

# LIGHTNING

BATTERY POWERED HIGH SPEED BURNISHER



Operating Instructions (ENG)  
Bedienungsanleitung (GER)



Where Unsung Heroes Make It Happen™

800.647.2737

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Wholesale Parts Pricing

**MODEL:** L20  
10027100  
L20T  
10027110

**QUEST** ...for Continuous Improvement

Windsor's Quality Management System is Certified ISO 9001.



*Read these instructions before operating the machine.  
Bitte lesen Sie diese Anleitungen, bevor Sie die Maschine in Gebrauch nehmen*

## MACHINE DATA LOG

Model: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Dealer: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Sales Representative: \_\_\_\_\_

### Warranty Registration

Thank you for purchasing a Windsor product. Warranty registration is quick and easy.  
Your registration will allow us to serve you better over the lifetime of the product.

To register your product go to:

[www.windsorind.com/WarrantyRegistration.aspx](http://www.windsorind.com/WarrantyRegistration.aspx)

For customer assistance:

1-800-444-7654



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## HOW TO USE THIS MANUAL

This manual contains the following sections:

- HOW TO USE THIS MANUAL
- SAFETY
- OPERATIONS
- MAINTENANCE
- PARTS LIST

The HOW TO USE THIS MANUAL section will tell you how to find important information for ordering correct repair parts.

Parts may be ordered from authorized dealers. When placing an order for parts, the machine model and machine serial number are important. Refer to the MACHINE DATA box which is filled out during the installation of your machine. The MACHINE DATA box is located on the inside of the front cover of this manual.

Model:	_____
Date of Purchase:	_____
Serial Number:	_____
Dealer:	_____
Address:	_____
Phone Number:	_____
Sales Representative:	_____

The model and serial number of your machine is on the bottom back-end of the machine.

The SAFETY section contains important information regarding hazard or unsafe practices of the machine. Levels of hazards is identified that could result in product or personal injury, or severe injury resulting in death.

The OPERATIONS section is to familiarize the operator with the operation and function of the machine.

The MAINTENANCE section contains preventive maintenance to keep the machine and its components in good working condition. They are listed in this general order:

- Batteries
- Maintenance
- Shunt Adjustments
- Shaft Adjustment
- Lubrication
- Troubleshooting

The PARTS LIST section contains assembled parts illustrations and corresponding parts list. The parts lists include a number of columns of information:

- **REF** – column refers to the reference number on the parts illustration.
- **PART NO.** – column lists the part number for the part.
- **PRV NO.** – reference number.
- **QTY** – column lists the quantity of the part used in that area of the machine.
- **DESCRIPTION** – column is a brief description of the part.
- **SERIAL NO. FROM** – column indicates the first machine the part number is applicable to. When the machine design has changed, this column will indicate serial number of applicable machine. The main illustration shows the most current design of the machine. The boxed illustrations show older designs.
- **NOTES** – column for information not noted by the other columns.

*NOTE: If a service or option kit is installed on your machine, be sure to keep the KIT INSTRUCTIONS which came with the kit. It contains replacement parts numbers needed for ordering future parts.*

*NOTE: The number on the lower left corner of the front cover is the part number for this manual.*

# IMPORTANT SAFETY INSTRUCTIONS

**When using an battery powered appliance, basic precaution must always be followed, including the following:**

**READ ALL INSTRUCTIONS BEFORE USING THIS MACHINE.**

**⚠ WARNING:** To reduce the risk of fire, electric shock, or injury:

**Use only** indoors. Do not use outdoors or expose to rain.

**Use only** as described in this manual. Use only manufacturer's recommended components and attachments.

If the machine is **not working properly**, has been dropped, damaged, left outdoors, or dropped into water, return it to an authorized service center.

**Do not** operate the machine with any openings blocked. Keep openings free of debris that may reduce airflow.

This machine **is not** suitable for picking up hazardous dust.

**Machine can cause a fire** when operating near flammable vapors or materials. Do not operate this machine near flammable fluids, dust or vapors.

**This machine is suitable for commercial use, for example in hotels, schools, hospitals, factories, shops and offices for more than normal housekeeping purposes.**

Maintenance and repairs **must be done** by qualified personnel.

If foam or liquid comes out of machine, **switch off immediately**.

**Disconnect** battery before cleaning or servicing.

Before the machine is discarded, the batteries **must be removed** and properly disposed of.

Make sure all warning and caution labels **are legible and properly attached** to the machine.

**During operation**, attention shall be paid to other persons, especially children.

**Before use** all covers and doors shall be put in the positions specified in the instructions.

**When leaving unattended**, secure against unintentional movement.

**The machine shall only** be operated by instructed and authorized persons.

**When leaving unattended**, switch off or lock the main power switch to prevent unauthorized use.

**Only chemicals recommended** by the manufacturer shall be used.

**This appliance has been designed** for use with the brushes specified by the manufacturer. The fitting of other brushes may affect its safety.

**Do not** use on surfaces having a gradient exceeding 2% unless the optional parking brake is installed on the machine.

## SAVE THESE INSTRUCTIONS

## HAZARD INTENSITY LEVEL

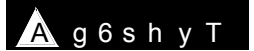
The following symbols are used throughout this guide as indicated in their descriptions:

### HAZARD INTENSITY LEVEL

There are three levels of hazard intensity identified by signal words -**WARNING** and **CAUTION** and **FOR SAFETY**. The level of hazard intensity is determined by the following definitions:



**WARNING** - Hazards or unsafe practices which COULD result in severe personal injury or death.



**CAUTION** - Hazards or unsafe practices which could result in minor personal injury or product or property damage.

### ***FOR SAFETY: To Identify actions which must be followed for safe operation of equipment.***

Report machine damage or faulty operation immediately. Do not use the machine if it is not in proper operating condition. Following is information that signals some potentially dangerous conditions to the operator or the equipment. Read this information carefully. Know when these conditions can exist. Locate all safety devices on the machine. Please take the necessary steps to train the machine operating personnel.

### ***FOR SAFETY:***

DO NOT OPERATE MACHINE:

Unless Trained and Authorized.

Unless Operation Guide is Read and understood.

In Flammable or Explosive areas.

In areas with possible falling objects.

### ***WHEN SERVICING MACHINE:***

Avoid moving parts. Do not wear loose clothing; jackets, shirts, or sleeves when working on the machine. Use Windsor approved replacement parts.



Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep solution tank in raised position when charging. Keep sparks and flames away from the batteries. Do not smoke around batteries.

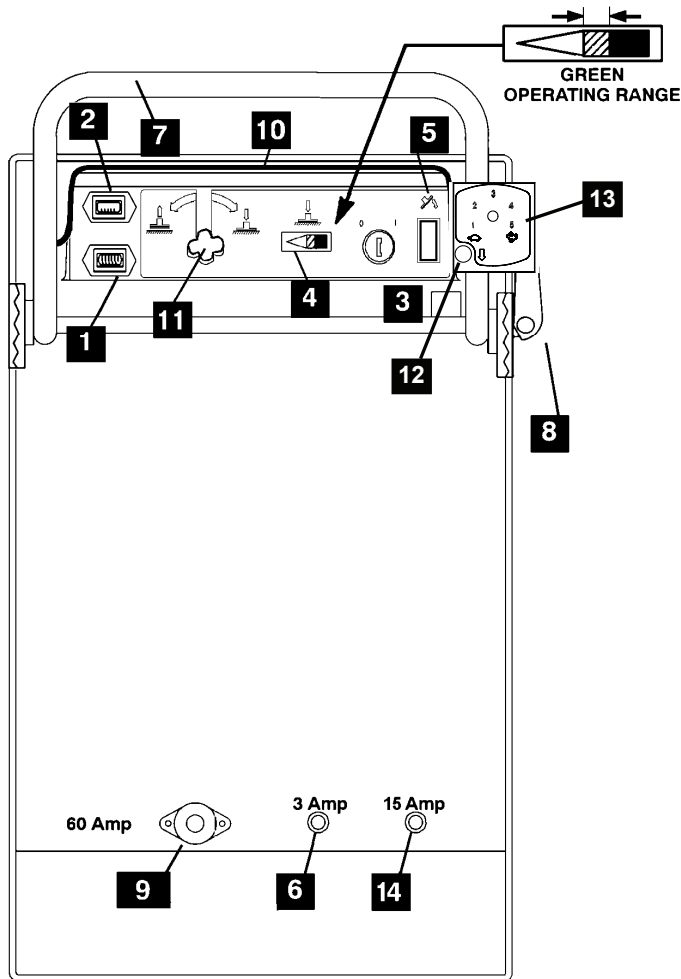


Disconnect batteries before working on machine. Only qualified personnel should work inside machine. Always wear eye protection and protective clothing when working on or near batteries. Avoid skin contact with the acid contained in the batteries.



Never allow metal to lie across battery tops.

## COMPONENTS/CONTROLS

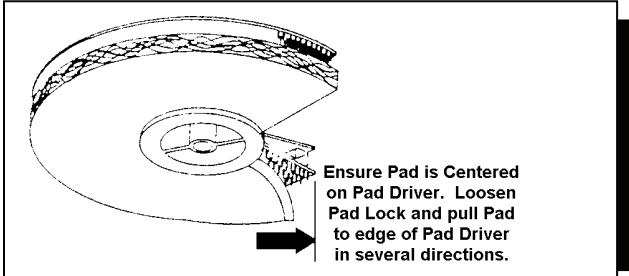


1. **Hour Meter.** Records machine use time.
2. **Battery Condition Light.** Indicates the charge condition of batteries.
3. **Main Power Switch.** Turns On and Off the machine.
4. **Pad Pressure Meter.** "Green Area" indicates correct pad pressure range.
5. **Burnishing Head Switch.** Raises and lowers burnishing head.
6. **3 Amp Circuit Breaker.** Thermal circuit breaker protects lift mechanism. Press to reset.
7. **Main Handle.**
8. **Handle Adjustment Lever.**
9. **Breaker.** 60 amp magnetic circuit breaker, protects pad driver motor. Press to reset.
10. **Pad Motor Switch Bar.** Raising bar turns on pad driver motor.
11. **Pad Adjustment Knob.** Rotating knob adjusts pad pressure.
12. **Reverse Button (Traction model only).** Propel bar must be squeezed and button pushed for reverse travel.
13. **Speed Control (Traction model only).** Knob rotated left to right for slow to fast speed.
14. **15 Amp Circuit Breaker (Traction model only).** Protects transaxle.

## MACHINE OPERATION

### PRE-RUN MACHINE INSPECTION

1. Disconnect the battery charger. (*See battery charging procedure*).
2. Close the cover.
3. To raise the deck: Turn on the main power switch and press the burnishing head switch.
4. Turn or install a new burnishing pad as needed.  
**NOTE:** Pad lock has left hand threads. To loosen turn clockwise.



5. Check wheels and other pivot points for proper lubrication.

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### OPERATING THE MACHINE

1. If using a machine that is already set up, check to make sure the pad is properly installed.
2. Adjust the operating control handle to a comfortable position using the handle lock lever.
3. Turn on the main power switch.
4. Lower or raise deck by pressing burnishing head switch.
5. The pad motor will only run when the burnishing head is lowered to within 3 inches of the floor.
6. The drive controls are shown on page 3-1.
7. The pad pressure is adjusted using the knob at center of panel. The operator monitors the amp draw using the meter located on the control panel and ensures that the needle remains in the "green" operating range. (*See page 3-1, #4 & 11*).

### CAUTION

To prevent possible damage to the floor surface, always keep the machine moving while the pad is spinning.

8. When the pad motor switch bar is squeezed, the pad motor runs.
9. Return the machine to the battery charger when the battery light indicator light is amber. Do not operate machine when indicator is flashing red.

### FILTER BAG

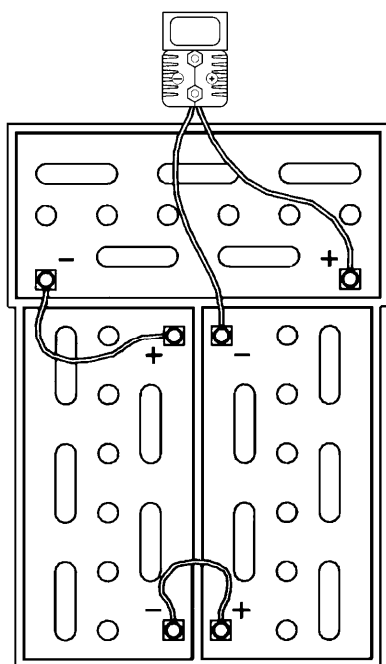
The filter bag is accessed under the cover.

### DUST CONTROL SKIRT

Replace skirt (**86007290 – PRV NO. 730017**) when worn, torn, or damaged in any way that allows dust to escape.



## BATTERY INFORMATION



### BATTERY MAINTENANCE

1. When cleaning batteries use a solution of baking soda and water. (Do not allow cleaning fluid to enter inside battery cells.)
2. Keep a proper electrolyte level in battery cells.
3. Wipe down the battery tops at least once a week. If a cell should accidentally overflow, clean immediately.
4. Test battery condition with a hydrometer at least once a week.
5. Ensure that all connections are tight and that all corrosion is removed.
6. Every 4 to 6 months remove batteries from the machine and clean the battery compartment.

### BATTERY CHARGING PROCEDURE

Charge the batteries once the amber charge level light comes on. The amber light indicates that there is about 20% charge left in the batteries. **Do not let the batteries completely drain before charging.** Avoid charging the batteries before the amber light comes on. The machine will run for hours on fully charged, well maintained batteries.

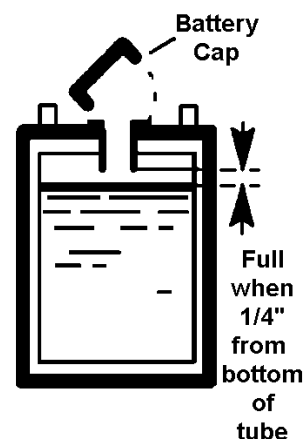
### WARNING:

**DO NOT SMOKE, HAVE OPEN FLAMES, OR SPARKS NEAR BATTERIES AT ANY TIME.**

**WEAR EYE PROTECTION AND PROTECTIVE CLOTHING WHEN WORKING WITH BATTERIES.**

### CHARGE BATTERIES IN A WELL-VENTILATED AREA WITH DECK DOWN AND COVER OPEN.

1. Use a 36 volt, 20 amp maximum output, D.C. charger that turns itself off, when batteries are fully charged. The charger must have a connector that matches the machine battery connection.
2. Read the instructions and warnings provided by the battery charger manufacturer.
3. Set the charger in a well-ventilated area on a level surface. Make sure cords will easily reach outlets on both machine and wall.
4. **Connect charger to D.C. outlet on machine first.**
5. Connect the A.C. power cord to properly grounded wall socket. **NEVER MAKE THE A.C. CONNECTION FIRST, HAZARDOUS SPARKS MAY RESULT.**
6. After the batteries are completely charged disconnect the charger from the A.C. wall socket.
7. Once the charger is disconnected from the A.C. wall socket, it is safe to disconnect the charger from the machine.
8. When the batteries are fully charged, check the electrolyte level by removing the caps on top of the batteries. If necessary fill the cells with distilled water as shown in the diagram below. Be careful not to overfill cells.



## MAINTENANCE

### WEEKLY MAINTENANCE

1. Use a hydrometer to check the condition of each battery cell.
2. Check battery cable clamps. Ensure clamps are tight on battery terminals.
3. Clean tops of batteries with a wet cloth and a solution of water and baking soda. Wipe battery tops dry after cleaning.
4. Check pad lock for looseness or damage.
5. Check filter and filter seals. Airflow should be unobstructed through filter.
6. Ensure that the pivot points and casters are properly lubricated.
7. Tighten any loose screws or nuts.

### 4 TO 6 MONTH MAINTENANCE

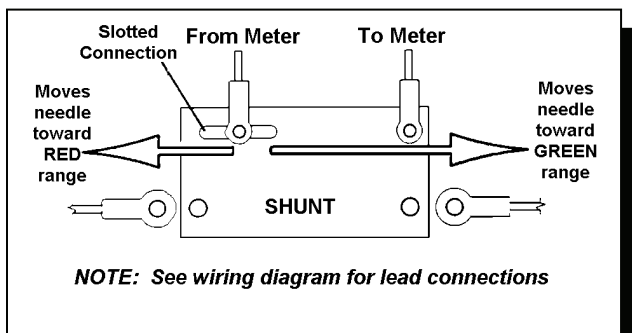
1. Remove batteries-clean battery tray and battery compartment.
2. Clean battery cable clamps and battery terminals.
3. Check the carbon motor brushes in the pad driver motor.
4. Use a vacuum to remove lint or dust build-up from motor windings.
5. Grease axles.

### AT THE END OF EACH WORK PERIOD:

1. Wipe down the exterior of the machine.
2. Lower the deck.
3. Open the cover.
4. Charge the batteries. (See battery charging procedure on page 4-1.)

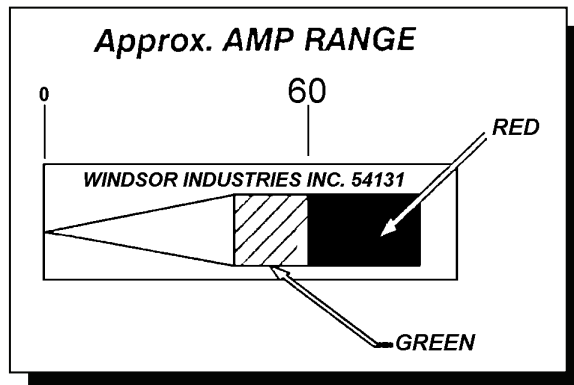
### SHUNT ADJUSTMENT

This pad pressure meter adjustment is factory set. Over the course of time it may become necessary to adjust this setting using the slotted connection on the shunt.



### SHUNT ADJUSTMENT (Cont.)

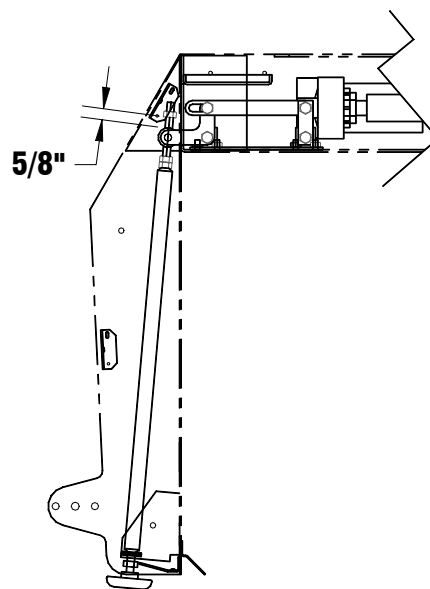
Check the amp range when nuisance tripping of the circuit breaker indicates that the shunt may be out of adjustment.



1. Connect a DC ampere meter to the positive battery lead. Running the machine with a pad, lower the pad to the floor until it is operating at 55-60 amps.
2. Moving the wire in the slot, adjust the pad pressure meter until the needle sets at the line between the green and red areas.
3. Check the other points indicated in the diagram above. The high end should trip the circuit breaker. Replace the pad pressure meter if the approximate amp ranges shown cannot be set.

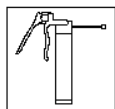
### SHAFT ADJUSTMENT

If shaft is replaced make sure it is adjusted correctly upon installation.

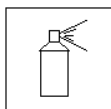


## LUBRICATION & SERVICE SCHEDULE

The following symbols found throughout the manual indicate items requiring lubrication:



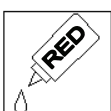
APPLY GREASE



USE SPRAY LUBRICANT



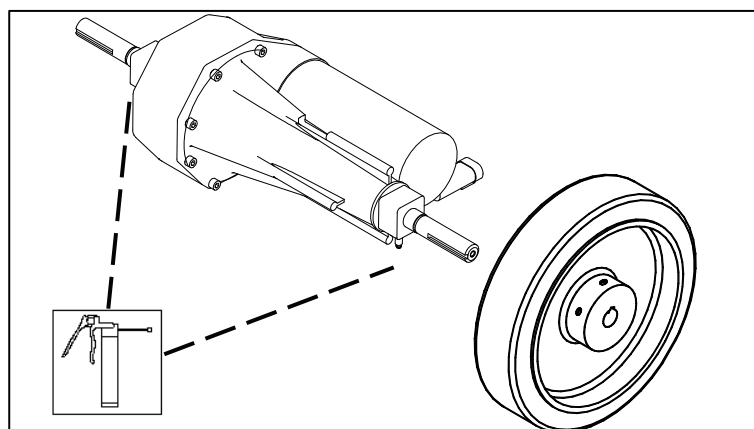
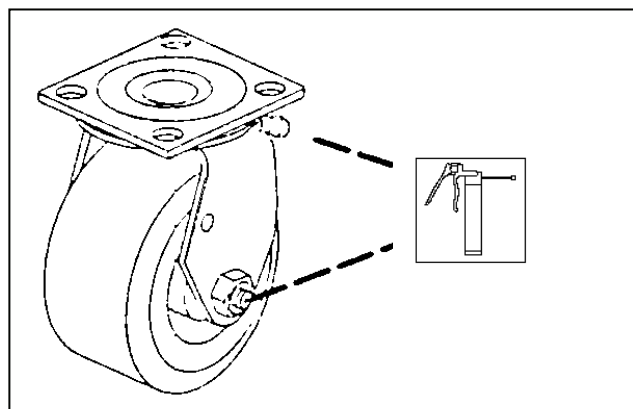
USE ANTI-SEIZE WHEN REPAIRING



PERMANENT (RED)  
THREAD LOCK TIGHT

### AXLE GREASING:

1-2 STROKES OF MOBILTEMP®78 OR  
COMPATIBLE CLAY-BASED OR CALCIUM-  
BASED GREASE.



**CAUTION:** Do not use pressure washers to clean sealed gear boxes or bearings. If it becomes necessary to clean under machine with a pressure washer; Ensure all items noted are re-lubricated

## SERVICE SCHEDULE

MAINTENANCE	DAILY	MONTHLY
Check batteries after charging; add water if necessary	*	
Check pad wear to prevent buildup of chemicals	*	
Check pad driver system for damage	*	
Check bag/filter	*	
Check handles, switches, and knobs for damage	*	
Store with pad off the floor	*	
Check batteries for corrosion, cracks and evidence of overheating		*
Check all bearings for noise		*
Check skirt/bumpers for damage and replace as necessary		*
Grease wheels and casters (if appropriate)		*
Check potentiometer (speed control) for adjustment		*
Check overall performance of machine		*

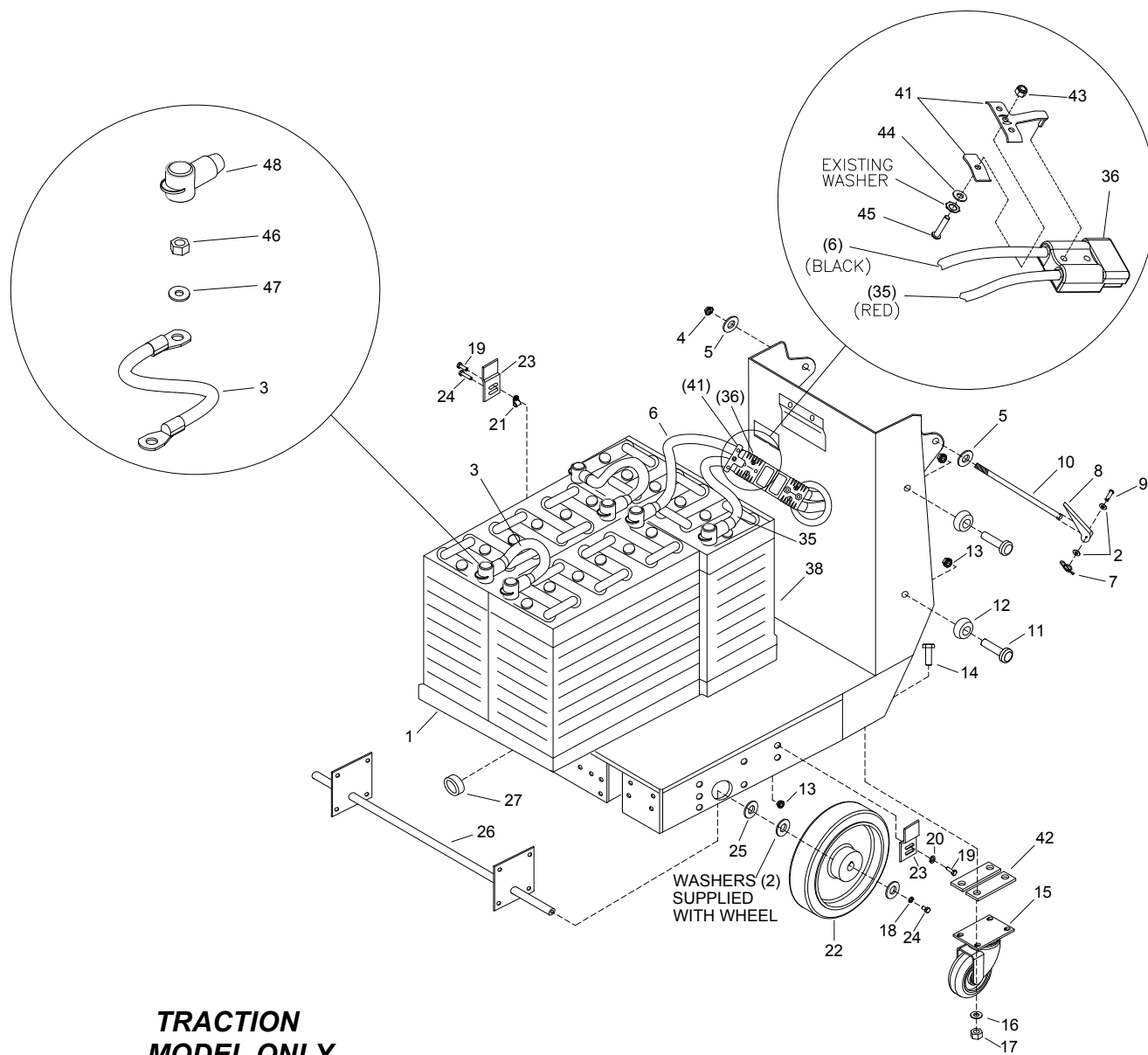
## MACHINE TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
No power to machine	Poor Cable Connection	Clean battery cable clamps of any corrosion and tighten. Test voltage at points G to B should be from 34 to 38 VDC.
	Faulty Main Power Switch	With the main power switch turned on, test voltage at points D to B should be from 34 to 38 VDC. If there is no voltage remove leads and check switch for continuity. Replace if necessary
Pad motor won't run	Circuit breaker has tripped	Reset circuit breaker (H).
	Actuator Safety Switch	With main power on, pad lowered to floor, switch bar pulled up, test voltage at L (wire #2) to B (rear panel) should be 34 to 38 VDC. If not, check and adjust or replace safety switch as necessary.
	Faulty Relay	With main power on, pad lowered to floor and drive handle squeezed: Test voltage at points F to B and A to B should be from 34 to 38 VDC. When the relay is working it should make a clicking noise as the drive handle is squeezed. Replace relay if the test voltage F to B is OK. If test voltage F to B is not OK, check all wiring to pad motor relay.
Deck lift mechanism not working	Circuit breaker has tripped	Reset circuit breaker (J).
Deck switch not working		With main switch on, test voltage at C (5) to C (2) should be 34 to 38 VDC. If not check circuit breaker (J) and main power switch. If the test voltage at C (5) to C (2) is 34 to 38 VDC, the voltage at deck switch C (3) to C (6) should be 34 to 38 VDC when the deck switch is pressed to raise/lower the pad. If not, replace deck switch.
Deck actuator not working		If the deck switch tested OK, but the deck lift actuator still is not working, disconnect the white and black wires to actuator (K) and apply 36 VDC directly to actuator. If the actuator does not respond, replace actuator.
Handle switch not working		Check power from E (wire #1) to B. Check switch continuity.
Drive Controls	Circuit breaker has tripped.	Check if power at wire #26. If yes, but breaker has no power at wire 28 either reset breaker (Q) or replace.
	Bad switch (es).	Check continuity at handle switch for non-traction model. Check continuity at propel switch or pad motor switch for traction model. Replace as necessary.
	Loose connection.	Check all connections of propel circuit especially at M, N, P, R, S & T. Check transaxle connection at U.
	Faulty potentiometer.	With the drive motor disconnected at V, test the output voltage to the drive motor. The output voltage at V should vary from 0 to 36V at R & S as the control lever is squeezed. Resistance of the potentiometer can be tested at the leads 4 & 1 found at the potentiometer T. The resistance should vary from 0-50K ohms.
	Faulty drive control board.	Voltage at T1 (P) to T2 (N) should be from 34 to 38VDC. If the voltage at T1 is good but the propel motor won't respond, and all the tests above have been done, replace the drive control board.

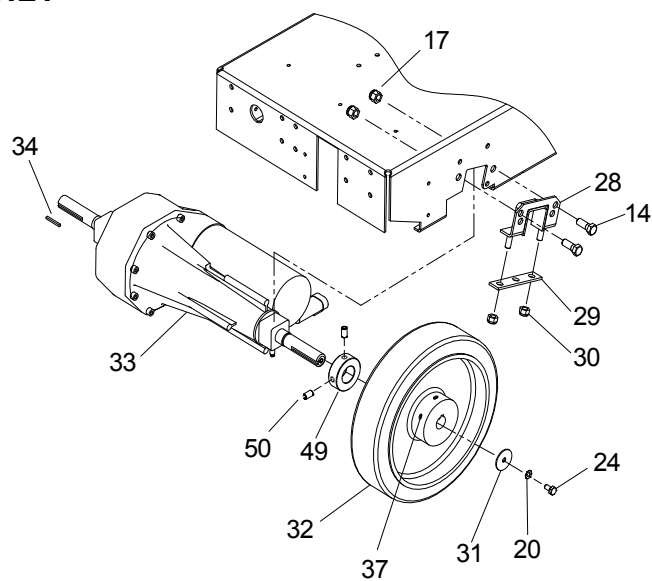
## ***TROUBLESHOOTING.***

<b>PROBLEM</b>	<b>CAUSE</b>	<b>SOLUTION</b>
<b>Drive controls cont.</b>	Faulty motor.	Squeeze the control lever and test the voltage at U (wire #27 & 28). When the output voltage varies with the control lever but the motor does not respond and all the tests above have been done, replace the motor.
<b>Machine will not propel</b>	Loose Connection.	With main power on, test voltage at terminal 30 (X) on Relay should be 34 to 38 VDC. With switch on, check voltage to wire side of resistor (Y). Should be 34 to 38 VDC.
	Bad Relay.	With main power on, test voltage at terminal 87 (Z) should be 34 to 38 VDC.
	Faulty Resistor.	With main power on, test voltage at terminal 85 (AA) should be 22 to 26 VDC.

# CHASSIS/DRIVE ASSEMBLY



## TRACTION MODEL ONLY



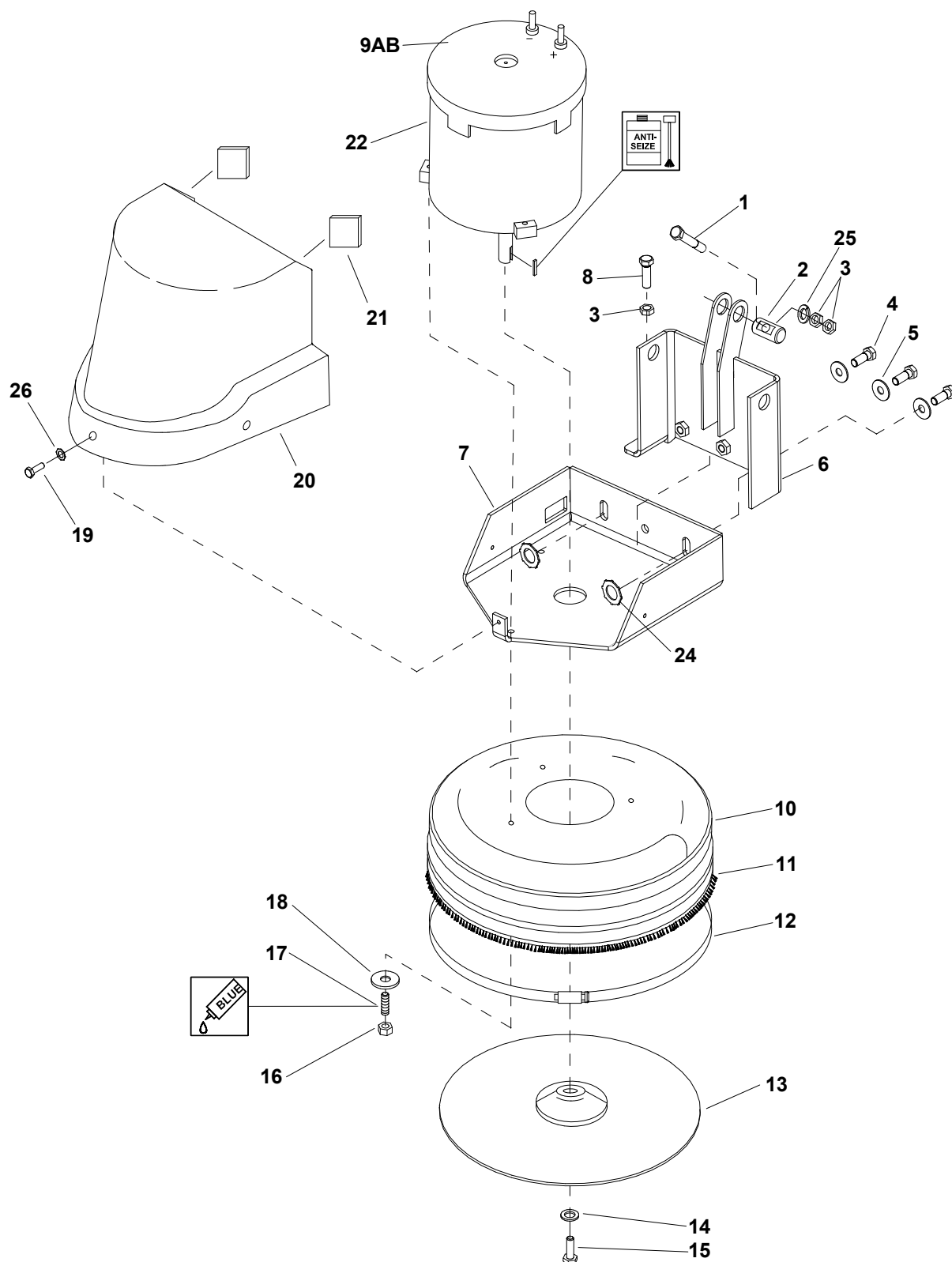
## CHASSIS/DRIVE ASSEMBLY

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86064590	78231	1	TRAY, BATTERY		
2	86010650	87018	2	WASHER, #10 X 9/16OD		
3	86009000	81131	2	WIRE 4X9.5BK 5/16 RING X 5/16 RING		
4	86270880	57032	1	NUT, 3/8-16 SERRATED FLG		
5	86010710	87080	2	WASHER, .5 X 1.25 FLAT		
6	86010860	880353	1	WIRE, 4X20 BK CTERM X 5/16 RING		
7	86008650	80604	1	COTTER, 1/4" RING		
8	86246320	51142	1	LEVER, HANDLE LOCK		
9	86272300	66133	1	PIN, CLEVIS 3/16" X 7/8" L		
10	86252020	67438	1	ROD, HANDLE ADJUSTMENT		
11	86006670	70201	4	SCR, 1/4-20 X 3/4 FHCS		
12	86264500	73454	4	SPACER, MAIN COVER		
13	86005710	57105	16	NUT, 1/4-20 HEX W/ STAR WASHER		
14	86006740	70266	8	SCR, 3/8-16 X 1" HHCS GR5 PLTD DL		
15	86002290	18027	1	CASTER, 4" POLYURETHANE SWIVEL		
16	86278910	87003	4	WASHER, 3/8ID X 7/8OD SS		
17	86005770	57119	8	NUT, 3/8-16 HEX NYLOCK		
18	86278940	87008	2	WASHER, 1/4 ID X 1 1/4 OD PLT		
19	86273830	70020	3	SCR, 1/4-20 X 1/2 HHCS SS DL		
20	86010780	87162	2	WASHER, 1/4 SPLIT LOCK		
21	86233390	80887	1	CLAMP, 7/8 DIA "P" CUSHIONED		
22	86259860	89221	2	WHEEL, 10" X 2.5 X .75" BLK		
23	86073100	14730	2	BRKT, BATTERY RETAINER		
24	86273780	70015	13	SCR, 1/4-20 X 3/4 HHCS SS DL		
25	86279530	87173	2	WASHER, .765 ID X 1.31 OD X .09 T		
26	86091410	05148	1	AXLE, BATTERY BURNISHER		
27	86238400	36125	1	GROMMET, 3/4ID X 1.38OD		
28	86095600	89105	2	WELDMENT, BRKT AXLE SUPPORT		
29	86223120	66333	2	PLATE, TRANSAXLE MOUNTING		
30	86005750	57113	4	NUT, 516-18 HEX NYLOCK		
31	86278940	87008	2	WASHER, 1/4 ID X 1-1/4 OD PLTD		
32	86259850	89205	2	WHEEL, 10" X 2.5" X .75 GRAY		
33	86315130	-	1	TRANSAXLE, 36VDC	*(7)	***
33A	86288820	140592	-	BRUSH SET, TRANSAXLE 78434CCL		SERVICE ONLY
34	86270440	48008	2	KEY, 3/16 X 1.75		
35	86010850	880352	1	WIRE, 4 X 20 RD CTERM X 5/16 RING		
36	86008760	80682	1	CONNECTOR, BATTERY GRY 175AMP		
37	86277960	70251	2	SET SCR, 1/4-20 X 1.0 PLTD DL		
38	86228410	10023	REF	BATTERY, 12V, 205AH		3 REQ'D
39	86260370	880153	REF	CHARGER ADAPTER, 36V, C175 TO C50		(OPTIONAL) NOT SHOWN
40	86284090	02456	REF	CHARGER, 36V, 20A, 115V, C175		NOT SHOWN
41	86233360	28038	1	CLAMP, CABLE KIT SY945		
42	86081870	62844	2	PLATE, TRANSAXLE SPACER	1000157251	TRACTION MODELS ONLY
43	86270890	57034	1	NUT, ACORN # 10-32		
44	86010650	87018	1	WASHER, #10 X 9/16 O.D.		
45	86273980	70066	1	SCR, 10-32 X 3/4 PPHMS		
46	86271910	57295	6	NUT, 5 /16-18 FLEXLOCK		
47	86010670	87029	6	WASHER 5/16 FLAT SS		
48	86008920	80889	6	BOOT, RUBBER TERM. ISOLATOR		
49	86316840	-	2	COLLAR SET .341 WX		*(7)
50	86006550	70074	4	SETSCR, 10-32 X 1/4 KCP		*(7)

\* SEE SERIAL NUMBER PAGE

\*\*\* FOR SERIAL NUMBERS PRIOR TO (7) USE TRANSAXLE 36 VDC KIT PN 98407980.

## DECK LIFT MECHANISM



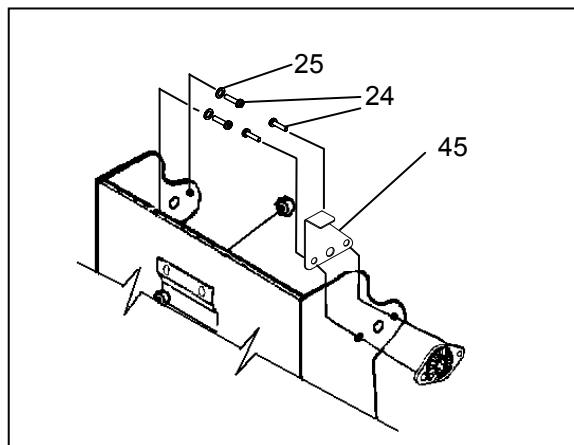
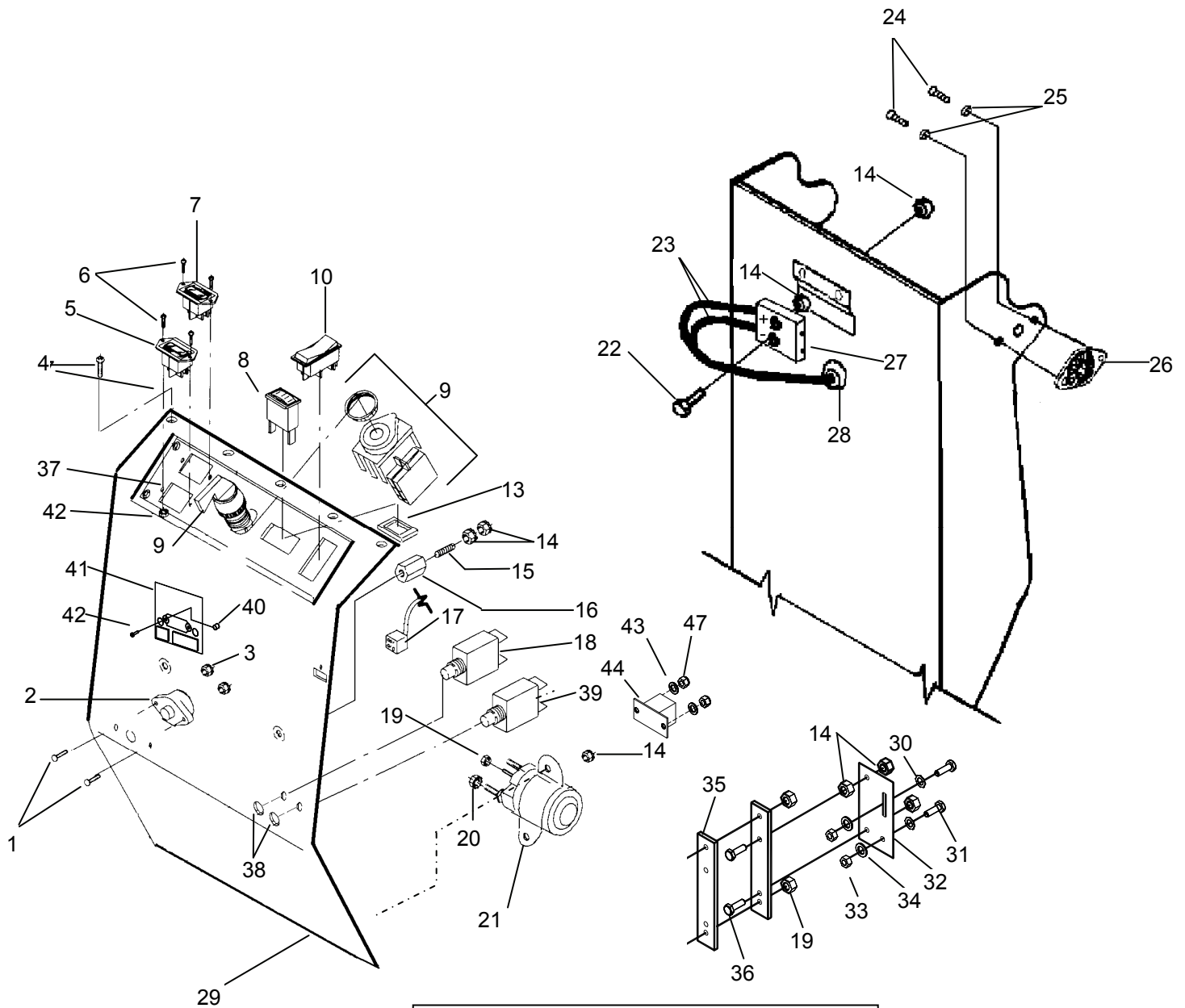


## DECK LIFT MECHANISM

REF	PART NO.	PRV NO.	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86273730	70006	SCR, 3/8-16 X 2.5 HHCS SS		
2	86264010	140425	BUSHING, BURNISHER	*(2)	
3	86005690	57085	NUT, 3/8-16 HEX JAM		
4	86006740	70266	SCR, 3/8-16 X 1" HHCS GR5 PLT		
5	86278910	87003	WASHER, 3/8 ID X 7/8 OD SS		
6	86093250	54177	MOUNT BRKT, BURNISHER	*(2)	
7	86069420	140426	BRKT, DECK MOUNT	*(2)	
8	86275190	70377	SCR, 3/8-16 X 1.25 HHCS BR5 PLT		
9A	86285750	14728	BRUSH SET, L2020B W/WEAR END	*(3)	OHIO MOTOR
9B	86001360	140394	BRUSH SET, CCL MOTOR	*(3)	WINDSOR MOTOR
10	86007300	730019	SHROUD, BATT BURN L20		
11	86007290	730017	SKIRT, BURNISHER SHROUD		
12	86002410	20077	CLAMP, WORM #HS356		
13	86248270	64105	PAD DRIVER ASSEMBLY 20"		
14	86279210	87102	WASHER, 5/4 ID X 1-1/4 OD		
15	86274590	70244	SCR, 5/16-24 X 1/2 HHMS SS		
16	86005710	57105	NUT, 1/4-20 HEX W/STAR WASHER		
17	86006850	70393	SET SCR, 1/4-20 X 1.25L		
18	86278940	87008	WASHER, 1/4 ID X 1-1/4OD PLTD		
19	86006800	70361	SCR, 10-32 X 1/2 PHTR PLT		
20	86063470	27427	COVER, L2020B MTR COVER		
21	86237530	35187	GASKET, TUBE SEAL		
22	86005380	53643	MOTOR, 36VDC 2.5HP 2500RPM		
23	86005170	51340	LOCK, PAD DRIVER L/H BIG MOUTH		SERVICE ONLY
24	86279220	87104	WASHER, 1/2 EXT. STAR		
25	86010790	87163	WASHER, 3/8 SPLIT LOCK		
26	86010640	87016	WASHER, #10 LOCK EXT STAR SS		

\*SEE SERIAL NUMBER PAGE

# ELECTRICAL CONTROLS



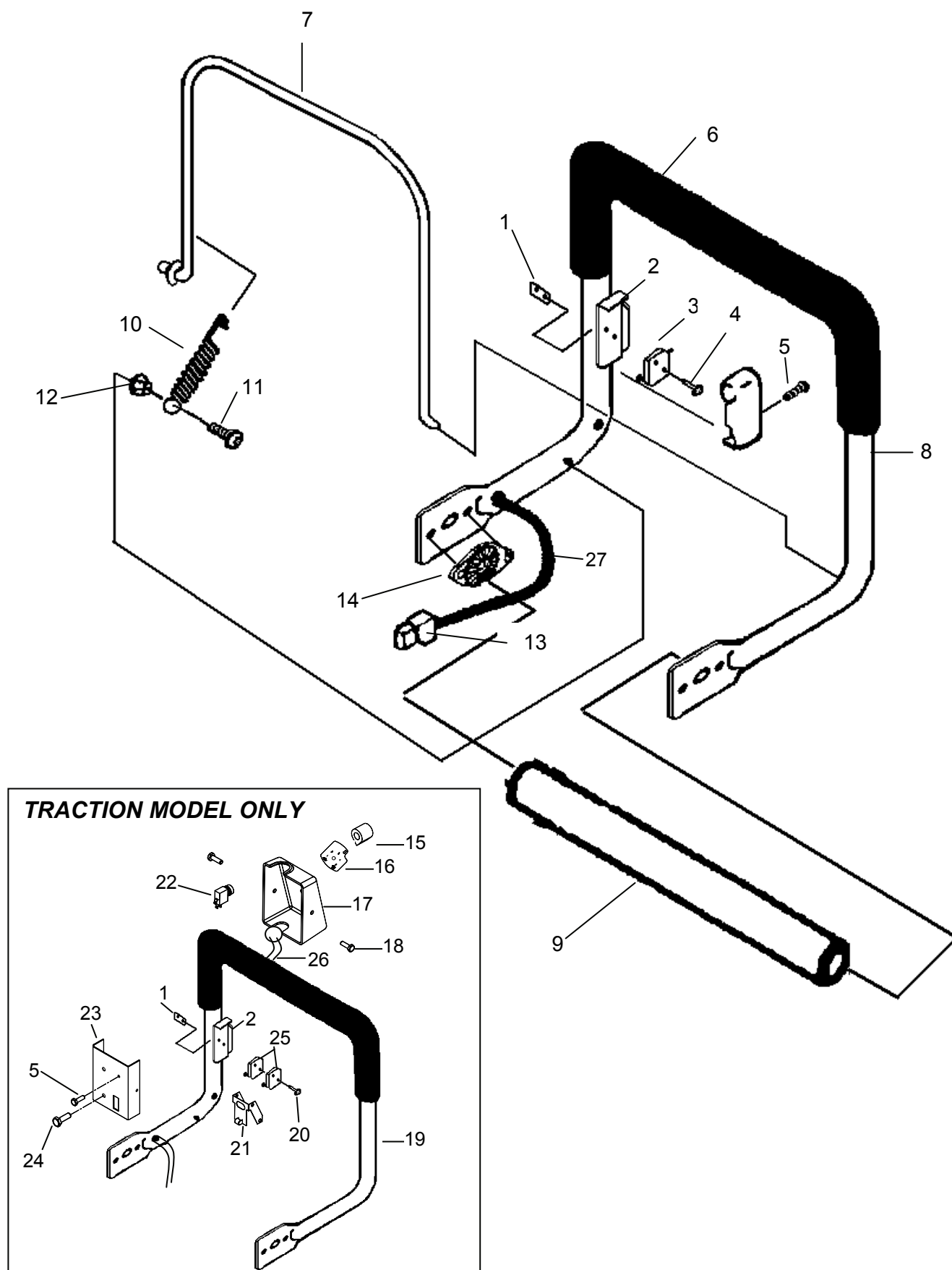
TRACTION ONLY

## ELECTRICAL CONTROLS

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86006490	70013	2	SCR, 8-32 X 3/4 PPHMS		
2	86001230	140182	1	BREAKER, CIRCUIT 60AMP THERMAL		
3	86270850	57026	2	NUT, 8-32 HEX NYLOCK		
4	86006870	70406	8	SCR, #10B X 3/8 PHSM BLK		
5	86246890	54092	1	METER, 0-60VDC HOUR		
6	86275230	70394	4	SCR, 6-32 X 1/2 THMS BLK ZINC		
7	86246930	54144	1	METER, 36V BATTERY CHARGE LEVEL		
8	86246920	54131	1	METER, 0-70AMP DC		
9	86007170	72159	1	SWITCH KEY TWO POSITION		
10	86007130	72128	1	SWITCH, DPDT 2-POSITION ROCKER	*(6)	
11	-	-	-	OPEN		
12	-	-	-	OPEN		
13	86249290	62283	1	PLATE, METER RETAINING		
14	86005710	57105	12	NUT, 1/4-20 HEX W/ STAR WASHER		
15	86006850	70393	1	SET SCR, 1/4-20 X 1.25L		
16	86255910	73659	1	STANDOFF, 1/4-20 X 1.0 HEX INS		
17	86233840	27554	1	CONN., MOLEX 6-PIN RECEPT. (M)		
18	86002000	14717	1	BREAKER, 3 AMP		
19	86005700	57104	4	NUT, 10-32 W/ STAR WASHER PLTD		
20	86271080	57117	2	NUT, 5/16-24 HEX PLTD		
21	86006370	67315	1	RELAY, 36VDC 100AMP HVY DUTY		
22	86273740	70010	2	SCR, 1/4-20 X 1.5 HHCS		
23	86260270	81365	2	WIRE, 4 X 24.5 BK C.TERM X 5/16 RING		
24	86006680	70228	4	SCR, 10-32 X 1/4 PPHMS SS DL		
25	86010650	87018	4	WASHER, #10 X 9/16OD		
26	86005020	51184	2	LOCK, HANDLE ADJUSTMENT		
27	86008760	80682	1	CONNECTOR, BATTERY GRY 175 AMP		
28	86226540	36020	1	GROMMET, 5/8ID X 1.12OD		
29	86078230	66325	1	PANEL, ELECTRIC		
30	86279020	87026	2	WASHER, #6 LOCK EXT STAR SS		
31	86276250	70615	2	SCR, 6-32 X 3/8 SRHMS BR		
32	86253600	73445	1	SHUNT, 50MV 70 AMP		
33	86271790	57256	2	NUT, 6-32 HEX BRASS		
34	86279600	87187	2	WASHER, #6 FLAT BRASS		
35	86230370	14729	2	BRKT, SHUNT MOUNTING		
36	86006670	70201	2	SCR, 1/4-20 X 3/4 FHCS		
37	86242730	500184	1	LABEL, BURNISHER PANEL		
38	86270840	57024	2	NUT, 3/8-27 PANEL PLTD		
39	86001980	14700	1	BREAKER, 15A CIRCUIT	*(1)	TRACTION
40	86254440	73734	2	SPACER, .166ID X .313OD X .375L AL		TRACTION
41	86234010	27579	1	CONTROLLER, 36VDC 1.8 SEC DELAY		TRACTION
42	86005760	57116	6	NUT, 6-32 W/ STAR WASHER PLTD		TRACTION
43	86279450	87161	2	WASHER, #6 FLAT SAE PLTD	*(3)	TRACTION
44	86031570	67496	1	RELAY ASM, 24VDC 40A	*(3)	TRACTION
45	86072550	14425	1	BRKT, HANDLE STOP		TRACTION
46	86009780	82488	1	KEY, ROTARY IGN. SWITCH		SERVICE ONLY
47	86270920	57049	2	NUT, 6-32 HEX NYLOCK SS	*(3)	TRACTION

\*\*CALL MANUFACTURER FOR SERIAL NUMBER.

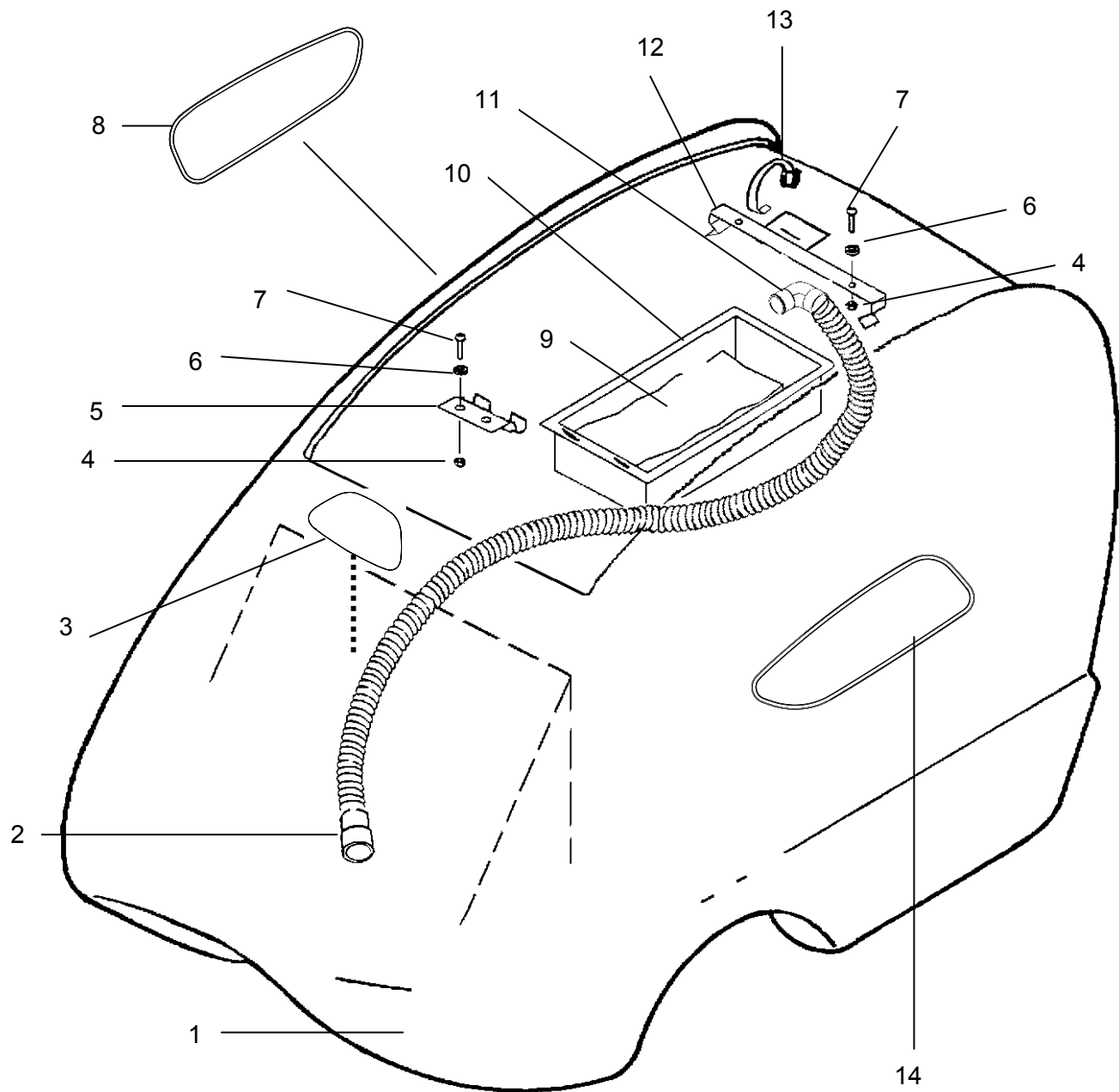
# HANDLE ASSEMBLY



## HANDLE ASSEMBLY

REF	PART NO.	PRV NO.	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86247850	57247	NUT, PLATE SWITCH MOUNTING		
2	86063480	27438	COVER, SWITCH		
3	86007100	72093	SWITCH, 125VDC SPST N.O.		
4	86275260	70407	SCR, 4-40 X 1/2 PPHMS		
5	86274850	70309	SCR, 6-32 X 1/4 HHTC -F- PLTD		
6	86238320	36200	GRIP, FOAM .75ID X .27W X 21.0		
7	86091490	14393	BAR, SWITCH ACTUATOR		
8	86092790	41376	HANDLE, PUSH BATT BURN		
9	86089500	78445	TUBE, HANDLE ADJUSTMENT		
10	86255110	73450	SPRING, SAFETY SWITCH		
11	86275200	70383	SCR, 10-32 X 3/4 PHTR PLTD		
12	86005700	57104	NUT, 10-32 W/ STAR WASHER PLTD		
13	86233840	27554	CONN, MOLEX 6 PIN RECEPT.		
14	86005020	51184	LOCK, HANDLE ADJUSTMENT		
15	86242020	48043	KNOB, SPEED CONTROL		
16	86242740	500185	LABEL, BURNISHER SPEED CONTROL		
17	86063780	27878	COVER, SWITCH		
18	86006790	70351	SCR, 10-32 X 3/8 HHTR W/ STAR		
19	86092780	41375	HANDLE, TRACTION BATT BURN		
20	86276010	70580	SCR, 4-40 X 1.0 PPHMS		
21	86227000	05126	ACTUATOR, TANDEM SWITCH		
22	86257030	72168	SWITCH, MOMENTARY, DPST		
23	86082790	66332	PLATE, SWITCH GUARD		
24	86006790	70351	SCR, 10-32 X 3/8 HHTR W/ STAR		
25	86257010	72158	SWITCH, 10A PLUNGER MINI		
26	86238920	41372	HARNESS, BATT BURN CONTROLLER		TRACTION ONLY
27	86238910	41371	HARNESS, BATT BURN PUSH		

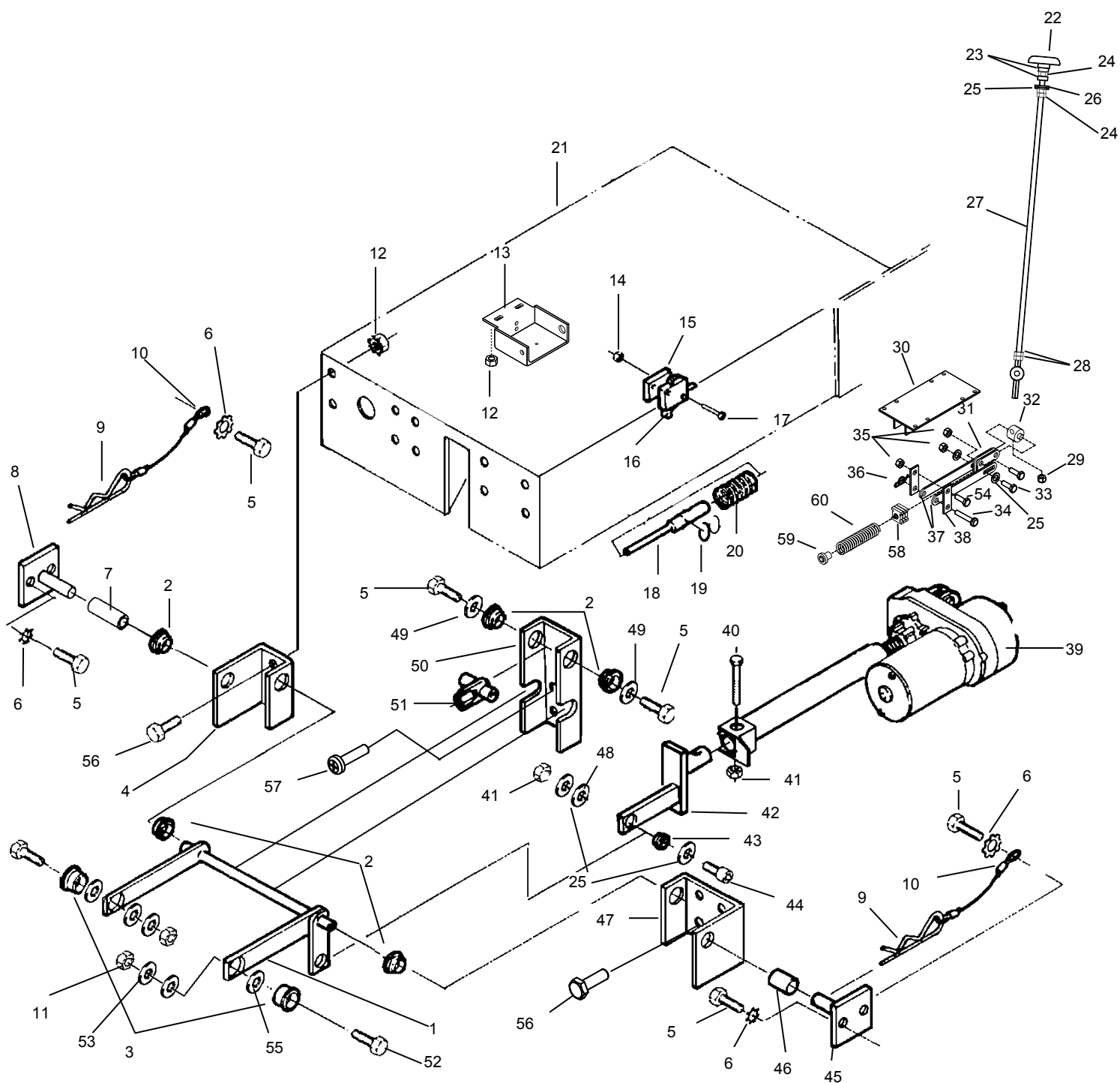
**HOOD GROUP**



**HOOD GROUP**

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86063810	27886	1	COVER, BATT BRNSHR DRK BLU		
2	86003010	27759	1	CUFF, HOSE 1.5" C BLK A 2161		
3	86245790	50941	1	LABEL, WINDSOR LOGO		
4	86005700	57104	4	NUT, 10-32 W/STAR WASHER PLTD		
5	86072510	14399	1	BRKT, FILTER COVER HINGE		
6	86010650	87018	4	WASHER, #10 X 9/16OD		
7	86275470	70484	4	SCR, 10-32 X 5/8 PPHMS SS		
8	86242790	500201	1	LABEL, MAIN L20/L20T RIGHT		
9	86284870	2003SM	1	SM FILTER BAGS, 10/PKG		
10	86063790	27880	1	COVER, FILTER		
11	86004380	39550	1	HOSE ASM, 1.5 BLK VAC X 50		
12	86072500	14398	1	BRKT, FILTER COVER LATCH		
13	86002380	20046	1	CLAMP, 2.25" WORM GEAR		
14	86242800	500202	1	LABEL, MAIN L20/L20T LEFT		

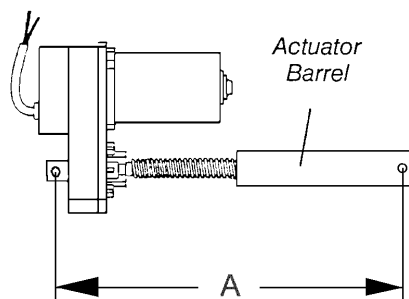
# LIFT LINKAGE GROUP



**NOTE:** If the actuator is replaced,  
set distance (A) to:

*Non-Traction models – 10.6"*

*Traction models – 10.8"*





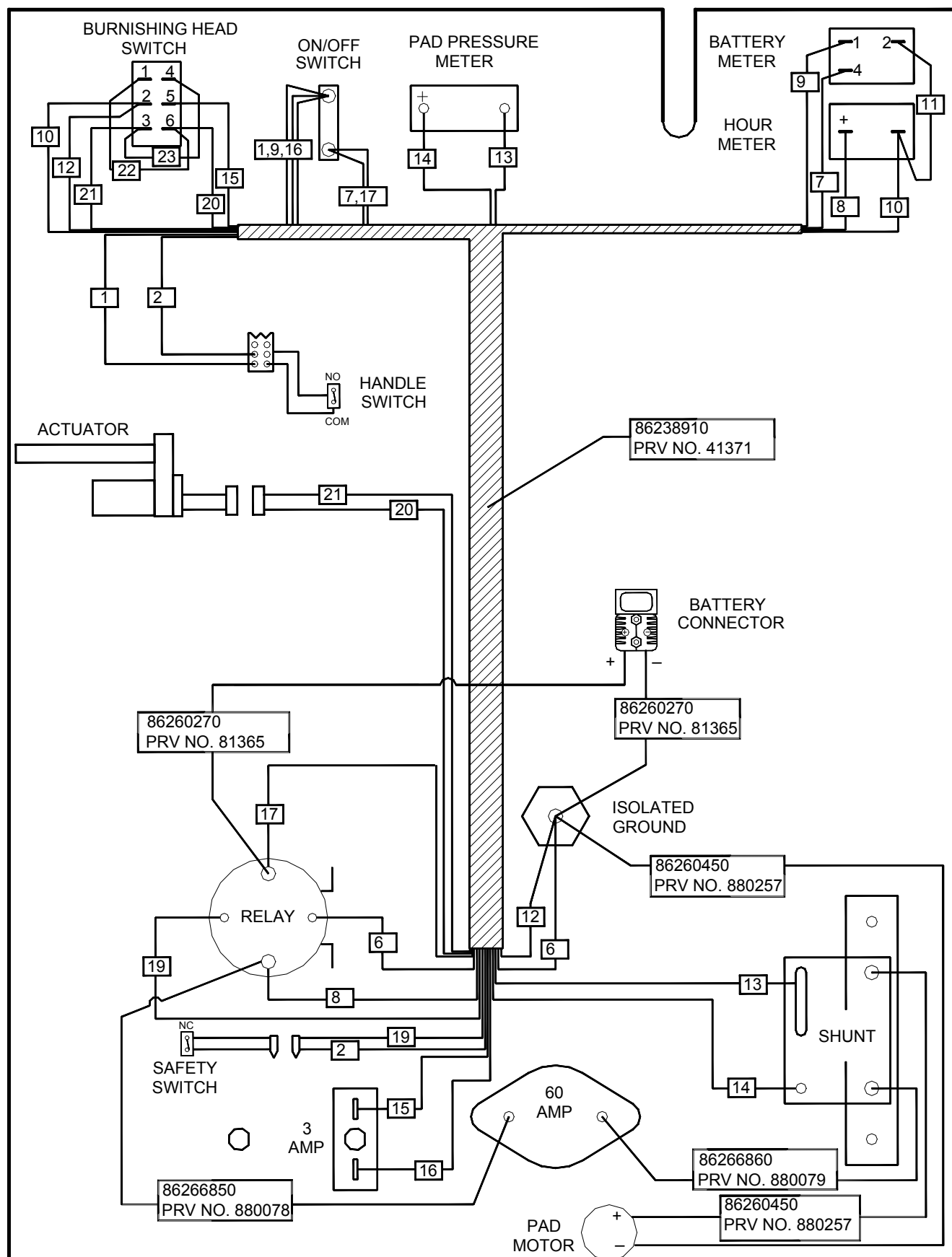
## LIFT LINKAGE

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86093110	51333	1	LINKAGE, DECK LIFTING		
2	86001990	14708	5	BUSH, BRZ FLG .51 X .75 X .25		
3	86231300	14593	2	BUSH, BRZ FLG .50 X .75 X .75		
4	86073080	14706	1	BRKT, SCRUB DECK LINK RT		
5	86273830	70020	4	SCR, 1/4-20 X 1/2 HHCS SS DL		
6	86010660	87025	6	WASHER, 1/4 LOCK EXT STAR SS		
7	86008310	78323	1	TUBE, 5/8"OD X .058W X .930 CRS		
8	86093450	66201	1	PIVOT ASM, RH COVER		
9	86272240	66092	2	PIN, COTTER HAIR .093" DIA.		
10	86261070	27457	2	CORD, COVER PIN		
11	86271090	57118	2	NUT, 1/2-13 HEX NYLOCK		
12	86005710	57105	16	NUT, 1/4-20 HEX W/ STAR WASHER		
13	86072460	14387	1	BRKT, MICROSWITCH MOUNT		
14	86271280	57163	14	NUT, 4-40 W/ STAR WASHER		
15	86087520	73456	2	SPACER, PLUNGER SWITCH		
16	86256700	72053	1	SWITCH, 125VDC SP NC ROLLER		
17	86276010	70580	2	SCR, 4-40 X 1.0 PPHMS		
18	86223270	66482	1	PLUNGER, MICROSWITCH		
19	86270270	27721	2	CLIP, RETAINING 7/16		
20	86007780	73576	1	SPRING, COMP .60D X 2.0L X .045W		
21	86075810	34371	1	FRAME, BATT BURN		
22	86004870	48077	1	KNOB, 3.50OD X 3/8-16 THRU HOLE		
23	86008460	80102	2	SPACER, .500OD X .391ID X .400		
24	86005690	57085	3	NUT, 3/8-16 HEX JAM		
25	86278910	87003	6	WASHER, 3/8ID X 7/8OD SS		
26	86259410	87206	1	WASHER, THRUST .51ID X 1OD X .063		
27	86253220	730014	1	SHAFT, PAD ADJUST		
28	86005800	57217	2	NUT, 3/8-24 HEX JAM		
29	86271530	57216	1	NUT, 3/8-24 HEX NYLOCK		
30	86092040	14386	1	BRKT, ACTUATOR		
31	86067940	14375	2	BELLCRANK, PAD ADJUSTING		
32	86249180	66331	1	PIVOT, PAD ADJUST		
33	86274010	70070	2	SCR, 3/8-16 X 2 HHCS		
34	86248970	81406	1	PIN, CLEVIS 3/8 X 2		
35	86005770	57119	3	NUT, 3/8-16 HEX NYLOCK		
36	86008670	80606	1	COTTER, 3/8" RING		
37	86077450	51332	2	LINK, PAD ADJUST		
38	86077390	51152	2	LINK, ACTUATOR PIVOT		
39	86367970	-	1	ACTUATOR, 36VDC, 2.6 STROKE	*(7)	
40	86275150	70368	1	SCR, 3/8-16 X 1-3/4 HHCS PLTD		
41	86005630	57022	2	NUT, 3/8-16 HEX NYLOCK THIN SS		
42	86093120	51336	1	LINKAGE, ACTUATOR		
43	86231280	14400	1	BUSHING, .377ID X .627OD X .63		
44	86006740	70266	1	SCR, 3/8-16 X 1" HHCS GR5 PLTD DL		
45	86093420	66149	1	PIVOT ASM, COVER		
46	86231350	14725	1	BUSH, BRZ .50 X .75 X .69		
47	86073060	14704	1	BRKT, SCRUB DECK LINK LT		
48	86010730	87088	1	WASHER, 5/8ID X 1.18 X .06 SS		
49	86010630	87013	2	WASHER, 1/4ID X 5/8OD SS		
50	86073070	14705	1	BRKT, SCRUB DECK LINK MID		
51	86093040	51151	1	LINKAGE ASM, DECK GUIDE ADJ (F)		
52	86275610	70511	2	SCR, 1/2-13 X 1.5 HHCS GR5 PLTD		
53	86010710	87080	2	WASHER, .5 X 1.25 FLAT GR8 PLTD		
54	86275590	70508	1	SCR, 3/8-16 X 2.25 HHCS GR5PLT		
55	86279420	87156	4	WASHER, .751 X 1.25 OD X .125 THK, NYL	*(2)	
56	86273780	70015	6	SCR, 1/4-20 X 3/4 HHCS SS		
57	86275460	70481	4	SCR, 1/4-20 X 3/4 BHCS		
58	86290480	-	1	BLOCK, SPRING GUIDE ASM		
59	86251530	67492	1	SPRING RETAINER	*(4)	
60	86254940	730199	1	SPRING	*(4)	

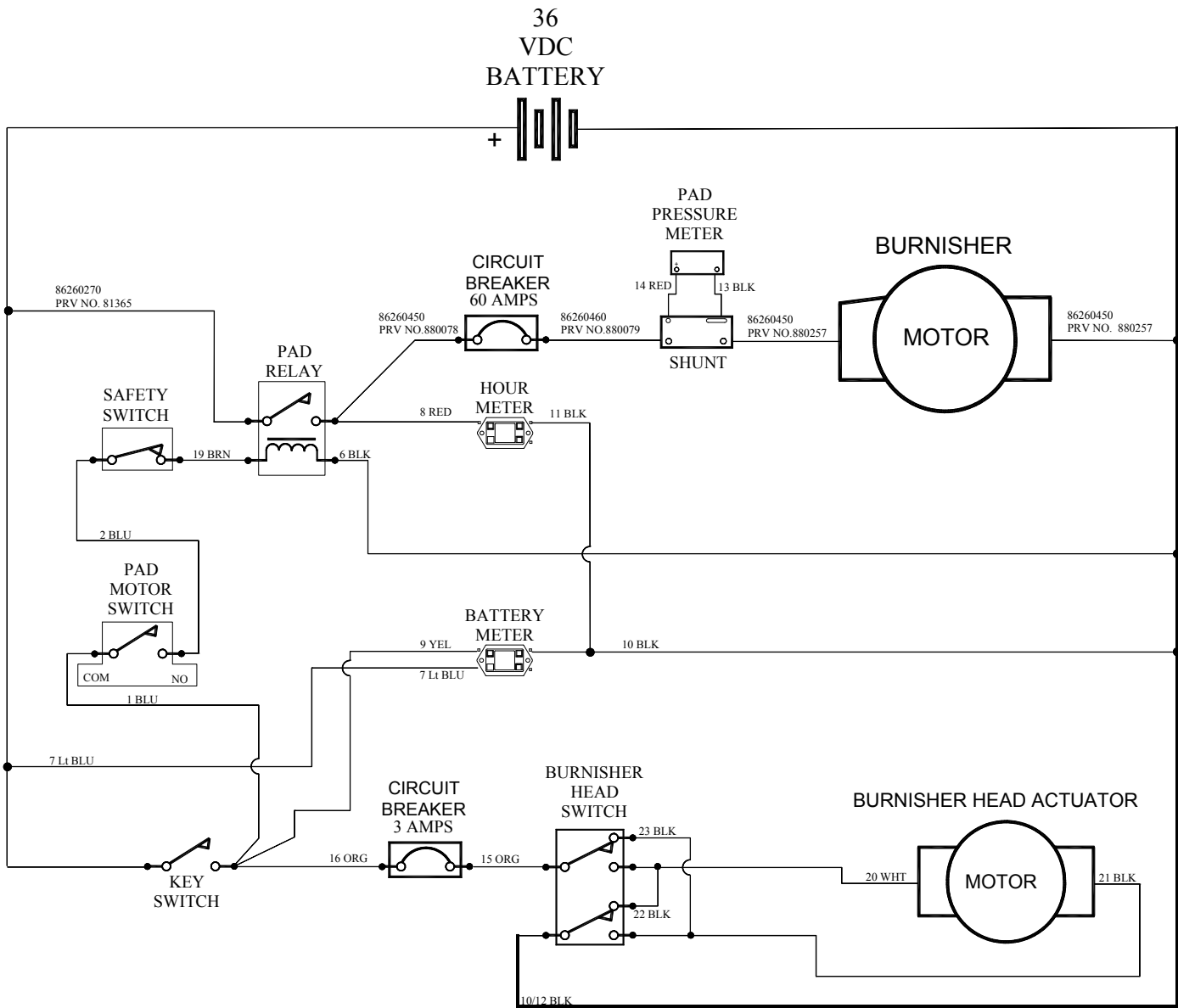
\*SEE SERIAL NUMBER PAGE.

\*\*CALL MANUFACTURER FOR SERIAL NUMBER.

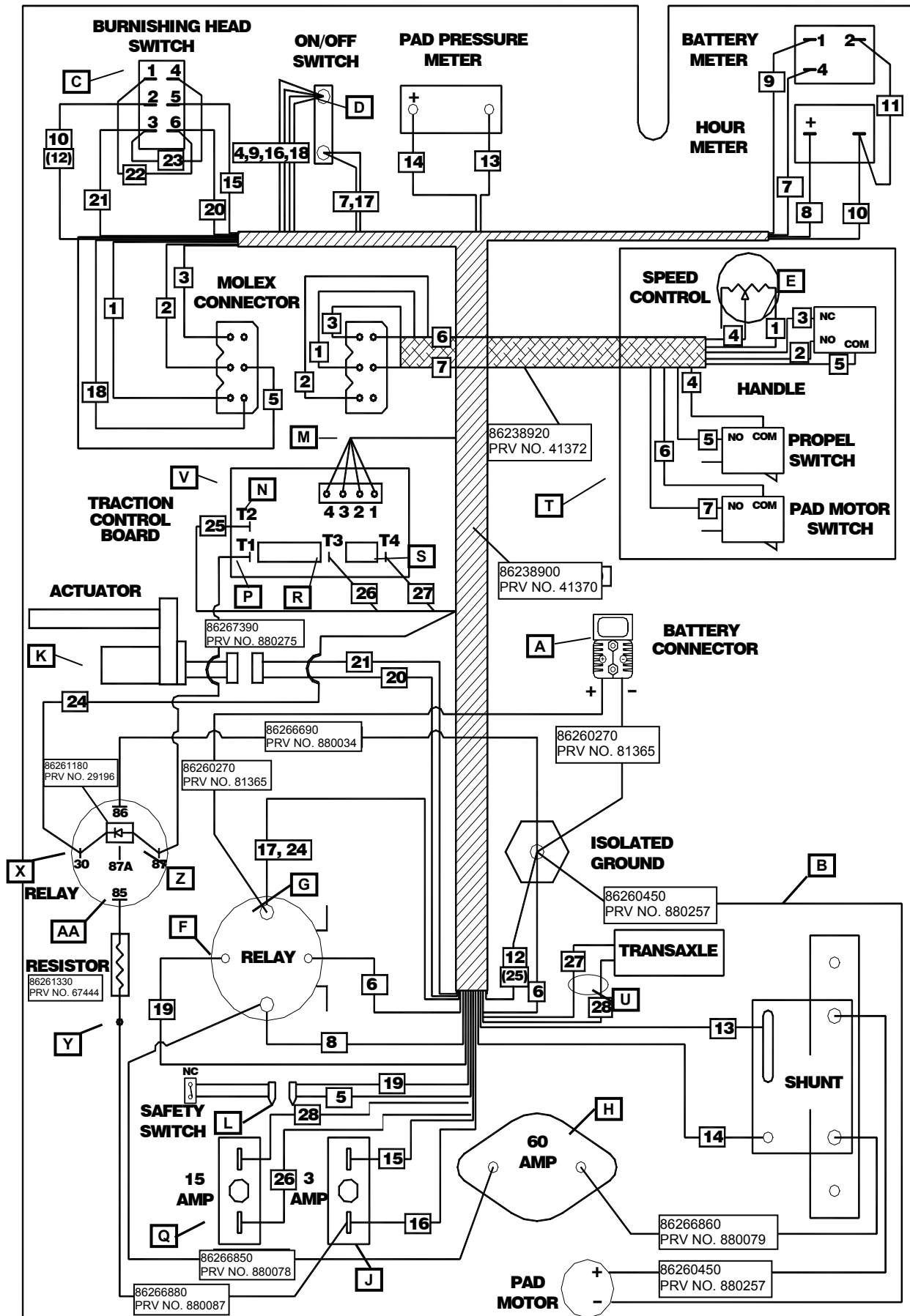
# **WIRING DIAGRAM - NON-TRACTION**



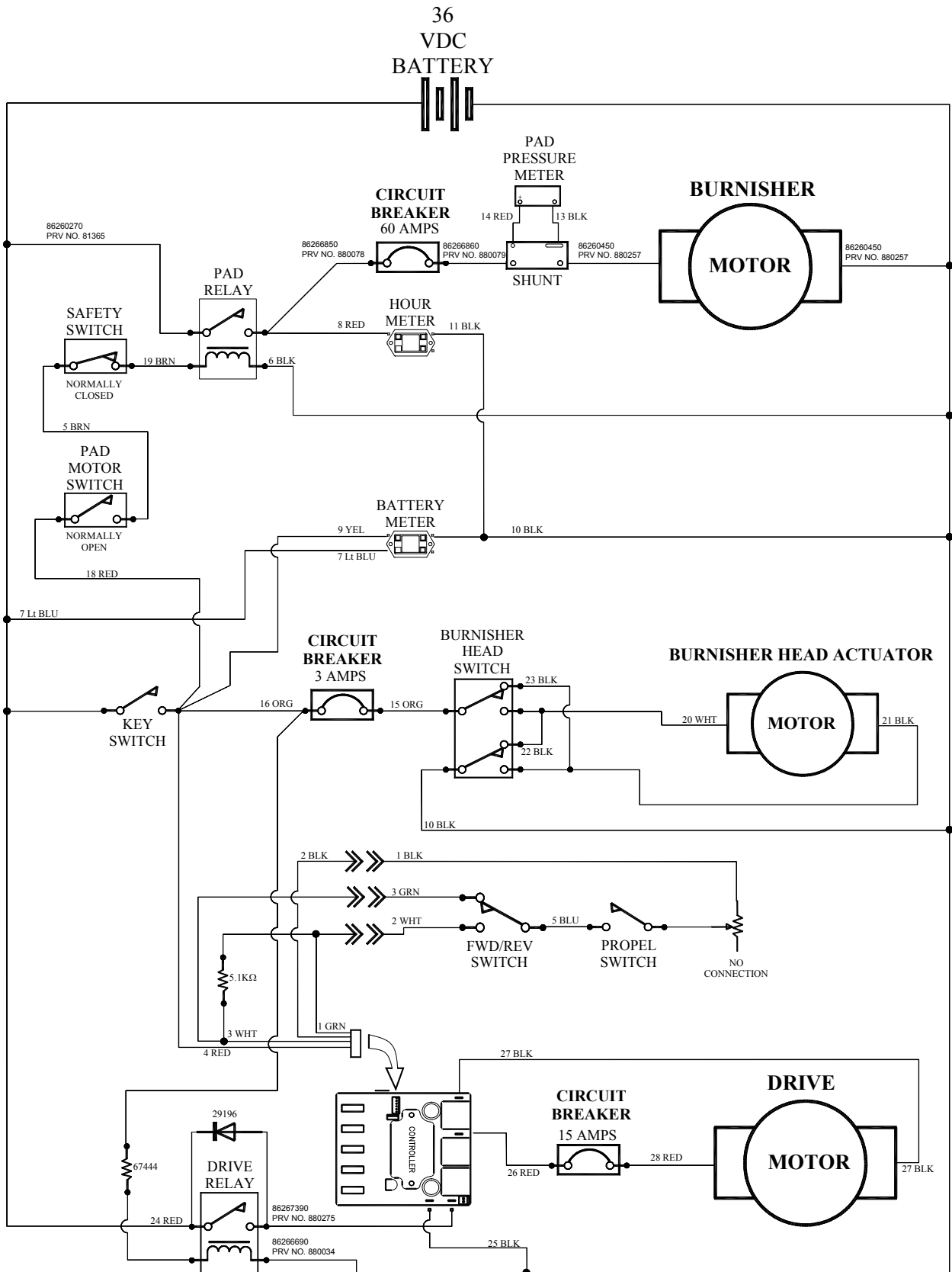
WIRING DIAGRAM - NON-TRACTION



# WIRING DIAGRAM - TRACTION



# WIRING DIAGRAM - TRACTION



## WIRING DIAGRAM

PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
86238910	41371	1	HARNESS, BATT BURNISHER PUSH		NON-TRACTION
86238920	41372	1	HARNESS, BATT BURNISHER CONTROL		TRACTION
86238900	41370	1	HARNESS, BATT BURNISHER TRACTION		TRACTION
86267390	880275	1	WIRE, 13" RED/14 76029 X 76029		
86266690	880034	1	WIRE, 6" BLK/18 76011 X 76040		
86260270	81365	2	WIRE, 4GA X 24.5 BLK		
86260450	880257	2	WIRE, 4GA X 50.0 BLK		
86266860	880079	1	WIRE, 10" RED/6 76130L X 76130L		
86266850	880078	1	WIRE, 9" RED/6 76131L X 76130L		
86266880	880087	1	WIRE, 14" RED/18 76031 X 76040		
86261330	67444	1	RESISTOR ASM, 100 OHM		TRACTION
86261180	29196	1	DIODE ASM, PIGGYBACK TERMINAL		TRACTION

## **SUGGESTED SPARE PARTS**

PART NO.	PRV NO.	DESCRIPTION	SERIAL NO. FROM	NOTES:
86002000	14717	BREAKER, 3 AMP		
86001230	140182	BREAKER, CIRCUIT 60 AMP		
86002290	18027	CASTER, 4" POLYURETHANE SWIVEL		
86246750	51359	LOCK, PAD L/H RM		
86248270	64105	PAD DRIVER ASM, 20"		
86006370	67315	RELAY, 36VDC 100A		
86256700	72053	SWITCH, 125VDC SP NC ROLLER		
86007100	72093	SWITCH, 125VDC SPST N.O.		
86284190	02100	HYDROMETER		
86284870	2003SM	FILTER BAG PACKS, 10/PKG		
86064590	78231	BATTERY TRAY		
86007300	730019	SHROUD, BATT BURN L20		
86007290	730017	SKIRT, BURNISHER SHROUD		
86002410	20077	CLAMP, WORM #HS356		
86234010	27579	CONTROLLER, 36VDC 1-8SEC. DELAY		TRACTION ONLY
86257010	72158	SWITCH, 10A PLUNGER MINI		TRACTION ONLY
86257030	72168	SWITCH, MOMENTARY, DPST		TRACTION ONLY
86007130	72128	SWITCH, DPDT 2-POSITION ROCKER		TRACTION ONLY
86007170	72159	SWITCH KEY TWO POSITION		
86004860	48073	KEY, SWITCH		

## ***SERIAL NUMBERS***

REF. NO.	MODEL: SERIAL #:
1	1000041691
2	1000062516
3	1000114245
4	1000123011
5	1000157251
6	10027100000010; L20T 10027110000241
7	10027110000254
8	10027100000233, 10027110000363