

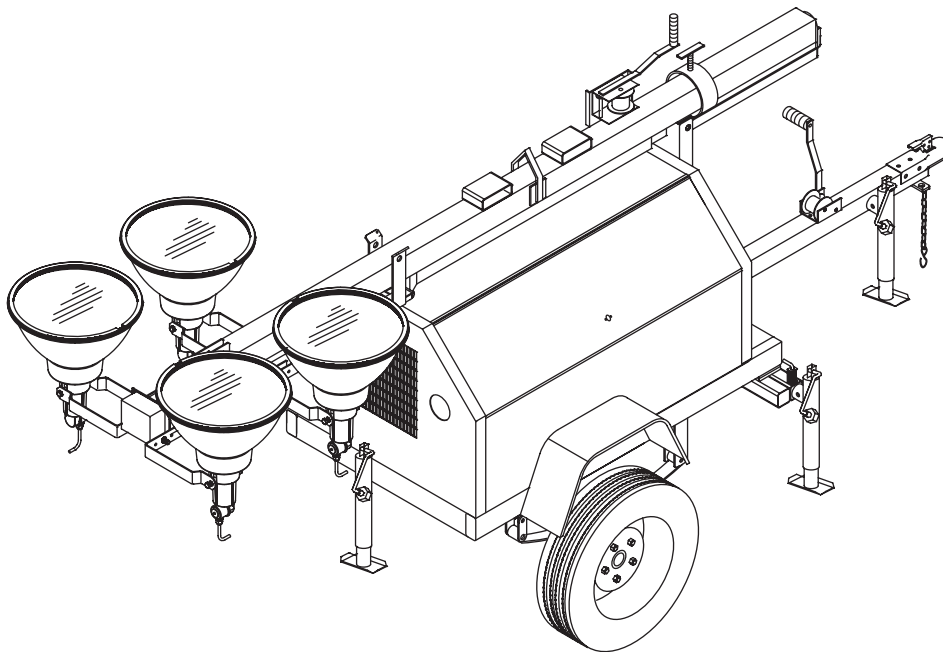


**TEREX**

# **OPERATOR/SERVICE & PARTS MANUAL**

**Series RL4000D2  
Light Tower**

**PART NUMBER 833005  
REVISION A  
November 2006**



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## TO THE OPERATOR

**DO NOT ATTEMPT TO SETUP, OPERATE, OR WORK ON THE LIGHT TOWER UNLESS YOU HAVE READ AND STUDIED THIS MANUAL AND THE ENGINE AND GENERATOR MANUALS CAREFULLY. READING THESE MANUALS WILL TEACH YOU HOW TO SAFELY SETUP, OPERATE, AND PROPERLY MAINTAIN THE TOWER AND ITS COMPONENTS.**

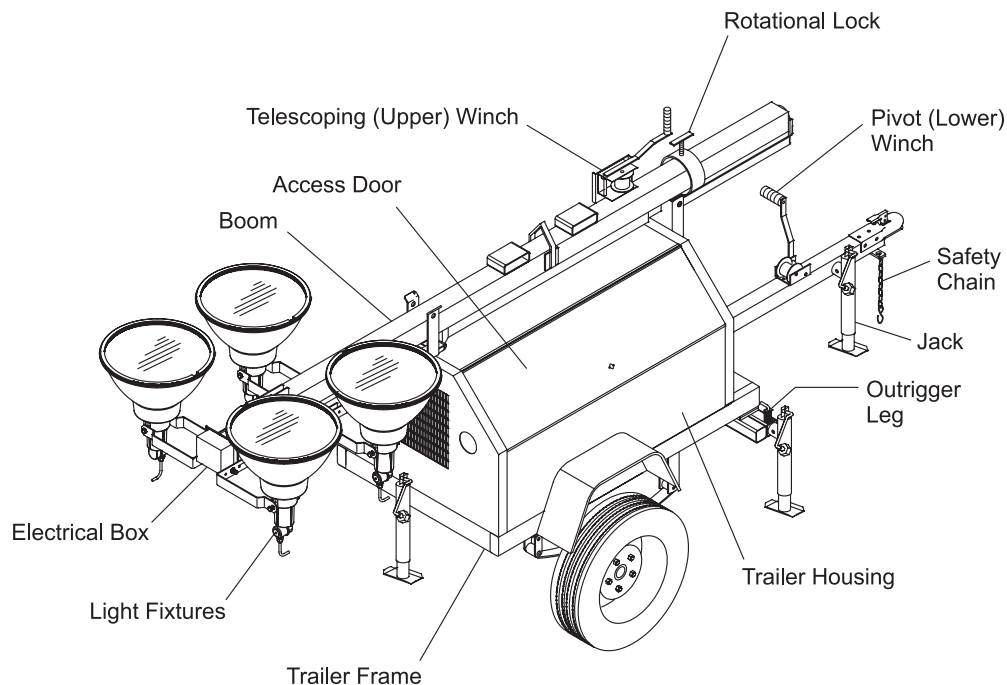
**REMEMBER THAT YOU ARE THE KEY TO SAFETY. GOOD SAFETY PRACTICES NOT ONLY PROTECT YOU, BUT ALSO THOSE WORKING AROUND YOU. MAKE THIS MANUAL A WORKING PART OF YOUR SAFETY PROGRAM.**

An operator should never use drugs, alcohol or any other substance which can change his alertness or coordination.

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

This manual is compiled from information available and current at time of approval for printing. Terex reserves the right to improve its products without giving prior notice or incurring any obligation.

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



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## SAFETY ALERT SYMBOLS

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**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 RL4000 LIGHT TOWER WITHOUT READING THIS OPERATOR'S MANUAL.**

**DO NOT WORK ON OR OPERATE THE LIGHT TOWER WHILE UNDER THE INFLUENCE OF PERFORMANCE IMPAIRING DRUGS OR ALCOHOL.**



### **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**

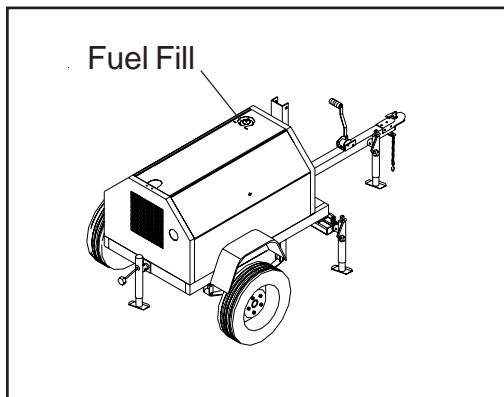
### **▲ WARNING**

**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

**ALWAYS** 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.

### **⚠ CAUTION** 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.

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## GENERAL SAFETY

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### **WARNING**

**EXHAUST GASES ARE TOXIC. DO NOT USE INDOORS UNLESS PROPERLY VENTILATED OR AN EXHAUST SCRUBBER IS USED.**

Check exhaust system regularly for leaks and ensure that the exhaust manifolds are secure and not warped.

Make sure the unit is well ventilated.

### **WARNING**

#### **ELECTRICAL SAFETY**

This equipment utilizes high voltage circuits. Always exercise extreme caution when trouble shooting or repairing any electrical circuit.

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.

#### **Always ground the unit when possible.**

A grounding lug has been added to the trailer frame for your convenience.

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

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

When troubleshooting indicates a malfunction in the high voltage AC system, pass the task to a qualified and trained electrician.

### **WARNING**

#### **DO NOT TOUCH HOT PARTS**

The exhaust manifold and tail pipe are very hot. Parts of the engine are also hot. Use protective gloves when handling hot parts.

The light fixtures become very hot during operations. To avoid burns, always allow any fixture to cool before handling.

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## GENERAL SAFETY

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### **⚠ WARNING** 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.

**DO NOT** smoke while servicing the battery.

**DO NOT** allow tools to touch battery terminals and create an arc.

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.

**DO NOT** remove the vent caps when charging the battery.

Always wear eye protection when servicing the battery.

If acid gets on skin or eyes, immediately flush under running water and obtain medical attention.

### **⚠ WARNING** METAL HALIDE LAMPS PRODUCE SHORTWAVE ULTRAVIOLET RADIATION AND CAN CAUSE SERIOUS SKIN AND EYE BURNS OR INFLAMMATION IF THE OUTER ENVELOPE OF THE LAMP IS BROKEN OR PUNCTURED.

**DO NOT** use where people will remain close to the lamps for more than a few minutes unless adequate shielding or other safety precautions are used.

### **⚠ WARNING** KEEP ALL BODY PARTS AND CLOTHING AWAY FROM MOVING PARTS

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

Only remove guards or protective devices from unit temporarily to gain access for maintenance. Always replace guards immediately after servicing. Never remove guards while unit is operating.

Keep your hands away from moving parts, particularly clear of the radiator fan and alternator belts when the engine is running.

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## GENERAL SAFETY

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### **⚠ CAUTION** BEWARE OF TRAFFIC HAZARDS

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

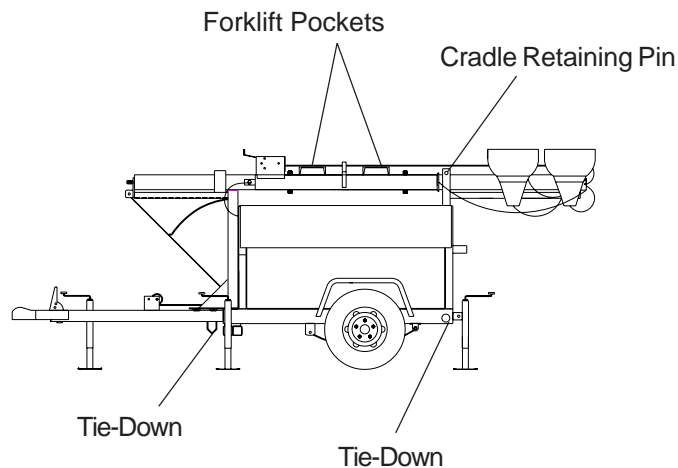
Check the fuel tank, oil pan, and fuel and oil lines for leaks that would spill fuel or oil on the road.

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

### **⚠ CAUTION** Be careful when lifting. Never suspend any other equipment from the shipping tie downs.

Use the lifting eye or forklift pockets on the tower for lifting the trailer and tower assembly only.

Make sure any tie-downs at the bottom of the trailer are released, and the cradle retaining pin is inserted and secured, prior to lifting.



### **⚠ WARNING** NEVER CLIMB ON TOP OF THE CABINET AND/OR TOWER WHEN ERECTED OR RETRACTED.

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## RECEIPT OF DELIVERY CHECKLIST

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The tower will be serviced, tested and ready for operation upon delivery. Terex recommends the following checks:

- Insure there is no freight handling damage which should be charged against the carrier.
- Make sure the telescoping boom is secure.
- Make sure the crosshead assembly is secure.
- Check the front and rear jacks for security and proper operation.
- Check the outriggers for security and proper operation.
- Check that the tires are not damaged, under inflated or that any lugs are loose.
- Check the engine/generator for obvious damage, loose connections, or leaks.
- Check the control panel for damage or loose connections.
- Check the boom wires for obvious damage or loose connections.
- Check the light fixtures for damage to the lamps, lenses, reflector or etc.
- Check the winches, cables and pulleys for damage and proper operation.
- Check the exhaust system for damage.
- Check all fluid levels; battery, radiator, and engine oils.
- Insure manuals are in the pocket provided inside the unit.

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## TRANSPORT & TOWING

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1. Using the front leveling jack, securely attach the light tower to the transporting vehicle.
2. Insure that the coupler is properly secured to the towing vehicle and attach the safety chains.

### **▲ WARNING**

**ALWAYS USE THE PROPER TRAILER HITCH AND SAFETY CHAINS. OBEY ALL LOCAL OR STATE D.O.T. LAWS WHEN TOWING A LIGHT TOWER.**

### **▲ WARNING**

**FAILURE TO PROPERLY SECURE THE TRAILER TO THE TOWING VEHICLE MAY RESULT IN SERIOUS INJURY OR DEATH.**

3. Retract and rotate the front leveling jack into its stowed position.
4. Check the tires for proper inflation (32psi) and verify the lug nuts are tight.
5. Position all outriggers and jacks into the stowed or travel position.
6. Verify that the fixtures are secure and ready for transport.
7. Secure all loose locking pins and retainers.
8. Make sure all doors are closed and tightly locked.
9. Remove tire chocks.

### **▲ CAUTION**

**Towing of a Terex light tower is approved with the light fixtures in place on the crosshead assembly for all off road terrain and highway towing as long as the following speed limits are followed:**

**Highway towing - 60 MPH max**

**Off road towing - 10 MPH max**

**Severe damage may occur from excessive speeds. Damage created by abuse will void the manufacturer's warranty.**



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## SETUP

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- A. Move the light tower to desired location keeping the following in mind:
1. The light tower should not be placed where those working under the light are either:
    - a. Forced to look into the light regularly.
    - b. Forced to work with their backs to the light (shadows will block the light from the work area).
  2. The area where the tower is positioned should be relatively level for safe and proper operation of the unit.
  3. The light tower should be located on the same level or on ground higher than the work area.
- B. Use tire chocks in front of and behind each tire whenever possible. Always use tire chocks on an incline.
- C. Disconnect the towing chain.
- D. Unhitch from the towing vehicle as follows:
1. Rotate the tongue jack into position (90 degrees), release the hitch pin and raise the tongue off the towing vehicle.
- E. Level the trailer, using the jacks as follows:
1. Extend the front outriggers until the outrigger pins lock into place. Rotate the jack on each outrigger into vertical position and lock into place.
  2. Rotate the rear jack and lock into the vertical position.
  3. Start at the highest jack position. Rotate the jack handle until the jack foot touches the ground.
  4. Raise the other jacks to level trailer.

**▲ WARNING**

**OUTRIGGERS ARE NOT DESIGNED TO LIFT THE TIRES OFF THE GROUND.**

**▲ CAUTION**

**Insure that all jacks are down to prevent the tower from tipping over backwards when raised.**

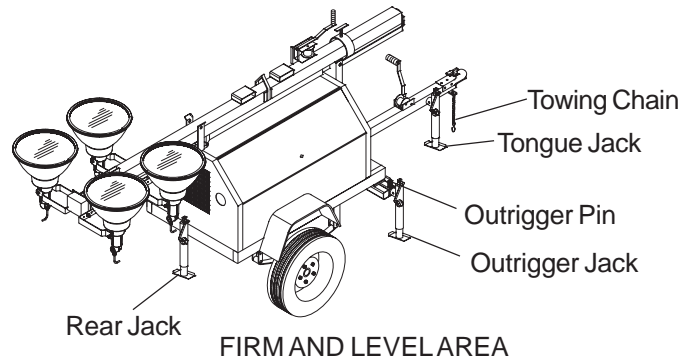
**▲ WARNING**

**NEVER ATTEMPT TO MOVE THE TOWER WHILE THE LEVELLING JACKS ARE DOWN. SERIOUS MACHINE DAMAGE WILL RESULT.**

## SETUP

F. When applicable, drive grounding rod into earth. (Grounding rod not included)

1. Drive the rod into the ground and secure the grounding wire to the lug located on the trailer frame.



G. When applicable, install the floodlights on the crossarm.

1. Remove the light fixtures from their packing boxes and install them on the crossarm with the lens facing upward as shown above.
2. 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 insures the water weep hole in the fixture is down).
3. Set the vertical aim for each light fixture by adjusting the light fixtures and tightening the nuts.

### NOTICE

**Never adjust fixtures with power on.**

4. Set the spread between the fixtures horizontally by adjusting the fixtures and tightening the mounting nut.
5. The light fixtures may be left on the unit when towed around the job site.
6. Plug each fixture into the receptacles provided. Plug into the numbered receptacles in a clockwise rotation starting at the upper or 1:00 o'clock position. This makes trouble shooting easy without lowering the tower.

### CAUTION

**If Tungsten Halogen lamps are used, the cord must be routed and secured away from the fixture. Failure to do so may result in cord burn-through and short circuit due to the high fixture temperature.**

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## SETUP

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H. Raising the tower as follows:

1. Remove the tower travel locking pin from the cradle at the rear of the cabinet.
2. Remove the tower locking pin from the tower base. Using the lower pivot winch, raise the tower to the vertical position. Reinsert the tower locking pin into the tower base.

### **CAUTION**

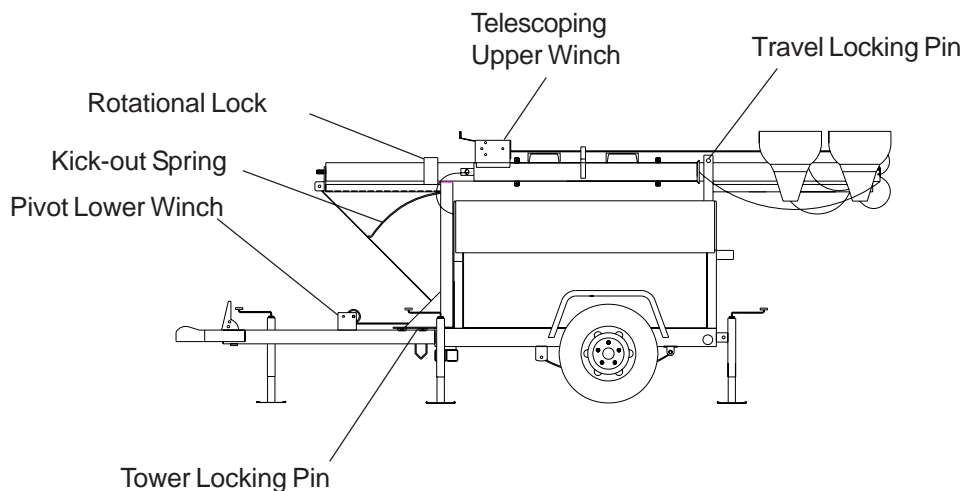
If there is any difficulty in tilting the boom vertically, check the tailhook and hook. The tailhook may need to be released.

### **WARNING**

BEWARE OF PINCH POINTS WHEN ERECTING OR STOWING THE TELESCOPING TOWER. A LOSS OF FINGERS OR LIMBS MAY RESULT FROM UNSAFE PRACTICES.

### **CAUTION**

Do not attempt to lean the tower down when it is extended. Serious damage may occur.



### **WARNING**

WHEN RAISING THE BOOM, MAKE SURE THE BOOM WIRING DOES NOT BECOME ENTANGLED.

---

## SETUP

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**⚠ WARNING**

THE AUTOMATIC BRAKE MUST BE WORKING ON THE UPPER TELESCOPING WINCH. THE WINCH SHOULD NOT ALLOW THE TOWER TO DROP DOWN WHEN THE HANDLE IS RELEASED.

**⚠ WARNING**

UNDER NO CIRCUMSTANCES SHOULD THE LIGHT TOWER BE TOWED OR MOVED WHEN THE BOOM IS IN A VERTICAL POSITION.

3. Release the tower rotational lock and adjust the lights to the desired area. Once positioned correctly, retighten the rotational lock.

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## OPERATING INSTRUCTIONS

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### STARTING THE ENGINE/GENERATOR SET

#### **CAUTION**

Insure the light switches are turned “off”. This prevents the engine from starting under load and prevents electrical equipment from being damaged.

1. Unlock and open the access doors.
2. Check the oil, fuel, and coolant levels.
3. Check that the tower has been properly grounded.
4. Preheat the unit for 10-30 seconds.

#### **CAUTION**

Never preheat for more than 30 seconds, damage may be done to the heating elements.

5. Turn the switch towards the start side of the switch. On most units this is towards the right.

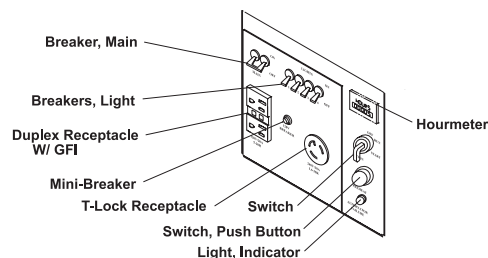
#### **CAUTION**

To avoid start damage, never operate the starter for more than 45 seconds.

5. Start the engine and listen for any unusual sounds or vibrations. Should unusual sounds be detected, contact Terex Light Construction Service Manager.
6. Once the engine has been started and running smoothly, place the light switches in the “ON” positions, **one at a time**.
7. Check each flood light for proper operation.
8. Close and latch the access doors.

#### **NOTICE**

Vaporous lights require a warm up period of 5-10 minutes before they will produce a full output.



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## OPERATING INSTRUCTIONS

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### LIGHT TOWER AUXILIARY POWER:

1. One 20 amp, 120 VAC GFI receptacle and one 30 amp, 240 VAC receptacle are provided for auxiliary power.
2. Total auxiliary power cannot exceed main circuit breaker rating. Each lamp operating consumes 9.5 amps of 120 volt power.
3. 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.

### SHUTDOWN PROCEDURES:

1. Place all light switches into their "OFF" position.
2. Allow the engine to run for 1 to 5 minutes under no load, then turn the unit "OFF".

#### **⚠ CAUTION**

Never shut the unit down while under load. The AC generator may become damaged.

#### **NOTICE**

After being shut down, the lights must be allowed to cool down before trying to restart the lights. This cool down period can be between 10-25 minutes, depending on the ambient temperature.

### LOWERING THE TOWER:

1. Using the upper telescoping winch, telescope the tower down to its fully retracted position.

#### **⚠ CAUTION**

The boom should lower smoothly and evenly to its lowest position. If it does not, contact a qualified mechanic.

#### **⚠ CAUTION**

Insure the coil cord does not become entangled with the lower tower sections.

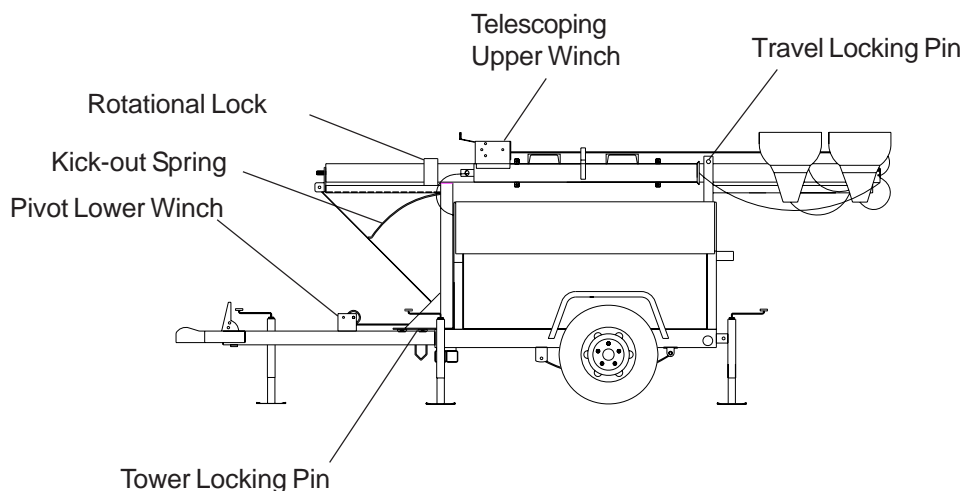
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## OPERATING INSTRUCTIONS

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### LOWERING THE TOWER (Continued):

2. Loosen the rotational lock and rotate the tower into its nesting position. The upper telescoping winch should be pointing forward, towards the tongue.
3. Remove the travel locking pin (located on cradle).
4. Remove the tower locking pin (located on tower base).
5. Using the lower pivot winch, lower the tower into the cradle.
6. Verify that the tailhook is “latched” or hooked over the tower cradle. This prevents the tower sections from telescoping out while traveling.
7. Replace the travel locking pin.
8. If required, remove the light fixtures and crosshead assembly.
9. Secure all locking pins and verify that the tailhook is properly latched.
10. Close and lock both doors.



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## MAINTENANCE

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### **MINIMUM MAINTENANCE PROCEDURES:**

The following maintenance intervals are only suggested by Terex. You should always check your engine owner's manual for specific information. Should you find any discrepancies between the Terex Manual and the Engine Manufacturer's Manual always follow the Engine Manufacturer's Manual.

#### **Twice Daily:**

- Check the crankcase oil and fill as required.

#### **Daily:**

- Check the engine and generator for any loose bolts, connections, and fittings.
- Check the coolant levels and fill as required.

**Note:** Use a 50% solution of water and antifreeze for the engine coolant.

#### **Weekly:**

- Check the air cleaner and clean as required.
- Inspect the radiator fins for damage or clogging.

#### **Bi-weekly:**

- Check the engine oil quality and change as required.

#### **Bi-Monthly or every 250 hours:**

- Change the engine crankcase oil.

#### **Six months or every 500 hours:**

- Replace the oil filter.
- Check valve clearances (consult Manufacturer's Manual)
- Check electrical components and clean as required.
- Check electrical wiring for chafing, wear and replace as needed.

#### **Yearly or every 1,000 hours:**

- Clean or replace the fuel filter.
- Clean or replace the fuel pump strainer, if equipped.
- Check the head and manifold bolts for tightness.
- Replace air filter element.

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## MAINTENANCE

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### **CLEANING:**

The Light Tower employs various electronic controls that may be damaged by liquid spray washing or high pressure washing. Follow these procedures to prevent any damage to these components.

#### **⚠ WARNING**

**DO NOT SPRAY WATER INTO THE UNIT WHILE IT IS RUNNING. THIS MAY RESULT IN INJURY OR DEATH BY ELECTRIC SHOCK.**

#### **Exterior Cleaning:**

1. The exterior housing may be washed by most conventional cleaners and methods.
2. The exterior housing may be waxed using any conventional automotive wax.

#### **Interior Cleaning:**

1. Using a damp cloth covered with a mild soap, carefully clean around any electric controls, generator, and thermostats.

#### **Light Fixture Cleaning:**

1. The light fixtures and bulbs may be cleaned using any window cleaner.

#### **⚠ WARNING**

**THE LIGHT FIXTURES ARE VERY HOT, ALLOW TO COOL BEFORE PERFORMING ANY CLEANING TO THE FIXTURE, BULBS OR LENSES.**

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## MAINTENANCE

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### 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.

### **▲ CAUTION**

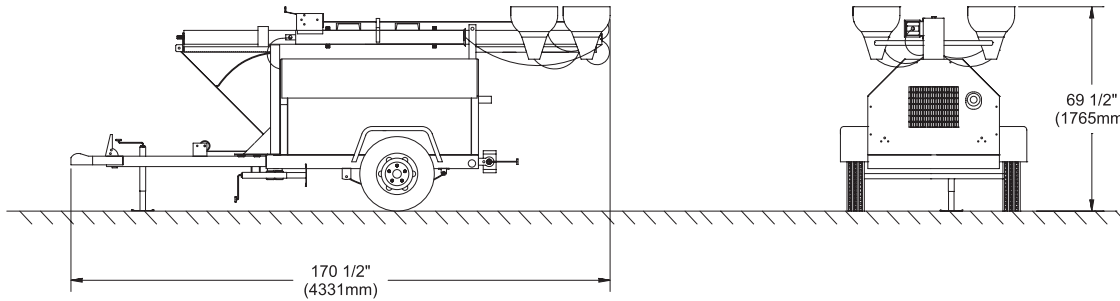
**Brake disc should be free of oil and grease.**

### NOISE LEVEL

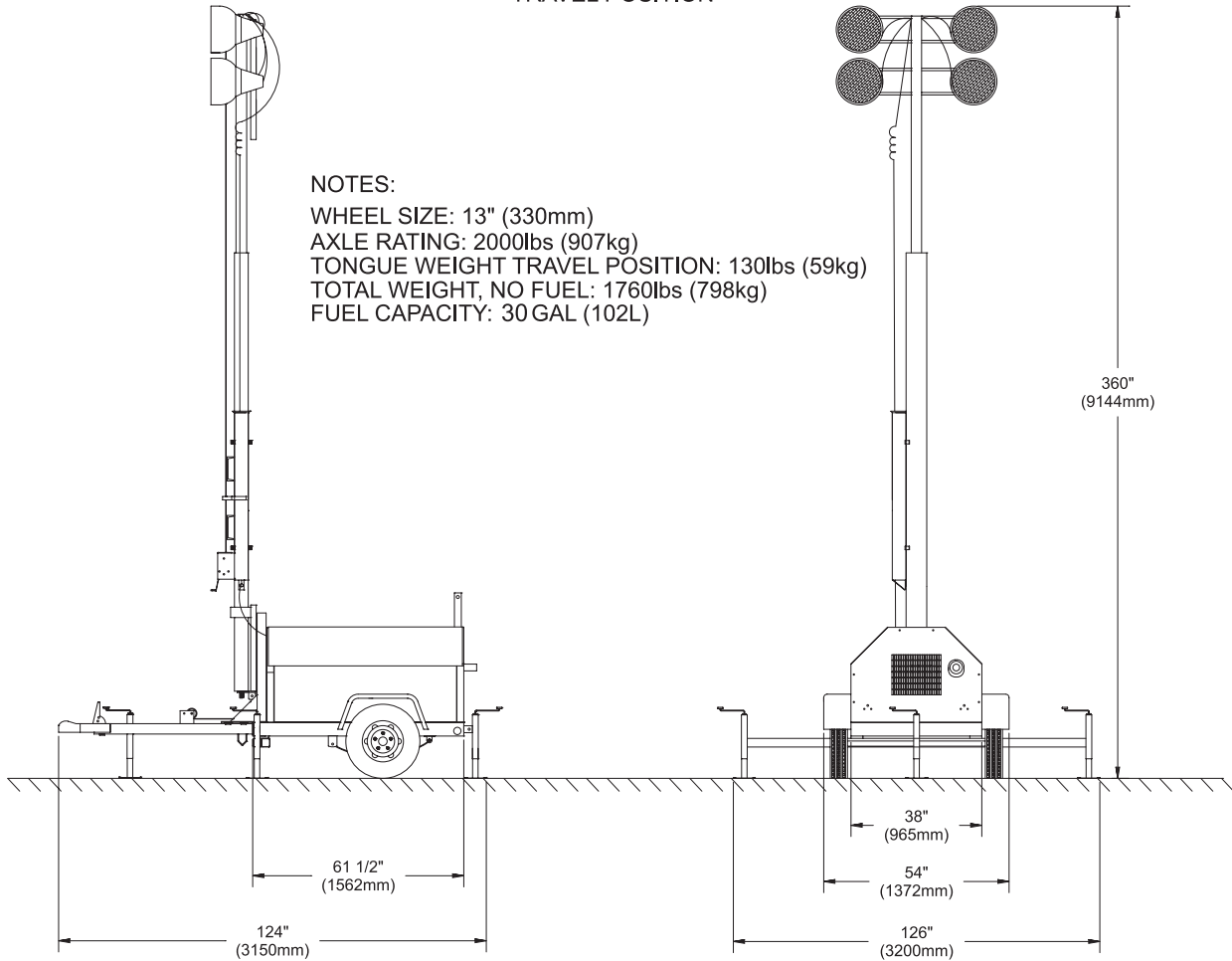
Mean SPL (sound pressure level) hemispherically at 7 meters:  
Sound Power Level (63 dBA + 20 log d + 7.8):  
D = 7 meters

**63dBA**  
**90.0 LWA re 1 pW**

## SPECIFICATIONS & DIMENSIONS



TRAVEL POSITION



**NOTES:**

- WHEEL SIZE: 13" (330mm)
- AXLE RATING: 2000lbs (907kg)
- TONGUE WEIGHT TRAVEL POSITION: 130lbs (59kg)
- TOTAL WEIGHT, NO FUEL: 1760lbs (798kg)
- FUEL CAPACITY: 30 GAL (102L)

OPERATING POSITION

## SPECIFICATIONS & DIMENSIONS

TEREX model RL4000 series light tower provides mobile; trailer mounted floodlighting for night-time 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	170.5"	(4331 mm)
Overall length, tower vertical w/tongue & jacks	124"	(3150 mm)
Trailer frame length	61.5"	(1562 mm)
Overall height, floodlighting position	30'	(9114 mm)
Overall height, travel position	69.5"	(1765 mm)
Overall width with fenders	54"	(1372 mm)
Overall width with outriggers pulled out	126"	(3200 mm)
Trailer frame width	38"	(965 mm)
Tongue length	62.5"	(1588 mm)
Wheel size	13"	(330mm)
Axle Rating	2000 lb.	(907 kg)
Tongue weight travel position	130 lb.	(59 kg)
Total weight no fuel	1760 lb.	(798 kg)
Fuel Capacity	30 gal.	(114 kg)
Unit weight with full fuel tank	1960 lb.	(888 kg)
Max Highway Speed	60 mph	(97 kmh)

**⚠ WARNING** DO NOT USE TOWER IN WIND SPEEDS ABOVE 62 MPH (100 KMH).

This section details specifications and maintenance not covered in the operators and troubleshooting sections of this manual and the RL4000 specification sheets.

### OIL / AIR SERVICE

The engine oil should initially be changed after the first 50 hours of use and then every 250 hours thereafter. The oil filter should be replaced after every 500 hours of use. The air filter element should be replaced once every year, or after six cleanings (see manufacturer's operation manual for details).



# TORQUE SPECIFICATIONS





## MISCELLANEOUS SPECIFICATIONS

The Amida RL4000 light tower is built to NEC standards.

## FASTENER TORQUE SPECIFICATIONS

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

SAE FASTENER TORQUE CHART											
• This chart is to be used as a guide only unless noted elsewhere in this manual •											
SIZE	THREAD	Grade 5 				Grade 8 				A574 High Strength Black Oxide Bolts	
		LUBED		DRY		LUBED		DRY		LUBED	
		in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
1/4	20	100	11.3	80	9	140	15.8	110	12.4	130	14.7
	28	90	10.1	120	13.5	120	13.5	160	18	140	15.8
		LUBED		DRY		LUBED		DRY		LUBED	
		ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
5/16	18	13	17.6	17	23	18	24	25	33.9	21	28.4
	24	14	19	19	25.7	20	27.1	27	36.6	24	32.5
3/8	16	23	31.2	31	42	33	44.7	44	59.6	38	51.5
	24	26	35.2	35	47.4	37	50.1	49	66.4	43	58.3
7/16	14	37	50.1	49	66.4	50	67.8	70	94.7	61	82.7
	20	41	55.5	55	74.5	60	81.3	80	108.4	68	92.1
1/2	13	57	77.3	75	101.6	80	108.4	110	149	93	126
	20	64	86.7	85	115	90	122	120	162	105	142
9/16	12	80	108.4	110	149	120	162	150	203	130	176
	18	90	122	120	162	130	176	170	230	140	189
5/8	11	110	149	150	203	160	217	210	284	180	244
	18	130	176	170	230	180	244	240	325	200	271
3/4	10	200	271	270	366	280	379	380	515	320	433
	16	220	298	300	406	310	420	420	569	350	474
7/8	9	320	433	430	583	450	610	610	827	510	691
	14	350	474	470	637	500	678	670	908	560	759
1	8	480	650	640	867	680	922	910	1233	770	1044
	12	530	718	710	962	750	1016	990	1342	840	1139
1.125	7	590	800	790	1071	970	1315	1290	1749	1090	1477
	12	670	908	890	1206	1080	1464	1440	1952	1220	1654
1.25	7	840	1138	1120	1518	1360	1844	1820	2467	1530	2074
	12	930	1260	1240	1681	1510	2047	2010	2725	1700	2304
1.5	6	1460	1979	1950	2643	2370	3213	3160	4284	2670	3620
	12	1640	2223	2190	2969	2670	3620	3560	4826	3000	4067

METRIC FASTENER TORQUE CHART																
• This chart is to be used as a guide only unless noted elsewhere in this manual •																
Size (mm)	Class 4.6 				Class 8.8 				Class 10.9 				Class 12.9 			
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
5	16	1.8	21	2.4	41	4.63	54	6.18	58	6.63	78	8.84	68	7.75	91	10.3
6	19	3.05	36	4.07	69	7.87	93	10.5	100	11.3	132	15	116	13.2	155	17.6
7	45	5.12	60	6.83	116	13.2	155	17.6	167	18.9	223	25.2	195	22.1	260	29.4
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
8	5.4	7.41	7.2	9.88	14	19.1	18.8	25.5	20.1	27.3	26.9	36.5	23.6	32	31.4	42.6
10	10.8	14.7	14.4	19.6	27.9	37.8	37.2	50.5	39.9	54.1	53.2	72.2	46.7	63.3	62.3	84.4
12	18.9	25.6	25.1	34.1	48.6	66	64.9	88	69.7	94.5	92.2	125	81	110	108	147
14	30.1	40.8	40	54.3	77.4	105	103	140	110	150	147	200	129	175	172	234
16	46.9	63.6	62.5	84.8	125	170	166	226	173	235	230	313	202	274	269	365
18	64.5	87.5	86.2	117	171	233	229	311	238	323	317	430	278	377	371	503
20	91	124	121	165	243	330	325	441	337	458	450	610	394	535	525	713
22	124	169	166	225	331	450	442	600	458	622	612	830	536	727	715	970
24	157	214	210	285	420	570	562	762	583	791	778	1055	682	925	909	1233

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

## TROUBLESHOOTING

The engine and generator are set at the factory. These units are tested and set to 1800 RPM at 60 HZ for proper operation in the field. These units should never require additional adjustments in the field. Adjustments should only be made by a qualified service technician, otherwise the manufacturer's warranty may become void.

TROUBLE	POSSIBLE CAUSE	REMEDY
1. Boom will not rise to the operating position.	a. Yoke pin is in place	a. Remove yoke pin
	b. Defective cable or pulley	b. Have a trained mechanic examine and repair as needed
	c. Defective winch	c. Have a trained mechanic examine and replace as needed
2. Boom will not telescope.	a. Defective winch	a. Have a trained mechanic examine and replace as needed
	b. Broken cable or pulley	b. Have a trained mechanic examine and replace as needed
	c. Telescope lock pin closed	c. Open telescope lock pin
3. Engine will not turn over	a. Dead battery	a. Check the battery voltage or loose cables
	b. Engine has seized due to loss of fluids	b. Have a trained mechanic examine and repair as needed
4. Engine turns over but will not start	a. Empty fuel tank	a. Fill tank with #2 diesel fuel
	b. Clogged fuel lines or filter	b. Check and clean the fuel system as needed
	c. Leaking fuel lines or a loss of prime	c. Replace any leaking fuel lines and tighten connections
	d. Heater elements burned out	d. Replace heater elements
	e. Fuel line solenoid is not open	e. Replace fuel line solenoid
5. Engine runs rough	a. Clogged or leaking fuel system	a. Replace fuel lines, tighten all connections, inspect the pickup tube and inspect the fuel filter
	b. Clogged exhaust system	b. Clear the exhaust system
	c. Clogged air filter	c. Clear air filter
	d. Clogged or stuck fuel injectors	d. Have a trained mechanic examine
	e. Valve clearances are out of adjustment or the valve spring may be damaged	e. Have a trained mechanic examine
	f. Defective governor or fuel pump	f. Have a trained mechanic examine

## TROUBLESHOOTING

TROUBLE	POSSIBLE CAUSE	REMEDY
6.Engine runs but produces a dense smoke	a.Crankcase oil level is too high	a.Drain oil to its proper level
	b.Low compression	b.Have a trained mechanic inspect for broken or seized rings. Inspect valve clearances
7.Engine overheats	a.Blocked cooling air intakes	a.Inspect the front and rear intakes and clear as needed
	b.Low coolant levels	b.Replace the coolant with a 50% water/coolant solution
	c.Radiator fins have become clogged	c.Clear the radiator fins
	d.Fan belt is loose	d.Tighten fan belt
8.Engine runs but the battery voltage is low	a.Alternator has failed	a.Have a trained mechanic inspect the alternator
9.Engine runs but the light will not operate	a.Circuit breakers are tripped	a.Reset the circuit breaker
	b.Loose connections in the wiring system	b.Have a trained electrician inspect the ballast box wiring system
	c.Burned out bulb	c.Replace the bulbs as needed
	d.Defective capacitor (Leroy Somers Generator)	d.Have a trained electrician inspect the capacitor
	e.Defective AC generator	e.Have a trained electrician inspect the generator
	f.Engine speed is too low	f.Have a trained mechanic inspect the engine speed and reset to 1800rpm @ 60hz
	g.Defective ballast and capacitors	g.Have a trained electrician inspect the ballast and capacitors
10.Unusual noise coming from the generator	a.The generator has a defective bearing or damaged fan blade	a.Have a trained electrician inspect the generator
11.Lamp will not start	a.Lamp loose in socket	a.Inspect lamp base to see if there is arcing at center contact button. Tighten lamp. Check socket for damage. Replace if needed.
	b.Floodlight plugs not tight	b.Check plug and receptacle. Tighten if needed
	c.Defective ballast	c.Interchange ballast plugs. If lamp starts, replace ballast. Check for swollen capacitors, charred wiring, core and coil, or other signs of excessive heat.
	d.Low voltage	d.Check line voltage at ballast input. Voltage should be within 10% of rating when operating at normal load. Increase supply voltage or remove external load.

## TROUBLESHOOTING

TROUBLE	POSSIBLE CAUSE	REMEDY
11. Lamp will not start	e. Improper ballast	e. The ballast name plate data should agree with the line voltage and lamp used. If not, replace the ballast.
	f. Lamp has been operating; cool down time insufficient	f. Switch off breaker and allow lamp to cool.
12. Lamp starts slowly (arc does not strike when switch is first turned on)	a. Defective lamp	a. Lamp may glow for an extended period of time. Replace after checking voltage and ballast
13. Circuit breaker trips on lamp startup	a. Short circuit or ground	a. Check wiring against diagram. inspect for shorts or ground. Fix as needed.
14. Lamp light output low	a. Normal lamp depreciation	a. Replace lamp
	b. Dirty lamp or fixture	b. Clean lamp and fixture
	c. Defective ballast	c. Interchange ballast plugs. If lamp starts, replace ballast. Check for swollen capacitors, charred wiring, core and coil, or other signs of excessive heat.
	d. Wrong voltage	d. Check line voltage at ballast input. Voltage should be within 10% of rating when operating at normal load. Check wiring connections for voltage loss. Check socket contact point.
	e. Improper ballast	e. Check ballast name plate against lamp data
15. Lamp colors different	a. Normal lamp depreciation	a. Replace lamp
	b. Dirty lamp or fixture	b. Clean lamp and fixture
	c. Wrong lamp	c. Check data on lamps and replace as needed.
16. Arc tube discolored or swollen	a. Over voltage from power supply	a. Check voltage at ballast, for current or voltage surges, for shorted capacitors and replace as needed
	b. Improper ballast	b. Check ballast name plate against lamp data
17. Short lamp life	a. Lamp damaged	a. Check for outer bulb cracks, cracks where lamp meets base, and for broken arc tube or loose metal parts. Replace as needed.
	b. Improper ballast	b. Check ballast name plate against lamp data
18. Lamp flickers or goes out-intermittent or cycling	a. Improper Ballast	a. Check ballast name plate against lamp data
	b. New lamp	b. Under certain conditions new lamps may "cycle". Usually after 3 tries to start at 30 to 60 second intervals, lamp will stabilize and operate normal



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## TROUBLESHOOTING

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TROUBLE	POSSIBLE CAUSE	REMEDY
18. Lamp flickers or goes out-intermittent or cycling	c. Defective lamp	c. Replace lamp
	d. High spike ballast	d. Ballast produces high spike current.

**⚠ WARNING**

**IF YOU FEEL AN ELECTRIC SHOCK AT ANY TIME WHILE OPERATING THIS UNIT, SHUT IT DOWN IMMEDIATELY! HAVE THE UNIT INSPECTED BY A TRAINED ELECTRICIAN.**

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## LIGHT FIXTURE TROUBLESHOOTING

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**⚠ DANGER**

**DO NOT OPEN FIXTURES WHILE LIGHT CIRCUIT BREAKER IS “ON”. ALLOW LAMP TO COOL BEFORE TOUCHING.**

**⚠ CAUTION**

**Take extra precautions when troubleshooting electrical problems. Only qualified electricians should troubleshoot this equipment.**

- 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.

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## LIGHT FIXTURE TROUBLESHOOTING

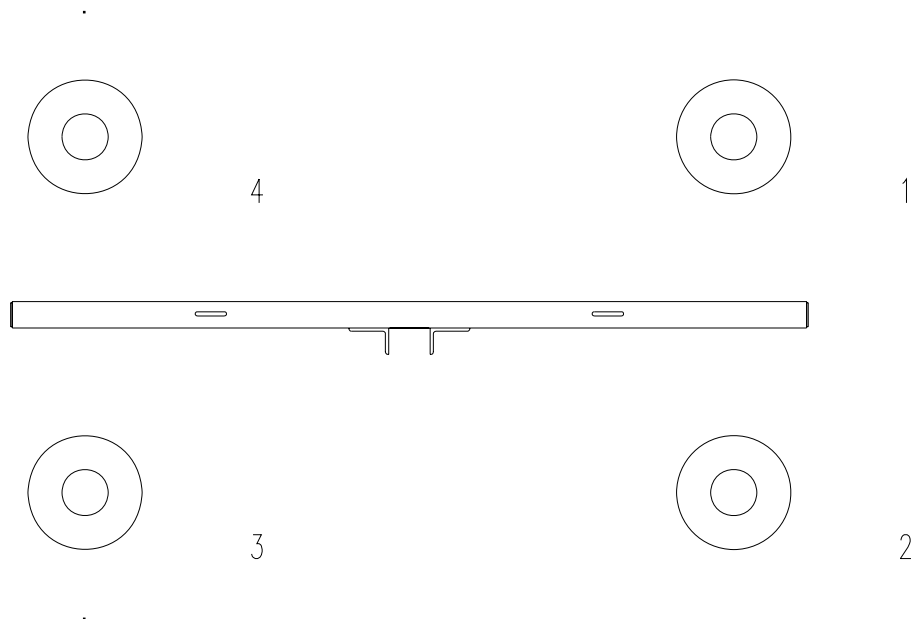
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### TRACEABLE NUMBERED WIRING SYSTEM (Using plug in ballasts to troubleshoot)

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

- STEP 1: 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.



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## WARRANTY

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### WARRANTY PROCEDURE

The specific language of this warranty will determine TEREX LIGHT CONSTRUCTION's obligation in connection with its product. The information presented below should be used as a general guide for implementation of policy. In the event of a component failure during the warranty period it should be repaired as soon as possible, preferably at an authorized TEREX LIGHT CONSTRUCTION service center. If component is manufactured by a company other than TEREX LIGHT CONSTRUCTION, such as Deutz, Honda, Isuzu, Kubota, Leroy Somer, Lister Petter, Lombardini, Wisconsin, etc., the applicant should pursue repair and/or reimbursement through that manufacturer, and its dealer/distributor network.

To file a claim with TEREX LIGHT CONSTRUCTION, an APPLICATION FOR WARRANTY ADJUSTMENT (AWA) form must be completed in its entirety. Return the completed form within fourteen days of the repair to:

**ATTENTION: WARRANTY  
TEREX LIGHT CONSTRUCTION  
590 Huey Road  
Rock Hill Industrial Park  
Rock Hill, SC 29730**

TEREX LIGHT CONSTRUCTION will review the AWA form. Should we desire to inspect the defective parts, we will issue you a return authorization for the defective parts. After inspecting the defective part(s), and it is determined that warranty is due, we will then, at the discretion of TEREX LIGHT CONSTRUCTION, credit the applicants account or send replacement parts.

### TEREX LIGHT CONSTRUCTION warranty reimbursements:

1. \$40.00 for each hour's labor we allow toward a repair.
2. Distributors cost of parts not more than the price currently available from TEREX LIGHT CONSTRUCTION.
3. One way surface freight charges on parts returned to TEREX LIGHT CONSTRUCTION.

Many repairs are assigned a predetermined labor schedule which is an average time in which a skilled technician should be able to make a repair. TEREX LIGHT CONSTRUCTION will reimburse not to exceed the predetermined number of hours for a particular repair.

### TEREX LIGHT CONSTRUCTION does not reimburse for:

1. Travel, travel time, nor travel labor.
2. Mileage.
3. Excessive diagnostic time.
4. Repairs of defects, malfunctions, or failures resulting from accidents, abuse, misuse, modifications, alterations, improper servicing or lack of performance of required maintenance service.
5. Repairs where defective parts were not shipped back when requested by TEREX LIGHT CONSTRUCTION.
6. Regular maintenance such as parts or labor for oil changes, filter changes or filters.
7. Repairs where defective parts were not received by TEREX LIGHT CONSTRUCTION after TEREX LIGHT CONSTRUCTION issued a return authorization.

**TEREX Light Construction  
P.O.Box 3147 • Rock Hill, S.C. 29731 USA • Phone 803-324-3011 • Fax 803-366-1101**



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## WARRANTY

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### TEREX LIGHT CONSTRUCTION

P.O. Box 3147  
Rock Hill, S.C. 29732

### MANUFACTURER'S LIMITED WARRANTY

**TEREX LIGHT CONSTRUCTION ("TLC")** warrants to the original purchaser that such equipment, accessories, parts and other products manufactured by TLC will be free from defects in workmanship and material for a period of one (1) year after the date of first delivery or for two thousand (2,000) hours of use, whichever comes first; provided that Buyer sends TLC notice of such defect within thirty (30) days of its discovery. Should defects be discovered, the Buyer must clearly establish that (I) the equipment, parts, etc. have been properly installed and set up, maintained and operated within the limits of rated and normal usage and (II) the defect did not result in any manner from the intentional or negligent action or inaction of Buyer. Buyer must also return the defective item or items to TLC, Rock Hill, SC for inspection at TLC's request. If Buyer cannot establish that conditions (I) and (II) have been met, then this warranty shall not cover the alleged defect. Failure to give notice of defect within such period shall be a waiver of this Warranty and any assistance rendered thereafter shall not extend or revive it. **THIS WARRANTY IS LIMITED TO THE BUYER AND IS NOT ASSIGNABLE OR OTHERWISE TRANSFERABLE.**

TLC MAKES NO WARRANTY WITH RESPECT TO PARTS, COMPONENTS, EQUIPMENT AND ACCESSORIES NOT MANUFACTURED BY TLC SUCH AS FIXTURES, BALLASTS, ENGINES, HYDRAULIC PUMPS, FUEL PUMPS, ALTERNATORS, GENERATORS, WINCHES, TIRES AND ELECTRICAL COMPONENTS. Accessories, assemblies and components included in products of TLC, which are not manufactured by TLC, are subject only to the warranty of their respective manufacturers. TLC makes no other warranty, express or implied, and makes no warranty of merchantability or fitness for any particular purpose. This warranty shall not cover misuse, alteration, abuse, negligence, accident, acts of God, sabotage or any item in which serial numbers have been altered, defaced or removed, but shall be limited to repair or replacement of those parts which, upon inspection by TLC, appear to have been defective in material or workmanship.

TLC's liability and Buyer's sole and exclusive remedy for a failure of goods to perform as warranted and/or for any and all other claims arising out of the purchase and use of the goods, including negligence on the part of TLC, shall be limited to the repair or replacement of defective parts returned, transportation prepaid to TLC. TLC shall in no event be liable for incidental or consequential or other damages or losses resulting from a breach of warranty such as, but not by way of limitation, labor costs, loss of profits, loss of use of other than equipment, third party repairs, personal injury, emotional or mental distress, improper performance of work, penalties of any kind, loss of service of personnel, or any other damages or losses which may be experienced by the Buyer.

**A product warranty certificate must be filled out in its entirety and returned to TLC in order to process any warranty claims submitted.**

**THIS WARRANTY IS EXPRESSLY IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS OF ANY PRODUCT OR GOODS FOR A PARTICULAR PURPOSE) AND ALL OTHER OBLIGATIONS OR LIABILITIES ON TLC'S PART, AND TLC NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR TLC ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF TLC'S PRODUCTS. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.**

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## SERIAL NUMBER RECORD

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### 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 your local Terex dealer or write to:

Terex Light Construction  
P.O. Box 3147  
590 Huey Road  
Rock Hill, SC 29730  
Telephone: (803) 324-3011  
FAX: (803) 366-1101

*When returning parts for credit please contact the factory for Return of Goods Authorization.*

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 \_\_\_\_\_



# MODEL NUMBER IDENTIFICATION

## IMPORTANT

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

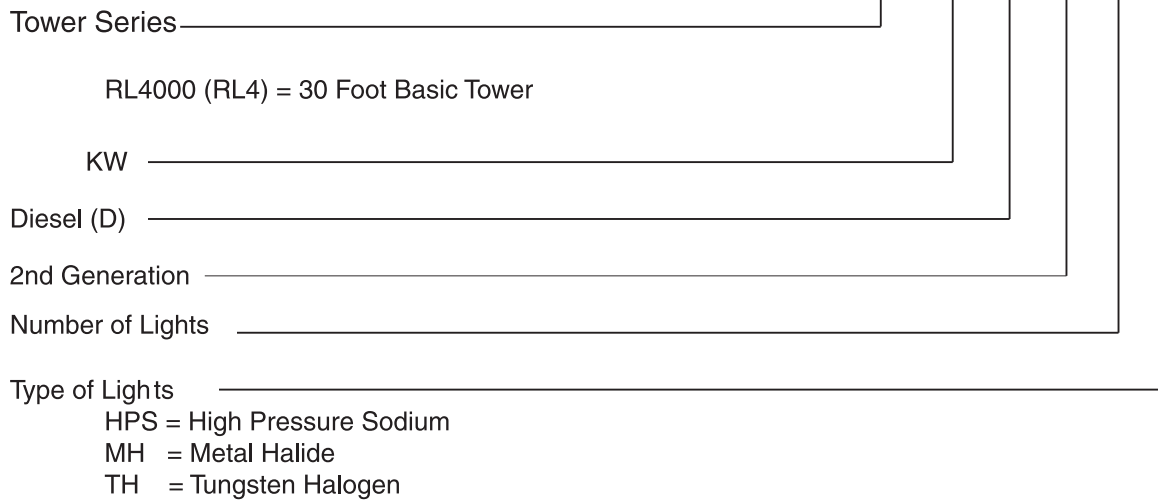
REFER TO THE TEREX SERIAL NUMBER TAG ON THE UNIT FOR CORRECT MODEL NUMBER AND SERIAL NUMBER.

### MODEL NUMBER IDENTIFICATION

**Sample:**

**Light Tower Product Line**

**RL4 060 D 2 4 MH**





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## RECOMENDED ENGINE OIL & FUEL

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### KUBOTA D1105 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 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.

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## WIRE ROPE REPLACEMENT

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

The wire ropes used to raise and lower the masts on a TEREX 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 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

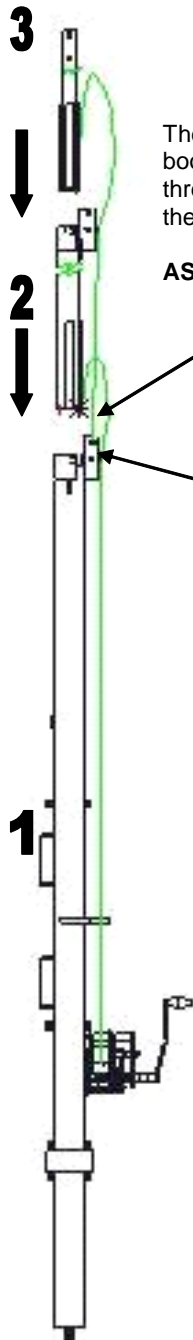
The wire ropes are constructed of 7 strands of 19 plow steel wires each twisted together, and then the assembly galvanized to resist corrosion. Using a wadded-up cloth or heavy leather gloves (to avoid being pricked by a broken wire), run a hand up and down a length of the cable. If any exterior wires 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**.

#### 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.

## WIRE ROPE REPLACEMENT

### RL4000 CABLE ROUTING INSTRUCTIONS



These instructions deal with the assembly and routing of cable for the Terex RL4000 boom, and should aid in making this a smooth assembly. Each boom consists of three separate stages: referred to here as the tower (1), the second stage (2), and the upper (3) boom tubes (see Figure 1).

#### ASSEMBLY

1. Feed cable up through the hole on the bottom of the second stage boom tube with the crimped end at the bottom and lay the cable along the length of the tube as shown here.
2. Slide the second stage boom tube into the tower boom tube.
3. Run the cable over the upper pulley on the tower boom tube as shown here and in Figure 2.

Clevis Pin



Figure 2. Cable Routed Through Pulley

3. Attach opposite end of cable to the winch on the tower boom tube (See Figure 3).
4. Repeat Steps 1 – 3 for the upper boom tube, and attach cable to the clevis pin on the second stage boom tube shown in Figure 2.

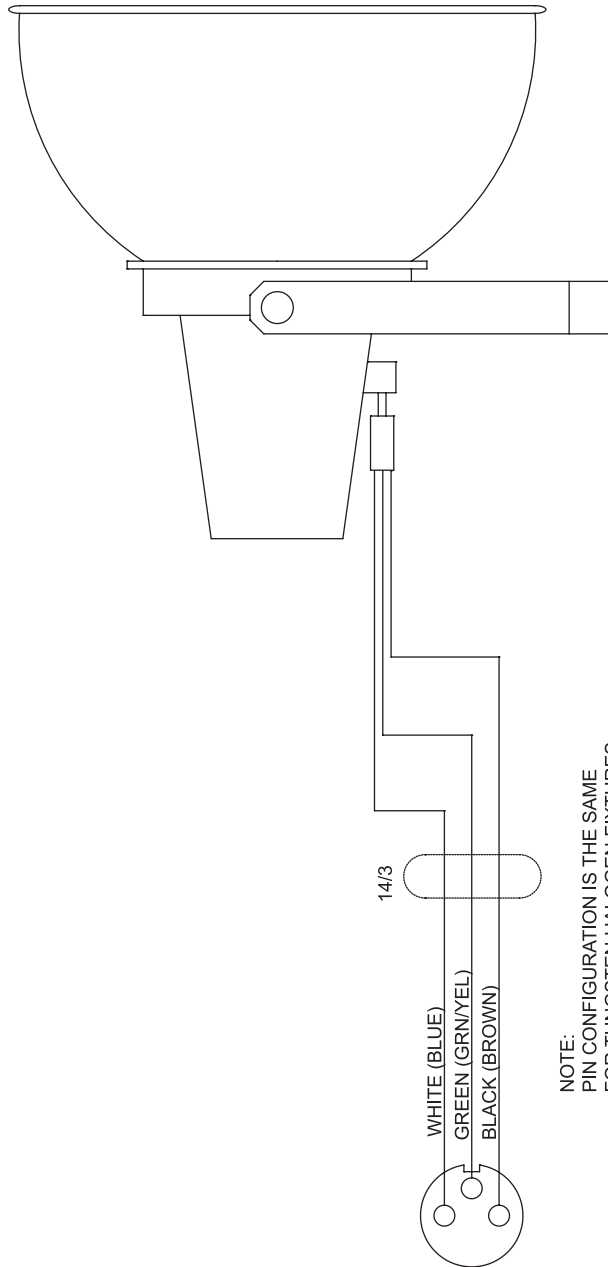
Figure 3. Winch



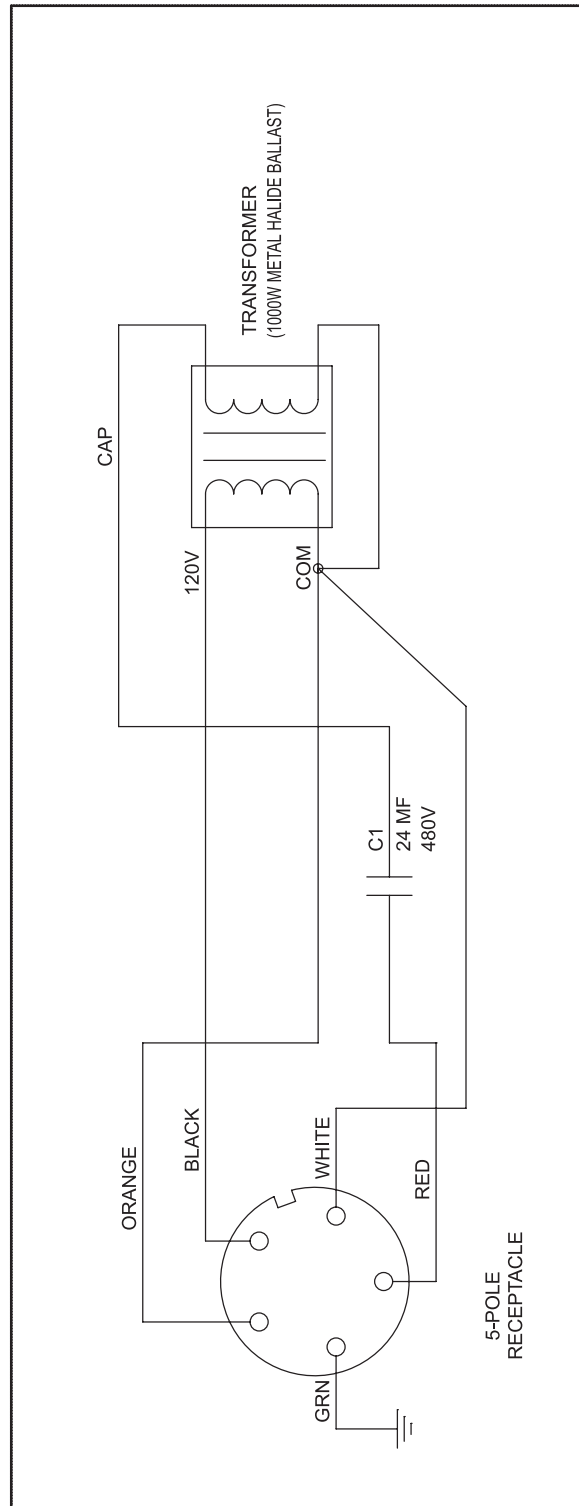
Figure 1.  
Boom Components

# ***Wiring Diagrams Section***

### Fixture Wiring Diagram

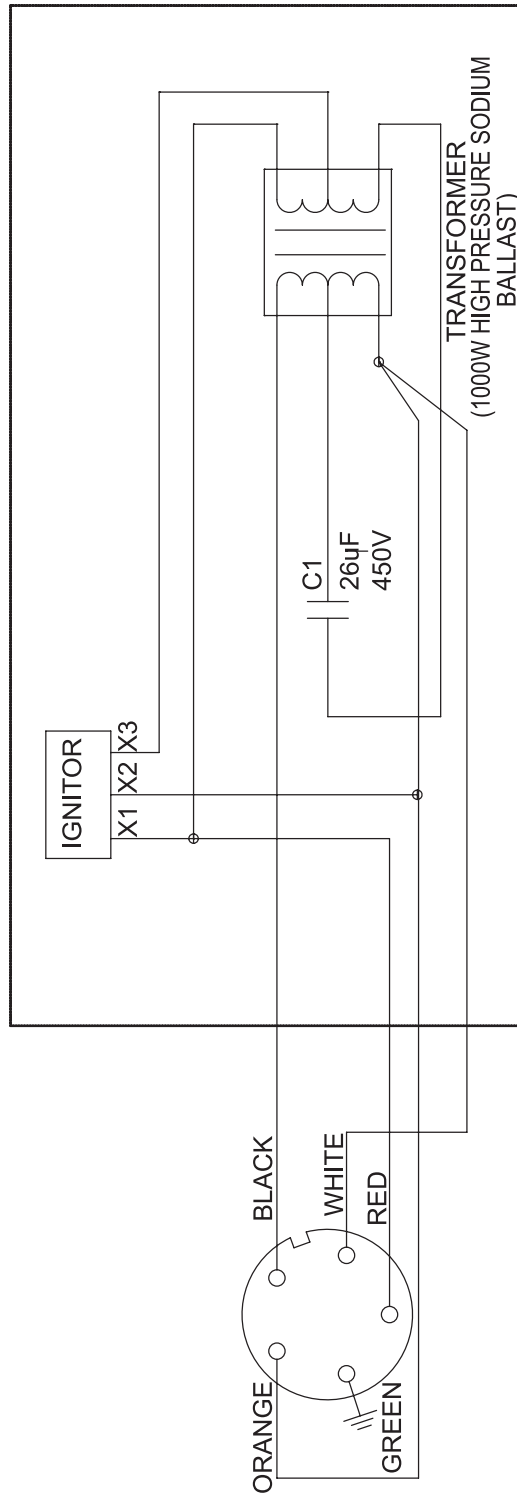


### 1000MH Ballast Diagram



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

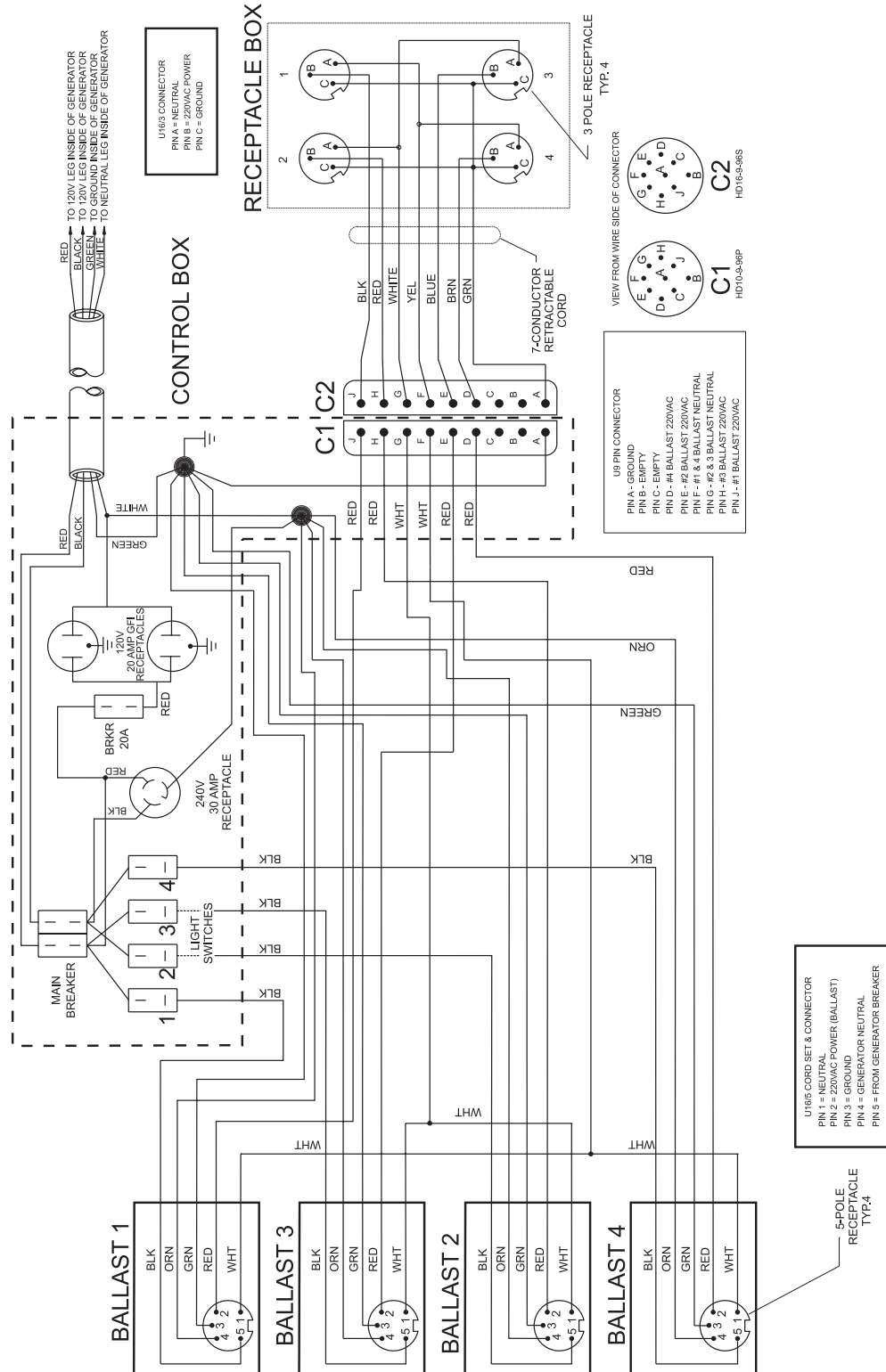
### 1000HPS Ballast Diagram



5-POLE  
RECEPTACLE

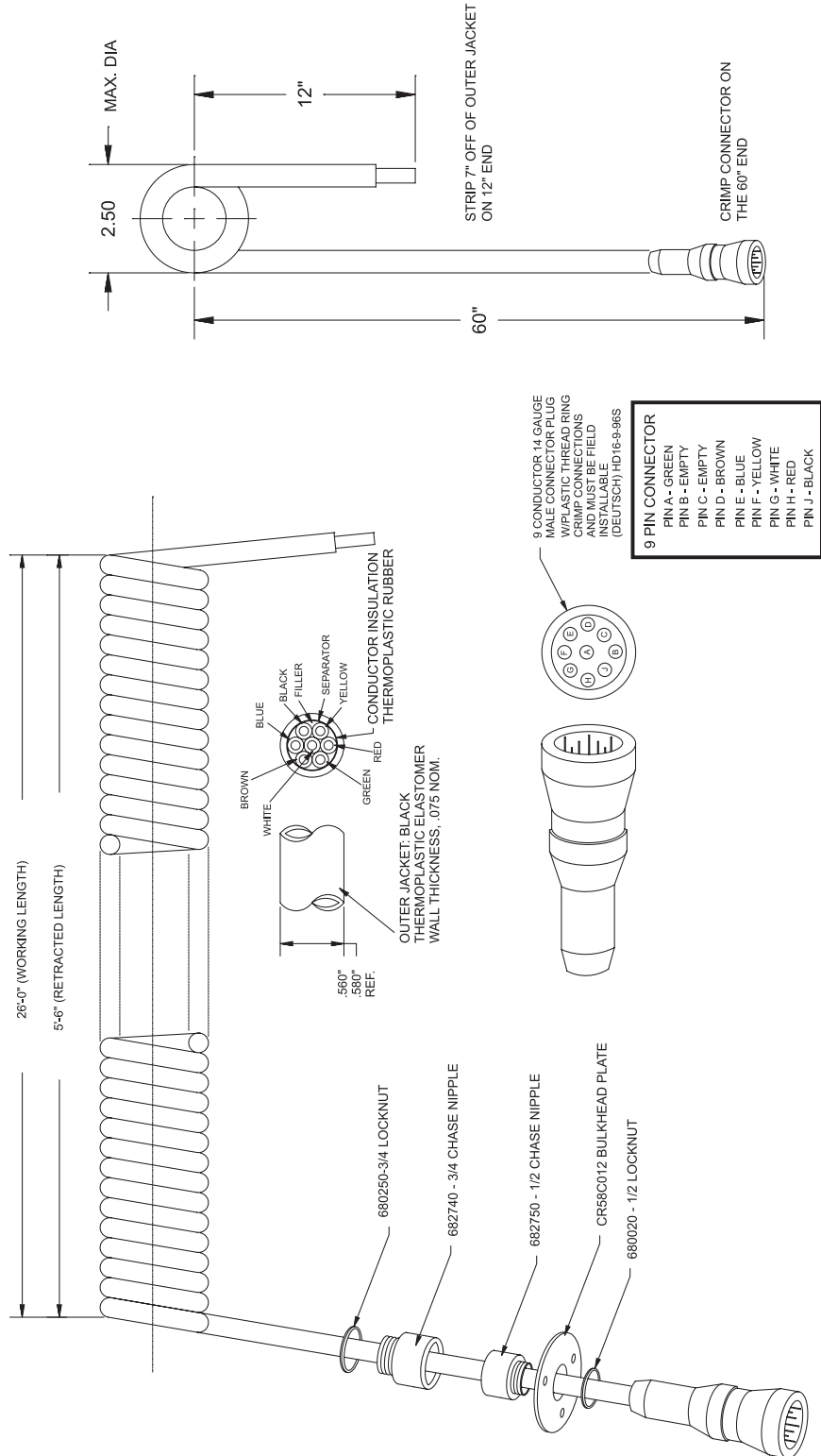
COLOR	CIRCUIT
BLACK	INPUT 120V
WHITE	INPUT COMMON
RED	LAMP HOT
ORANGE	LAMP COMMON
GREEN	GROUND

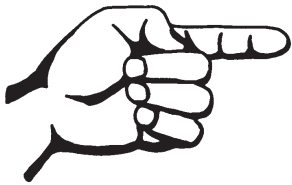
### AC Wiring For A Light Tower Diagram





### Consolidated Coil Cord With Plug End





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# *Parts Catalog Section*



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## **GENERAL INFORMATION-PARTS MANUAL**

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### **INTRODUCTION**

This manual contains parts ordering information for the Terex RL 4000 light tower.

### **IDENTIFICATION of PARTS**

All parts are identified with a part number and brief description. If there are multiple quantities of the part required, the quantity required will be shown along with part number and description. If no quantity is given it is assumed that there is only one part required.

### **NOTES and DESIGNATIONS**

This manual is compiled from information available and current at time of approval for printing. Terex reserves the right to improve its product without notice to follow its policy of constantly striving to manufacture a better product.

### **ILLUSTRATIONS**

The illustrations in this manual are intended to show typical construction of the various parts. In some instances the shapes or details of the parts illustrated may not exactly represent their actual appearance. However, they will serve to show the servicing methods explained or help to identify parts performing the same function.

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## PARTS ORDERING INFORMATION

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### **IMPORTANT**

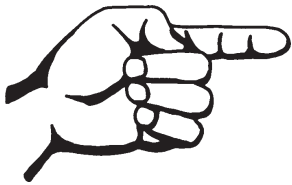
When a part fails and needs to be replaced, only use equivalent parts of equal performance and strength.

Contact your local Terex dealer for parts and service.

When ordering parts for a specific unit, follow the instructions listed below. By doing so, you will be assured of receiving the correct part in the shortest period of time.

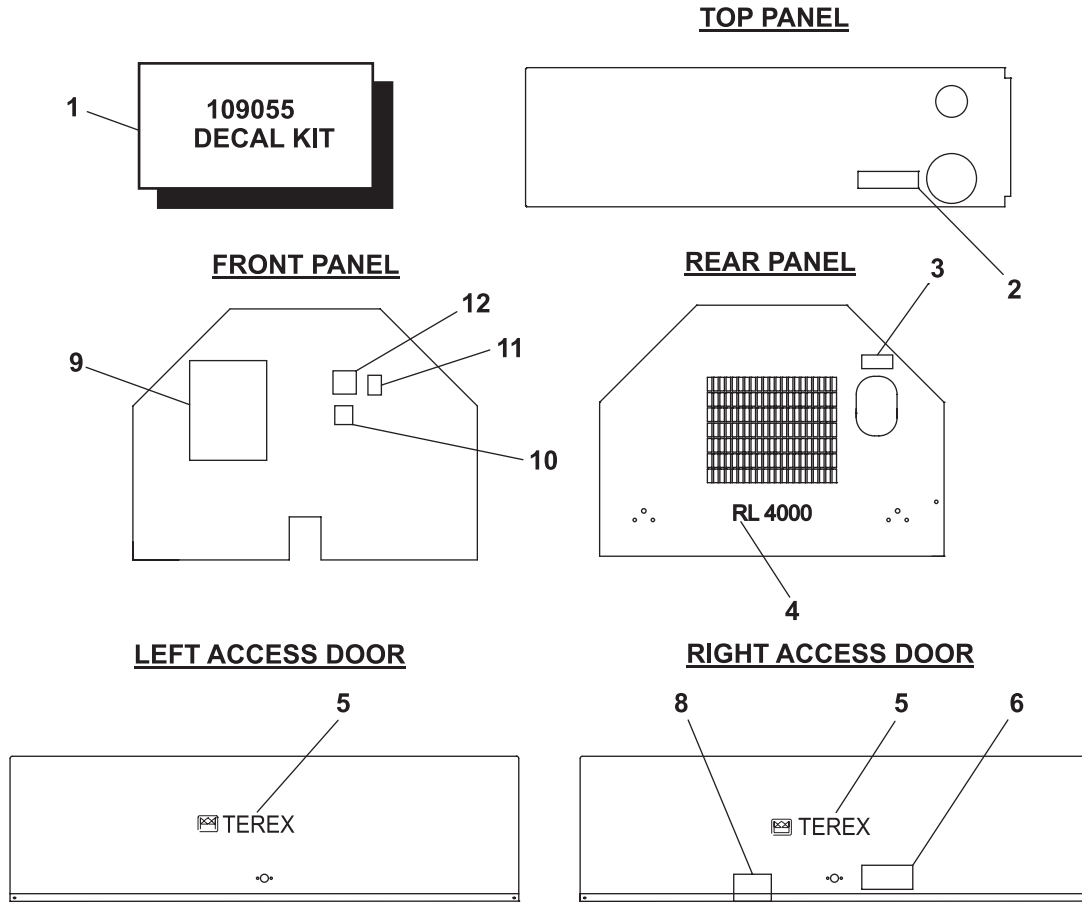
1. Send your order to the nearest Terex distributor in your area.
2. Give the light tower model and serial number.
3. Write the quantity required, part number, and description of the parts wanted.
4. Give the specific shipping instructions, to whom and where parts are to be shipped, also whether shipment is to go parcel post, express freight, or truck, prepaid or collect. We want your order to reach you as quickly and as economically as possible.
5. Confirm all telephone orders in writing via mail or fax confirmation.

***PART NUMBERS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.***



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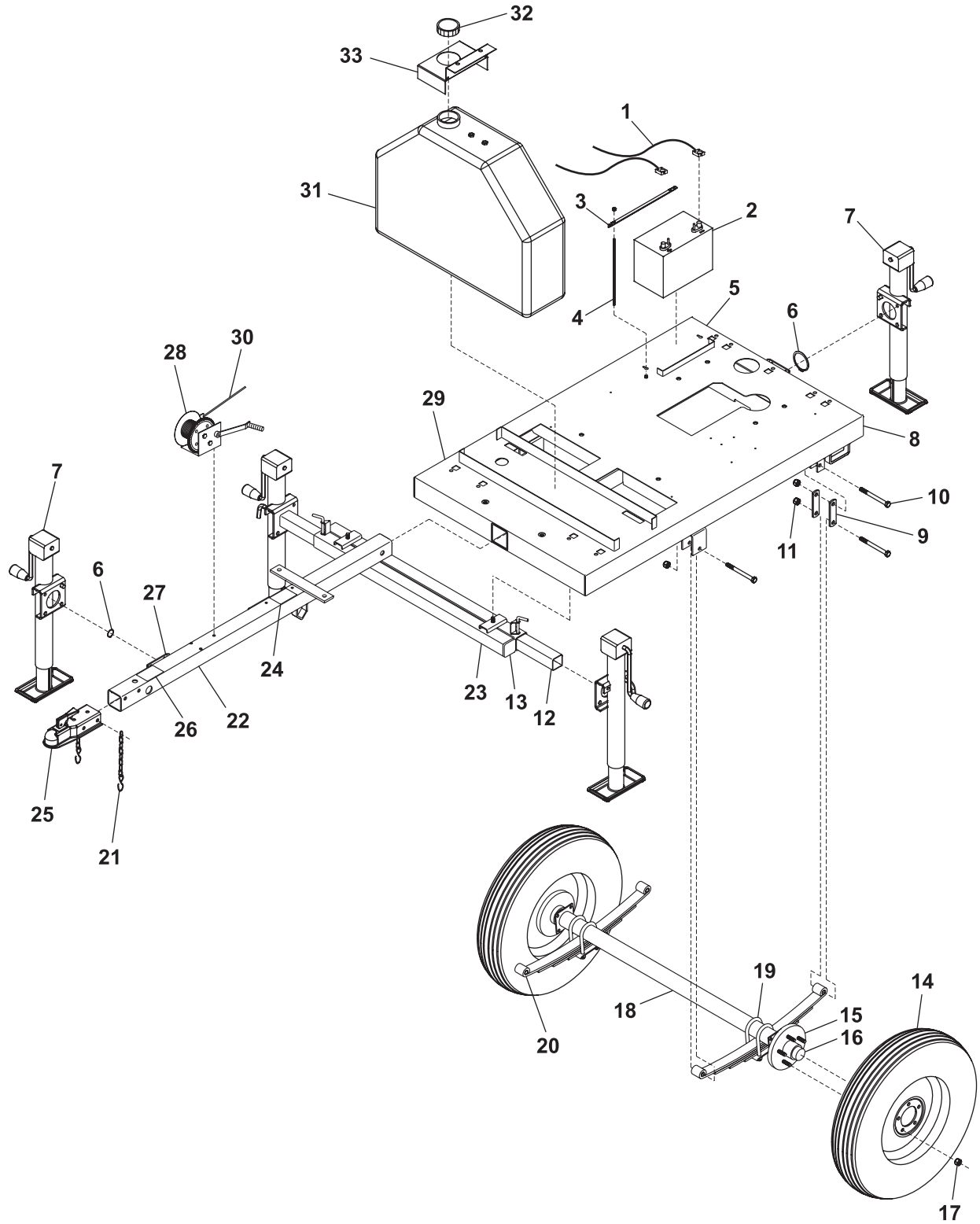
# DECAL LAYOUT



8 - U51A102 INSIDE DOOR

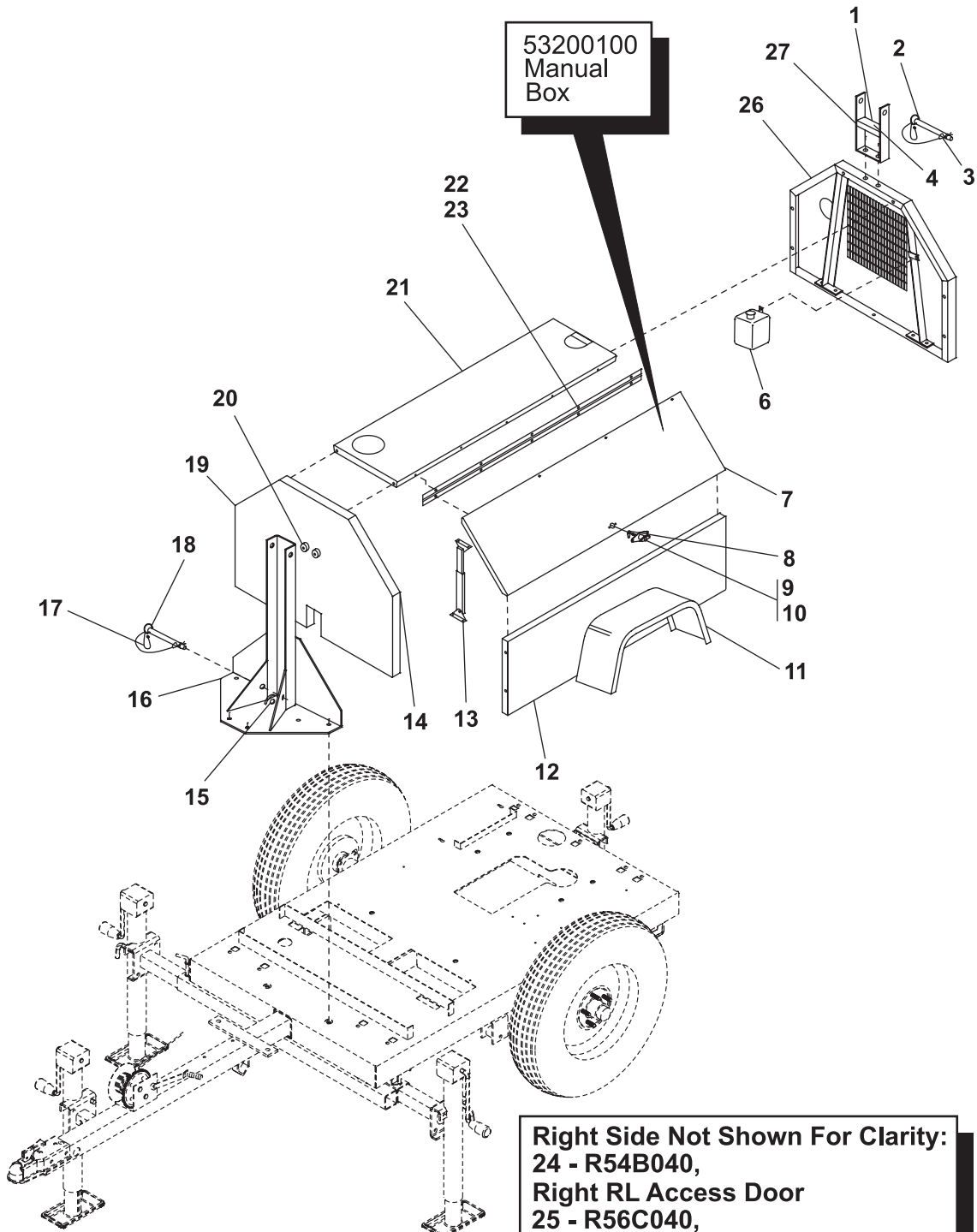
ITEM #	PARTS #	DESCRIPTION	QTY.
1	109055	KIT: DECALS FOR MODEL 04000RL RITE LITE	1
2	850150	DECAL: DIESEL FUEL ONLY	1
3	CU51A112	DECAL: DANGER HOT EXHAUST	1
4	853316	DECAL:RL4000 W/STRIPE OP/BOTTOM 2.25" TALL	1
5	853792	DECAL: TEREX 4.5"X43"	2
6	CR51A101	DECAL:WARNING-IMPROPER GROUNDING.	1
7	CU51A102	DECAL: NOTICE-NO ETHER	1
8	C52100100	DECAL: CALIF.PROP 65	1
9	CU51A116	DECAL: TEREX POWER MOVING INSTRUCTION	1
10	CU51A111	DECAL: WARNING-BOOM DROP	1
11	CR51A101	DECAL:WARNING-IMPROPER GROUNDING.	1
12	CR51A101	DECAL:WARNING-IMPROPER GROUNDING.	1

# FRAME ASSEMBLY



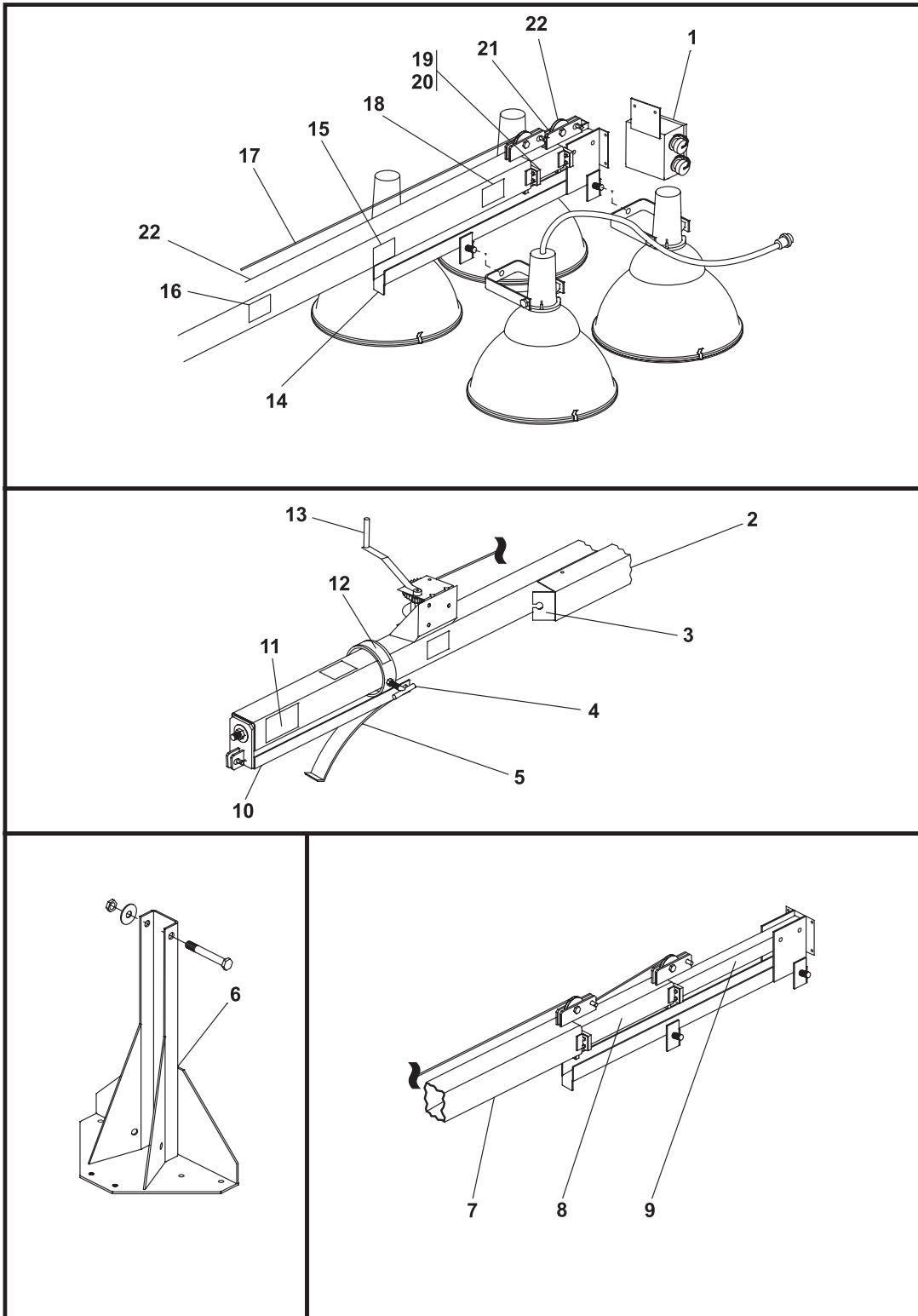
ITEM #	PART #	DESCRIPTION	QTY.
1	160270	BATTERY CABLE SET 24 4GA MBT TERM P&N R&B	1
2	160110	BATTERY WET 12V GR24 525 CCA STD-DUTY L/A	1
3	174170	BATTERY HOLD DOWN	1
4	182330	BATTERY HOLD DOWN ROD 1/4" X 10-1/4"	2
5	851820	DECAL, SYMBOL FOR GROUND	1
6	840222	JACK SNAP RING	4
7	841430	JACK SIDEWIND LONG 3KLB	4
8	CR82C000	TRAILER BASE RL4000 2006 REDESIGN	1
9	841473	AXLE SHACKLE 4-5/8" LG 2000LB/3500LB	4
10	840394	AXLE SPRING BOLT 2000LB/3500LB	6
11	840395	AXLE SPRING NUT 2000LB/3500LB	6
12	CS62C012	OUTRIGGER LEG	2
13	721051	CAPLUG, TUBE PLUG 2-1/2" X 2-1/2"	2
14	C83100900	TIRE, B78-13B W/13" BLACK RIM	2
15	CTRD-111A	HUB W/RACE/BEARINGS/NUTS/STUDS/CAP/WASHER	2
16	C2201-DC	DUST CAP FOR 2000LB AXLE	2
17	840376	AXLE WHEEL NUT 2000LB/3500LB	10
18	C82100600	AXLE 2000LB, 36" SC	1
19	C82200104	U-BOLT, AXLE 2000LB	4
20	C33612	SPRING-LEAF SPRING-2000LB	2
21	111936	CHAIN SAFETY 3000LB 3/8" X 30" W/S-HOOK	2
22	CS82A020	TONGUE, B-O-H W/JACK BRACKET	1
23	CS62A011	OUTRIGGER HOUSING	1
24	CR51A102	DECAL, WARNING ALL OUTRIGGER	1
25	840120	COUPLER, 2", BOLT ON	1
26	851310	DECAL, WARNING ALL JACKS MUST BE SWIVELED	3
27	840221	JACK BRACKET SWIVEL WELD-ON	1
28	C61100200	WINCH, BRAKE, 1500LB W/HANDLE	1
29	930950	WEATHERSTRIP ADHESIVE 1/4" THK X 1/2" WIDE	8FT
30	CU63B054	CABLE, TOWER TILT	1
31	CR21A000	TANK FUEL 30GAL	1
32	C42200220	RL FUEL CAP	1
33	CR59B035	FUEL TANK SUPPORT BRACKET	1

# CABINET ASSEMBLY



ITEM #	PART #	DESCRIPTION	QTY.
1	CU63A040	SUPPORT, PLASTIC, 2HOLE 3.5" X 2.5" X 1"	1
2	C61300501	PIN, 3/4" X 7" ZINC	1
3	C61300502	CLIP, HITCH PIN	1
4	CU51A118	DECAL, PIN WITH ARROW	1
5	C53200100	LITERATURE BOX BLACK, PLASTIC	1
6	865307	COOLANT RECOVERY TANK	1
7	CR54B050	DOOR, ROADSIDE	1
8	C51100200	CAM, DOOR HANDLE	2
9	C51100300	T-HANDLE, BLACK W/ KEYS	2
10	C42200203	DOOR HANDLE KEYS	2
11	C83400100	FENDER	2
12	CR56C050	CABINET, UNDERDOOR PANEL RS	1
13	C51500200	PROP DOOR 10" TELESCOPIC	4
14	930950	WEATHERSTRIP ADHESIVE 1/4" THK X 1/2" WIDE	14FT
15	C61400100	PULLEY, 3"	1
16	CS63C080	TOWER BASE	1
17	C61300502	CLIP, HITCH PIN	1
18	C61300501	PIN, 3/4" X 7"	1
19	CR58C011	CABINET, FRONT PANEL	1
20	C51400300	CUSHION	2
21	CR59C010	PANEL, TOP	1
22	796610	HINGE PIANO 1.5" X 51.75"	2
23	990670	RIVET POP 3/16" X 1/2"	36
24	CR54B040	DOOR, CURBSIDE	1
25	CR56C040	CABINET, UNDERDOOR PANEL CS	1
26	CR58C020	CABINET, REAR PANEL	1
27	CR63A040	REAR TOWER SUPPORT	1

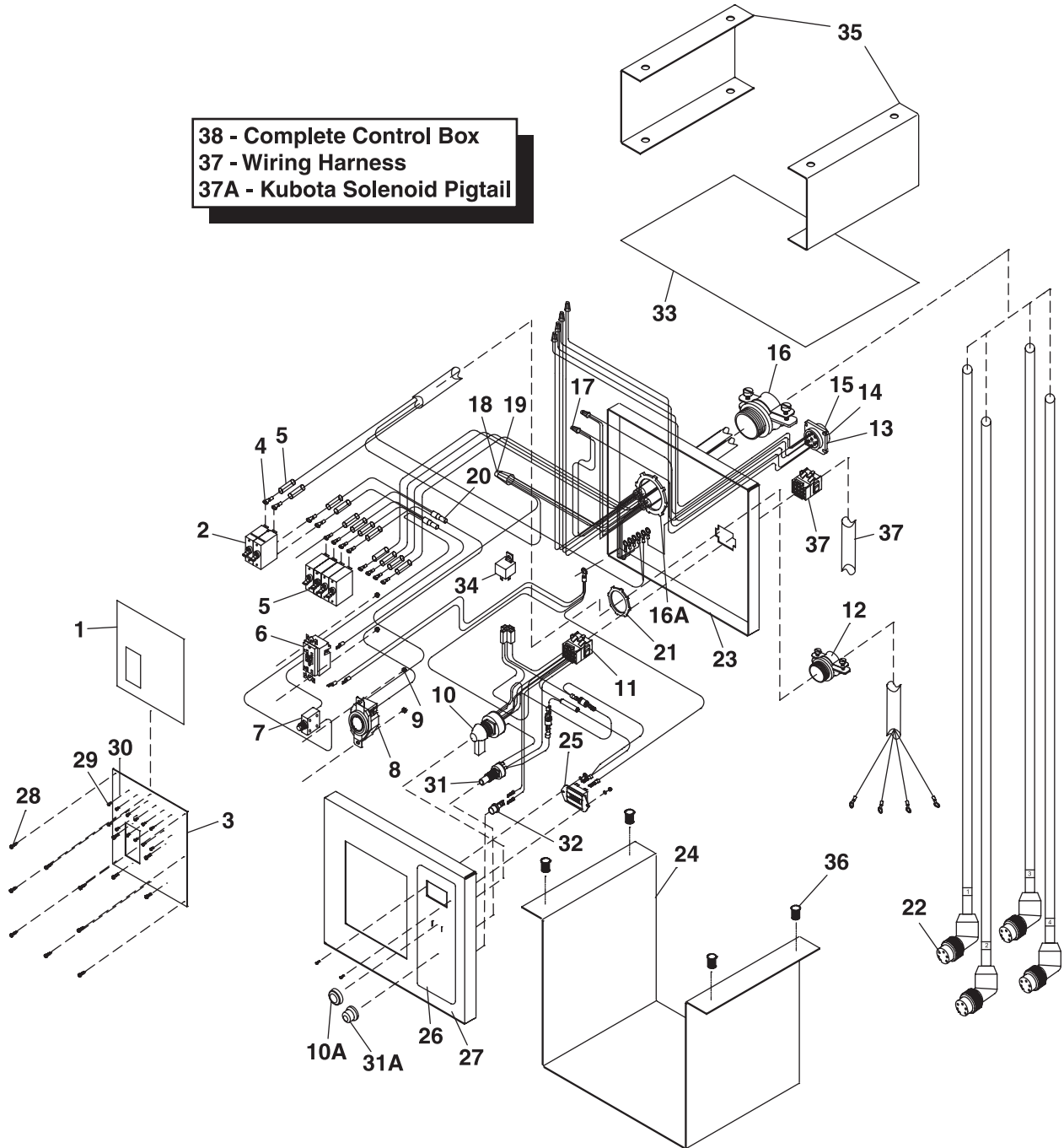
# TOWER ASSEMBLY



ITEM #	PART #	DESCRIPTION	QTY.
1	C48300108	JUNCTION BOX, WITH QUICK CONNECTIONS	1
2	CR61C018	COIL CORD COVER SLEEVE	1
3	CR61A017	WIRE GUIDE BRACKET	1
4	990610	BOLT TEE 1/2-20NF	1
5	CU61A090	SPRING,KICKOUT	1
6	CS63C080	TOWER BASE	1
7	CR61C010	TOWER, 4" SECTION	1
8	CR61C020	TOWER, 3" SECTION	1
9	CR61C030	TOWER, 2" SECTION	1
10	CS61C060	SWIVEL, BOOM(TOWER)	1
11	CU51A103	DECAL: AVOID BOOM SWING	1
12	CR51A107	DECAL: ALIGN ARROWS BEFORE LOWERING	1
13	C61100200	WINCH,BRAKE,1500LB W/HANDLE	1
14	CR64C010	CROSSHEAD	1
15	CR51A103	DECAL: WARNING-TAIL HOOK MUST BE PROPERLY	1
16	CU51A121	DECAL: LIFT HERE W/ ARROW	1
17	CU61A025	CABLE UPPER EXTEND 19'	1
18	CU51A117	DECAL: CAUTION LAMPS GET HOT	1
19	CS61A053	SLIDE BLOCK, TOWER GUIDE	6
20	C41135000	RIVET,POP,1/4" X 1/2"	24
21	CU61A035	CABLE LOWER EXTEND 11'	1
22	C61400100	PULLEY,3"	1

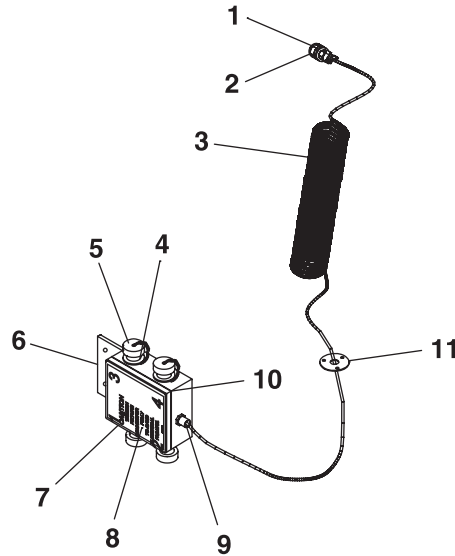
# ELECTRICAL CONTROL BOX

38 - Complete Control Box  
 37 - Wiring Harness  
 37A - Kubota Solenoid Pigtail



ITEM #	PART #	DESCRIPTION	QTY.
1	853294	DECAL: AL/RL CONTROL BOX AC "POWER & LIGHT"	1
2	683680	BREAKER 2P 30A 240V	1
3	186546	CONTROL BOX,FACE PLATE	1
4	709133	TERMINAL,RING	2
5	683870	BREAKER 1P 15A 277VAC	4
6	684640	RECEPTACLE 20A 120V DUPLEX W/GFI	1
7	683970	BREAKER MINI 1P 20A	1
8	684450	RECEPTACLE 30A 240V	1
9	C54100600	NUT, NYLOCK, 8-32 ZINC	5
10	684380	SWITCH, IGNITION LEVER OPERATED	1
10A		included with item 10	
11	116765	WIRE HARNESS,DC ENGINE	1
12	680030	CONNECTOR,2 SCREW,3/4"	1
13	685672	CONNECTOR 9P,FEMALE	1
14	685674	SOCKETS, FEMALE	9
15	800003	CONNECTOR WITH WIRES (includes 13 and 14)	1
16	686220	CONNECTOR,2 SCREW,1.25	1
16A		included with item 16	
17	709032	TERMINAL,CLOSED END	2
18	680060	WRAP CAP	1
19	680290	CRIMP SLEEVE	1
20	116770	WIRE HARNESS	1
21	680250	LOCKNUT, CONDUIT 3/4"	1
22	663890	CORD SET FEMALE 6FT 5P	4
23	186542	CONTROL BOX,REAR PANEL	1
24	186540	CONTROL BOX BODY	1
25	260361	HOURMETER, DIGITAL	1
26	853289	DECAL: AL/RL CONTROL BOX DC "ENGINE CONTROLS"	1
27	186544	CONTROL BOX,FRONT PANEL	1
28	996340	SCREW,#10-16X3/4 PH ZP	12
29	995300	SCREW,#6-32X1/4 PAN HD	12
30	994420	WASHER,LOCK,#6	12
31	R660010	SWITCH PUSH-BUTTON	1
31A		included with item 31	
32	682715	LIGHT INDICATOR 12V RED	1
33	186543	CONTROL BOX,TOP PANEL	1
34	R661490	RELAY 12V DC 30A	1
35	186548	BRACKET, E-BOX HANGER	2
36	993310	NUTSERT,1/4-20UNC	8
37	116820	WIRING HARNESS, FROM ENGINE	1
37A	800004	KUBOTA SOLENOID PIGTAIL	1
38	116805	COMPLETE ELECTRICAL CONTROL BOX, includes 1-36	1

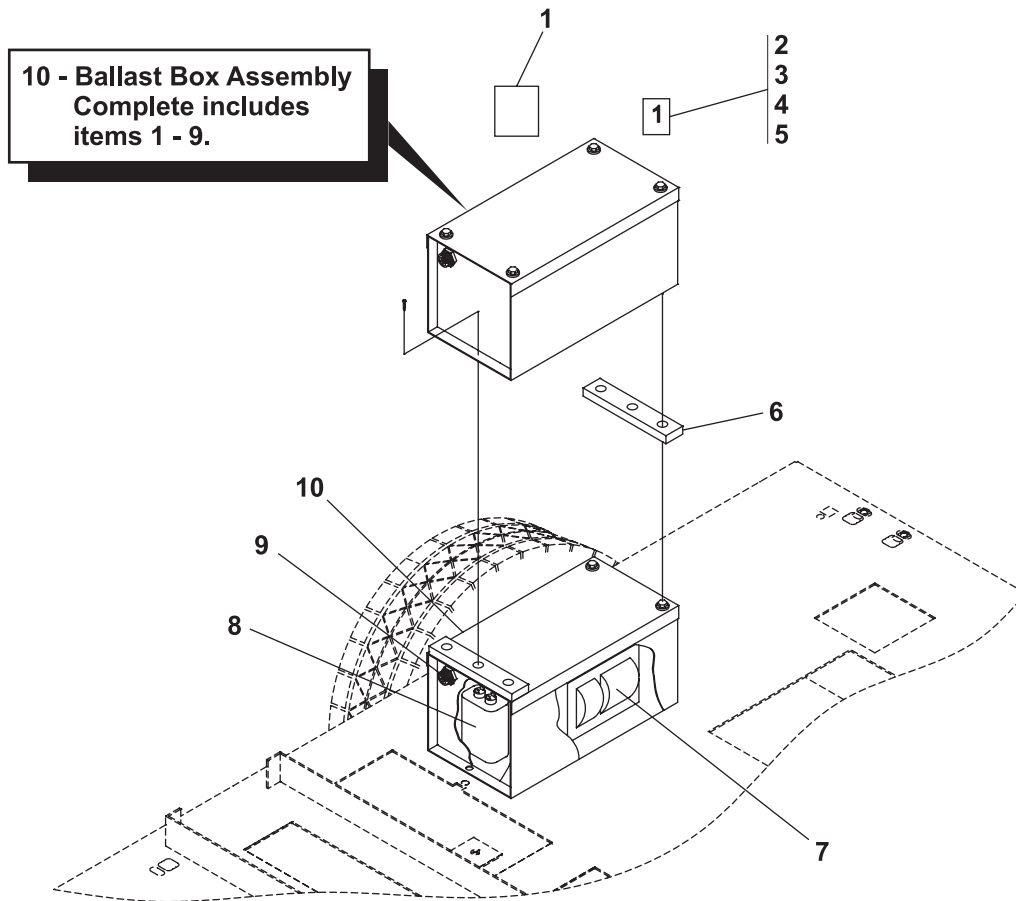
## COIL CORD & JUNCTION BOX



**12 - Junction Box,  
 Complete with Coil Cord  
 Includes items 1 - 11.  
 13 - Coil Cord Assembly  
 Includes items 1, 2 & 3.**

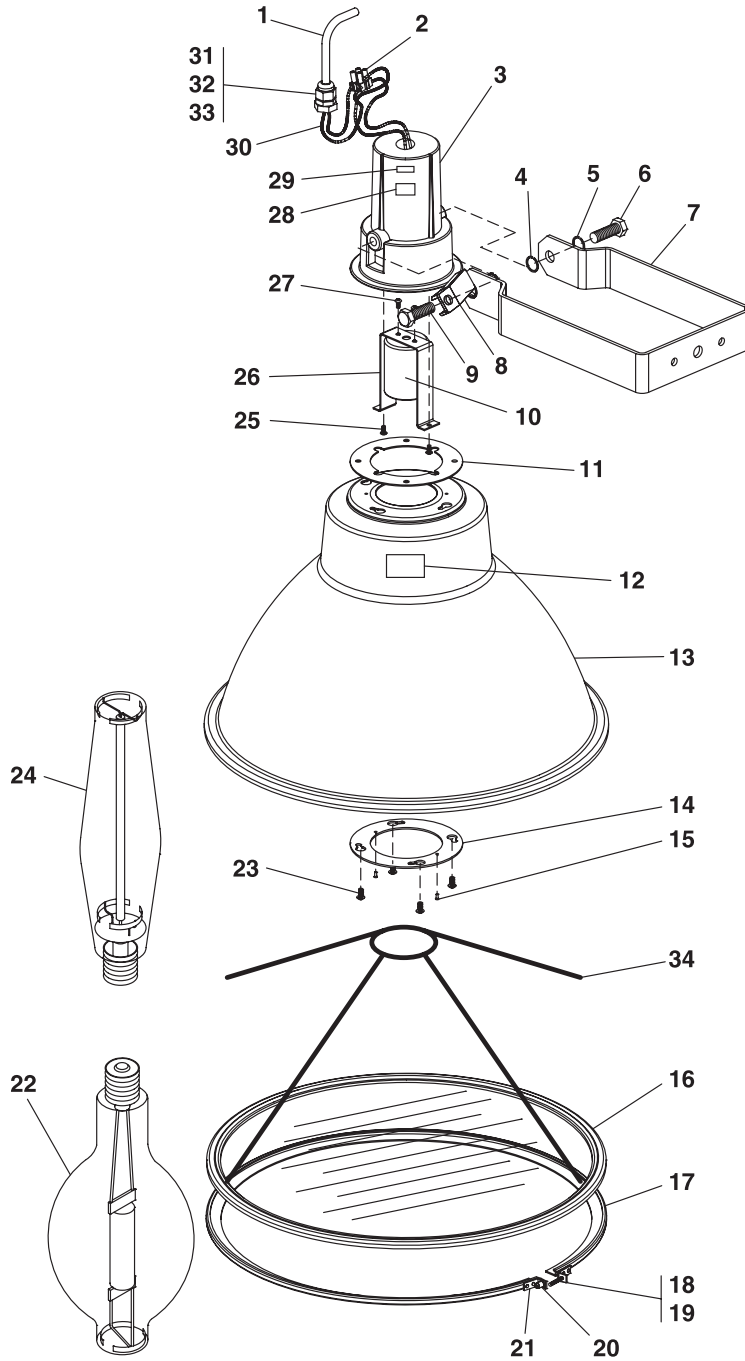
ITEM #	PART #	DESCRIPTION	QTY.
1	685673	PIN, MALE	9
2	685671	CONNECTOR 9P,MALE	1
3	660287	CORD RETRACT 14/7	1
4	663870	CONNECTOR 3P FEMALE	4
5	663880	DUST CAP W/CHAIN	4
6	C48300108	JUNCTION BOX	1
7	680190	BOX COVER 2GANG W/GASKET	1
8	852800	DECAL: CAUTION TIGHTEN FIXTURE CONNECTOR	1
9	680080	GRIP-HUBBLE	1
10	720440	WEATHERSTRIP ADHESIVE	AR
11	CR58C012	COIL CORD BULKHEAD	1
12	112555	JUNCTION BOX, COMPLETE WITH COIL CORD includes 1-11	1
13	112575	COIL CORD ASSEMBLY (Includes items 1, 2 and 3)	1

## BALLAST ASSEMBLY



ITEM #	PART #	DESCRIPTION	QTY.
1	850130	DECAL: DANGER HIGH VOLTAGE	4
2	851691	DECAL: 1	4
3	851692	DECAL: 2	4
4	851693	DECAL: 3	4
5	851694	DECAL: 4	4
6	189346	BALLAST SPACER	4
7	160030	BALLAST TRANSFORMER	4
8	160032	CAPACITOR 24uF MH 60Hz	4
9	663860	CONNECTOR,5P,MALE	4
10	114355	BALLAST BOX MH JOY 1000W/120V/60HZ (Complete Assembly includes items 1 - 9)	4

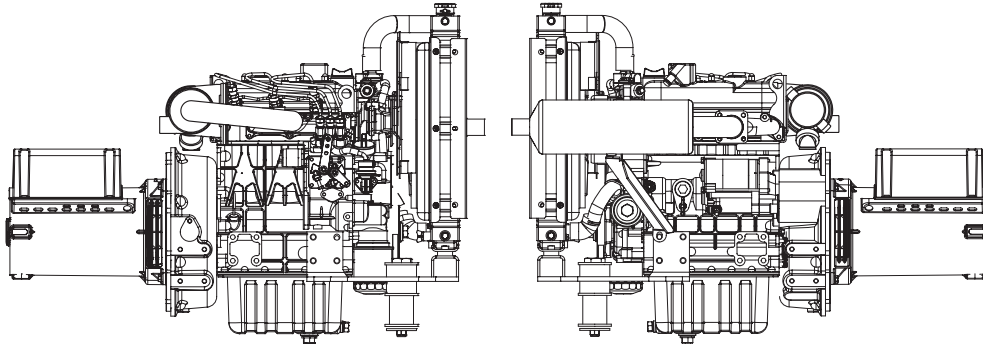
# FIXTURE ASSEMBLY



**NOTE:**  
**FOR COMPLETE MH ASSEMBLY**  
**ORDER PART# C41100720**

ITEM #	PART #	DESCRIPTION	QTY.
1	663850	CORD SET MALE 5FT. 3P	1
2	709034	TERMINAL STRIP, 2P	2
3	833567	CASTING FOR NEW FIXTURE	1
4	995970	WASHER LOCK STAR 1/2	2
5	991650	WASHER LOCK 1/2	2
6	990810	SCREW 1/2-13NCX1-1/2 HHC GR 2 ZP	2
7	833566	TRUNION	1
8	833573	T-HANDLE	1
9	981640	SCREW 1/2-13NCX1-1/4 HHC GRADE 5	1
10	833569	GASKET FOR REFLECTOR	1
11	833564	SOCKET BASE-MOGUL	1
12	833585	LABEL, FIXTURE CSA APPROVED	1
13	833568	REFLECTOR	1
14	833570	RING,REINFORCING FOR REFLECTOR	1
15	990675	RIVET POP 1/8X.390 GR-1/4-5/16	2
16	833524	LENS W/ GASKET	1
17	833543	CLAMP;LENS TO REFLECTOR	1
18	833574	SCREW,8-32X1" HH SLOT	1
19	833581	WASHER, FIBER FOR BAND	1
20	833578	NUTSERT FOR BAND,8-32 X 1/4	1
21	NPN	included with item 17	1
22	160071	LAMP MH 1000W	1
23	833571	SCREW,10-24X5/8	4
24	160140	LAMP HPS 1000W	1
25	833565	SCREW 8-32X3/8 PH	2
26	833563	SOCKET BRACKET	1
27	833577	SCREW,8-32X5/8	2
28	833584	LABEL,105C CORD RATING	1
29	833583	LABEL,WET LOCATION	1
30	833582	FIBERGLASS WIRE SLEEVE	1
31	683950	GASKET 1/2 S/R CONN	1
32	680020	LOCKNUT CONDUIT 1/2	1
33	682470	CONNECTOR STRAINRELIEF	1
34	120102	LAMP SUPPORT	2
35	C41100720	COMPLETE FIXTURE ASSEMBLY (Includes items 1-34)	1

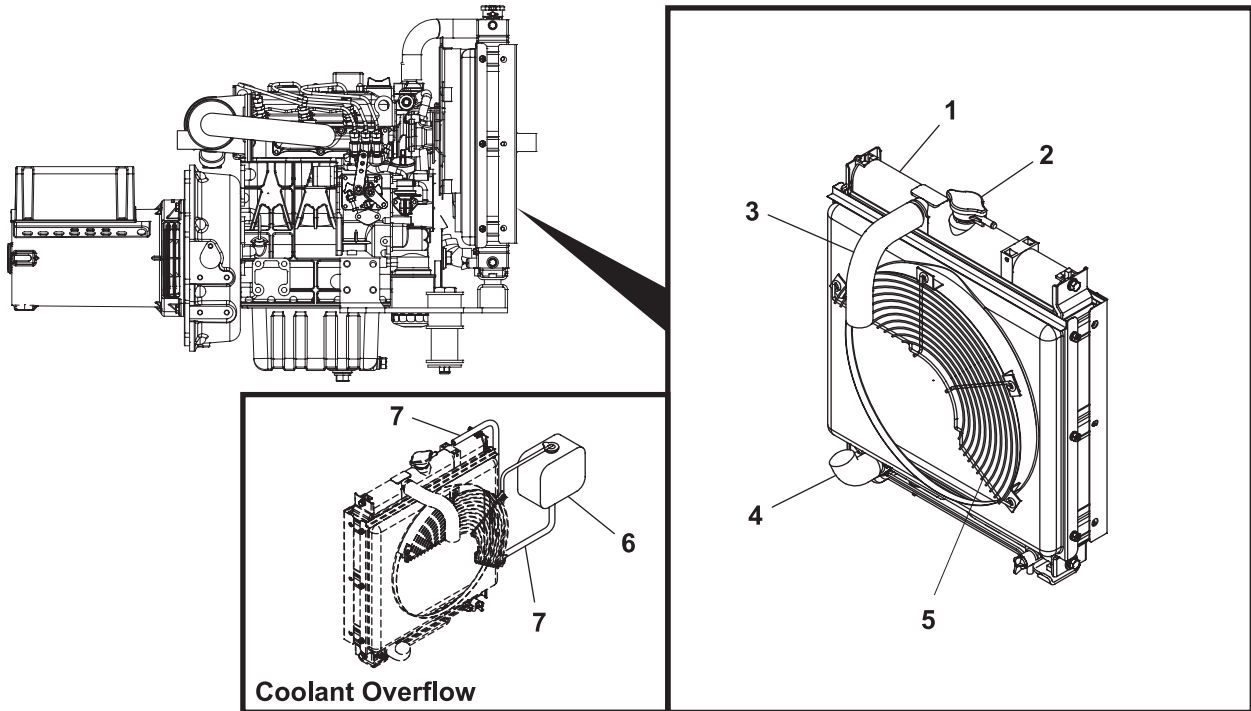
## ENGINE/GENSET ASSEMBLY (KUBOTA D1105)



**All items listed are service parts that Terex stocks. Additional engine parts breakdowns are available through the Service and Sales Department.**

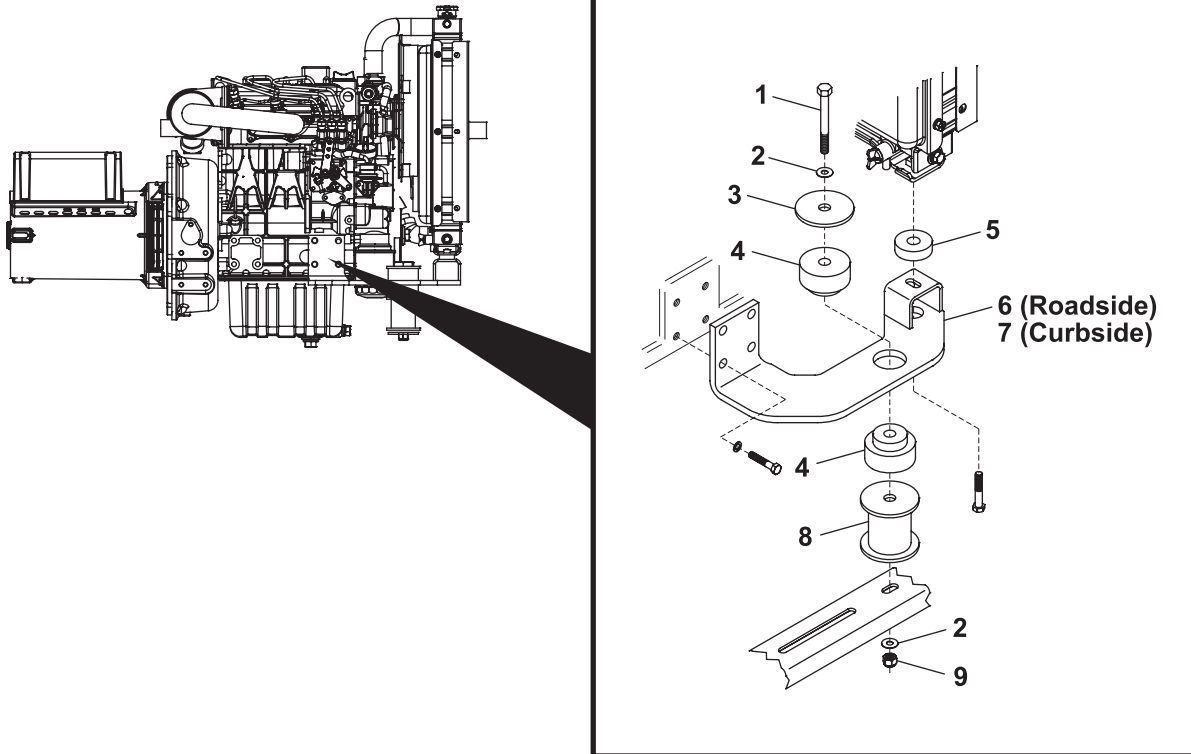
ITEM #	PART #	DESCRIPTION	QTY.
1	732205PP	KUBOTA D1105 ENGINE POWERPACK BUILD EBG2	1
2	839190	LOW OIL PRESSURE SWITCH	1
3	741140	HIGH TEMPERATURE SWITCH	1
4	866125	AIR CLEANER ASSEMBLY	1
5	866126	AIR CLEANER BODY	1
6	866127	AIR CLEANER ELEMENT	1
7	866128	AIR CLEANER COVER	1
8	866129	AIR CLEANER VALVE	1
9	866050	OIL FILTER	1
10	740620	FUEL FILTER, IN-LINE, 5/16	1
11	839107	FUEL FILTER ASSEMBLY	1
12	839200	ELEMENT	1
13	865223	FUEL PUMP	1
14	866101	STARTER	1
15	866090	ALTERNATOR	1
16	866044	2 WIRE STOP SOLENOID	1
17	839209	V-BELT	1
18	839261	WATER PUMP	1
19	839134	FAN, PUSHER	1
20	839154	OIL DIPSTICK	1
21	865276	MUFFLER	1

## RADIATOR ASSEMBLY



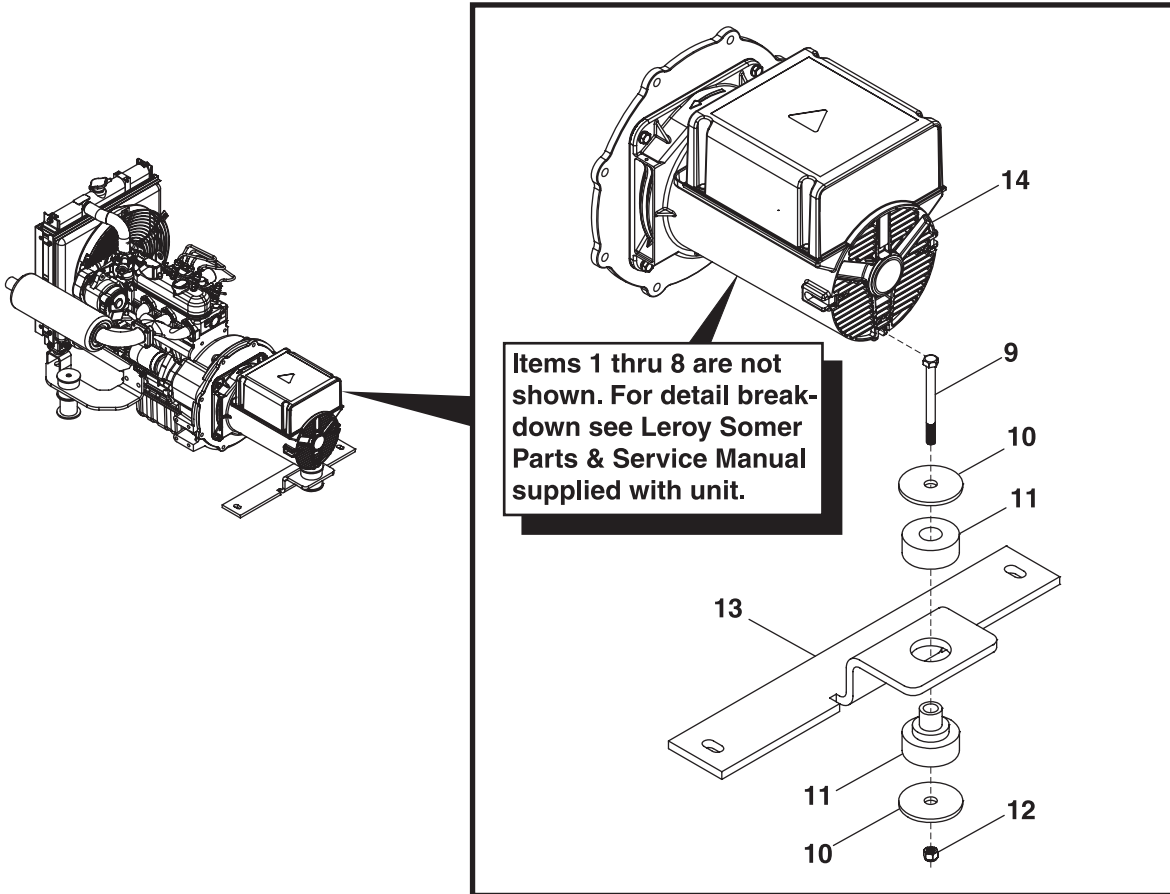
ITEM #	PARTS #	DESCRIPTION	QTY.
1	866114	RADIATOR	1
2	866120	CAP FOR RADIATOR	1
3	839109	HOSE, TOP	1
4	839110	HOSE, BOTTOM	1
5	866113	FAN GUARD	1
6	865307	COOLANT RECOVERY TANK	1
7	890790	HOSE FUEL 1/4X1/2 200#	AR

## ENGINE/RADIATOR MOUNTING BRACKET



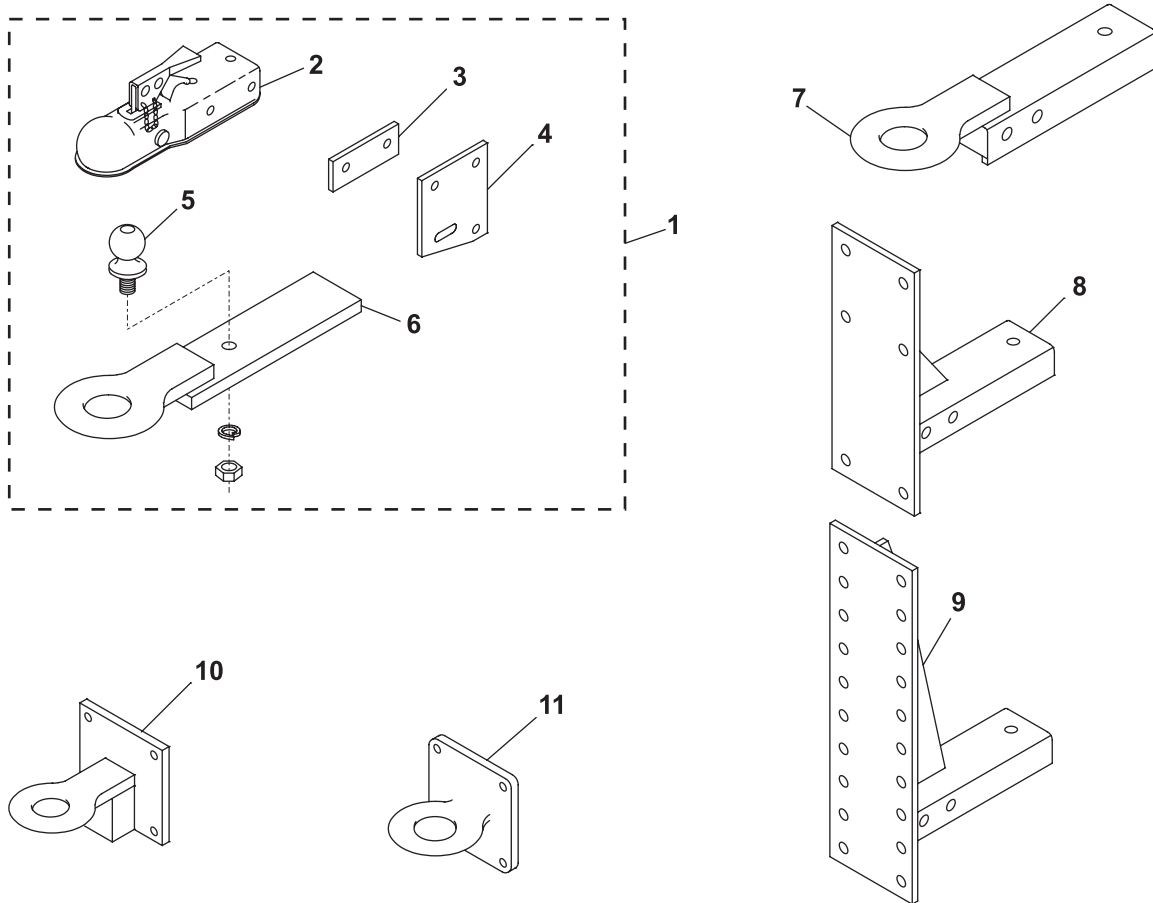
ITEM #	PART #	DESCRIPTION	QTY.
1	995380	SCREW, 1/2-13NC X 6-1/2 HHC, GRADE 5, ZP	2
2	990210	WASHER FLAT 1/2	4
3	990415	WASHER, FLAT SNUBBER	2
4	740925	VIBRATION MOUNT, 30 DUR	2
5	740770	VIBRATION MOUNT 35 LB	2
6	124015	ENG.FT/RAD SUPPORT ROADSIDE, D1105/LSA36 (shown)	1
7	124016	ENG.FT/RAD SUPPORT CURBSIDE D1105/LSA36 (not shown)	1
8	124025	ENGINE RISER, 2.75" HIGH FOR 1/2" BOLT	2
9	990200	NUT LOCK NYLON INSERT 1/2-13NC GR 2 ZPIN	2

## GENERATOR MOUNTING BAR



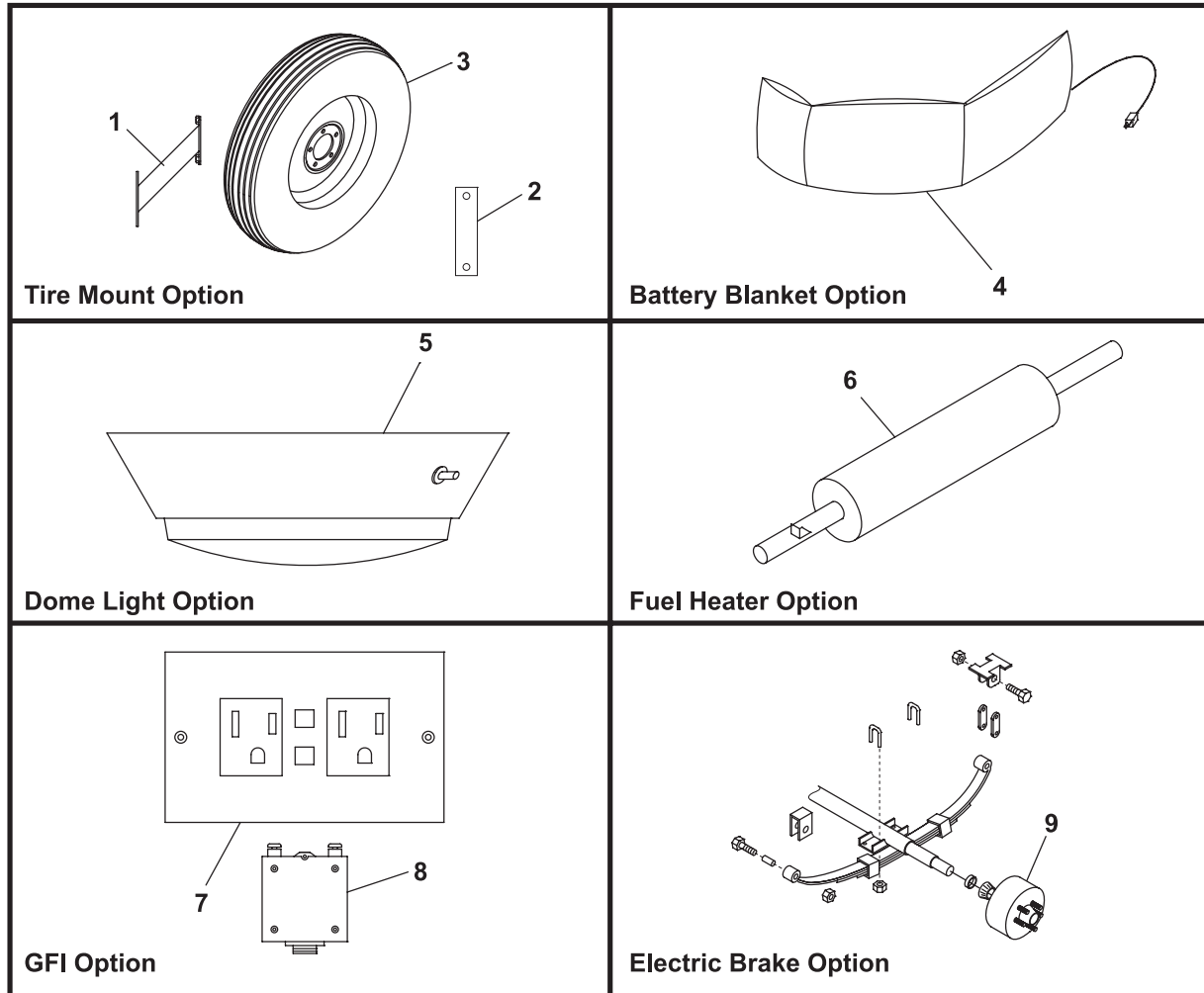
ITEM #	PART #	DESCRIPTION	QTY.
1	836704	NDE BEARING	1
2	836705	DIODE KIT (includes 2 diodes)	1
3	836706	ROTOR BOLT (8 X 245)	1
4	836707	TOP COVER	1
5	836708	END CAP	1
6	836709	FAN	1
7	836710	TERMINAL BLOCK	1
8	836711	CAPACITOR, 22.5mf, (two per unit required)	2
9	996290	SCREW, M10 X 1.5 X 90MM HHC, GRADE 8.8, ZP	1
10	990415	WASHER, FLAT SNUBBER	2
11	740925	VIBRATION MOUNT, 30 DUR	3
12	996496	NUT LOCK NYLON INSERT M10 X 1.5 HEX ZP	1
13	189344	GENERATOR MOUNT BAR	1
14	630905	GENERATOR L-S 6KW 120/240 C106 SAE5 LSA36	1

## TRAILER HITCHES



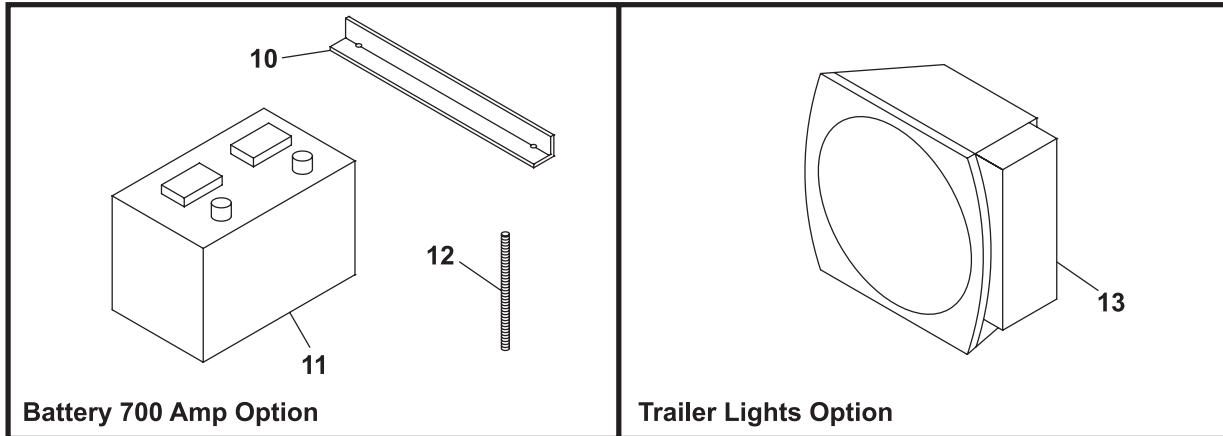
ITEM #	PART #	DESCRIPTION	QTY.
1	940000	KIT: COMBO HITCH, includes items 2-6	1
2	840120	COUPLER, 2", BOLT ON	1
3	176336	COMBO HITCH SIDE SPACER	2
4	176335	COMBO HITCH SIDE PLATE	2
5	840470	BALL, 2"	1
6	121572	COMBO HITCH RING, 16" LONG	1
7	213770	RING HITCH BOLT-ON, 2-1/2 ID	1
8	124450	ADJUSTABLE HEIGHT HITCH, 24"	1
9	221580	ADJUSTABLE HEIGHT HITCH, 18" TO 36"	1
10	211410	RING HITCH FOR ADJ. HEIGHT HITCH, 2 1/2" ID	1
11	841200	RING HITCH FOR ADJ. HEIGHT HITCH, 3" ID	1

## OPTIONS



ITEM #	PART #	DESCRIPTION	QTY.
1	R82A150	SPARE TIRE MOUNT	1
2	R82A160	CLAMP, SPARE TIRE BRKT, TONGUE MNT.	2
3	C83100900	TIRE, B78-13B W/13", BLACK RIM	1
4	160530	BATTERY BLANKET THERMO 284-4001 36"LG	1
5	C41101100	LIGHT DOME WITH SWITCH	1
6	741690	FUEL LINE HEATER, DIESEL, 12V, 150W	1
7	683970	BREAKER MINI 1P 20A	1
8	684640	RECEPTACLE 20A 120V DUPLEX W/GFI	1
9	842084	AXLE 3500LB W/ELECTRIC, BRAKES, 48"HF, 36"SC, RL4	1

## OPTIONS (CONTINUED)



ITEM #	PART #	DESCRIPTION	QTY.
10	174170	BATTERY HOLDDOWN ANGLE 14.50	1
11	161085	BATTERY, WET, 12V GR24, 700 AMP HEAVY-DUTY L/A	1
12	182331	BATTERY HOLD-DOWN ROD, 1/4X11-1/4	2
13	660420	LIGHT, TRAILER KIT M540, WITH RIGHT, LEFT, SIDE	1