



## Cyclone Manual



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Congratulations on your decision to get the Power of SASE behind you! SASE is committed to excellence, excellence in the quality of products we sell and excellence in service and support after the sale. It is important to us that your business continues to succeed and grow, and we know that the right products, service and support can have a great impact on your bottom line.

SASE has made great strides in the concrete preparation and polishing industry over the years. With a 40,000 square foot distribution and service facility in Seattle, a 22,000 square foot distribution and service facility in Knoxville, and local sales and technical support representatives throughout the United States, SASE is able to provide unsurpassed service and technical support for the contractor.

At SASE we engineer and manufacture our own equipment, which allows us to be in control of the quality of the equipment we sell. SASE offers a complete line of concrete preparation and polishing equipment, our newest introduction being our new line of PDG planetary diamond grinders, which is setting a new standard for the concrete grinding and polishing industry. SASE is also the leader in diamond tooling technology.

We look forward to a long and prosperous partnership with you! Thank you again for choosing SASE. You won't regret having the Power of SASE behind your company!

Sincerely,

SASE Company, Inc.

Jim Weder

President

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**SECTION I**  
**GENERAL DESCRIPTION**  
***CYCLONE***

The **CYCLONE** is operated by an electric DC motor, driving a pair of hydrostatic drive systems, creating a skid-steer ZTR drive.

Surface coverings and coatings are removed by lowering a weighted blade onto the surface and moving forward under a high torque drive system. The surface coating is removed by a flexible sharpened blade conforming to the floor surface, with the weight of the machine holding the blade firmly to the floor. The weight does not allow the blade to lift or ride over well adhered surface coating material, thus lifting off the floor covering material.

# SECTION III

## SAFETY AND PRECAUTIONS

Before operating the CYCLONE please read the entire operation and safety manual with complete understanding of the safety section. If you have any questions on safety and precautions please call 800.522.2606.

There are several advantages to an effective safety program which include: lower operating costs, lower workman compensations, less work time lost, high employee morale, and less problems. No one can work safely without knowing what precautions to take to insure personal safety. Operators must know what equipment to wear, which job practices are safe and which are not, and must be aware of what hazards are possible in the work area. A regular schedule of Preventive Maintenance on your equipment is the best protection against unpleasant surprises that slow production and sometimes result in injuries. Here are a few suggested safety tips.

- The first step before any maintenance or inspection takes place should be to turn off electric motors, and disconnect battery power.
1. Wear proper eye and ear protection and heavy duty work gloves at all times.
  2. Practice good Preventive Maintenance.
  3. Practice good housekeeping.
  4. Allow the CYCLONE to come to a complete stop, disconnect power supply, and chock rear wheels before performing any maintenance procedures.
  5. Replace worn parts when necessary.
  6. Do not reach into blade or control arm areas while machine is in operation.
  7. Do not attempt to open any access door until the machine has come to a complete stop and the power has as been disconnected.
  8. Be sure all electrical inspections or changes are performed by qualified personnel.
  9. Loose surface coating can cause dangerous footing. Always be alert and careful.
  10. After replacing parts be sure all tools used are removed from the machine. Be sure all bolts and nuts are tightened. The loose connection of a rotating part could cause the part to fly off with explosive force, causing serious damage to the equipment and possible injury to the operator.
  11. Always lower blade to the ground when the machine is unoccupied by the operator. Serious bodily injury may result if arms are not in the lowered position when not occupied.
  12. Never allow unauthorized personnel or the general public into the work area.
  13. The work area should be barricaded off to adequately keep all untrained persons out of the work site. If an unauthorized person enters the work area, stop the machine immediately and do not restart the machinery until they have left the work area.
  14. Always allow a 200 foot buffer safety zone around all surface preparation activity.
  15. Read and obey all safety labels placed on the machinery at all times. If safety labels have been destroyed or removed call 800.522.2606 for free replacement prior to operating the machinery.
  16. The CYCLONE is **not a toy**. All operators must be over 18 years of age and must have read and reviewed the safety and procedures manual before operating the machinery.
  17. The CYCLONE is designed for surface preparation *ONLY*. It is not intended for towing, pushing or any other procedure not described in this manual.
  18. Horseplay and or high speed cornering is not allowed with this machine and could cause rollover resulting in injury or death.

19. No smoking or open flame is allowed while machinery is running or within 50 feet of the machine.
20. Operator must be sober and not under the influence of drugs or medication and under full control of all bodily senses while operating this or any machinery.
21. When transporting the CYCLONE, it is recommended to use a low bed tilt trailer. This procedure insures the wheels do not leave a stable surface.
22. All CYCLONE operators must receive safety training before performing any functions with the machine.

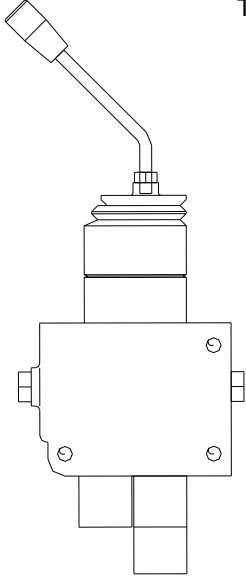
# SECTION IV

## CYCLONE INSTRUMENTS AND CONTROLS TOP VIEW OF CONTROL AREA

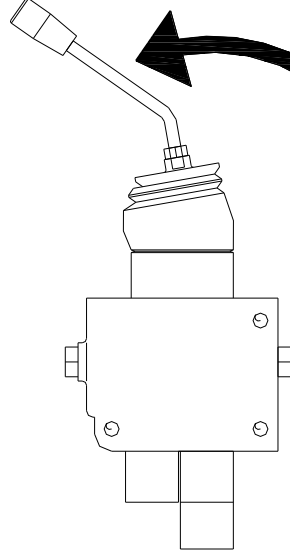


# BLADE CONTROL VALVE OPERATING POSITIONS

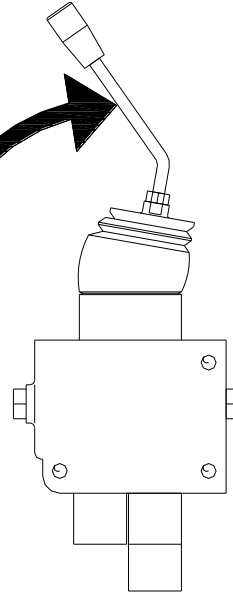
RELAXED (HOLDING)  
POSITION



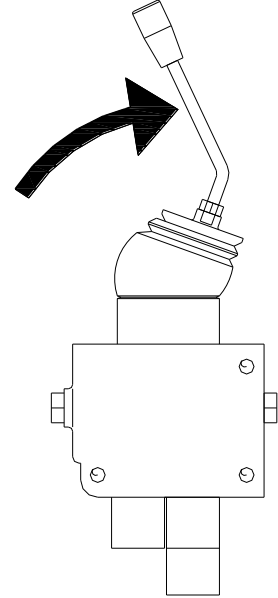
PUSH FORWARD  
FORCES BLADE DOWN  
TO ENGAGE TO SURFACE



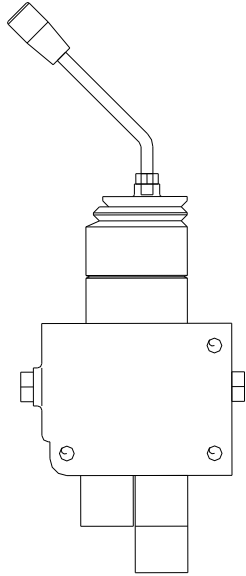
PULL BACK PARTIALLY  
LIFTS BLADE OFF FLOOR



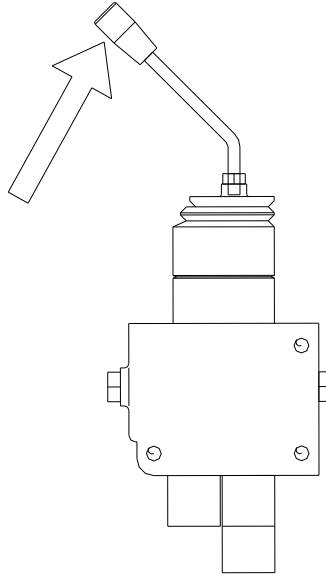
PULL BACK FULLY  
ALLOWS BLADE TO FLOAT



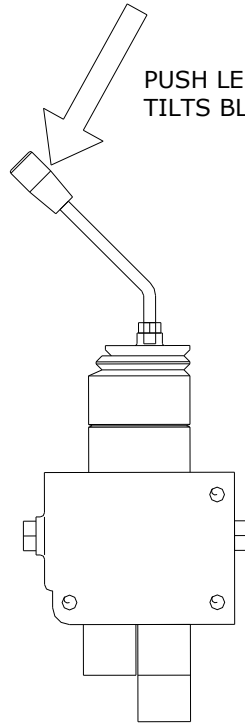
RELAXED (HOLDING)  
POSITION



PULL TO RIGHT  
TILTS BLADE DOWN



PUSH LEFT  
TILTS BLADE UP





# SECTION VI

## MACHINERY OPERATION

Before reading the machinery operation section, new operators should familiarize themselves with the diagrams depicting the TOP , LEFT , and RIGHT views of machine. These drawings show the activation of all moving parts of the CYCLONE.

Even though the CYCLONE surface prep machine is very easy to drive and operate, it is recommended that all operators familiarize themselves with this equipment before attempting to use machine in a jobsite or removal situation. This machine has certain steering characteristics that should be noted and practiced prior to operating in a confined space or restrictive environment.

1. **TO MOVE THE MACHINE:** Using the right hand, slowly move the shifter lever in the desired direction of travel. Forward and left moves the machine to the left, backward and right reverses the machine to the right. It is just that simple to drive. Speed is controlled by amount of movement on the joy stick.
2. **TO ENGAGE BLADE TO SURFACE:** Move left joystick lever forward to lower blade bar assembly down. Move lever back to raise blade bar assembly off floor. Left and right movement adjusts the blade pitch.
3. **TO CHANGE SCRAPING BLADES:** Lift blade to full UP position. Place a block under blade bar assembly for safety purposes. Stop ELECTRIC MOTOR. Loosen the set bolt at the rear of the Blade holder block using a ¾" open-end wrench. Slide the dull blade out and Insert a new blade up against the shoulder stop. Retighten the set bolt and resume scraping.  
The large 1 1'8" blade holder bolt should not need to be more that hand tight. With a little practice you should be able to change blades in 15 seconds. Dull blades can be resharpened and reused many times.  
**SEE DRAWING OF BLADE CHANGE PROCEDURE**
4. Operators should lower the blade by pressing the left hand lever forward each time they get off the machine. This safety practice eliminates possible bodily injury from lowering the blade by unauthorized operators.
5. The transport caster should not be in contact with the floor while scraping. It will lift off the floor when blade is lowered. Caster contact with the floor while scraping will negatively affect scraper productivity and steering.
6. Do not transport machine with front of machine off the surface of floor higher than 1/2".

## **CHARGING BATTERIES**

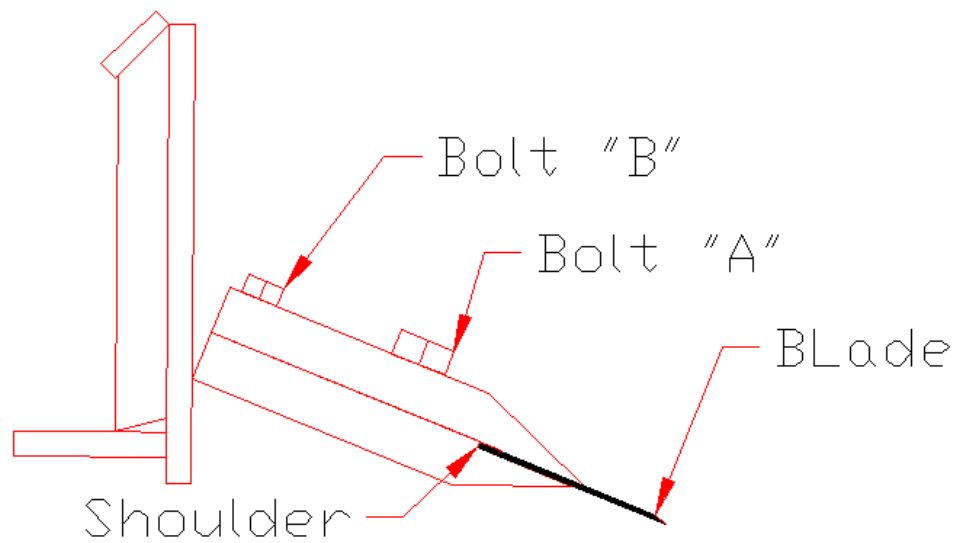
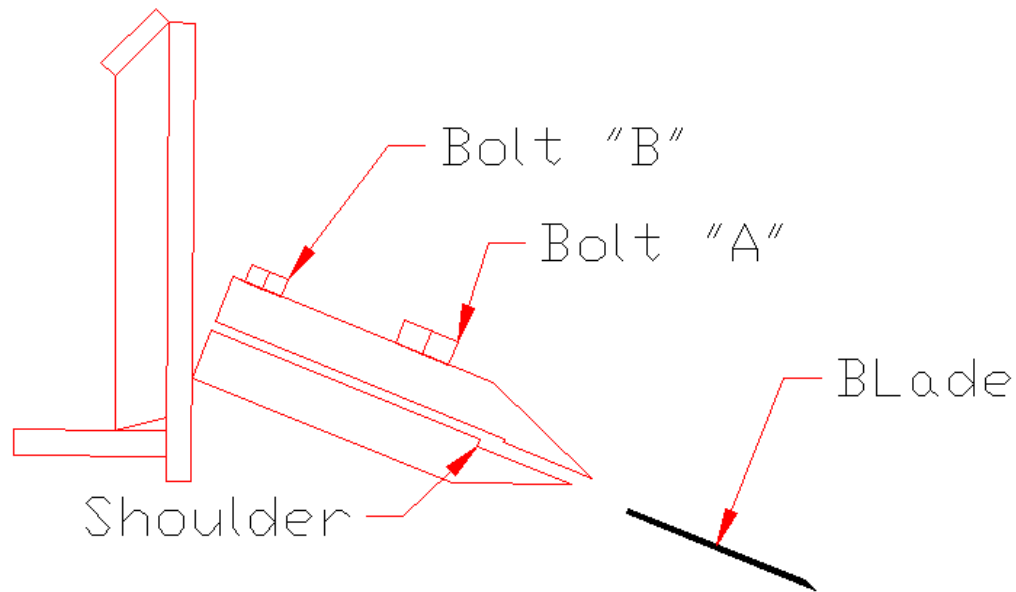
As battery voltage is consumed through machine use, the voltage meter (left side instrument panel) will display less illuminated indicator lights. Use this like a gas gauge. When the battery is nearly exhausted the last lamp will flash and then the gauge will act as a shut down for the machine. The machine must be charged to begin scraping again. To charge battery:

1. Park machine on a level surface
2. Turn machine off (push red Emergency Stop button down)
3. Plug DC connector from battery charger (Gray connector) into receptacle on front left side of Machine.
4. Insert AC electrical plug into wall outlet conforming to the voltage of the charger being used.

**Please see additional information in charger manuals!**

# **BLADE CHANGE PROCEDURE**

**Loosen bolt "A" enough to insert blade into JAWS. Make certain it is up against the SHOULDER. Hand tighten Bolt "A". Wrench tighten Bolt "B" to ensure blade is secure.**



## **SECTION VII**

### **MAINTENANCE SCHEDULES**

#### **DAILY MAINTENANCE:**

1. CHECK HYDRAULIC OIL LEVEL
2. TORQUE WHEEL LUG BOLTS TO 125 FT LBS
3. INSPECT ALL HYDRAULIC COMPONENTS AND HOSES FOR LEAKS AND CORRECT LEAKS IMMEDIATELY

#### **50 HOUR MAINTENANCE:**

1. "TOP OFF" HYDRAULIC OIL TANK
2. TORQUE WHEEL HUB NUTS TO 275 FT LBS
3. GREASE BLADE ARM PIVOTS AT
4. GREASE FRONT CASTER WHEELS AND INSPECT FOR DAMAGE TO TREAD
5. CHECK AND TIGHTEN ALL HYDRAULIC FITTINGS
6. INSPECT HYDRAULIC HOSES FOR DAMAGE
7. INSPECT AND TIGHTEN ALL JOYSTICK STEERING LINKAGES

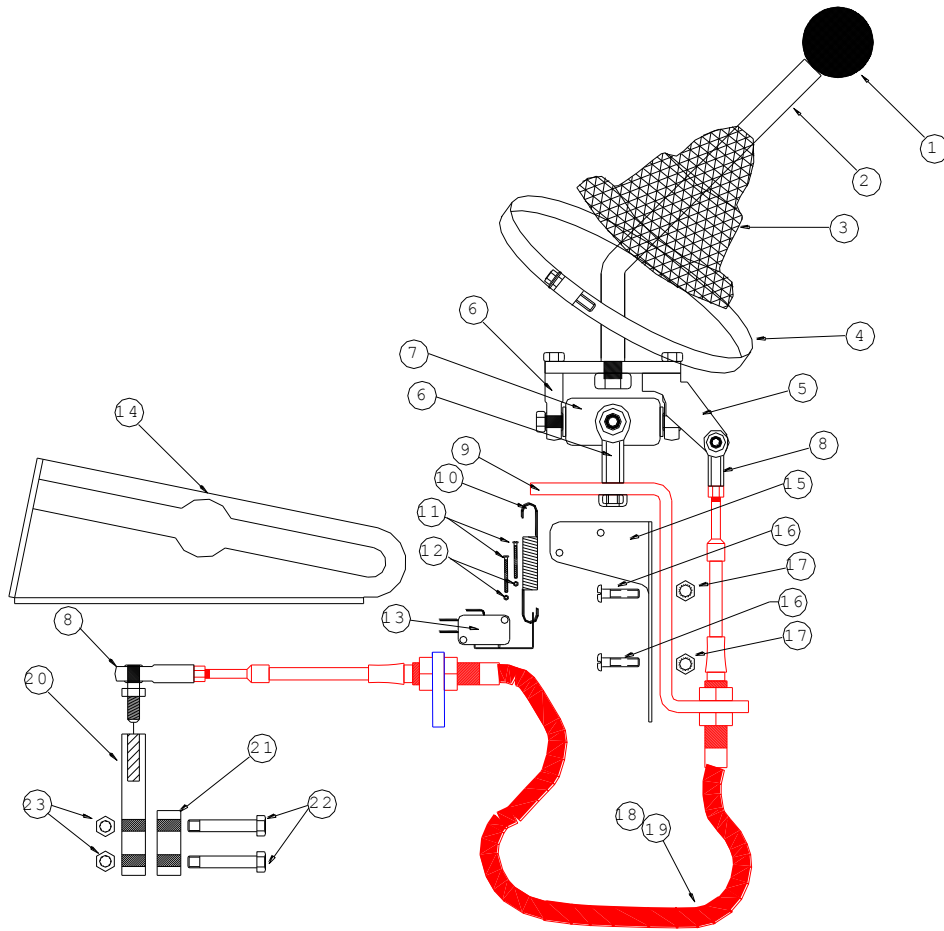
#### **100 HOUR MAINTENANCE:** (in addition to 50 hr maintenance requirements)

1. DRAIN AND REPLACE HYDRAULIC OIL AND FILTER

### **BE AWARE OF THE EFFECTS OF HARSH ENVIRONMENTS TO THE SCRAPER EQUIPMENT.**

- A. The constant and continuous impacts of ceramic tile removal could cause premature loosening of bolts and nuts over entire machine
- B. Use of non-marking (white) tires on ceramic tile, marble, or sharp edged debris will result in extreme tire damage. Black tires are recommended
- E. Carpet removal will generally result in front transport caster being wrapped with stray carpet strings. Remove debris from wheel daily to prevent irreparable damage to wheel tread

## CYCLONE JOYSTICK ASSEMBLY



KEY	DESCRIPTION	QTY	PART NUMBER
1	Ball knob	1	CSJ-101
2	Shifter handle	1	CSJ-102
3	Shifter boot	1	CSJ-103
4	Boot clamp	1	CSJ-104
5	Pivot bracket	1	CSJ-105
6	1/4" rod end no/stud	4	CSJ-106
7	4-way pivot	1	CSJ-107
8	1/4" rod end w/stud	4	CSJ-108
9	Mount, upper cable	1	CSJ-109
10		1	CSJ-110
11	Switch retainer bolts	2	CSJ-111
12	Switch retainer nuts	2	CSJ-112
13	Back Up alarm switch	1	CYE-109
14		1	CSJ-113
15	Back up alarm switch mount	1	CSJ-114
16		2	CSJ-116
17		2	CSJ-117
18	Cable, left pump -- 52" front	1	CSJ-118
19	Cable, right mount --72" rear	1	CSJ-119
20		2	CSJ-120
21		2	CSJ-121
22		4	CSJ-122

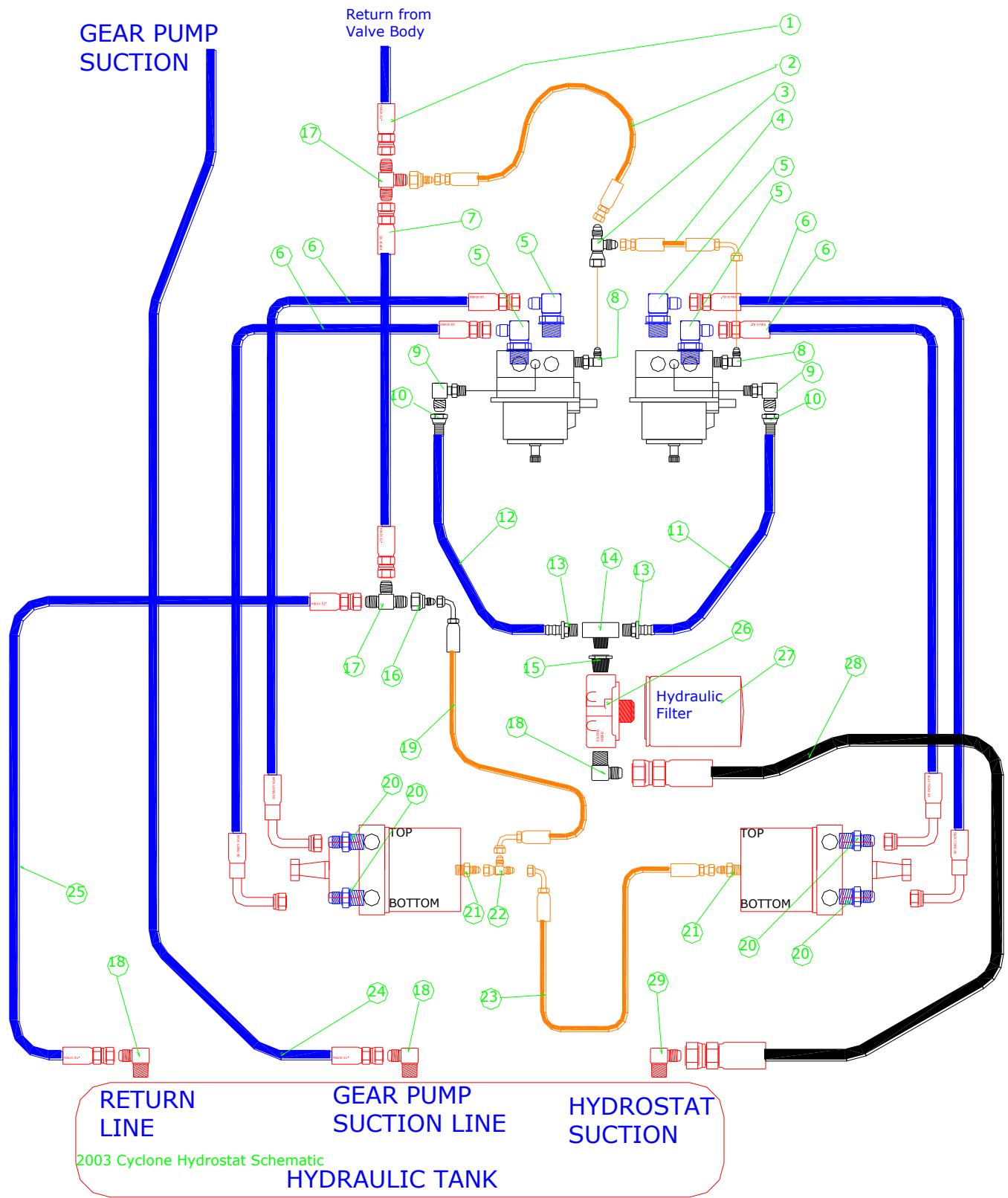
## CYCLONE FRAME AND COWLINGS

<b>KEY</b>	<b>DESCRIPTION</b>	<b>QTY</b>	<b>PART NUMBER</b>
1	Caster, front	1	CYF-101
2	Caster wheel, front only	1	CYF-102
3	Tire, Rear Drive Wheel 14 x 4-1/2 x 8 Non Marking	2	CYF-103
4	Tire, Rear Drive Wheel 14 x 4-1/2 x 8 Black	2	CYF-104
5	Cover, front	1	CYF-105
6	Foot Step	1	CYF-106
7	Pins, pivot 1"	2	CYF-107
8	Seat	1	CYF-108
9	Mount plate, seat	1	CYF-109
10	Hinge, seat	1	CYF-110
11	Cover, oil cooler	1	CYF-111
12	Cover, tank oil	1	CYF-115
13	Cover, Battery left side	1	CYF-116
14	Cover, Battery right side	1	CYF-117
15		1	CYF-118
16	Frame	1	CYF-119
17		1	CYF-120
18		1	CYF-121
19	Weight hangers 2" round bar	1	CYF-122
20	Weight cover, lower left	1	CYF-123
21	Weight cover, lower right	1	CYF-124
22	Blade Bar Mount Plate	1	CYF-125
24	Blade Bar 24"	1	CYF-126
25	Blade Bar Top 24"	1	CYF-127
26	Blade Bar Top "mount bolts" 3/4-10 x 2 1/4"	2	CYF-128
27	Blade Bar Top "clamp bolts" 1/2-13 x 1 1/2	2	CYF-129
28	Blade Bar 8"	1	CYF-130
29	Blade Bar Top 8"	1	CYF-131
30	Blade Bar Mounting Bolts 1/2-13 x 2	2	CYF-132
31	Blade Bar Pivot Pins	2	CYF-133
32		4	CYF-134

## CYCLONE HYDRAULIC DRIVE COMPONENTS

KEY	DESCRIPTION	QTY	PART NUMBER
	Pump, front/left hydrostat	1	CYH-101
	Pump, rear/right hydrostat	1	CYH-102
	Motor, wheel drive	2	CYH-103
	Filter, 10 micron element	2	CYH-104
	Filter, 3/8" spin on head	2	CYH-105
	Cap, hydraulic tank	1	CYH-106
	Cylinder, tilt 2" x 4"	2	CYH-107
	Pins, Tilt Cylinder	4	CYH-108
	Cylinder, tilt 3" x 3" x 2"	2	CYH-109
	Pins, Lift Cylinder	2	CYH-110
	Cooler, hydraulic oil	1	CYH-111
	Adapter, 6801-8-8	4	CYH-112
	Adapter, 6803-6	1	CYH-113
	Adapter, 6500-6	1	CYH-114
	Adapter, 6LOC x 6FJX	1	CYH-115
	Adapter, 4601- 8-6	2	CYH-116
	Adapter, 6801-6-6	1	CYH-117
	Adapter, 6400-4-4	2	CYH-118
	Plug, 1/2" HH	1	CYH-119
	Nipple, 3/8 close	2	CYH-120
	Adapter, 4501-8-6	2	CYH-121
	Adapter, 4501-6-8	1	CYH-122
	Adapter, 6801-4-6	4	CYH-123
	Adapter, 6602-4	2	CYH-124
	Adapter, 2501-4-6	4	CYH-125
	Adapter, 2603-4	2	CYH-126
	Adapter, 6400-4-8	6	CYH-127
	Adapter, 6400-8-10	4	CYH-128
	Valve, Joystick	1	CYH-129
	Hose, #8 34" w/str & 90, wheel motor left	2	CYH-130
	Hose, #8 27" w/str & 90, wheel motor right	2	CYH-131
	Hose, #8 62" w/2 str Imp pump to valve in/out	2	CYH-132
	Hose, #4 12" w/2 str Lift cyl top port to tee	2	CYH-133
	Hose, #4 6" w/2 str Lift cyl bottom port to tee	2	CYH-134
	Hose, #4 36" w/str & 45 Valve to lift & tilt tee	2	CYH-135
	Hose, #4 10" w/2str Tilt cyl crossover hose	2	CYH-136

# CYCLONE HYDROSTAT SYSTEM





## CYCLONE ELECTRICAL COMPONENTS

KEY	DESCRIPTON	QTY	PARTS NUMBER
	36 Volt Electric Motor	1	CYE-101
	6 Volt 400 AH AGM	1	CYE-102
	Disconnect Switch	1	CYE-103
	Key	1	CYE-103A
	Solenoid, 36V	1	CYE-104
	Meter, Battery 36V Gauge	1	CYE-105
	Meter, Hour	1	CYE-106
	Beacon, yellow	1	CYE-107
	Alarm, Back-up	1	CYE-108
	Switch, Back Up Alarm	1	CYE-109
	Diode	1	CYE-110
	Connector, gray 175	1	CYE-111
	Contact, 175	2	CYE-112
	Charger, 110/40	1	CYE-113
	Charger, 220/60	1	CYE-114
	Cable, 2/0 45" w/2pc 5/16 lug-BR	2	CYE-115
	Cable, 2/0 27" w/1pc 5/16 & 1pc 3/8 lug-RR	1	CYE-116
	Cable, 2/0 24" w/2pc 5/16 lug-RR	1	CYE-117
	Cable, 2/0 21" w/1pc 5/16 & 1pc 3/8 lug-BB	1	CYE-118
	Cable, 2/0 18" w/1pc 5/16 & 1pc 3/8 lug-BB-1	1	CYE-119
	Cable, 2/0 16" w/2pc 5/16 lug RR	1	CYE-120
	Cable, 2/0 8" w/2pc 5/16 lug RR	1	CYE-121
	Cable, 2/0 8" w/2pc 5/16 lug RB	8	CYE-122
	Cable, Blk 4 AWG 40" w/1pc 5/16 lug & 1pc 175 AMP Conn		CYE-123
	Cable, Red 16" w/1pc 5/16 lug & 1pc 175 AMP Conn		CYE-124
	Cable, Kit (items 115-124) 18 pcs		CYE-125