TEREX
LIGHT CONSTRUCTION

# SERIES AL4000D1 LIGHT TOWER

## OPERATION/SERVICE & PARTS MANUAL

**After Serial Number:**

**FKF-13923**

PART NUMBER SFMAL4D1
REVISION B
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# SAFETY ALERT SYMBOLS

**MEANS:**
**ATTENTION! BE ALERT!**
**YOUR SAFETY IS INVOLVED**

**THIS SAFETY SYMBOL IS USED FOR IMPORTANT SAFETY MESSAGES. WHEN YOU SEE THIS SYMBOL, FOLLOW THE SAFETY MESSAGE TO AVOID PERSONAL INJURY OR PROPERTY DAMAGE.**

## UNDERSTANDING SIGNAL WORDS

A signal word - **DANGER, WARNING** or **CAUTION** is used with the safety alert symbol.

**DANGER** Identifies the hazard or unsafe practice that will result in severe injury or death.

**WARNING** Identifies the hazard or unsafe practice that could result in severe injury or death.

**CAUTION** Identifies the hazard or unsafe practice that could result in minor injury or property damage.

**NOTICE** Identifies important installation, operation or maintenance information.

# GENERAL SAFETY

**⚠WARNING DO NOT OPERATE THE AL4000 LIGHT TOWER WITHOUT READING THIS OPERATOR'S MANUAL.**

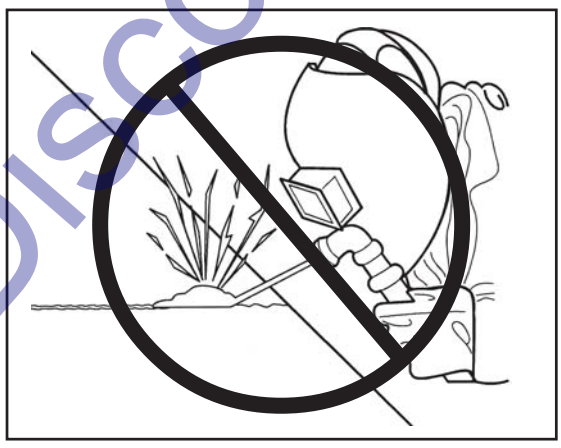
## SAFETY ALERT SYMBOL

Stop and take time to read ALL Safety alert messages. Follow the safety messages to avoid personal injury or property damage.

## ACCIDENT PREVENTION

Use protective clothing and safety equipment. Always wear approved safety equipment such as gloves, safety boots, safety hard hat, goggles, ear protection, and dust masks when necessary.

Wear protective clothing that is snug and belted where required.



## UNAUTHORIZED WELDING

**⚠WARNING** UNAUTHORIZED WELDING CAN CAUSE STRUCTURAL FAILURE OR PERSONAL INJURY.

**DO NOT** weld on any structural member.

Any unauthorized welding or repair procedure will void the warranty.

# GENERAL SAFETY

## ⚠WARNING FUELING

**ALWAY**S handle fuel with care. It is highly flammable.

**ALWAYS** stop engine before refueling. Fill fuel tank outdoors.

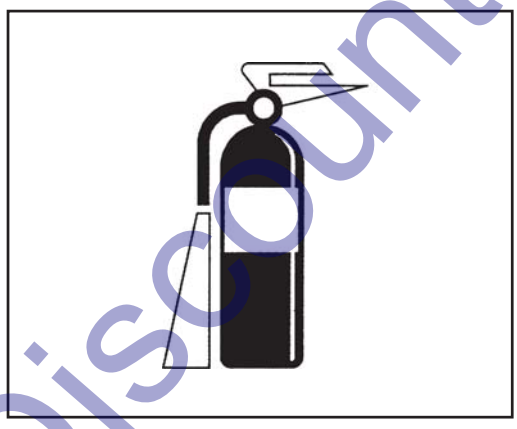
Be sure the fuel supply has a positive shut-off valve**.**

**DO NOT** replace fuel lines with materials different from those supplied as original equipment.

## ⚠WARNING FIRES CAN CAUSE SEVERE PERSONAL INJURY OR MACHINE DAMAGE.

Prevent fires by keeping the light tower and its surrounding area clean.

**DO NOT** refuel while smoking or when near open flame or sparks.



**DO NOT** refuel the engine when it is hot. Allow to cool for several minutes before refueling.

**DO NOT** spill fuel inside the engine compartment.

If fuel has leaked, wipe it up and have leak repaired before next use.

Have a fire extinguisher nearby. Be sure the extinguisher is properly maintained and be familiar with its use. Extinguishers rated ABC by the NFPA are appropriate for all applications.

# GENERAL SAFETY

**⚠WARNING** **Guard Against Electrical Shock**

Equipment produces high voltage electricity (up to 480 volts) that can produce a fatal shock to a person who accidentally places their self in the electrical circuit. Use every precaution to avoid contact with the high voltage electrical circuit.

Beware of a cut or damaged power cord. Have a qualified electrician replace immediately.

Take extra precautions when troubleshooting electrical problems. When troubleshooting indicates a malfunction in the high voltage AC system, pass the troubleshooting task on to a qualified and trained electrician.

Disconnect electrical power and turn off engine before removing protective covers on high voltage enclosures.

Understand that the electrical circuits in this light tower complete their paths back to the generator within the equipment. The neutral conductor at the generator is bonded to the equipment frame.

Ground wires within the system are also bonded to the equipment frame.
Only use a multimeter (or voltmeter) with two well-insulated probes rated for 750 volts each.

Keep one hand in your pocket when touching the multimeter probe to hot conductors. This will prevent electricity from passing into one hand and out the other, a path that takes the electricity across the heart.

Always disconnect power from the circuit being measured before connecting test leads to high voltage points.

Do not try to position both probes at once. Instead, clamp the common insulated alligator clip to a neutral wire and then probe for voltages with the other probe.

Never clamp to a hot wire since a severe shock could be received by contact with the other probe.

Inspect the ground cable between the generator set and the frame. If damaged, replace immediately.

Treat all conductors as potentially hot, especially when troubleshooting malfunctioning equipment. Jewelry should be removed before working around live conductors.

Proceed through the circuitry systematically, operating only one section at a time.

Use tools with insulated handles when working within the reach of live conductors.

Maintain a good footing. If you slip, or a tool drops, do not grab for it if live conductors are within reach.

Concentrate on the task until the danger from high voltage is removed.

**⚠WARNING** **Guard Against Battery Hazards**

Lead acid batteries can be dangerous. The sulfuric acid in the battery can cause severe skin and eye burns. The hydrogen gas emitted during charging can explode if an arc or flame is present near the battery. Use precautions to prevent acid burns or explosive conditions.

Do not smoke while servicing batteries.

Do not allow tools to touch battery terminals and create an arc. Do not test battery voltage by setting up a brief arc at the terminals. Use a multimeter instead.

Disconnect the negative terminal of the battery when working on the engine or other parts to prevent accidental arcing. Disconnect the negative cable at the end away from the battery.

Always wear eye protection when servicing the battery.

When charging the battery, do not remove the vent caps.

If acid does get on skin or in eyes, immediately flush under running water, and then obtain medical help as soon as possible.

**⚠WARNING** **Guard Against Fire Hazard**

Use caution with diesel fuel and motor oil because of fire hazards.

Do not fill fuel tank while engine is running.

Do not smoke or use open flame near the unit or the fuel tank.

Be sure the fuel supply has a positive shut-off valve.

Do not replace fuel lines with materials different from those supplied as original equipment.

**⚠WARNING** **Protect The Environment And Practice Good Industrial Hygiene**

**Exhaust Gases Are Toxic. Do not use indoors unless properly ventilated**. Provide an adequate exhaust system to properly expel discharged gases. Check exhaust system regularly for leaks. Ensure periodically that the exhaust manifolds are secure and not warped. Make sure the unit is well ventilated.

Prevent pollution by catching used oil in a container for proper disposal.

Wash hands to remove oil and fuel. Practice good industrial hygiene.

**⚠CAUTION** **Do Not Touch Hot Parts**

The exhaust manifold and tailpipe are very hot. Parts of the engine are also hot. Avoid touching hot parts of the engine or tailpipe. Use protective gloves when handling hot parts.

**⚠WARNING** **Be Alert And Attentive To The Task**

**Read the safety instructions and operating procedures** before attempting to troubleshoot or work on this unit. Also read the engine manual, which is a separate booklet that is provided with this manual.

Do not work on this equipment when mentally or physically fatigued.

Do not work on this equipment when under the influence of performance impairing drugs or alcohol.

If this manual becomes lost, order a new one from TEREX-Amida so future operation and maintenance personnel may read these instructions.

**⚠CAUTION** **Beware of Moving Parts**

Avoid being hit or pinched by the moving parts of this unit.

Loose jackets, shirts, neckties, or sleeves should not be worn while working on or running a unit.

Only remove guards or protective devices from unit temporarily to gain access for maintenance. Always replace guards and protective devices promptly (Prior to Operation).

Keep your hands away from moving parts. Particularly, be sure to keep hands clear of the blower and alternator belts when the engine is running.

**⚠WARNING** **Beware of Traffic Hazards**

Stand clear of traffic when starting or checking the unit along the road.

Check the fuel tank, oil pan, and fuel and oil lines for leaks that would spill fuel or oil on the road.

Check fasteners and mounting brackets periodically to ensure all are tight and nothing is in danger of falling off during transit.

**NOTICE** **Use Only Equal Replacement Parts**

When a part fails and needs to be replaced only use equivalent size, length, thread, grade, and material. Replace stainless steel fasteners with stainless steel fasteners. The engine may use metric or SAE bolts, but all other bolts are generally SAE thread. Be sure to use Grade 8 bolts and nuts to mount the genset to the trailer.

Replace the fuel and oil hoses with items of equal material, diameter and length.

Contact the manufacturer, TEREX Light Construction, regarding replacement parts to ensure a correct repair.

**⚠CAUTION** **Use Caution Working Near Lamps**

Metal halide lamps produce short wave ultra-violet radiation and **can cause serious skin burn, or eye inflammation if the outer envelope of the lamp is broken or punctured**. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used.

## CHECK OUT ON RECEIPT OF DELIVERY:

The tower will be serviced, tested and ready for operation when received except for export units and skid mount units which are knocked down for shipping (export units are sometimes shipped with dry batteries). TEREX-Amida recommends the following checks:

**A. INSURE THERE IS NO FREIGHT HANDLING DAMAGE which should be charged against the carrier.**

**B. INSURE THE MANUALS ARE IN THE POCKET PROVIDED INSIDE THE UNIT.**

**C. REVIEW THE MANUALS FOR SAFETY AND OPERATING PROCEDURES.**

**D. CHECK THE ENGINE OIL, COOLANT (IF LIQUID COOLED) AND FUEL LEVELS.**

**E. OPERATE THE TOWER IN ACCORDANCE WITH OPERATING INSTRUCTIONS.**

**EXPORT: Assemble according to the instructions enclosed.**

**TEREX LIGHT CONSTRUCTION**

**PORTABLE LIGHT TOWER**
**OPERATION AND SERVICE MANUAL**

This Operation and Service Manual contains information pertaining to the operation and maintenance of your Terex Light Tower. We suggest that you read this manual carefully prior to operating the tower. This manual should be retained and referred to for operation, maintenance, and ordering parts When ordering parts, **PLEASE INCLUDE THE MODEL AND SERIAL NUMBER** located on the nameplate of the tower.

For major repair and service or other information, contact:

Discount Equipment

www.discount-equipment.com

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Terex Model Number _____ Serial Number _____

Engine Model Number _____ Serial Number _____

Generator Model Number _____ Serial Number _____

Sold to: _____ Ship to: _____

_____ _____

_____ _____

Options: _____ Production Date: _____

_____ Work Order Number _____

_____ Shipping Date _____

_____ In Service Date _____

_____

_____

**When this unit left the factory the engine was filled with engine oil grade _____**

# IMPORTANT

WHEN REQUESTING TECHNICAL HELP AND ORDERING REPLACEMENT PARTS THE MODEL AND SERIAL NUMBER ARE NECESSARY.

REFER TO THE TEREX SERIAL NUMBER TAG ON THE UNIT FOR CORRECT MODEL NUMBER AND SERIAL NUMBER.

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MODEL NUMBER IDENTIFICATION

**Sample:**

Light Tower Product Line — AL4 080 D 4 MH CE

Tower Series

AL4000 (AL4) = 30 Foot Basic Tower with winch in cabinet

AL5000 (AL5) = 30 Foot Basic Tower with in-cabinet light storage and door insulation

LT7000 (LT7) = 30 Foot Deluxe Hydraulic Tower w/optional Acoustic Enclosure and Complete Instrumentation

kW Rating
(080 is 8.0 kW)

Diesel (D)

Number of Lights

Type of Lights
- HPS = High Pressure Sodium
- MH = Metal Halide
- TH = Tungsten Halogen

European Version (AL4000 Only)

## RECOMMENDED ENGINE OIL & FUEL

### KUBOTA D905 DIESEL ENGINE

Engine oil should be MIL-L-2104C or have properties of API classification of CD grades or higher.
Change the type of engine oil according to the ambient operating temperature:

| | |
|---|---|
| Above 77°F (25°C) | SAE 30 |
| 32°F to 77°F (0 to 25°C) | SAE 20 |
| Below 32°F (0°) | SAE 10W<br>SAE 10W-30 |

Use #2 diesel fuel.

**NOTES:**

1. The temperatures in the table are the ambient temperatures at the time when the engine is started. If the running ambient temperatures are much higher than the starting temperatures, a compromise must be struck and a higher viscosity oil used. Multi-grade oils overcome the problem, provided they possess a suitable specification.

2. MIL-L-2104B or MIL-L-2104C or API CD must also be used if the sulfur content of the fuel exceeds 0.5%.

3. Always use a reputable brand of diesel fuel. The sulfur content should be below 0.5% (higher sulfur content would require more frequent oil changes). Observe strict cleanliness when filling the fuel tank.

4. Check the engine oil level before starting the engine or more than five minutes after it has been stopped. Remove the dipstick, wipe clean, reinsert it, take it out again, and check the oil level. If the oil level is too low, remove the oil filler cap and add new oil until the FULL line on the dipstick is reached.

**MODEL AL4000**

## OPERATING INSTRUCTIONS

**⚠WARNING** **READ ALL DIRECTIONS IN MANUAL CAREFULLY BEFORE OPERATING EQUIPMENT**

**⚠WARNING** **DO NOT RAISE TOWER IN THE VICINITY OF OVERHEAD POWER LINES!**

## O P E R A T I N G  I N S T R U C T I O N S

### I. MOVE LIGHT TOWER TO DESIRED LOCATION KEEPING THE FOLLOWING IN MIND:

A. The light tower should not be placed where those working under the light are either:

1) Forced to look into the light regularly.
2) Forced to work with their backs to the light (shadows will block the light from the work area).

B. The area where the tower is positioned should be relatively level.

C. The light tower should be located on the same level or on ground higher than the area being lighted (higher light mounting heights reduce the shadow length).

D. Unit should be level to ensure smooth trouble-free tower telescoping. Tower may not telescope down properly when unit is not level.

### II. UNHITCH FROM THE TOWING VEHICLE AS FOLLOWS:

A. Engage the trailer braking system, especially if trailer is not on level ground. **CAUTION:** If electrical or manual braking system is not supplied, chock the wheels instead.

B. Swing the tongue jack into position and raise the tongue off the towing vehicle.

### III. LEVEL THE TRAILER, USING THE JACKS AS FOLLOWS:

A. Extend the rear outriggers until the springs lock into place. Swing the jack on each outrigger into vertical position.

B. Start at the highest jack position. Rotate the jack handle until the jack foot touches the ground.

C. Raise the other jacks to level trailer... **⚠WARNING** ...insure that the rear jacks are down to prevent the tower from tipping over backwards when raised.

### IV. DRIVE GROUNDING ROD INTO EARTH

## V. INSTALL THE FLOODLIGHTS ON THE CROSSBEAM

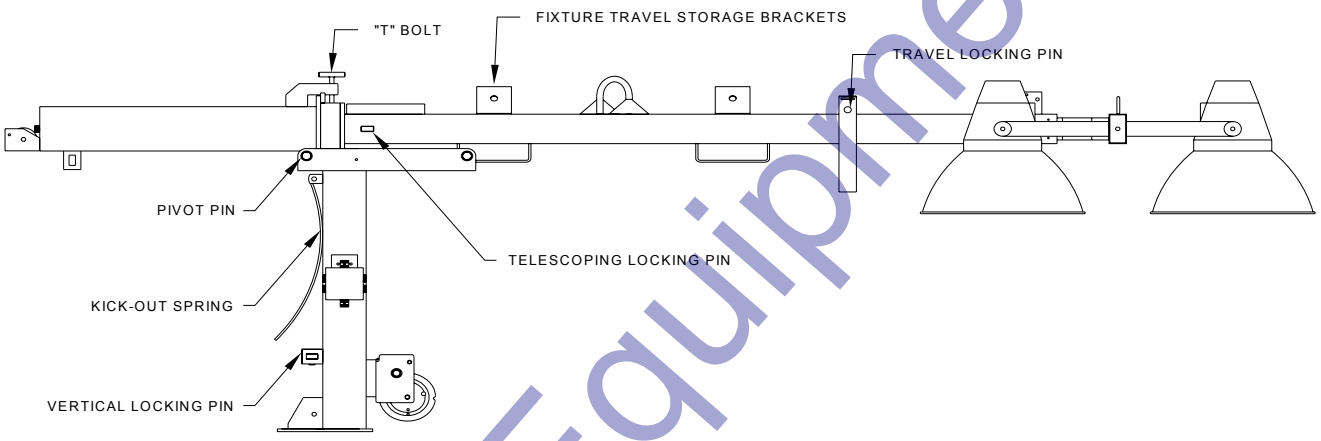
A. Remove the light fixtures from the tower by removing detent pin and rotating the clamp to free the lights. Install them on the cross arm studs with the lens facing the ground.

B. The cord on the fixture should be on the side closest to the trailer so the cord entry is beneath the fixture when the tower is raised ( this reduces moisture problems and ensures the water weep hole in the fixture is down).

C. Set the vertical aim for each light fixture by adjusting the light fixtures and tightening the lower bolt.

D. Set the spread between the light fixtures horizontal aiming by adjusting the fixtures and tightening the wing nut.

E. The unit may be transported with the light fixtures mounted on the cross-arm if they are pointed toward the ground.




## VI. RAISING THE TOWER (refer to drawing above)

A. Remove the tower travel-locking pin from the cradle at the rear of the cabinet.

B. Aim the fixture, both horizontally and vertically, to the estimated angles that will light the work area.

C. Using the winch, raise the tower to the vertical position. The tower-locking pin at the base of the pivot post will lock automatically and you will hear it “snap” into place. Insert manual pin into locking device.

D. Release the tension on the cable by backing the winch off slightly and pull the telescoping locking pin on the galvanized tower section. Hold this out while turning the winch to raise the tower. After the tower has telescoped slightly, the locking pin can be released. Raise the tower to the desired height.

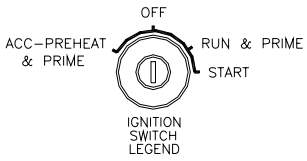
**⚠CAUTION DO NOT ATTEMPT TO LEAN THE TOWER DOWN BELOW 45° WHEN IT IS EXTENDED-SERIOUS DAMAGE MAY OCCUR!**

## VII. START THE ENGINE / GENERATOR SET

A. **⚠CAUTION** Ensure the circuit breakers are turned "OFF". This prevents the engine from starting under load and prevents electrical equipment from being subjected to improper voltage and frequency.

B. Check the oil, fuel, and coolant (if liquid cooled) levels. If the fuel tank is empty, it may be necessary to bleed the fuel line after filling the tank (see engine instruction book for procedure).

C. Turn the ignition switch to the "ACC" position (see diagram below). Press the preheat push-button for a **maximum of 20 SECONDS**. Do not engage the preheat button longer than the time specified or damage may occur.




D. Turn the ignition switch to the "START" position to engage the engine. After the engine starts, release the switch so that it returns to the "RUN" position. Let the engine come up to speed and stabilize (review the engine operating procedures in the manufacturers handbook). Note: If engine will not start, leave switch in run position for additional 10-20 seconds to completely prime the fuel system. Then repeat step "C" and start engine.

E. Turn on the main circuit breaker.

## VIII. TURN ON THE FLOODLIGHTS

A. Turn the circuit breakers "ON" and check to ensure that all lamps come on. Allow a minimum of two (2) minutes for lamps to reach full luminance.

B. If required, rotate the tower to aim the lights as desired. Tighten the tower rotating locking bolt.

C. Adjust the tower vertically and adjust lighting direction of individual fixtures if required.

## IX. TURN OFF THE FLOODLIGHTS

A. If operating, turn light circuit breakers off.

B. Turn engine switch to "OFF" to shut down the engine.
**⚠CAUTION** **Do not shut down engine prior to turning lights off**.

C. **⚠CAUTION** Allow lamps to cool at least ten (10) minutes before moving the tower to avoid breaking lamps.

## X. LOWERING THE TOWER TO TRAVELING POSITION

A. Using the winch, telescope the tower down to its fully retracted position until the telescoping locking pin snaps into place.

B. **⚠CAUTION** Ensure that the telescoping locking pin locks before pulling the vertical lock pin at the bottom of the pivot post. This ensures the tower is completely lowered and cannot be damaged by telescoping out while in the travel position.

C. Loosen rotating lock.

D. Rotate the tower so that the groove in the galvanized ring at the pivot is pointing to the rear of the trailer to enable the tower to be lowered into the travel position.

E. Tighten rotating l ock.

F. Pull the vertical locking-pin at the base of the pivot post (the kick-out spring should provide sufficient pressure to start the tower pivoting over).

G. Let out on the winch cable to lower the tower into the cradle.

H. Insert the rear tower horizontal travel-locking pin into the cradle.

## XI. RELOCATING LIGHT TOWER TO NEW LOCATION

A. Insure that tower has been properly lowered (see section VII) and locking pins are engaged.

B. Insure all fixtures are pointed toward the ground, or mounted on the fixture storage brackets on the lower tower section.

**C.** **⚠CAUTION** All jacks must be raised and all outriggers locked into travel position.

D. Insure that the coupler is properly secured to the towing vehicle and safety chains are attached (if supplied). Release any manual braking mechanism (if supplied).

E. Do not tow at excessive speeds (60 mph – 100-kmh maximum) as the weight of the light tower can cause loss of vehicle control, especially under emergency stopping conditions. The standard trailer has no towing brakes; therefore allow extra distance for stopping.

## XII. USE OF LIGHT TOWER AUXILIARY POWER

A. One (1) 30amp/240v Twist-Lock and (1) 15 amp/120v receptacles are provided for auxiliary power.

B. Total auxiliary power cannot exceed main circuit breaker rating. Each lamp operating consumes 10 amps of current @ 120 vac.

C. Before plugging in auxiliary power cords, feed them up through the trailer frame and attach to receptacles. Close the cabinet doors to protect control panel and other components from weather (see Miscellaneous Specifications and Routine Maintenance section for power control details).

## LIGHT FIXTURE TROUBLESHOOTING

**⚠ DANGER** Do not open fixtures while light circuit breaker is "ON". Allow lamp to cool before touching.

**TAKE EXTRA PRECAUTIONS WHEN TROUBLESHOOTING ELECTRICAL PROBLEMS**

A. Only use a voltmeter with two well-insulated pin probes rated for 600 volts.
B. Treat all conductors as potentially hot.
C. Proceed through circuits systematically, operating only one section at a time.
D. Before disconnecting ballast, turn off circuit breaker and wait 30 seconds for capacitor to discharge.
E. If all the lights are out and all the ballasts are receiving power, suspect burned out power cable.

| SYMPTOM | CAUSES | CORRECTIVE ACTION |
|---|---|---|
| **LAMP WILL NOT START** | Check Ballast Status Light | a.Input lights should be on. This confirms power is going to the ballast. b.Output lights should be on. This confirms power is coming from ballasts. c.Output lights should be normal brightness. If one or moreof the output lights stay extra-bright, then the lamp is notstriking. d.Use this knowledge to diagnose problem. e.If ballast status light is out, but the floodlight lamp is working, suspect burned out ballast status lamp and replace |
| | Lamp loose in socket | Inspect lamp base to see if there is arcing at center contact button. Tighten lamp snugly. Check socket for damage. Replace if defective. |
| | Floodlight Plugs not tight | Check plug and receptacle. Tighten if loose. |
| | Defective Ballast | Interchange ballast plugs in generator enclosure. If lamp starts, replace ballast. Check ballast wiring diagram. Check for swollen capacitors, charred wiring, core and coil, or other signs of excessive heat. |
| | Low Voltage | Check line voltage at ballast input. Voltage should be within 10% of nameplate rating when operating at normal load. Increase supply voltage or remove external load. |
| | Improper ballast | Proper HID lamps will perform erratically or fail to start on an improper ballast. The ballast nameplate data should agree with the line voltage and lamp used. Improper ballast will cause lamp to fail. |
| | Improper lamp operating position | Operating position should agree with lamp etch. A BUHOR lamp can be operated base up vertical to and including the horizontal and BD can be operated base down and vertical to, approaching, but not including the horizontal. A lamp operated beyond the specified position may not start. |
| | Lamp has been operating; cool down time insufficient | HID lamps require 4 to 8 minutes cool-down time before restarting. Switch off breaker and allow lamp to cool. |

**LIGHT FIXTURE TROUBLESHOOTING (cont'd)**

| SYMPTOM | CAUSES | CORRECTIVE ACTION |
|---|---|---|
| **LAMP STARTS SLOWLY (ARC DOES NOT STRIKE WHEN SWITCH IS FIRST TURNED ON)** | Defective Lamp | Lamp may glow for extended period of time. Replace after checking voltage and ballast. |
| **CIRCUIT BREAKER TRIPS ON LAMP START-UP** | Short circuit | Checking wiring against diagram. Check for shorts. |
| **LAMP LIGHT OUTPUT LOW** | Normal lamp depreciation | Replace lamp |
| | Dirty lamp or fixture | Clean lamp and fixture (Let cool sufficiently before cleaning) |
| | Defective ballast | Interchange ballast plugs in generator enclosure. If lamp returns to normal light output, replace ballast. Check for swollen capacitors, charred wiring, core and coil, or other signs of excessive heat. |
| | Wrong Voltage | Check voltage at ballast input. Voltage should be within 10% of nameplate rating. Check wiring connections for voltage loss. Check socket contact point. |
| | Improper ballast | Check ballast nameplate against lamp data. |
| **LAMP COLORS DIFFERENT** | Normal lamp depreciation | Lamp color and brightness decreases and colors change slightly as lamps age. Spot replacement with new lamps may cause noticeable differences in lamp colors. Group replacement minimizes color differences. |
| | Dirty fixture | Dirty fixtures will cause lamps to appear different in color. Clean fixture. |
| | Wrong lamp | Check data on lamps, which appear different in color. Replace with correct color lamp. |
| **ARC TUBE DISCOLORED OR SWOLLEN** | Over voltage from power supply | Check voltage at ballast. Check for current or voltage surges. Check for shorted capacitors and replace if defective. |
| | Improper ballast | Lamp operated on ballast designed for higher wattage lamp. Check ballast nameplate against lamp data. |

**LIGHT FIXTURE TROUBLESHOOTING (cont'd)**

| SYMPTOM | CAUSES | CORRECTIVE ACTIONS |
|---|---|---|
| **SHORT LAMP LIFE** | Lamp damaged | Check for outer bulb cracks. If air enters outer bulb, arc tube may continue to burn for 100 hours before failure. Check for bulb cracks where glass meets the base due to tightening lamp too firmly in socket. Look for broken arc tube or loose metal parts. Replace lamp. |
| | Improper ballast | Ballast nameplate data should agree with lamp line voltage and lamp use. If improper ballast is used, the lamp life will be shortened. A mismatch may also cause the ballast to fail. |
| **LAMP FLICKERS AND GOES OUT INTERMITTET** | Improper ballast | Improper ballasting can cause flickering or erratic operation. In the start-up period the lamp may ignite, start to warm-up and then extinguish (cycle). |
| | New lamp | Under certain conditions new lamps may "cycle". Usually after three (3) tries to start at 30 to 60 second intervals, lamps will stabilize and operate satisfactorily. |
| | Defective lamp | Replace lamp. |
| | High spike ballast | Ballast produce high spike current. Measure with oscilloscope. Replace ballast as required. |

## TRACEABLE NUMBERED WIRING SYSTEM

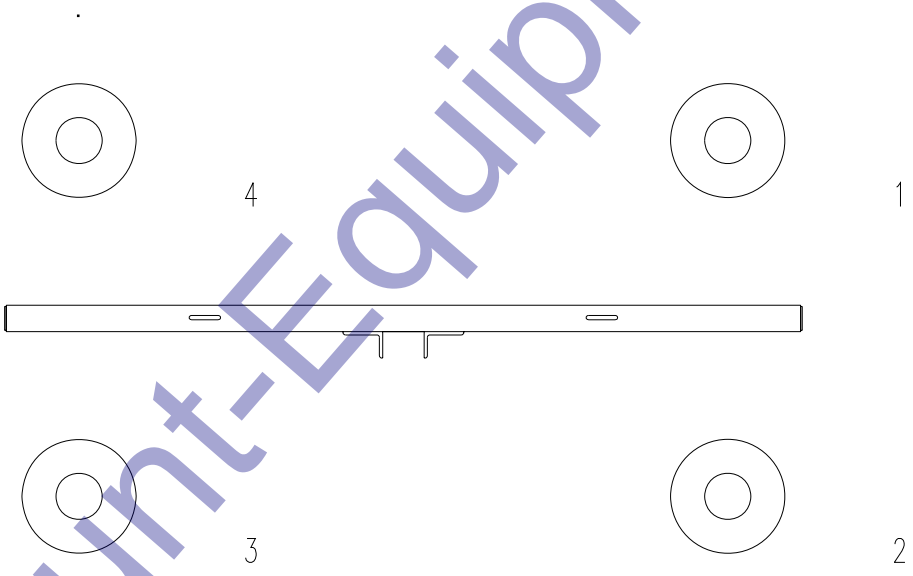
(Using plug in ballasts to troubleshoot)

When troubleshooting the preceeding problems, minimize down time by following the traceable numbered wiring system, always follow these steps:

STEP1: Insure all ballasts, which are numbered, are plugged into lead wires with corresponding numbers.

STEP 2: Looking at the lights from the glass side and following the diagram below, plug each fixture into the appropriately numbered plug at the top of the tower.

By adhering to the traceable numbered wiring system, troubleshooting, fixture aiming, and fixture control will follow a standard predictable pattern.



**TEREX Amida Model AL4000**
**Light Tower – General Specifications**
**And Routine Maintenance**

TEREX Amida model AL4000 series light tower provides mobile; trailer mounted floodlighting for nighttime maintenance, construction, mining, and emergency work. It consists of a trailer with a diesel powered 6 kW 60Hz (50 Hz units available) generator, and a 30 foot cable actuated tower with four (4) 1000 watt floodlight fixtures. It is ideally suited for heavy-duty use and is built to meet the following specification:

## DIMENSIONS

| | | |
|---|---|---|
| Overall length, travel position w/fixtures & tongue | 179” | (4547 mm) |
| Overall length, tower vertical w/tongue & jacks | 124” | (3150 mm) |
| Trailer frame length | 70” | (1778 mm) |
| Overall height, floodlighting position | 30’ | (9.14 mm) |
| Overall height, travel position | 68” | (1727 mm) |
| Overall width with fenders | 61” | (1549 mm) |
| Overall width with outriggers pulled out | 102” | (2591 mm) |
| Trailer frame width | 41” | (1041 mm) |
| Tongue length | 44” | (1118 mm) |
| Wheel size | 15” | (381mm) |
| Axle Rating | 3500 lb. | (1588 kg) |
| Tongue weight travel position | 100 lb. | (45.4 kg) |
| Total weight no fuel | 2050 lb. | (930 kg) |
| Fuel Capacity | 30 gal. | (114 l) |
| Unit weight with full fuel tank | 2250 lb. | (1020 kg) |

This section details specifications and maintenance not covered in the operators and trouble-shooting sections of this manual and the AL4000 specification sheets.

## OIL / AIR SERVICE

The engine oil should initially be changed after the first 50 hours of use and then every 200 hours thereafter. The oil filter should be replaced after every 400 hours of use. The air filter element should be replaced once every year, or after six cleanings (see manufacturer’s operation manual for details).

## BRAKE SYSTEM

Electrical or mechanical brakes are not standard equipment on the AL4000. Contact your dealer or the factory for option information.

## MANUAL WINCH

Maintain a light film of automotive-type grease on the pinion, drum gear, and the O.D. of the drum bearing at all times. Keep the ratchet pawl pivot, pinion shaft bushings, and pinion threads lubricated with automotive engine oil at all times. Before each use, check the brake friction discs for wear. If less than 1/16" thick, cracked, or broken, replace **IMMEDIATELY.** Ratchet pawl should "click" when tower is raised, and not when it is lowered. Always be alert for any fraying of cables, and replace any damaged cables **IMMEDIATELY.** Never stand under any object lifted by the winch.

## ELECTRIC WINCH

The electric winch is permanently sealed and does not need any periodic lubrication. Always be alert for any fraying of cables, and replace any damaged cables **IMMEDIATELY.** Never stand under any object lifted by the winch.

## RECETACLE POWER TABLE

**METAL HALIDE/ HIGH PRESSURE SODIUM**

| STATUS | RECEPTACLE POWER AVAILABLE 120/240 VAC | |
|---|---|---|
| LIGHTS ON | DUPLEX W/FI | 240V- 30A REC. |
| ALL OFF | 15 AMPS* | 30 AMPS* |
| 1 OR 3 | 15 AMPS* | 16.6 AMPS |
| 2 OR 4 | 15 AMPS* | 16.6 AMPS |
| 1 AND 3 | 15 AMPS* | 8.3 AMPS |
| 2 AND 4 | 8.3 AMPS | 8.3 AMPS |

**TUNGSTEN HALOGEN**

| STATUS | RECEPTACLE POWER AVAILABLE 120/240 VAC | |
|---|---|---|
| LIGHTS ON | DUPLEX W/FGI | 240V- 30A REC. |
| ALL OFF | 15 AMPS* | 30 AMPS* |
| 1 OR 3 | 15 AMPS* | 17 AMPS |
| 2 OR 4 | 15 AMPS* | 17 AMPS |
| 1 AND 3 | 15 AMPS* | 10 AMPS |
| 2 AND 4 | 15 AMPS* | 10 AMPS |

- There is more current available than listed. The rating of the duplex receptacle is 15 amps.

## NOISE LEVEL

Mean SPL (sound pressure level) hemispherically at 7 meters: **62.01dBA**
Sound Power Level (62.01dBA + 20 log d + 7.8): **90.0 LWA re 1 pW**
D = 7 meters

## MISCELLANEOUS SPECIFICATIONS

The Amida AL4000 light tower is built to NEC standards.

## FASTENER TORQUE SPECIFICATIONS

All fasteners should be torqued to the following specifications in lb-ft (lb-in):

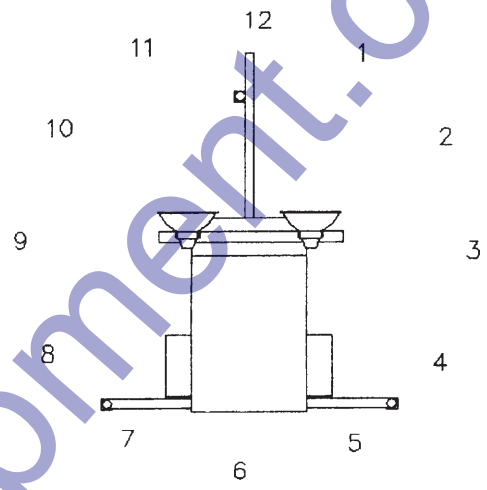
| FASTENER SIZE UNF & UNC | STAINLESS STEEL* | STAINLESS STEEL* NYLOK NUT | SAE GRADE 5 PLATED (METRIC 8.8) | SAE GRADE 5 PLATED NYLOK NUT | SAE GRADE 8 PLATED (METRIC 10.9) | SAE GRADE 8 PLATED NYLOK NUT |
|---|---|---|---|---|---|---|
| #6 | (10-12) | (8.5-10) | (14-16) | | | |
| #8 | (20-22) | (17-19) | (25-28) | | | |
| #10 | (26-32) | (22-27) | (40-45) | | | |
| 1/4" | (75-94) | (64-80) | 7-9 | | 12-14 | |
| 5/16" | 12-Nov | 14-Dec | 15-17 | | 23-26 | |
| 3/8" | 20-22 | 22-24 | 28-34 | | 45-50 | |
| 7/16" | 31-33 | 32-35 | 40-45 | | 70-75 | |
| 1/2" | 43-45 | 45-50 | 75-85 | 70-80 | 100-110 | 95-105 |
| 9/16" | 57-63 | 60-65 | 80-100 | 75-95 | 145-160 | 135-150 |
| 5/8" | 92-104 | 100-105 | 130-170 | 125-165 | 175-205 | 165-195 |
| 3/4" | 128-135 | 140-150 | 220-240 | 205-225 | 380-420 | 365-405 |
| 4mm | (22-26) | (19-22) | (23-27) | | | |
| 6mm | (45-50) | (38-43) | (72-78) | | | |
| 8mm | 12-Nov | 9-10 | 14-16 | | | |
| 10mm | 18-20 | 15-17 | 45-50 | 40-45 | 70-75 | |
| 12mm | 42-44 | 36-38 | 56-60 | 50-55 | 95-105 | |
| 16mm | | | 140-148 | | | |
| 18mm | | | 185-200 | | | |
| 20mm | | | 280-290 | | | |

* An anti-seize lubricant MUST be used on all stainless steel hardware.

## WIND LOADING CHARACTERISTICS

All wind load calculations were performed with the tongue at 12 o'clock, the wind coming from the direction shown with the lights flat-facing into the wind.

| WIND DIRECTION | SPEED |
|---|---|
| FROM 12 O'CLOCK | 78 MPH |
| FROM 1 & 11 O'CLOCK | 83.8 MPH |
| FROM 2 & 10 O'CLOCK | 92 MPH |
| FROM 3 & 9 O'CLOCK | 66 MPH |
| FROM 4 & 8 O'CLOCK | 62 MPH |
| FROM 5 & 7 O'CLOCK | 84 MPH |
| FROM 6 O'CLOCK | 90 MPH |




**NOTE:**

If optional front outriggers are used, the allowable wind loading in the 3 and 9 o'clock directions is 79 mph. In the 4 and 8 o'clock directions, the allowable wind velocity would be 94 mph.

## CRITERIA FOR REPLACEMENT OF WIRE ROPE – TEREX-AMIDA LIGHT TOWERS

The wire ropes used to raise and lower the masts on a TEREX-Amida Light Tower are probably some of the most important mechanical parts used in day-to-day operation of the machinery. It is therefore very important that the cables be inspected on a frequent basis (once a month) for wear and tear, and immediately in the event of possible damage due to operator error in using the winch, or possible damage from other equipment.

### NORMAL WEAR AND TEAR

When used properly, the wire ropes should give years of trouble-free service, depending on how often the masts are raised and lowered. The rule of thumb at TEREX-Amida is that if the tower is **raised and lowered an average of once per day**, that the cables **should be replaced every two years of service**.

### NORMAL INSPECTION

The wire ropes are constructed of 7 strands of 19 plow steel wires each twisted together, and then the assembly galvanized to resist corrosion. Using a wadded-up cloth or heavy leather gloves (to avoid being pricked by a broken wire), run a hand up and down a length of the cable. If any exterior wires are broken, they will lift up from main body of the cable and become visible. For any given 1 foot of cable length; if there are 4 or more wires each, on any 2 or more strands broken, the suspect rope **should be replaced immediately**.

### OPERATOR ERROR – OTHER MACHINERY DAMAGE

One of the most common reasons for failure of a Light Tower wire rope is due to operator error in using the winch, or damage to the cable by tools or other machinery. The most common operator error happens when the mast is telescoping down. **When the upper telescoping lock engages, the operator does not pull the lower pivot lock out (located on the tower base) and keeps on cranking the winch. This results in the cable becoming loose around the drum due to the tower not pivoting down**. This can result in three problems: the loose cable can get trapped underneath itself, resulting in a sudden or partial "drop" of the mast when the loose section releases at a later time, thus damaging the cable; or the cable can jump off the winch drum and be damaged by the gears of the winch. The loose cable can also cause the drum to spin to take up the slack cable. If there is enough friction in the threaded parts of the winch, the drum can cause the crank handle to start spinning. This can cause the tower to "freefall" and the results can be catastrophic for anyone standing underneath the tower. A spinning crank handle can also break bones. Other reasons damage can occur are due to some outside force such as forklift blade nicking or crushing a cable when moving a unit, or an accidental blow or damage by a hand tool, etc.

### DAMAGE INSPECTION

If any nicks (partial strand cut through), kinks (permanent bends), or weld spatter on the cable (from field service) are observed, the suspect wire rope **should be changed immediately.** If there is a crushed spot somewhere on the wire rope, it should be **replaced only** if the width of the crushed spot exceeds 1-1/4 times the nominal diameter of the cable (5/16" on a 1/4" cable, and 7/32" on a 3/16" cable), or if there are broken wires at the point of damage.

## BROKEN CABLE REPLACEMENT PROCEDURE

1. PREPARATION

    1.1 Collapse tower to where mast is retracted, then pivot tower to horizontal position.
    1.2 Remove the tower from the trailer and place it on a work surface such as two saw horses.

2. REMOVING TOP CABLE AND TOP MAST SECTION

    2.1 Tie middle section and large section together by wrapping band, cable, chain, or rope around the sheave brackets on these two sections. This insures that the middle section stays inside the large section during removal of the small section.
    2.2 Remove or lock the telescope lock pin open. This is the pin that locks the three sections together during travel.
    2.3 Drill out the aluminum pop rivets holding the plastic guides at the top of the middle section. Using a screwdriver, remove these guides.
    2.4 Remove the clevis pin anchoring the cable to the top of the middle section and remove the clevis pin and the sheave from the middle section.
    2.5 Pass the free end of the cable through the sheave slot between the middle and small section, and out of the top of the tower. Pull the cable and the small section completely out of the middle section together. Be sure to keep the cable tight; if slack accumulates it is most difficult to remove.
    2.6 Unfasten the cable by removing the bolt at the base of the small section.

3. REINSTALLING THE SMALL SECTION

    3.1 Fasten new cable to the base of the small section.
    3.2 Reversing the procedure described in steps 2.1 through 2.5, reinstall the small section.
    3.3 Reinstall the plastic guides with new pop rivets. New plastic guides should be used, but the old guides can be used if their mounting position is shifted to the point where new holes can be drilled in the tower section to provide a good fit when installing new pop rivets.

4. REMOVING THE LOWER CABLE AND MIDDLE TOWER SECTION

    4.1 Remove or lock open the telescope lock pin if not previously done in step 2.2.
    4.2 Drill out the aluminum pop rivets holding the plastic guides at the top of the large section. Using a screwdriver, remove these guides.
    4.3 Remove the cable from winch drum.
    4.4 Remove the sheave clevis pin and the sheave from the top of the large section.
    4.5 If the old cable is not frayed between the winch and the bottom mast pulley, attach a flexible “fish wire” or “snake” (wire, rope cord, etc.) to the end of the cable to be used to thread the new cable through the lower tower and pulleys. This can be done by “untwisting” the cable and inserting the wire or cord into the middle of the cable and thus letting the cable twist back tightly around the fish wire. If the old cable is frayed, cut off the frayed portion and proceed as above and then remove tower and cable as instructed in section 4.6.

4.6 Pass the free end of the cable through the sheave slot between the large and middle sections and out of the top of the tower. Pull the cable and the middle section completely out of the large section altogether. Be sure to keep the cable tight, if slack accumulates it is most difficult to remove.

4.7 If the fish wire doesn't work, it is necessary to remove the square mast section from the round mast section. Remove the pivot pin from the pivot post and lift the mast from the pivot post and place the assembly on a work surface. Remove the hex nut from the bottom of the round section, remove the "T" bolt at the top of the round section, and pull the square mast assembly out of the round section, and proceed as instructed in section 4.6.

4.8 Unfasten the cable by removing the bolt at the base of the middle section.

## 5. REINSTALLING THE LOWER CABLE AND MIDDLE SECTION

5.1 If the "fish wire" worked, attach the cable to the fish wire and pull through the pulleys and the round section.

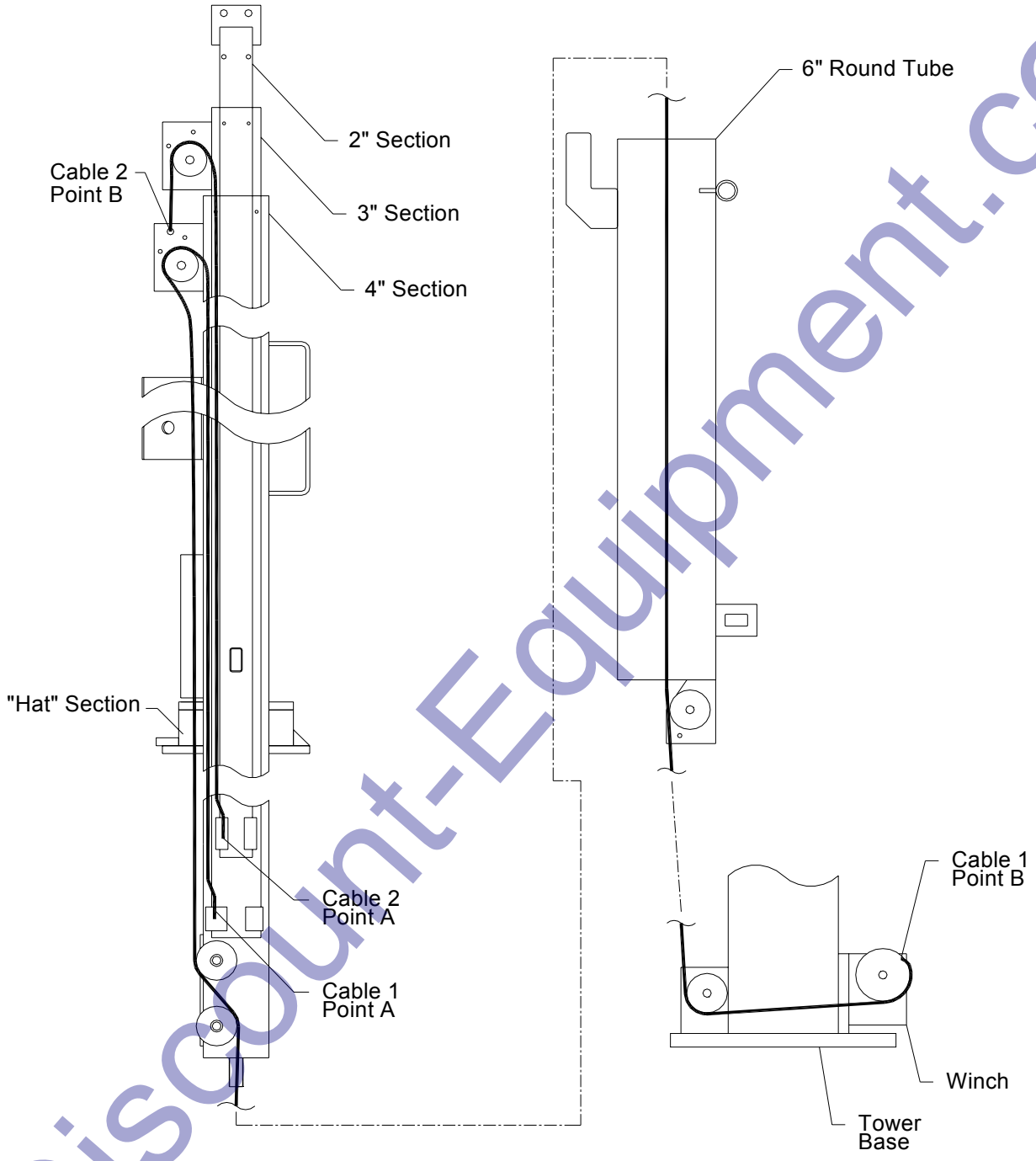
5.2 If the square tower section was removed from the round section, thread the cable through the pulleys at the bottom of the large section and out of the tubular stud. Reinstall the large square section into the round section. Install the "T" locking bolt, and the hex nut on the bottom of the round section. The hex-locking nut should be tightened and then backed off approximately one-half turn or until the tower rotates freely.

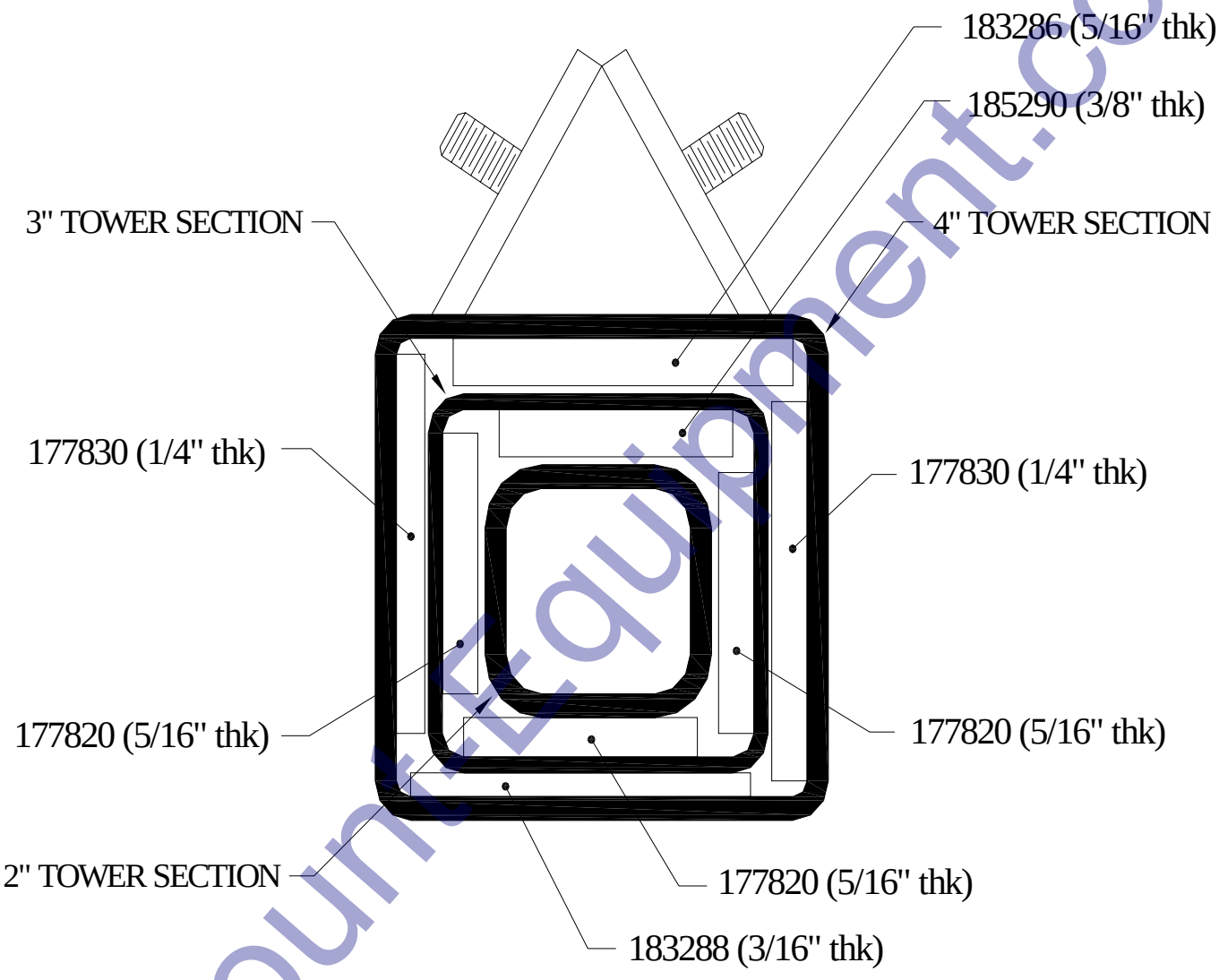
5.3 Fasten the new cable to the base of the middle section.

5.4 Reversing the procedures detailed in sections 4.4 through 4.7, reinstall the middle section.

5.5 Fasten the new cable to the winch drum.

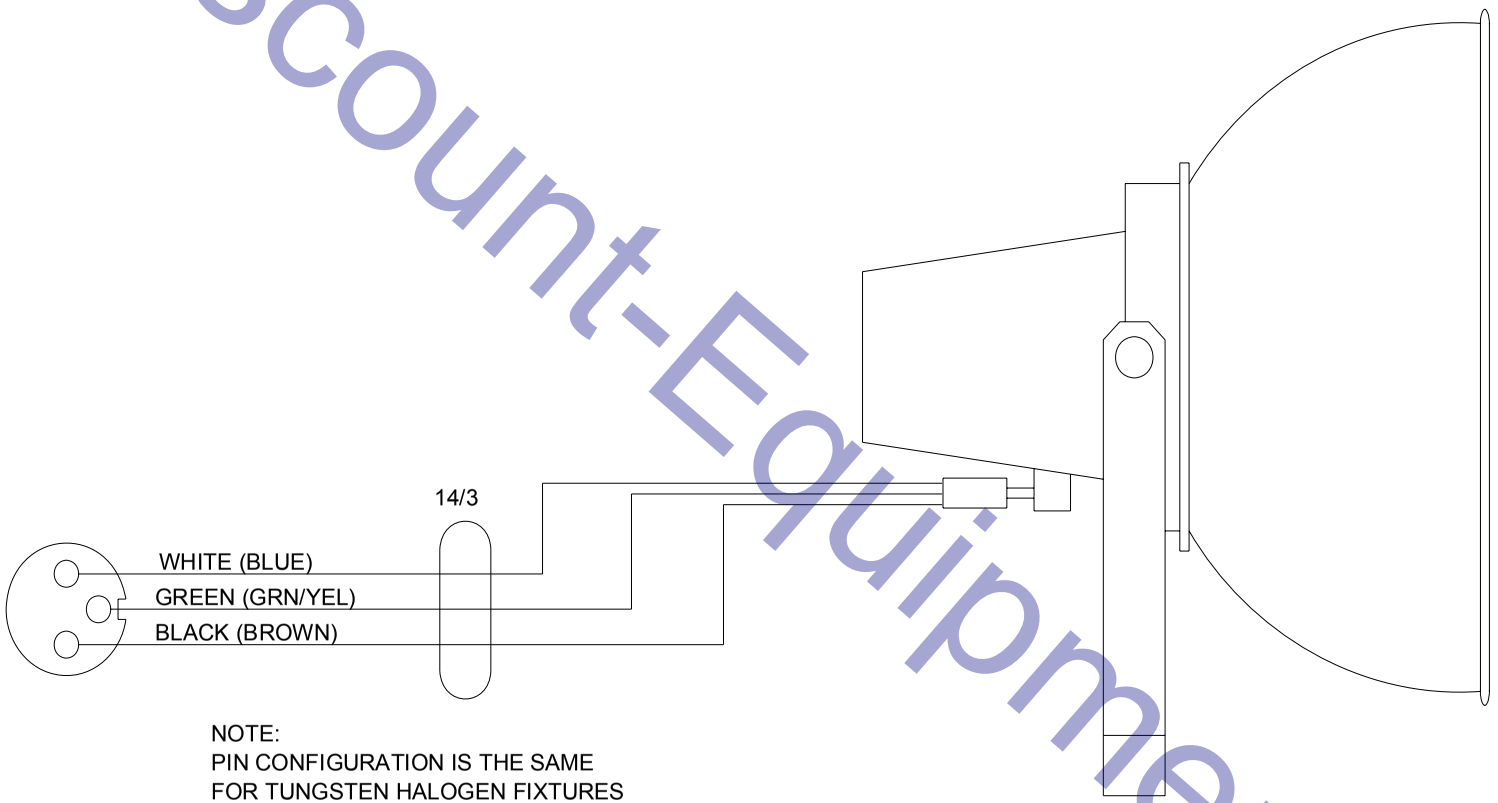
5.6 Reinstall the plastic shims as described in section 3.3.






SHIM PLACEMENT( as viewed from crossarm end)

| PART# WD2985 | | | DWG.# 2985A |
|---|---|---|---|
| ITEM# | PART# | DESCRIPTION | #REQ |
| | | | |




NOTE:
PIN CONFIGURATION IS THE SAME
FOR TUNGSTEN HALOGEN FIXTURES

| DOMESTIC COLOR CODE | EUROPEAN COLOR CODE | CIRCUIT |
|---|---|---|
| WHITE | LIGHT BLUE | COMMON FROM BALLAST |
| BLACK | BROWN | HOT FROM BALLAST (LIVE) |
| GREEN | GREEN W/YELLOW | GROUND (EARTH) |

| REV. | DATE | ECO # | CHANGE |
|---|---|---|---|
| A | 3/15/00 | | ADDED EUROPEAN (CE) WIRING DATA |

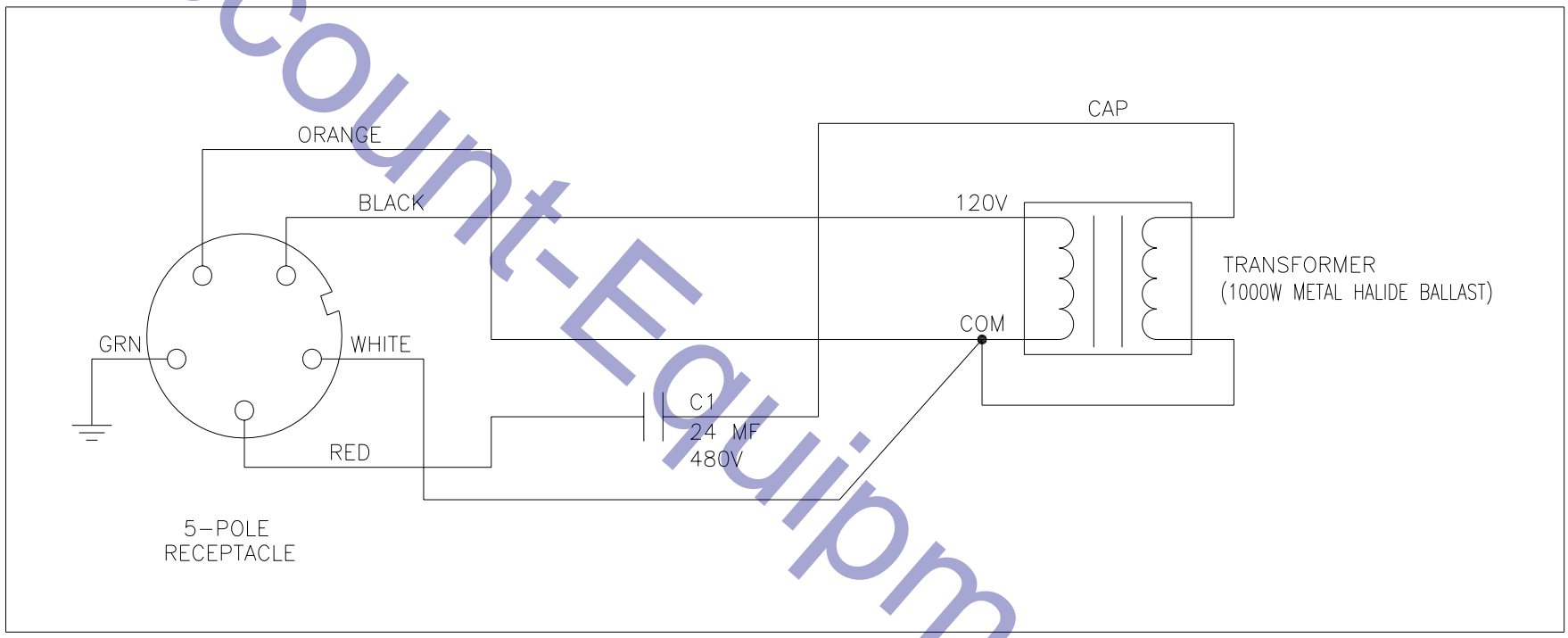
TOLERANCES UNLESS OTHERWISE SPECIFIED:
Fractions ±1/16
Decimals .XX=±.030 .XXX=±.010
.XXXX=±.005
Degrees ±1/2°
REMOVE ALL BURRS & SHARP EDGES

Terex-amida

WIRING DIAGRAM, MH OR HPS FIXTURE

| MATL. | W/JOY CONNECTOR | BORDER "B" |
|---|---|---|
| MAT P/N | DR BY | SCALE NONE |
| PLOT 4/30/91 | DATE 4/30/91 | PART# WD2985 DWG.# 2985A |

| PART# WD2986 | | | DWG.# 2986 |
|---|---|---|---|
| ITEM# | PART# | DESCRIPTION | #REQ |
| | | | |

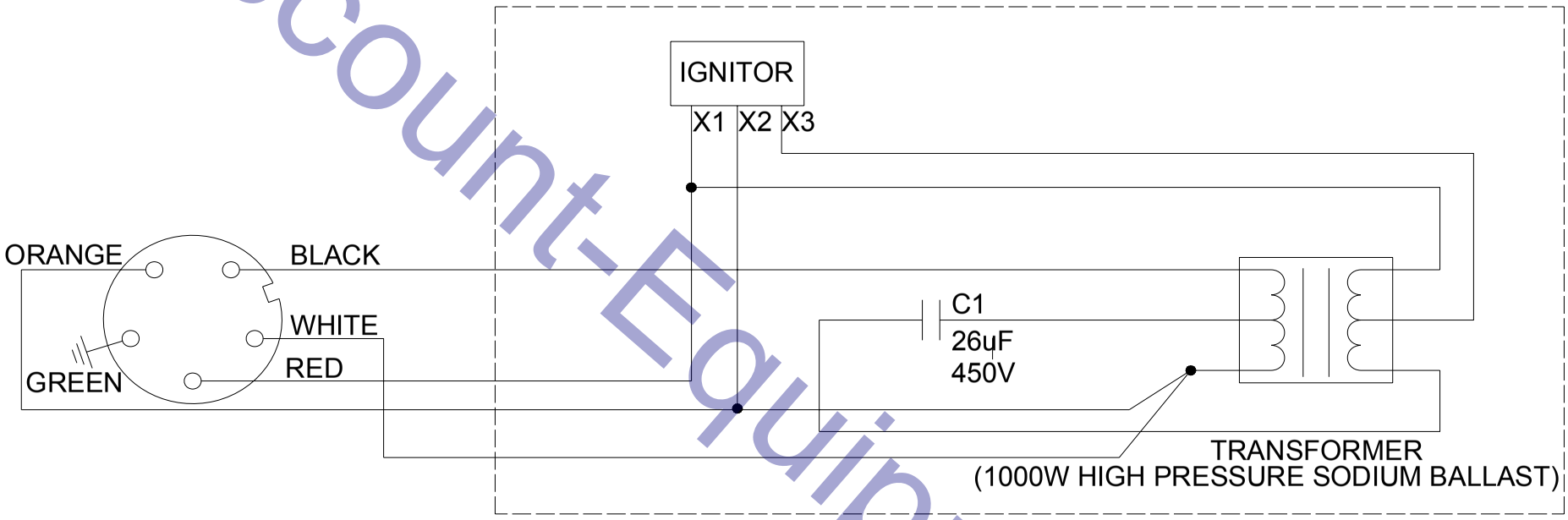



| COLOR | CIRCUIT |
|---|---|
| BLACK | INPUT 120V |
| WHITE | INPUT COMMON |
| RED | LAMP HOT |
| ORANGE | LAMP COMMON |
| GREEN | GROUND |

| REV. | DATE | ECO # | CHANGE |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| TOLERANCES UNLESS OTHERWISE SPECIFIED: Fractions ±1/16 Decimals .XX=±.030 .XXX=±.010 .XXXX=±.005 Degrees ±1/2° REMOVE ALL BURRS & SHARP EDGES | | Terex 590 HUEY Rd, ROCK HILL, S.C. Ph. (803) 324-3011 FAX 366-1101 | |
| | | WIRING DIAGRAM-1000MH BALLAST | |
| MATL. | | W/JOY CONNECTOR | BORDER "B" |
| MAT P/N | USAGE | DR BY CNM APP BY | SCALE NONE |
| PLOT 4/30/91 | DATE 4/30/91 | PART# WD2986 | DWG.# 2986 |

| PART# | WD2987 | | DWG.# | 2987 |
|---|---|---|---|---|
| ITEM# | PART# | DESCRIPTION | | #REQ |
| | | | | |




5-POLE
RECEPTACLE

| COLOR | CIRCUIT |
|---|---|
| BLACK | INPUT 120V |
| WHITE | INPUT COMMON |
| RED | LAMP HOT |
| ORANGE | LAMP COMMON |
| GREEN | GROUND |

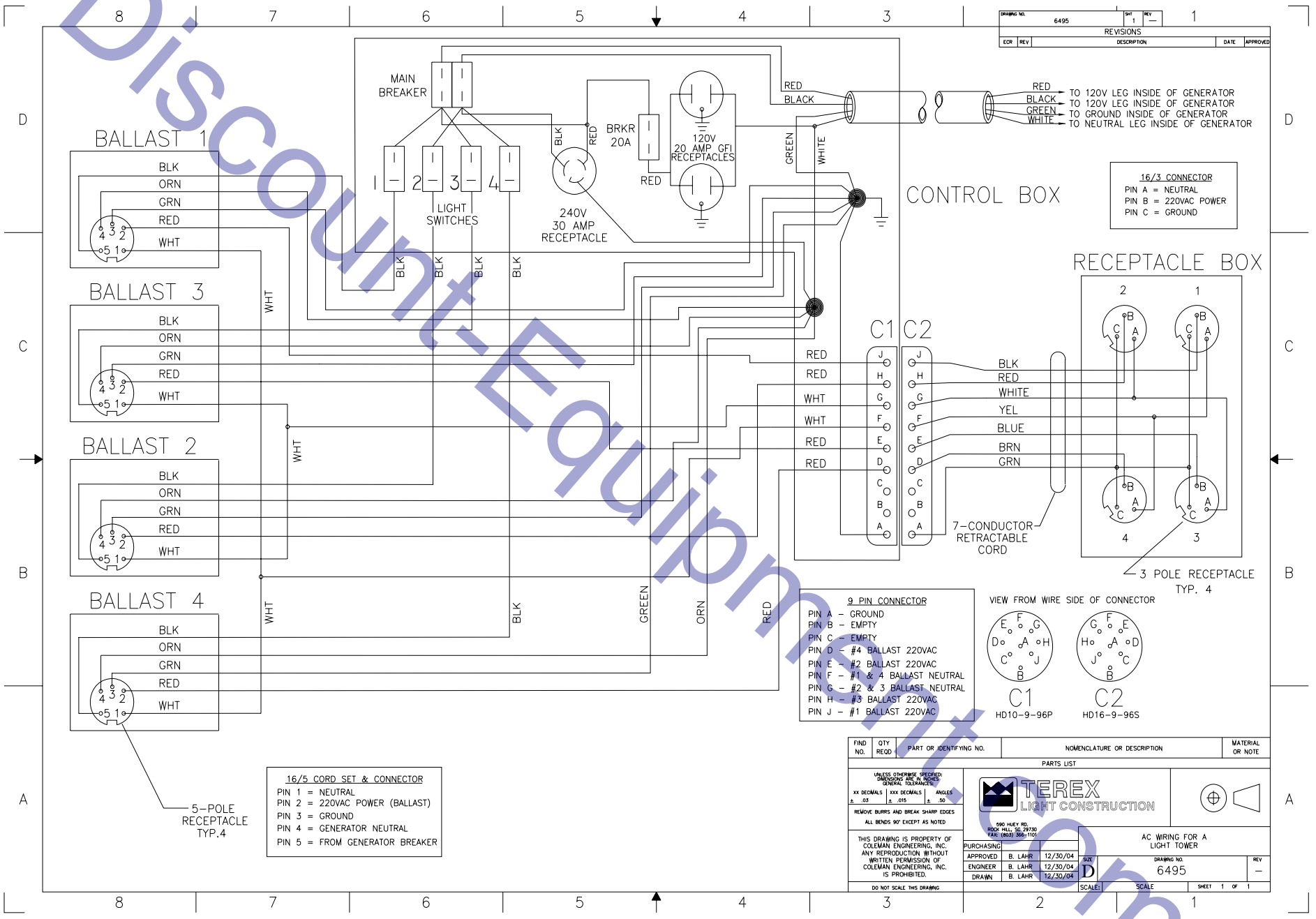
| REV. | DATE | ECO # | CHANGE |
|---|---|---|---|
| | | | |

TOLERANCES UNLESS OTHERWISE SPECIFIED:
Fractions ±1/16
Decimals .XX=±.030 .XXX=±.010
.XXXX=±.005
Degrees ±1/2°
REMOVE ALL BURRS & SHARP EDGES

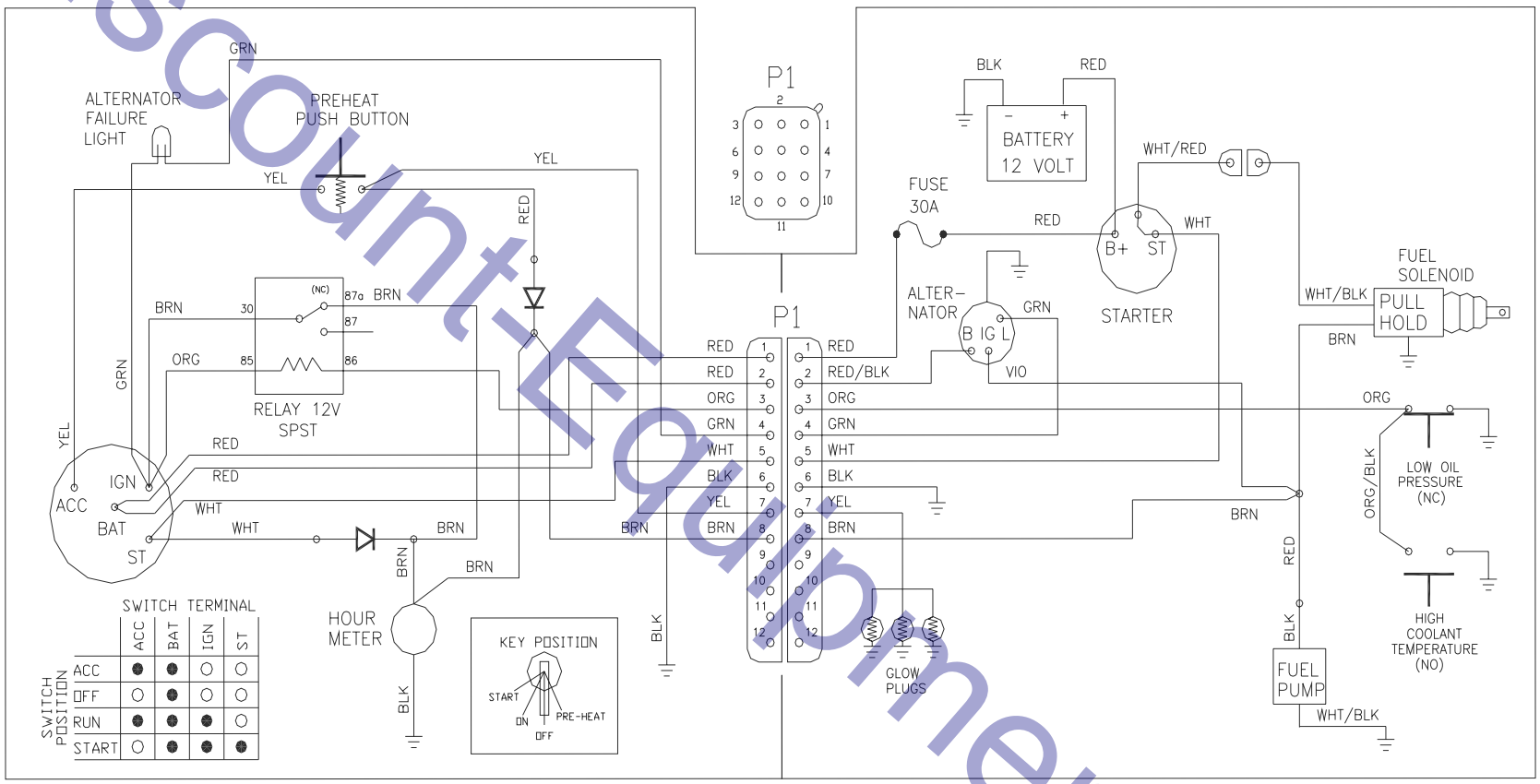
Terex–amida

WIRING DIAGRAM - 1000HPS BALLAST

| MATL. MATL | W / JOY CONNECTOR | BORDER "A" |
|---|---|---|
| MAT P/N / USAGE | DR BY:CNM | SCALE: NONE |
| PLOT: 4/30/91 / DATE: 4/30/91 | PART# WD2987 | DWG.# 2987 |

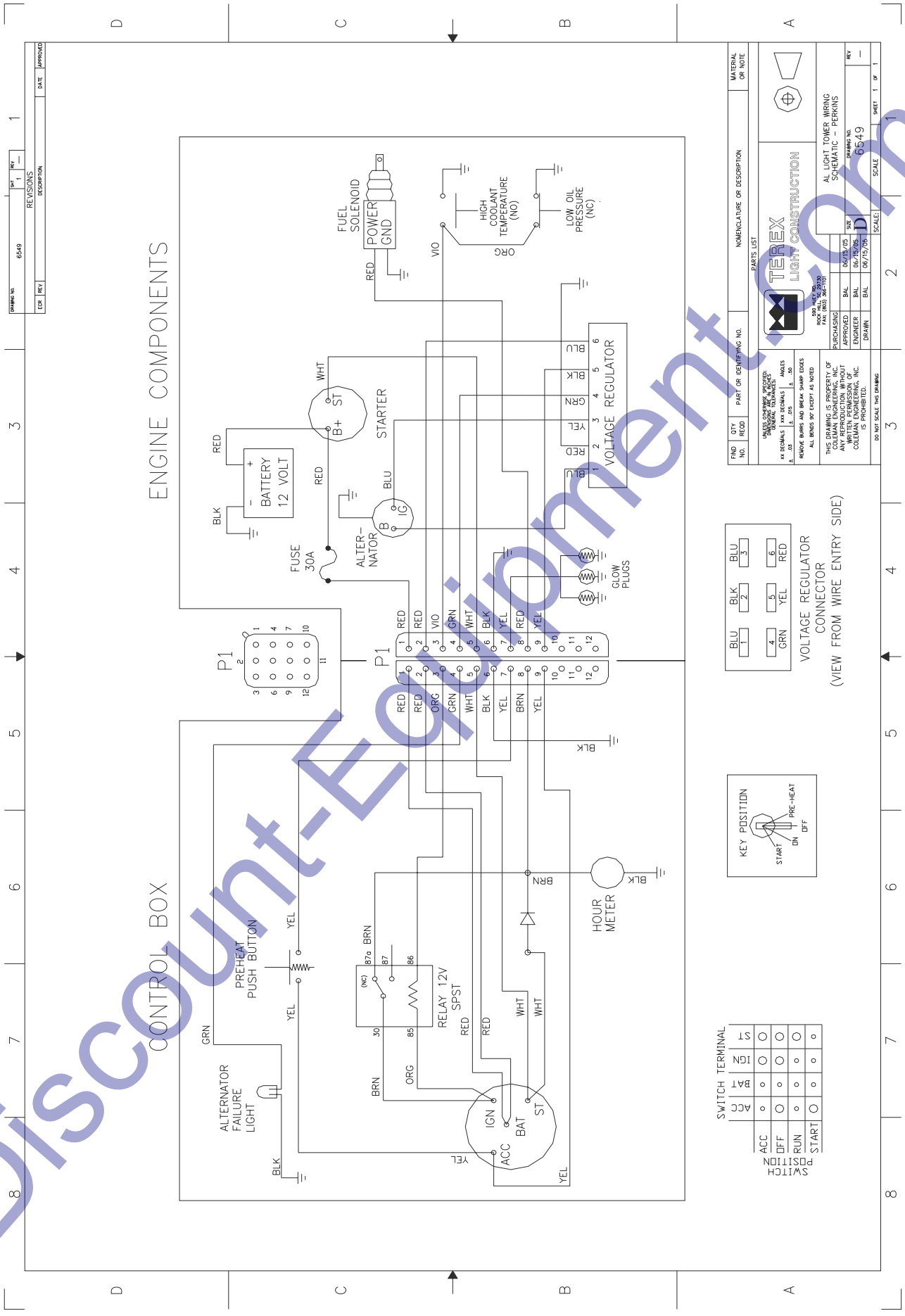


| PART# WD4730 | DWG.# 4730G |
|---|---|




| TOLERANCES UNLESS OTHERWISE SPECIFIED: Fractions ±1/16 Decimals .XX=±.030 .XXX=±.010 .XXXX=±.005 Degrees ±1/2° REMOVE ALL BURRS & SHARP EDGES | | | Terex-amida 590 HUEY Rd, ROCK HILL, S.C. Ph. (803) 324-3011 FAX 366-1101 | |
|---|---|---|---|---|
| | | | WD - DC ENGINE WIRING, KUBOTA | |
| MATL. | | | D905, AL4, AL5, TX3 | BORDER "B" |
| MAT. P/N | USAGE | | DR BY JCS APP BY | SCALE N/A |
| PLOT B 3/23/00 | DATE 3/23/00 | | PART# WD4730 | DWG.# 4730G |

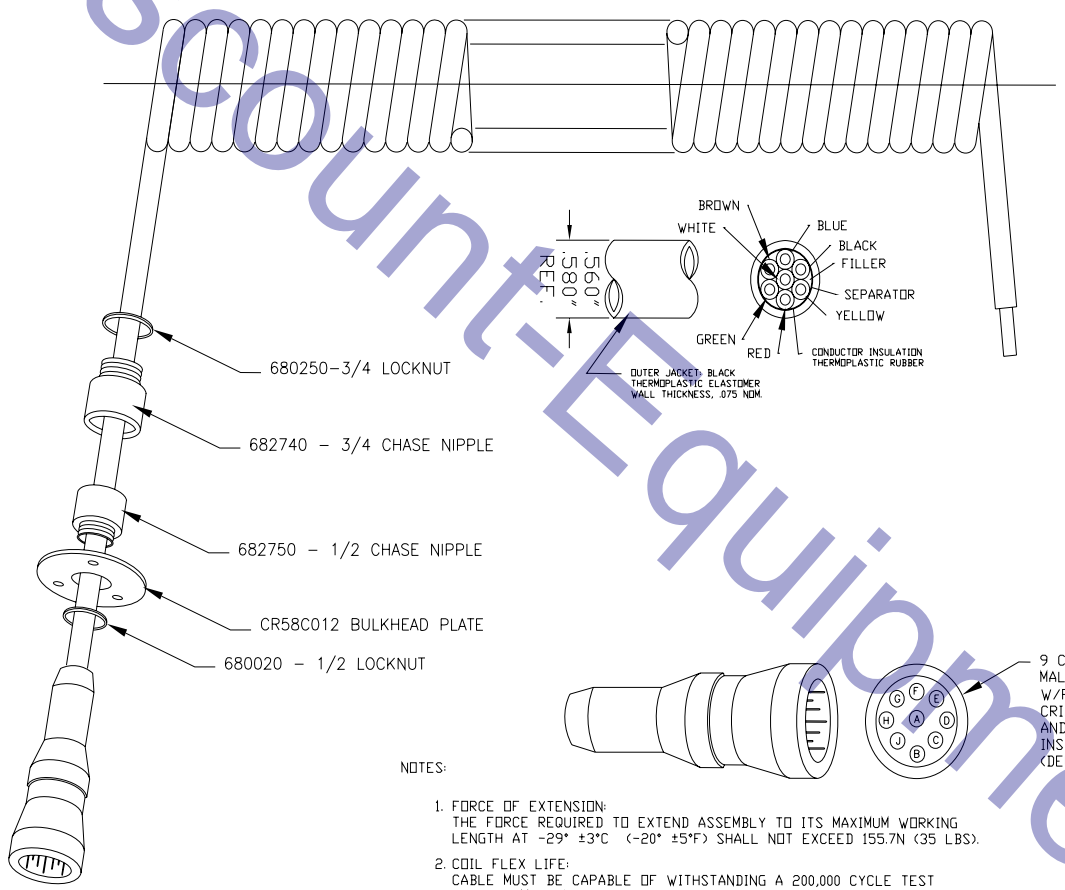
| REV. | DATE | ECO # | CHANGE |
|---|---|---|---|
| G | 12/22/04 | - | REVISED TO MATCH PRODUCTION MODELS |
| F | 9/12/02 | - | ADDED CIRCUIT AND DIODES FOR NEW KUBOTA SOLENOID |
| E | 1/12/01 | - | ADDED DIODE FOR FUEL PUMP/ PRIME |



DRAWING NO. 6496 SPECIAL SHT 1 REV –

REVISIONS

| ECR | REV | DESCRIPTION | DATE | APPROVED |
|---|---|---|---|---|
| – | – | ADDED MOUNTING COMPONENTS FOR SPECIAL BUILD | 3/31/05 | JCS |



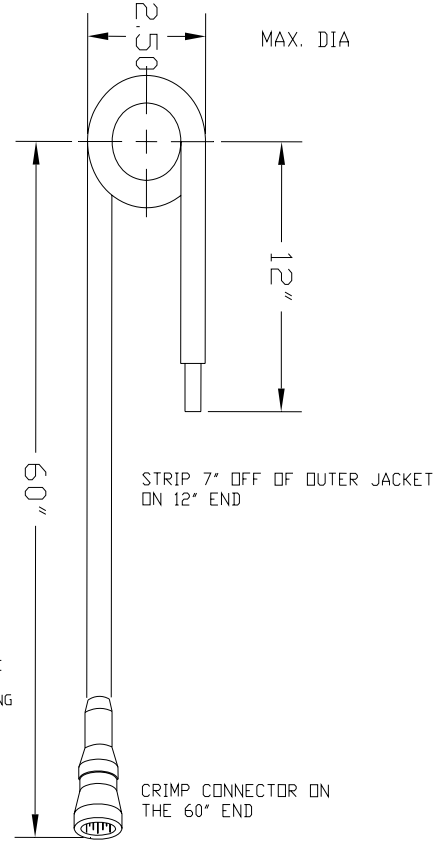







9 CONDUCTOR 14 GAUGE MALE CONNECTOR PLUG W/PLASTIC THREAD RING CRIMP CONNECTIONS AND MUST BE FIELD INSTALLABLE (DEUTSCH) HD16-9-96S

| 9 PIN CONNECTOR |
|---|
| PIN A – GREEN |
| PIN B – EMPTY |
| PIN C – EMPTY |
| PIN D – BROWN |
| PIN E – BLUE |
| PIN F – YELLOW |
| PIN G – WHITE |
| PIN H – RED |
| PIN J – BLACK |




NOTES:

1. FORCE OF EXTENSION:
   THE FORCE REQUIRED TO EXTEND ASSEMBLY TO ITS MAXIMUM WORKING LENGTH AT -29° ±3°C (-20° ±5°F) SHALL NOT EXCEED 155.7N (35 LBS).
2. COIL FLEX LIFE:
   CABLE MUST BE CAPABLE OF WITHSTANDING A 200,000 CYCLE TEST WITHOUT MECHANICAL OR ELECTRICAL FAILURE, ONE CYCLE CONSISTS OF EXTENDING ASSEMBLY TO ITS MAXIMUM WORKING LENGTH, THEN RETRACTING TO ITS FREE LENGTH.
3. CABLE CONSTRUCTION CONFORMS TO APPLICABLE REQUIREMENTS OR THE FOLLOWING WIRE AND CABLE SPECIFICATIONS,
   -SAE J1067 FOR COLD BEND, INSULATION AND JACKET COMPOUND.
   -SAE J1128 FOR ABRASION RESISTANCE, HIGH TEMPERATURE OIL ABSORPTION AND DIELECTRIC
   -CABLE TO BE SUBJECTED TO A 3000 VOLT, 60 HZ SPARK TEST AS OUTLINED BY UL STANDARD NO. 62 OR EQUIVALENT.
   -CABLE TO BE BOTH UL AND CSA APPROVED
   -APPROVAL CUL AWM STYLE 2516 REQUIRED

| FIND NO. | QTY REQD | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL OR NOTE |
|---|---|---|---|---|

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES GENERAL TOLERANCES:
XX DECIMALS ± .03 | XXX DECIMALS ± .015 | ANGLES ± .50

REMOVE BURRS AND BREAK SHARP EDGES

ALL BENDS 90° EXCEPT AS NOTED



DO NOT SCALE THIS DRAWING

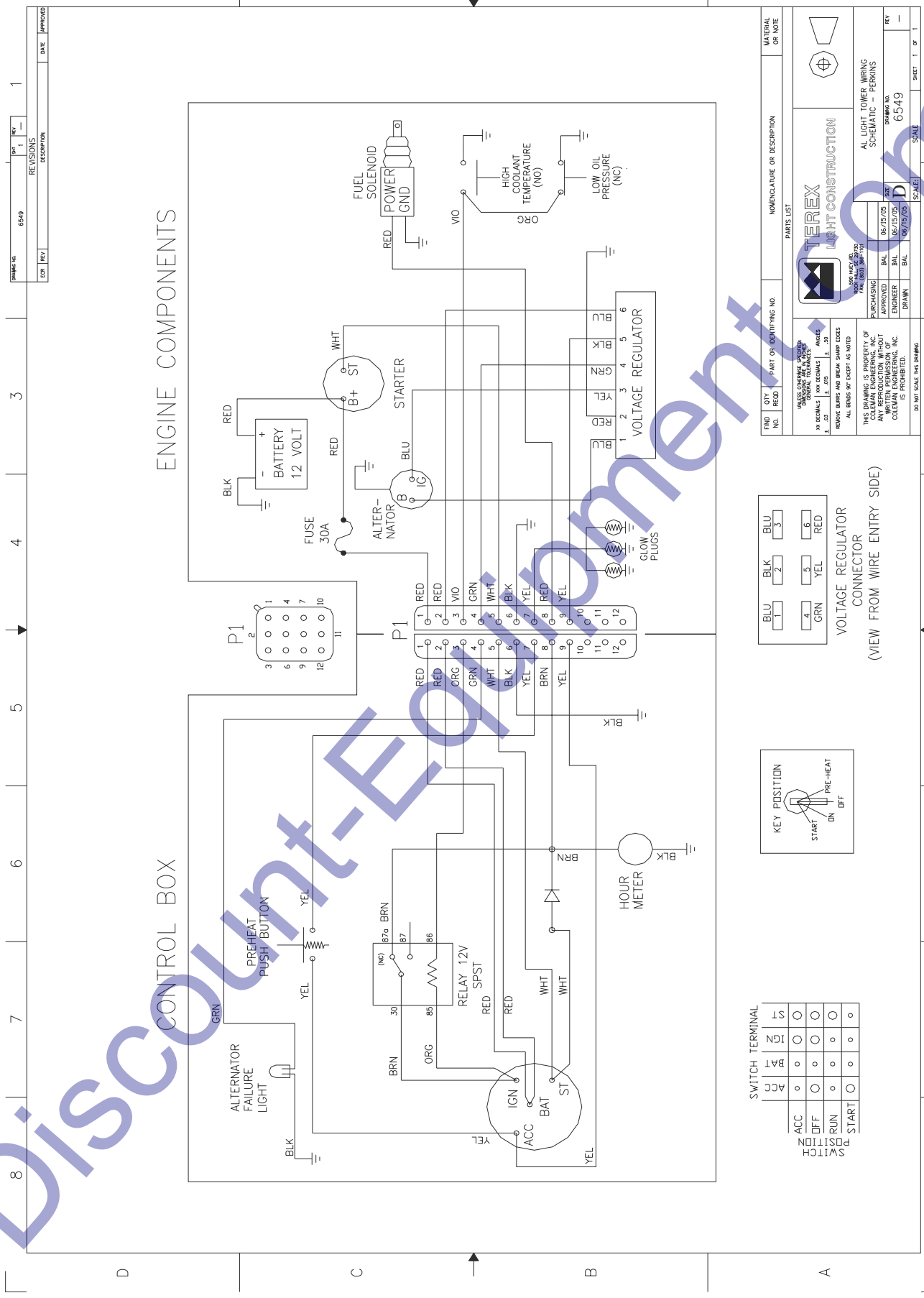
TEREX LIGHT CONSTRUCTION
590 MILEY RD
ROCK HILL, SC 29730
FAX: (803) 366-1101

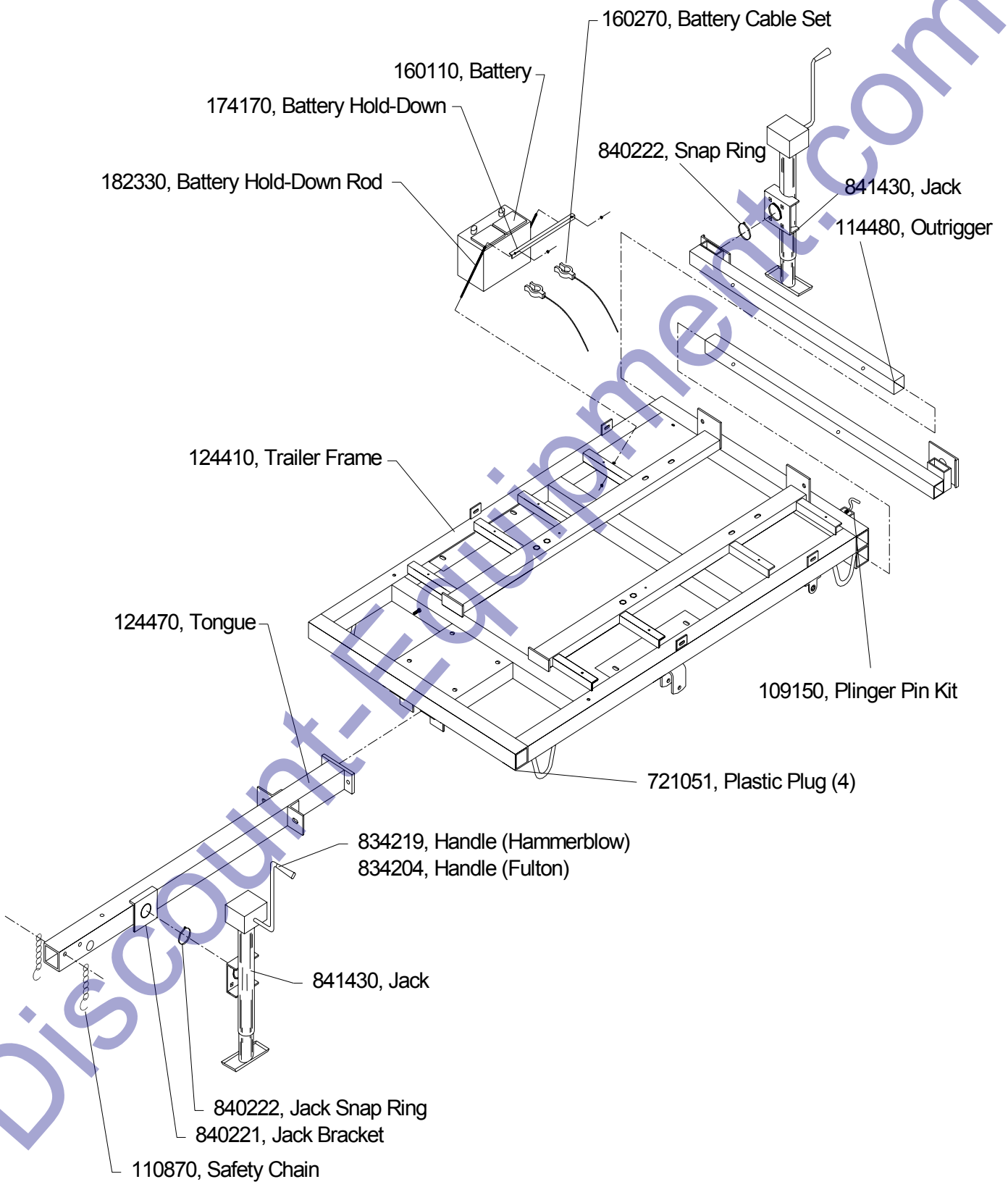
| | | |
|---|---|---|
| PURCHASING | | |
| APPROVED | B. LAHR | 01/04/05 |
| ENGINEER | B. LAHR | 01/04/05 |
| DRAWN | B. LAHR | 01/04/05 |

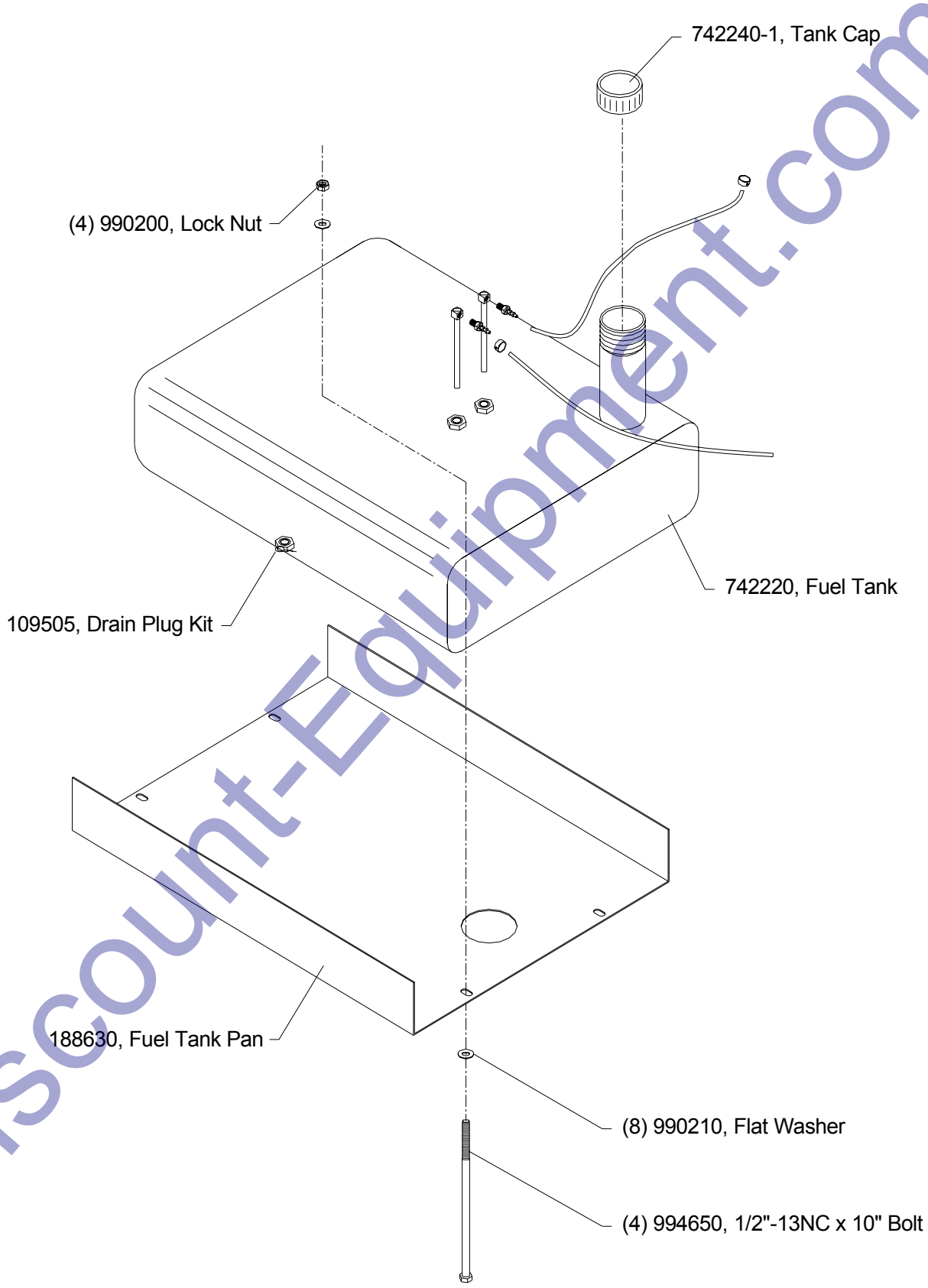
CONSOLIDATED COIL CORD W/PLUG END

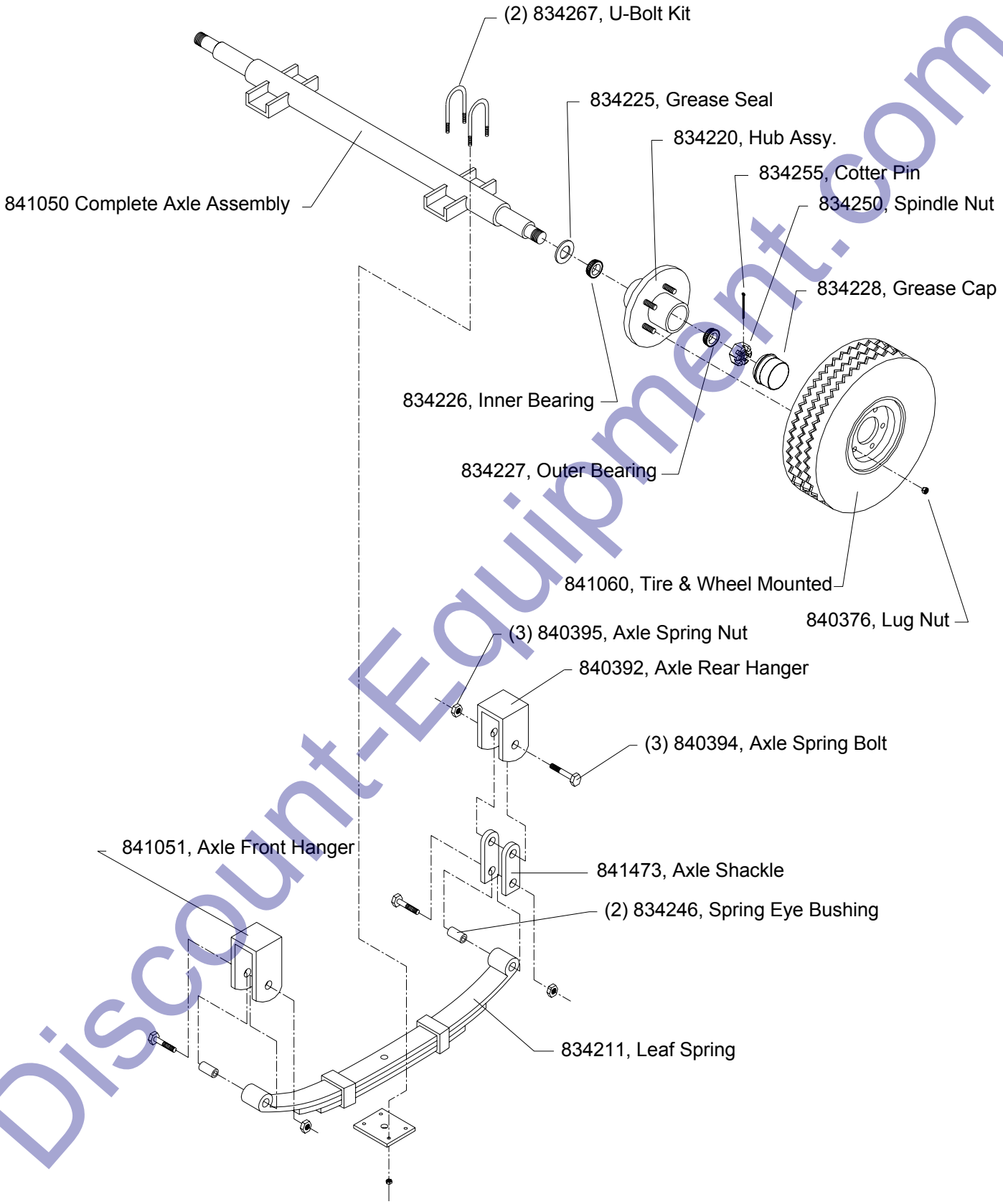
SIZE D | DRAWING NO. 6496 SPECIAL | REV –

SCALE: | SCALE | SHEET 1 OF 1

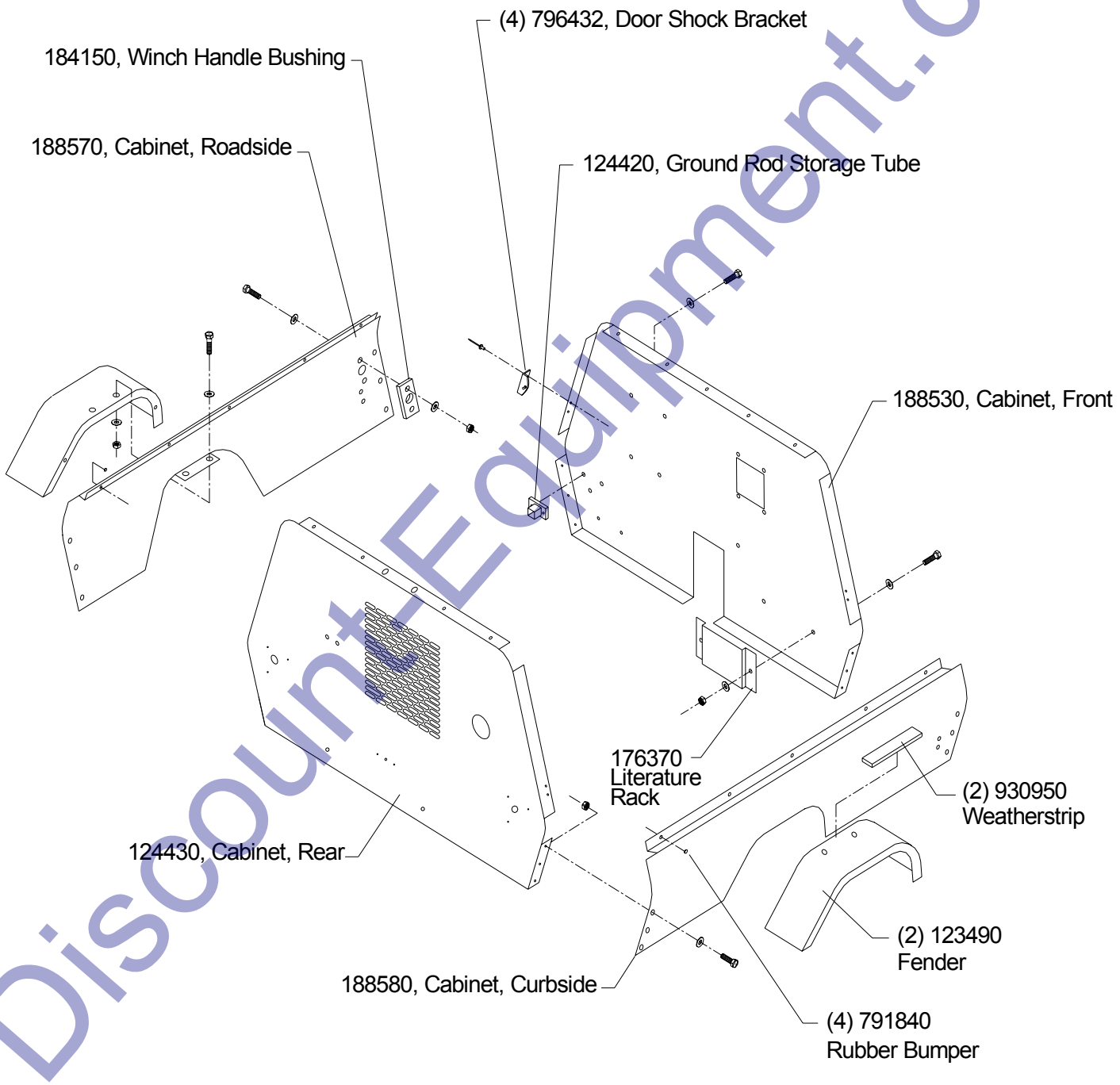


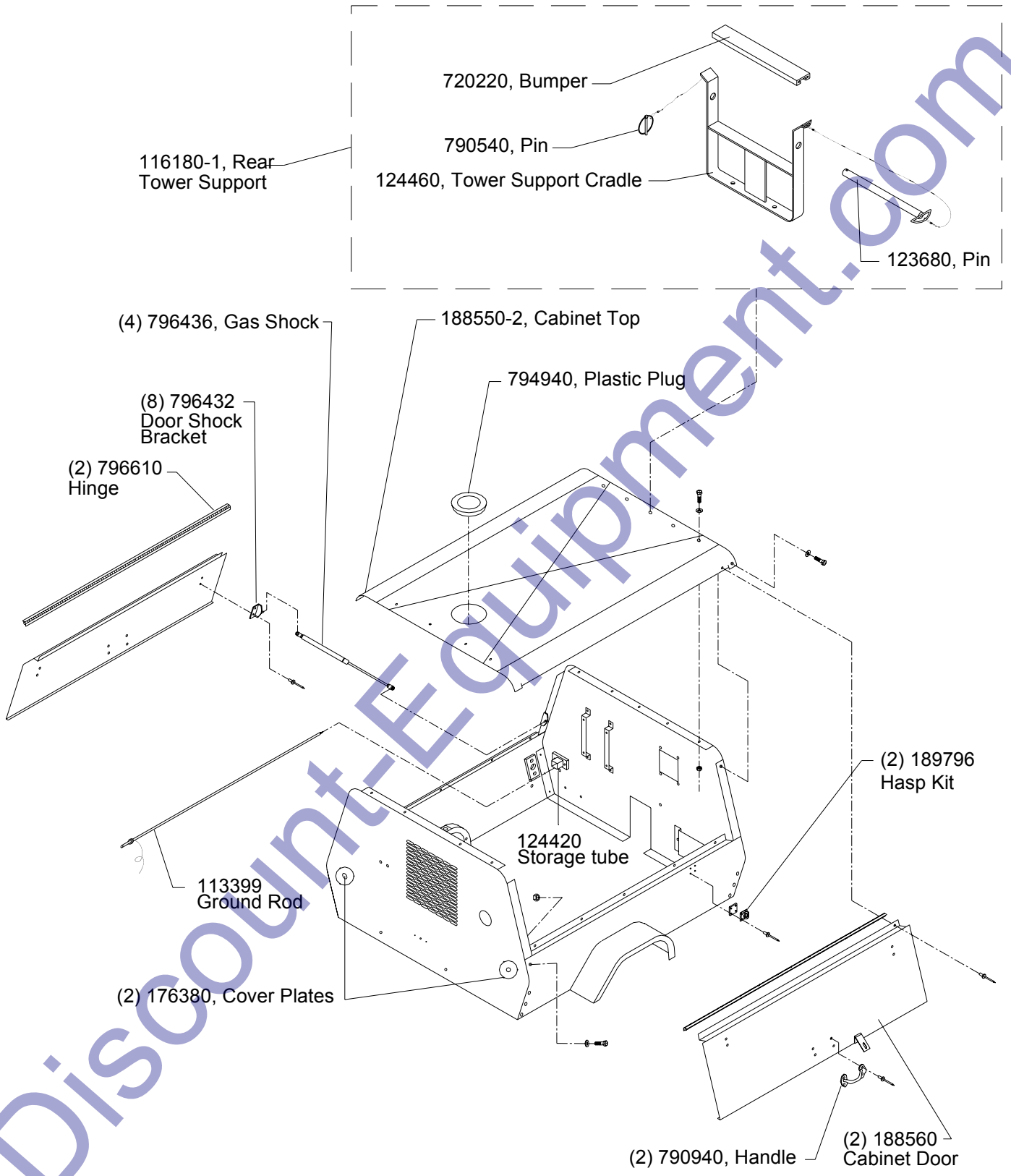




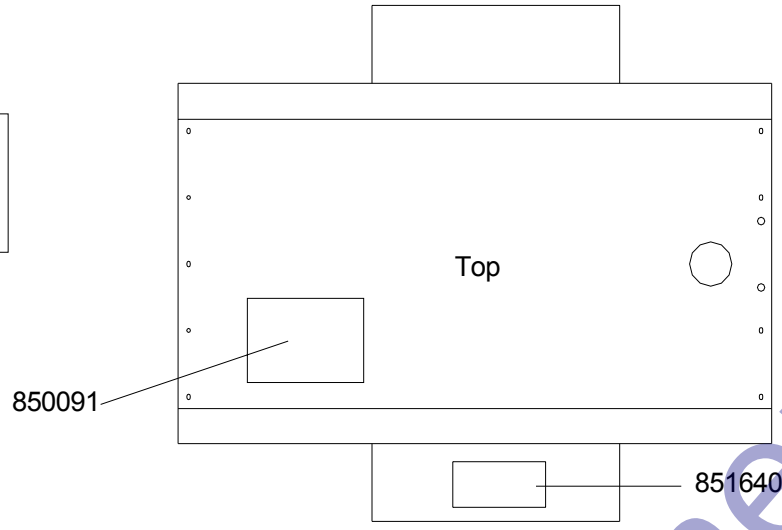


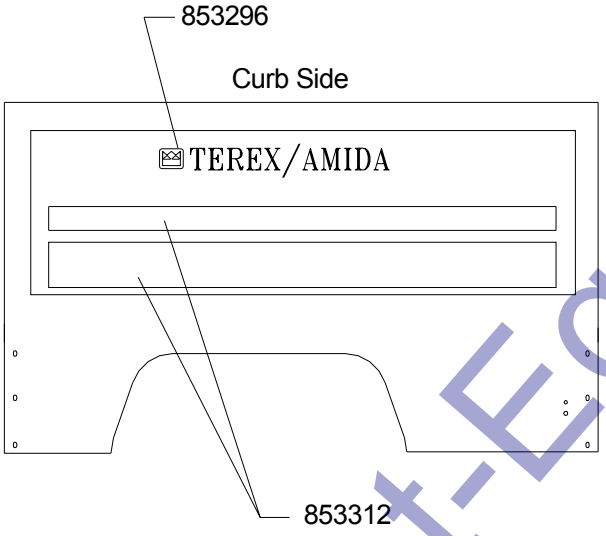
116203-1, Cabinet Assembly Complete

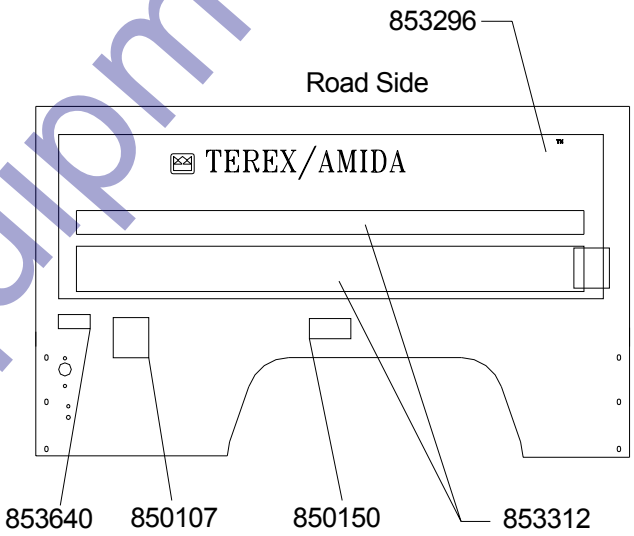


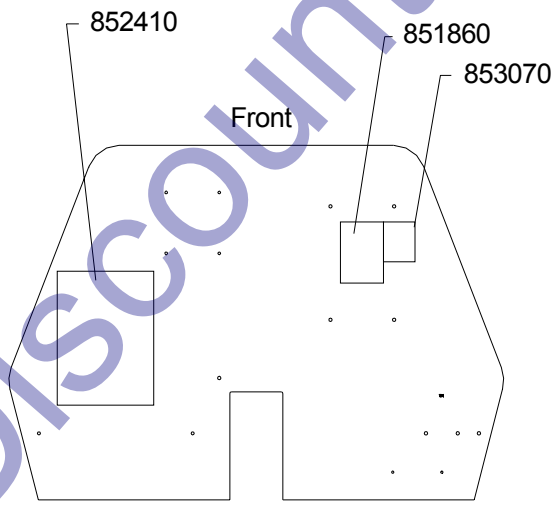


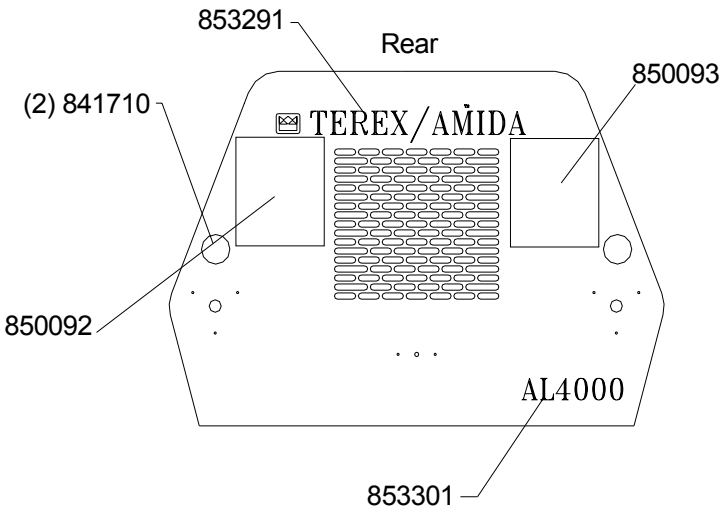
109471
DECAL KIT,
COMPLETE

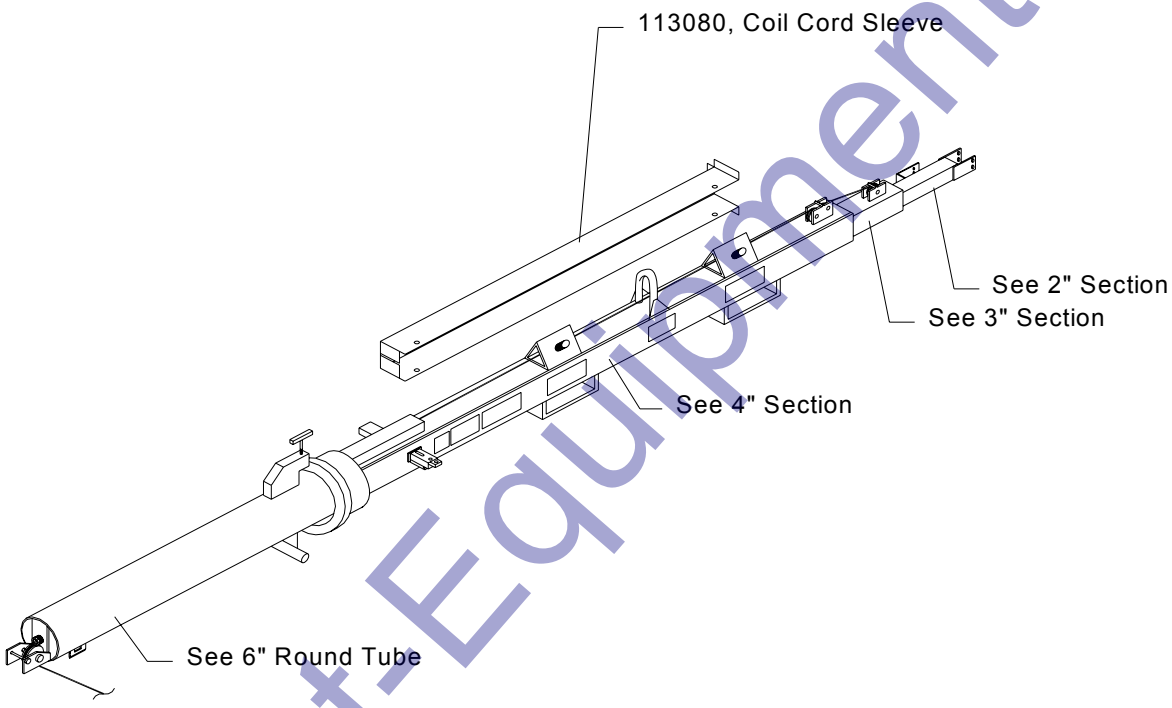


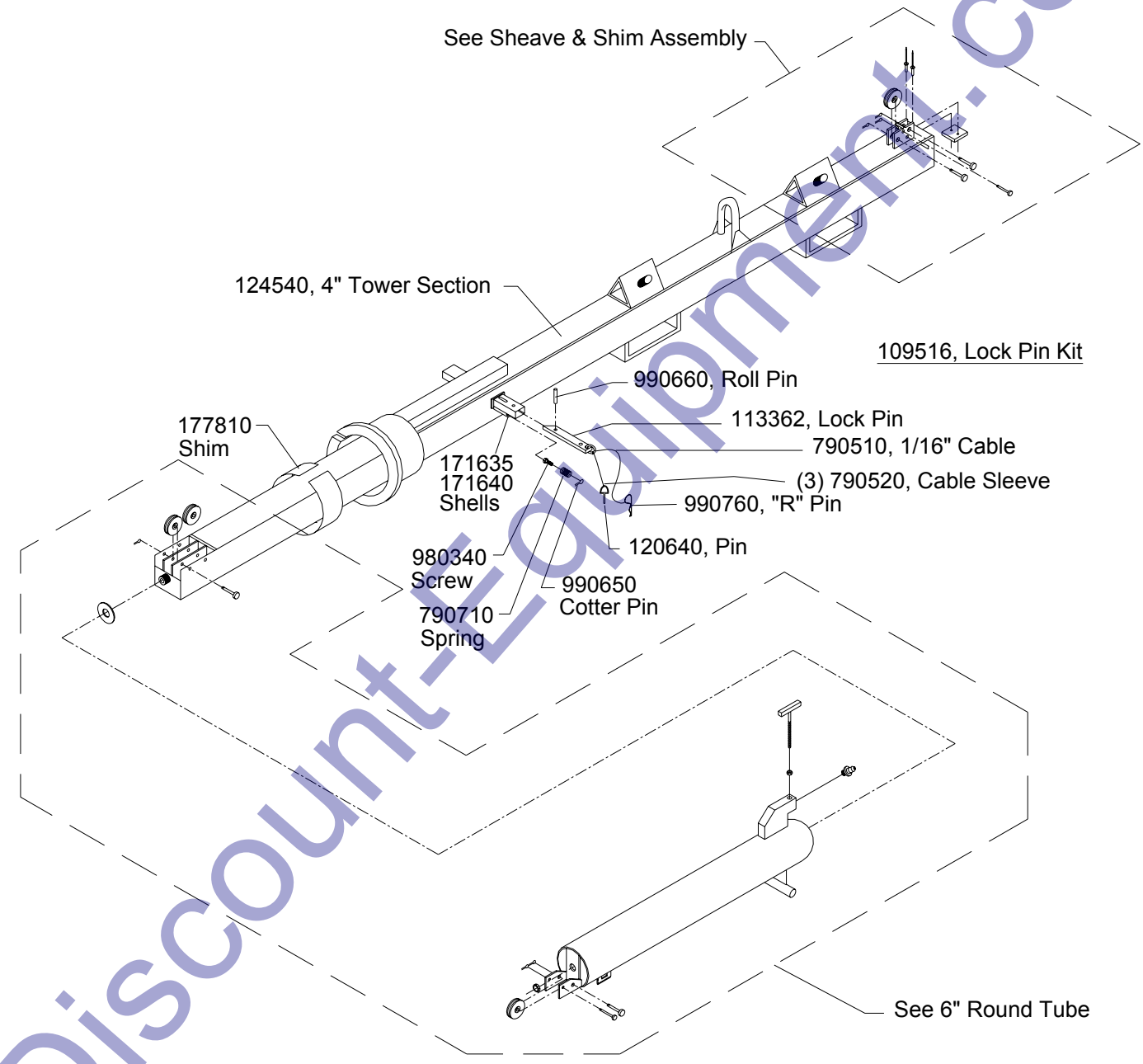



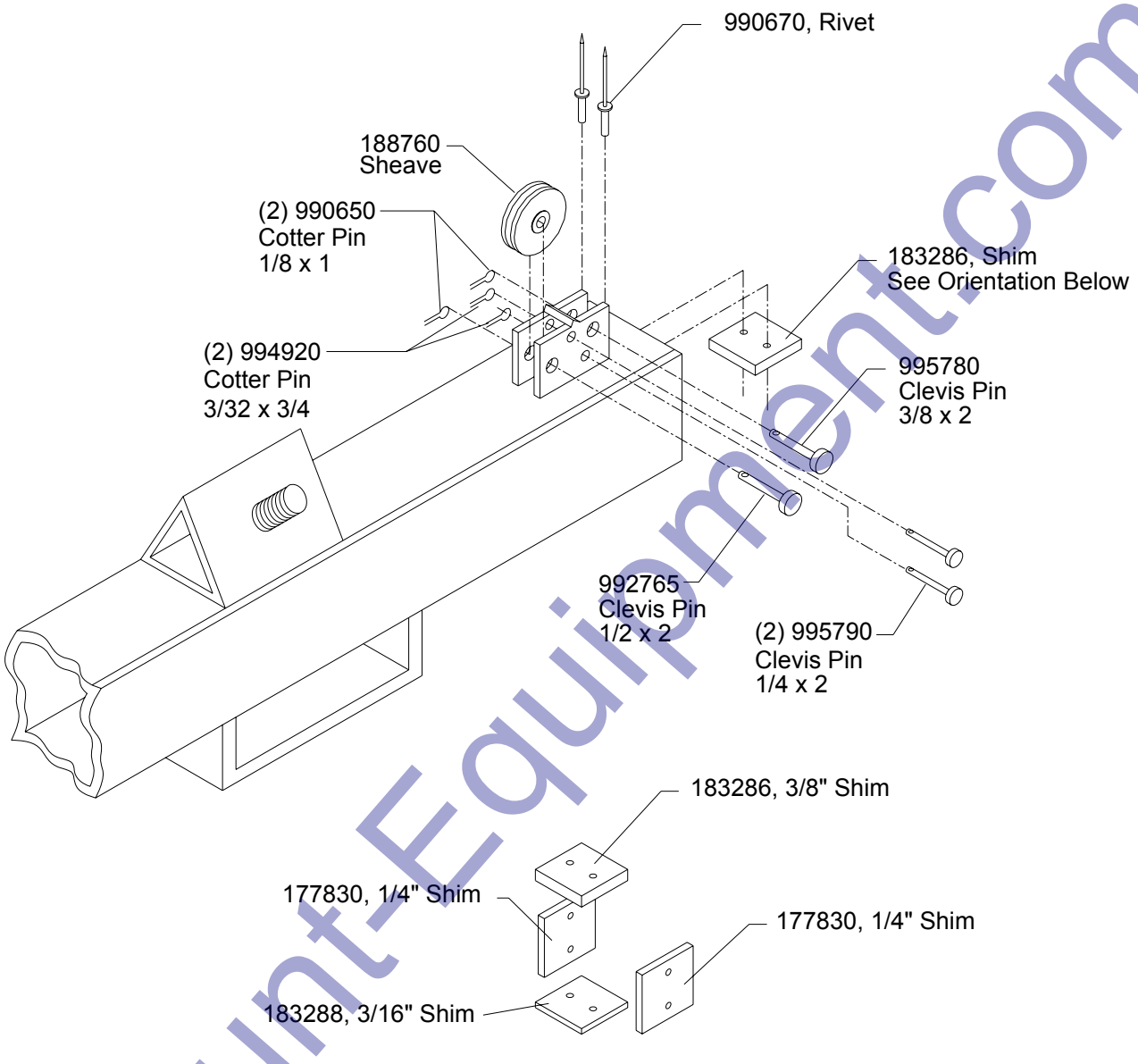



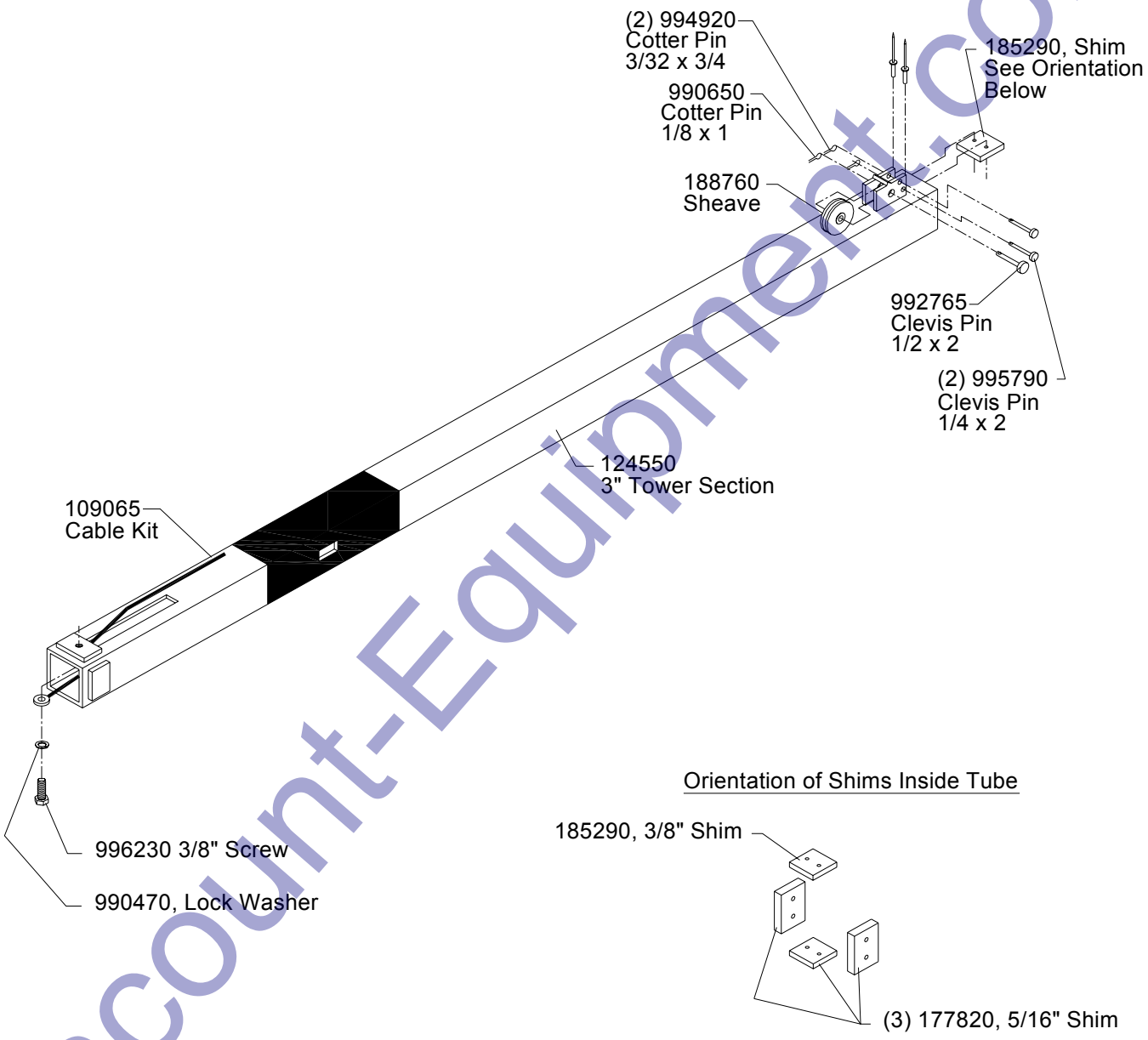





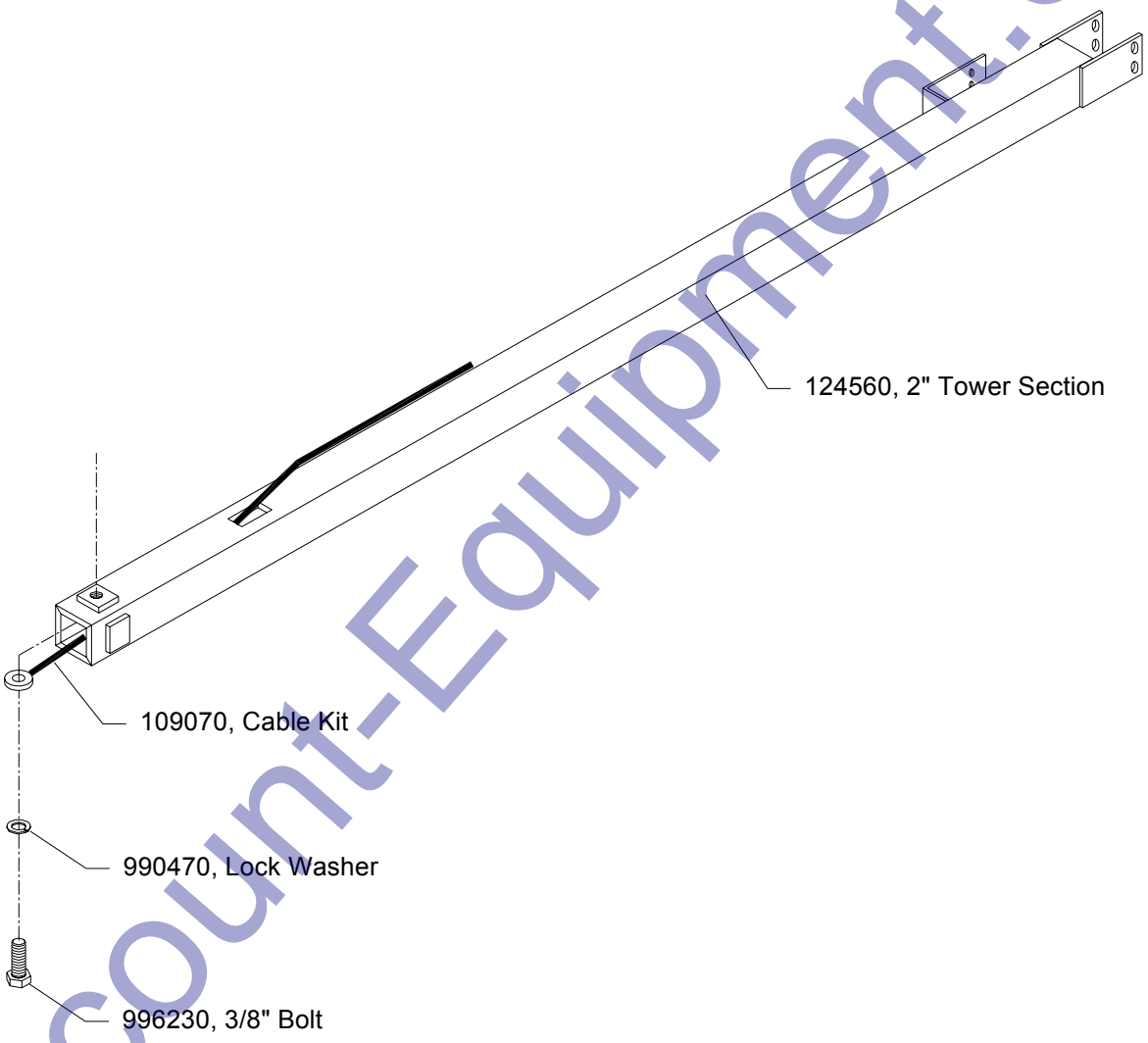


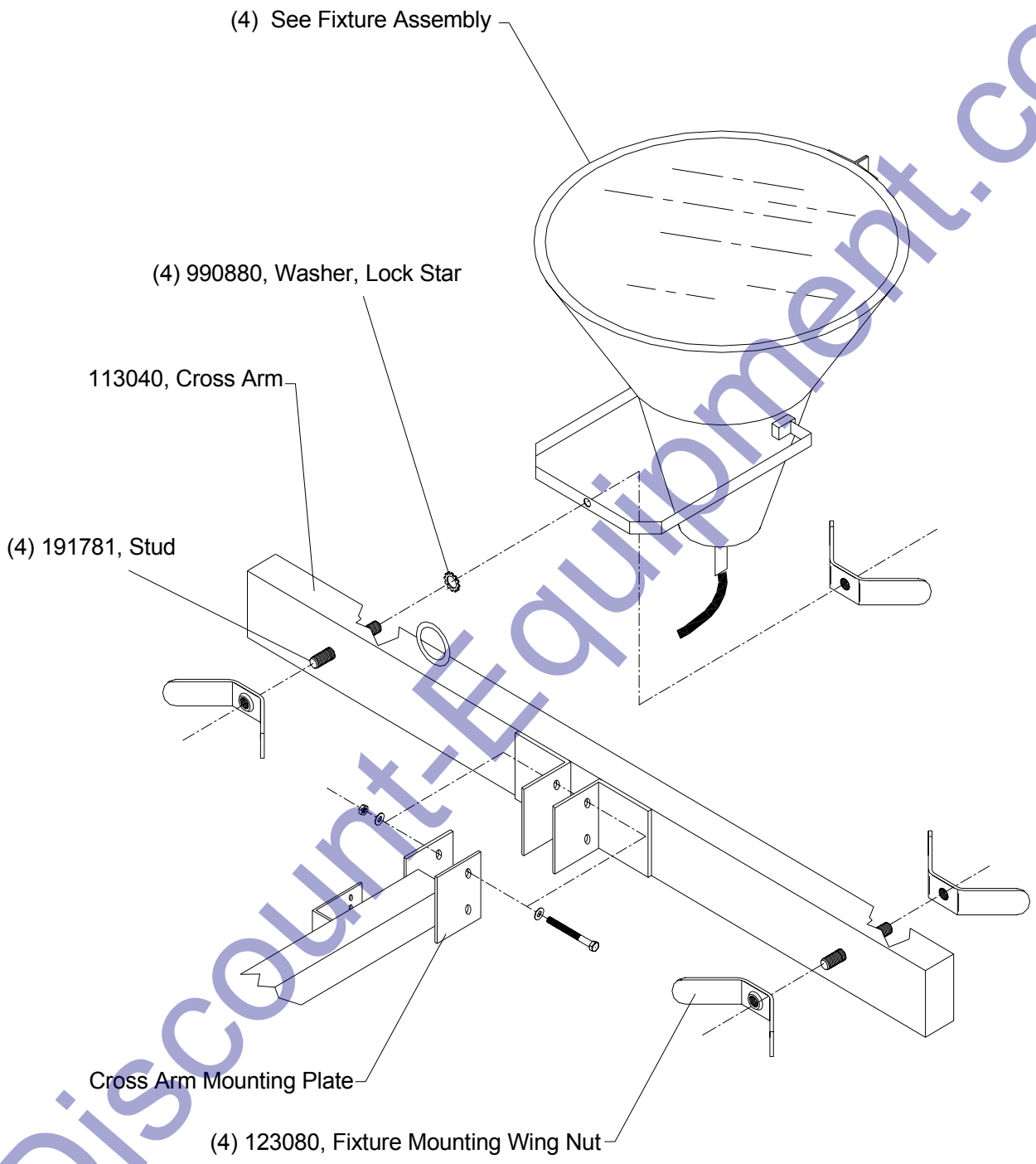


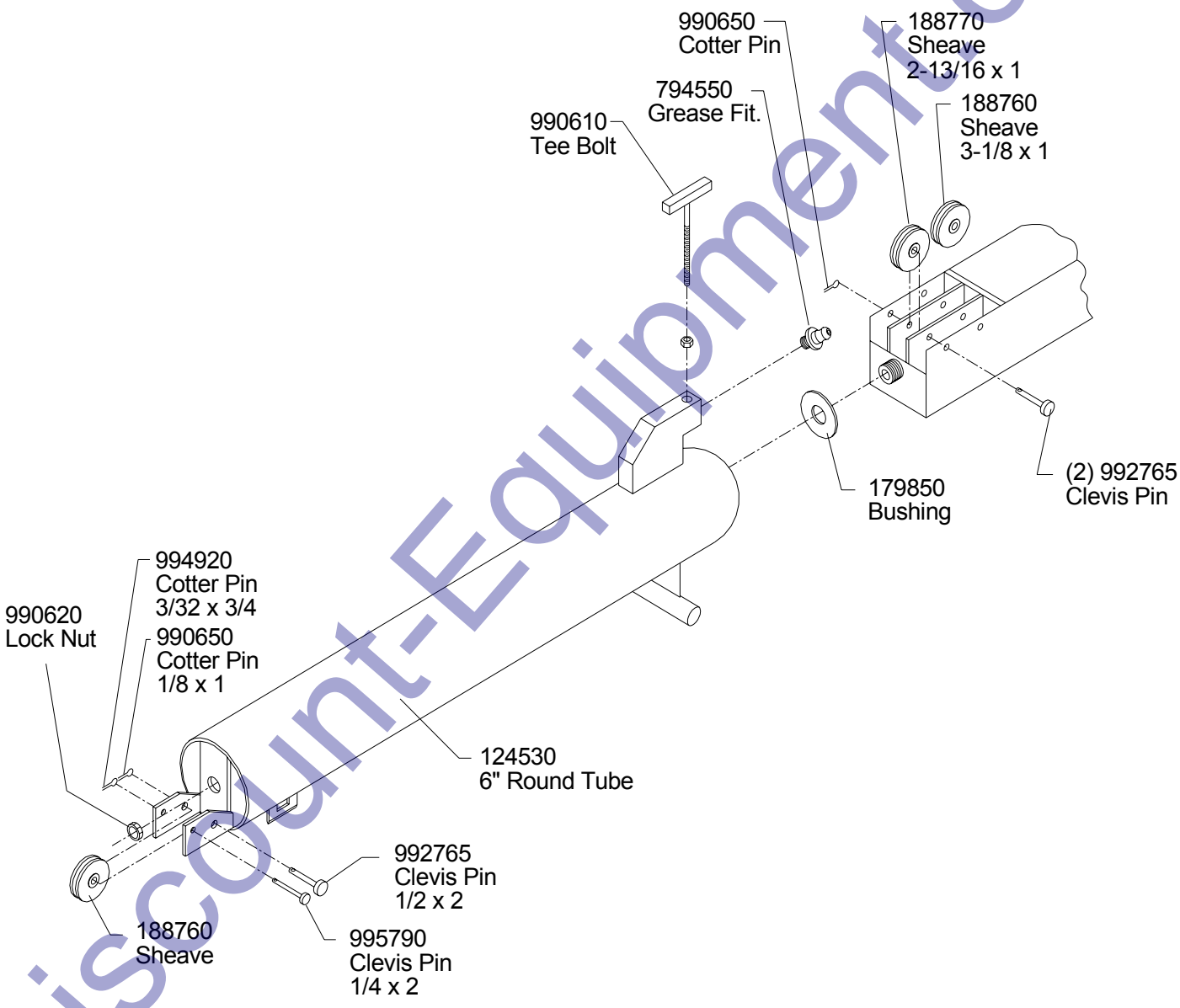

Orientation of Shims Inside Tube

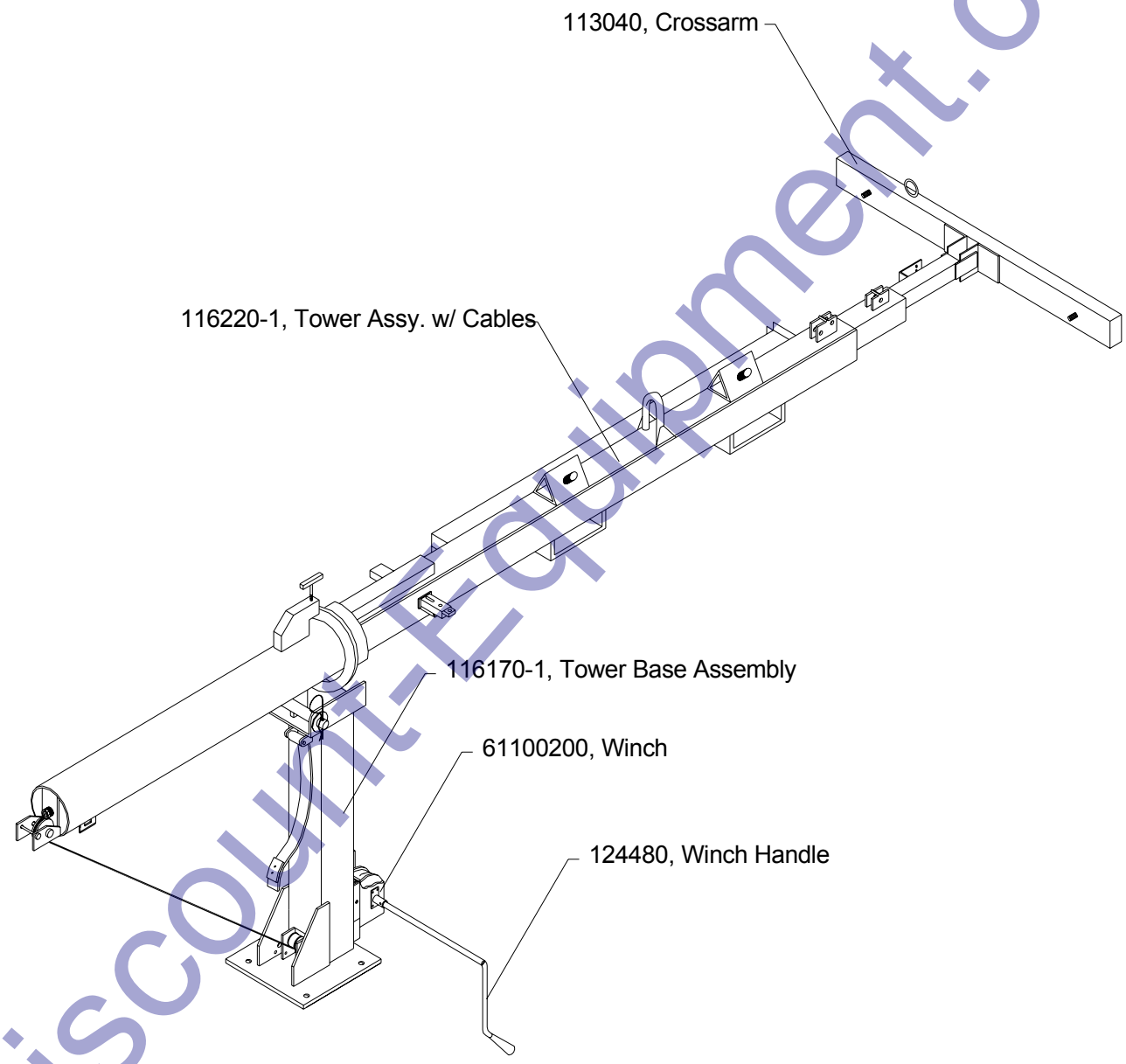


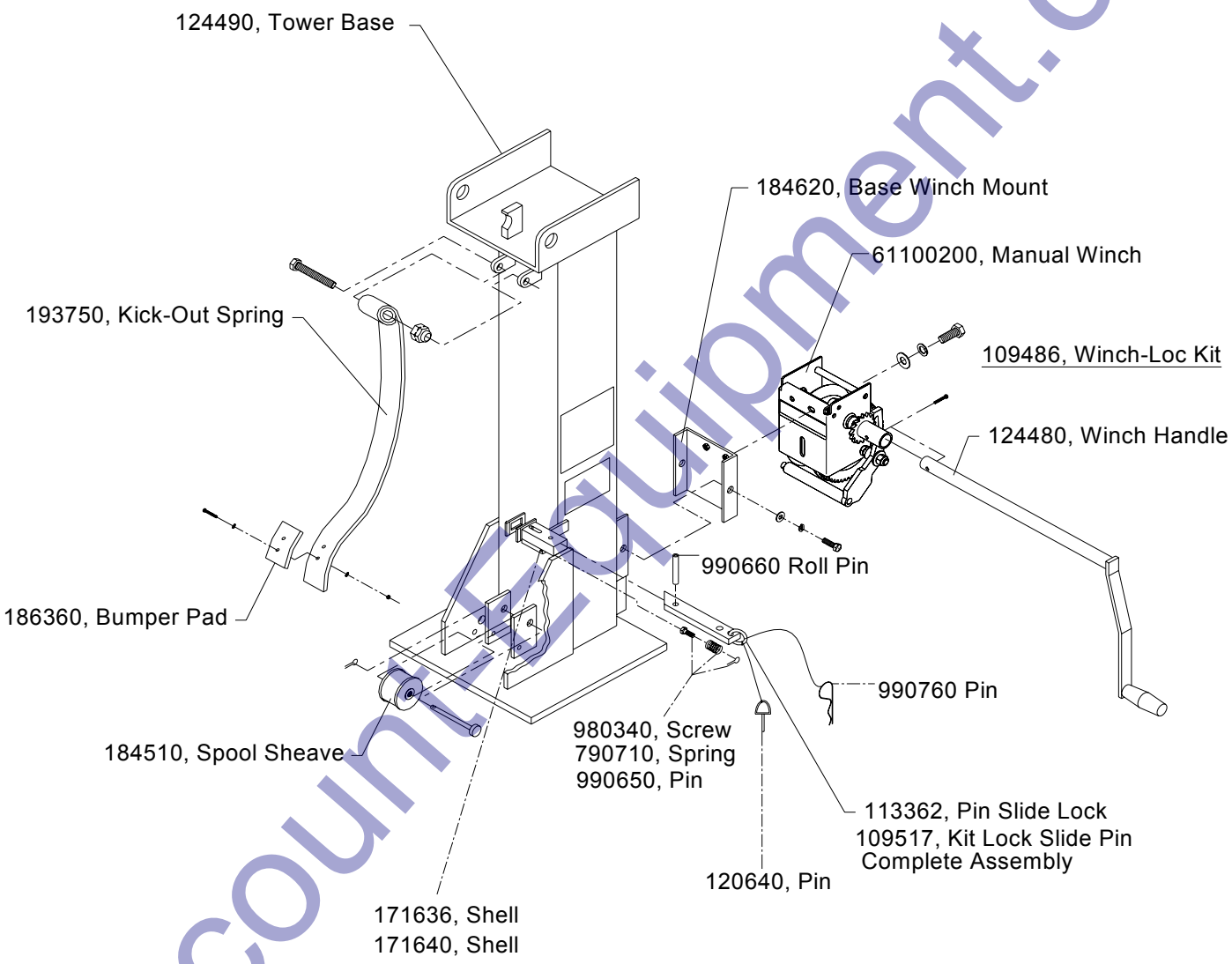

Orientation of Shims Inside Tube

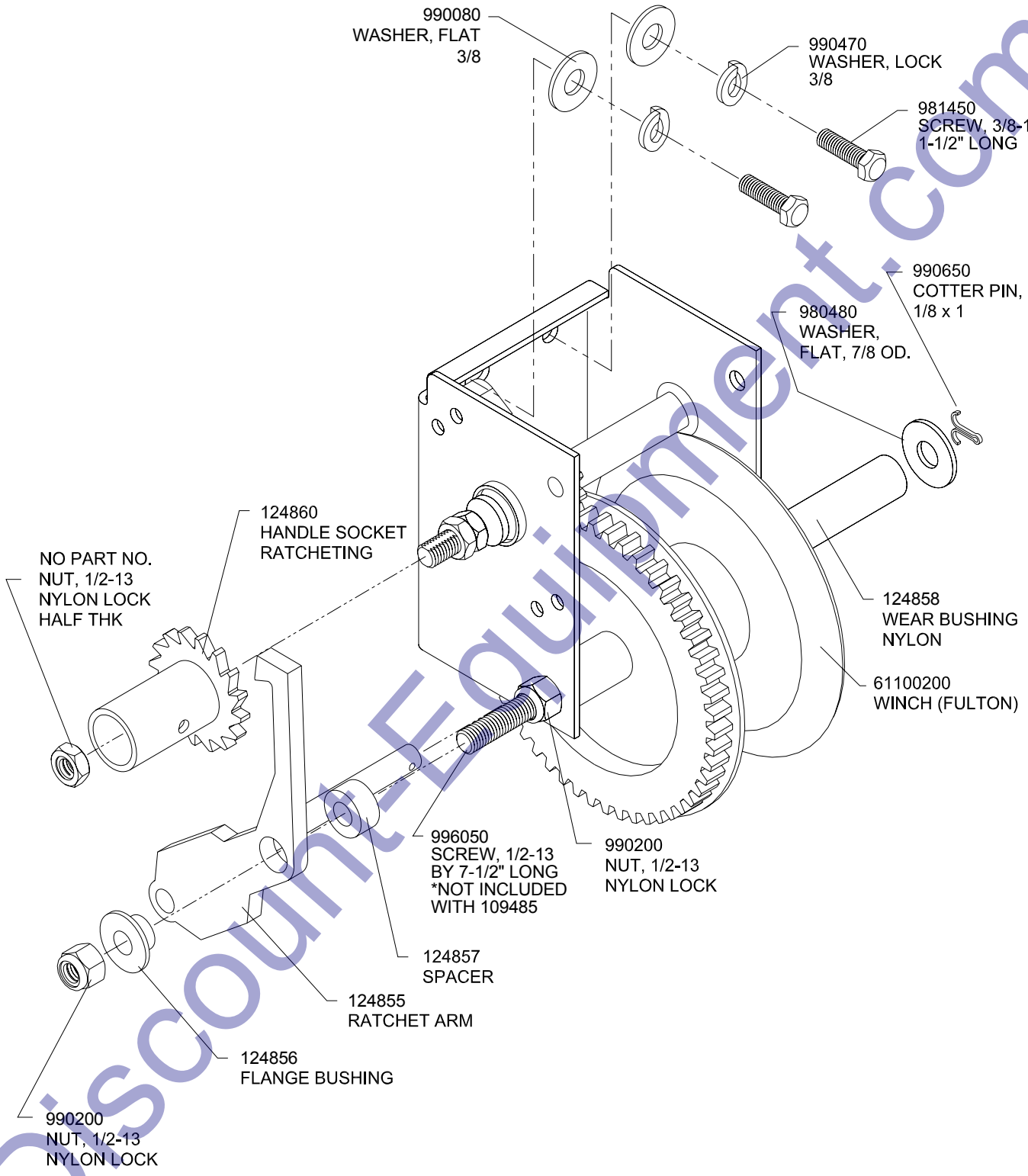






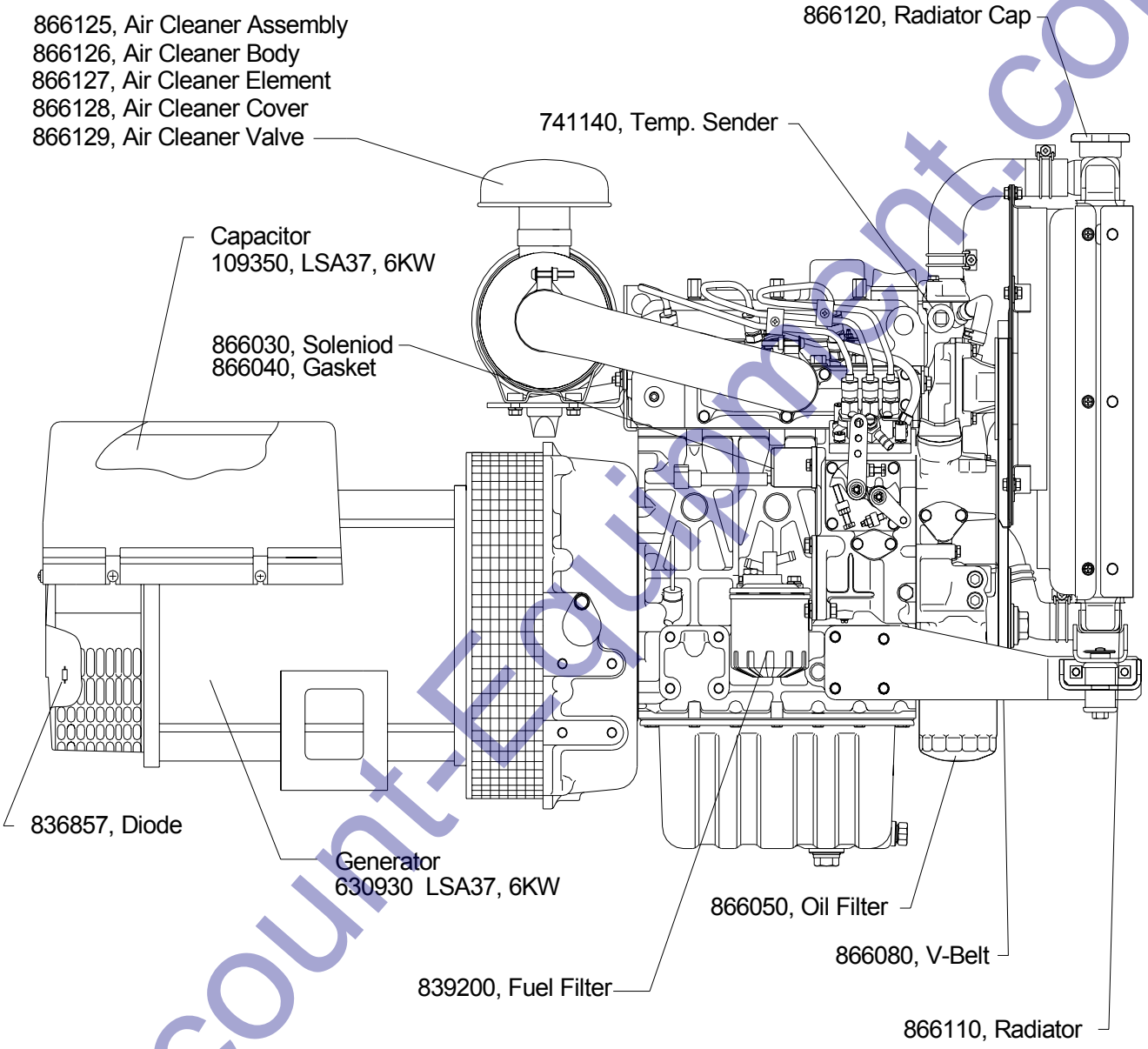






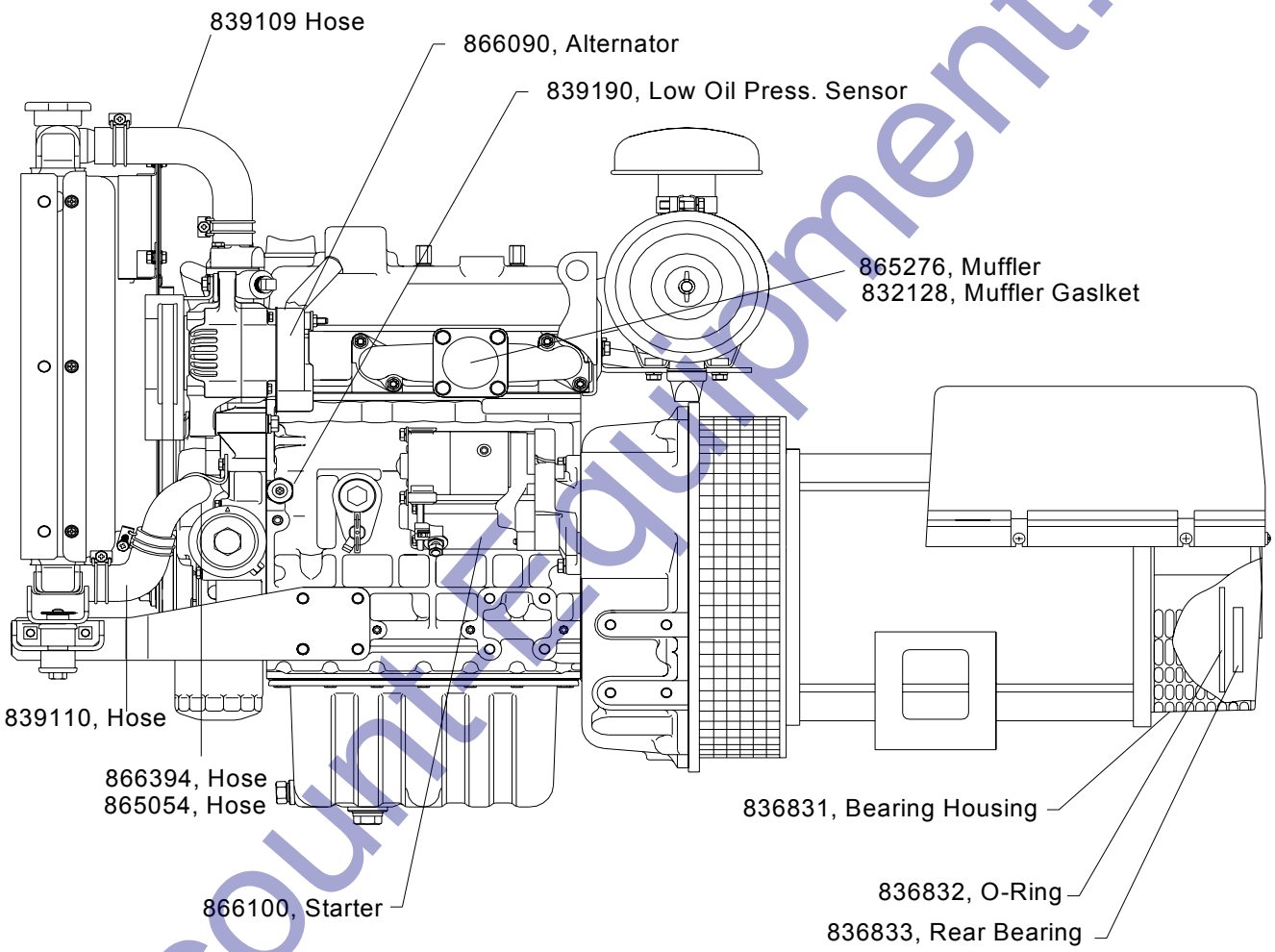

109485 WINCH SAFETY-LOC SYSTEM (INCLUDES NEW WINCH)
109486 WINCH SAFETY-LOC SYSTEM (DOES NOT INCLUDE NEW WINCH)

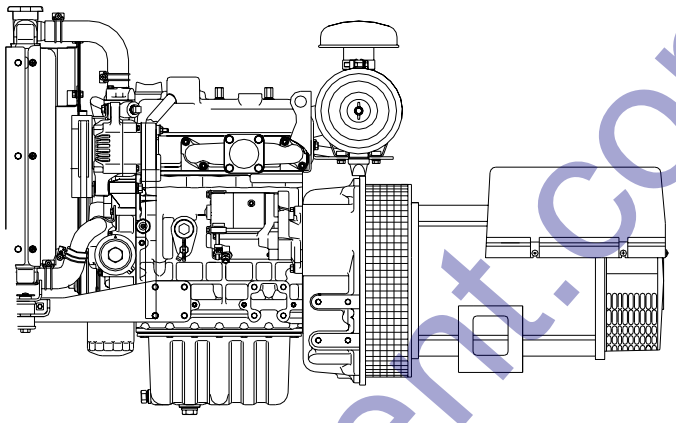
850107 SAFETY DECAL

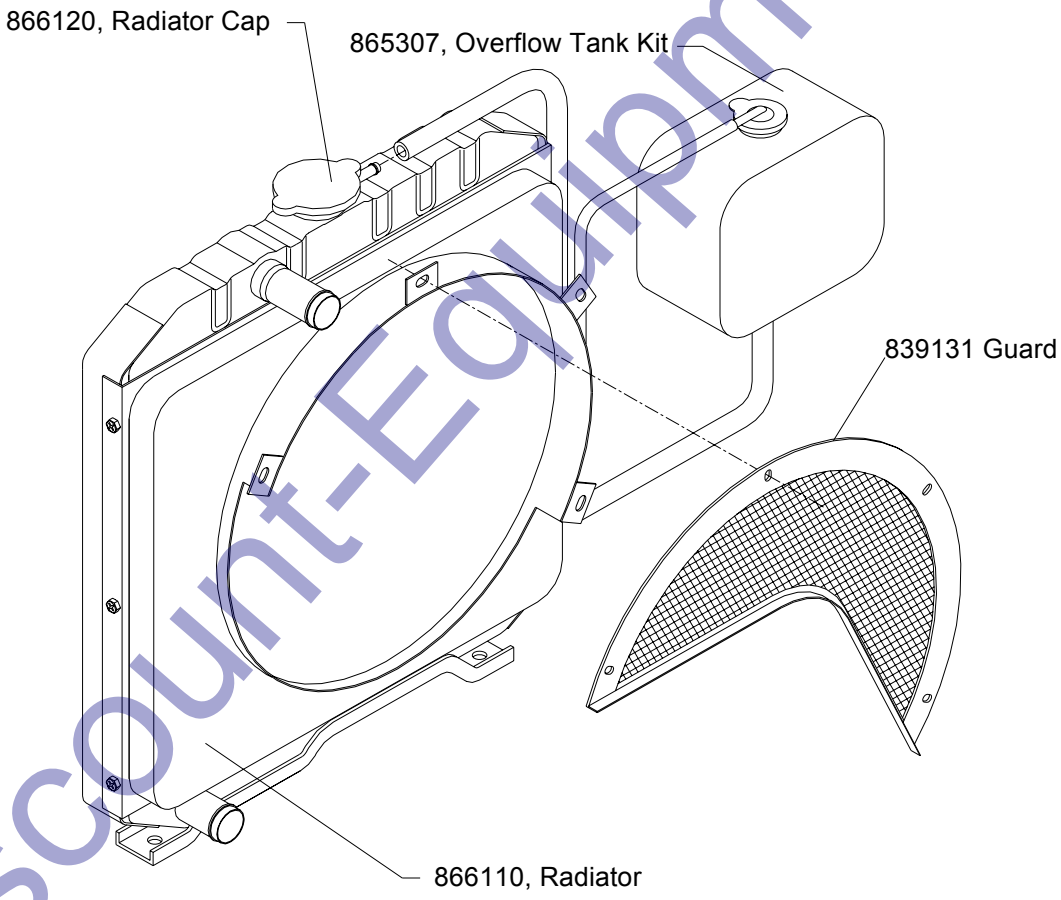


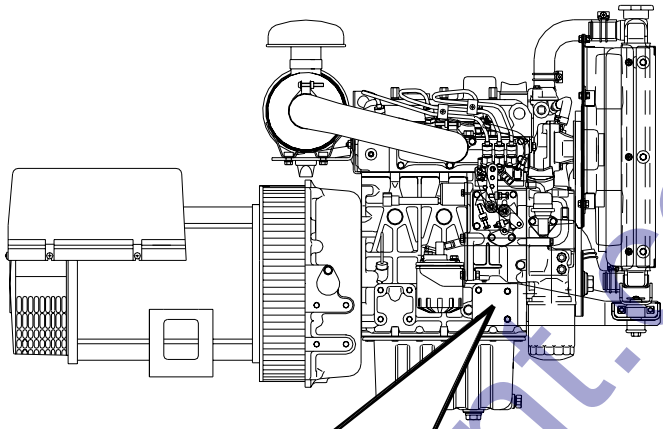

865223, Electric Fuel Pump
Mounted to Trailer Frame

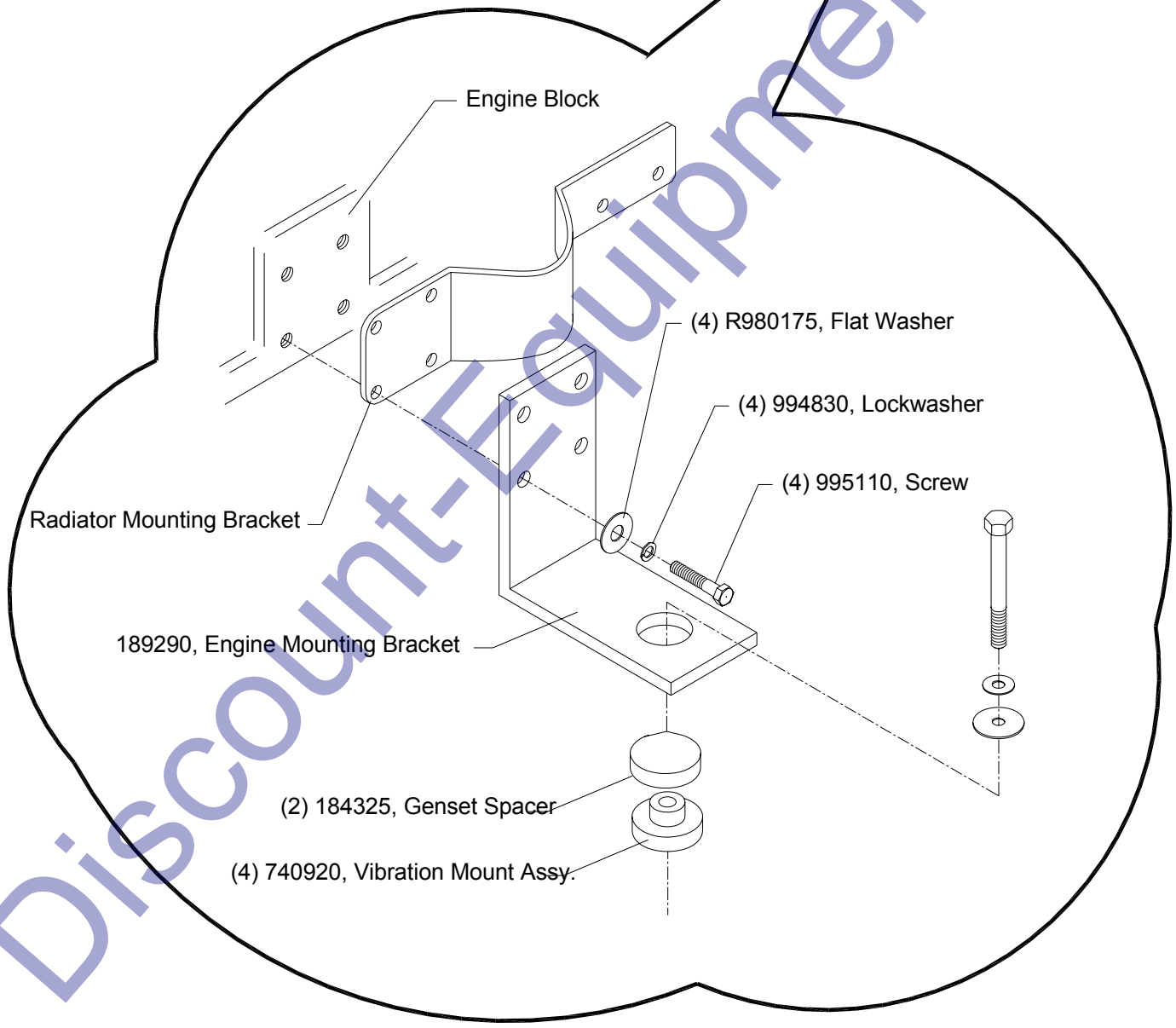
740620, In-line
Fuel Filter

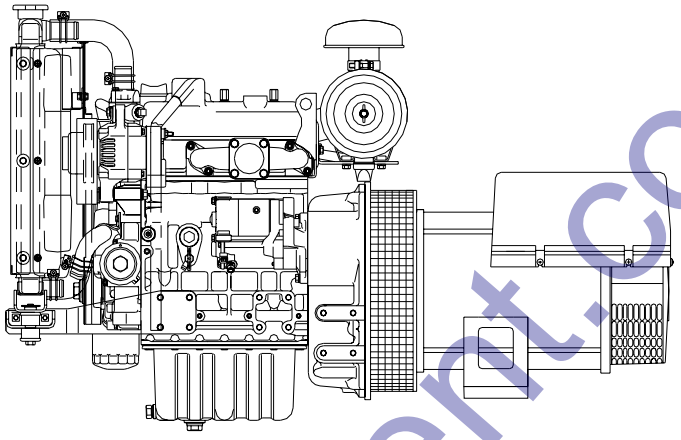


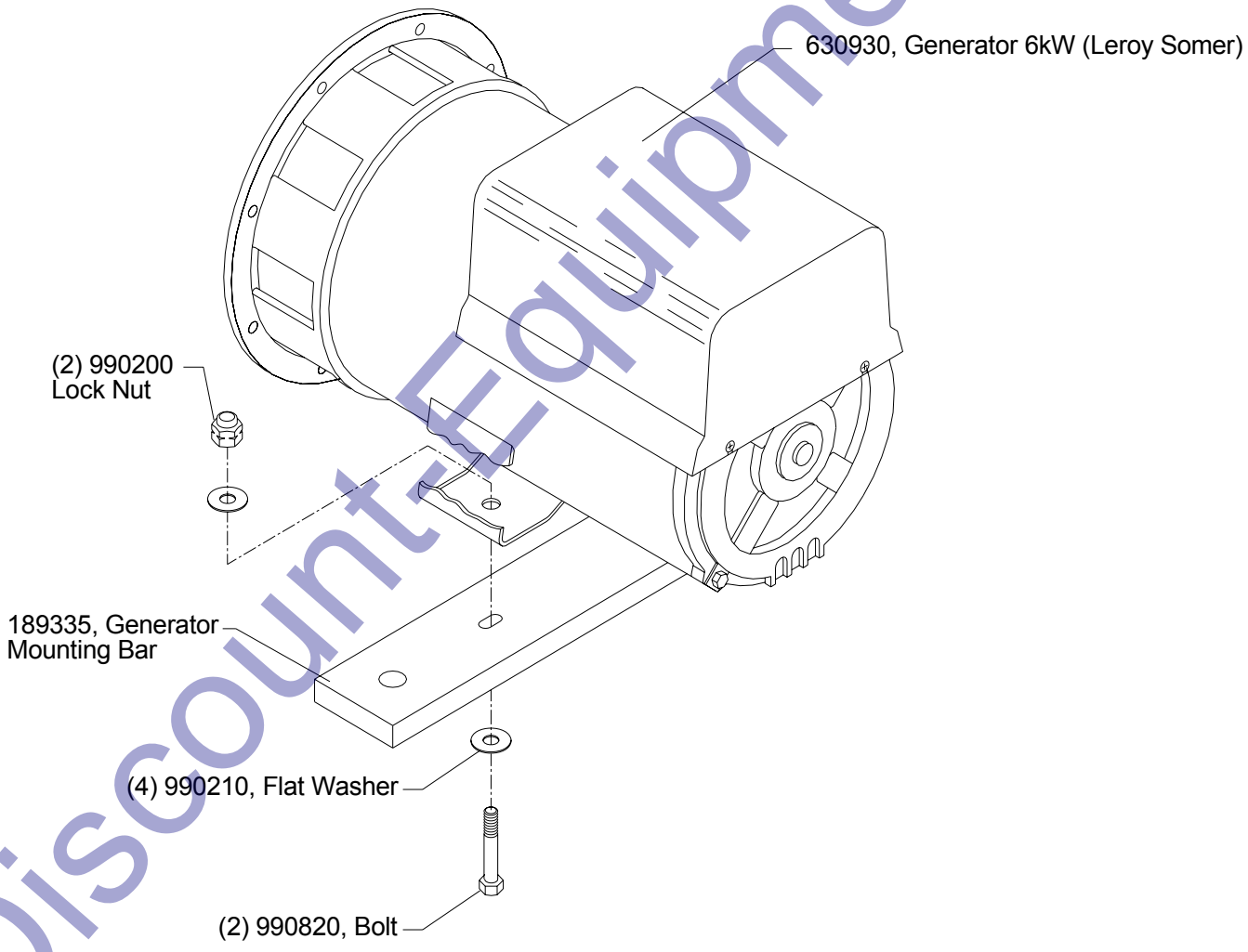


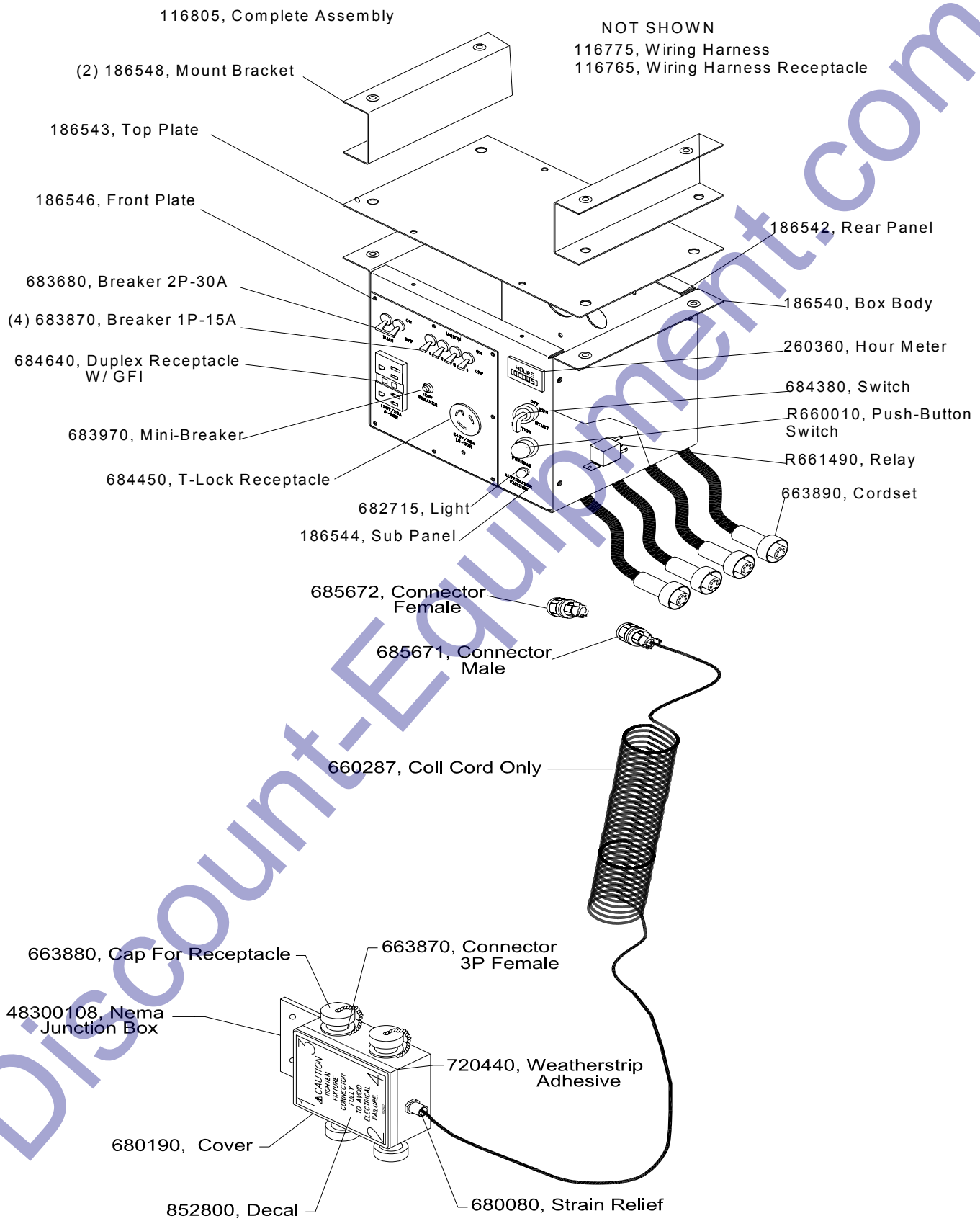




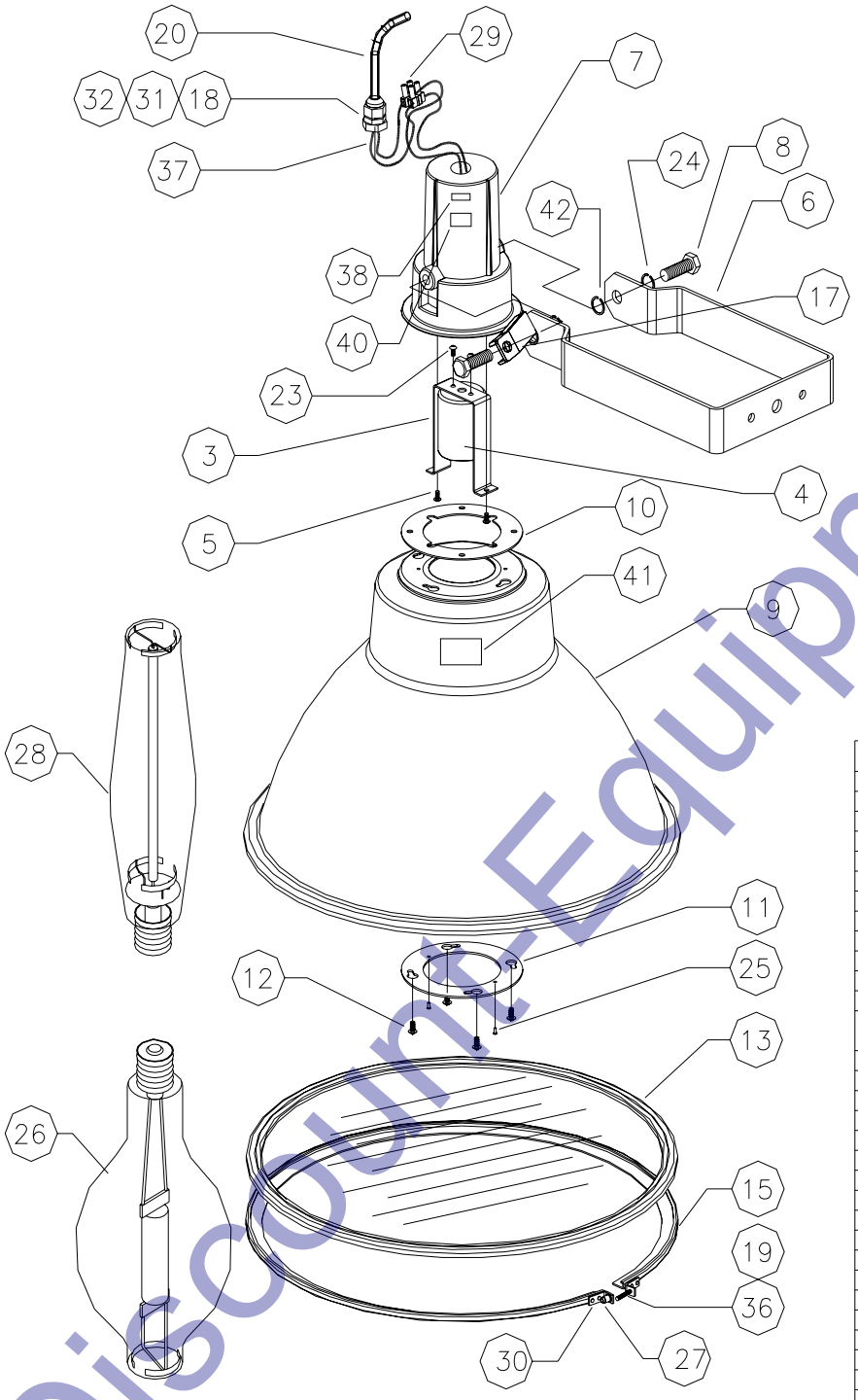




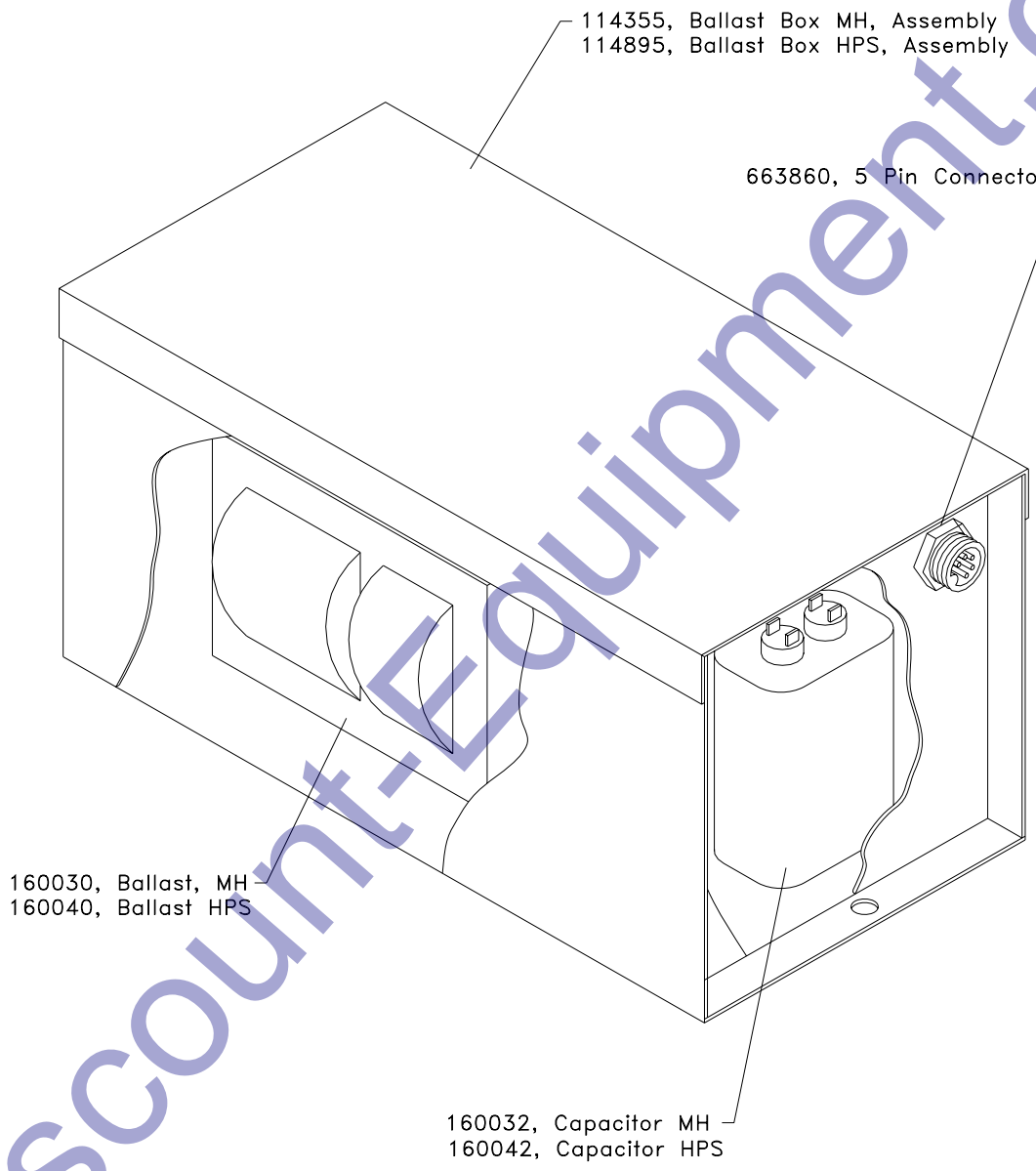


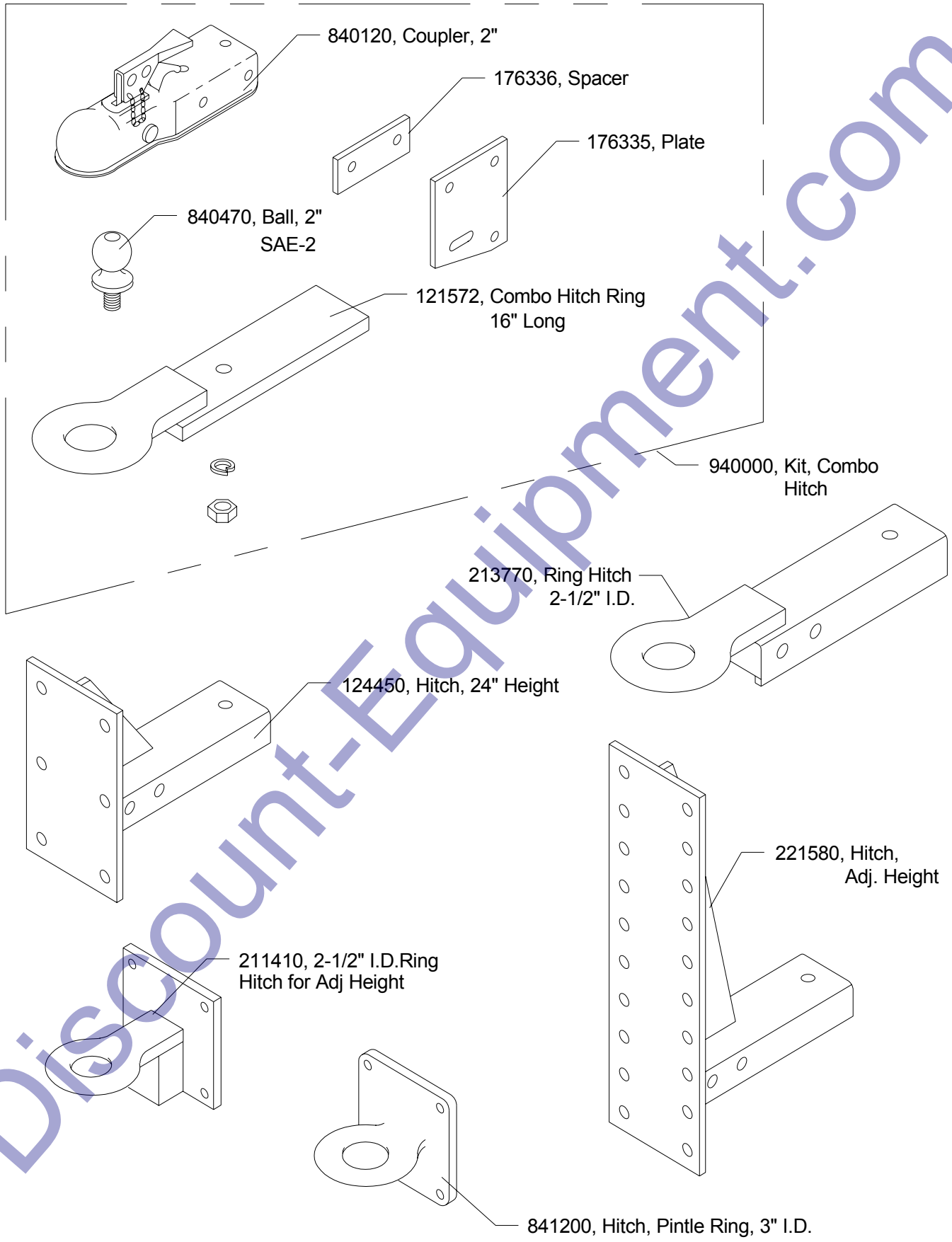


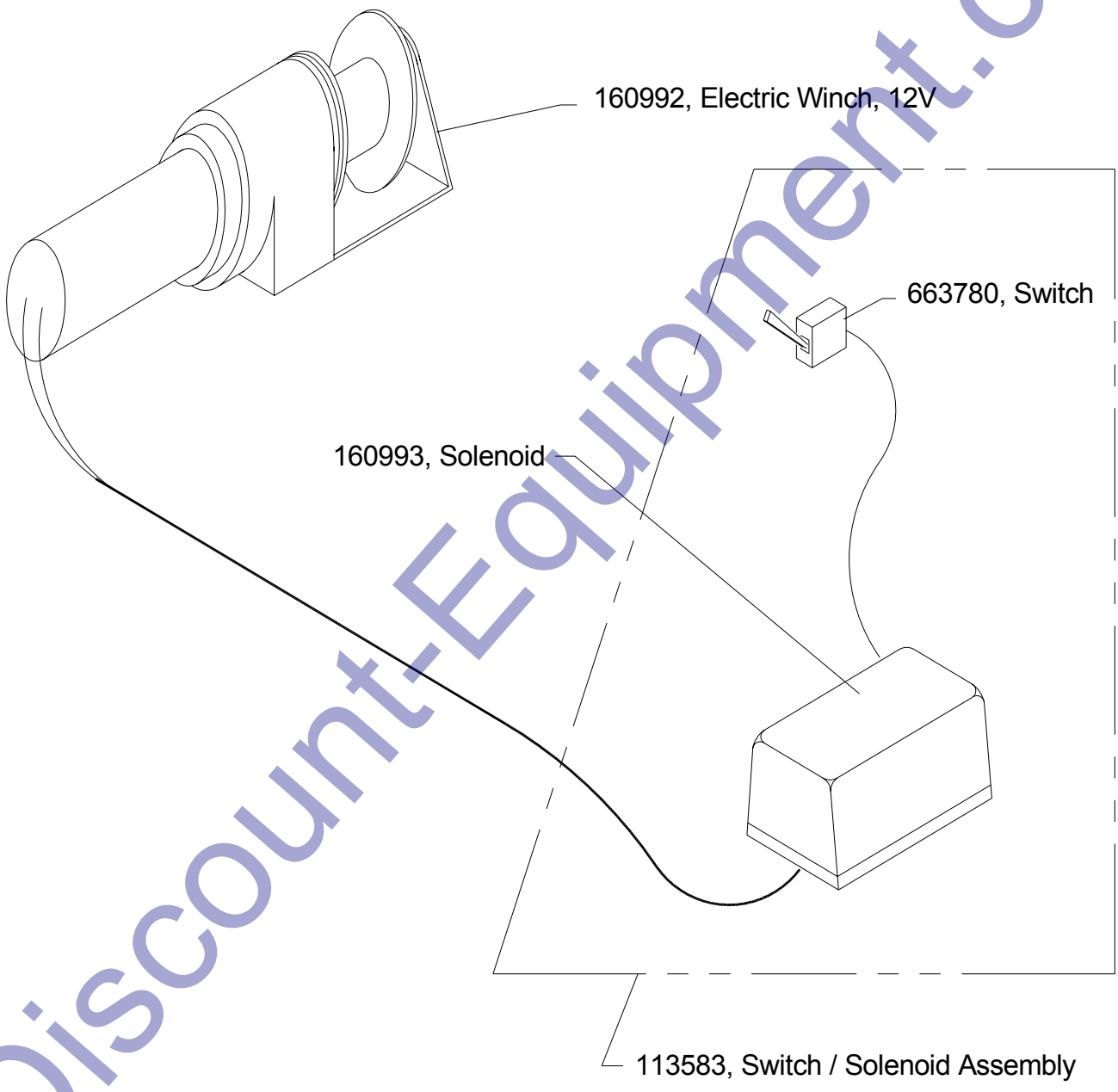
NOTE:
FOR COMPLETE MH ASSEMBLY
ORDER PART# 41100720

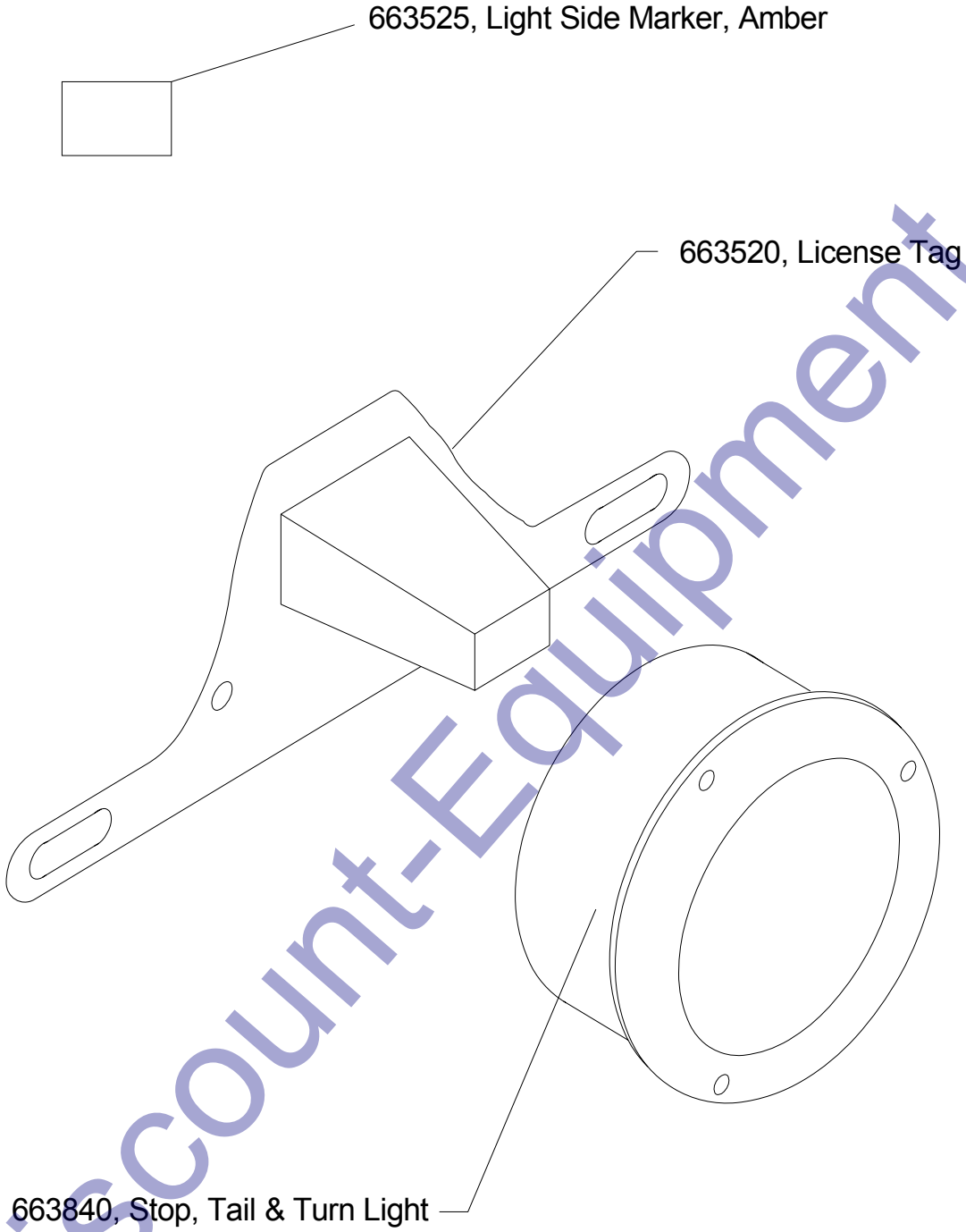



| TEREX PART# | # | DESCRIPTION | QTY. |
|---|---|---|---|
| | | | |
| | | | |
| 833563 | 3 | SOCKET BRACKET (T&B 057-05-80643) | 1 |
| 833564 | 4 | SOCKET MOGUL BASE W/ WIRES | 1 |
| 833565 | 5 | SCREW 8-32 x 3/8" PH PH TT ZC | 2 |
| 833566 | 6 | TRUNNION FOR GENERATOR | 1 |
| 833567 | 7 | HOUSING ALUM. CST. FOR GENERATOR | 1 |
| 990810 | 8 | BOLT 1/2-13 x 1-1/2" HH MS SS | 2 |
| 833568 | 9 | REFLECTOR 18" ALUM. PEENED | 1 |
| 833569 | 10 | GASKET HIF (T&B - B61178) | 1 |
| 833570 | 11 | REINFORCING RING (T&B - B60198) | 1 |
| 833571 | 12 | SCREW 10-24 x 5/8 HW SL TT | 4 |
| 833524 | 13 | VULCANIZED GASKET SILICONE - 1/8" LENS COMBINATION | 1 |
| | | | |
| 833543 | 15 | CLAMP BAND ø19.5" ALUMINUM | 1 |
| | | | |
| 833573 | 17 | HANDLE FOR 1/2-13 BOLT (DWG) (OPTIONAL) | 1 |
| 682470 | 18 | STRAIN RELIEF #2521 T&B | 1 |
| 833574 | 19 | SCREW 8-32 X 1 HH SL MS SS | 1 |
| 663850 | 20 | CORD #16-3 SIOW 105°C + 2 TERM. RING | 1 |
| | | | |
| | | | |
| 833577 | 23 | SCREW 8-32 x 5/8" FH PH MS ZC | 2 |
| 991650 | 24 | SPLIT WASHER 1/2 SS | 2 |
| 990675 | 25 | RIVETS ø1/8" ALUM. 3/16" LENGHT | 2 |
| 160071 | 26 | LAMP, 1000 WATT METAL HALIDE | 1 |
| 833578 | 27 | NUTSERT 8-32 X ø1/4" X 13/32" LENGHT | 1 |
| 160140 | 28 | LAMP, 1000 WATT HP SODIUM (OPT.) | 1 |
| 709034 | 29 | EURO CONNECTOR TERMINAL STRIP | 2 |
| | | | |
| 683950 | 31 | SEAL RING .755" ID - EPDM | 1 |
| 680020 | 32 | LOCKNUT 1/2 | 1 |
| | | | |
| | | | |
| | | | |
| 833581 | 36 | FIBER WASHER | 1 |
| 833582 | 37 | FIBERGLASS SLEEVE 2-1/2" | .5 |
| 833583 | 38 | LBL WET LOCATION/EXTERIEUR | 1 |
| | 39 | | |
| 833584 | 40 | LBL 105C SUPPLY COND. | 1 |
| 833585 | 41 | LBL FIXTURE CSA - NRTL/C | 1 |
| 995970 | 42 | WASHER 1/2 EXTER. TOOTH LOCK SS | 2 |



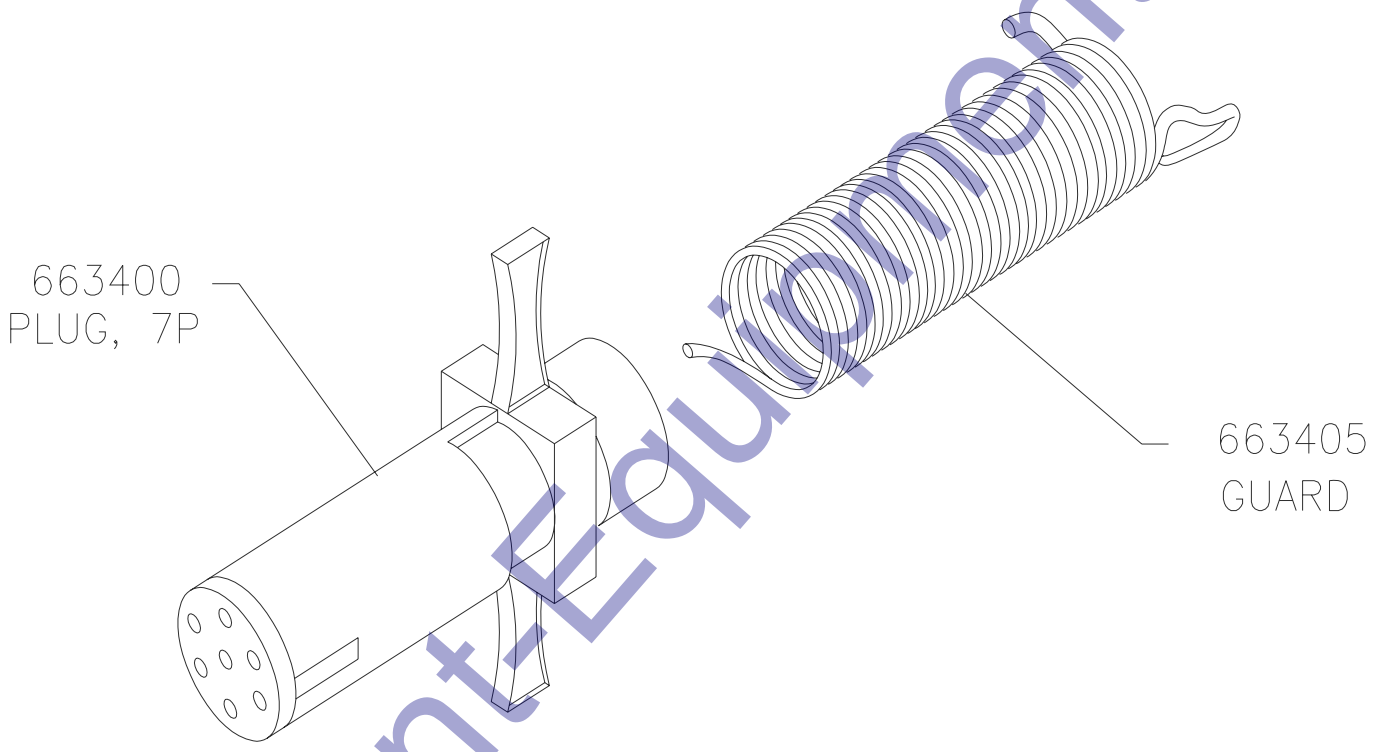




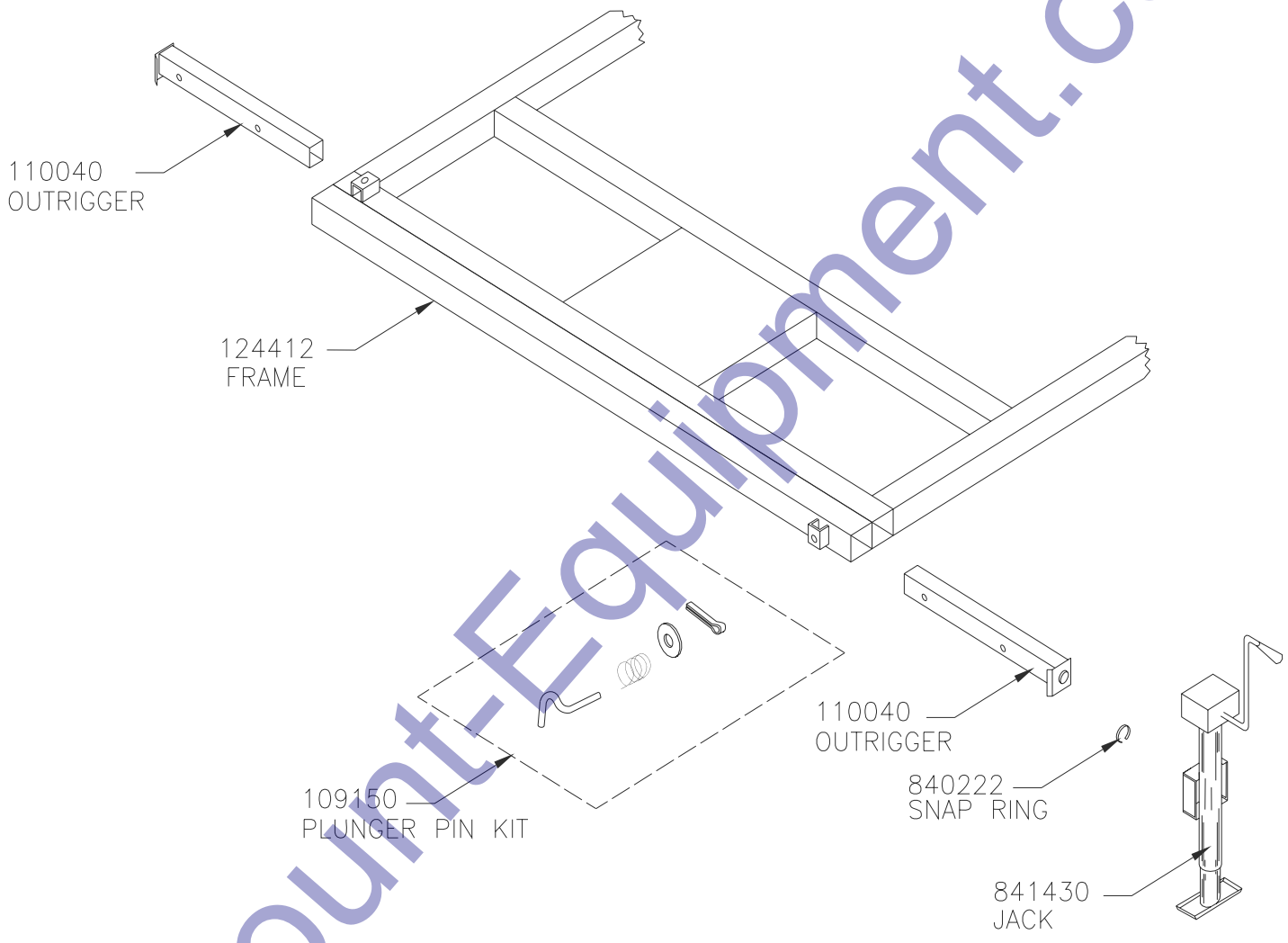


| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: OLTX0270 |
|---|---|---|
| | Title: 12V DOME LIGHT WITH SWITCH | |

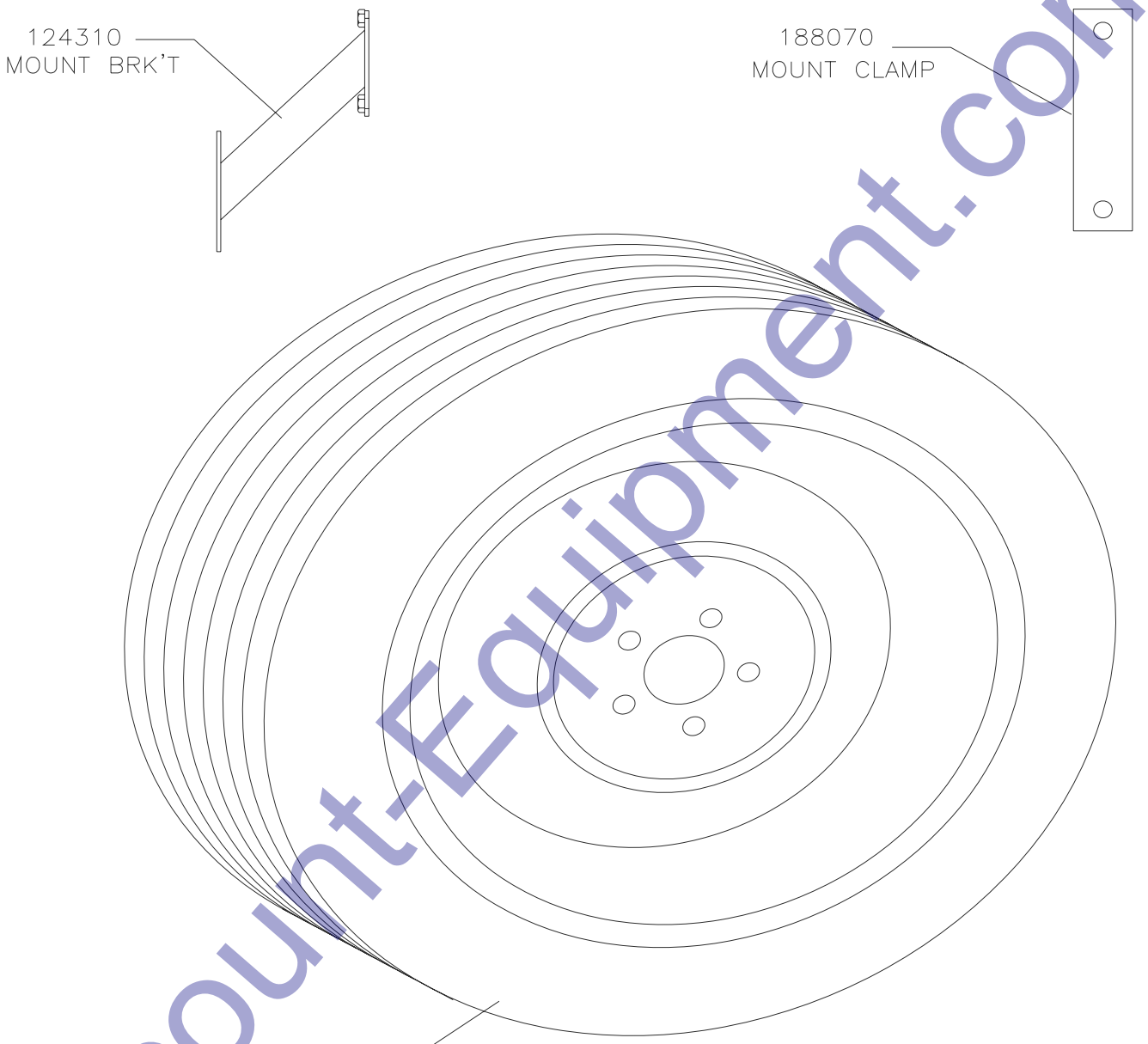
| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: OLTX0180 |
|---|---|---|
| | Title: 7 POLE CONNECTOR FOR LIGHTS | |



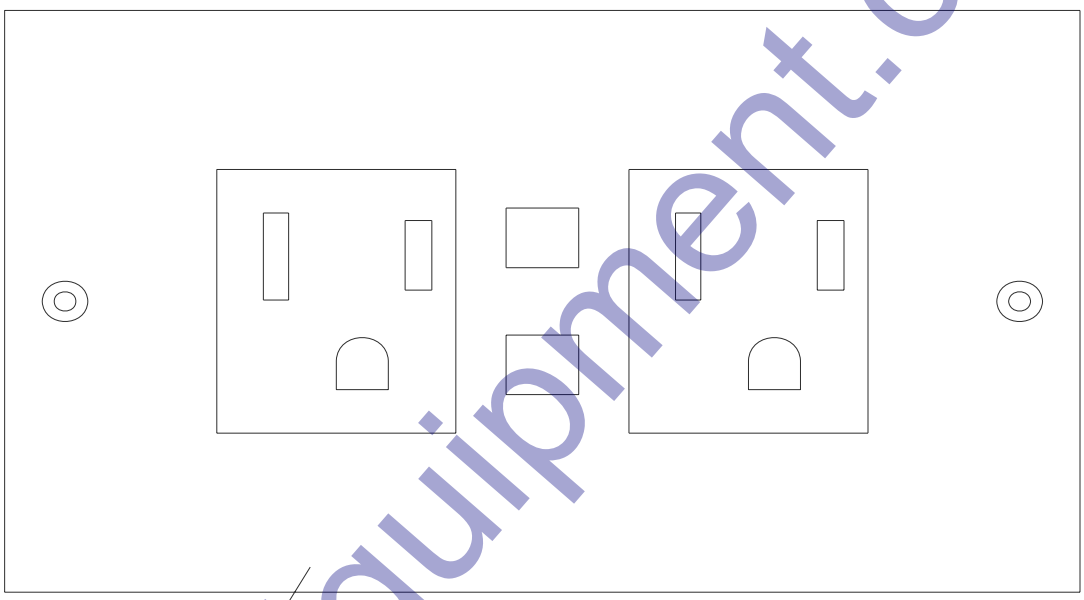
| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: OLTX0540 |
|---|---|---|
| | Title: FOUR OUTRIGGERS AND JACKS | |



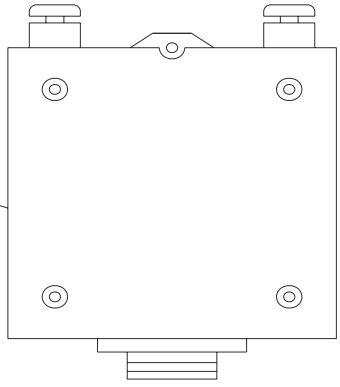
| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: OLTX0261 |
|---|---|---|
| | Title: SPARE TIRE AND WHEEL | |



| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: 0LTX0210 |
|---|---|---|
| | Title: EXTRA GFI DUPLEX RECEPTACLE | |

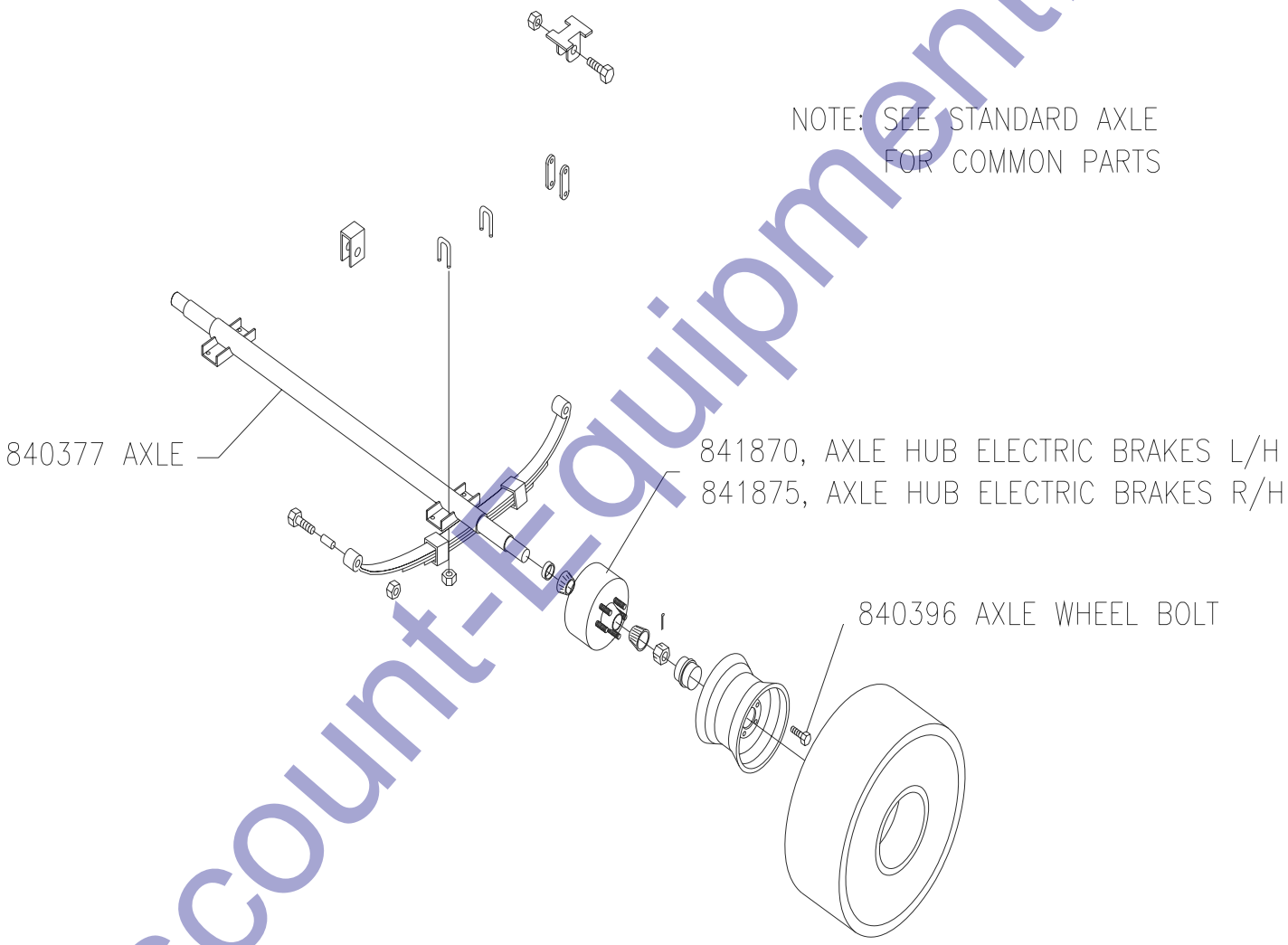


684640
RECEPTACLE, 20A, 120V DUPLEX W/ GFI



683970
BREAKER, MINI, IP/20A

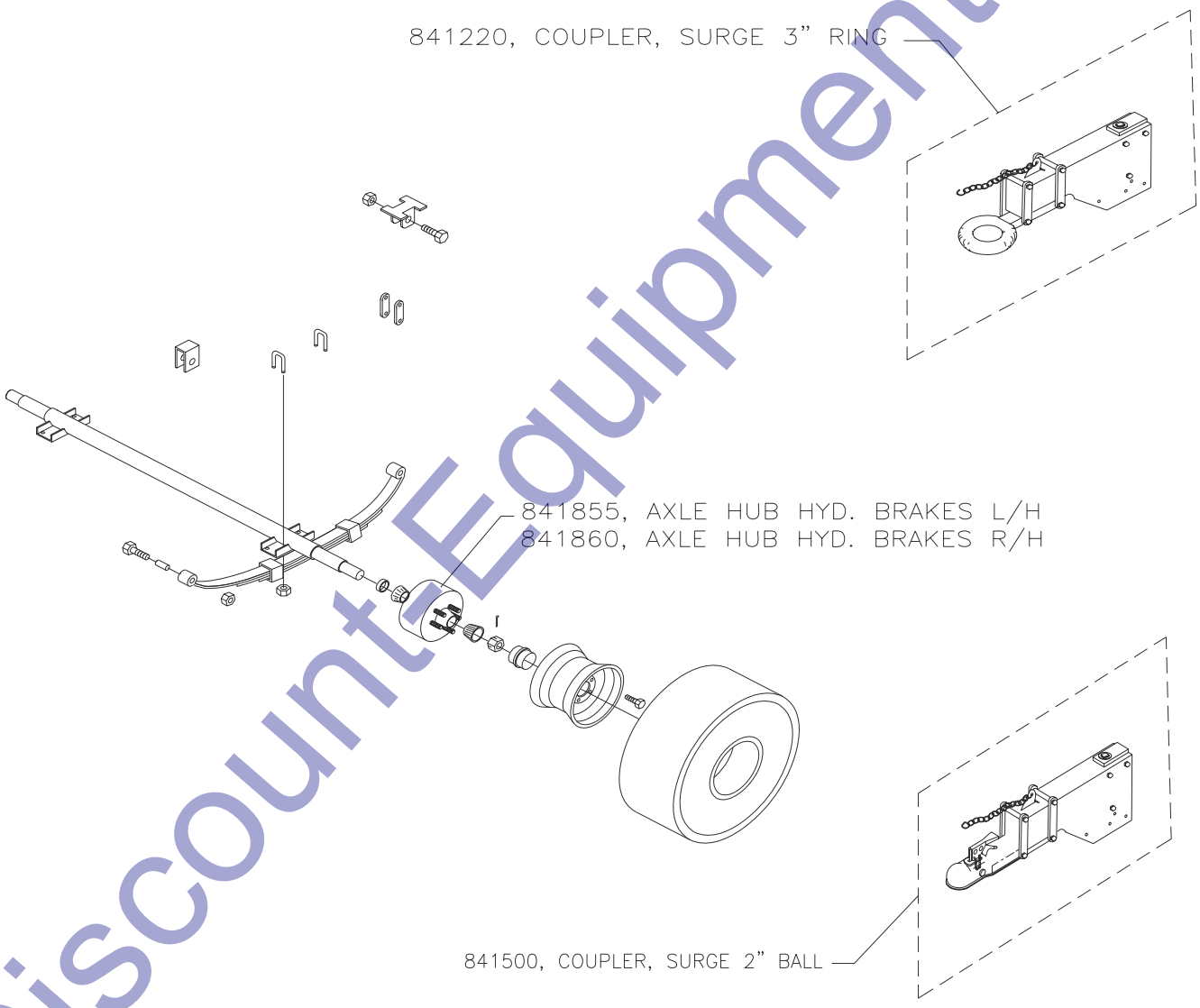
| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: 0LTY0315 |
|---|---|---|
| | Title: ELECTRIC TRAILER BRAKES | |



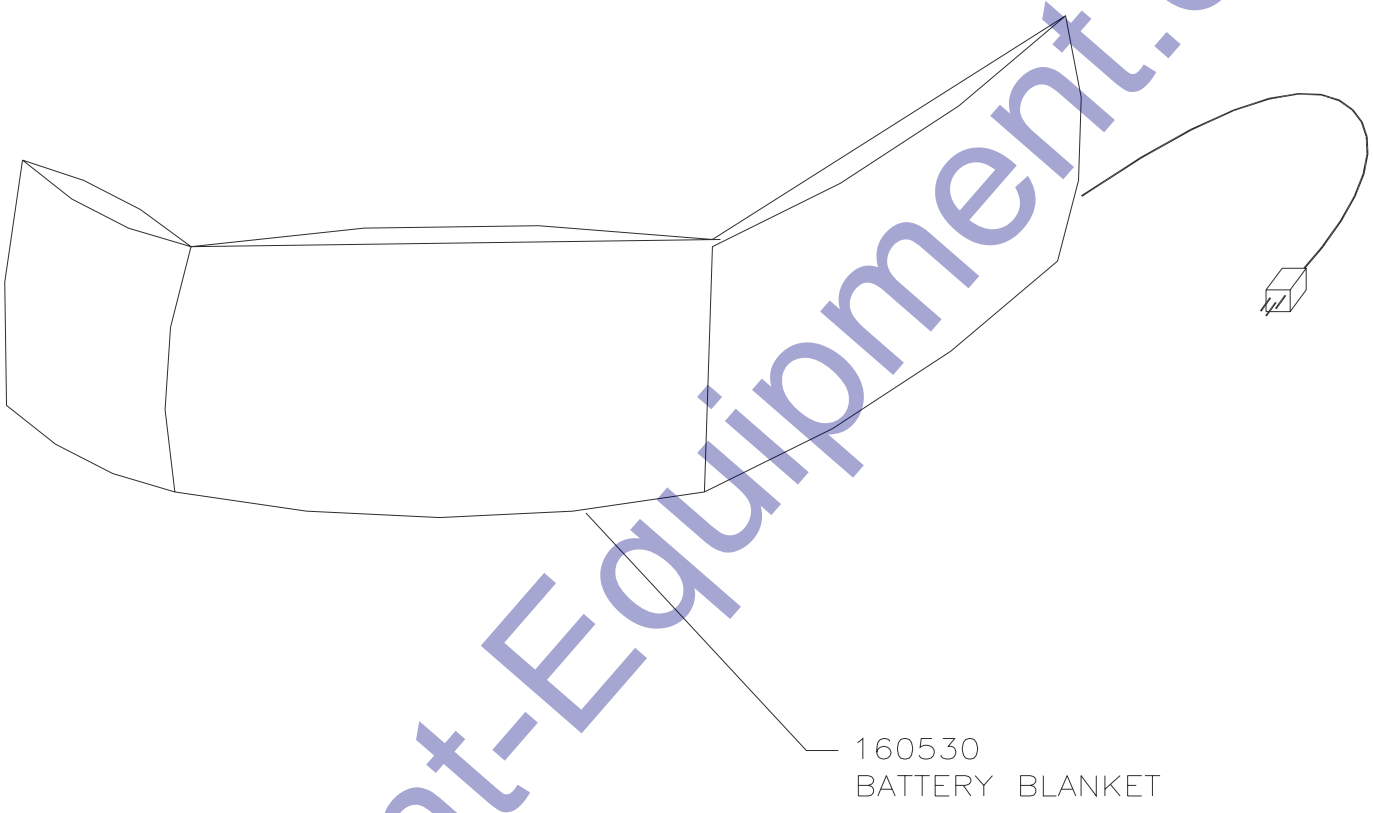
| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: OLTY0314/316 |
|---|---|---|
| | Title: AXLE WITH SURGE BRAKES | |

NOTE: SEE STANDARD AXLE FOR COMMON PARTS

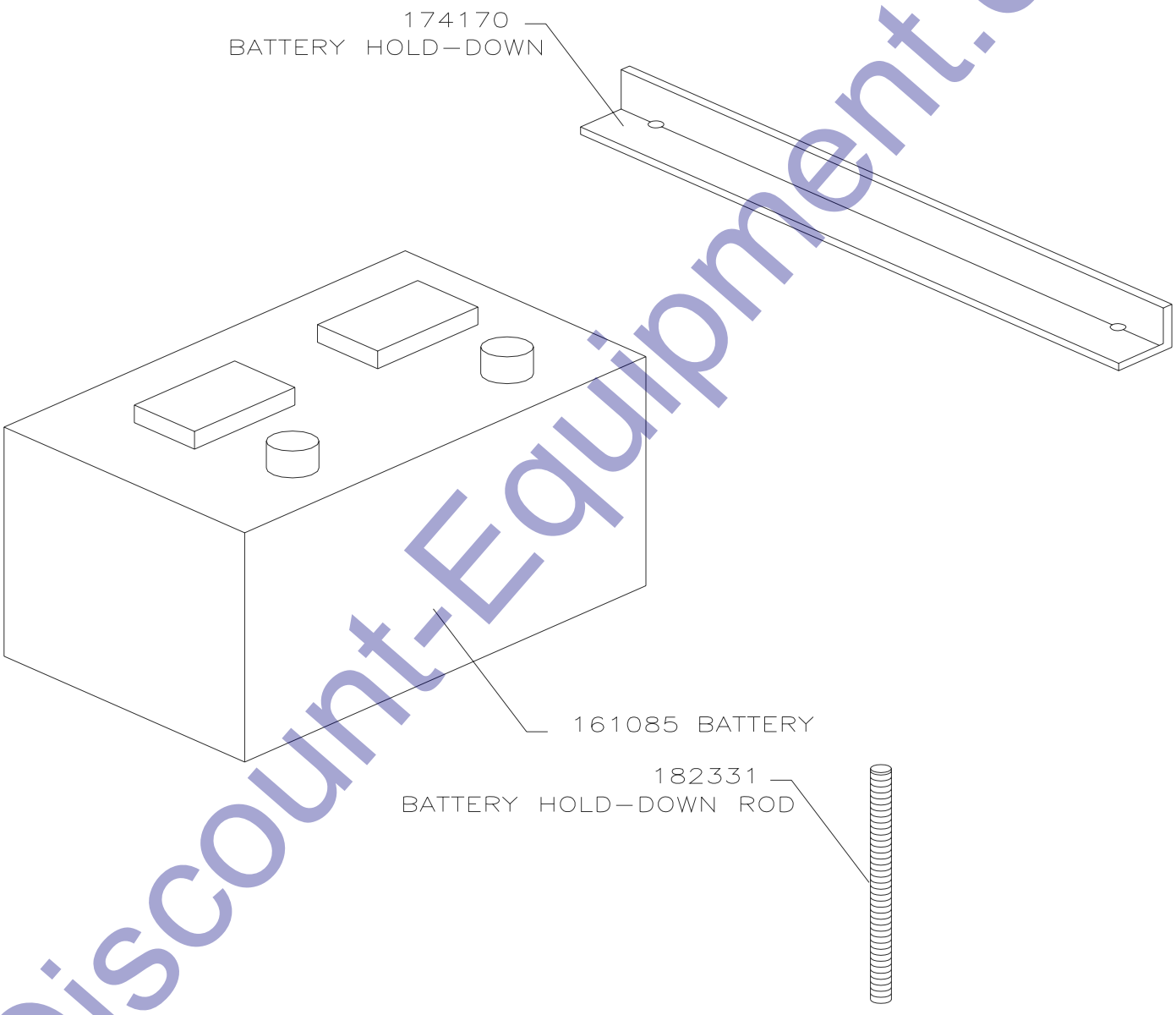
841480, KIT: BRAKE LINES AND FITTINGS (NOT SHOWN)



| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: 0LTX0130 |
|---|---|---|
| | Title: BATTERY BLANKET | |



| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: OLTX0222 |
|---|---|---|
| | Title: BATTERY 700 AMP | |



| TEREX LIGHT CONSTRUCTION | Model: AL4000 LIGHT TOWER | Option: OLTX0140 |
|---|---|---|
| | Title: FUEL LINE HEATER | |