O.E.M. PRODUCTS INC.
CYCLONE

OPERATIONS AND MAINTENANCE MANUAL FOR THE CYCLONE AND CYCLONE SS

Rev 4.2020

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OPERATIONS AND MAINTENANCE MANUAL

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CUSTOMER

_____

SERIAL NUMBER

_____

DATE SHIPPED

SECTION I
GENERAL DESCRIPTION
CYCLONE SS

The CYCLONE SS is powered by an electric motor, driving a tandem hydrostatic pump system, creating a (skid-steer) zero turn radius drivetrain.

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 II
SPECIFICATIONS

Weight	2,850 lbs.
Removable weight	720 lbs. from taking out 6 batteries – for transport only
Height	63 inches
Width	26 inches
Length	52 inches
Max Ground Speed SS Model	350 ft./min.
Hydraulic tank fluid capacity	3 gallons
Oil for hydraulics	15w-50 full synthetic motor oil

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/or precautions, please call 1-866-636-7763.

A regular schedule of Preventive Maintenance on your equipment is the best protection against unpleasant surprises that could slow production and/or result in injuries. Here are a few suggested safety, operating, and maintenance tips.

- Maintenance or inspection - Before performing any maintenance or repairs.
    - Make sure the STOP button is pushed down.
    - Remove the cutting blade or lower it to the floor.
    - Chock the rear wheels.

- Wear proper eye and ear protection. Always wear heavy-duty work gloves, especially when changing blades or attachments.
- Check machine daily for loose bolts or nuts and torque to the correct torque specifications. For example, the center rear wheel motor axle nut should be torqued to at least 200 ft/lbs. Not doing this could cause the wheel and hub to fall off and would also cause the wheel motor axle to be damaged, resulting in high replacement costs.
- Replace worn parts when necessary.
- Do not reach into blade or control arm areas while machine is in operation.
- Be sure a qualified electrician does all electrical inspections or changes.
- Loose surface coating can cause dangerous footing. Always be alert and careful.
- After replacing parts, make sure all tools used are removed from the machine.
- Always lower blade to the ground when the machine is unoccupied by the operator to prevent unintentional bodily harm with the blade.
- Never allow unauthorized personnel or the general public into the work area.
- 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.
- Always allow a buffer safety zone around all surface preparation activity.
- 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.
- The CYCLONE is designed for surface preparation ONLY. It is not intended for towing, pushing, or any other procedure not described in this manual.
- No smoking or open flame is allowed while machinery is running or within 50 feet of the machine.
- Operator must be sober, not under the influence of drugs or medication, and under full control of all bodily senses while operating this machinery.
- Always park the CYCLONE on a level surface and chock the wheels. Not doing this could lead to the machine rolling away.
- Make sure to unplug ALL power cords before operating the CYCLONE.

WARNING: Exposure to dust may cause respiratory ailments.

Potential Hazard

- Possible employee exposure to nuisance dust during cutting, grinding, machining, polishing, sanding, scraping, and so forth.

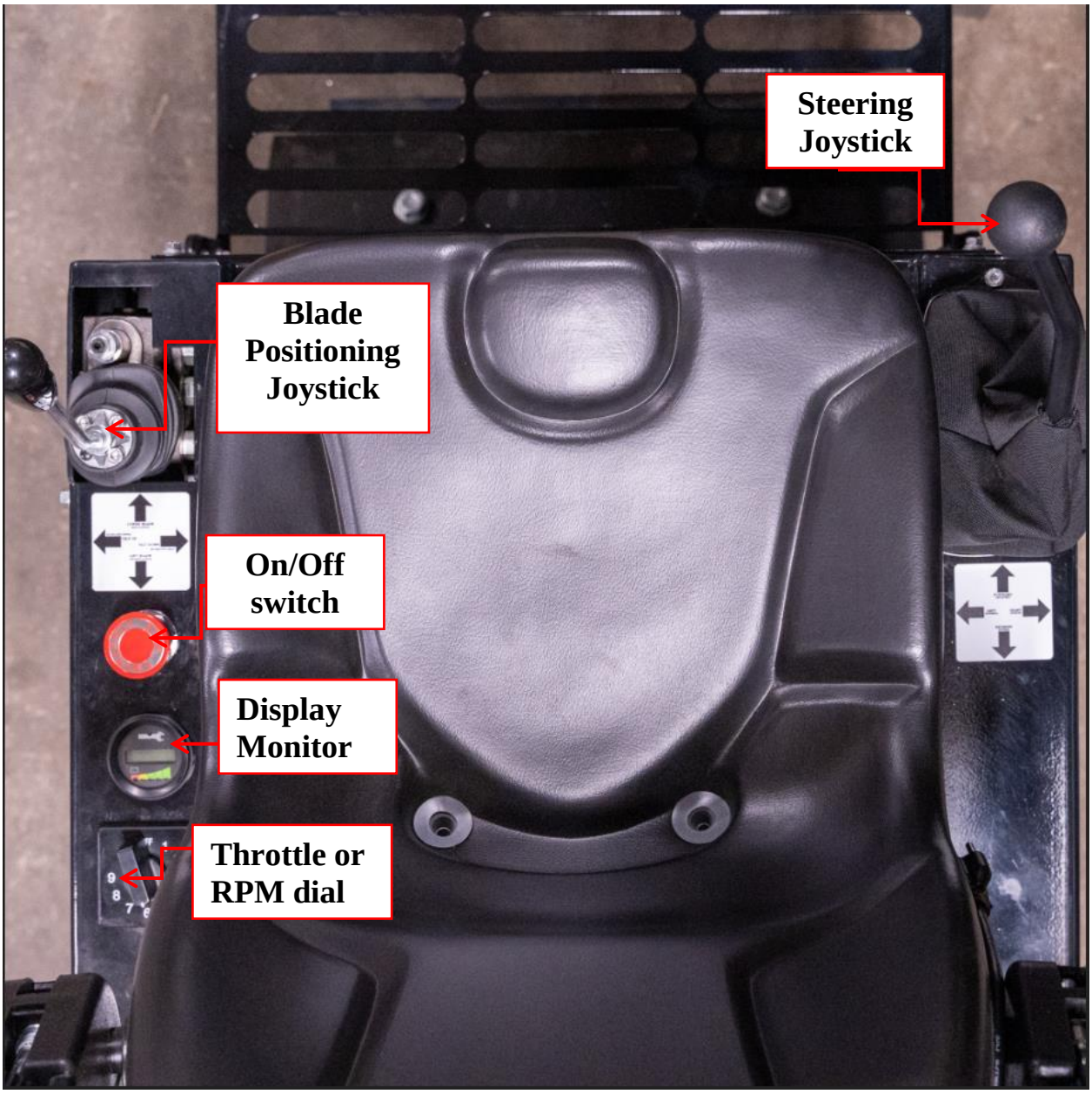
Possible Solutions

- Identify exposure scenarios and perform appropriate evaluations.
    - Perform exposure measurements for the compounds used.
    - Keep exposures below acceptable exposure levels.
- Use wet operations when possible to reduce airborne dust concentrations.
- Provide appropriate ventilation to reduce dust concentration levels in the air.
- Use respiratory protection when necessary to further reduce exposure and protect employees. [29 CFR 1910.134]
- Maintain adequate housekeeping to remove unwanted dust and reduce concentration levels.

SECTION IV

INSTRUMENTS AND CONTROLS

TOP VIEW OF CONTROL AREA



SECTION V
START-UP AND MACHINE OPERATION

Pre-Start-Up
The Cyclone has been safety tested and run at the factory prior to shipping. The factory topped off the hydraulic fluid, but it should be checked just in case something happened along the way. The fluid level should be about 2" from the top of the tank. Overfilling will result in fluid seeping out of the hydraulic tank cap. Inspect for major hydraulic oil leaks. Snug any loose hydraulic fittings using two wrenches if a leak is present. Use caution not to over tighten. Make sure your lug bolts are torqued between 85-100 ft. lbs. and the axle nut is torqued to at least 200 ft. lbs.

Start-Up
Operator must be in the seat before the electric motor will start. While you are sitting in the seat there is a red knob on your left side, behind the blade control joystick. Pull that red knob up and you may hear the electric motor start turning. The battery gauge is behind the red knob and will first display the hours recorded on the gauge. The CYCLONE SS model will have a black throttle dial on the left side as well. This should be set to the "OFF" position while initially pulling the red knob up. The electric motor will still turn while in this position. Then turn the black dial clockwise until desired motor speed is achieved. Note the machine is much slower when the dial is at a low #. This is desirable while loading or unloading the CYCLONE SS from a trailer or while driving through a doorway or tight space.

Operation
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 on a jobsite or removal situation. Use the left-hand joystick to position the blade where you would like it before moving. Move left joystick lever forward to lower blade bar assembly down. Move lever back to raise blade bar assembly off the floor. Pushing the left-hand lever left or right adjusts the blade pitch. Push the joystick on your right side in the direction you want to go to get moving. You always want to start out scraping with the blade or Tile Tooth as parallel to the floor as possible while still being able to stay under the material being taken up. You then increase the pitch of the blade or

tooth as necessary to maintain productivity. Make sure you retract the front caster wheels and keep them off the floor while scraping. This ensures maximum weight on the front blade as well as extending the life of your front caster wheels. Remember, when you push down the red button to stop the machine for parking, to make sure it is on a level surface and chock the wheels to prevent the machine from rolling away. 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. Do not transport machine with front of machine off the surface of floor higher than 1/2". As battery voltage is consumed through machine use, the voltage meter (left side instrument panel) will display the battery percentage. This is similar to a gas gauge but when the readout reaches 20% the machine will go into limp mode (slow the RPMs down) to let the operator know it needs to be driven to where it will be charged or loaded up on a trailer. The machine must be charged to begin scraping again. To charge the batteries with the stand-alone charger:

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

Your Cyclone is equipped with wheel scrapers that scrape whatever debris you run over like VCT off the tires. If you notice your Cyclone isn't getting traction or is carrying debris around you may have to loosen 2 bolts on the wheel scrapers and slide them against the tires and retighten.

Change Scraping Blades

Lift blade bar to full UP position. Place a block under blade bar assembly for safety purposes. Push the red button down to stop the electric motor. Loosen the pinch or clamp bolt at the rear of the blade holder block using a ¾" wrench. Slide the dull blade out and insert a new blade up against the shoulder stop. Retighten the pinch bolt, remove wood block for safety, 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 sharpened and reused many times.

SECTION VI
CHARGERS AND BATTERIES

BATTERY CHARGER INFORMATION

Summit II Series 1425W Switch Mode Industrial Battery Charger

The charger features Bluetooth wireless communication, which can be accessed using an Apple® or Android™ smart phone, tablet, or similar device. Download the ChargerConnect app for your device by scanning the QR code on the charger or visiting the App Store® or the Google Play™ store and searching for "ChargerConnect".

The charger communication electronics are DC powered, so the charger must be connected to the battery pack in order to communicate with it via Bluetooth. The charger was connected to the battery pack from the manufacturer. Open the ChargerConnect app and select the charger from the list of available units the app is able to communicate with. The Charger ID has been previously changed via the app to reflect the serial # of your Cyclone SS. While connected, the Red, Yellow, and Green LEDs on the charger will slowly blink at the same time until the Bluetooth communication is disconnected form the charger.

On-Board Charger Operation

1. Ensure that your Cyclone SS that the charger is mounted on is turned off by pushing the red Emergency Stop button down.
2. Connect the charger AC power cord to an appropriate live AC outlet which is indicated by the blue "AC PRESENT" LED turning on. The charger will start automatically as indicated by the yellow "CHARGE STATUS" LED beginning to blink slowly.
3. Do not disconnect the charger from the batteries while a charge cycle is in progress.
4. The charge cycle 80% point is indicated by the yellow LED beginning to blink quickly.
5. The Finish charge cycle phase is indicated by the solid illumination of the yellow LED.
6. An extended Balance/Equalize charge cycle phase is indicated by the green "CHARGE COMPLETE" LED beginning to blink quickly.
7. The charger automatically terminates the charge cycle when a battery reaches full charge, which is indicated by the solid illumination of the green LED or the green LED beginning to blink slowly indicating a post-charge phase. Before operating the Cyclone, disconnect the charger AC power cord from the outlet.
8. Do NOT disconnect the charger from the batteries or from the AC power until your Cyclone is needed for use. Disconnecting and reconnecting the charger from the batteries or AC power may start a charge cycle, but disconnection disrupts the storage mode so optimum battery maintenance is not achieved.

Storage Mode is designed to keep your battery maintained during storage periods that last a few weeks to several months at a time. Leaving the on-board charger plugged in will not harm the batteries and is preferred as they will maintain and charge the batteries when needed. The Lifeline® AGM batteries in your machine

discharge 1 to 3% per month and you do not want to store batteries for an extended period of time without them being fully charged. The higher the temperature, the faster the battery will self-discharge.

The Summit on-board charger in your machine has been programmed to charge the Lifeline® AGM sealed batteries that were installed originally from the factory. If any other type of battery is installed on the CYCLONE, your charger profile may need to be changed.

Quick Charge Stand Alone Charger

This model has a changeover tap to accommodate 208 or 230/240 volt input. You must check that your incoming power to the charger matches where the changeover tap is placed for the charger to work correctly. Always use a qualified electrician to install correct AC connections.

Do not disconnect the plug from the Cyclone when the stand-alone charger is on. The resulting arcing could cause the batteries to explode. Do not expose this charger to rain if possible.

Make sure the AC cord, DC output leads, terminals, and connectors are all in good working condition. Do not use the charger if there are any signs of stress or damage, or if wires are cut or have damaged insulation. Using this charger with any of these symptoms could result in a fire, property damage, or personal injury. Have a qualified service person make the necessary repairs. See the Quick Charge Corporation Operating Instructions for additional information and FAQs.

Please see additional information in charger manuals!

BATTERY CARE AND MAINTENANCE

DANGER OF EXPLODING BATTERIES

Lead acid batteries can produce explosive mixtures of hydrogen and oxygen. Take the following precautions:

- Never leave batteries in an airtight or sealed enclosure.
- Charge batteries in accordance with the instructions given in this manual.
- Keep all sparks, flames and cigarettes away from batteries.
- Make sure cables are tightly connected to terminals to avoid sparks.
- Wear proper eye and face protection when installing and servicing batteries.

DANGER OF CHEMICAL BURNS

Lead acid batteries contain sulphuric acid electrolyte which can cause severe burns to body tissue. Take the following precautions:

- Avoid contact of the electrolyte with skin, eyes or clothing.
- Never remove or damage vent valves.
- In the event of an accident, flush with water and call a physician immediately.

DANGER OF BURNS IF TERMINALS ARE SHORTED

Lead acid batteries are capable of delivering high currents if the external terminals are short circuited. The resulting heat can cause severe burns and is a potential fire hazard. Take the following precautions:

- Do not place metal objects across battery terminals.
- Remove all metallic items such as belt buckles, watches, bracelets and rings when installing or servicing batteries.
- Wear insulating gloves when installing or servicing batteries.
- Use insulated tools when installing or servicing batteries.

DANGER OF THERMAL RUNAWAY

Thermal runaway is a condition in which the battery temperature increases rapidly resulting in extreme overheating of the battery. Under rare conditions, the battery can melt, catch on fire, or even explode. Thermal runaway can only occur if the

battery is at high ambient temperature and/or the charging voltage is set too high. Take the following precautions:

- Charge batteries in accordance with the instructions given in this manual.
- Do not install batteries near heat sources or in direct sunlight that may artificially elevate their temperature.
- Never use another charger not designated by the manufacturer - OEM Products Inc.

As of this writing, Concorde does not know of any Lifeline® AGM batteries that have failed due to thermal runaway. See the LIFELINE® TECHNICAL MANUAL for full SAFETY INFORMATION.

TEMPERATURE CONSIDERATIONS

The temperature of the battery has a significant impact on its performance and life capability. Battery capacity is reduced significantly in cold temperatures.

It should be realized that the temperature of the battery itself and ambient temperature can be vastly different. While ambient temperatures can change very quickly, battery temperature change is much slower. It takes time for the battery to absorb temperature and it takes time for the battery to relinquish temperature.

If the battery is exposed to cold climates, the state of charge should be kept at a maximum to prevent freezing of the electrolyte. A fully charged battery will not freeze even under the coldest weather conditions, but a discharged battery will freeze even when moderately cold.

Frozen batteries are not capable of charging or discharging except at very low rates, and may be permanently damaged by expansion of the electrolyte. A battery pack with a state of charge of 25% can freeze at 9 degrees Fahrenheit or a battery pack ran all the way down to cutoff can freeze at 21 degrees Fahrenheit. A 100% charged battery pack would have to get colder than -94 degrees Fahrenheit to freeze.

SERVICING

Lifeline® AGM batteries do not need electrolyte additions as do flooded lead-acid batteries, but periodic servicing is essential to assure continued integrity of the battery system. Servicing should include good record keeping documenting the life history of the battery system and to identify whether corrective action needs to

be taken. See the LIFELINE® TECHNICAL MANUAL for full Servicing schedule.

CHARGING

You cannot short charge your batteries (like at lunchtime) without long-term effects on your batteries. It is important to charge batteries back to 100% each and every time you plug a charger in.

When you have a fully charged battery it is lead and sulfuric acid (Active material). When you start discharging a battery, the chemical reaction between lead and sulfuric acid provides energy for your application. The byproduct of this reaction is lead sulfate. Lead sulfate is a soft material that naturally covers the plates, both positive and negative, when the battery is being discharged. The deeper the discharge, the more lead sulfate will cover the plates. Once the load is turned off and it is time to recharge, lead sulfate is easily converted back into lead and sulfuric acid. This is why it is important to charge batteries back to 100%. If you don't you will not convert all the lead sulfate back into the active material. If a lead acid battery is not immediately recharged, the lead sulfate will begin to form hard crystals, which cannot be reconverted by standard charging voltages. The longer this goes on, the harder it is to get all of your capacity back.

SECTION VII
MAINTENANCE SCHEDULES

EVERYDAY MAINTENANCE:

1. **Check hydraulic oil level and make sure it is within 2" of the top of the tank**
2. **Torque wheel lug bolts to 100 ft. /lbs. and wheel hub nuts (axle nuts) to at least 200 ft./lbs.**
3. **Inspect all hydraulic components and hoses for leaks and correct leaks immediately**

EVERY 100 HOUR MAINTENANCE:

1. **Grease front caster wheel assemblies (2 places to grease) and inspect for damage**
2. **Grease blade bar shaft (behind blade holder assembly)**
3. **Check and tighten all hydraulic fittings**
4. **Inspect and tighten all joystick steering linkages**
5. **Equalize the battery pack by charging to 100% then unplugging power source and plugging back in to start another charge cycle until complete.**

EVERY 250 HOUR MAINTENANCE:

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 the 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

C. Carpet removal will generally result in front transport casters being wrapped with stray carpet strings. Remove debris from front and rear wheels daily to prevent irreparable damage to bearings and seals.

PARTS, OLD AND NEW

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	¼" rod end no/stud	4	CSJ-106
7	4-way pivot	1	CSJ-107
8	¼" rod end w/stud	4	CSJ-108
9	Mount, upper cable	1	CSJ-109
11	Switch retainer bolts	2	CSJ-111
12	Switch retainer nuts	2	CSJ-112
13	Back Up alarm switch	1	CYE-109
15	Back up alarm switch mount	1	CSJ-114
18	Cable, left pump -- 52" front	1	CSJ-118
19	Cable, right mount --72" rear	1	CSJ-119
20	Bell Crank assembly with bearings	1	CSJ-120
21	Tube, Linkage 18" lt & rt hand thread	1	CSJ-121
22	Rod end w/stud left hand threads	2	CSJ-122
23	Rod end w/stud right hand threads	2	CSJ-123
24	Link, Pump Control (long)	1	CSJ-124
25	Link, Pump Control (short)	1	CSJ-125
26	Link, Pump Control long 22" aluminum SS model	1	CSJ-124-SS
27	Link, Pump Control short 15.5" aluminum SS model	1	CSJ-125-SS
28	Rod End, Male 5/16" Right hand thread SS model	2	CSJ-129-SS
29	Rod End, Male 5/16" Left hand thread SS model	2	CSJ-130-SS

CYCLONE FRAME AND COWLINGS

KEY	DESCRIPTION	QTY	PART NUMBER
1	Caster, front	2	CYF-101
2	Caster wheel, front only	2	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 front	1	CYF-111
	Cover, oil cooler back	1	CYF-112
12	Cover, oil tank	1	CYF-115
13	Cover, Battery left side	1	CYF-116
14	Cover, Battery right side	1	CYF-117
	D-Ring	1	CYF-118
16	Frame	1	CYF-119
19	Weight hangers 2” round bar	4	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 Bottom 24”	1	CYF-126
25	Blade Bar Top 24”	1	CYF-127
26	Blade Bar Top “mount bolts” ¾-10 x 2 ¼”	2	CYF-128
27	Blade Bar Top “clamp bolts” ½-13 x 1 ½	2	CYF-129
28	Blade Bar assembly 8”	1	CYF-130
29	Blade Bar Top 8”	1	CYF-131
30	Blade Bar Mounting Bolts ½-13 x 2	2	CYF-132
31	Blade Bar Pivot Pins	2	CYF-133
32	Bolts, lug, holds wheel to hub	10	CYF-134

CYCLONE HYDRAULIC DRIVE COMPONENTS

DESCRIPTION	QTY	PART NUMBER
Pump, front/left hydrostat	1	CYH-101
Pump, rear/right hydrostat	1	CYH-102
Pump, Tandem Hydrostat for SS model	1	CYH-201
Motor, wheel drive	2	CYH-103
Filter, 10 micron element	2 (1 on SS model)	CYH-104
Filter, 3/8" spin on head	2 (1 on SS model)	CYH-105
Cap, hydraulic tank	1	CYH-106
Cylinder, tilt 2x4 (old model)	1	CYH-107
Cylinder, tilt 3x6 (current)	1	CYH-107B
Pins, Tilt Cylinder	4	CYH-108
Cylinder, Lift 3x3x2	2	CYH-109
Pins, Lift Cylinder	2	CYH-110
Cooler, hydraulic oil	1	CYH-111

CYCLONE ELECTRICAL COMPONENTS

DESCRIPTON	QTY	PART NUMBER
36 Volt Electric Motor	1	CYE-101
36 Volt Electric SS Motor	1	CYE-201
6 Volt 400 AH AGM	1	CYE-102
On/Off switch – keyed	1	CYE-103
Key	1	CYE-103A
Solenoid, 36V	1	CYE-104
Meter, Battery 36V Gauge	1	CYE-105
Meter, Battery Engage 36v	1	CYE-105E
Display, Curtis Controller monitor	1 (SS model)	CYE-105-SS
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
Call for charger information	2	Various