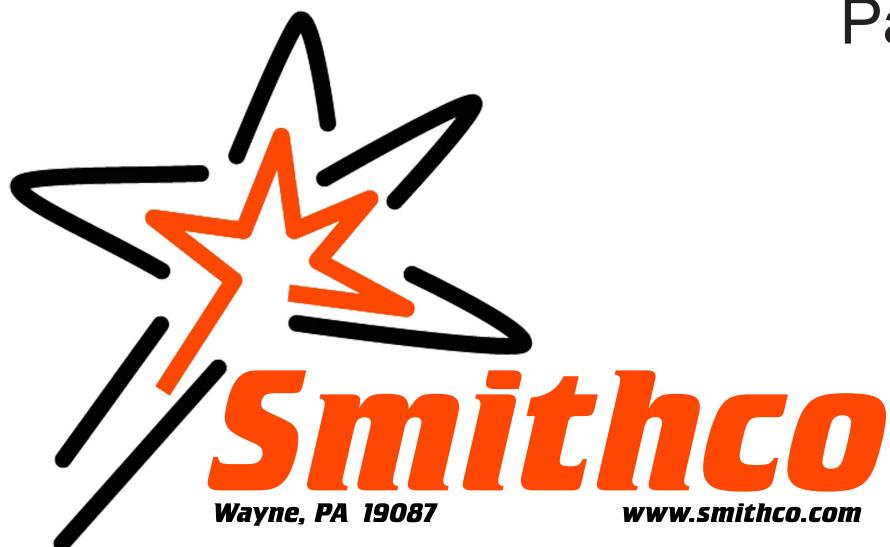


Parts & Service



**Super Star LE  
2 Wheel Drive  
42-400-A  
SN: 400356**

**December 2013**

**Product Support:**

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

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

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## Reference

Thank you for purchasing a Smithco product.

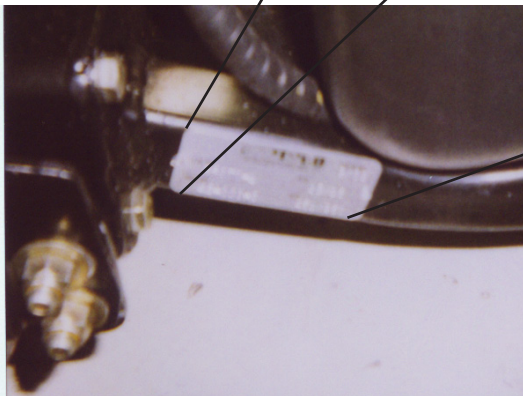
Read this manual and all other manuals pertaining to the Super Star LE carefully as they have safety, operating, assembly and maintenance instructions. Failure to do so could result in personal injury or equipment damage.

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 Super Star is located on the rear axle. Refer to engine manual for placement of engine serial number.

For easy access record your Serial and Model numbers here.

<b>SMITHCO</b>		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. 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.

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



## WEIGHTS AND MEASURES

Length	64" (163 cm)
Width	57" (145 cm)
Height	47" (119 cm)
Wheel Base	41" (104 cm)
Weight	950 lbs. ( 451 kg)

## SOUND LEVEL

At Ear Level	84 dB
--------------	-------

## ENGINE

Make	Briggs and Stratton Vanguard
Model#	305447
Type / Spec#	0230 G1
Horsepower	16 hp (11.9 kW)
Fuel	Unleaded 87 Octane Gasoline Minimum
Cooling System	Air Cooled
Lubrication System	Full Pressure
Alternator	16 amp

## WHEELS & TIRE

Three: 22 X 11 - 10.0 Knobby Tires 5 psi (.34 bar)  
 Front tire fluid filled to 80 lbs. total 45.5 pints of windshield washer fluid or equivalent.

## Speed

Forward Speed	0 to 11 m.p.h. (0-18 kph)
Reverse Speed	0 to 5 m.p.h. (0-8 kph)

## BATTERY

	Automotive Type 45-12 Volt
BCI Group	Size 45
Cold Cranking Amps	480
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
Fuel	20 quarts (18.93 liters)
Hydraulic Fluid	20 quarts (18.93 liters)
Grade of Hydraulic Fluid	SAE 10W-40 API Service SJ or higher Motor Oil



# MAINTENANCE



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

**NOTE:** 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 Super Star has three grease fittings. One is located on the shift idler arm, one on the rod end of the attachment lift cylinder and one is located on the steering chain tensioner. Access to the steering chain tensioner is available through the plugs located on the right side of the nosecone.

2WD Super Stars have a spring loaded wheel bearing protector on the front wheels. Check front wheel grease at the beginning of every season. To check lubrication level, try rocking or pushing on the edge of the piston. If the piston moves, no grease is needed. If piston does not move, add grease until piston moves outward about 1/8 inch.

## AIR CLEANER ON ENGINE

1. Unhook clips on both sides of cover and remove cover.
2. Carefully slide pre-cleaner off cartridge. To service pre-cleaner, wash in liquid detergent and water. Squeeze dry in clean cloth. Saturate in engine oil. Squeeze in clean absorbent cloth to remove excess oil. Replace if very dirty or damaged.
3. Remove knob and plate. Carefully remove cartridge to prevent debris from entering carburetor. To service cartridge, clean by tapping gently on flat surface. Do not oil cartridge. Replace if very dirty or damaged.

**NOTE:** Do not use petroleum solvents, e.g., kerosene, which will cause cartridge to deteriorate. Do not use pressurized air to clean cartridge. Pressurized air can damage cartridge.

4. Reinstall cartridge, plate and knob.
5. Reassemble pre-cleaner on cartridge.
6. Replace cover and reattach clips to body.

## REMOTE AIR CLEANER

1. Unclip the two clips, remove the cover and pull out the element.
2. To service, clean by tapping gently on flat surface. Do not oil. Replace if very dirty or damaged.
3. Clean out the inside of the body and cover.
4. Place the element into the body and put the cover back on.

## TOWING

When it is necessary to move the Super Star without engine running, bypass valve built into hydrostatic pump must be "open" by turning it counterclockwise. The valve is located on the right side of the 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. The machine can be moved for a short distance with the engine off, but we **do not** recommend this as a standard procedure. When towing **do not** tow the machine faster than 2-3 MPH (3-5 km/h) because the drive system may be damaged. The tires may lock up if the machine is towed too fast. If this occurs, stop towing the machine. If the machine must be moved a considerable distance, transport it on a truck or trailer.



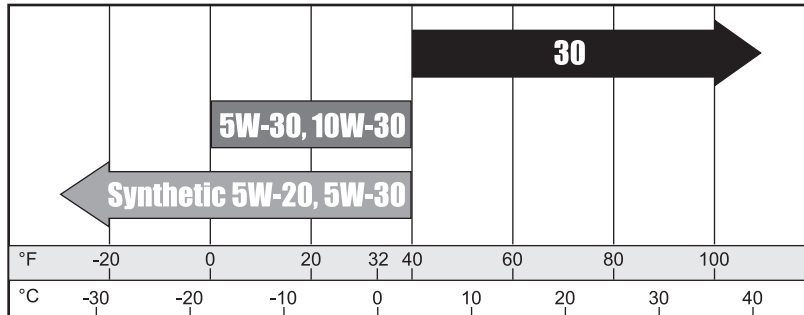
## TIRE PRESSURE

Caution must be used when inflating a low tire to recommended pressure. Over inflating can cause tires to explode. Tires should be 5 psi (0.34 bar). Improper inflation will reduce tire life considerably.

## ENGINE

Change and add oil according to chart below. Do not overfill. Use a high quality detergent oil classified "For Service SJ or higher" SAE 30 oil. Use no special additives with recommended oils. Do not mix oil with gasoline. An engine drain valve has been add for your convenience.

## SAE VISCOSITY GRADES



A quick twist and pull motion to open, push to close. Allows a quick and easy way to change oil without the mess



Engine Oil Drain Valve

## Starting Temperature Range Anticipated Before Next Oil Change

Air cooled engine run hotter than automotive engines. Use of multi-viscosity oils (10W-30, etc.) above 40° F (4° C) will result in high oil consumption and possible engine damage. Check oil level more frequently if using these types of oils.

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

## 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 filter after the first 20 hours, then at 100 hours, then every 250 hours thereafter.
3. The oil level should be 2" to 2 1/2" from top of 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 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.

# MAINTENANCE

## WHEEL MOUNTING PROCEDURE

1. 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. Re-torque after first 10 hours and every 200 hours thereafter.
7. Lower machine to ground and remove blocks and jack.

## BATTERY

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

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

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

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

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



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

## JUMP STARTING

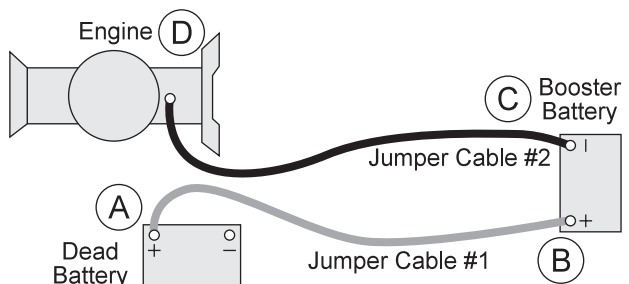


**WARNING** Use of booster battery and jumper cables. Particular care should be used when connecting a booster battery. Use proper polarity in order to prevent sparks.

To jump start (negative grounded battery):

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

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





# SERVICE CHART



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



**NOTE:** 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.
	Change the hydraulic filter.
After the first 20 operating hours	Change oil filter after first 20 and first 100 hours.
Before each use daily	Check the engine oil.
	Check the hydraulic fluid level.
	Check the tire pressure.
	Check condition of hydraulic hoses and fittings.
	Inspect and clean the machine.
	Inspect cooling system.
Every 25 hours	Check the battery fluid level and cable connections.
	Change oil when operating under heavy load or high
Every 50 hours	Change the engine oil and filter.
Every 100 hours	Check engine for leaks or loose parts.
	Clean/Replace air cleaner.
	Check tire pressure (5 psi).
	Torque the wheel lug nuts. (64-74 ft/lb (87-100 Nm))
	Grease Machine.
	Check belt tension (where needed)
Every 250 hours	Change oil filter
	Change hydraulic filter
	Clean battery terminals
Every 400 hours or yearly	Lubricate machine
	Check spark plugs
	Visual inspection of machine and hydraulic hoses
	Change oil.
	Torque lug nuts.
	Check battery terminals and electrolyte level.
	Replace all filters.

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



# END USER'S SERVICE CHART

Duplicate this page as needed.

Service

Maintenance Check Item	For the week of:						
	Mon	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Check the Safety Seat Switch							
Check Steering Operation							
Check the fuel level							
Check the engine oil level.							
Clean the air filter							
Clean the engine cooling fins.							
Check for unusual engine noises							
Check the hydraulic oil level							
Check hydraulic hoses and fittings for damage							
Check for fluid leaks.							
Check the tire pressure (5 psi)							
Check the Instrumentation							
Inspect electrical system for frayed wires							
Check park brake adjustment							
Change oil filter.							
Change oil.							
Lubricate Machine							
Ensure all warning decals are intact.							
Areas of Concern							
Inspection Performed by:							
Item	Date	Information					

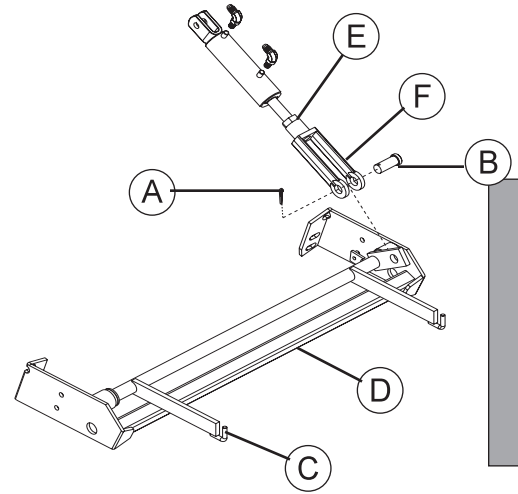


## RAKE LIFT CYLINDER

Completely lower Rake Lift. Remove cotter pin (A) and clevis pin (B). Place attachment lift arms (C) at  $\frac{1}{16}$ " above cross member (D) on Rake Lift. Loosen jam nut (E). Twist cylinder extension (F) so clevis pin end of cylinder extension lines up with holes in attachment lift arm. Replace clevis and cotter pins. Tighten jam nut. Raise and lower Rake Lift to check for proper clearance.

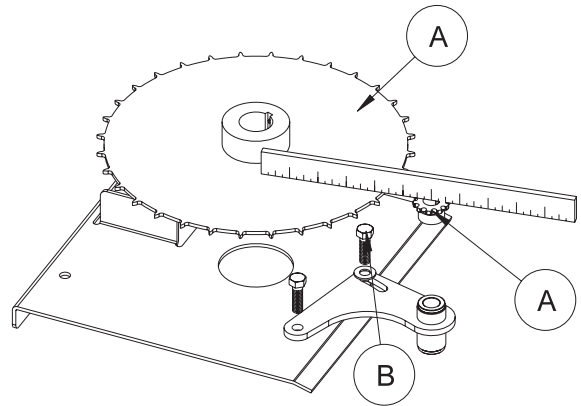


**When the rear rake attachment is lowered while the machine is in forward motion, the forward speed of the machine will slow drastically. Operator should be prepared for a rapid change in speed.**



## STEERING CHAIN ADJUSTMENT

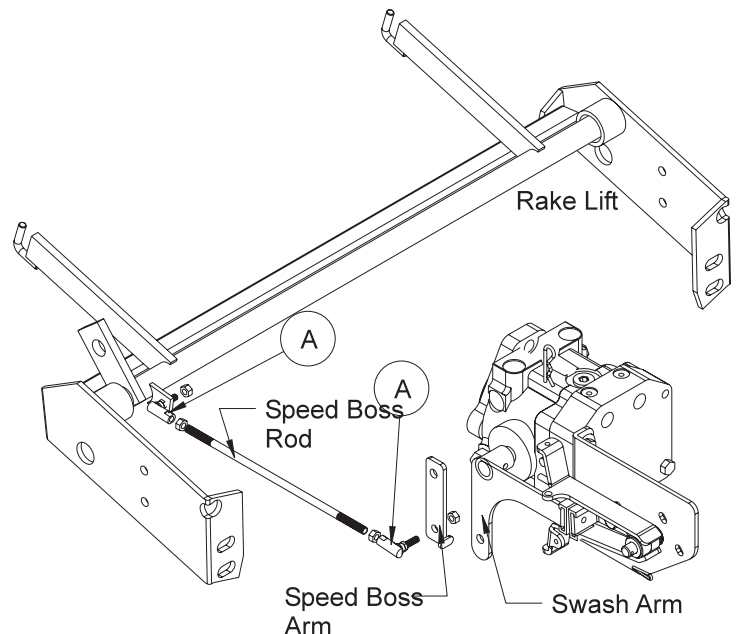
You will have to remove the nose cone assembly to get at steering sprockets. Steering Sprockets (A) should be level with each other. Check with straight edge. Make any adjustments. Adjust the chain tensioner bolt (B) so that the chain is snug. Tighten all nuts and bolts in place.



## SPEED BOSS

Speed Boss allows the machine to operate at a proper speed while raking sand traps on golf courses. This speed boss has been factory set at an average speed of 3-4 m.p.h. (5-6.5 kph). The Speed Boss will only limit the speed while the rake is lowered into the operating position. The speed setting may be adjusted by turning the Ball Joint (A) counterclockwise to make the machine operate slower or turn clockwise to go faster. Tighten jam nut. Check to make sure nothing is binding and test drive to check desired speed.

For RBS System, Spiker and Grader Box remove the speed boss arm and the speed boss rod from machine so it does not interfere with other operations.

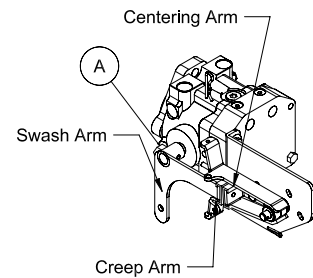


## ADJUSTMENTS (CONTINUED)

### 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.

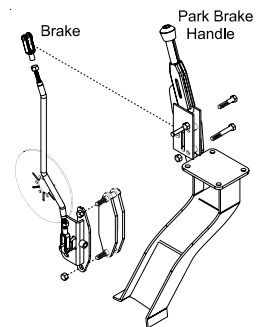
1. Lift up and support machine so all wheels are off the ground and can turn freely.
2. On the side of the pump there is a creep arm inside a centering arm. Loosen bolt (A).
3. With engine running adjust the creep arm up or down in slot so centering arm centers on the swash arm.
4. Tighten all fasteners and test by using foot pedal linkage to see that the "creep" is removed.
5. Turn engine off and lower machine.



### PARK BRAKE

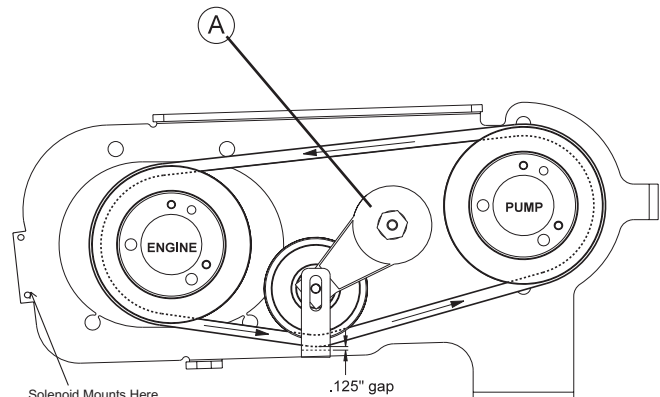
The park brake is located on the right hand side of the machine and operates a brake on the right rear wheel. Push lever forward to engage and pull back to disengage.

To adjust turn the knob on the end of the handle. For further adjustment you may turn the yokes (A) clockwise to tighten and counter clockwise to loosen.



### ADJUSTMENT OF BELT TENSIONER

The belt tensioner controls the tension on the belt from the engine to the pump. The proper tension of the idler should be in the second notch on the side of the tensioner. Over tightening the belt will shorten the life of the belt and the machine may not perform to the best of its ability. To adjust belt tensioner, loosen the bolt holding the tensioner (A). Bring idler pulley tight to the belt and turn tensioner into belt to the second notch. Tighten bolt on tensioner.

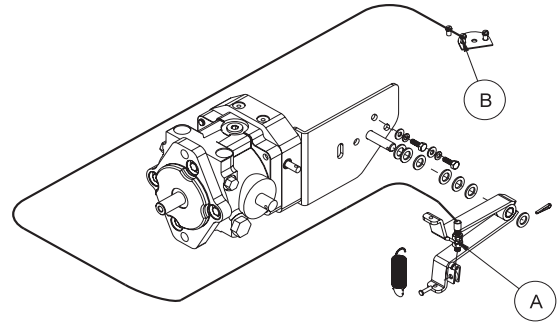


Belt Routing

## ADJUSTMENTS (CONTINUED)

### TO ADJUST FOOT PEDAL THROTTLE CABLE

1. Jack up unit so that all drive wheel are off the ground. (Use jack stands)
2. Start the engine, make certain that the hand throttle is in the idle position (1200 engine RPM).
3. Engine speed must increase as soon as the foot pedal begins to move in either direction. At the full forward position, the engine RPM must be 3600 RPM  $\pm$  100.
4. Minor adjustment can be made by backing out (unscrewing) (Ref A) until you reach full engine RPM with the foot pedal fully depressed in the forward position. Be sure to recheck after the nuts are fully tightened.
5. Major adjustment needs to be made at (Ref B) by pulling the slack out of the cable. Loosen the screw in the wire block that is clamped onto the end of the cable and sliding it up to the cable block that is through the throttle plate. Do not let the throttle plate move to increase idle speed. Tighten the screw.
6. Test run to determine that there is no binding and that engine idle speed is 1200 RPM and that it is 3600 RPM at full forward position of the foot pedal.



Service

## STORAGE

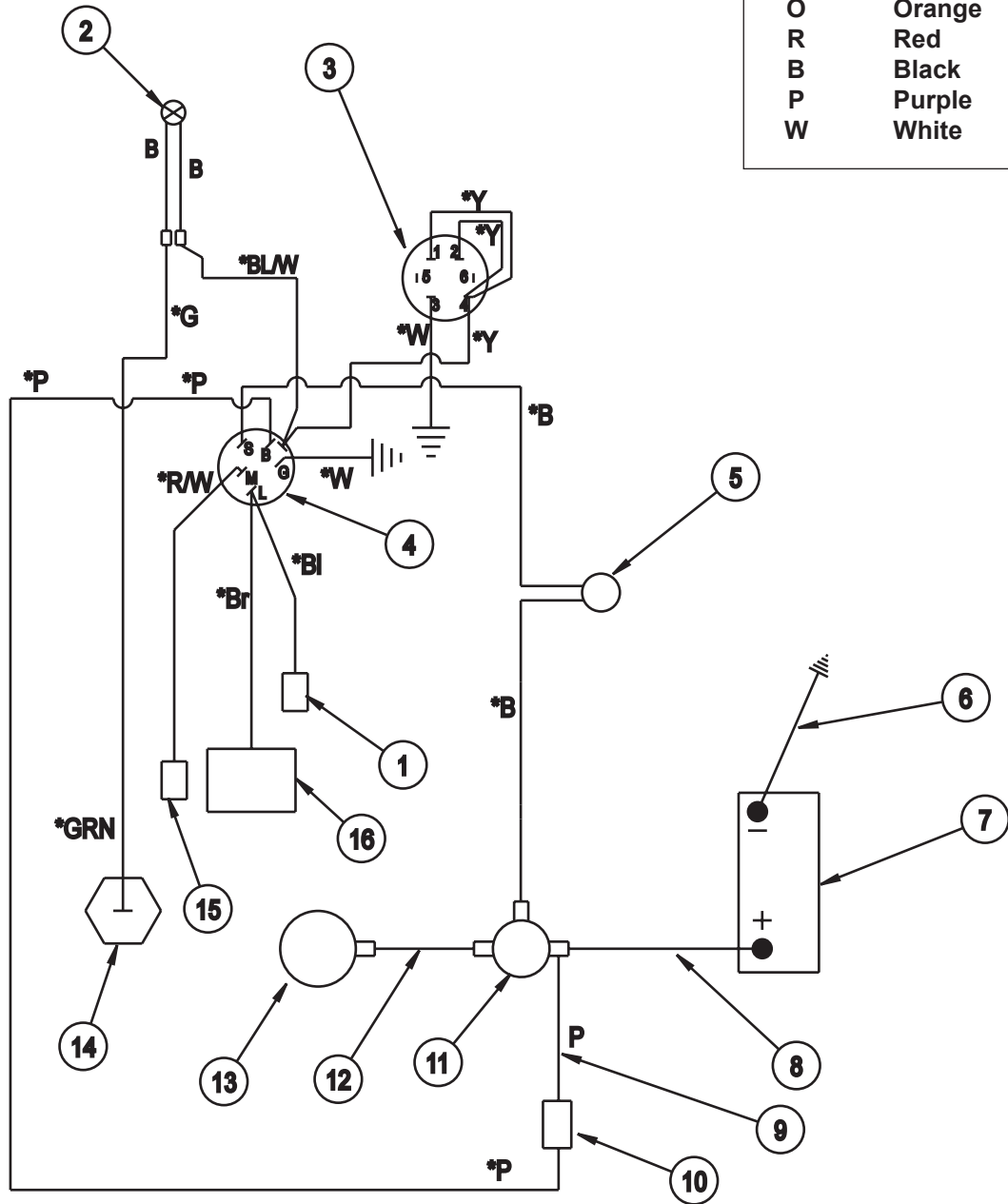
When storing, remove the key from the key switch to avoid unauthorized persons from operating machine.

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.

# WIRING DRAWING

## Color Code Chart

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



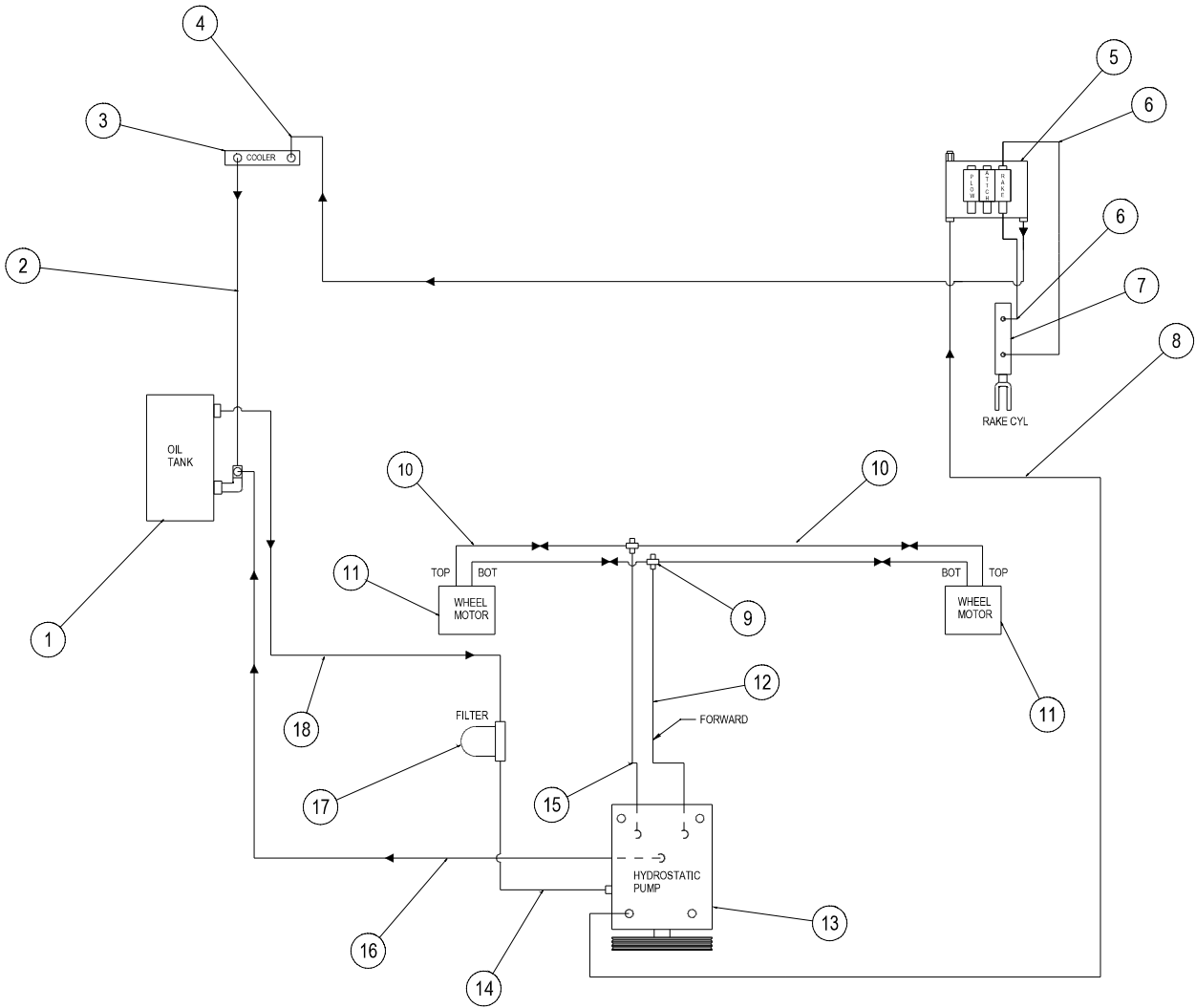
Diagrams

## WIRING PARTS LIST

REF #	PART #	DESCRIPTION	QUANTITY
1		After Fire Solenoid (on engine)	1
2	50-359	Oil Pressure Warning Light	1
3	12-017	Hour Meter	1
4	13-488	Ignition Switch (B & S# 496603)	1
	76-310	Key Set (comes with 13-488)	1
5	14-292	Seat Switch	1
6	76-327	Ground Battery Cable	1
7		Battery (not included)	
8	75-518	Battery Cable	1
9	42-252	Wire, Circuit Breaker to Solenoid	1
10	8975	30 Amp Circuit Breaker	1
	8977	Circuit Breaker Boot	1
11	13-492	Solenoid (B & S# 807829)	1
12	22-017	Cable Black	1
13		Starter (on engine)	1
14	13-491	Oil Sender (on engine B & S# 491657)	1
15		Stop Switch Terminal (on engine)	1
16		Rectifier (on engine)	1
	42-763	Wire Harness (includes all wire colors with *)	1

# HYDRAULIC DRAWING

Diagrams





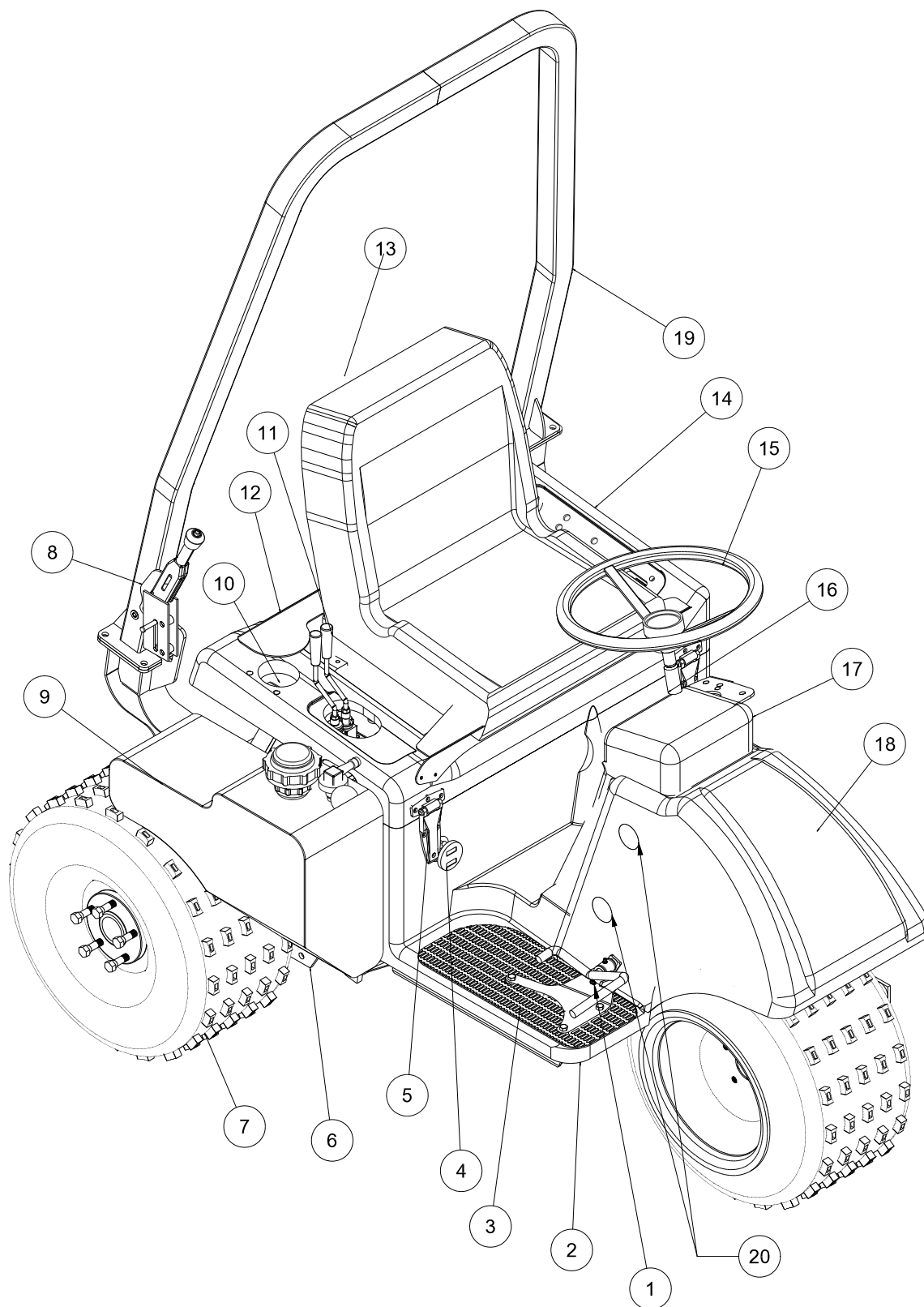
# HYDRAULIC PARTS LIST

REF #	PART #	DESCRIPTION	QUANTITY
1	42-005	Oil Tank	1
	13-747	Filler Breather	1
2	42-366	Hydraulic Hose	1
3	34-105	Aluminum Oil Cooler	1
4	42-363	Hydraulic Hose	1
5	13-731	Single Bank Valve	1
	78-418	Valve Handle	1
6	42-365	Hydraulic Hose	2
7	43-150	Hydraulic Cylinder (rear lift)	1
	42-040	Yoke End	1
	HNJ-34-16	Jam Nut <sup>3</sup> / <sub>4</sub> - 16	1
8	42-046	Hydraulic Hose	1
9	18-342	Cross	2
	18-344	Caps	2
10	42-818	Hydraulic Hose	4
11	42-002	Rear Wheel Motor	2
12	42-369	Hydraulic Hose 10 <sup>3</sup> / <sub>4</sub> "	1
13	42-599	Variable Pump with Relief	1
14	8832-45	Suction Hose	1
	18-222	Hose Clamp	2
15	42-368	Hydraulic Hose 9"	1
16	42-367	Hydraulic Hose	1
17	23-006	Oil Filter	1
	23-031	Replacement Filter Only	
18	8832-24	Suction Hose	1
	18-222	Hose Clamp	2

## HYDRAULIC PRESSURES

Pump Displacement	.913 in <sup>3</sup> /rev	Charge Pump Displacement	.33 in <sup>3</sup> /rev
Pump Input Speed (up to)	3600 rpm	Max. Inlet Vacuum	5 in. Hg
Max. Operating Pressure	3500 psi, 2500 peak psi	Max. Case Pressure	25 psi
Implement Setting	700-1000 psi	Relief Valve Pressure (set at)	2500 psi
13-729 Hydraulic Valve (2 bank)	900 psi		

# MAIN FRAME DRAWING

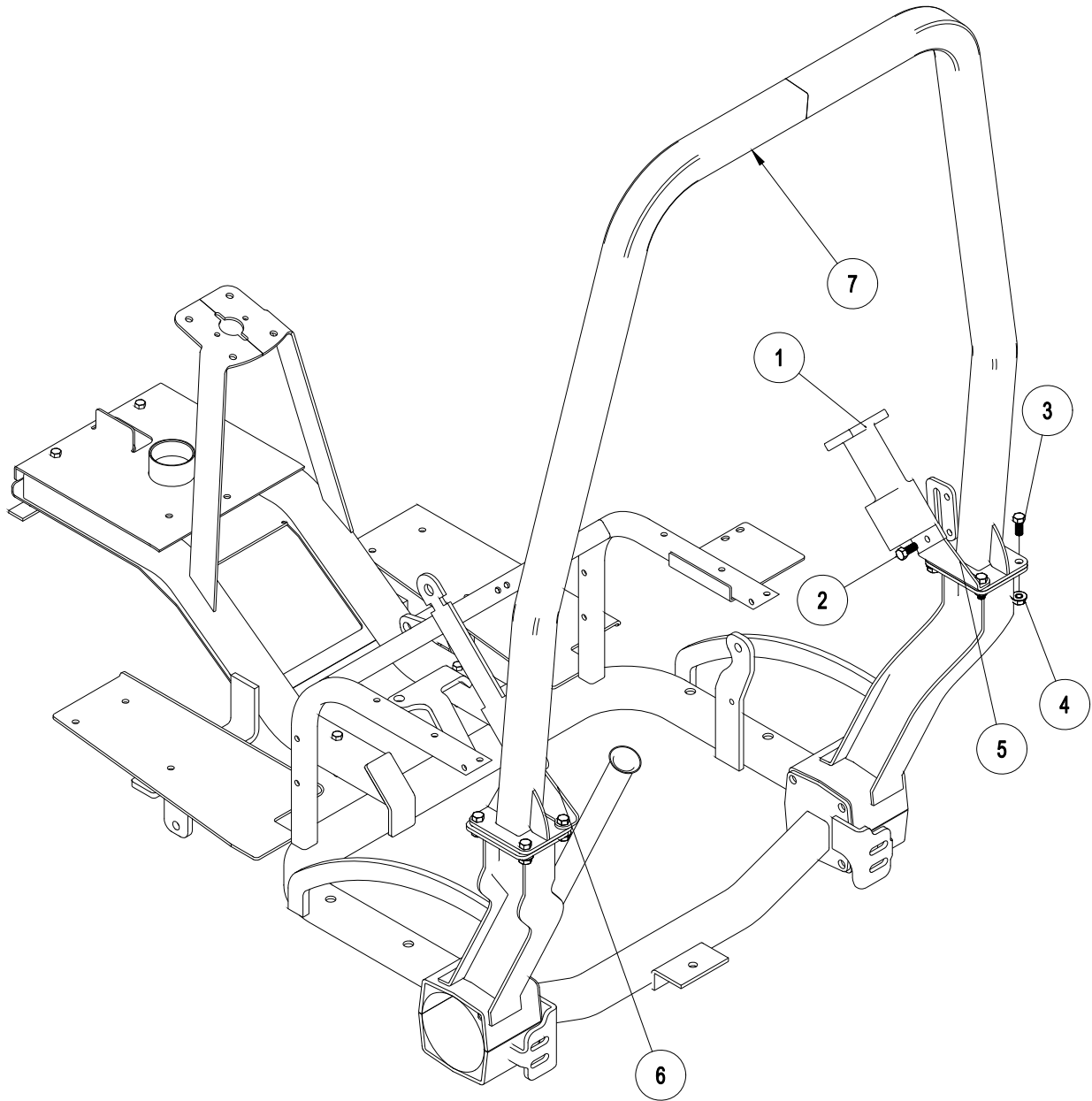


Parts

## MAIN PARTS COMMON LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	42-813	Foot Pedal	1
2	42-780	Floor Panel (fiberglass)	1
3	42-767	Right Floor Mat	1
	42-768	Left Floor Mat	1
4	12-017	Volt/Hour Meter	1
5	27-055	Hinge	2
6	42-426	Main Frame	1
7	42-161	Tire and Wheel	3
	45-021-01	Tire 22 x 11 x 10	3
	42-161-02	Wheel	3
	60-268	Lug Bolt	10
8	60-106	Park Brake Lever	1
9	42-833	Gas Tank	1
10	42-786	Plastic Cup Holder	1
11	78-418	Valve Handle	1
12	42-375	Seat Panel	1
	8803-17	Trim w/ Black Lace	1
13	14-269	Adjustable Low Back Seat	1
14	42-779	Seat Panel (fiberglass)	1
15	20.057	Steering Wheel	1
16	42-760	Top Steering Shaft	1
17	42-422	Tower Console (fiberglass)	1
18	42-471	Nose Cone (fiberglass)	1
	HST-14-20-100	Truss Head Screw $\frac{1}{4}$ - 20 x 1	6
	78-274	Cage Nuts	2
	HNTL-14-20	Lock Nut $\frac{1}{4}$ - 20	4
19	42-800	ROPs (optional)	1
20	18-436	Plastic Plug Cap	2

# 42-800 ROPS DRAWING (OPTIONAL)

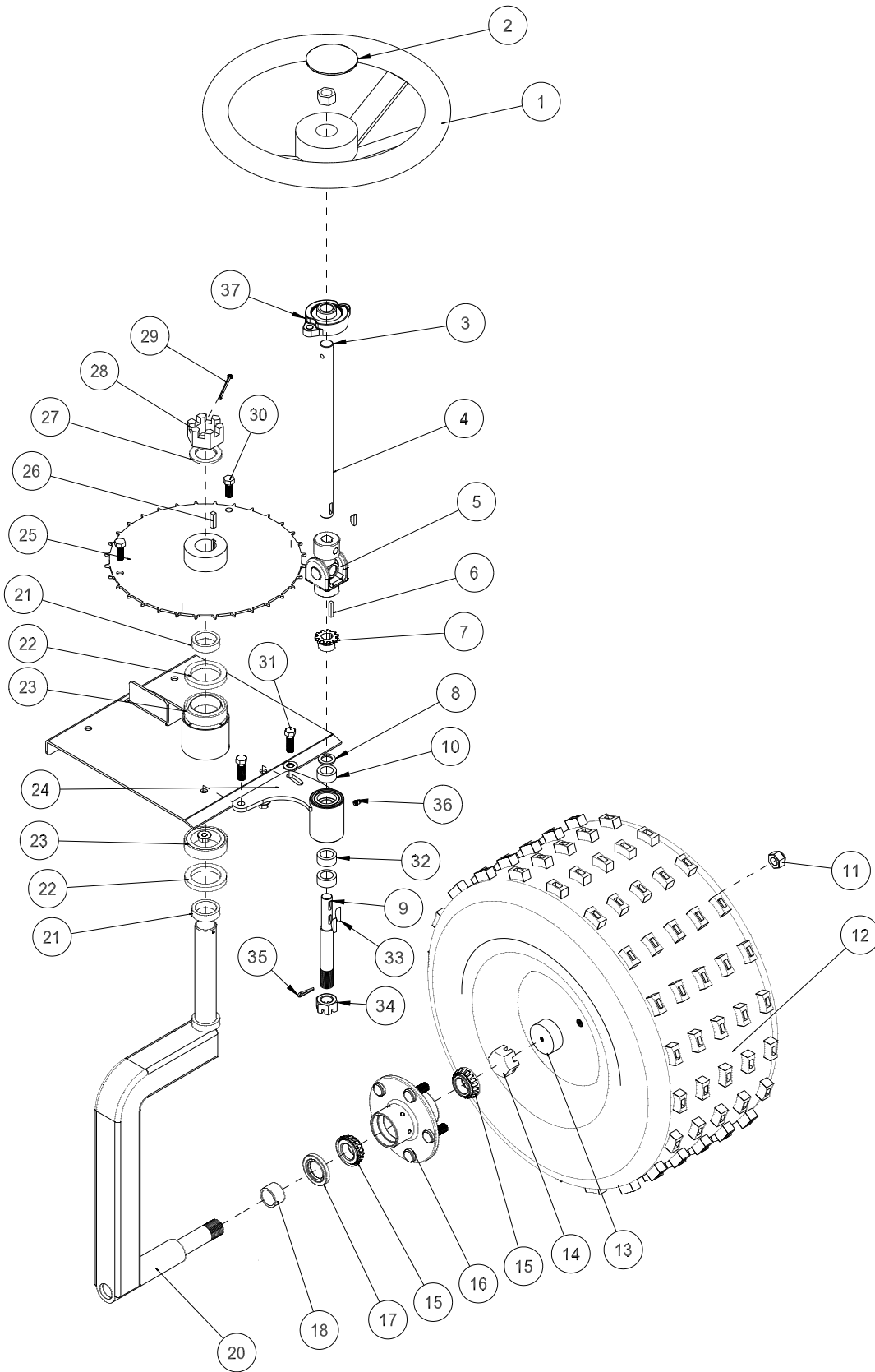


Parts

## 42-800 ROPS PART LIST (OPTIONAL)

REF#	PART#	DESCRIPTION	QUANTITY
1	76-198-03	Seat belt	1
2	HB-716-14-100	Bolt $\frac{7}{16}$ - 14 x 1	2
3	HB-716-14-125	Bolt $\frac{7}{16}$ - 14 x $1\frac{1}{4}$	8
4	HNTL-716-14	Lock Nut $\frac{7}{16}$ - 14	10
5	42-802	Right Seat belt Bracket	1
6	42-803	Left Seat Belt Bracket	1
7		ROPS Bar	1

# 2 WHEEL DRIVE FRONT FORK DRAWING

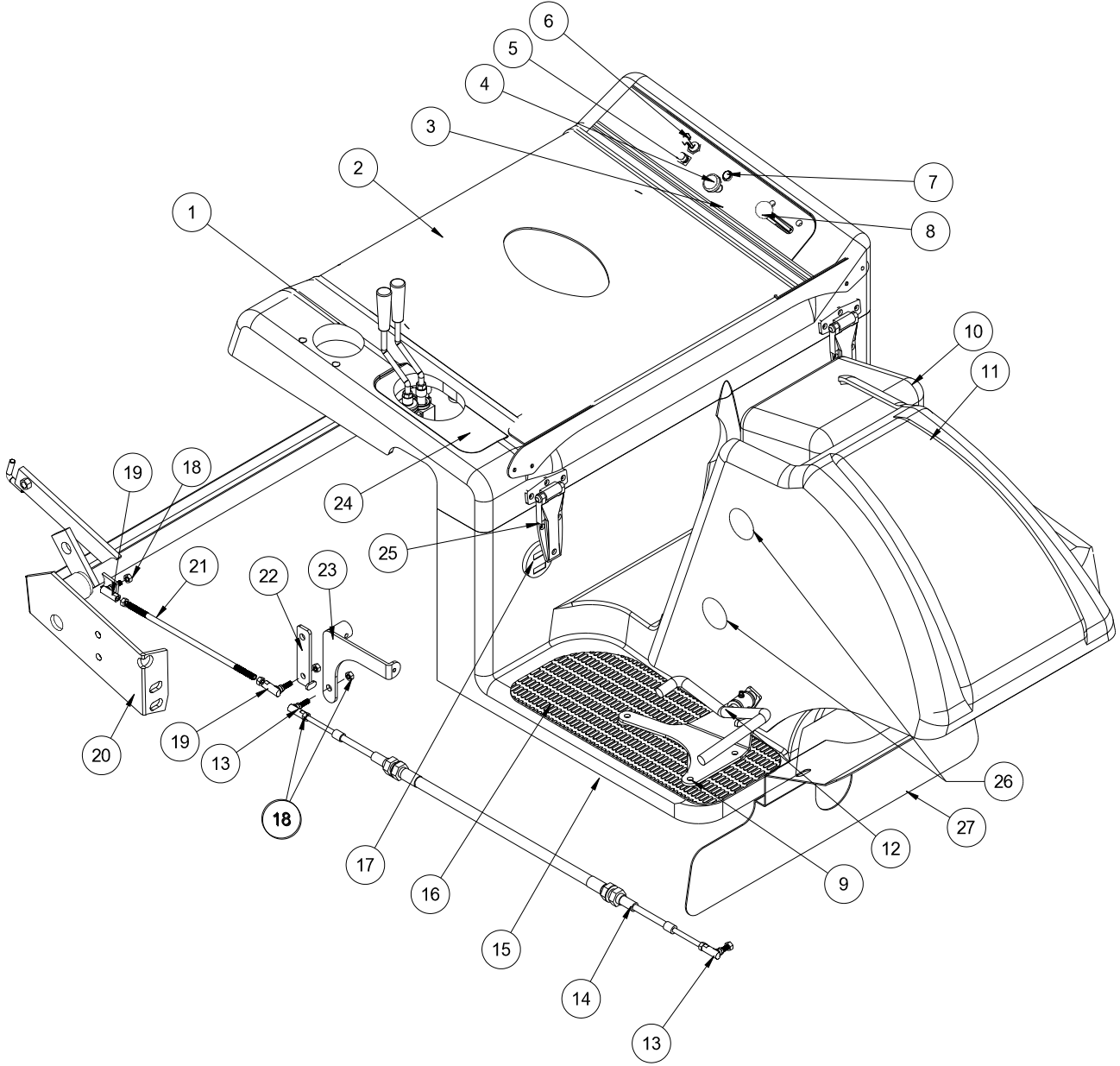


PARTS

## 2 WHEEL DRIVE FRONT FORK PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	20-057	Steering Wheel	1
2	20-129	Center Cap	1
	27-077	Decal, Smithco Round	1
	HNJ-58-18	Jam Nut $\frac{5}{8}$ - 18	1
	HWK-316-075	Woodruff Key $\frac{3}{16}$ x $\frac{3}{4}$	1
3	HRP-14-150	Roll Pin $\frac{1}{4}$ x $1\frac{1}{2}$	1
4	42-376	Top Steering Shaft	1
	HWK-316-075	Woodruff Key $\frac{3}{16}$ x $\frac{3}{4}$	1
5	60-300	U-Joint	1
6	HKSQ-316-100	Machine Key $\frac{3}{16}$ x $\frac{3}{16}$ x 1	2
7	60-298	Sprocket	1
8	HMB-58-14	Machine Bushing $\frac{5}{8}$ x 14 GA	1
9	13-005	Bottom Steering Shaft	1
10	60-325	Spacer	2
11	60-268	Lug Nut	5
12	42-161	Tire and Wheel	1
	45-021-01	Tire 22 x 11 x 10	1
	42-161-02	Wheel	1
	8839	Windshield Washer Fluid or Equivalent	43.5 pints
13	42-817	Wheel Bearing Protector	1
14	HNA-100-14	Jam Nut 1 - 14	1
	HP-18-150	Cotter Pin $\frac{1}{8}$ x $1\frac{1}{2}$	1
15	11-043	Bearing	2
16	80-019	Hub (includes bearings, seal, dust cap, lug nuts, and studs)	1
	27-022-02	Stud $\frac{1}{2}$ - 20	5
17	11-041	Seal	1
18	11-042	Spacer	1
20	13-448	Front Fork	1
21	20-141	Spacer	2
22	20-142	Oil Seal	2
23	20-143	Bearing	2
24	13-744	Chain Tensioner	1
	11-038	Bearing with Race	2
	11-039	Oil Seat	2
25	42-295	Steering Sprocket	1
	8834-37.5	Roller Chain	1
	18-114	Master Link	1
26	HKSQ-14-100	Square Key $\frac{1}{4}$ x $\frac{1}{4}$ x 1	1
27	HMB-114-10	Machine Bushing $1\frac{1}{4}$ x 10GA	1
28	HNA-114-12	Axle Nut $1\frac{1}{4}$ - 12	1
29	HP-18-200	Cotter Pin $\frac{1}{8}$ x 2	1
30	HB-38-16-100	Bolt $\frac{3}{8}$ - 16 x 1	2
	HNFL-38-16	Flange Whiz Lock Nut $\frac{3}{8}$ - 16	2
31	HB-38-16-125	Bolt $\frac{3}{8}$ - 16 x $1\frac{1}{4}$	2
	HW-38	Washer $\frac{3}{8}$	1
	HNFL-38-16	Flange Whiz Lock Nut $\frac{3}{8}$ - 16	2
32	11-040	Spacer	3
33	HWK-316-063	Woodruff Key, $\frac{3}{16}$ x $\frac{5}{8}$	2
34	HNAT-34-16	Thick Slotted Nut, $\frac{3}{4}$ - 16	1
35	HP-18-150	Cotter Pin, $\frac{1}{8}$ x $1\frac{1}{2}$	1
36	HG-14-28-180	Grease Fitting	1
37	40-009	Flange Block	1

# LINKAGE DRAWING



PARTS

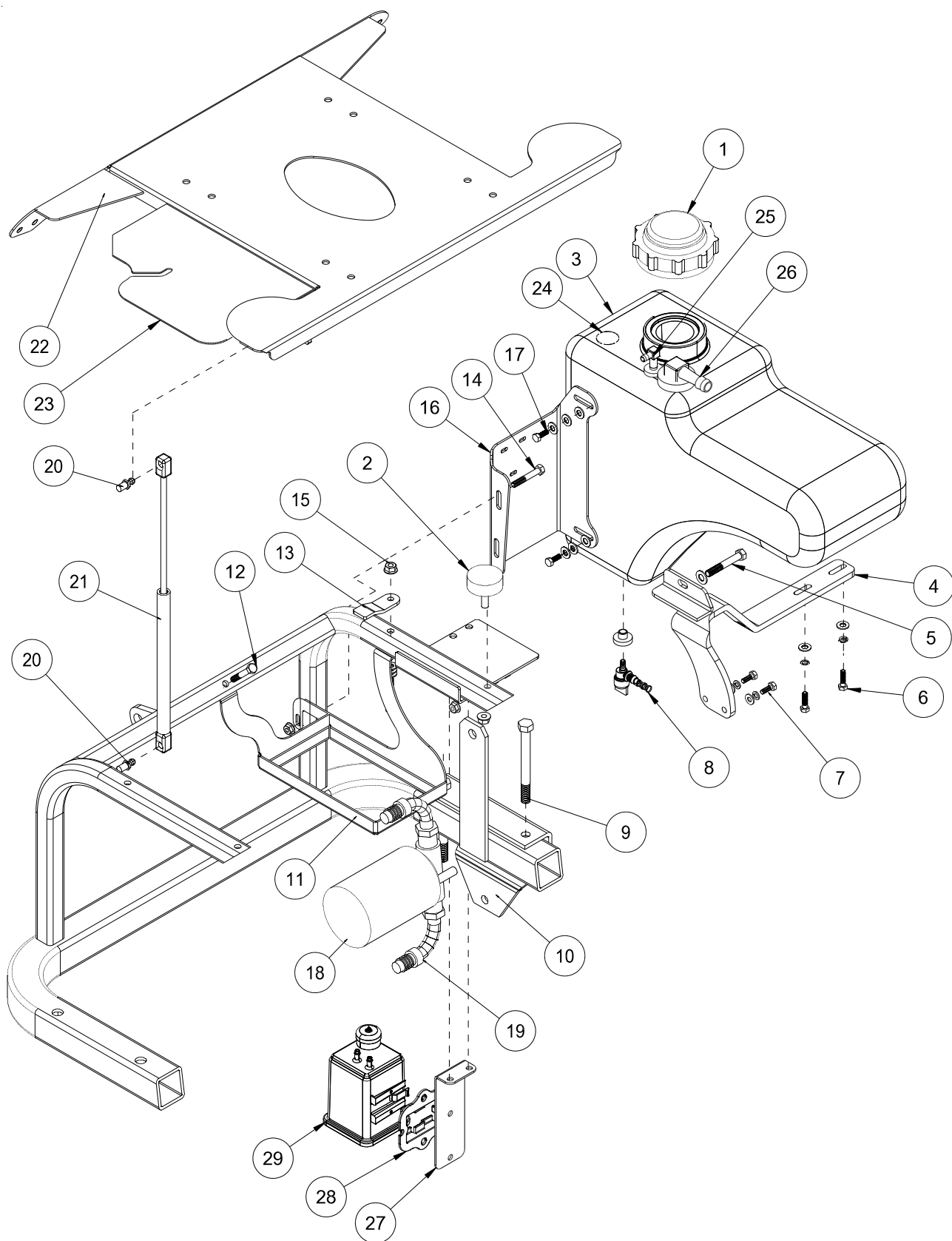


## LINKAGE PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	42-786	Plastic Cup Holder	1
2	42-375	Seat Panel	
3	42-593	Decal, Control Panel	1
4	42-783	Choke	1
5*		Toggle Switch for Optional Accessories	1
6	13-488	Key Switch (B&S 496603)	1
	76-310	Key Set	1
7	50-359	Warning Light	1
8	21-463	Throttle Cable	1
	HSTP-14 -20-075	Phillips Truss Head Screw $1/4 - 20 \times 3/4$	2
	HNFL-14-20	Flange Whiz Lock Nut $1/4 - 20$	2
9	42-313	Pedal Stop	1
	HNFL-516-18	Flange Whiz Lock Nut $5/16 - 18$	2
10	42-422	Console (fiberglass)	1
11	42-471	Nose Cone (fiberglass)	1
12	42-813	Foot Pedal	1
	HG-14-28-180	Grease Fitting $1/4 - 28 \times 180^\circ$ (comes with )	1
	76-299	Pedal Pad	1
	42-791	Short Pedal Pad	1
	HB-516-18-125	Bolt $5/16 - 18 \times 1 1/4$	2
	HW-516	Washer $5/16$	2
	HNFL-516-18	Flange Whiz Lock Nut $5/16 - 18$	2
13	8-701	Ball Joint $1/4 - 28$	2
14	27-132	Cable	1
15	42-780	Floorboard (fiberglass)	1
16	42-767	Right Floor Mat	1
	42-768	Left Floor Mat	1
17	12-017	Hour Meter	1
18	HN-14-28	Nut $1/4 - 28$	4
	HWL-14	Lockwasher $1/4$	2
19	21-462	Ball Joint $5/16 - 24$	2
21	42-267	Speed Boss Rod	1
22	42-249	Speed Boss Arm	1
23	42-308	Swash Arm	1
24	42-765	Decal, Lift Controls	1
25	27-055	Hinge	2
	HSMFCS-10-32-100	Machine Screw #10 - 32 x 1	12
	HNFL-10-32	Flange Whiz Lock Nut #10 - 32	12
26	18-436	Plastic Plugs	2
27	42-590	Mud Guard	1

\* Used with Blower Kit, On/Off Valve and Light Kit

# GAS TANK DRAWING

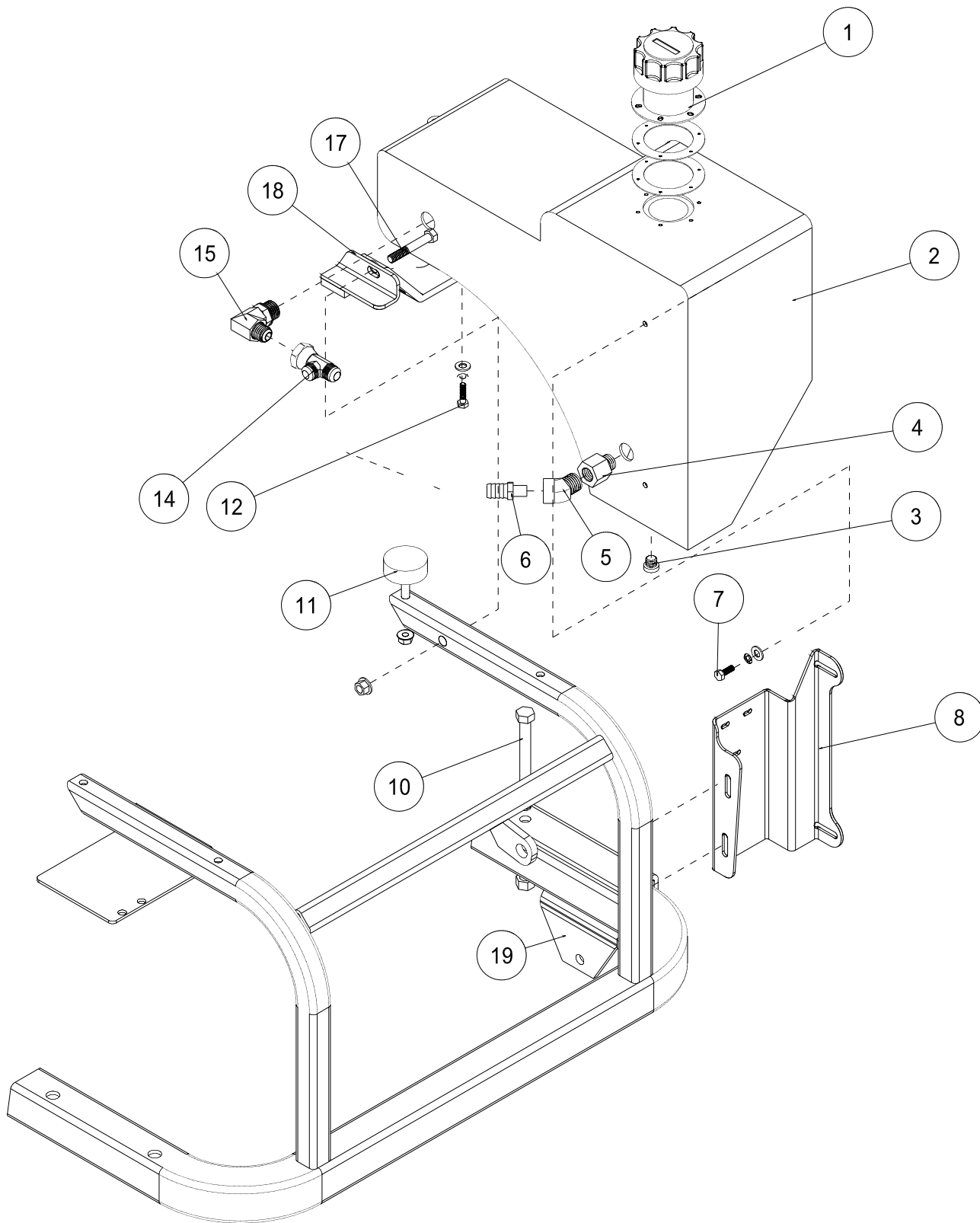


Parts

# GAS TANK PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1*	42-814-02	Cap	1
*	42-814-01	Tether	1
2	50-081	Rubber Bumper	1
	HNFL-38-16	Flange Whiz Lock Nut $\frac{3}{8}$ - 16	1
3*	42-833	Gas Tank (includes all * items)	1
4	42-770	Right Tank Support	1
5	HB-38-16-200	Bolt $\frac{3}{8}$ - 16 x 2	1
	HW-38	Washer $\frac{3}{8}$	2
	HNFL-38-16	Flange Whiz Lock Nut $\frac{3}{8}$ - 16	1
6	HB-14-20-100	Bolt $\frac{1}{4}$ - 20 x 1	2
	HW-14	Washer $\frac{1}{4}$	2
	HW-516	Washer $\frac{5}{16}$	2
	HWL-14	Lock Washer $\frac{1}{4}$	2
7	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
8*	26-055	Fuel Tank Drain	1
*	26-054	Rubber Grommet	1
	8800-45	Fuel Hose	1
	18-186	Hose Clamp	2
9	HB-12-13-500	Bolt $\frac{1}{2}$ - 13 x 5	2
	HNFL-12-13	Flange Whiz Lock Nut $\frac{1}{2}$ - 13	2
10	42-015	Attachment Mount	1
11	42-273	Battery Box	1
12	HB-516-18-200	Bolt $\frac{5}{16}$ - 18 x 1	1
	HNFL-516-18	Flange Whiz Lock Nut $\frac{5}{16}$ - 18	1
13	42-248	Battery Hold-down	1
	15-020	Grip	1
14	HB-516-18-225	Bolt $\frac{5}{16}$ - 18 x $2\frac{1}{4}$	2
	HNFL-516-18	Flange Whiz Lock Nut $\frac{5}{16}$ - 18	2
15	HB-516-18-225	Bolt $\frac{5}{16}$ - 18 x $2\frac{1}{4}$	1
	HW-516	Washer $\frac{5}{16}$	3
	HNFL-516-18	Flange Whiz Lock Nut $\frac{5}{16}$ - 18	1
16	42-773	Gas Tank Bracket	1
17	HB-14-20-075	Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$	2
	HW-14	Washer $\frac{1}{4}$	2
	HWL-14	Lock Washer $\frac{1}{4}$	2
18	23-006	Oil Filter	1
	23-031	Replacement Filter	1
19	34-123	Elbow	2
20	26-034	Ball Stud	2
21	13-569	Gas Shock	1
22	42-772	Seat Panel	1
23	43-157	Wire Cover	1
	HB-14-20-075	Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$	2
	HNFL-14-20	Flange Nut $\frac{1}{4}$ - 20	2
24*	42-814-03	Fuel Level Gauge	1
25*	42-814-04	Top Draw	1
	8800-45	Fuel hose (goes to fuel pump on engine)	1
26*	42-814-05	Vent Check Valve	1
	8800-20	Hose (goes to carb canister)	1
27	42--815	Carb Canister Mount Bracket	1
28	8-688	Carb Canister Clip Mount	1
29	8-689	Carb Canister	1
	8-693	Hose Connector	1

# OIL TANK DRAWING



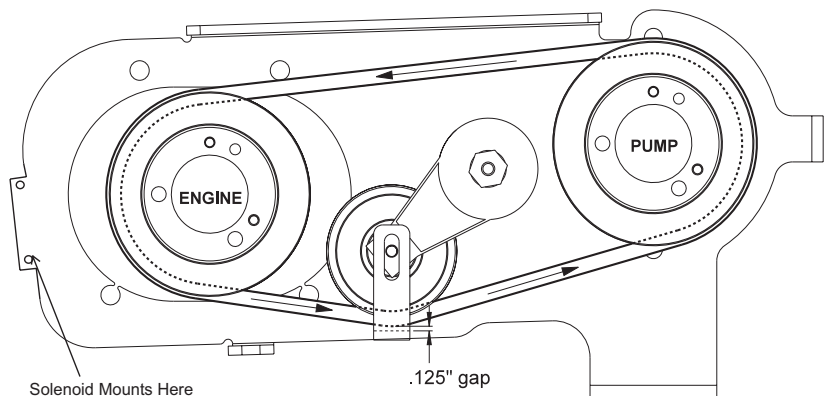
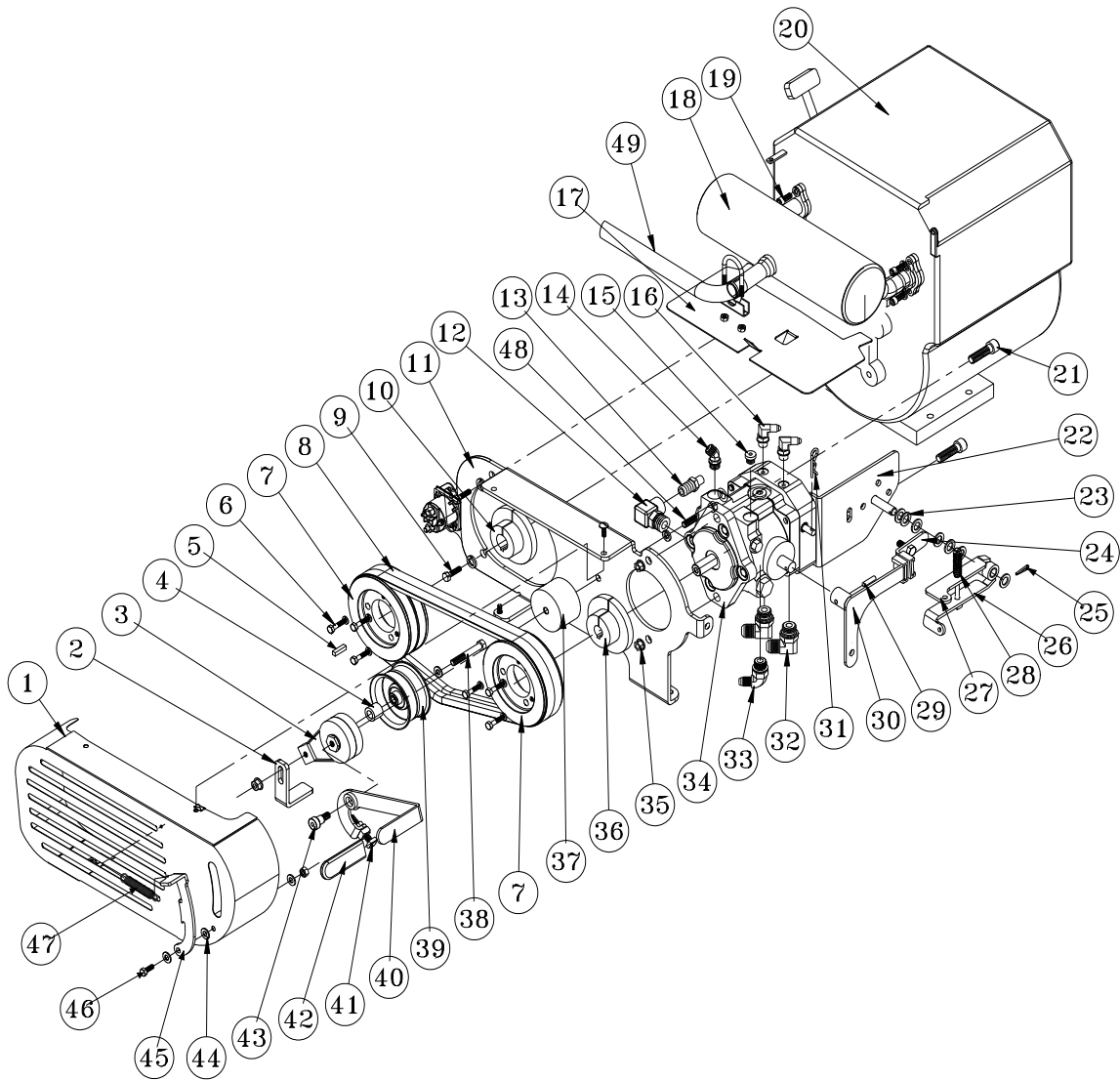
Parts

# OIL TANK PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	13-747	Filler Breather	1
	13-586-01	Cap Gasket	1
	13-586-03	Neck	1
	13-586-02	Bottom Gasket	1
	HSM-10-32-063	Machine Screw 10 -32 x $\frac{5}{8}$	6
2	42-005	Oil Tank	1
3	23-126	#6 Plug	1
4	18-240	Adapter	1
5	18-072	45° Elbow	1
6	18-133	Barb Fitting	1
7	HB-14-20-075	Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$	2
	HW-14	Washer $\frac{1}{4}$	2
	HWL-14	Lock Washer $\frac{1}{4}$	2
8	42-774	Oil Tank Bracket	1
	HB-516-18-225	Bolt $\frac{5}{16}$ - 18 x $2\frac{1}{4}$	2
	HNFL-516-18	Flange Whiz Lock Nut $\frac{5}{16}$ - 18	2
10	HB-12-13-500	Bolt $\frac{1}{2}$ - 13 x 5	2
	HNTL-12-13	Top Lock Nut $\frac{1}{2}$ - 13	2
11	50-081	Rubber Bumper	1
	HNFL-38-16	Flange Whiz Lock Nut $\frac{3}{8}$ - 16	1
12	HB-14-20-100	Bolt $\frac{1}{4}$ - 20 x 1	2
	HW-516	Washer $\frac{5}{16}$	2
	HW-14	Washer $\frac{1}{4}$	2
	HWL-14	Lock Washer $\frac{1}{4}$	2
14	18-337	Tee	1
15	23-189	90° Elbow	1
17	HB-38-16-200	Bolt $\frac{3}{8}$ - 16 x 2	1
	HW-38	Washer $\frac{3}{8}$	1
	HNFL-38-16	Flange Whiz Lock Nut $\frac{3}{8}$ - 16	1
18	42-378	Left Tank Bracket	1
19	42-015	Attachment Mount	2

# PUMP AND ENGINE DRAWING

Parts



Belt Routing

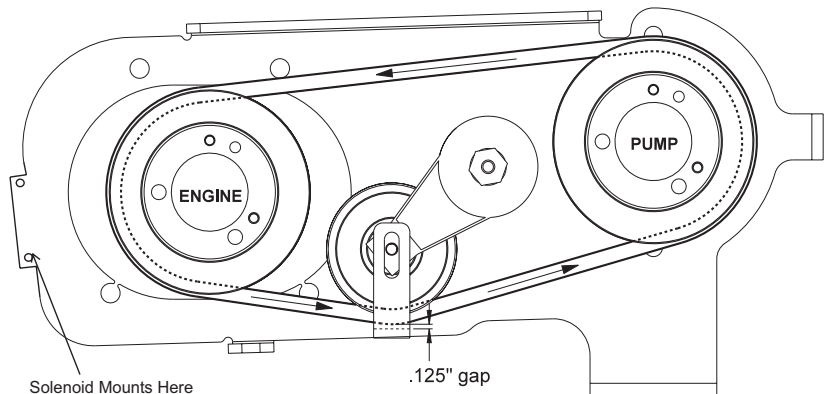
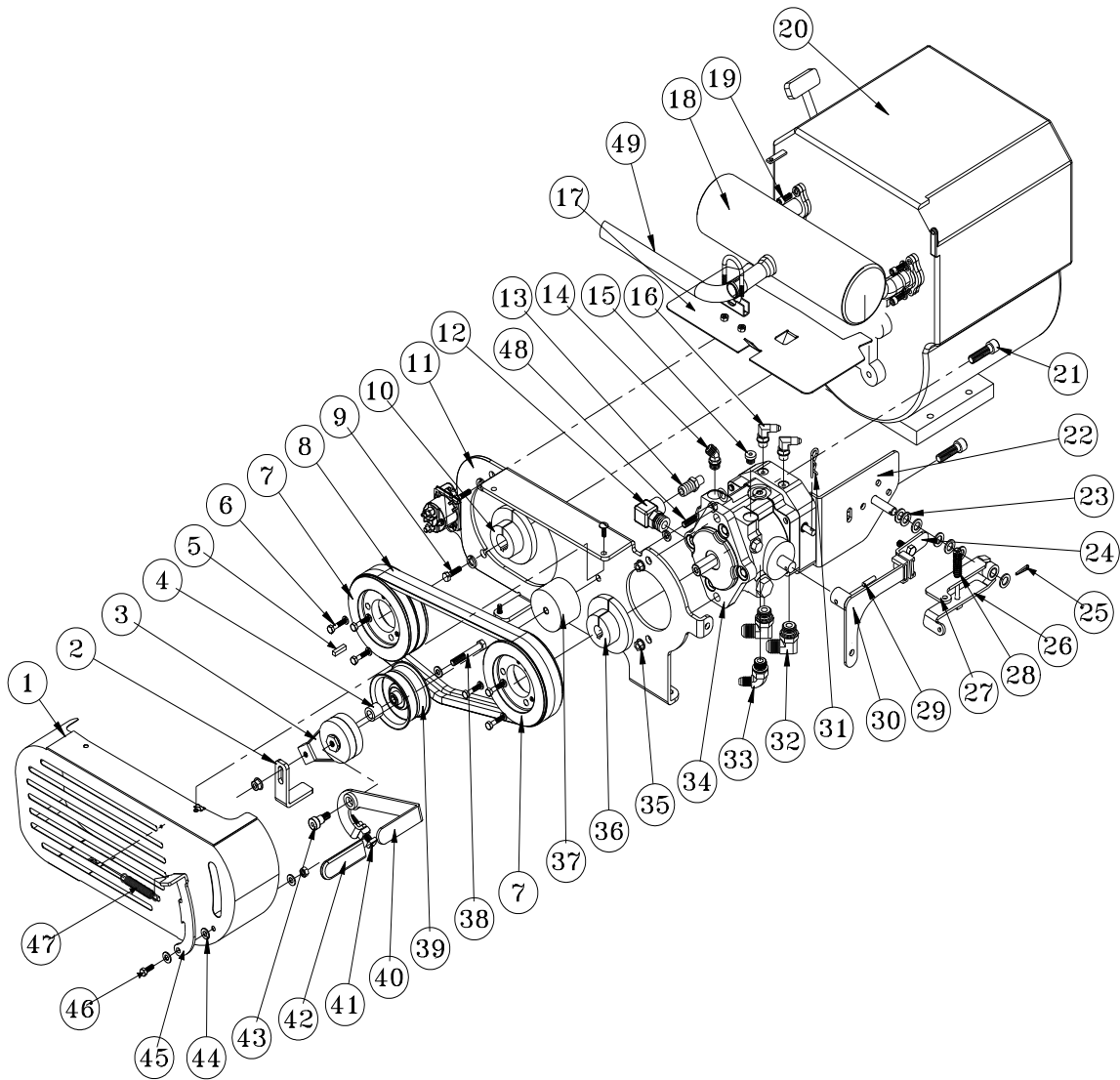
# PUMP AND ENGINE PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	42-353	Belt Guard	1
	78-274	Cage Nut	2
	HB-14-20-075	Hex Bolt, $\frac{1}{4}$ -20 x $\frac{3}{4}$	2
	HWL-14	Lock Washer, $\frac{1}{4}$	2
2	42-357	Belt Stop	1
3	42-327	Tensioner	1
4	16-990	Spacer	1
5	HKSQ-14-100	Machine Key $\frac{1}{4}$ x $\frac{1}{4}$ x 1	1
6	HB-14-20-125	Bolt $\frac{1}{4}$ - 20 x $1\frac{1}{4}$ (comes with 42-245 & 42-246)	6 (3 per hub)
	HW-14	Lockwasher (comes with 42-245 & 42-246)	6 (3 per hub)
7	42-331	Pulley	2
8	42-359	Belt	2
9	HB-716-14-100	Bolt $\frac{7}{16}$ - 14 x 1	4
	HWL-716	Lockwasher $\frac{7}{16}$	4
10	42-245	Hub 1"	1
11	42-354	Pump Mount	1
	13-750	Solenoid w/ Connector	1
12	23-130	Elbow 90°	1
13	18-133	Barb Fitting	1
14	18-188	Elbow 45°	1
15	23-126	Plug	1
16	18-232	Elbow 90°	2
17	42-601	Heat Shield	1
	18-222	Hose Clamp	2
18	42-600	Muffler	1
19	HSSHSM-8-1.25-20	Metric Cap Screw M8 - 1.25 x 20	4
	HWLM-8	Lockwasher M8	4
20	15-165	Engine B&S 16 HP	1
	15-165-01	Air Filter Element with Pre-Cleaner (comes with engine)	1
	13-531	Engine Oil Filter (comes with engine)	1
	13-491	Oil Switch	1
	13-492	Solenoid	1
	18-462	Oil Drain Valve	1
21	HSSH-12-13-175	Socket Screw $\frac{1}{2}$ - 13 x $1\frac{3}{4}$	2
22	42-279	Filter Mount	1
	HW-38	Washer $\frac{3}{8}$	2
23	HMB-12-14	Machine Bushing $\frac{1}{2}$ x 14 GA	7
24	42-247	Creep Arm	1
	8946-1.5	Wear Strip (part of 42-247)	1
	HRS-316-050	Rivet (part of 42-247)	1
	HB-38-16-100	Bolt $\frac{3}{8}$ - 16 x 1	2
	HNFL-38-16	Flange Whiz Lock Nut $\frac{3}{8}$ - 16	2
25	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	1
26	42-606	Bottom Centering Arm	1
	18-234	Bushing (part of 42-312)	1
27	42-607	Top Centering Arm	1
	18-234	Bushing (part of 42-311)	1
28	42-832	Spring	1
29	HRP-14-100	Roll Pin $\frac{1}{4}$ x 1	1
30	42-308	Swash Arm	1
	8946-1	Wear Strip (part of 42-308)	1
	HRS-316-050	Rivet (part of 42-308)	1

(Continued on next page)

# PUMP AND ENGINE DRAWING

Parts



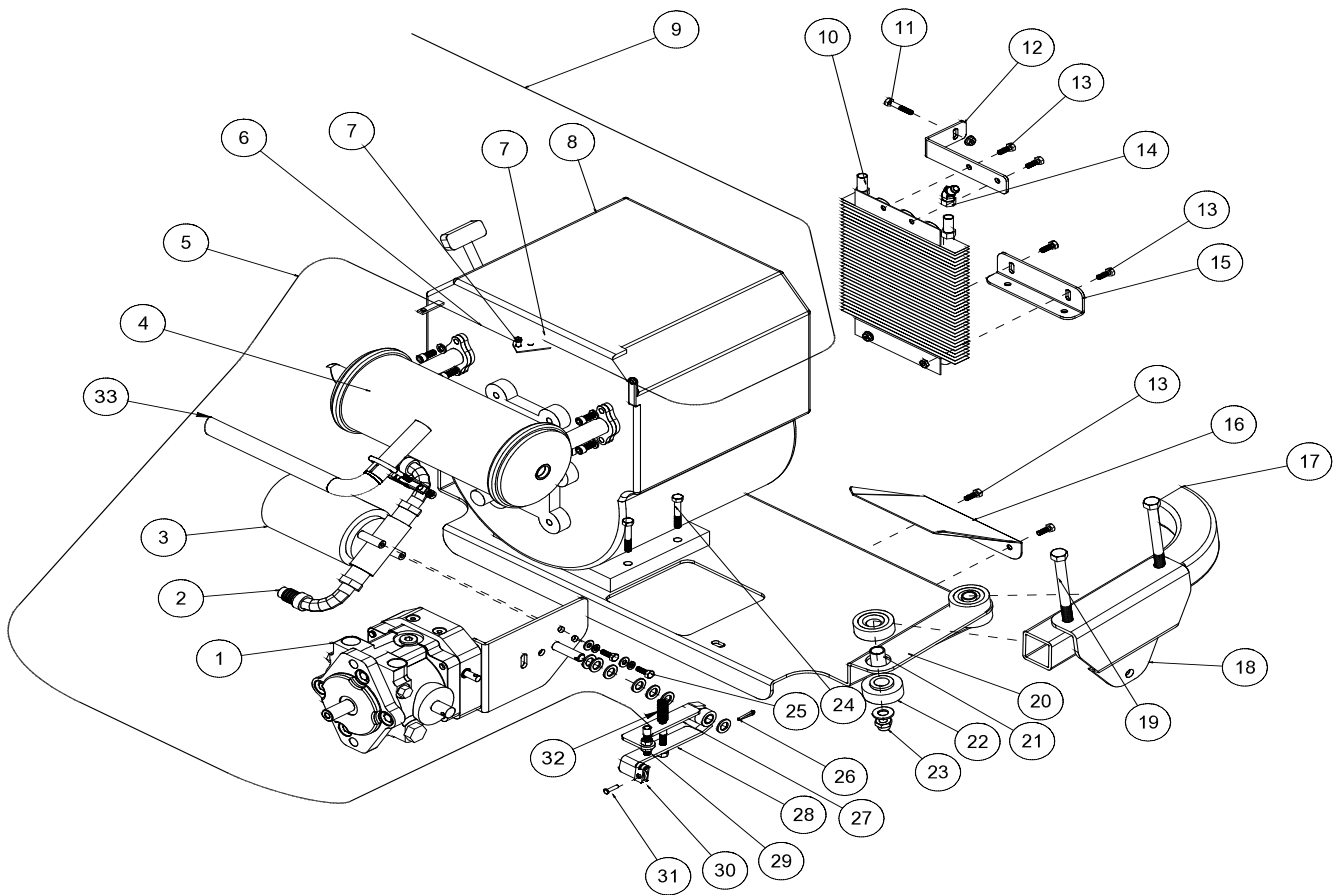
Belt Routing



## PUMP AND ENGINE PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
31	HHP-18	Bridge Pin $\frac{1}{8}$	1
32	18-174	Elbow 90°	2
33	18-185	Elbow	1
34	42-599	Variable Pump with Relief Valve	1
35	HNFL-12-13	Flange Whiz Lock Nut $\frac{1}{2}$ - 13	2
36	42-246	Hub $\frac{3}{4}$	1
	HWK-316-075	Woodruff Key	1
37	42-361	Tensioner Spacer	1
38	HB-38-16-275	Hex Bolt, $\frac{3}{8}$ -16 x $2\frac{3}{4}$	1
	HNFL-38-16	Flange Whiz Lock Nut, $\frac{3}{8}$ -16	1
	HW-38	Flat Washer, $\frac{3}{8}$	1
39	42-358	Idler Pulley	1
	42-338	Oilite Bushing	1
40	42-355	Clutch Handle	1
41	HSSQ-38-16-150	Socket Head Square Screw $\frac{3}{8}$ - 16 x $1\frac{1}{2}$	1
	HN-38-16	Hex Nut, $\frac{3}{8}$ - 16	1
42	15-020	Grip	1
43	42-352	Hex Socket Head shoulder Screw	1
44	HW-38	Flat Washer, $\frac{3}{8}$	3
45	42-356	Lock Handle	1
46	HB-516-18-075	Hex Bolt, $\frac{5}{16}$ -18 x $\frac{3}{4}$	1
	HNTL-516-18	Lock Nut, $\frac{5}{16}$ -18	1
47	16-046	Spring	1
48	HB-38-16-250	Hex Bolt, $\frac{3}{8}$ -16 x $2\frac{1}{2}$	1
	HWL-38	Lock Washer, $\frac{3}{8}$	1
49	13-493	Tailpipe	1
	13-498	Muffler Clamp	1

# ENGINE DRAWING



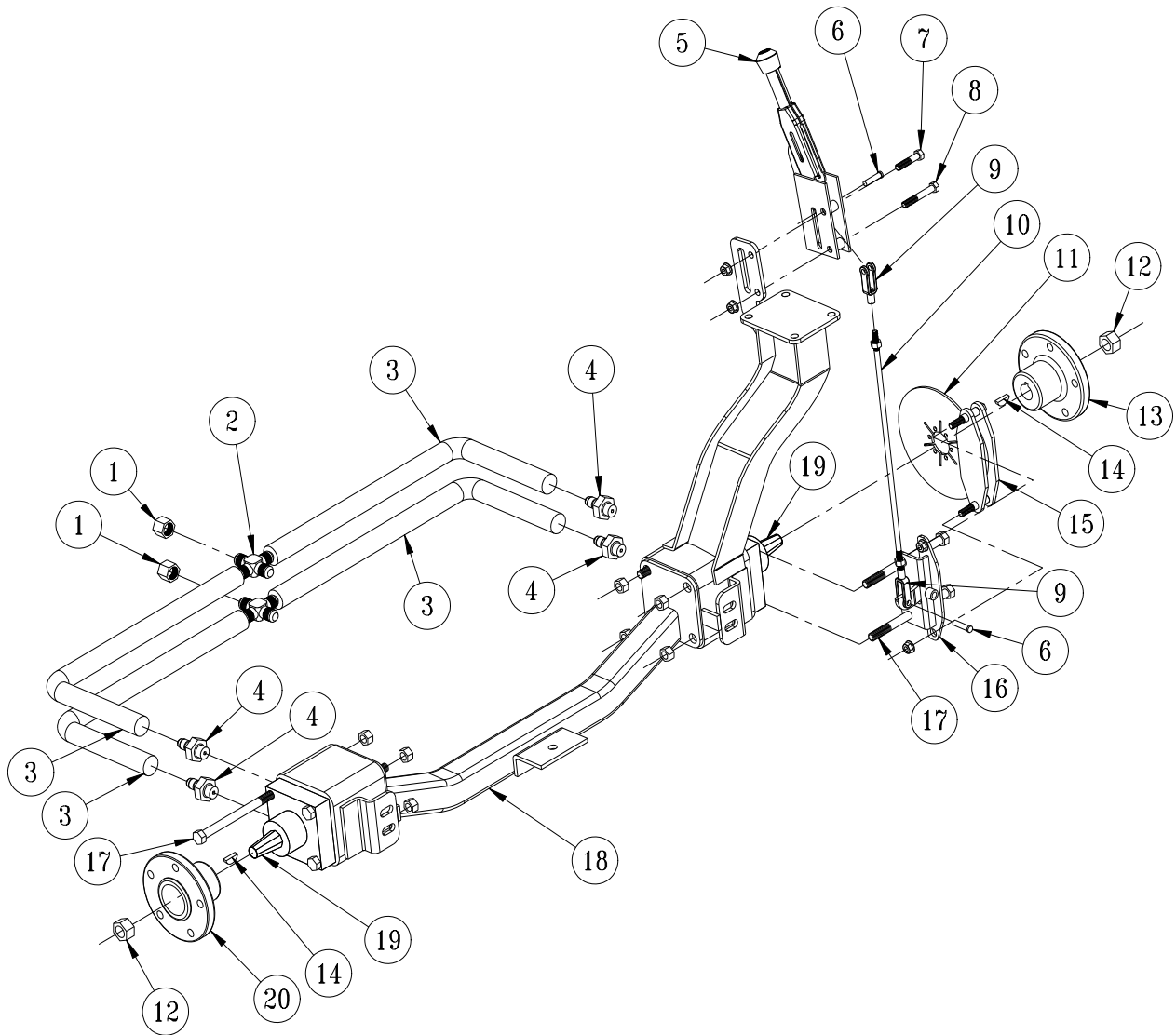
PARTS

# ENGINE PARTS LIST

REF #	PART #	DESCRIPTION	QUANTITY
1	42-599	Variable Pump	1
2	42-307	Cable Bracket	1
3	HB-516-18-100	Bolt $\frac{5}{16}$ - 18 x 1	2
	HW-516	Washer $\frac{5}{16}$	2
	HNTL-516-18	Lock Nut $\frac{5}{16}$ - 18	2
4	42-600	Muffler	1
5	17-152	Conduit	1
6	17-151	Cable	1
7	21-161	Wire Block	4
8	15-165	Engine B&S 16 hp	1
9	21-463	Throttle	1
10	34-105	Aluminum Oil Cooler	1
11	HB-14-20-150	Bolt $\frac{1}{4}$ - 20 x $1\frac{1}{2}$	1
	HNFL-14-20	Flange Whiz Lock Nut $\frac{1}{4}$ -20	1
12	42-771	Top Cooler Bracket	1
13	HB-14-20-075	Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$	4
	HNFL-14-20	Flange Whiz Lock Nut $\frac{1}{4}$ - 20	4
14	18-214	Elbow 45°	1
15	42-275	Bottom Cooler Bracket	1
16	42-270	Oil Drain Pan	1
17	42-426	Main Frame	
18	42-015	Attachment Mount	2
19	HB-12-13-500	Bolt $\frac{1}{2}$ -13 x 5	4
20	42-269	Engine Plate	1
21	60-168	Spacer	4
22	60-107	Rubber Bushing	8
23	HNFL-12-13	Flange Whiz Lock Nut $\frac{1}{2}$ - 13	4
	HW-12	Washer $\frac{1}{2}$	4
24	HB-516-18-225	Bolt $\frac{5}{16}$ - 18 x $2\frac{1}{4}$	4
	HNFL-516-18	Flange Whiz Lock Nut $\frac{5}{16}$ - 18	4
25	HB-14-20-275	Bolt $\frac{1}{4}$ - 20 x $2\frac{3}{4}$	2
	HWL-14	Lockwasher $\frac{1}{4}$	2
	HW-14	Washer $\frac{1}{4}$	2
26	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	1
	HMB-12-14	Machine Bushing $\frac{1}{2}$ x 14 GA	7
27	42-606	Top Centering Arm	1
	18-234	Bushing (part of 42-311)	1
28	42-607	Bottom Centering Arm	1
	18-234	Bushing (part of 42-312)	1
29	17-155	Retainer	1
	HN-516-24	Nut $\frac{5}{16}$ - 24	2
30	17-153	Clevis	1
31	HCP-14-075	Clevis Pin $\frac{1}{4}$ x $\frac{3}{4}$	1
	HP-332-075	Cotter Pin $\frac{3}{32}$ x $\frac{3}{4}$	1
32	42-832	Spring	1
	HB-12-20-400	Bolt $\frac{1}{4}$ - 20 x 4	1
	HW-14	Washer $\frac{1}{4}$	1
	HNTL-14-20	Lock Nut $\frac{1}{4}$ - 20	1
33	13-493	Tailpipe	1
	13-498	Muffler Clamp	1

# REAR AXLE DRAWING

Parts

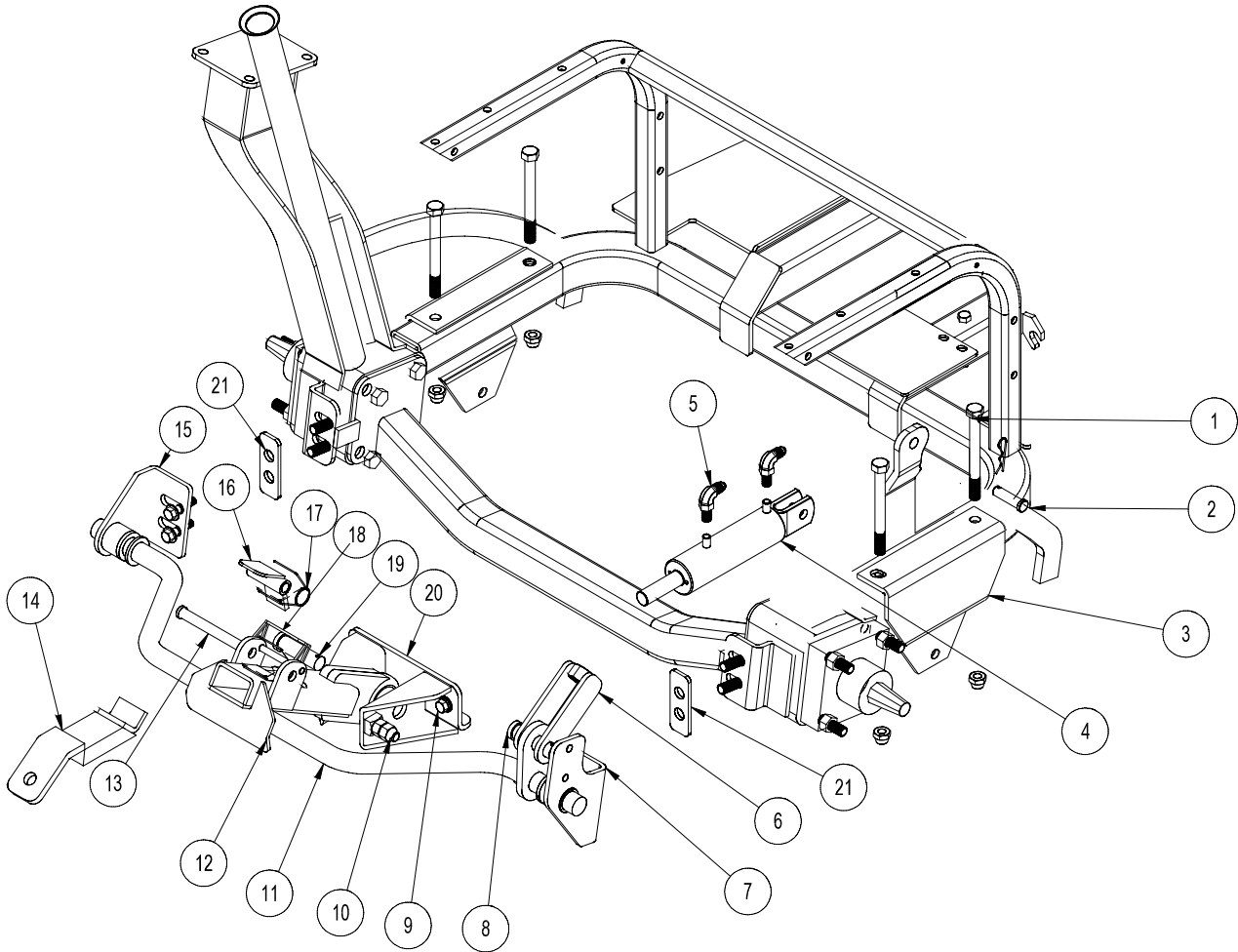


## REAR AXLE PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	18-344	Cap	2
2	18-342	Cross	2
3	42-818	1/2" Hydraulic Tube	4
4	18-343	Adapter	4
5	60-106	Brake Lever	1
6	HCP-516-100	Clevis Pin 5/16 x 1	2
	HP-18-100	Cotter Pin 1/8 x 1	2
7	HB-516-18-175	Bolt 5/16 - 18 x 1 3/4	1
	HNFL-516-18	Flange Whiz Lock Nut 5/16 - 18	1
8	HB-516-18-250	Bolt 5/16 - 18 x 2 1/2	1
	HNFL-516-18	Flange Whiz Lock Nut 5/16 - 18	1
9	11-100	Linkage Yoke	2
10	42-155	Brake Rod	1
	HN-516-24	Nut 5/16 - 24	2
11	50-041	Brake Disk	1
	42-176	Low Head Cap Screw 1/4 - 20 x 3/4	6
12	42-002-12	Nut 3/4 - 16 (part of 42-002)	2
13	42-157	Hub, RH	1
14	HWK-14-100	Woodruff Key 1/4 x 1 (part of 42-002)	2
15	50-042	Brake Caliper	1
	60-563	Disc Pad, Outside	1
	60-564	Disc Pad, Inside	1
16	42-151	Brake Bracket	1
17	HB-12-13-700	Bolt 1/2 - 13 x 7	8
	HNFL-12-13	Flange Whiz Lock Nut 1/2 - 13	8
18	42-426	Main Frame	1
19	42-002	Wheel Motor	2
20	42-007	Hub, LH	1

# RAKE LIFT DRAWING

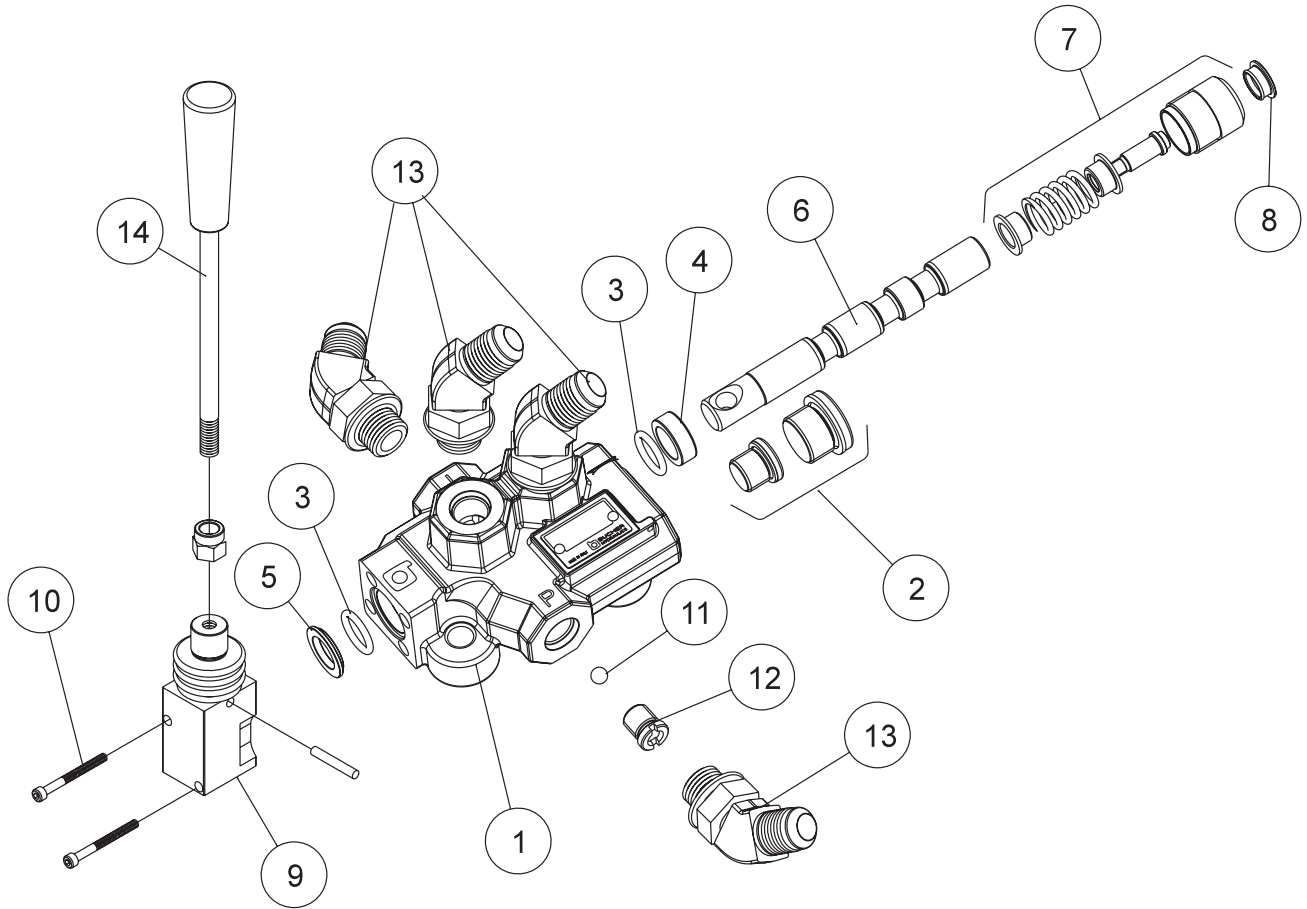
PARTS



## RAKE LIFT PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	HB-12-13-500	Bolt $\frac{1}{2}$ - 13 x 5	4
	HNFL-12-13	Flange Lock Nut $\frac{1}{2}$ - 13	4
2	HCP-12-300	Clevis Pin $\frac{1}{2}$ - 3	1
	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	1
3	42-015	Attachment Mount	2
4	43-150	Hydraulic Cylinder (rear rake lift)	1
5	18-168	90° Elbow	2
6	43-138	Lift Linkage	1
7	34-220	Pivot Bracket - RH	1
8	HCP-34-200	Clevis Pin $\frac{3}{4}$ x 2	1
9	HB-38-24-100	Bolt $\frac{3}{8}$ - 24 x1	2
10	HSSHB-12-13-200	Button Socket Head Cap Screw	2
	HN-12-13	Nut $\frac{1}{2}$ -13	2
	HNCL-12-13	Center Lock Nut $\frac{1}{2}$ - 13	2
11	43-137	Lift Bar	1
	15-019	Rubber Grip	2
12	43-141	Lift Arm	1
13	HCP-12-450	Clevis Pin $\frac{1}{2}$ - 4 $\frac{1}{2}$	1
14	43-143	Towing Hitch	1
15	34-219	Pivot Bracket - LH	1
16	43-139	Lock	1
17	43-136	Torsion Spring	1
18	25-382	Lock Pin	1
19	HCP-78-350	Clevis Pin $\frac{7}{8}$ x 3 $\frac{1}{2}$	1
20	43-140	Frame Mount	1
21	43-176	Lift Bar Shim	2

# 13-731 SINGLE-BANK HYDRAULIC VALVE DRAWING



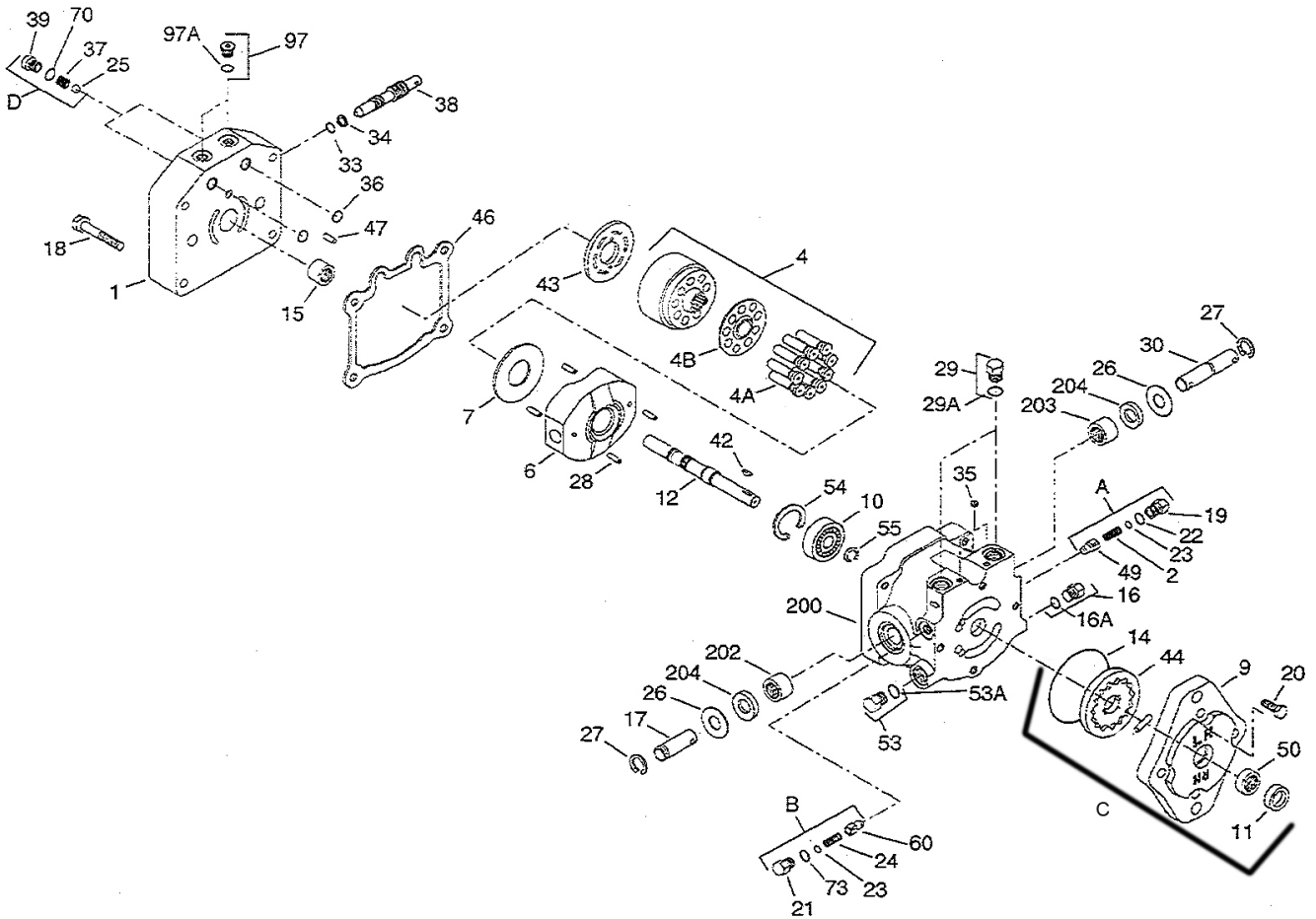
Parts



## 13-731 SINGLE-BANK HYDRAULIC VALVE PARTS LIST

REF #	PART #	DESCRIPTION	QUANTITY
1*	13-731-01	Actuator Housing Assembly	1
2*	13-731-02	Valve Plug	1
3*†	78-415-03	O-Ring Seal	2
4*†	78-415-05	Spacer	3
5*	78-415-04	Flanged Washer HDM10	3
6*	13-731-03	Spool	1
7*	78-415-11	Positioner	1
8*	78-415-08	Plug	3
9*	78-415-09	Lever Group HDS11	1
10*	78-415-10	Metric Socket Screw M5 x .8 x 45	2
11*	13-731-04	1/4" Ball	1
12*†	13-731-05	Check Valve	1
13	18-188	45° ELbow	4
14	78-417	Straight Handle	1
	78-417-01	Tapered Knob	1
*	13-731	Single Bank Hydraulic Valve (includes all * items)	
†	13-731-01	Actuator Housing Assembly	1 per Bank

# 42-599 HYDROSTATIC PUMP DRAWING

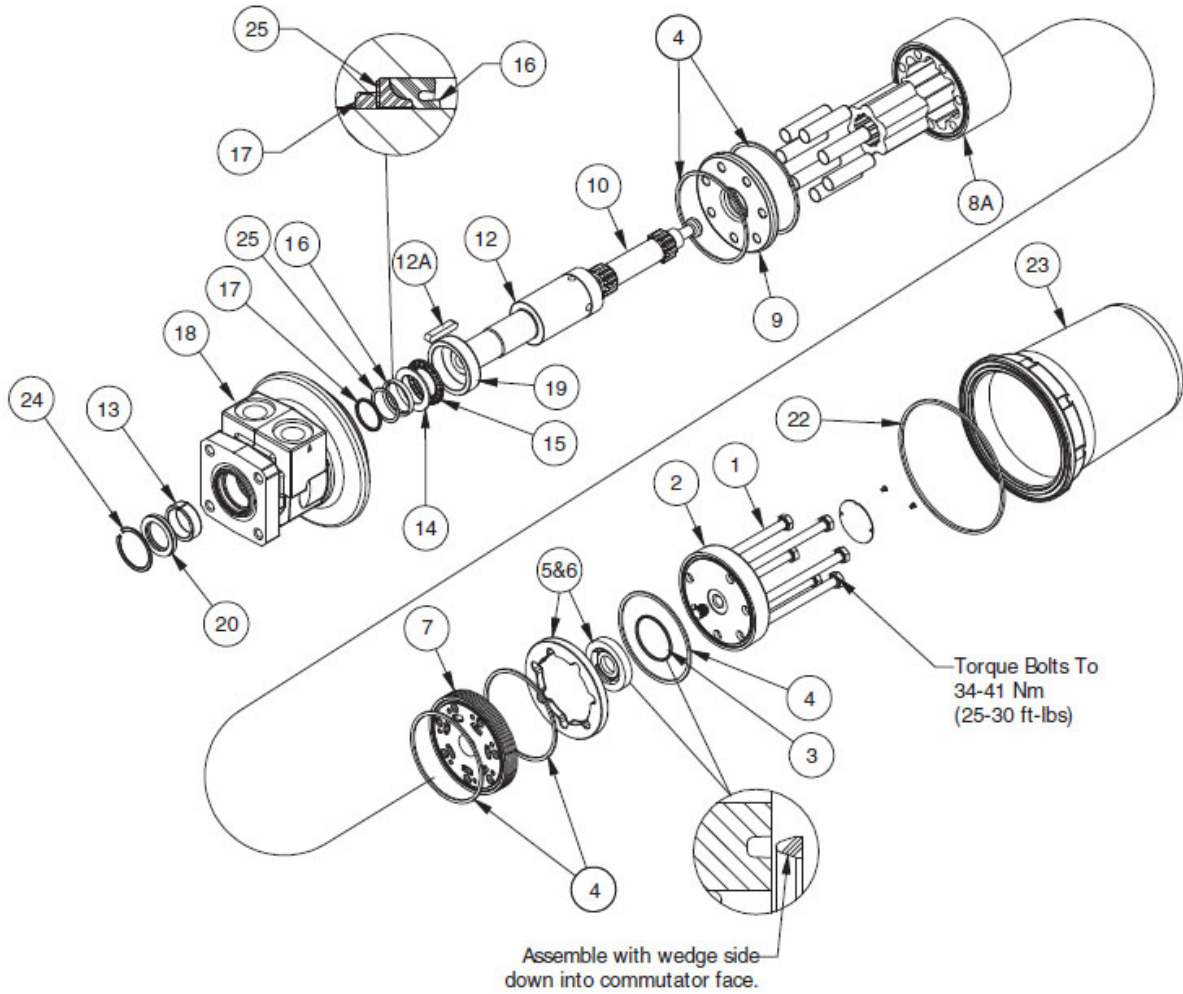


Parts

## 42-599 HYDROSTATIC PUMP PARTS LIST

REF #	PART #	DESCRIPTION	QUANTITY
1	10-117-01	End cap	1
2	14-263	Implement relief spring	1
4	42-003-16	Cylinder block kit	1
4A		Piston assembly	9
4B		Slipper retainer	1
4C		Cylinder block	1
6		Swashplate	1
7	14-114	Thrust plate	1
9		Charge pump housing assembly	1
10	42-003-10	Ball bearing	1
11	14-054	Lip seal	1
12		Shaft	1
14		O-ring	1
15	14-217	Roller bearing	1
16		Plug	1
16A		O-ring	1
17	14-212	Trunnion shaft	1
18	42-003-11	Screw	4
19	13-110-10	Plug	1
20		Screw	4
21	13-110-10	Plug	1
22		O ring	1
23	34-109-03	Shim kit	1
24	14-234	Charge relief spring	1
25	10-117-04	Check valve poppet	2
26	42-003-05	Washer	2
27	14-105	Retaining ring	2
28	14-216	Spring coiled pin	4
30	14-220	Trunnion shaft	1
33	14-226	O-ring	1
34	14-130	Back up ring	1
35	13-110-05	Pipe plug	2
36		O-ring	2
37		Spring	2
38	13-110-01	Bypass valve	1
39	10-117-03	Plug	2
42		O-ring	2
43	34-109-01	Valve plate	1
44	42-003-08	Gerotor assembly	1
46	14-107	Gasket	1
47	14-215	Pin	1
49	34-109-02	Charge relief cone	1
50	42-003-07	Needle bearing	1
53	42-159-05	Plug	1
53A		O-ring	1
54	14-132	Retaining ring	1
55	42-003-09	Retaining ring	1
60	34-109-02	Poppet	1
70		O-ring	2
73		O-ring	1
97	42-003-03	Plug assembly	2
97A		O-ring	2
200		Housing assembly	1
202	14-069	Needle bearing	1
203	14-069	Needle bearing	1
204	14-014	Lip seal	1
A	13-110-17	Relief valve kit	1
B	14-214	Relief valve kit	1
C	42-003-14	Charge pump kit	1

# 42-002 WHEEL MOTOR (8.0 C.I.) DRAWING

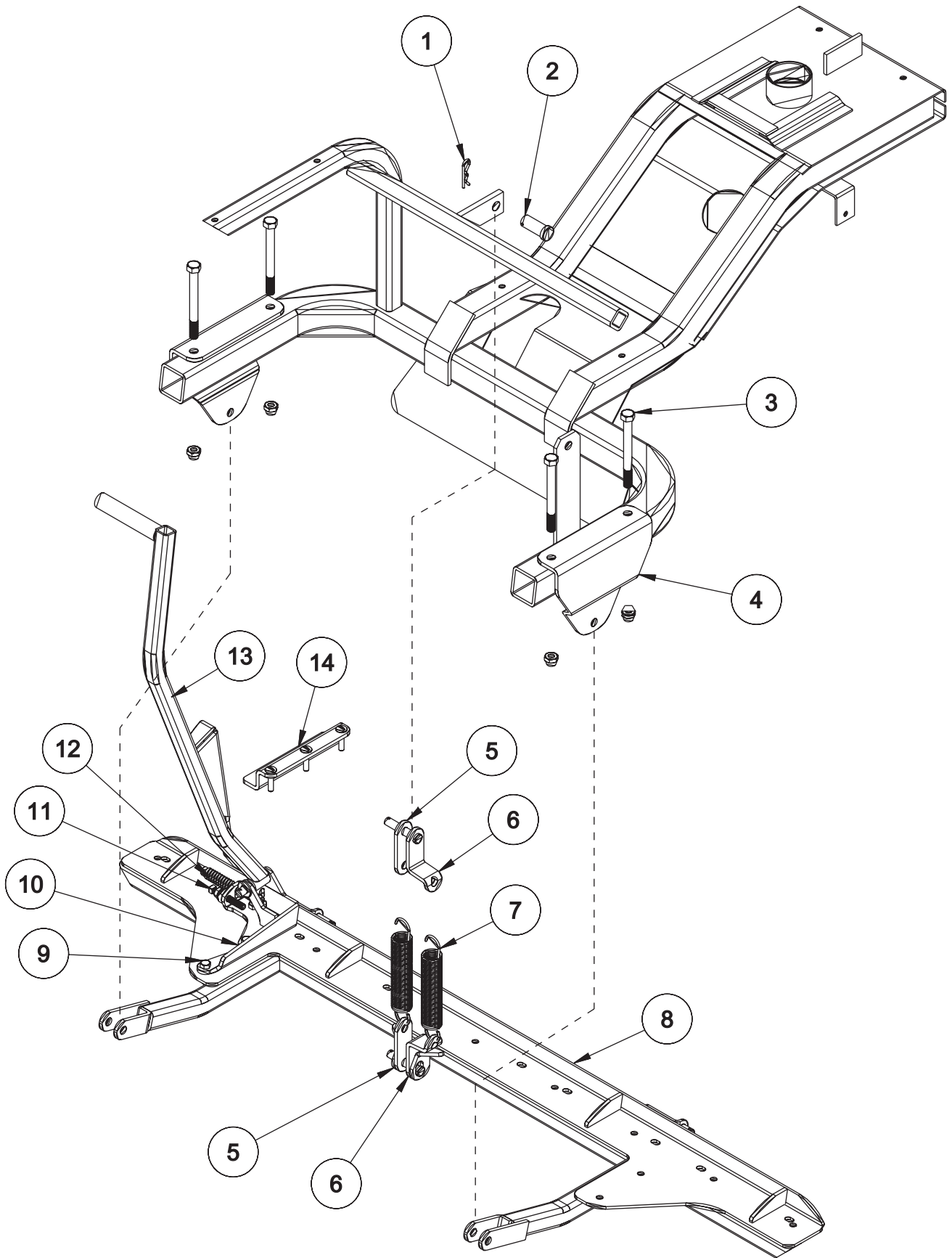


PARTS

## 42-002 WHEEL MOTOR (8.0 C.I.) PARTS LIST

REF #	PART #	DESCRIPTION	QUANTITY
1	42-002-08	Bolt	6
2	42-002-07	End Cover	1
3*		Commutator Seal (matches with #10)(032435)	1
4*		Ring Seal (032821)	5
5&6	42-002-06	Commutator Assembly (matched set)	1
7	42-002-05	Manifold	1
8A	42-002-09	Rotor Set (matched set)	1
9	42-002-10	Wear Plate	1
10	42-002-04	Drive Link	1
12	42-002-11	Coupling Shaft	1
	42-002-12	Nut $\frac{3}{4}$ - 16	1
12A	HWK-14-100	Woodruff Key $\frac{1}{4}$ x 1	1
13	42-002-03	Inner Bearing	1
14	42-002-13	Thrust Washer	1
15	42-002-02	Thrust Bearing	1
16*		Inner Seal (032377)	1
17*		Backup Washer (028516)	1
18	42-002-01	Service Housing Assembly	1
19	42-002-14	Outer Bearing	1
20*	42-039-04	Water & Dirt Seal	1
25		Backup Washer (028552)	1
*	42-002-15	Seal Kit	1

# 42-401 MANUAL LIFT DRAWING

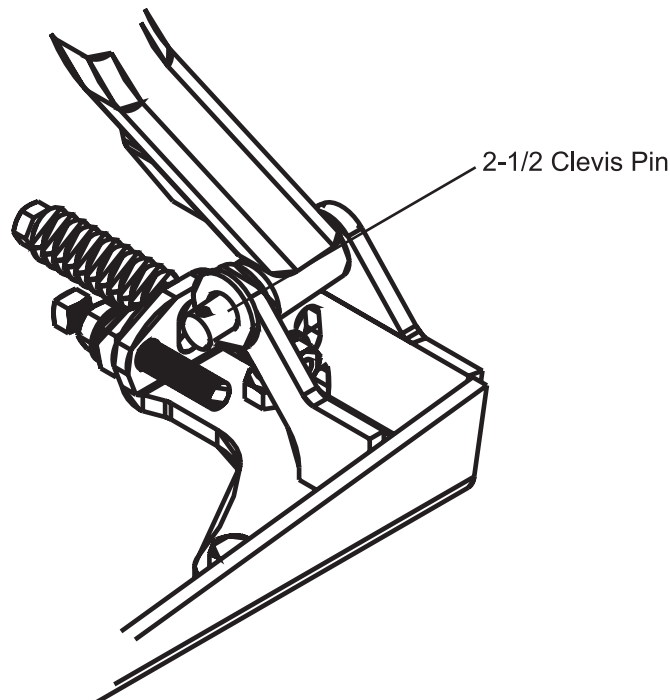


Accessories

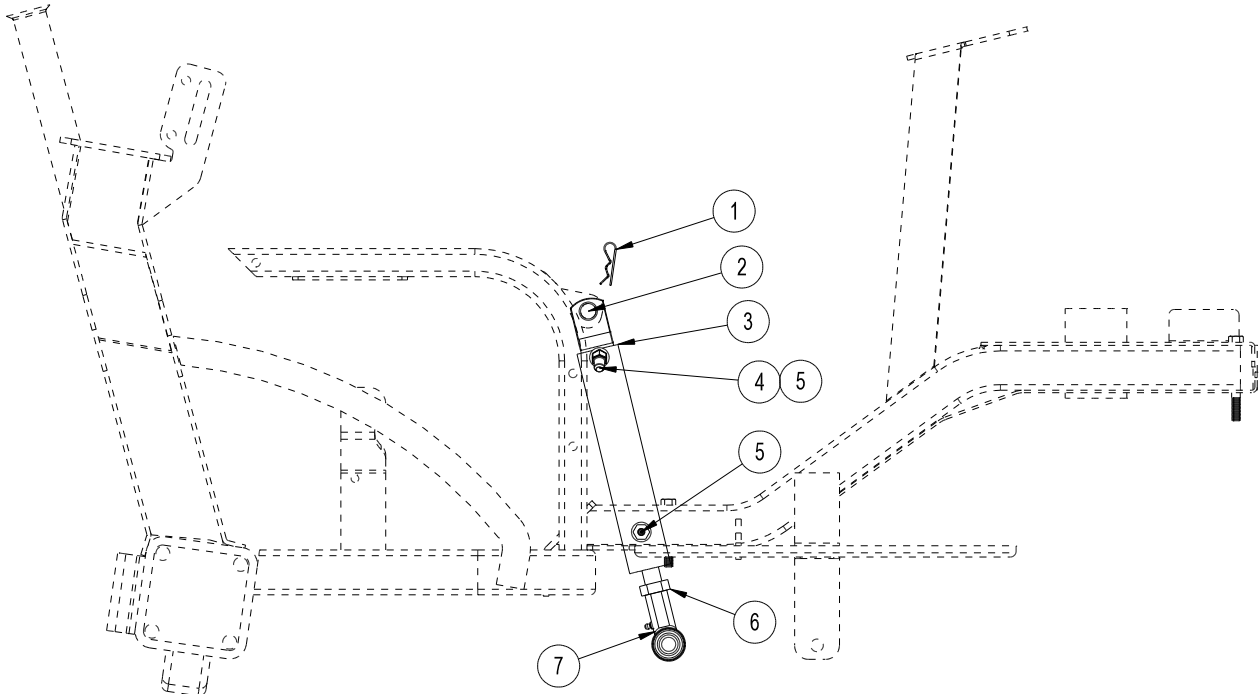
## 42-401 MANUAL LIFT PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	HP-18-100	Cotter Pin $\frac{1}{8}$ x 1	3
2	HCP-12-250	Clevis Pin $\frac{1}{2}$ x $2\frac{1}{2}$	3
	HW-12	Washer $\frac{1}{2}$	8
3		Bolt $\frac{1}{2}$ - $1\frac{3}{8}$ x 5	4
		Lock Nut $\frac{1}{2}$ - 13	4
4		Attachment Mount	2
5	42-383	Flat Spring Bracket	2
6	42-384	Offset Spring Bracket	2
7	21-445	Spring	2
8		Attachment Lift	1
9	HB-38-16-125	Bolt $\frac{3}{8}$ - 16 x $1\frac{1}{4}$	3
	HNTL-38-16	Lock Nut $\frac{3}{8}$ - 16	3
10	42-382	Lift Handle Mount	1
11	HSSQ-38-16-250	Square Head Set Screw $\frac{3}{8}$ - 16 x $2\frac{1}{2}$	1
12	HB-516-18-400	Bolt $\frac{5}{16}$ - 18 x 4	1
	HW-516	Washer $\frac{5}{16}$	2
	11-055	Die Spring	1
	HNFL-516-18	Flange Whiz Lock Nut $\frac{5}{16}$ - 18	1
13	42-381	Attachment Lift Handle	1
	15-019	Round Grip	1
14	42-385	Handle Lock Bracket (Bolts to LH Floorboard)	1
	HSTP-516-18-150	Phillips Machine Screw $\frac{5}{16}$ - 18 x $1\frac{1}{2}$	3
	HW-516	Washer $\frac{5}{16}$	3
	HNTL-516-18	Lock nut $\frac{5}{16}$ - 18	3

### Handle Attachment



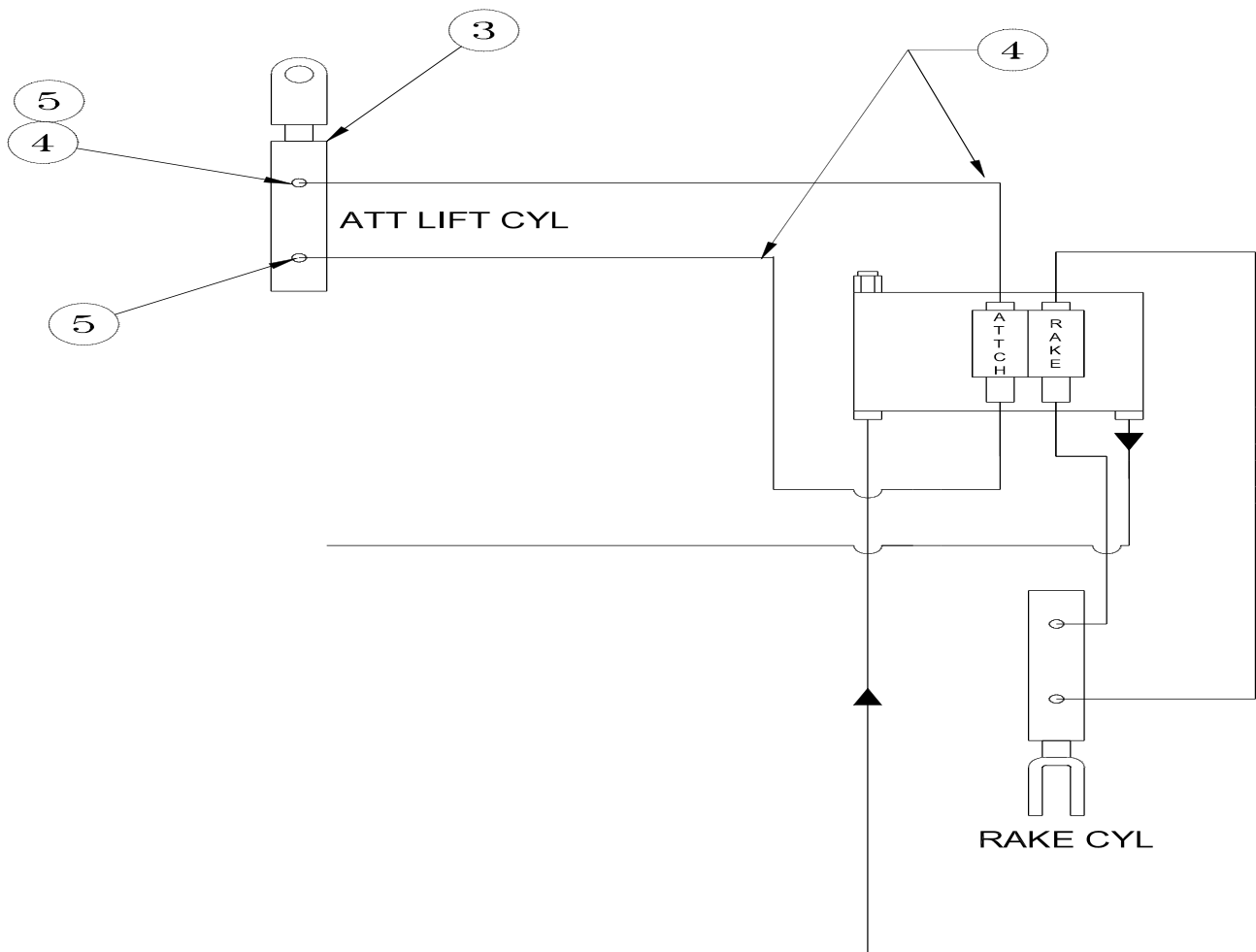
# 42-824 HYDRAULIC CENTER LIFT KIT





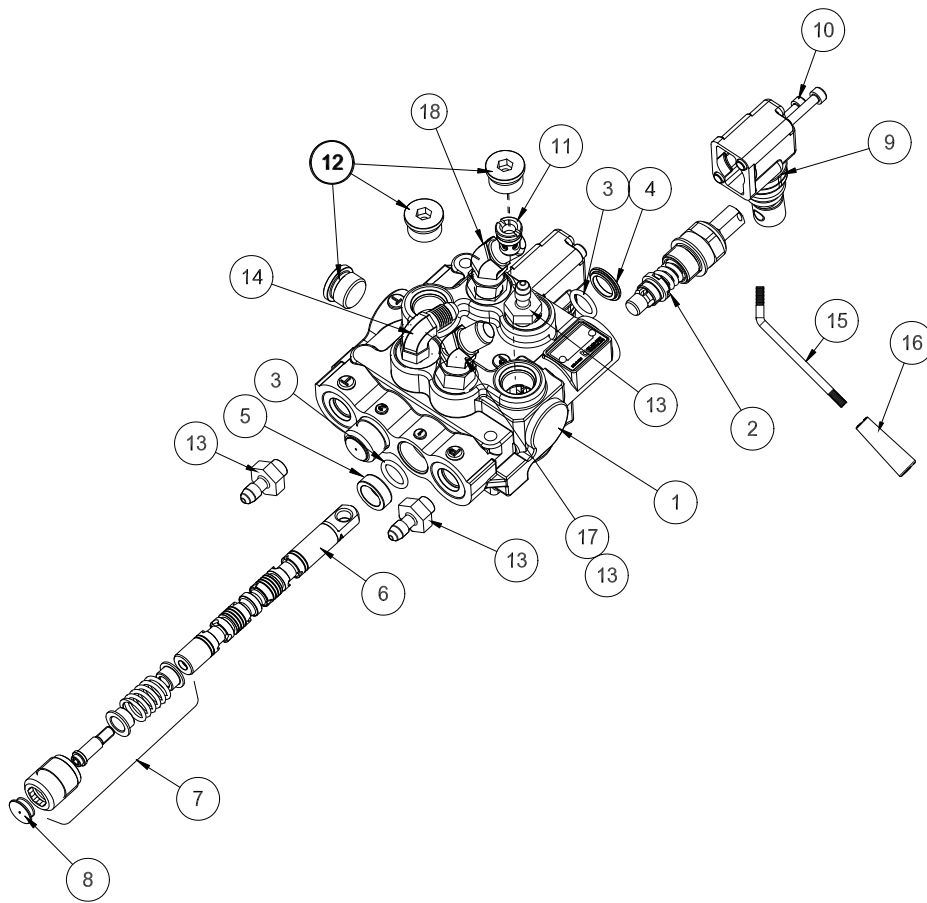
# 42-824 HYDRAULIC CENTER LIFT LKIT

REF#	PART#	DESCRIPTION	QUANTITY
1	HHP-18	Bridge Pin $\frac{1}{8}$	1
2	HCP-58-175	Clevis Pin $\frac{5}{8}$ x $1\frac{3}{4}$	1
3	10-554	Hydraulic Cylinder	1
4	18-214	Elbow 45°	1
	42-047	Hose	1
5	18-169	$\frac{3}{8}$ Adapter	1
	42-047	Hose	1
6	HNJ-58-18	Jam Nut $\frac{5}{8}$ -18	1
7	18-154	Rod End	1
	HCP-58-250	Clevis Pin $\frac{5}{8}$ x $2\frac{1}{2}$	1
	HHP-18	Cotter Pin $\frac{1}{8}$	1



Accessories

# 13-729 2-BANK HYDRAULIC VALVE DRAWING



## 13-729 2-BANK HYDRAULIC VALVE PARTS LIST

REF #	PART #	DESCRIPTION	QUANTITY
1*	78-415-01	Body (complete with spacer and check valve)	1
2*	78-415-02	Spool HDM10	1
3*	78-415-03	O-Ring Seal	4
4*	78-415-04	Flanged Washer HDM10	2
5*	78-415-05	Spacer	2
6*	78-415-06	A Type Spool HDS11	2
7*	78-415-11	Positioner	2
8*	78-415-08	Plug	2
9*	78-415-09	Lever Group HDS11	2
10*	78-415-10	Metric Socket Screw M5 x .8 x 45	4
11*	78-415-12	Check Valve Assembly HDM12	1
12*	78-415-13	$\frac{3}{4}$ - 16 SAE 8 Screw Plug	3
13	18-169	Adapter	4
14	18-168	Elbow $\frac{3}{8}$ Straight Thread	1
15	78-454	Bent Handle	2
16	78-417-01	Tapered Knob	2
17	18-214	Elbow 45°	1
18	18-188	Elbow 45°	1

\* 13-729 2 – Bank Hydraulic Valve (includes all \* items)

## DECAL LIST

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

13-556	Decal, Warning	1	Left Side Below Seat
25-277	Decal, Battery	1	Bottom Seat
25-286	Decal, Pinch Point	1	Bottom Seat Panel
25-298	Decal, Warning Hot	2	Bottom Seat Panel. Oil Filter Bracket
25-337	Decal, Speed Boss	1	Hang from Steering
25-344	Decal, Smithco 3" Star	1	Steering Column
25-349	Decal, Foot Pedal	1	Right Side Nose Cone
25-352	Decal, By-Pass Valve	1	Hang Tag
25-354	Decal, Tire Pressure 5psi	3	Wheels
25-357	Decal, Smithco	1	Front Nose Cone
25-361	Decal, Technical Assistance	1	Main Frame
27-077	Decal, Smithco Round	1	Steering Cap
43-110	Decal, Super Star	2	Nose Cone Side
25-373	Decal, Smithco Star	1	Nose Cone Front
42-765	Decal, Lift Control	1	Right Body Top
42-593	Decal, Control Panel	1	Left of Seat

# QUICK REFERENCE REPLACEMENT PARTS

## REPLACEMENT FILTERS

23-031	Hydraulic Oil Filter	
15-165-01	Air Filter Element with Pre-Cleaner	Briggs and Stratton# 5050
42-076-03	Air Filter Element Fender Mounted	
50-403	Fuel Filter	
13-531	Engine Oil Filter	Briggs and Stratton# 492932
18-462	Oil Drain Valve	Briggs & Stratton #25 755 14-S

## SEAL KITS

42-599	Variable Pump	
14-098	Seal Kit	
42-002 and 42-039	Wheel Motors	
42-002-15	Seal Kit	
42-220	2-BankHydraulic Valve	
14-062	Seal Kit	
14-106	Relief Assembly Kit	
14-203	Spring Centering Assembly Kit (1 per bank)	
43-150	Hydraulic Cylinder	
43-150-01	Seal Kit	

## FLUIDS

Engine Oil	Refer to Engine Manual
Hydraulic Fluid	SAE 10W-40 API Service SJ or higher Motor Oil

## OTHER PARTS

Spark Plugs	RC12YC (Gap 0.030 inch (0.76mm))
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# The Smithco Commercial Products Two-Year Limited Warranty

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

## Warranty Duration is:

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

## Owner Responsibilities:

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

## Instructions for Obtaining Warranty Service:

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

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

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

## Maintenance Parts:

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

## Items/Conditions Not Covered:

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



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



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



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



This warranty does not apply to parts subject to consumption through use, unless found to be defective.

Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to: blades, tines, teeth, scarifiers, rakes, plates, wear plates, castor wheels, tires, batteries, filters, belts, nozzles, etc.



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



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



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



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

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

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

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

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

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

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

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

