	1
17	48-092	Pivot	1
	HB-12-13-300	Bolt $\frac{1}{2}$ - 13 x 3	1
	HNTL-12-13	Lock Nut $\frac{1}{2}$ - 13	1
18	48-087	Lift Arm	1
	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	1
19	48-093	Pedal Lever	1
20	16-062	Pedal	1
21	HB-38-16-125	Bolt $\frac{3}{8}$ - 16 x 1 $\frac{1}{4}$	1
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	1

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LINKAGE DRAWING (GROUND DUMP) CONTINUED

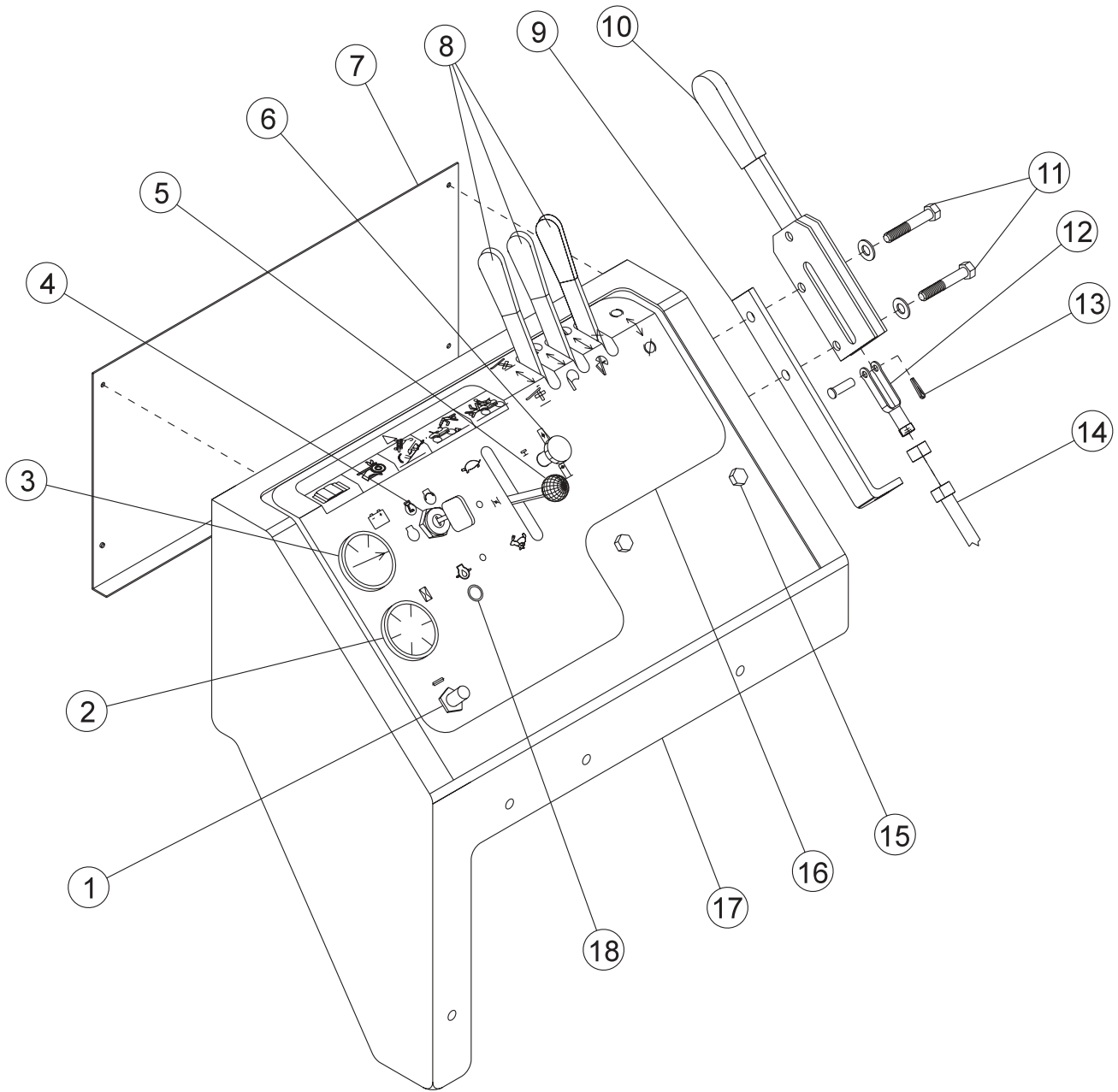


Parts

LINKAGE PARTS LIST (GROUND DUMP) CONTINUED

REF#	PART#	DESCRIPTION	QUANTITY
22	15-015	Pedal Pad	1
23	21-173	Ball Joint	3
24	HMB-12-14	Machine Bushing $1/2$ - 14GA	3
25	76-282	Foot Pedal Rod	1
	HN-38-24	Nut $3/8$ - 24	2
26	HN-38-24	Nut $3/8$ - 24	4
	HWL-38	Lock Washer $3/8$	4
27	76-299	Pedal Pad	1
28	HB-516-18-075	Bolt $5/16$ - 18 x $3/4$	2
	HW-516	Washer $5/16$	2
	HNTL-516-18	Lock Nut $5/16$ - 18	2
29	76-296	Pedal Mount	1
	18-234	Bushing	2
	HG-14-28-180	Grease Fitting $1/4$ - 28 x 180°	1
30	48-059	Foot Pedal	1
	18-234	Bushing	1
31	HB-12-13-300	Bolt $1/2$ - 13 x 3	1
	HNTL-12-13	Lock Nut $1/2$ - 13	1
32	76-332	Pedal Pad (short)	1
33	21-351	Yoke $3/8$ - 24	1
34	HCP-38-113	Clevis Pin $3/8$ x $3/4$	1
	HP-18-075	Cotter Pin $1/8$ x $3/4$	1
35	75-791	Shift Relay	1
	10-007	Bushing	1
	HP-18-100	Cotter Pin $1/8$ x 1	1
36	HSSQ-38-16-150	Set Screw $3/8$ - 16 x $1 1/2$	1
	HN-38-16	Nut $3/8$ - 16	1

CONSOLE DRAWING (HIGHLIFT)



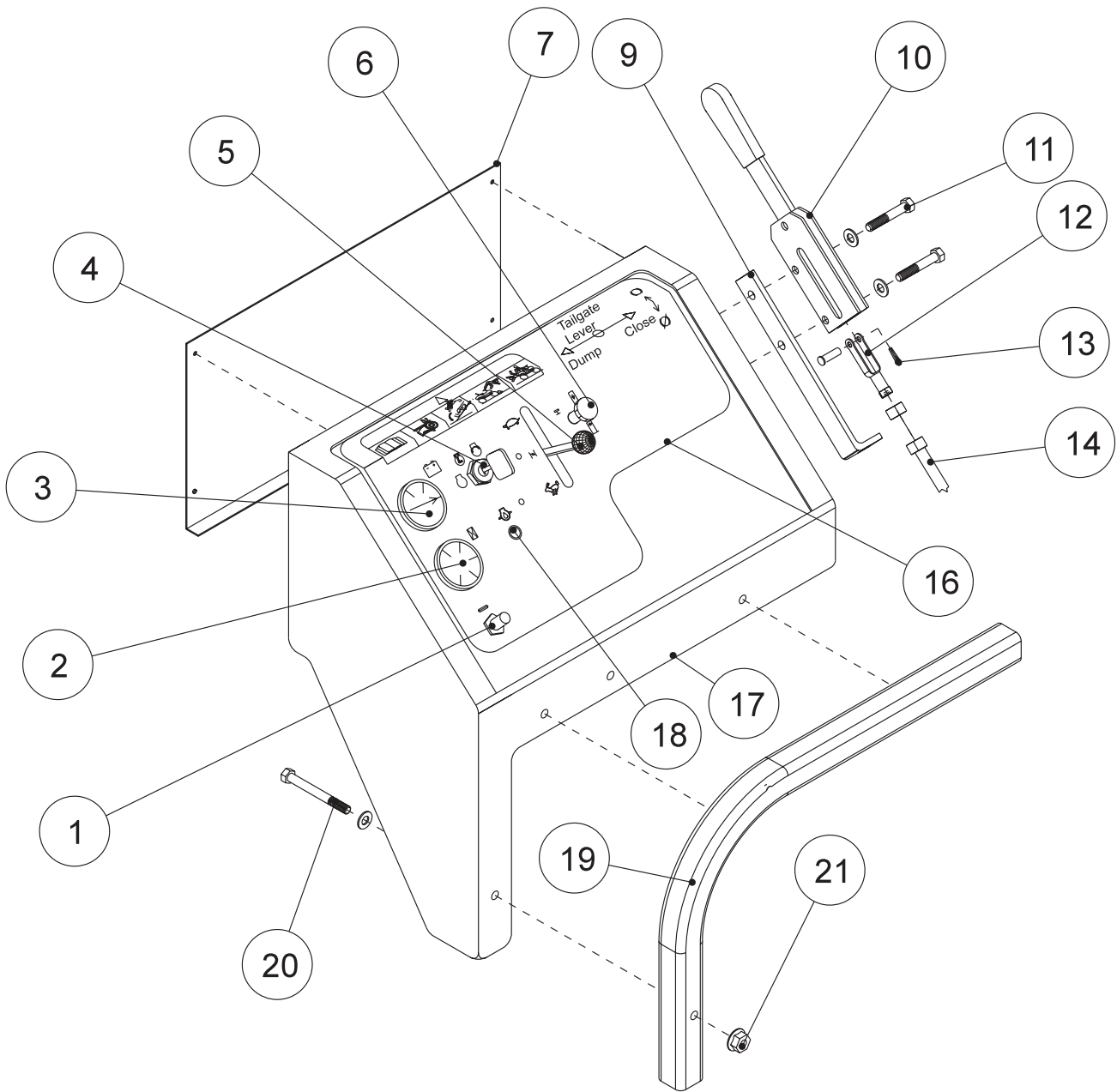
Parts

CONSOLE PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	34-146	Panel Mount Circuit Breaker	1
	34-145	Circuit Breaker Boot	1
2	12-017	Hour Meter	1
3	22-003	Ammeter	1
4	13-288	Key Switch (with hardware KOHLER 25 099 04)	1
	76-310	Key Set	1
5	34-160	Throttle 48"	1
	34-159	Throttle Mounting Bracket	1
	HSM-10-32-063	Machine Screw 10 - 32 x $\frac{5}{8}$	4
	HSM-10-32-100	Machine Screw 10 - 32 x 1	2
	HWL-10	Lockwasher 10	2
	HN-10-32	Nut 10 - 32	6
6	80-020	Choke Cable	1
7	76-214	Side Panel	1
	HSA-8-075	Tapping Screw #8 x $\frac{3}{4}$	4
8	76-309	Valve Handle 1 Set (3 handles 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-38-16-250	Bolt $\frac{3}{8}$ - 16 x $2\frac{1}{2}$	2
	HW-38	Washer $\frac{3}{8}$	6
	HN-38-16	Nut $\frac{3}{8}$ - 16	2
12	11-100	Linkage Yoke $\frac{5}{16}$	1
	HN-516-24	Nut $\frac{5}{16}$ - 24	2
13	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	1
	HCP- 516-125	Clevis Pin $\frac{5}{16}$ x $1\frac{1}{4}$	1
14	60-347	Brake Cable (with nuts)	1
	60-536	Bellows (one each end of brake cable)	2
15	HB-38-16-100	Bolt $\frac{3}{8}$ - 16 x 1 (holds 76-023 Valve)	2
	HWL-38	Lockwasher $\frac{3}{8}$	2
	HN-38-16	Nut $\frac{3}{8}$ - 16	2
16	76-199	Decal, Control Panel	1
17	76-265	Console	1
18	50-359	Warning Indicator Light	1

CONSOLE DRAWING (GROUND DUMP)

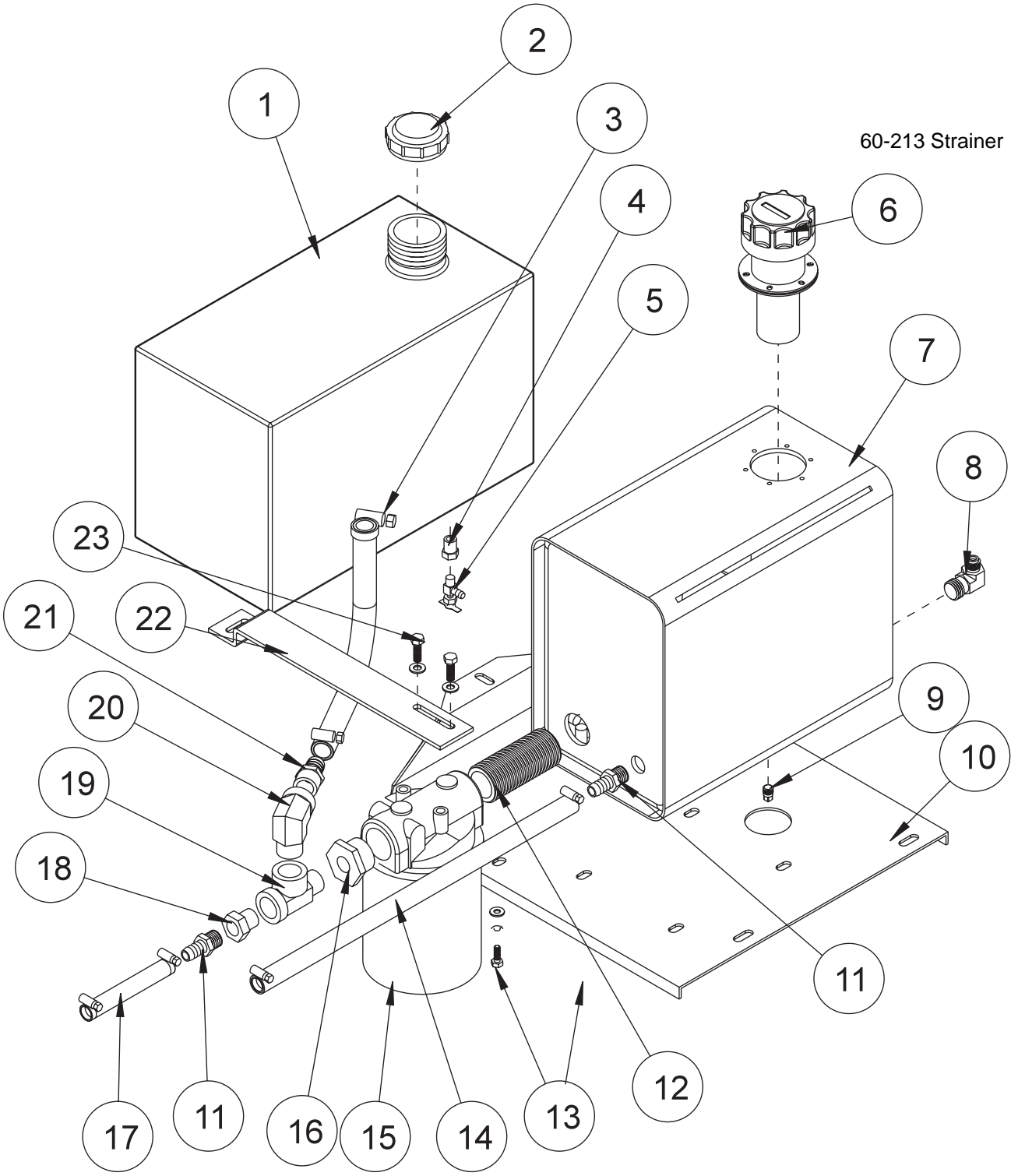
Parts



CONSOLE PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	34-146	Panel Mount Circuit Breaker	1
	34-145	Circuit Breaker Boot	1
2	12-017	Hour Meter	1
3	22-003	Ammeter	1
4	13-288	Key Switch (with hardware)	1
	76-310	Key Set	1
5	34-160	Throttle 48"	1
	34-159	Throttle Mounting Bracket	1
	HSM-10-32-063	Machine Screw 10 - 32 x $\frac{5}{8}$	4
	HSM-10-32-100	Machine Screw 10 - 32 x 1	2
	HWL-10	Lockwasher 10	6
	HN-10-32	Nut 10 - 32	6
6	80-020	Choke Cable	1
7	76-214	Side Panel	1
	HSA-8-075	Tapping Screw #8 x $\frac{3}{4}$	4
9	76-224	Park Brake Handle Mount	1
10	60-106	Brake Lever	1
11	HB-38-16-250	Bolt $\frac{3}{8}$ - 16 x $2\frac{1}{2}$	2
	HW-38	Washer $\frac{3}{8}$	6
	HN-38-16	Nut $\frac{3}{8}$ - 16	2
12	11-100	Linkage Yoke $\frac{5}{16}$	1
13	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	1
	HCP- 516-125	Clevis Pin $\frac{5}{16}$ x $1\frac{1}{4}$	1
14	60-347	Brake Cable (with nuts)	1
	60-536	Bellows (one each end of brake cable)	2
16	48-107	Decal, Control Panel	1
17	48-110	Console	1
18	50-359	Warning Indicator Light	1
19	48-118	Console Spacer	1
20	HB-38-16-400	Bolt $\frac{3}{8}$ - 16 x 4	3
	HW-38	Washer $\frac{3}{8}$	3
21	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	3

FUEL AND OIL TANK DRAWING (HIGH LIFT)

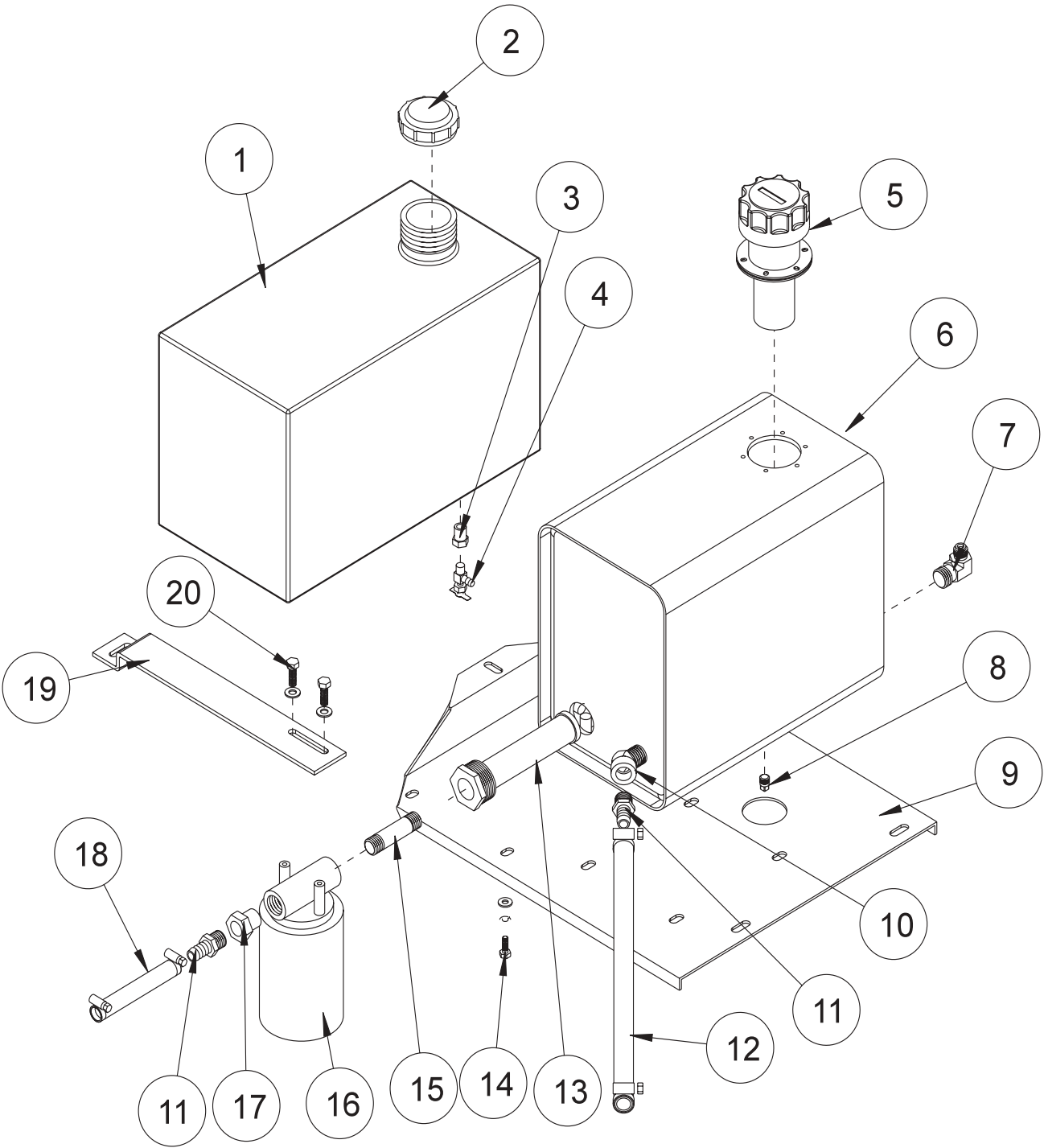


Parts

FUEL AND OIL TANK PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	15-491	Gas Tank	1
2	15-492	Cap with Gauge	1
3	8832-19	3/4" Hose	1
	18-040	Clamp	2
4	18-042	Reducer Bushing	1
5	15-039	Fuel Valve	1
6	13-586	Filler Breather	1
	HSM-8-32-050	Machine Screw #8 - 32 x 1/2	8
	HWS-8	Star Washer #8	8
7	48-135	Oil Tank	1
8	17-019	Male Elbow	1
9	18-118	Pipe Plug 1/8	1
10	76-221	Tank mount	1
11	23-139	Barb Fitting	2
12	18-236	Black Nipple	1
13	HB-14-20-075	Bolt 1/4 - 20 x 3/4	8
	HW-14	Washer 1/4	8
	HWL-14	Lock Washer 1/4	8
14	8810-19	5/8" Hose	1
	18-077	Clamp	2
15	48-083	Oil Filter	1
	48-083-01	Filter Replacement	1
16	18-260	Reducer Bushing	1
17	8810-7	5/8" Hose	1
	18-077	Clamp	2
18	18-008	Pipe Thread Reducer	1
19	18-093	Street Tee	1
20	18-140	Elbow	1
21	18-249	Barb Fitting	1
22	48-163	Filter Bracket	1
23	HB-516-18-100	Bolt 5/16 - 18 x 1	2
	HW-516	Washer 5/16	2
	HWL-516	Lock Washer 5/16	2
NOT ILLUSTRATED			
	8800-52	Fuel Hose (replacement parts)	1
	18-003	Hose Clamp (replacement parts)	2
	8983-60	Fire Sleeve	1
	18-222	Hose Clamp	2
	50-403	In-line Fuel Filter (replacement parts)	1

FUEL AND OIL TANK DRAWING (GROUND DUMP)



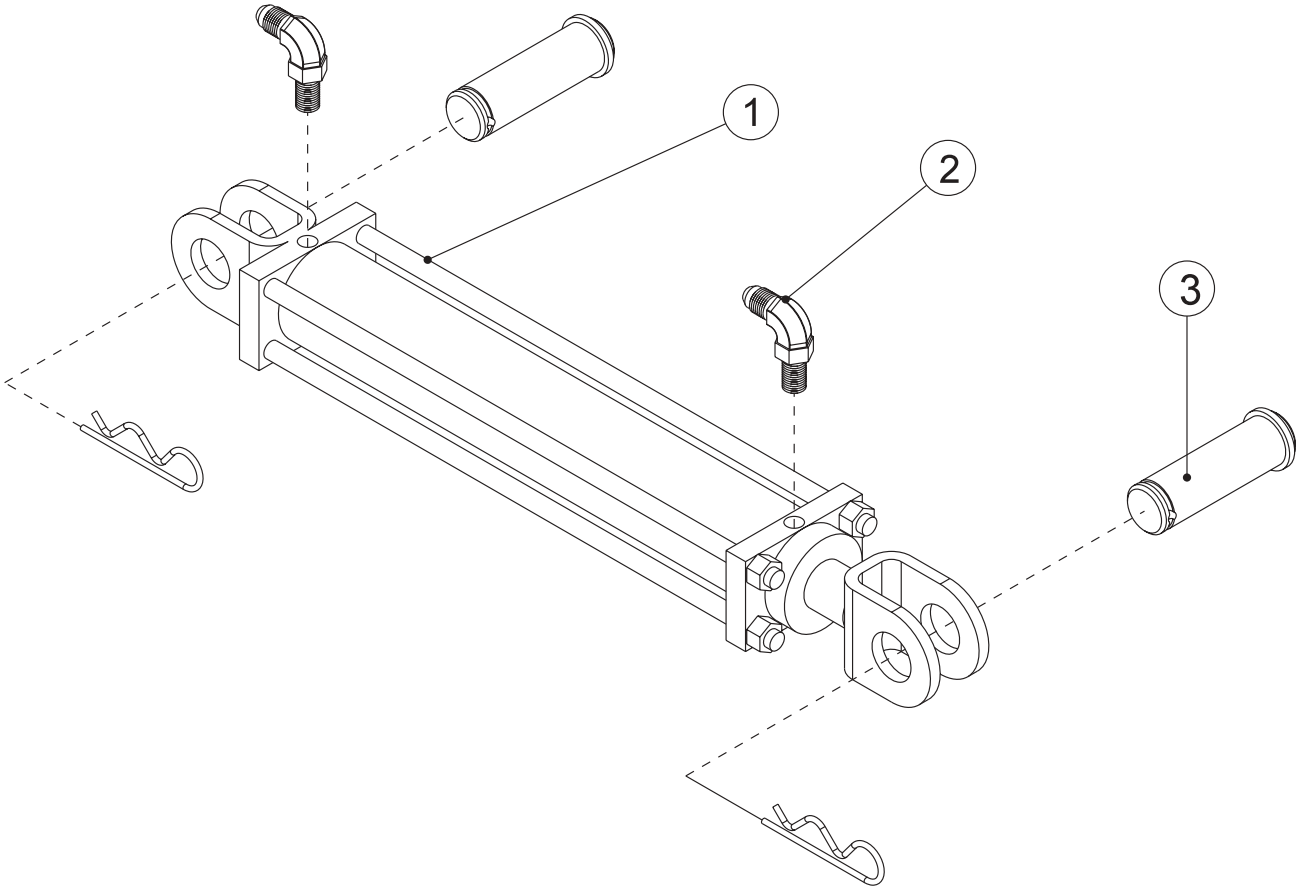
Parts

FUEL AND OIL TANK PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	15-491	Gas Tank	1
2	15-492	Cap with Gauge	1
3	18-042	Reducer Bushing	1
4	15-039	Fuel Valve	1
5	13-586	Filler Breather	1
	13-586-01	Cap Gasket	1
	13-586-02	Bottom Gasket	2
	HMS-8-32-050	Machine Screw #8 - 32 x 1/2	6
	HWS-8	Star Washer #8	6
6	48-135	Oil Tank	1
7	17-019	Male Elbow	1
8	18-118	Pipe Plug 1/8	1
9	76-221	Tank mount	1
10	18-072	Street Elbow	1
11	23-139	Barb Fitting	2
12	8810-19	Hose 5/8 x 19	1
	18-077	Clamp	2
13	60-213	Strainer	1
14	HB-14-20-075	Bolt 1/4 - 20 x 3/4	4
	HW-14	Washer 1/4	4
	HWL-14	Lock Washer 1/4	4
15	18-145	Black Pipe Nipple 3/4 x 3	1
16	23-006	Oil Filter	1
	23-031	Replacement Filter	1
17	18-008	Pipe Thread Reducer 3/4 x 1/2	1
18	8917-17	Suction Hose 5/8 x 17	1
	18-077	Clamp	2
19	48-163	Filter Bracket	1
20	HB-14-20-075	Bolt 1/4 - 20 x 3/4	2
	HW-14	Washer 1/4	2
	HWL-14	Lock Washer 1/4	2
NOT ILLUSTRATED			
	8800-52	Fuel Hose	1
	18-186	Hose Clamp	2
	8983-57	Fire Sleeve	1
	18-222	Hose Clamp	2
	50-403	In-line Fuel Filter	1



HYDRAULIC LIFT CYLINDER DRAWING

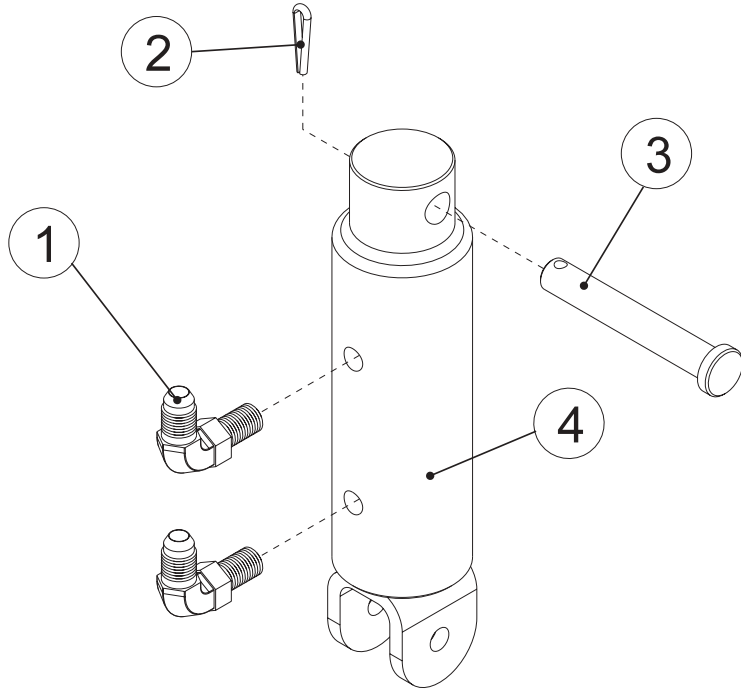


Parts

HYDRAULIC LIFT CYLINDER PARTS LIST

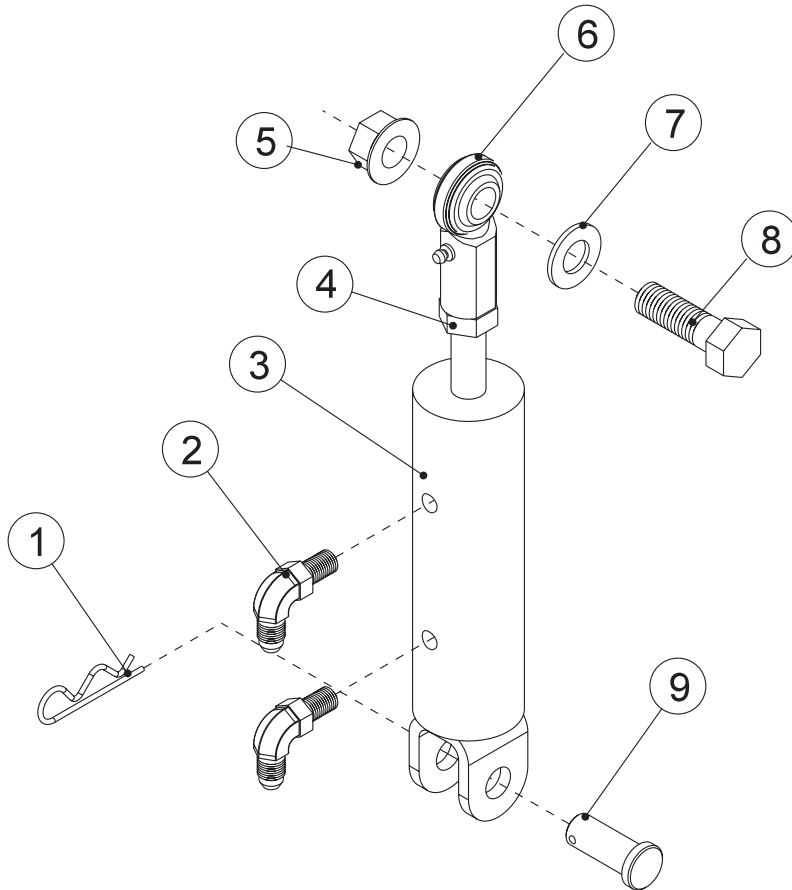
REF#	PART#	DESCRIPTION	QUANTITY
1	76-242	Hydraulic Cylinder	1
	76-242-01	Seal Kit	1
2	18-168	Elbow	2
3	76-242-02	Clevis pin with Clip	2

REEL LIFT CYLINDER DRAWING



TAILGATE CYLINDER DRAWING

Parts



REEL LIFT CYLINDER PARTS LIST

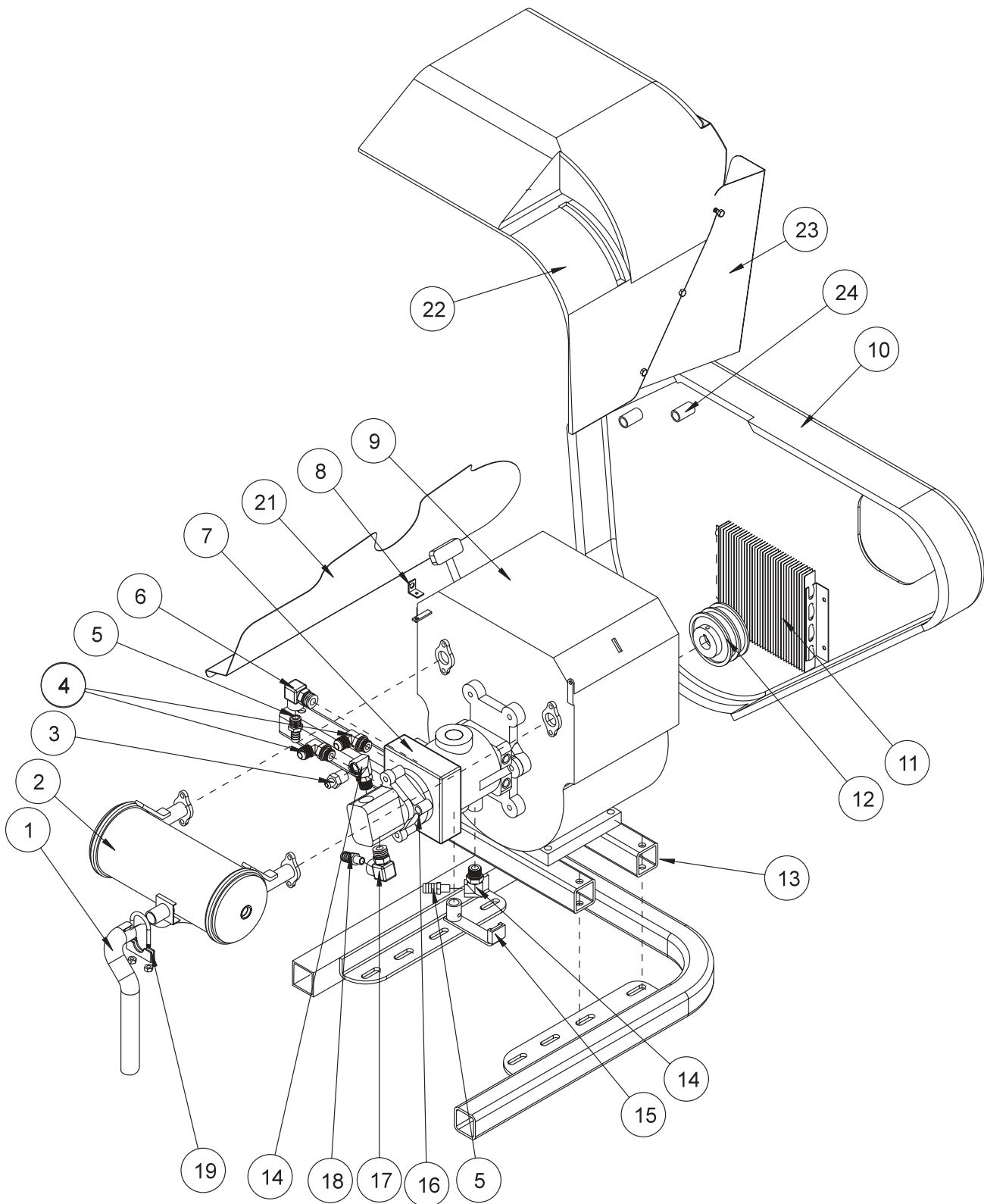
REF#	PART#	DESCRIPTION	QUANTITY
1	18-168	Elbow	2
2	HP-18-100	Cotter Pin $\frac{1}{8} \times 1$	1
3	HCP-12-350	Clevis Pin $\frac{1}{2} \times 3 \frac{1}{2}$	1
4	75-634	Hydraulic Cylinder	1
	14-268	Seal Kit	1

TAILGATE CYLINDER PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	HHP-18	Bridge Pin $\frac{1}{8}$	1
2	18-168	Elbow	2
3	75-714	Hydraulic Cylinder	1
	14-268	Seal Kit	1
4	HNJ-58-18	Jam Nut $\frac{5}{8}$ - 18	1
5	HNCL -58-11	Center Lock Nut $\frac{5}{8}$ - 11	1
6	18-154	Rod End	1
	HG-14-28-180	Grease Fitting $\frac{1}{4}$ - 28 x 180°	1
7	HMB-58-14	Machine Bushing $\frac{5}{8}$ - 14GA	3
8	HB-58-11-200	Bolt $\frac{5}{8}$ - 11 x 2	1
9	HCP-58-175	Clevis Pin $\frac{5}{8} \times 1 \frac{3}{4}$	1

ENGINE AND EXHAUST DRAWING (HIGH LIFT)

Parts



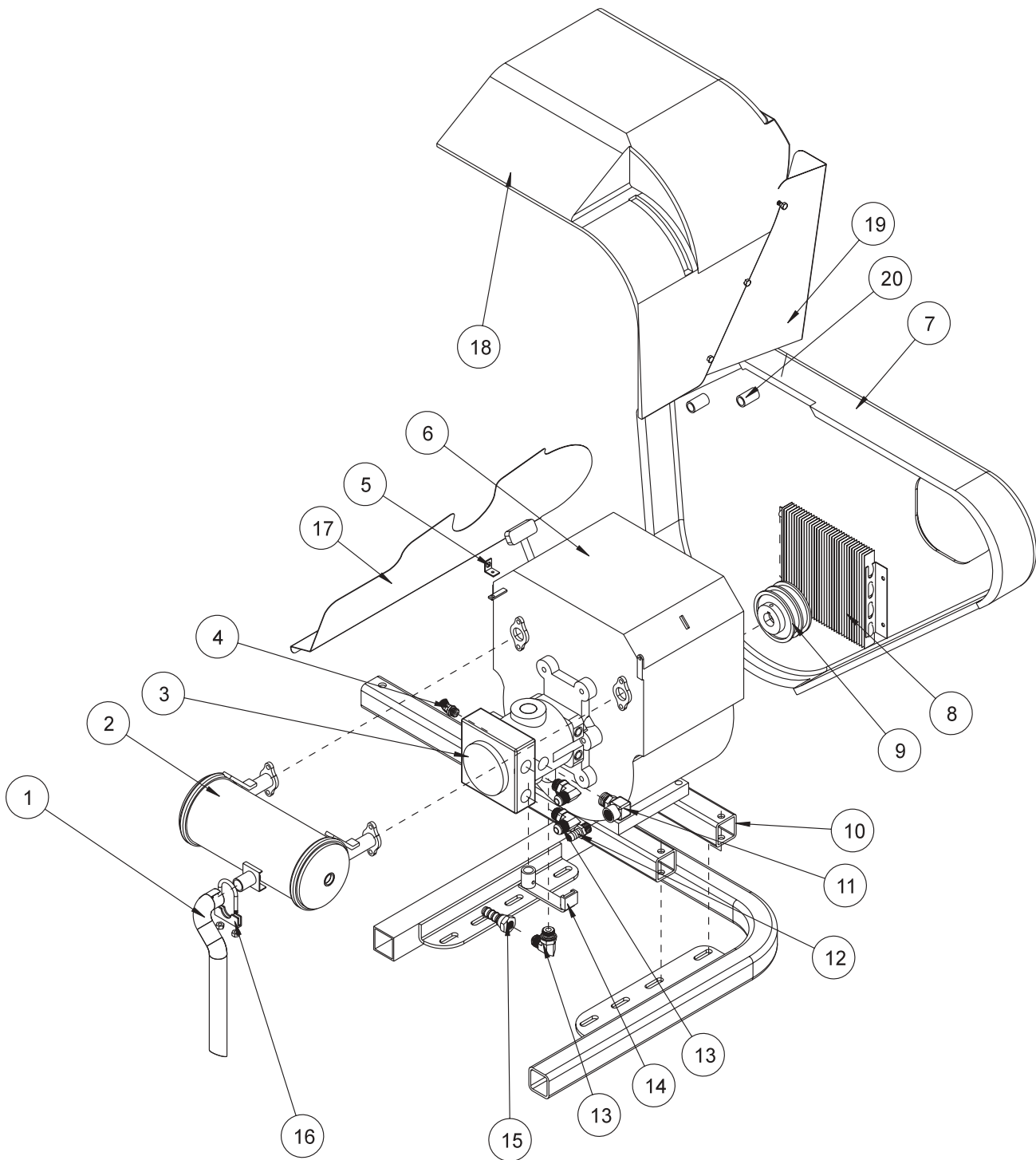
ENGINE AND EXHAUST PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	48-128	Tail Pipe	1
2	48-106	Muffler	1
3	23-184	Male Connector	1
4	18-161	Straight Thread Elbow	2
5	23-139	Barb Fitting	2
6	23-133	Elbow	1
7	76-322	Hydrostatic Pump	1
	HSSHS-12-13-175	Socket Set Screw $\frac{1}{2}$ - 13 x $1\frac{3}{4}$	2
	HWL-12	Lock Washer $\frac{1}{2}$	2
8	34-163	Cable Bracket	1
	HB-14-20-075	Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$	1
	HNTL-14-20	Lock Nut $\frac{1}{4}$ - 20	1
9	76-324	Engine Kohler T-18	1
	76-324-03	Crankshaft Splined Insert (Kohler # 48 755 23 part of engine)	1
	42-113	Solenoid (Kohler # 25 435 02 part of engine)	1
	HB-516-18-350	Bolt $\frac{5}{16}$ - 18 x $3\frac{1}{2}$	4
	HW-516	Washer $\frac{5}{16}$	4
	HNTL-516-18	Lock Nut $\frac{5}{16}$ - 18	4
10	48-112	Belt Guard	1
11	34-105	Oil Cooler	1
12	21-461	Pulley	1
	HKSQ-14-150	Machine Key $\frac{1}{4}$ x $\frac{1}{4}$ x $1\frac{1}{2}$	1
13	48-033	Engine Mount	2
14	23-127	Elbow	2
15	48-035	Shift Arm	1
	HRP-14-100	Roll Pin $\frac{1}{4}$ x 1	1
	HRS-316-050	Rivet $\frac{3}{16}$ x $1\frac{1}{2}$	1
	8946-1	Plastic Wear Strip	1
16	76-323	Gear Pump (replacement only; no repair)	1
17	23-130	Elbow	1
18	18-133	Barb Fitting	1
19	13-498	Muffler Clamp	1
21	48-142	Rear Engine Guard	1
	HST-14-20-100	Truss Head Machine Screw $\frac{1}{4}$ - 20 x 1	3
	HW-14	Washer $\frac{1}{4}$	3
	HWL-14	Lock Washer $\frac{1}{4}$	3
	HN-14-20	Nut $\frac{1}{4}$ - 20	3
22	48-111	Engine Cover	1
23	48-143	Front Engine Guard	1
	HST-14-20-100	Truss Head Machine Screw $\frac{1}{4}$ - 20 x 1	3
	HW-14	Washer $\frac{1}{4}$	3
	HWL-14	Lock Washer $\frac{1}{4}$	3
	HN-14-20	Nut $\frac{1}{4}$ - 20	3
24	48-140-14	Spacer	2



ENGINE AND EXHAUST DRAWING (GROUND DUMP)

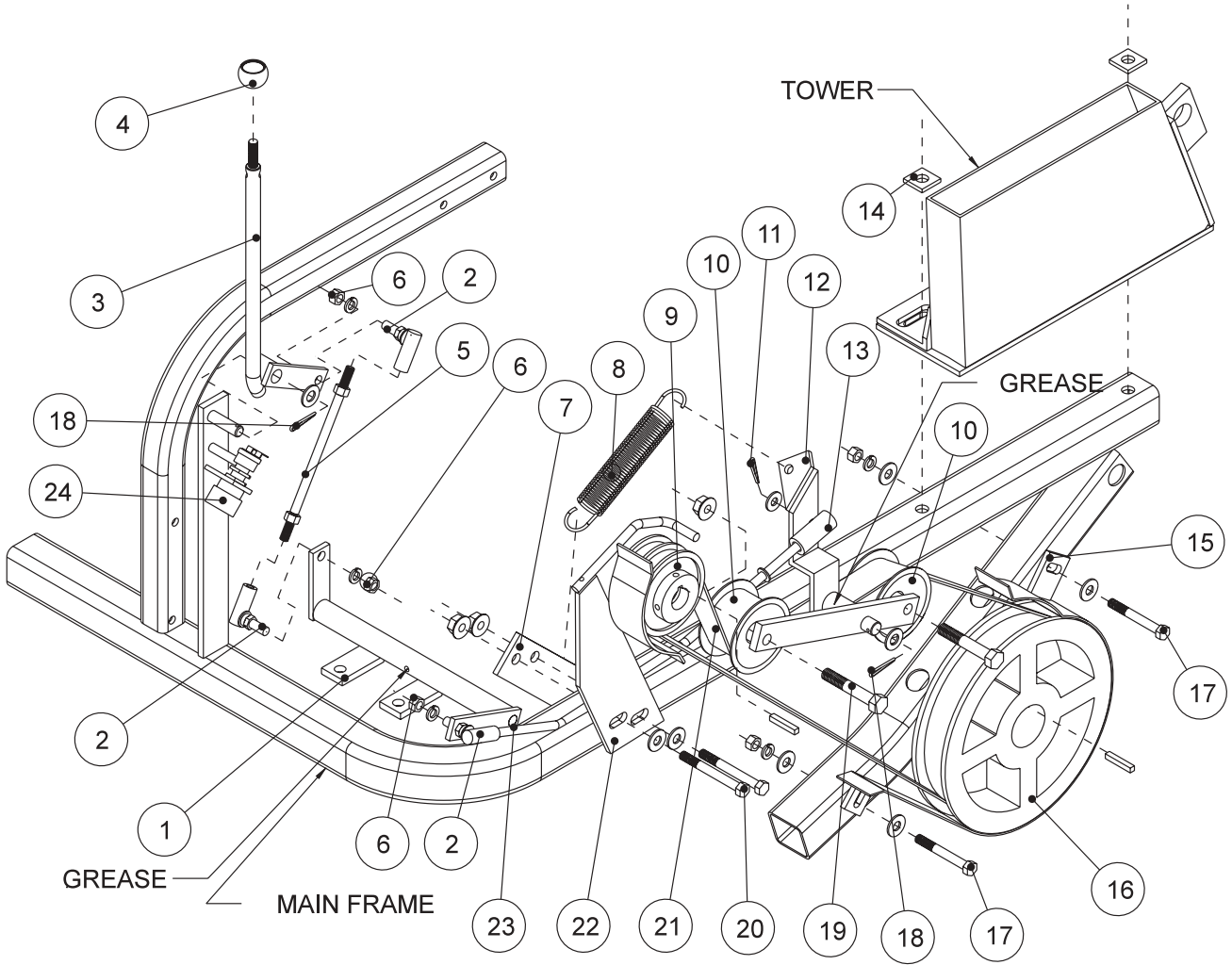
Parts



ENGINE AND EXHAUST PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	48-128	Tail Pipe	1
2	48-106	Muffler	1
3	42-003	Hydrostatic Pump	1
	HSSHS-12-13-100	Socket Set Screw $\frac{1}{2}$ - 13 x $1\frac{3}{4}$	2
	HWL-12	Lock Washer $\frac{1}{2}$	2
4	18-188	Elbow 45°	1
5	34-163	Cable Bracket	1
6	76-324	Engine Kohler T-18	1
	76-324-03	Crankshaft Splined Insert (part of engine)	1
	42-113	Solenoid (Kohler# 25 435 02 part of engine)	1
	HB-516-18-350	Bolt $\frac{5}{16}$ - 18 x $3\frac{1}{2}$	4
	HNTL-516-18	Lock Nut $\frac{5}{16}$ - 18	4
7	48-114	Belt Guard	1
8	34-105	Oil Cooler	1
9	21-461	Pulley	1
	HKSQ-14-150	Machine Key $\frac{1}{4}$ x $\frac{1}{4}$ x $1\frac{1}{2}$	1
10	48-033	Engine Mount	2
11	23-130	Elbow	1
12	23-139	Barb Fitting	1
13	18-161	Street Elbow	3
14	48-035	Shift Arm	1
	HRP-14-100	Roll Pin $\frac{1}{4}$ x 1	1
	HRS-316-050	Rivet $\frac{3}{16}$ x $1\frac{1}{2}$	1
	8946-1	Plastic Wear Strip	1
15	18-239	Swivel Fitting	1
16	13-498	Muffler Clamp	1
17	48-142	Rear Engine Guard	1
	HST-14-20-100	Truss Head Machine Screw $\frac{1}{4}$ - 20 x 1	3
	HW-14	Washer $\frac{1}{4}$	3
	HWL-14	Lock Washer $\frac{1}{4}$	3
	HN-14-20	Nut $\frac{1}{4}$ - 20	3
18	48-111	Engine Cover	1
19	48-143	Front Engine Guard	1
	HST-14-20-100	Truss Head Machine Screw $\frac{1}{4}$ - 20 x 1	3
	HW-14	Washer $\frac{1}{4}$	3
	HWL-14	Lock Washer $\frac{1}{4}$	3
	HN-14-20	Nut $\frac{1}{4}$ - 20	3
20	48-140-14	Spacer	2

BELT DRAWING



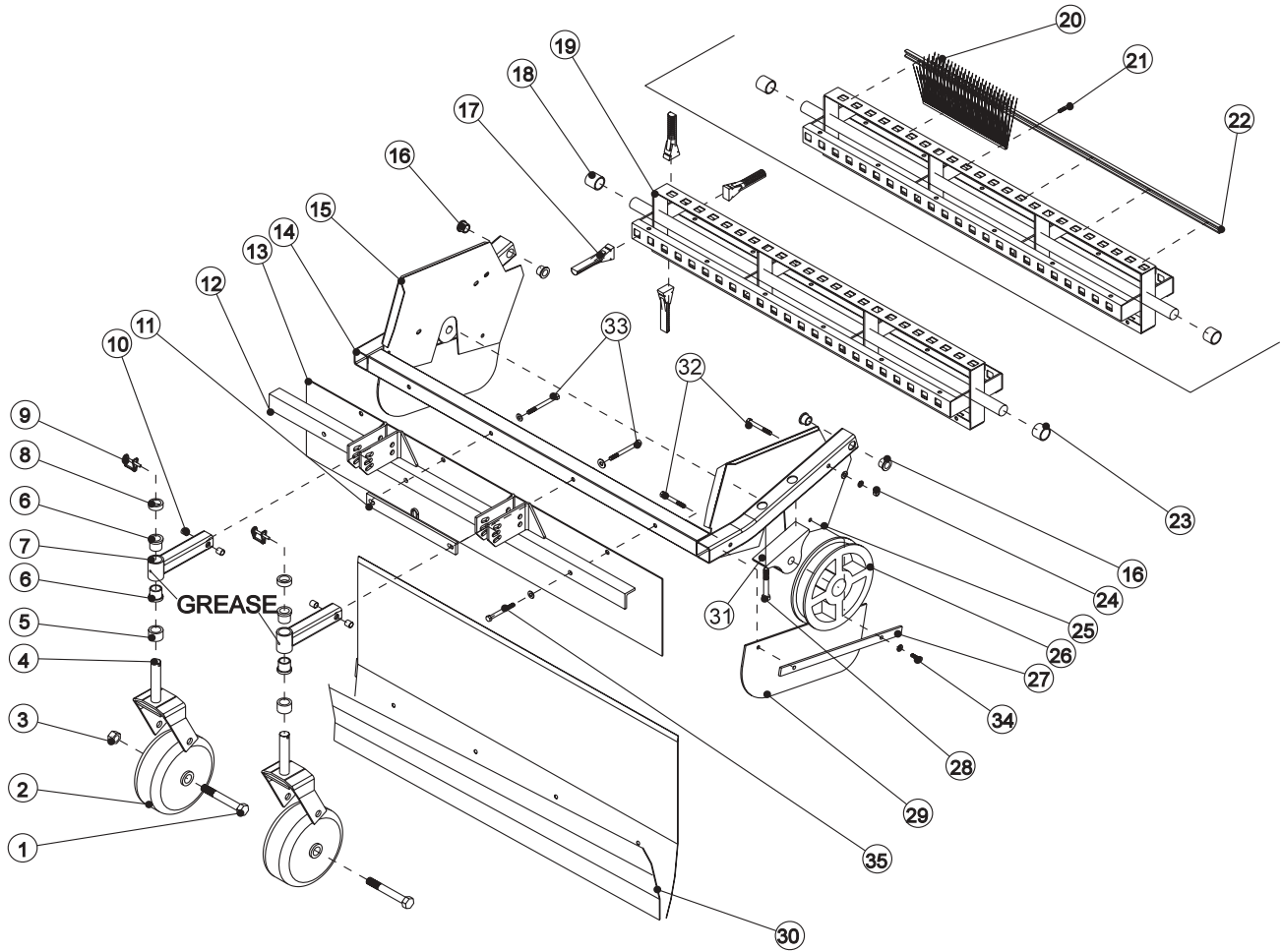
Parts

REF#	PART#	DESCRIPTION	QUANTITY
1	48-050	Clutch Relay	1
2	21-173	Ball Joint $\frac{3}{8}$ - 24	3
3	48-051	Clutch Lever	1
	10-007	Bushing (part of 48-051)	1
4	16-259	Shift knob	1
5	48-052	Clutch Handle Rod	1
	HN-38-24	Nut $\frac{3}{8}$ - 24	2
6	HN-38-24	Nut $\frac{3}{8}$ - 24	3
	HWL-38	Lock Washer $\frac{3}{8}$	3
7	48-038	Spring Bracket	1
8	21-445	Spring	1
9	21-461	Pulley	1
	HKSQ-14-150	Machine Key $\frac{1}{4} \times \frac{1}{4} \times 1\frac{1}{2}$	1
10	16-013	Idler Pulley	2
	76-298	Spacer	2
11	HP-18-150	Cotter Pin $\frac{1}{8} \times 1\frac{1}{2}$	1
	HW-516	Washer $\frac{5}{16}$	6
12	76-217	Idler Arm	1
13	76-292	Attachment Clutch Slide	1
	18-271	Bushing	2
14	76-151	Washer	4
15	75-861	Bottom Belt Guard	1
16	76-102	Pulley with Hub	1
	76-102-01	Hub $1\frac{1}{4}$ ID	1
	HKSQ-14-150	Machine Key $\frac{1}{4} \times \frac{1}{4} \times 1\frac{1}{2}$	1
17	HB-38-16-300	Bolt $\frac{3}{8}$ - 16 x 3	2
	HW-38	Washer $\frac{3}{8}$	4
	HWL-38	Lock Washer $\frac{3}{8}$	2
	HN-38-16	Nut $\frac{3}{8}$ - 16	2
18	HP-18-100	Cotter Pin $\frac{1}{8} \times 1$	2
	HMB-12-14	Machine Bushing $\frac{1}{2} \times 14GA$	7
19	HB-12-13-275	Bolt $\frac{1}{2}$ - 13 x $2\frac{3}{4}$	2
	HNTL-12-13	Lock Nut $\frac{1}{2}$ - 13	2
20	HB-38-16-350	Bolt $\frac{3}{8}$ - 16 x $3\frac{1}{2}$	2
	HW-38	Washer $\frac{3}{8}$	2
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
21	76-200	Belt	1
22	76-212	Belt Guard	1
23	48-058	Beater Clutch Rod	1
	HN-38-24	Nut $\frac{3}{8}$ - 24	1
24	22-002	Safety Switch	1



FINGER REEL DRAWING (HIGH LIFT)

Parts

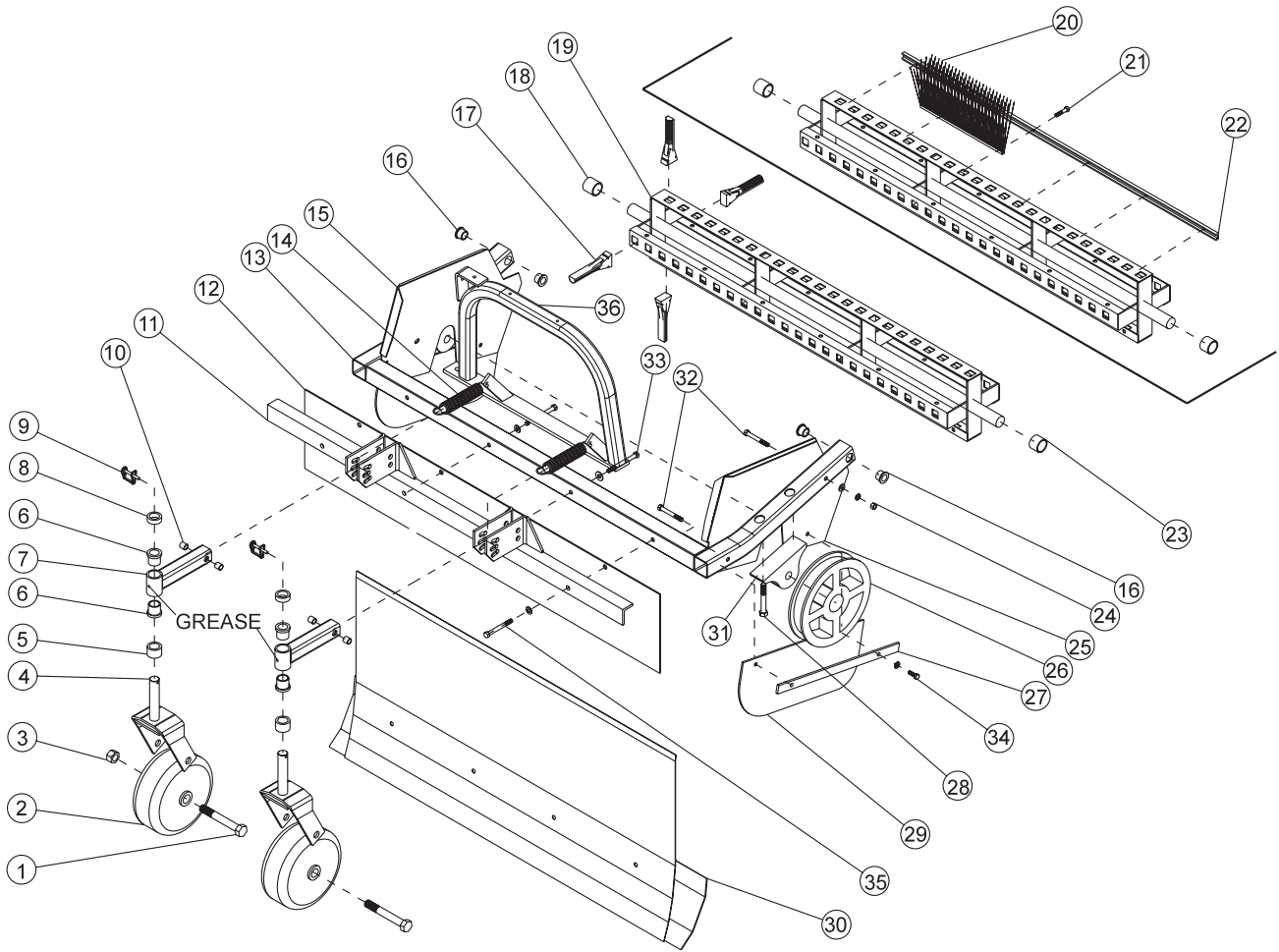


FINGER REEL PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	HB-34-10-550	Bolt $\frac{3}{4}$ - 10 x $5\frac{1}{2}$	2
2	33-435	Tire and Wheel	2
3	HNTL-34-10	Nut $\frac{3}{4}$ - 10	2
4	48-046	Castor Fork	2
5	29-585	Spacer Height Adjustment 1"	2
6	18-223	Bushing (part of 77-171)	4
7	77-171	Arm	2
	HG-14-28-180	Grease Fitting $\frac{1}{4}$ - 28 x 180°	1
8	29-584	Spacer Adjustment $\frac{1}{2}$ "	2
9	29-541	Lock Pin	2
10	20-019	Bushing (part of 77-171)	4
11	48-048	Beater Chain Bracket	1
12	48-045	Castor Frame	1
	HCP-12-225	Clevis Pin $\frac{1}{2}$ - $2\frac{1}{4}$	4
	HHP-18	Bridge Pin $\frac{1}{8}$	4
13	76-320	Mud Guard	1
14	48-030	Beater Frame	1
15	75-799	Right Side Plate	1
16	18-221	Flange Bushing (part of 48-030))	4
17	75-506	Sweeper Finger	96
18	75-834	Spacer (right)	1
19	48-010	Finger Reel	1
20	48-086	Brush	4
21	HB-516-18-125	Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{4}$	24
	HNTL-516-18	Lock Nut $\frac{5}{16}$ - 18	24
22	48-105	Clamp	4
23	75-686	Spacer (left)	1
24	HN-38-16	Nut $\frac{3}{8}$ - 16	4
	HWL-38	Lock Washer $\frac{3}{8}$	4
	HW-38	Washer $\frac{3}{8}$	8
25	75-800	Left Side Plate	1
26	76-102	Pulley with Hub	1
	76-102-01	Hub $1\frac{1}{4}$ ID	1
27	76-213	Reel Guard Strap	2
28	HB-12-13-350	Bolt $\frac{1}{2}$ - 13 x $3\frac{1}{2}$	4
	HW-716	Washer $\frac{7}{16}$	4
	HNTL-12-13	Lock Nut $\frac{1}{2}$ - 13	4
29	76-210	Matting	2
30	48-028	Front Baffle	1
31	75-511	Pillow Block	2
32	HB-38-16-300	Bolt $\frac{3}{8}$ - 16 x 3	4
33	HB-38-16-400	Bolt $\frac{3}{8}$ - 16 x 4	2
	HW-38	Washer $\frac{3}{8}$	4
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
34	HB-516-18-100	Bolt $\frac{5}{16}$ - 18 x 1	4
	HW-516	Washer $\frac{5}{16}$	4
	HWL-516	Lock Washer $\frac{5}{16}$	4
	HN-516-18	Nut $\frac{5}{16}$ - 18	4
35	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



FINGER REEL DRAWING (GROUND DUMP)

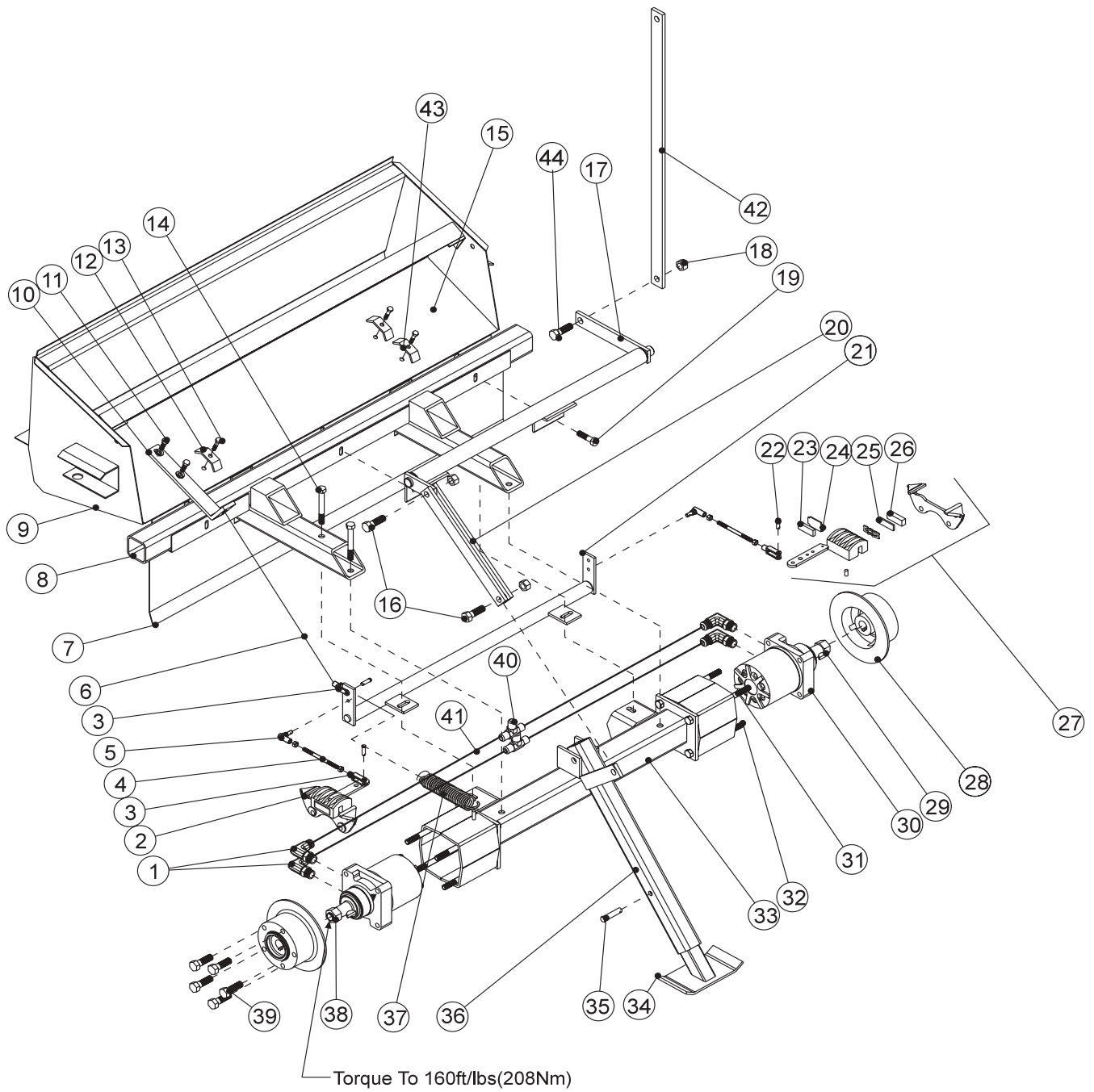


Parts

FINGER REEL PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	HB-34-10-550	Bolt $\frac{3}{4}$ - 10 x $5\frac{1}{2}$	2
2	33-435	Tire and Wheel	2
3	HNTL-34-10	Nut $\frac{3}{4}$ - 10	2
4	48-046	Castor Fork	2
5	29-585	Spacer Height Adjustment 1"	2
6	18-223	Bushing	4
7	77-171	Arm	2
	HG-14-28-180	Grease Fitting $\frac{1}{4}$ - 28 x 180°	1
8	29-584	Spacer Adjustment $\frac{1}{2}$ "	2
9	29-541	Lock Pin	2
10	20-019	Bushing	4
11	48-045	Castor Frame	1
	HCP-12-225	Clevis Pin $\frac{1}{2}$ - $2\frac{1}{4}$	4
	HHP-18	Bridge Pin $\frac{1}{8}$	4
12	76-320	Mud Guard	1
13	48-030	Beater Frame	1
14	21-445	Spring	2
15	75-799	Right Side Plate	1
16	18-221	Flange Bushing	4
17	75-506	Sweeper Finger	96
18	75-834	Spacer (right)	1
19	48-010	Finger Reel	1
20	48-086	Brush	4
21	HB-516-18-125	Bolt $\frac{5}{16}$ - 18 x $1\frac{1}{4}$	24
	HNTL-516-18	Lock Nut $\frac{5}{16}$ - 18	24
22	48-105	Clamp	4
23	75-686	Spacer (left)	1
24	HN-38-16	Nut $\frac{3}{8}$ - 16	4
	HWL-38	Lock Washer $\frac{3}{8}$	4
	HW-38	Washer $\frac{3}{8}$	8
25	75-800	Left Side Plate	1
26	76-102	Pulley with Hub	1
	76-102-01	Hub $1\frac{1}{4}$ ID	1
27	76-213	Reel Guard Strap	2
28	HB-12-13-350	Bolt $\frac{1}{2}$ - 13 x $3\frac{1}{2}$	4
	HW-716	Washer $\frac{7}{16}$	4
	HNTL-12-13	Lock Nut $\frac{1}{2}$ - 13	4
29	76-210	Matting	2
30	48-028	Front Baffle	1
31	75-511	Pillow Block	2
32	HB-38-16-300	Bolt $\frac{3}{8}$ - 16 x 3	4
33	HB-38-16-400	Bolt $\frac{3}{8}$ - 16 x 4	2
	HW-38	Washer $\frac{3}{8}$	4
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	2
34	HB-516-18-100	Bolt $\frac{5}{16}$ - 18 x 1	4
	HW-516	Washer $\frac{5}{16}$	4
	HWL-516	Lock Washer $\frac{5}{16}$	4
	HN-516-18	Nut $\frac{5}{16}$ - 18	4
35	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
36	48-088	Seat Support	1

REAR AXLE DRAWING (HIGH LIFT)



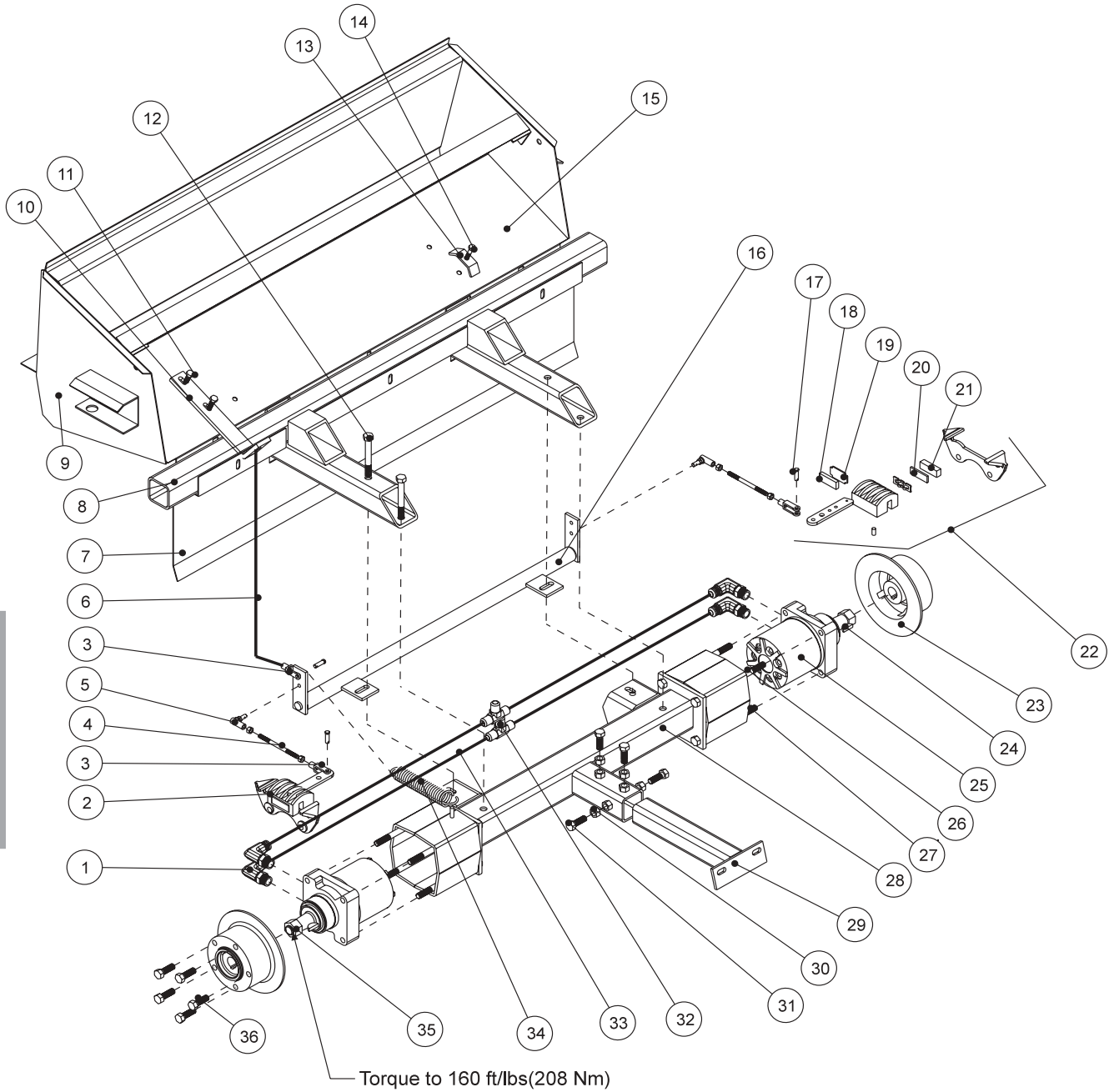
Parts

REAR AXLE PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	34-122	Short Elbow	4
2	76-240	Left Caliper	1
3	11-100	Linkage Yoke ⁵ / ₁₆	3
4	76-300	Brake Rod	2
	HN-516-24	Nut ⁵ / ₁₆ - 24	6
5	21-462	Ball Joint ⁵ / ₁₆ - 24	2
6	60-347	Brake Cable	1
	60-536	Bellows	1
7	48-006	Rear Beater Panel	1
8	48-027	Main Frame	1
9	48-029	Grass Chute	1
	8947-48	Trim Seal	2
10	48-134	Brake Cable Bracket	1
11	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
12	13-099	Clamp	2
13	HB-516-18-150	Bolt ⁵ / ₁₆ - 18 x 1 ¹ / ₂	3
14	HB-12-13-400	Bolt ¹ / ₂ - 13 x 4	2
	HB-12-13-450	Bolt ¹ / ₂ - 13 x 4 ¹ / ₂	2
	HW-716	Washer ⁷ / ₁₆	2
	HNTL-12-13	Lock Nut ¹ / ₂ - 13	4
15	48-054	Rear Baffle	1
16	HB-58-11-250	Bolt ⁵ / ₈ - 11 x 2 ¹ / ₂	2
	HMB-58-14	Machine Bushing ⁵ / ₈ x 14GA	4
17	48-043	Rear Skid Pivot	1
18	HNTL-58-11	Lock Nut ⁵ / ₈ - 11	3
19	HB-38-16-350	Bolt ³ / ₈ - 16 x 3 ¹ / ₂	6
	HW-38	Washer ³ / ₈	6
	HNTL-38-16	Lock Nut ³ / ₈ - 16	3
20	48-042	Linkage Strap (short)	2
21	48-055	Brake Relay	1
22	HCP-516-100	Clevis Pin ⁵ / ₁₆ x 1	2
	HP-18-075	Cotter Pin ¹ / ₈ x ³ / ₄	2
23*		Carrier Side Pad	1
24*		Carrier Side Pad Support	1
25*		Cam Side Pad support	1
26*		Cam Side Pad	1
27	76-241	Right Caliper	1
28	76-239	Brake Disc	2
29	HWK-516-100	Woodruff Key ⁵ / ₁₆ x 1 (comes with wheel motor)	2
30	48-137	Wheel motor	2
31	HB-12-13-800	Bolt ¹ / ₂ - 13 x 8	4
	HNTL-12-13	Lock Nut ¹ / ₂ - 13	4
32	HB-12-13-750	Bolt ¹ / ₂ - 13 x 7 ¹ / ₂	4
	HNTL-12-13	Lock Nut ¹ / ₂ - 13	4
33	48-031	Rear Axle	1
34	48-039	Rear Skid	1
35	HCP-12-225	Clevis Pin ¹ / ₂ x 2 ¹ / ₄	1
	HHP-18	Bridge Pin ¹ / ₈	1
36	48-040	Rear Pivot Arm	1
37	29-118	Zinc Plate Spring	1
38	14-265	Nut 1 - 20 (comes with wheel motor)	2
39	60-268	Lug Bolt ¹ / ₂ - 20 x 1 ⁵ / ₁₆	10
40	34-057	Tee	2
41	48-015	Hose	4
42	48-041	Linkage Strap (long)	1
43	75-614	Hose Clamp	1
44	HB-58-11-200	Bolt ⁵ / ₈ - 11 x 2	1
*	34-101-02	Pad Kit with 2 Pads and Steel Support Plates	2 Kits per Axle



REAR AXLE DRAWING (GROUND DUMP)



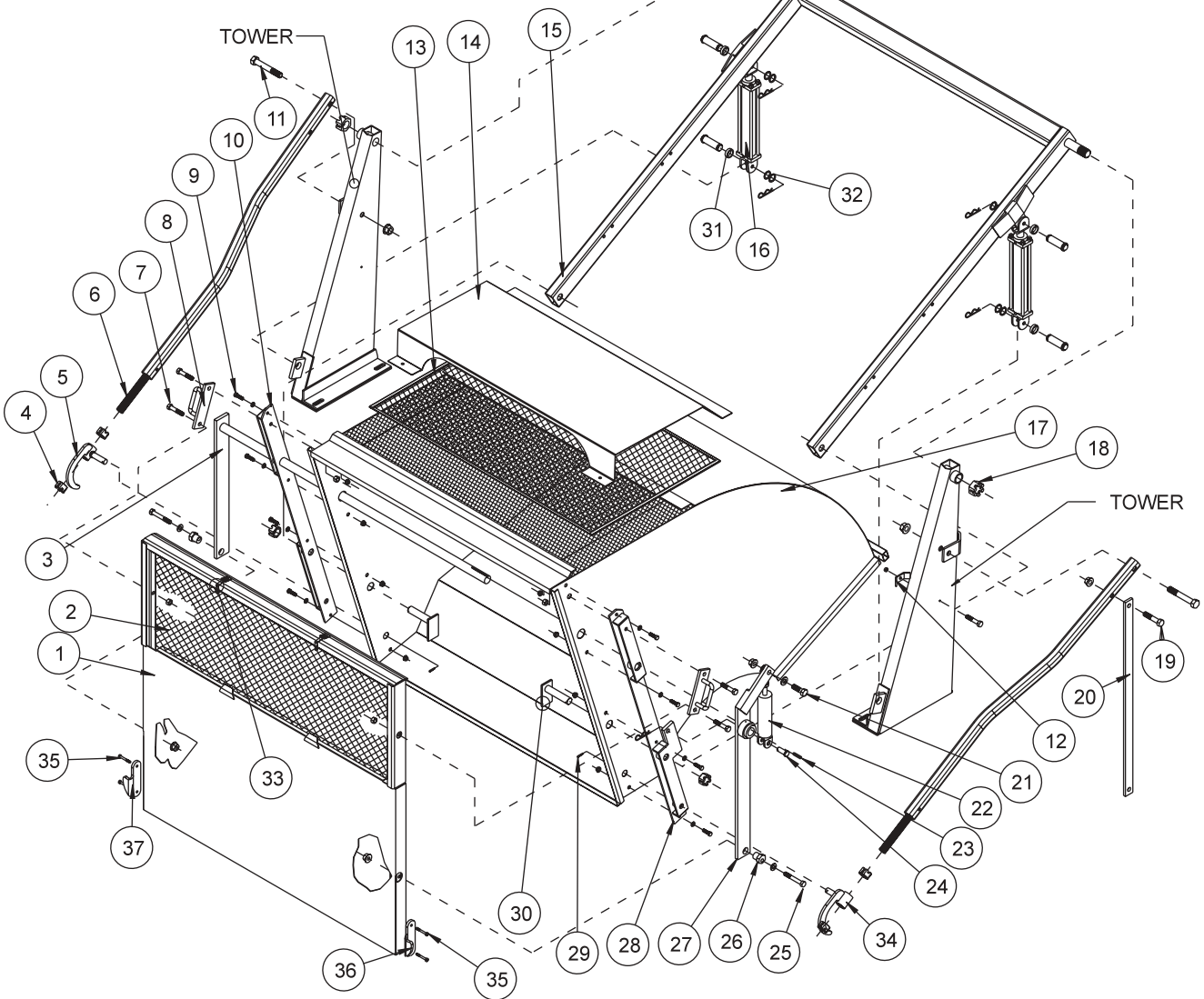
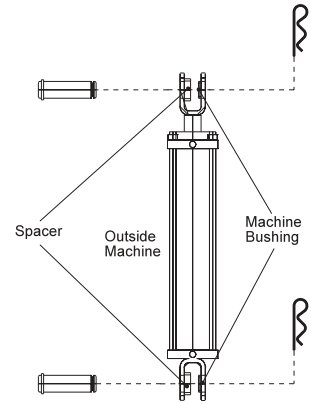
Parts

REAR AXLE PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	34-122	Short Elbow	4
2	76-240	Left Caliper	1
3	11-100	Linkage Yoke ⁵ / ₁₆	3
4	76-300	Brake Rod	2
	HN-516-24	Nut ⁵ / ₁₆ - 24	6
5	21-462	Ball Joint ⁵ / ₁₆ - 24	2
6	60-347	Brake Cable	1
	60-536	Bellows	1
7	48-006	Rear Beater Panel	1
8	48-027	Main Frame	1
9	48-029	Grass Chute	1
10	48-134	Brake Cable Bracket	1
11	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
12	HB-12-13-400	Bolt ¹ / ₂ - 13 x 4	2
	HB-12-13-450	Bolt ¹ / ₂ - 13 x 4 ¹ / ₂	2
	HW-716	Washer ⁷ / ₁₆	2
	HNTL-12-13	Lock Nut ¹ / ₂ - 13	4
13	75-614	Hose Clamp	1
14	HB-516-18-150	Bolt ⁵ / ₁₆ - 18 x 1 ¹ / ₂	1
15	48-054	Rear Baffle	1
16	48-055	Brake Relay	1
17	HCP-516-100	Clevis Pin ⁵ / ₁₆ x 1	2
	HP-18-075	Cotter Pin ¹ / ₈ x ³ / ₄	2
18*		Carrier Side Pad	1
19*		Carrier Side Pad Support	1
20*		Cam Side Pad support	1
21*		Cam Side Pad	1
22	76-241	Right Caliper	1
23	76-239	Brake Disc	2
24	HWK-516-100	Woodruff Key ⁵ / ₁₆ x 1 (comes with wheel motor)	2
25	48-137	Wheel motor	2
26	HB-12-13-800	Bolt ¹ / ₂ - 13 x 8	4
	HNTL-12-13	Lock Nut ¹ / ₂ - 13	4
27	HB-12-13-750	Bolt ¹ / ₂ - 13 x 7 ¹ / ₂	4
	HNTL-12-13	Lock Nut ¹ / ₂ - 13	4
28	48-119	Rear Axle	1
29	48-117	Hopper Support	1
30	HN-12-13	Nut ¹ / ₂ - 13	4
31	HB-12-13-150	Bolt ¹ / ₂ - 13 x 1 ¹ / ₂	4
32	34-057	Tee	2
33	48-015	Hose	4
34	29-118	Zinc Plate Spring	1
35	14-265	Nut 1 - 20 (comes with wheel motor)	2
36	60-268	Lug Bolt ¹ / ₂ - 20 x 1 ⁵ / ₁₆	10
*	34-101-02	Pad Kit with 2 Pads and Steel Support Plates	2 Kits per Axle

HOPPER AND TAILGATE DRAWING (HIGH LIFT)

48-120 Dust and Filtration Pack for High Lift
 48-064 Hopper Filter 24" x 44"
 48-065 Tailgate Filter 17" x 50"



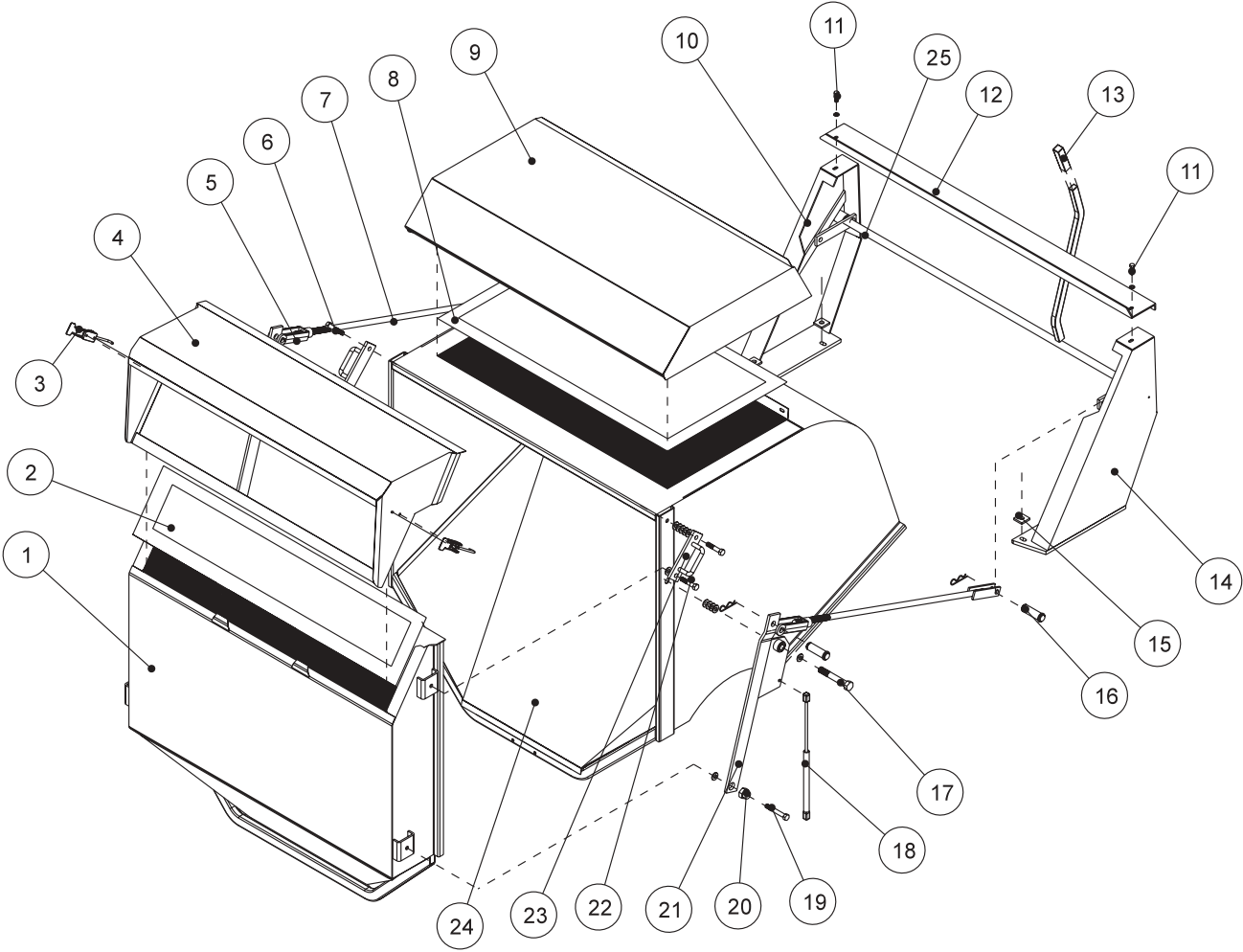
Parts

HOPPER AND TAILGATE PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	48-005	Tailgate	1
2	48-023	Tailgate Screen	1
3	48-037	Left Dump Arm	1
4	HNA-100-14	Castle Nut 1 - 14	6
5	48-153	Left Adjustment Sleeve	1
6	48-061	Hopper Dump Arm	2
	75-653	Hopper Safety Lift (not pictured)	2
	HB-38-16-250	Bolt ³ / ₈ - 16 x 2 ¹ / ₂	4
	HNW-38-16	Wing Nut ³ / ₈ - 16	4
7	HB-12-13-250	Bolt ¹ / ₂ - 13 x 2 ¹ / ₂	2
	HMB-12-14	Machine Bushing ¹ / ₂ x 12	8
	HNCL-12-13	Center Lock Nut ¹ / ₂ - 13	4
8	48-053	Tailgate Hinge	2
9	HB-38-16-125	Bolt ³ / ₈ - 16 x 1 ¹ / ₄	8
	HNTL-38-16	Lock Nut ³ / ₈ - 16	8
10	48-025	Left Hinge Strap	1
11	HB-34-10-500	Bolt ³ / ₄ - 10 x 5	2
	HNTL-34-10	Lock Nut ³ / ₄ - 10	2
12	13-099	Hose Clamp	2
	HB-516-18-125	Bolt ⁵ / ₁₆ - 18 x 1 ¹ / ₄	2
	HWL-516	Lock Washer ⁵ / ₁₆	2
13	48-022	Hopper Screen	1
14	48-004	Hopper Screen Cover	1
15	48-044	Arm Pivot Tube	1
	48-131	Hose Guard	1
	76-159	Hose Guard Long	1
	HDSPS-14-075	Stainless Steel Pan Head Drill Screw ¹ / ₄ x ³ / ₄	4
16	76-242	Hydraulic Cylinder	2
	76-242-02	Clevis Pin with Clip	4
17	48-007	Hopper	1
18	HNA-114-12	Castle Nut 1 ¹ / ₄ - 12	2
19	HB-58-11-300	Bolt ⁵ / ₈ - 11 x 3	1
	HNTL-58-11	Lock Nut ⁵ / ₈ - 11	1
20	48-041	Linkage Strap	1
21	HB-58-11-200	Bolt ⁵ / ₈ - 11 x 2	2
	HMB-58-14	Machine Bushing ⁵ / ₈ x 14GA	2
	HNOT-58-11	Oval Top Lock Nut ⁵ / ₈ - 11	1
22	75-714	Hydraulic Cylinder	1
	18-154	Rod End	1
	HNJ-58-18	Jam Nut ⁵ / ₈ - 18	1
23	HKSQ-14-150	Machine Key ¹ / ₄ x ¹ / ₄ x 1 ¹ / ₂	1
	HSSH-516-18-050	Socket Set Screw ⁵ / ₁₆ - 18 x ¹ / ₂	1
24	HCP-58-175	Clevis Pin ⁵ / ₈ x 1 ³ / ₄	1
	HHP-18	Bridge Pin ¹ / ₈	1
25	HB-12-13-350	Bolt ¹ / ₂ - 13 x 3 ¹ / ₂	2
	HW-12	Washer ¹ / ₂	2
	HNTL-12-13	Lock Nut ¹ / ₂ - 13	2
26	48-057	Tailgate Adjuster	2
27	48-036	Right Dump Arm	1
28	48-024	Right Hinge Strap	1
29	HP-18-100	Cotter Pin ¹ / ₈ - 1	2
30	75-569	Swivel Pin	2
31	48-129	Spacer (inside of clevis to outside of machine)	4
32	HMB-100-10	Machine Bushing 1 x 10GA (inside clevis; inside machine)	4
33	76-319	Snap Fastener	3
	HRS-316-050	Rivet ³ / ₁₆ x ¹ / ₂	3
34	48-148	Right Adjustment Sleeve	1
35	HB-14-20-200	Bolt ¹ / ₄ - 20 x 2	4
	HNFL-14-20	Flange Whiz Lock Nut ¹ / ₄ - 20	4
36	48-149	Right Hook Bracket	1
37	48-150	Left Hook Bracket	1



HOPPER AND TAILGATE DRAWING (GROUND DUMP)



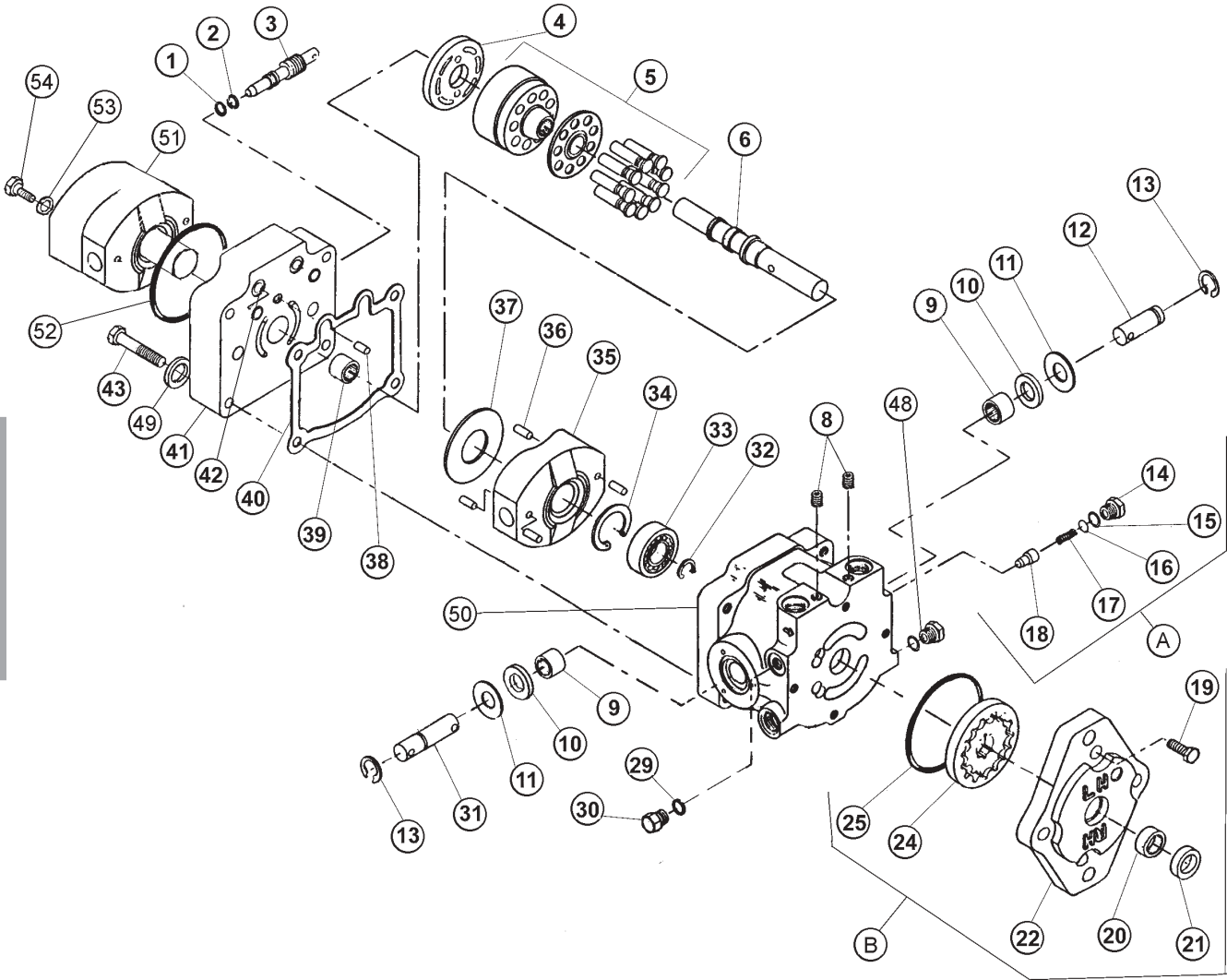
Parts

HOPPER AND TAILGATE PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1	48-104	Tailgate	1
2*	48-063	Tailgate Filter Pack (optional)	1
3	48-115	Adjustable Draw Latch	2
	HB-14-20-075	Bolt 1/4 - 20 x 3/4	4
	HNTL-14-20	Lock Nut 1/4 - 20	4
4	48-103	Tailgate Cover	1
5	42-040	Yoke 3/4	2
	HNJ-34-10	Jam Nut 3/4 - 10	2
6	HB-12-13-200	Bolt 1/2 - 13 x 2	2
	HNCL-12-13	Center Lock Nut 1/2 - 13	2
	HMB-12-14	Machine Bushing 1/2 x 14GA	8
7	48-097	Lift Rod	2
8*	48-122	Hopper Filter Pack (optional)	1
9	48-102	Hopper Cover	1
10	48-091	Left Tower	1
11	HB-38-16-125	Bolt 3/8 - 16 x 1 1/4	2
	HW-38	Washer 3/8	2
	HNTL-38-16	Lock Nut 3/8 - 16	2
12	48-094	Tower Support	1
13	48-078	Grip	1
14	48-090	Right Tower	1
15	76-151	Washer	4
16	HCP-34-175	Clevis Pin 3/4 x 1 3/4	4
	HHP-18	Bridge Pin 1/8	4
17	HB-34-10-400	Bolt 3/4 - 10 x 4	2
	HMB-34-10	Machine Bushing 3/4 - 10GA	10
	HNTL-34-10	Lock Nut 3/4 - 10	2
18	48-116	Gas Spring	2
	26-034	Ball Studs 10 mm	4
	HWL-516	Lock Washer 5/16	4
	HN-516-18	Nut 5/16 - 18	4
19	HB-12-13-200	Bolt 1/2 - 13 x 2	2
	HMB-12-14	Machine Bushing 1/2 - 14GA	2
	HNTL-12-13	Lock Nut 1/2 - 13	2
20	48-096	Tailgate Adjuster	2
21	48-098	Right Dump Arm	1
	48-099	Left Dump Arm	1
	10-025	Flange Bushing	1 per
22	HB-12-13-150	Bolt 1/2 - 13 x 1 1/2	2
	HMB-12-14	Machine Bushing 1/2 - 14GA	2
	HNTL-12-13	Lock Nut 1/2 - 13	2
23	48-053	Tailgate Hinge	2
24	48-101	Hopper	1
25	48-095	Tailgate Dump Handle	1
* *	48-121	Dust Filtration Pack Ground Dump (includes Ref# 2 and 8)	1 per

76-322 15 SERIES SUNDSTRAND PUMP DRAWING (HIGH LIFT)

NOTE: #8 is Gage Port



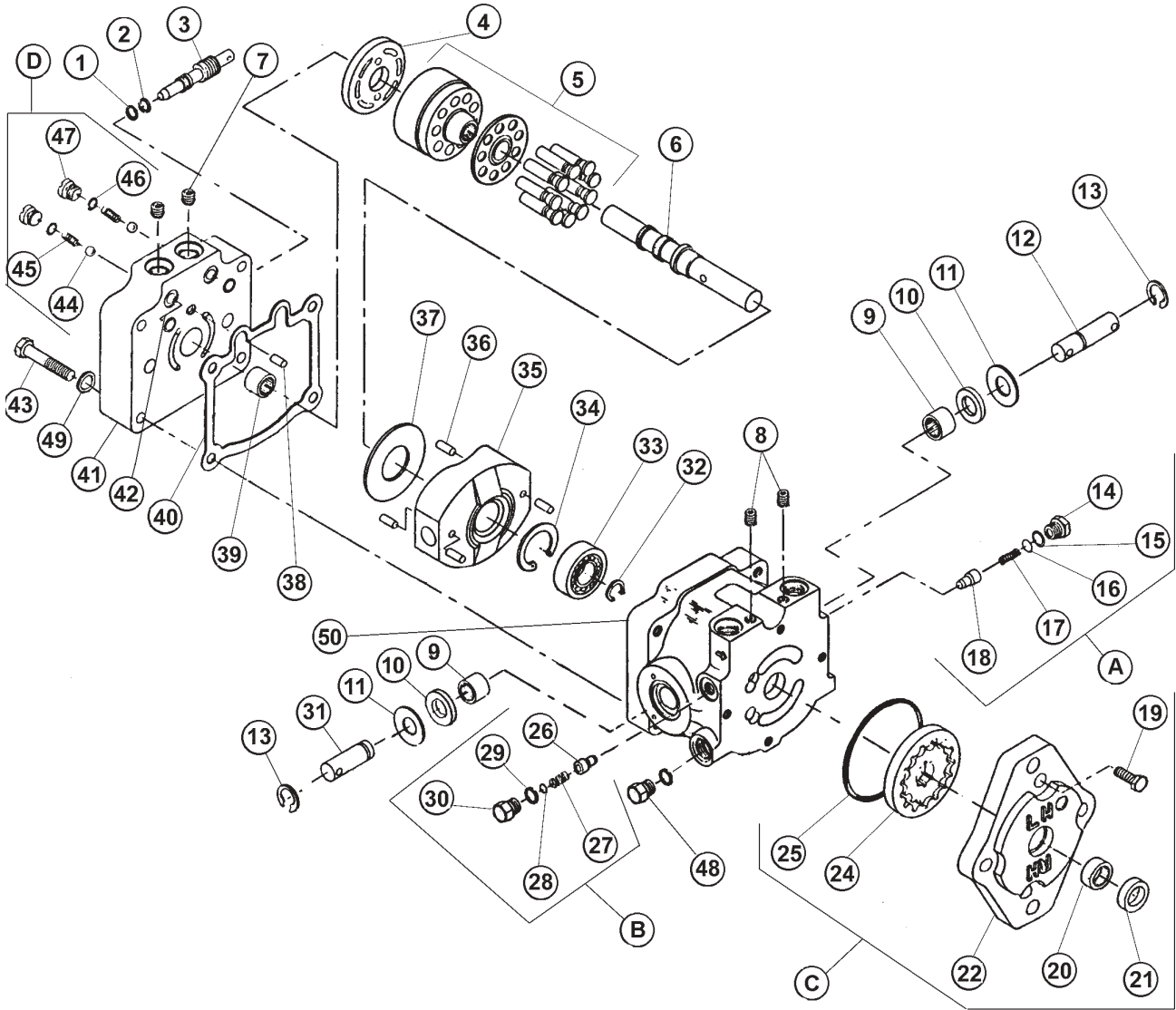
Parts

76-322 15 SERIES SUNDSTRAND PUMP PARTS LIST (HIGH LIFT)

REF#	PART#	DESCRIPTION	QUANTITY
1	42-003-01	O-Ring	1
2	14-130	Ring	1
3	13-110-01	By-Pass Valve	1
4	14-115	Valve Plate	1
5	42-003-16	Cylinder Block Kit	1
6	76-322-02	Pump Shaft	1
8	13-110-05	Pipe Plug	2
9	14-069	Needle Bearing	2
10*	42-003-04	Lip Seal	2
11	42-003-05	Washer	2
12	14-212	Truncated Shaft (short 1 holes)	1
13	14-105	Retaining Ring	2
14A	13-110-10	Plug	1
15*A		O-Ring	1
16A	14-219	Shim Pack Kit	1
17A	14-234	Release Valve Spring	1
18A	14-235	Release Valve Cone	1
19B	13-110-14	Hex Head Screw	4
20B	42-003-07	Needle Bearing	1
21*B	14-054	Lip Seal	1
22B	13-110-13	Charge Pump Housing	1
24B	42-003-08	Gerotor Assembly	1
25*B		O-Ring	1
29*		O-Ring	2
30	13-110-10	Plug	1
31	14-220	Truncated Shaft (long 2 holes)	1
32	42-003-09	Retaining Ring	1
33	42-003-10	Ball Bearing	1
34	14-132	Retaining Ring	1
35	14-221	Variable Swash Plate	1
36	14-216	Spring Pin	4
37	14-114	Thrust Plate	1
38	14-215	Pin	1
39	14-217	Roller Bearing	1
40*	14-107	Gasket	1
41	76-322-01	End Cap	1
42*		O-Ring	2
43	42-003-11	Hex Head Screw	4
48	42-003-12	Plug	2
49	42-003-13	Washer	1
50	42-003-17	Housing Assembly (includes #9 & 10)	1
51†	76-323	Gear Pump (non-repairable)	1
	When ordering Gear Pump also order # 52, 53, 54		
52	76-322-03	O-Ring	1
53	76-322-04	Washer	2
54	76-322-05	Screw	2
*	14-098	Seal Kit	1
†	Parts are not available. Replace with new unit.		
A	14-214	Relief Valve Kit	1
B	42-003-14	Charge Pump	1

42-003 HYDROSTATIC PUMP DRAWING (GROUND DUMP)

NOTE: #8 is Gage Port

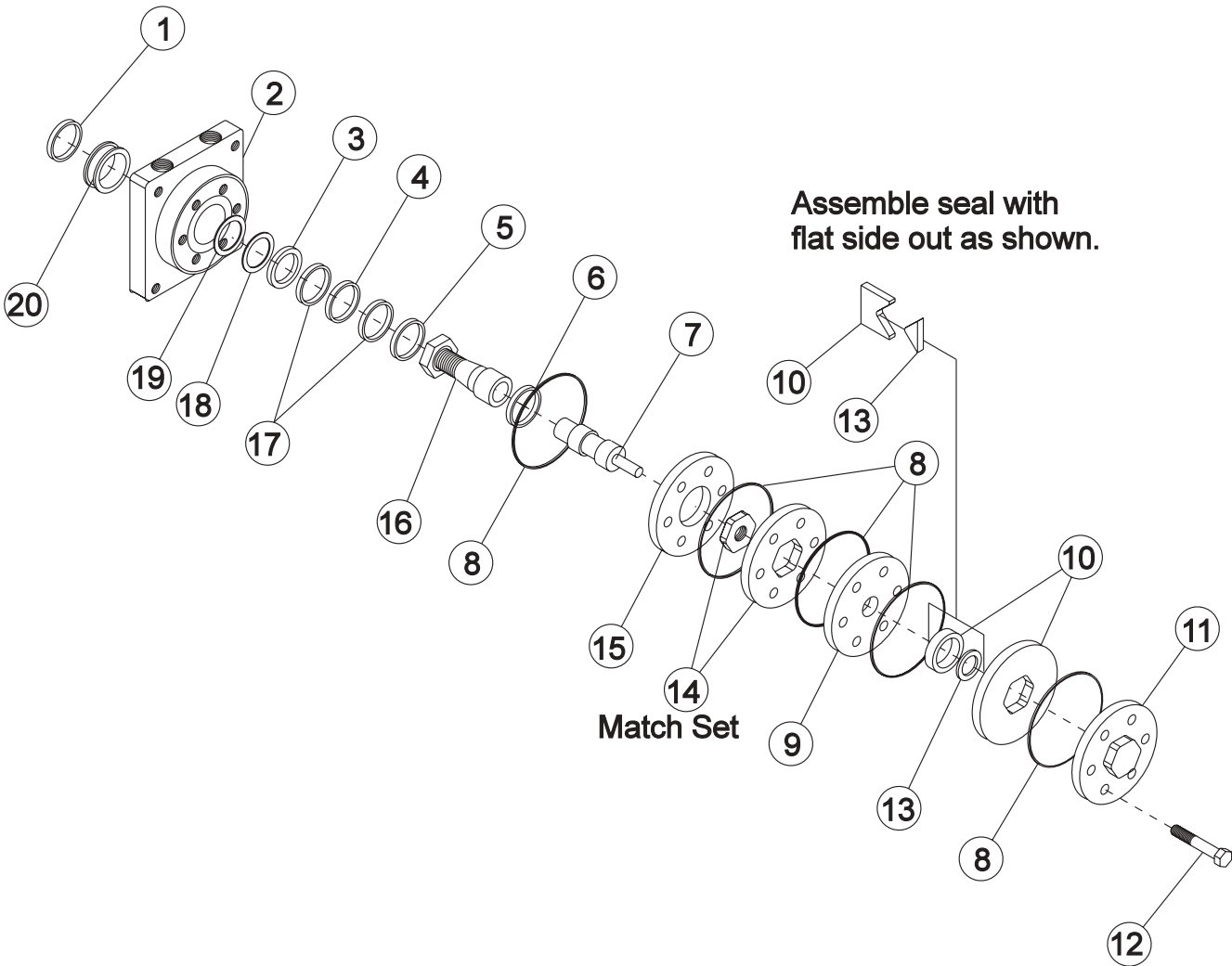


Parts

42-003 HYDROSTATIC PUMP PARTS LIST (GROUND DUMP)

REF#	PART#	DESCRIPTION	QUANTITY
1*	42-003-01	O-Ring	1
2	14-130	Ring	1
3	13-110-01	By-Pass Valve	1
4	14-115	Valve Plate	1
5	42-003-16	Cylinder Block Kit	1
6	42-003-02	Pump Shaft	1
7	42-003-03	Plug	2
8	13-110-05	Pipe Plug	2
9	14-069	Needle Bearing	2
10*	42-003-04	Lip Seal	2
11	42-003-05	Washer	2
12	14-220	Truncated Shaft (long 2 holes)	1
13	14-105	Retaining Ring	2
14A	13-110-10	Plug	1
15*A		O-Ring	1
16A	14-219	Shim Pack Kit	1
17A	14-263	Release Valve Spring	1
18A	42-003-06	Release Valve Cone	1
19C	13-110-14	Hex Head Screw	4
20C	42-003-07	Needle Bearing	1
21*C	14-054	Lip Seal	1
22C	13-110-13	Charge Pump Housing	1
24C	42-003-08	Gerotor	1
25*C		O-Ring	1
26B	14-235	Release Valve Cone	1
27B	14-234	Check Release Valve Spring	1
28B	14-219	Shim Pack Kit	1
29*B		O-Ring	1
30B	13-110-10	Plug	1
31	14-212	Truncated Shaft (short 1 hole)	1
32	42-003-09	Retaining Ring	1
33	42-003-10	Ball Bearing	1
34	14-132	Retaining Ring	1
35	14-221	Variable Swash Plate	1
36	14-216	Spring Pin	4
37	14-114	Thrust Plate	1
38	14-215	Pin	1
39	14-217	Roller Bearing	1
40*	14-107	Gasket	1
41	42-003-15	Pump End Cap	1
42*		O-Ring	2
43	42-003-11	Hex Head Screw	4
44D	13-110-09	Ball	2
45D	13-110-08	Check Valve Spring	2
46*D		O-Ring	2
47D	13-110-07	Check Valve Plug	2
48	42-003-12	Plug	2
49	42-003-13	Washer	1
50	42-003-17	Housing Assembly (includes #9 & 10)	1
*	14-098	Seal Kit	1
A	13-110-17	Implement Valve Kit	1
B	14-214	Charge Pump Valve Kit	1
C	42-003-14	Charge Pump	1
D	13-110-16	Check Valve Kit	2

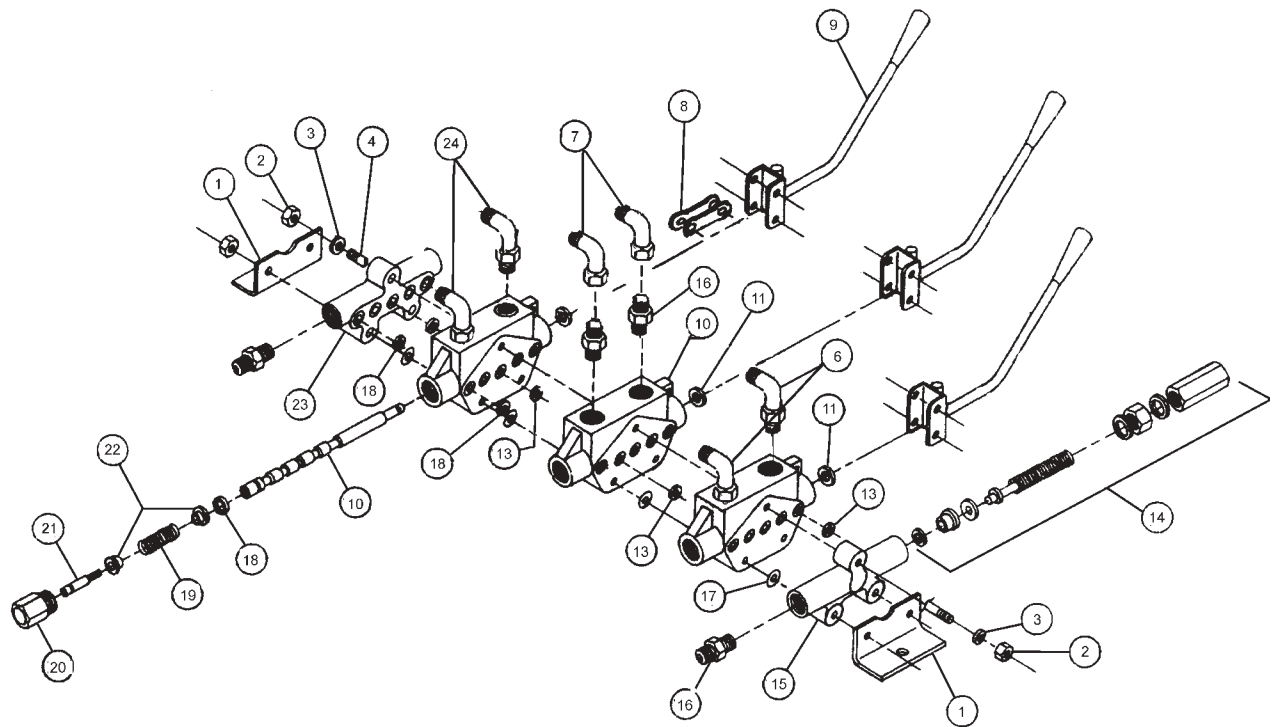
48-137 REAR WHEEL MOTOR (10.3 C.I.) DRAWING



48-137 REAR WHEEL MOTOR (10.3 C.I.) PARTSLIST

REF#	PART#	DESCRIPTION	QUANTITY
1*		Water & Dirt Seal	1
2	13-615-05	Service Housing Assembly (includes #4,5,17(2 Req'd) and 20)	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	48-137-01	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	48-137-02	Bolt	7
13*		Commutator Seal (matches with #10)	1
14	48-137-03	Rotor Set (matched set)	1
15	13-032-35	Plate Wear	1
16	13-615-04	Coupling Shaft	1
	HWK-516-100	Woodruff Key ⁵ / ₁₆ X 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

76-023 3-BANK HYDRAULIC VALVE DRAWING



Parts

76-023 3 -BANK HYDRAULIC VALVE PARTSLIST

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	18-168	Elbow 90°	4
7	18-202	Elbow 90°	2
8		Linkage (comes with handle)	
9	76-309	Valve Handle (sold as a set of 3)	1
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	4
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
*	14-096	O-Ring Seal Kit (includes all * items)	1

This is a list of decals on the Sweep Star 48. Part number, description, and location will help in reordering decals.

16-088*	Moving Parts/Hot	Belt Guard
25-078	No Riders	Engine Cover
25-277*	Battery	Seat Panel
25-286	Pinch Point	Tailgate
25-297	Hot Hyd/Pinch Point	Belt Guard
25-308	Engine RPM	Front Engine
25-307*	Gasoline	Console Back
25-313*	Warning Grade	Dashboard
25-320*	Max Weight	Front Hopper
25-352	Bypass Valve	Hang Tag
25-356	Tire Pressure (20 psi)	All Wheels
27-093*	Hydraulic Oil	Console Back
34-147	Smithco Star	Hopper Sides
48-146	Sweep Star 48 L	Hopper Sides (Ground Dump)
48-107	Console Panel	Console (Ground Dump)
48-108	Foot Pedal	Dashboard (Ground Dump)
48-145	Sweep Star 48 H	Hopper Sides (High Lift)
48-130	Beater Disengage	Dash board
48-138	Reel Height Adj.	Baffle
25-359	Smithco	Tailgate
75-651	Hopper Lift Safety Bar	Lift Bars on Hopper Sides
76-199	Console Panel	Console (High Lift)
76-304*	Crush/Pinch Points	Front Grass Chute
76-305*	Moving Reel	Grass Chute
76-306*	Reel Arm	Next to Reel Lever
76-307*	Tower Warning	Tower Sides
76-315*	Belt	Left Side Grass Chute
* 48-136		Decal Sweeper Set (includes all * items)

QUICK REFERENCE REPLACEMENT PARTS

REPLACEMENT FILTERS

23-031	Hydraulic Oil Filter (Ground Dump)	
48-083-01	Hydraulic Oil Filter (High Dump)	
78-090	Oil Filter	Kohler# 12 050 01
76-324-01	Air Element	Kohler# 28 083 03
76-324-02	Pre-Cleaner	Kohler# 28 083 02
50-403	Fuel Filter for Kohler	

REPLACEMENT BELTS

76-200	Finger Reel Belt 2/A74
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SEAL KITS

76-023	3-Bank Hydraulic Valve
14-096	O-Ring Seal Kit
76-322	Hydrostatic Pump (High Lift)
42-003	Hydrostatic Pump (Ground Dump)
14-098	Seal Kit
76-323	Gear Pump (non-repairable)
48-137	Wheel Motor
14-080	Seal Kit
76-242	Hydraulic Cylinder
76-242-01	Seal Kit

Both Cylinders have the part number stamped on them. Look at the rod end, it will have either a retaining ring or a spanner nut.

Cylinders with a Spanner Nut:

75-714	Hydraulic Cylinder	Use 14-268 Seal Kit
75-634	Hydraulic Cylinder	Use 14-268 Seal Kit

Cylinders with a Retaining Ring:

75-714	Hydraulic Cylinder	Use 14-254 Seal Kit
75-634	Hydraulic Cylinder	Use 14-254 Seal Kit

FLUIDS

Engine Oil Kohler	SJ or Higher 10W-30
Hydraulic Fluid	SJ or Higher 10W-40

OTHER PARTS

13-288	Key Switch Kohler	Kohler 25 099 04
	Spark Plugs	Champion® type RC 12YC or Equivalent
		Gap 0.030 (.76 mm)
		Torque 18/22 ft. lbs (24/30 Nm)
Spline Grease	#77 Assembly Paste (Kohler # 25 357 12-s)	
76-354	2 1/2 # ABC Dry Chemical Fire Extinguisher	

DUST AND FILTRATION FILTERS

48-064	Hopper Filter (High Lift)
48-065	Tailgate Filter (High Lift)
48-063	Tailgate Filter (Ground Dump)
48-122	Hopper Filter (Ground Dump)

LIMITED WARRANTY

SMITHCO warrants this product to be free from defects in material and workmanship under normal use for one year from the date of purchase by the original user. (60 days if product is used for rental purposes.) All warranty claims must be handled through a SMITHCO authorized dealer or by SMITHCO, INC. All transportation charges must be paid by the purchaser.

There is no further express warranty. All implied warranties, including those of merchantability and fitness for a particular purpose, are limited to one year, (60 days if product is used for rental purposes) from the date of purchase by the original user, and to the extent permitted by law any and all implied warranties are excluded and disclaimed after the expiration of such period.

All incidental and consequential damages, including pickup and delivery of the unit, communication, mileage charges and/or rental of a replacement unit during repair, are not covered under this warranty, nor is any loss of income and/or other loss resulting from the failure of the product to function due to a warranty defect.

The following items are not covered under the SMITHCO warranty, and are warranted by their respective manufacturer.

- (a) Engine and engine parts, including starters, generators, alternators and filters.
- (b) Transaxle, differentials, gear boxes and mechanical pumps.
- (c) Hydrostatic transmissions, hydraulic pumps and motors.
- (d) Batteries.
- (e) Wheels and tires.

A copy of the warranty for the above items is furnished if necessary with each SMITHCO product.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitations of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which may vary from state to state.

Federal law now requires disclosure of the warranty which applies to this product prior to the sale to a customer. Please leave this statement attached to the product and allow the buyer to remove it after purchase.

SMITHCO

Wayne, Pennsylvania 19087

