

Castex®

BR-2250/BR-2500

Burnisher

Model No.:

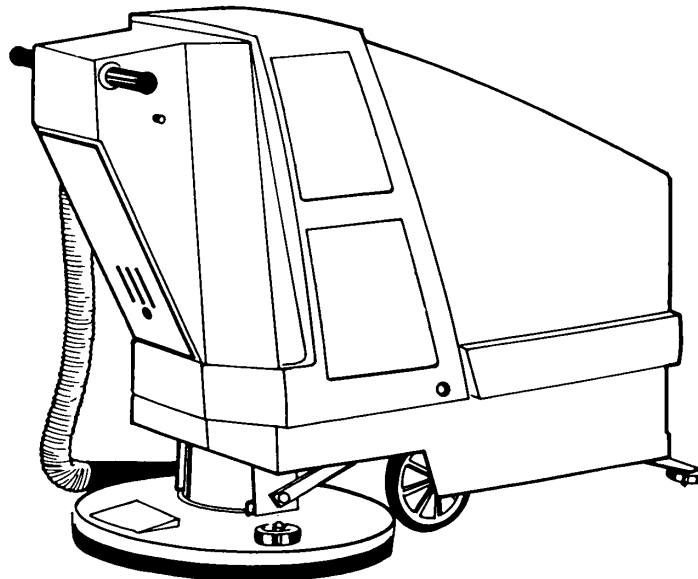
608192 – BR-2250

608193 – BR-2250 Pac

607358 – BR-2500

607359 – BR-2500 Pac

Operator and Parts Manual



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607357
Rev. 02 (11-01)

OPERATION

This manual is furnished with each new model. It provides necessary operation and maintenance instructions.

Read this manual completely and understand the machine before operating or servicing it.

When ordering replacement parts use the parts list section in this manual. Before ordering parts or supplies, be sure to have your machine model number and serial number available. Parts and supplies may be ordered by phone or mail from any authorized Service Center or Distributor.

This machine will provide excellent service. However, the best results will be obtained at minimum costs if:

- The machine is operated with reasonable care.
- The machine is maintained regularly - per the machine maintenance instructions provided.
- The machine is maintained with manufacturer supplied or equivalent parts.

MACHINE DATA

Please fill out at time of installation for future reference.

Model No.- _____

Install. Date - _____

Serial No.- _____

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Specifications and parts are subject to change without notice.

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SAFETY PRECAUTIONS

This machine is suited to burnish smooth floor surfaces in an indoor environment and is not constructed for any other use. The pick up of any liquid or hazardous type of dust is prohibited.

Use only recommended burnishing pads and non-flammable floor cleaners and waxes intended for machine application.

The following safety alert symbols are used throughout this manual as indicated in their descriptions.

 **WARNING:** To warn of hazards or unsafe practices which could result in severe personal injury or death.

 **CAUTION:** To warn of hazards or unsafe practices which could result in minor personal injury.

FOR SAFETY: To identify actions which must be followed for safe operation of equipment.


The following information signals potentially dangerous conditions to the operator or equipment:

FOR SAFETY

1. **Do not operate machine:**
 - Unless trained and authorized.
 - Unless operation manual is read and understood.
 - In flammable or explosive areas.
 - Without dust bag in place.
2. **Before starting machine:**
 - Make sure all safety devices are in place and operate properly.
3. **When using machine:**
 - Go slow on inclines and slippery surfaces.
 - Use care when reversing machine.
 - Report machine damage or faulty operation immediately.
4. **Before leaving or servicing machine:**
 - Stop on level surface.
 - Turn off machine.
 - Remove key.


5. When servicing machine:

- Avoid moving parts. Do not wear loose jackets, shirts, or sleeves.
- Block machine tires before jacking machine up.
- Use hoist or jack of adequate capacity to lift machine.
- Disconnect battery connections before working on machine.
- Wear protective gloves when handling batteries or battery cables.
- Avoid contact with battery acid.
- Use manufacturer supplied or approved replacement parts.

 **WARNING:** Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

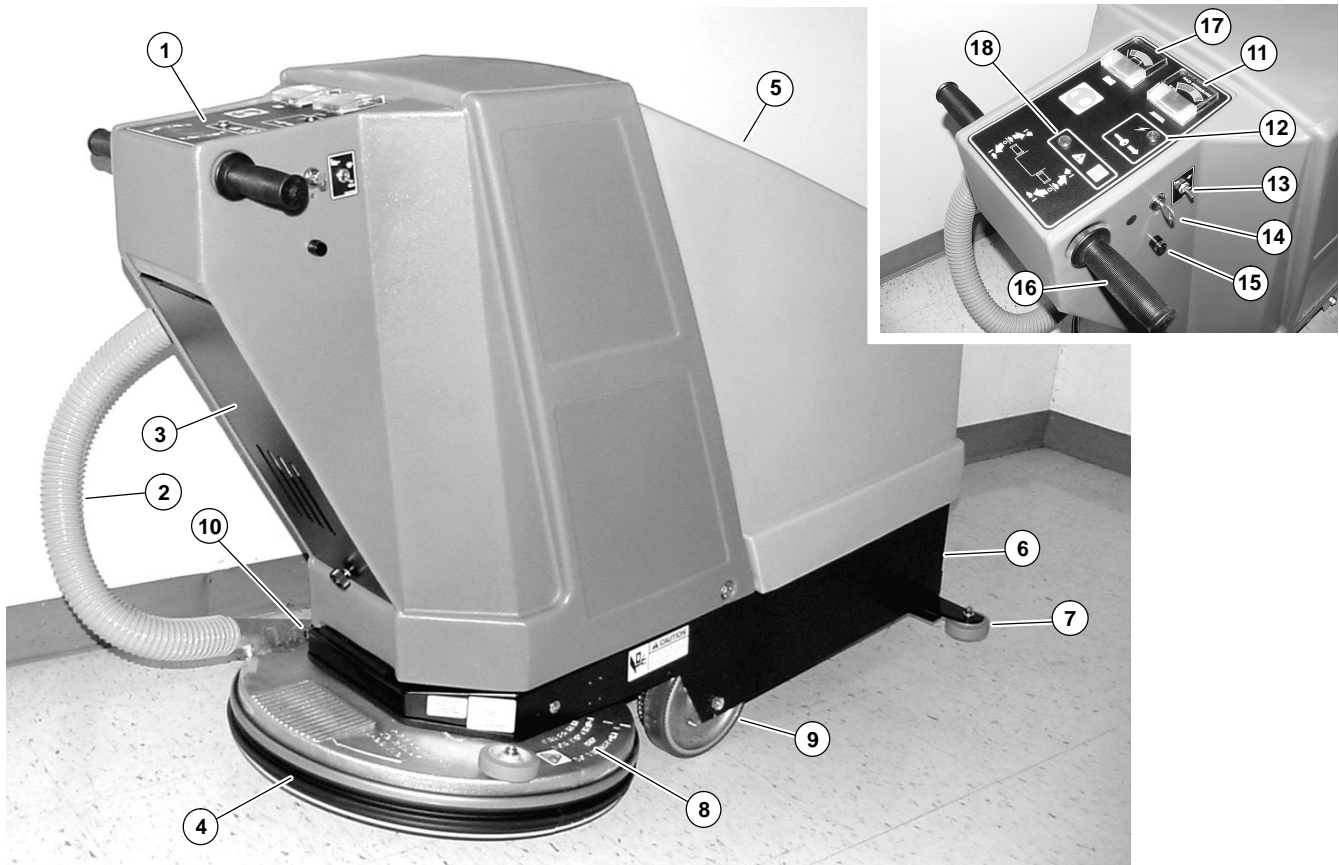
 **WARNING:** Flammable materials or reactive metals can cause explosion or fire. Do not pick up.

 **WARNING:** Moving parts. Turn off power before working on machine.

 **CAUTION:** Pad head must be in full up (pad load) position before making pad pressure adjustment.

OPERATION

MACHINE COMPONENTS



- | | |
|-------------------------|-----------------------------------|
| 1. Control Console | 10. Circuit Breakers |
| 2. Dust Control Hose | 11. Pad Pressure Meter |
| 3. Dust Bag Access Door | 12. Key ON Light |
| 4. Dust Control Skirt | 13. Travel Speed Selection Switch |
| 5. Battery Cover | 14. Key Switch |
| 6. Frame | 15. Fuse Holder |
| 7. Wall Rollers | 16. Control Grips |
| 8. Pad Driver | 17. Battery Level Meter |
| 9. Main Wheels | 18. Carbon Brush Indicator Lamp |

CONTROL PANEL SYMBOLS



Main Power



Pad



Battery
Charge Meter



Fast
Speed



Slow
Speed



Read Manual
Before Operating

MACHINE SETUP

Carefully check carton for signs of damage. Report damages at once to the carrier.

Unpack the machine and check machine for completeness according to the packing list.

INSTALLING BATTERIES

Battery installation must be accomplished after removing the machine from the pallet. Carefully follow the battery installation diagram below.

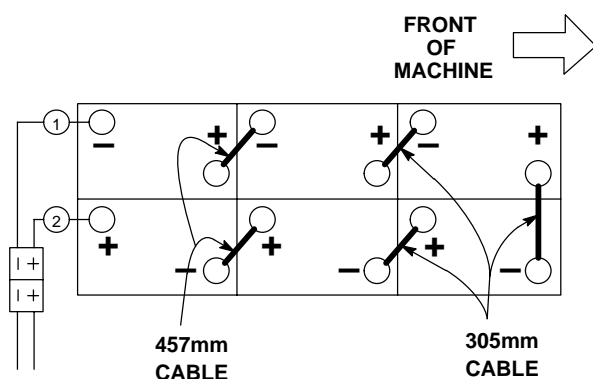


FIG. 1

⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

FOR SAFETY: When servicing machine, wear protective gloves when handling batteries or battery cables. Avoid contact with battery acid.

INSTALLING PAD

1. Select a burnishing pad that is designed to operate over 2000 RPM. The pad should be a maximum of 25.4 mm (1 inch) thick, 483 mm (19 inch) in diameter with a standard 89 mm (3.5 inch) center hole.

FOR SAFETY: Before leaving or servicing machine, stop on level surface and turn off machine.

2. Tap the right front side of the pad shroud with your toe. The head will rise to the pad mounting position (Figure 2).

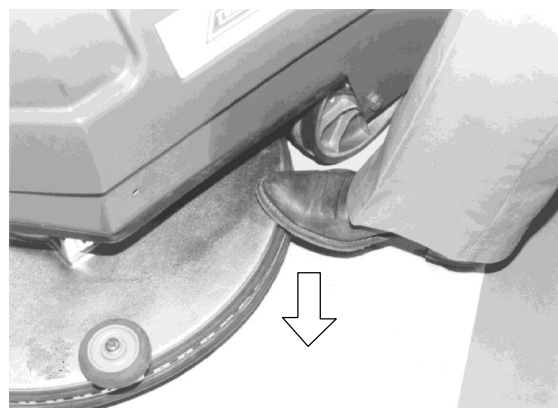


FIG. 2

3. Remove the plastic centerlock from the pad driver by turning it clockwise. Position the pad accurately centered on the pad driver, and screw the centerlock in place counter-clockwise until it is tight (Figure 3).

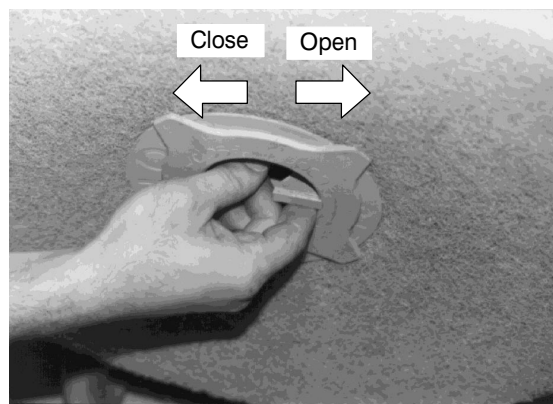


FIG. 3

NOTE: This machine is equipped with a pad centerlock with a left hand thread.

NOTE: Make sure centerlock does not cross thread or floor damage may occur.

ATTENTION: Do not operate machine without a pad and centerlock in place.

OPERATION

MACHINE OPERATION

FOR SAFETY: Do not operate machine unless operator manual is read and understood.

PRE-OPERATION

1. Check battery meter charge level to ensure batteries are fully charged. See CHARGING BATTERIES.
2. Sweep or dust mop the floor to remove debris. Then damp mop or scrub the floor to assure that dirt is not burnished into the finish.
3. Check that a pad is installed.
4. Check that a dust bag is installed.
5. Make sure floor to be burnished is dry.

BURNISHING WITH BR-2250 MODEL

1. Turn key switch to the "ON" position (Figure 4). The key ON light on the panel will light green.



FIG. 4

2. With the control grips released, step down on the rear of the pad shroud until the head locks in the down position (Figure 5).

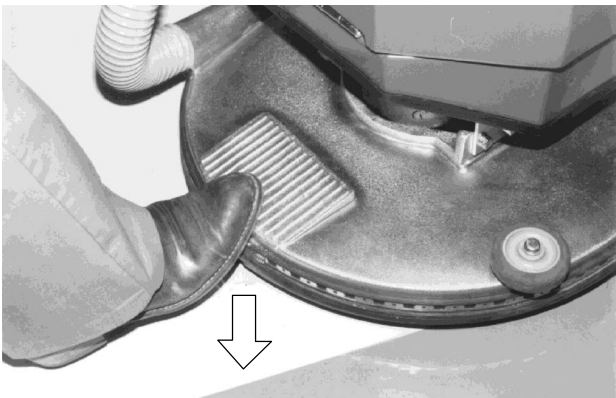


FIG. 5

3. Remove foot from the pad shroud.

4. Twist the control grips forward (Figure 6). The pad motor will start and suction will draw the moving pad to the floor. Immediately push or pull the machine in the desired direction.

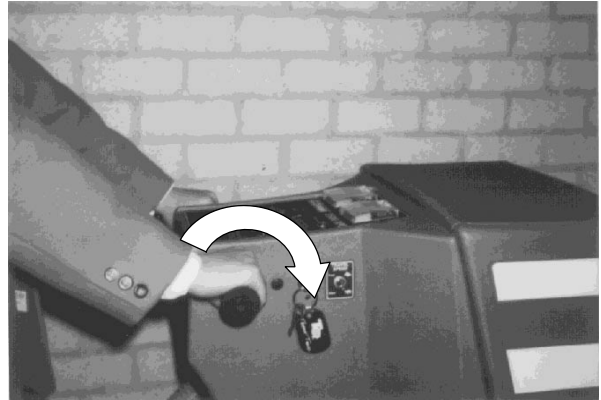


FIG. 6

FOR SAFETY: When using machine, go slow on inclines and slippery surfaces.

ATTENTION: Keep machine moving at all times to prevent floor damage.

5. To stop, release the control grips. The pad will automatically lift from the floor until the grips are activated again.

BURNISHING WITH BR-2500 MODEL

1. Turn the key switch to the "ON" position (Figure 4). The key ON light on the panel will light green.
2. With the control grips released, step down on the rear of the pad shroud until the head locks in the down position (Figure 5).
3. Remove foot from the pad shroud.
4. Select a speed with the travel speed selection switch (Figure 7):
UP position provides both slow and fast forward speeds.
DOWN position provides slow forward speed only.
Use this position for maneuvering in tight areas.

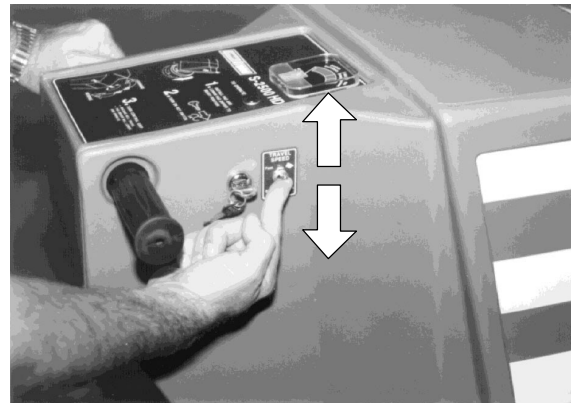


FIG. 7

5. Twist control grips forward until the pad motor starts (Figure 6). The machine will transport forward and suction will draw the moving pad to the floor.
6. To reverse, twist the control grips backward. The pad motor will start and the machine will transport backwards.
7. To stop, release the control grips.

FOR SAFETY: When using machine, go slow on inclines and slippery surfaces.

ATTENTION: Keep machine moving at all times to prevent floor damage.

8. To increase travel speed (mode switch in "UP" position), twist the control grips all the way forward to select the second (high) travel speed.
9. To stop, release the control grips and hold back on the machine until it stops moving. The reverse direction may be used as a stopping brake if desired.

NOTE: The drive circuit is equipped with a circuit breaker located on the lower left rear frame. If the driver system is overloaded during use the breaker will trip. Allow it to cool for a few moments and reset the breaker by pushing on the black button (Figure 8).



FIG. 8

ADJUSTING PAD PRESSURE

⚠ CAUTION: The pad head must be in the full up (pad load) position before making the pad pressure adjustment. **DO NOT ADJUST** in the down position as the head could release and pinch arm or fingers in the mechanism.

1. Your machine has a pad pressure meter located on top of the control console. This meter has one green bar and 2 red bars (Figure 9):

GREEN BAR: The operating zone within which the needle must read.

RED BAR TO THE RIGHT: Indicates too much pressure or pad resistance.

RED BAR TO THE LEFT: Indicates too low pressure or that the battery charge is low.



FIG. 9

2. Operate the machine on the actual floor with the finish and pad you will be using. Notice the needle position on the meter. For most jobs the needle should be in the center of the green bar.
3. If the needle is not in the center of the green bar, raise the pad head into the full up position and locate the pad pressure knob under the rear frame (Figure 10).

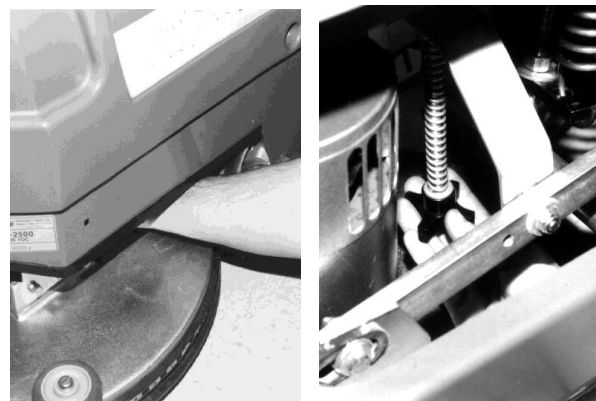


FIG. 10

4. If the needle indicates too much pressure turn the knob counterclockwise and repeat testing until the needle is in the center.
5. If the needle indicates too little pressure turn the knob clockwise and repeat testing until the needle is in the center.

NOTE: Increasing pad pressure will improve shine but it will also reduce battery run time.

ATTENTION: Do not adjust the pressure so the needle runs in the right red bar. This will cause the circuit breaker to trip.

OPERATION

6. If high performance is needed and run time is not a consideration, adjust the pressure so the needle runs in the higher (right side) of the green bar.
7. If long run time is needed, adjust the pressure so the needle runs in the lower (left side) of the green bar.

Once initial pad pressure has been set:

8. If during use the needle moves into the right red bar, it will cause the circuit breaker to trip. Allow the pad motor to cool down and then press the pad motor circuit breaker red reset button.
9. If the needle moves again into the right red bar and the circuit breaker trips, the pad may have become dirty and filled with finish. Turn the pad over to a clean side or replace the pad. Then reset the circuit breaker. To remove/change pads see **INSTALLING PAD**.

NOTE: The operator should watch the pad meter during operation and change the pad before the circuit breaker trips.

10. If the needle drops into the left red bar, this indicates the battery charge is low and recharging is required. See **CHARGING BATTERIES** section.

BATTERY LEVEL METER

1. Your machine has a battery level meter located on top of the control console. This meter has one green bar and one red bar (Figure 11).

GREEN BAR: The operating zone within which the needle must read.

RED BAR: Indicates the batteries need to be recharged. See **CHARGING BATTERIES** section.



FIG. 11

HOUR METER

1. Your machine has an hour meter located inside the battery compartment next to the machine connector (Figure 12).

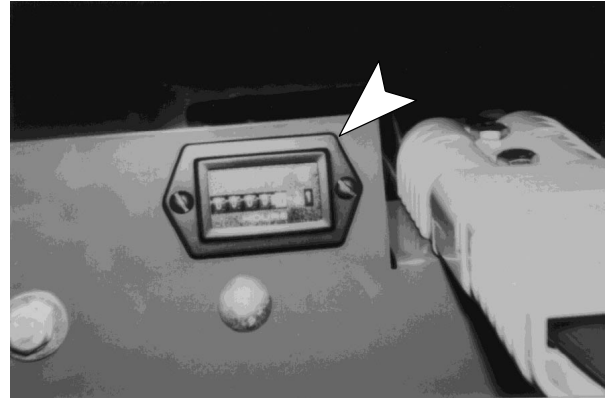


FIG. 12

2. To gain access to this meter remove the battery cover.
3. This meter keeps a running total of the hours of operation of your machine.
4. Use this meter to determine when your machine should to be maintained.

CARBON BRUSH INDICATOR LAMP

1. Your machine has an amber carbon brush indicator lamp which will light when the carbon brushes in the pad drive motor need to be replaced (Figure 13). See **QUARTERLY MAINTENANCE** section.

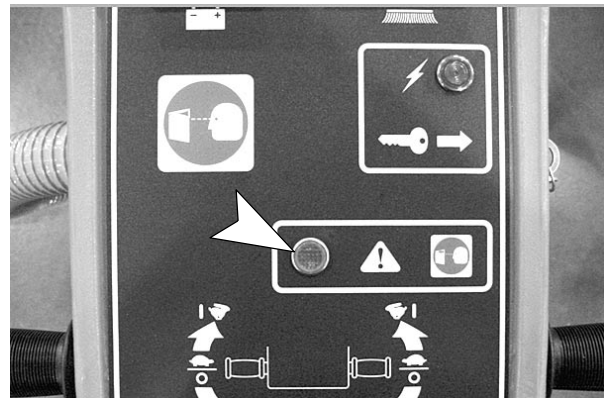


FIG. 13

CHARGING BATTERIES

NOTE: Recharge batteries *ONLY* after a total of 30 minutes of use or more. This will prolong battery life.

The following charging instructions are intended for supplied 36V chargers only. Only use a charger with the following specifications to prevent battery damage.

CHARGER SPECIFICATIONS:

- OUTPUT VOLTAGE - 36 VOLTS
- OUTPUT CURRENT - 25 AMPS MAXIMUM
- AUTOMATIC SHUTOFF CIRCUIT
- FOR DEEP CYCLE BATTERY CHARGING

NOTE: For optimum machine operation, keep batteries charged at all times. Never let batteries set in a discharge condition for lengthy periods.

⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

FOR SAFETY: When servicing machine, wear protective gloves when handling batteries or battery cables. Avoid contact with battery acid.

1. Transport machine to a flat, dry surface in a well-ventilated area for charging.
2. Turn off all switches and key.

FOR SAFETY: Before leaving or servicing machine, stop on level surface and turn off machine.

3. Slide the battery cover from the machine (Figure 14).



FIG. 14

4. Before charging batteries, check electrolyte level (A) in each battery cell. Do not charge batteries unless electrolyte is slightly covering battery plates (B). If battery plates (B) are exposed, add just enough distilled water to slightly cover plates, level (A). Never add acid to batteries. DO NOT overfill. Batteries can overflow during charging due to expansion. Replace cell caps before charging (Figure 15).

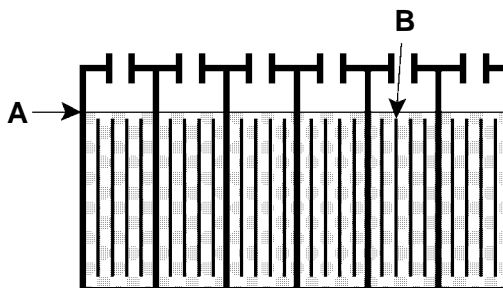


FIG. 15

NOTE: For machines with 305 amp batteries, to gain access to the 2 top rear battery cells, remove the 2 acorn nuts holding the console to the frame (Figure 16). Tip the console back on the hinge to access these cells.

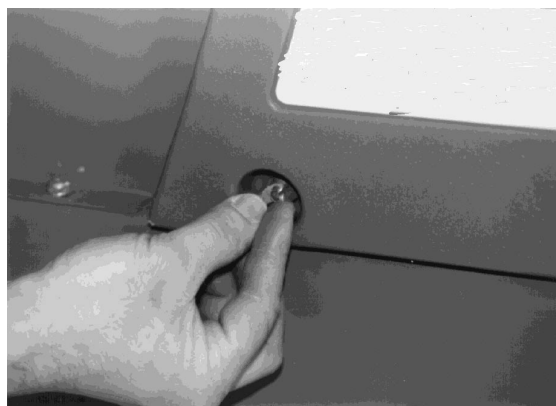


FIG. 16

5. Disconnect the battery plug from the machine (Figure 17). With charger's power supply cord unplugged, connect battery charger into battery plug.

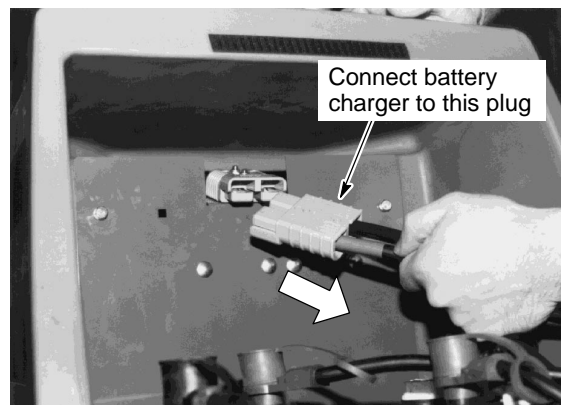


FIG. 17

OPERATION

NOTE: Do not connect the charger into the machine plug, or damage to the machine may occur.

- Then plug charger's power supply cord into a grounded wall outlet (Figure 18).

FOR SAFETY: Do not operate charger unless cord is properly grounded.

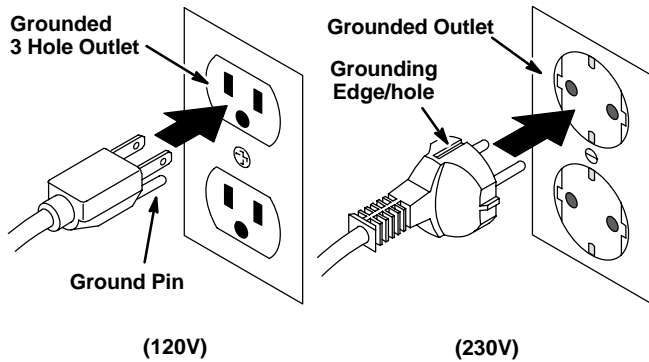


FIG. 18

- Charger will automatically begin charging and automatically shut off when fully charged.
- After charger has turned off, unplug charger from wall outlet first then disconnect charger from machine.
- Recheck battery electrolyte level (A) after charging. Add distilled water to bring level 1cm from bottom of sight tubes (B). Replace cell caps securely and wipe off the top of batteries with a clean cloth (Figure 19).

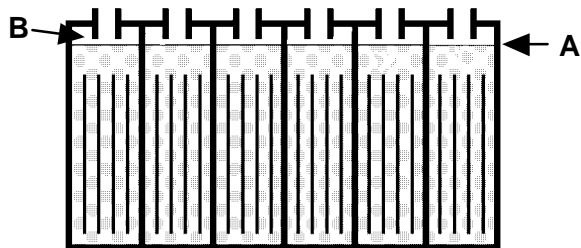


FIG. 19

MACHINE MAINTENANCE

To keep machine in good working condition, simply follow daily, weekly and monthly maintenance procedures.

FOR SAFETY: Before leaving or servicing machine, stop on level surface and turn off machine.

FOR SAFETY: When servicing machine, disconnect battery connections before working on machine.

ATTENTION: Contact an Authorized Service Center for machine repairs. Machine repairs performed by other than an authorized person will void your warranty.

DAILY MAINTENANCE (Every 4 Hours of Use)

- Remove burnishing pad. Clean and replace or install a new pad (Figure 20).

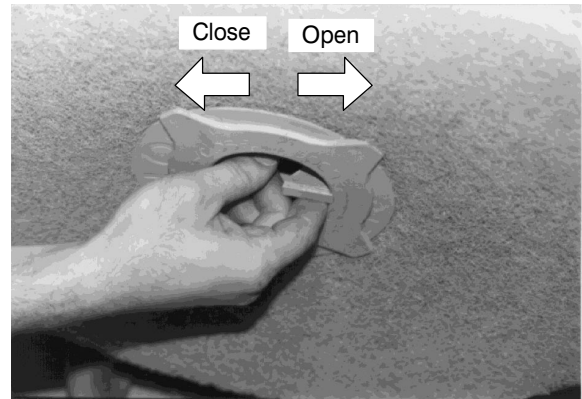


FIG. 20

- Dust bag maintenance: Open the dust bag access door to gain access to the dust bag (Figure 21).

Paper Bag: Grasp the bag to check the contents. Remove and discard the bag if it is full. Install a new bag on the fitting and close the dust bag access door.

Cloth Bag (Option): Remove the bag. Unzip, invert and shake the contents from the bag. Close the zipper and reinstall on the fitting. Close the dust bag access door.

NOTE: If the bag is extremely soiled, launder the bag before reuse.

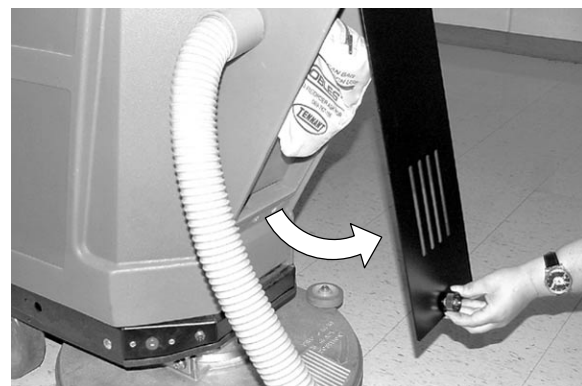


FIG. 21

3. Wipe the entire machine with a damp cloth.
4. Charge the batteries. See CHARGING BATTERIES.

NOTE: Recharge batteries **ONLY** after a total of 30 minutes of use or more. This will prolong battery life.

WEEKLY MAINTENANCE (Every 20 Hours of Use)

1. Inspect the dust control skirt for wear and proper adjustment. The skirt should be adjusted so it just touches the floor in the run position.
To adjust: Loosen the band and push the skirt down. Tighten the band.
2. Check the specific gravity in each battery cell with a hydrometer. All cells should show a reading of at least 1.260 (Figure 22).

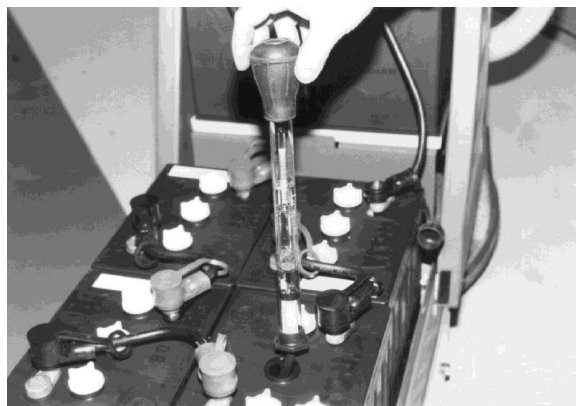


FIG. 22

MONTHLY MAINTENANCE (Every 80 Hours of Use)

1. Check battery cables for tightness or corrosion. Clean and lubricate if necessary.
2. Grease main wheel bearings and swivel and wheel on the caster (Figure 23).



FIG. 23

3. For BR-2500 Model:
Check the lubrication and tension of the drive chain. If maintenance is necessary, ask assistance from your Authorized Service Center.
4. Grease the brass acorn nut on the head stop bracket.

QUARTERLY MAINTENANCE (Every 250 Hours of Use)

It is recommended that these maintenance procedures be performed by technicians from your authorized service center.

1. Inspect carbon brushes in the pad motor. Replace if worn to 10mm or less.
2. Inspect the carbon motor brushes in the traction motor. Replace if worn to 10mm or less.

BATTERY MAINTENANCE

⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

FOR SAFETY: When servicing machine, wear protective gloves when handling batteries or battery cables. Avoid contact with battery acid.

1. Always follow proper charging instructions (see CHARGING BATTERIES).
2. Each week **after** charging, check fluid level (A) in each battery cell of all batteries. The level should be 1cm from bottom of sight tubes (B). If needed, add just enough distilled water to raise level 1cm from bottom of sight tubes. **DO NOT** overfill (Figure 24).

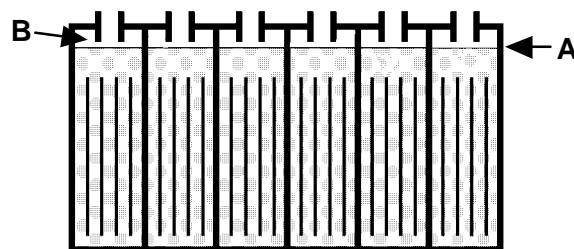


FIG. 24

OPERATION

3. Keep battery tops and terminals clean and dry.
 - a. Mix a strong solution of baking soda and water (Figure 25).



FIG. 25

- b. Brush solution sparingly over battery tops, terminals, and cable connectors.

NOTE: Do not allow baking soda solution to enter battery cells.
- c. Use wire brush to clean terminals and cable connections.
- d. After cleaning, apply a coating of clear battery post protectant to terminals and cable connections.

4. Check for loose or worn cables. Replace if worn.

TRANSPORTING MACHINE

When transporting machine by use of trailer or truck, be certain to follow tie-down procedures below:

1. Load machine using a recommended loading ramp.

NOTE: If lifting machine, you must remove batteries.

FOR SAFETY: When transporting machine, do not lift machine if batteries are installed.

2. Position front of machine up against front of trailer or truck bed.
3. Place blocks behind the main wheels.
4. Place tie-down straps over top of machine and secure straps to floor. It may be necessary to install tie-down brackets to the floor of your trailer or truck.

NOTE: Do not use control grips to secure machine for transporting.

STORING MACHINE

Store machine in a dry area in the upright position.

ATTENTION: Do not expose to rain. Store indoors.

RECOMMENDED STOCK ITEMS

Refer to the Parts List section in this manual for recommended stock items. Stock Items are clearly identified with a bullet preceding the parts description. See example below:

Ref.	Part No.	Description	Qty.
1	701103	ASM., STANDPIPE	1
2	180613	●FLOAT, SHUTOFF	1
3	230187	NIPPLE	1
4	101714	●GASKET	1
5	210240	NUT, FLANGED	1

SPECIFICATIONS

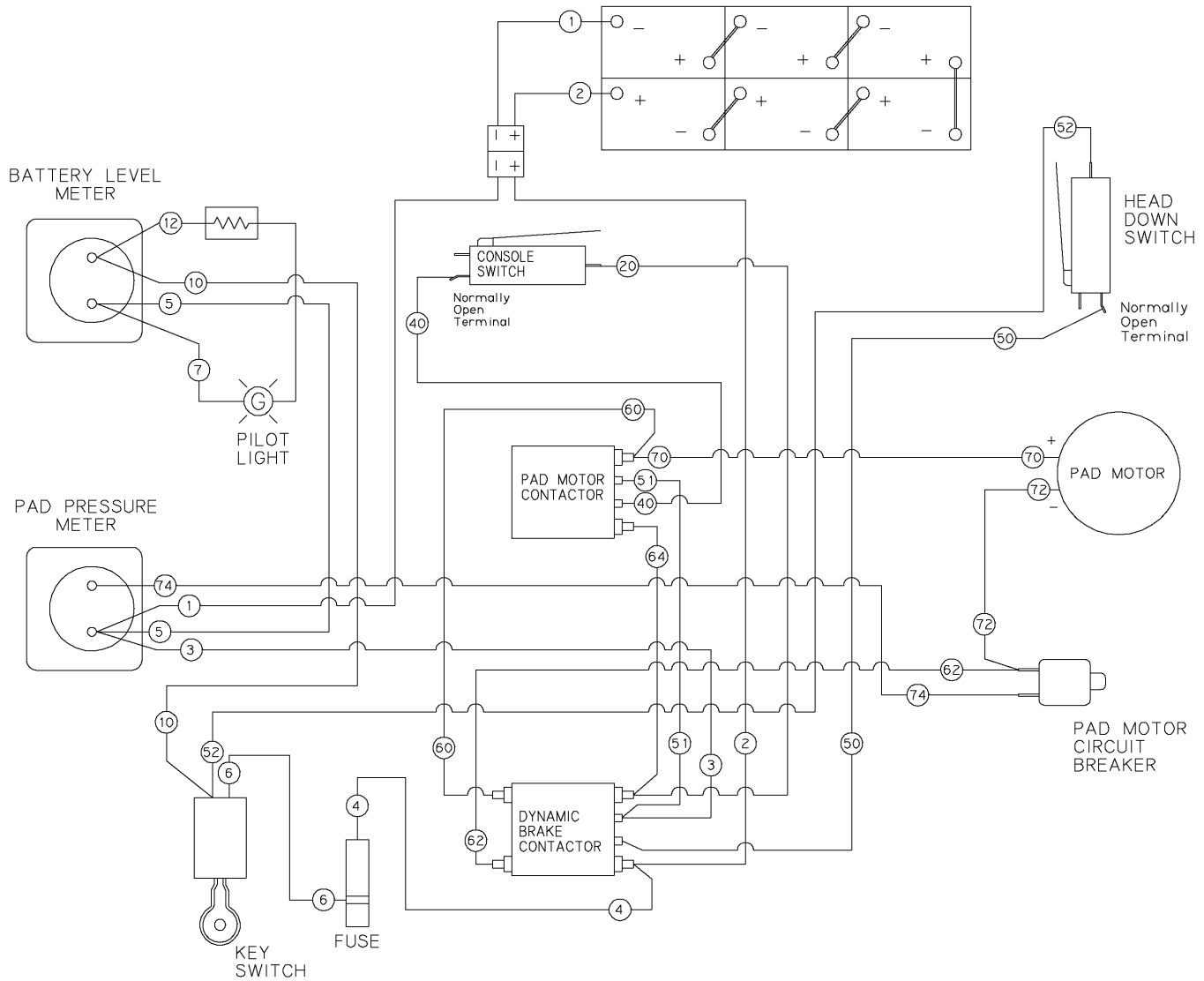
ITEM	MEASURE
Length	1350mm (53 in)
Width	550mm (22 in)
Height	1020mm (40 in)
Weight: BR-2250	104 kg (230 lb) (excluding batteries)
Weight: BR-2500	118 kg (260 LB) (excluding batteries)
Speed: BR-2250	Push
Speed: BR-2500	5 k/hr (3 mph)
Pad Diameter/Burnishing Path	483mm (19 in)
Pad Motor	2,24 kW (3hp)
Pad Speed	2,500 rpm
Battery Life: BR-2250	2,5-3,5 hours
Battery Life: BR-2500	2-3 hours
Decibel Level	75 dBA

TROUBLESHOOTING

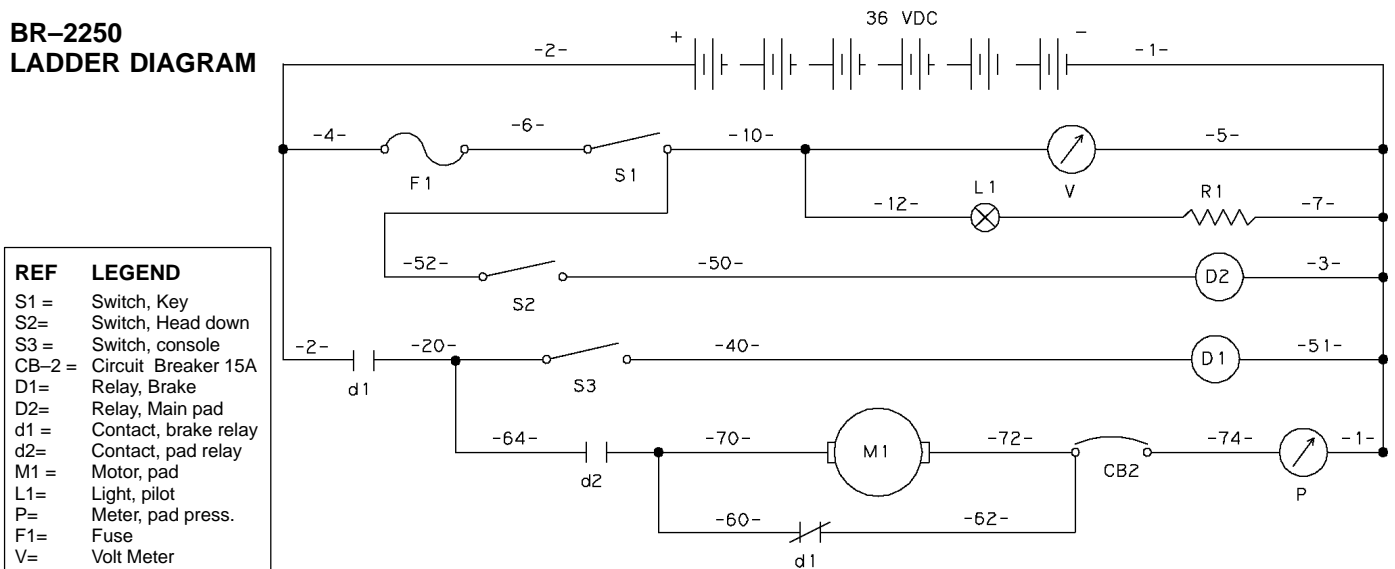
PROBLEM	CAUSE	SOLUTION
Machine does not operate.	Key switch is OFF.	Turn key switch ON.
	Battery connector is not plugged into machine connector.	Plug connector into machine.
	Batteries discharged.	Charge batteries.
	Ignition fuse blown.	Replace fuse.
	Loose or corroded battery cables.	Clean and lubricate.
	Electrical malfunction.	Contact Authorized Service Center.
Machine does not self-propel (BR-2500 ONLY).	Drive circuit breaker tripped.	Reset breaker.
	Drive chain broken.	Replace.
	Electrical malfunction.	Contact Authorized Service Center.
	Wheel bearing frozen.	Contact Authorized Service Center.
Pad motor does not operate.	Head not lowered and locked in ready (down) position.	Lower head into ready position.
	Pad circuit breaker tripped.	Reset breaker.
	Electrical malfunction.	Contact Authorized Service Center.
Pad drive motor circuit breaker trips continuously.	Dirty pad.	Replace.
	Improper pad for application.	Change to correct pad.
	Improper pressure adjustment.	Reduce pressure.
	Defective circuit breaker.	Contact Authorized Service Center.
	Worn motor brushes.	Contact Authorized Service Center.
Pad driver vibrates during use.	Pad off center.	Reposition pad.
	Pad out of round or damaged.	Replace with new pad.
	Pad driver damaged or out of balance.	Contact Authorized Service Center.
Batteries deliver below-normal run time.	Batteries not fully charged.	Charge batteries.
	Electrolyte level is low.	Fill to proper level and charge.
	Cables are loose or corroded.	Clean and lubricate.
	Pad pressure is too heavy.	Reduce pressure.
	Improper pad causing too much amp draw.	Change to proper pad.
	Charger is defective.	Contact Authorized Service Center.
	Battery is defective.	Contact Authorized Service Center.
Dust control ineffective.	Filter bag is full or dirty.	Empty, clean or replace.
	Skirt not adjusted properly or damaged.	Adjust skirt per instructions.
	Pad is worn excessively.	Replace pad.
	Dust control hose plugged with debris.	Clean out hose.
Transport drive circuit breaker trips during use.	Operator attempting inclines.	Machine not designed for inclines.
	Machine travel obstructed.	Remove obstruction.
	Operator using directional control as brake.	Do not use directional control as brake.
	Drive circuit breaker defective.	Contact Authorized Service Center.
	Drive Motor brushes worn.	Contact Authorized Service Center.

ELECTRICAL DIAGRAM

BR-2250 WIRE DIAGRAM

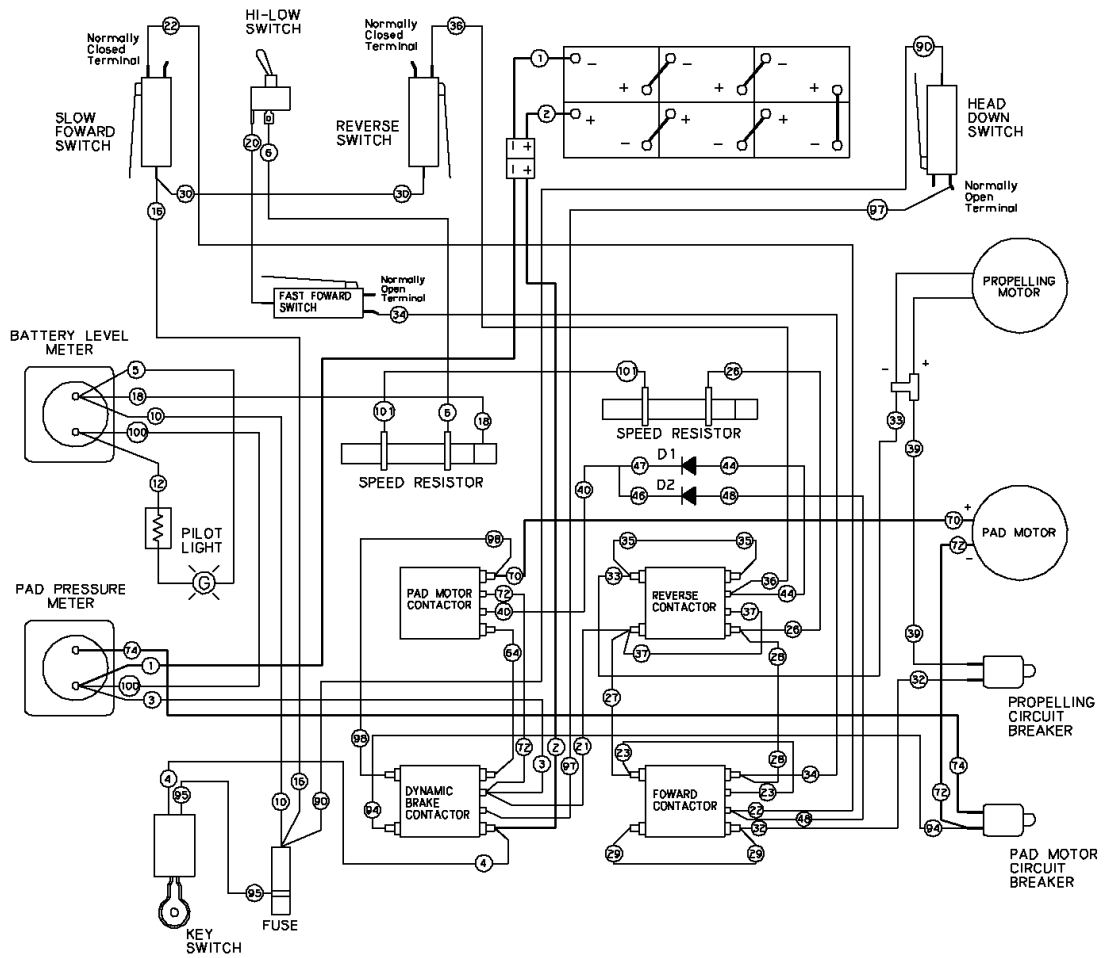


BR-2250 LADDER DIAGRAM

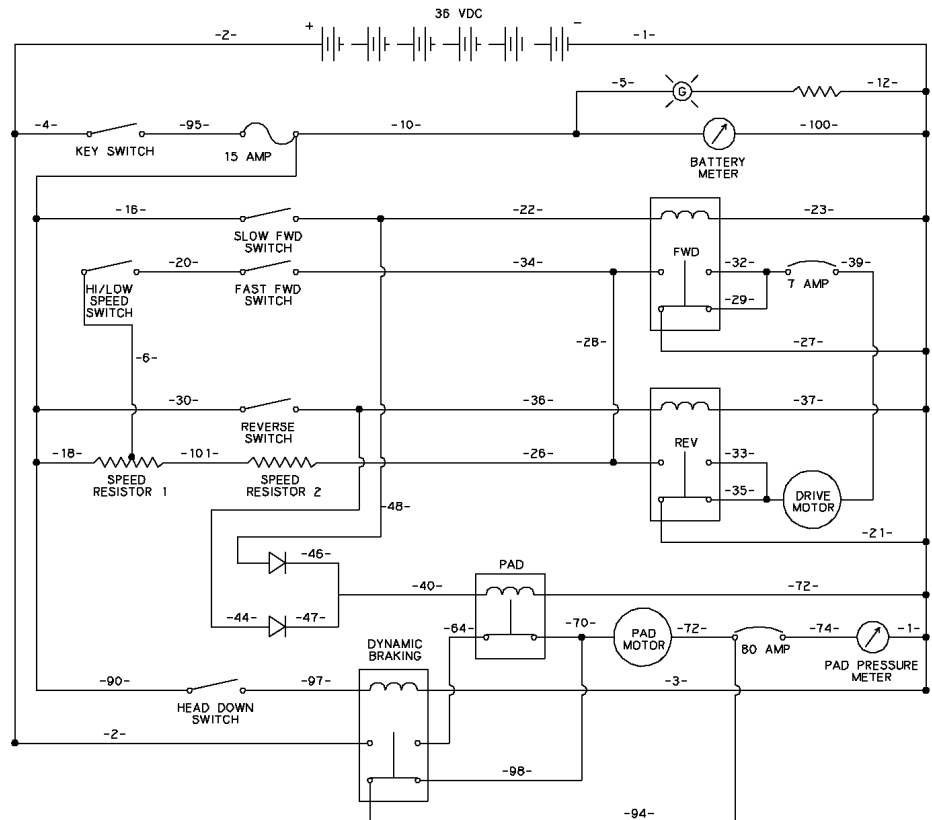


REF	LEGEND
S1 =	Switch, Key
S2 =	Switch, Head down
S3 =	Switch, console
CB-2 =	Circuit Breaker 15A
D1 =	Relay, Brake
D2 =	Relay, Main pad
d1 =	Contact, brake relay
d2 =	Contact, pad relay
M1 =	Motor, pad
L1 =	Light, pilot
P =	Meter, pad press.
F1 =	Fuse
V =	Volt Meter

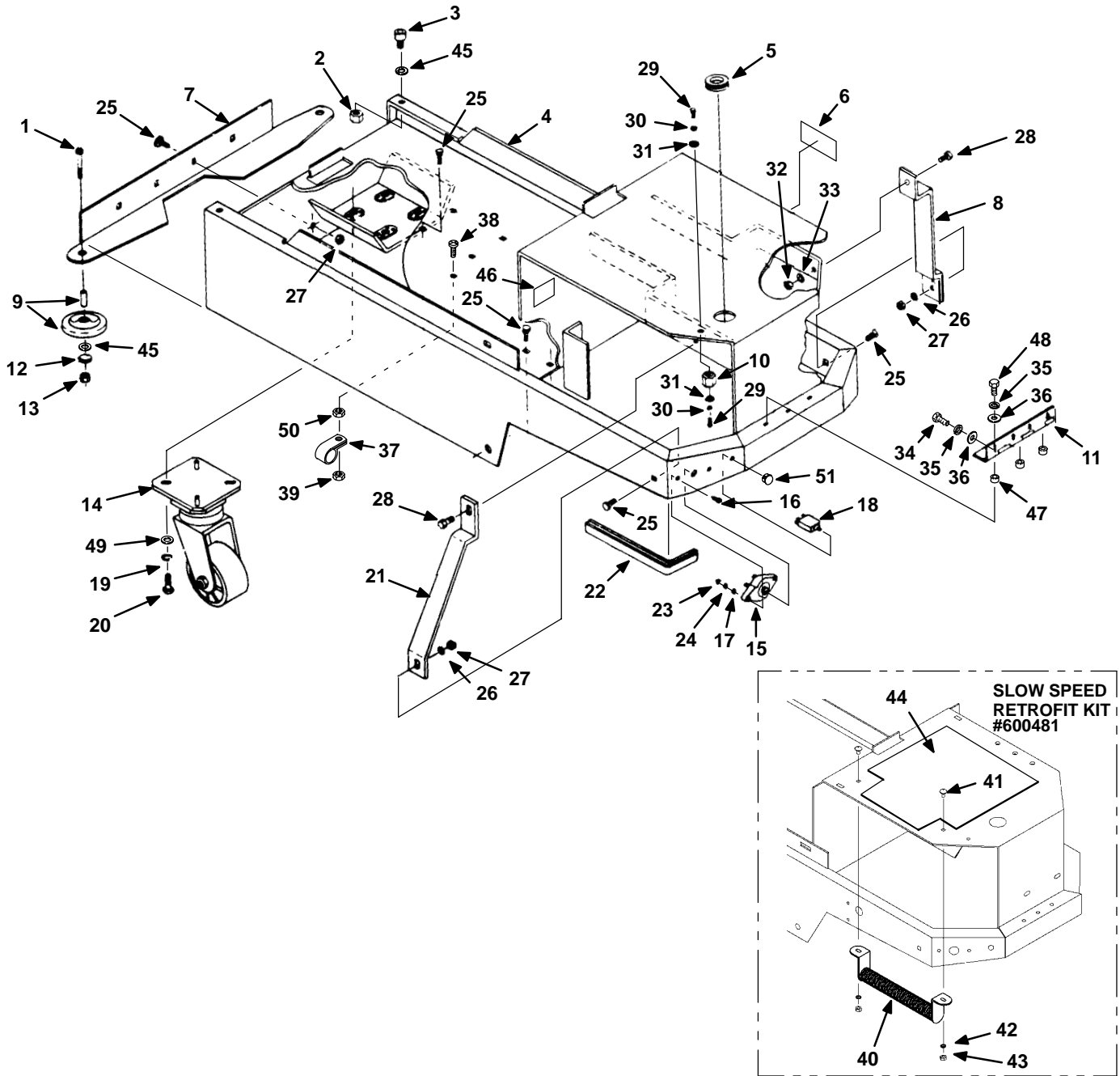
BR-2500 WIRE DIAGRAM



BR-2500 LADDER DIAGRAM



FRAME GROUP



FRAME GROUP

REF	PART #	DESCRIPTION	QTY.
1	621286000	SCREW, M8 X 1.25 X 45 HXHDCP	2
2	200160017	NUT, M8 LOCK	2
3	200001486	SCREW, M8 X 1.25 X 16 SKHDCP	2
4	069767001	FRAME WELDT.	1
5	069762009	GROMMET	1
6	602063000	DECAL, CAUTION, PAD ADJUST.	1
7	069767102	BRACKET, WALL ROLLER	1
8	069767178	BRACKET, FRAME SUP. (BR-2500)	1
9	630450	WHEEL, RUBBER	2
10	578427	STANDOFF, TERMINAL	1
11	069767036	HINGE, SHROUD	1
12	140015	WASHER, 5/16 LOCK	2
13	200640017	NUT, M8 HEX	2
14	069760030	CASTER	1
15	130781	●BREAKER, CIRCUIT, 80A	1
16	602168000	SCREW, #10-32 X 1 PAN HD.	2
17	069762056	WASHER, #10 FLAT	2
18	069767136	●BREAKER, CIRCUIT, 7A (BR-2500)	1
19	200351020	WASHER, M10.2 LOCK	4
20	200031541	SCREW, 10 X 25 HXHDCP	4
21	069767174	BRACKET, FRAME SUP. (BR-2500)	1
22	180014003	EDGING, 20"	1
23	575380	NUT, #10-32 HEX	2
24	069762005	WASHER, #10 FLAT	2
25	069767077	SCREW, 5/16-18 X 3/4 CARRIAGE (BR-2250)	8
	069767077	SCREW, 5/16-18 X 3/4 CARRIAGE (BR-2500)	14

● RECOMMENDED STOCK ITEMS

REF	PART #	DESCRIPTION	QTY.
26	069760082	WASHER, 1/4 FLAT (BR-2500)	2
27	140546	NUT, 5/16-18 NYLK (BR-2250)	4
	140546	NUT, 5/16-18 NYLK (BR-2500)	6
28	200607491	SCREW, M8 X 1.25 X 25 HXHD (BR-2500)	2
29	069762115	SCREW, 1/4-20 X 1/2 HXHDCP	2
30	140016	WASHER, 1/4 LOCK	2
31	579210	WASHER, M6 FLAT	2
32	200160017	NUT, M8 LOCK (BR-2500)	2
33	200303019	WASHER, M8.4 FLAT (BR-2500)	2
34	200031433	SCREW, M6 X 1.0 X 12 HXHDCP	4
35	140016	WASHER, 1/4 LOCK	7
36	140012	WASHER, 3/16 FLAT	7
37	140916	CLAMP (BR-2500)	1
38	140196	SCREW, #10-24 X 1 TRSPHL (BR-2500)	1
39	140552	NUT, #10-24 LOCK (BR-2500)	1
40	069764063	RESISTOR, SLOW SPEED (BR-2500)	1
41	15858.12	SCREW, #10-24 X 3/4 FLTPHL (BR-2500)	2
42	200315016	WASHER, M5.3 FLAT (BR-2500)	2
43	140519	NUT, #10-24 KEP (BR-2500)	2
44	621052000	PLATE, BATTERY	1
45	140027	WASHER, 5/16 FLAT	4
46	602202000	DECAL, HOT CAUTION (BR-2500)	1
47	019686055	SPACER	3
48	200609438	SCREW, M6 X 20 HXHDCP	3
49	579144	WASHER, M10 FLAT	4
50	140519	NUT, #10-24 KEP (BR-2500)	1
51	130280	PLUG, DOME, 7/16 (BR-2250)	1

DRIVE GROUP

REF	PART #	DESCRIPTION	QTY.
▽ 1	069767082	●WHEEL (BR-2250)	2
	069767082	●WHEEL (BR-2500)	1
▲ 2	602171000	●WASHER, THRUST	4
▲ 3	069767004	●SPANNER, BUSHING (BR-2250)	2
	069767004	●SPANNER, BUSHING (BR-2500)	1
4	14880.5	WASHER, 5/16 FLAT	4
▲ 5	602013000	●BEARING, WHEEL (BR-2250)	2
	602013000	●BEARING, WHEEL (BR-2500)	1
6	069767003	●WHEEL (BR-2500)	1
7	069767002	BRACKET, WHEEL MOUNT	2
8	069760082	WASHER, 1/4 FLAT	4
▲ 9	069767162	NUT, 1/2-20 HEX	2
10	621237000	AXLE (BR-2250)	2
	621237000	AXLE (BR-2500)	1
11	069767008	SPROCKET	1
12	602011000	SCREW, SET	2
13	069767011	●CHAIN	1
14	621238000	AXLE (BR-2500)	1

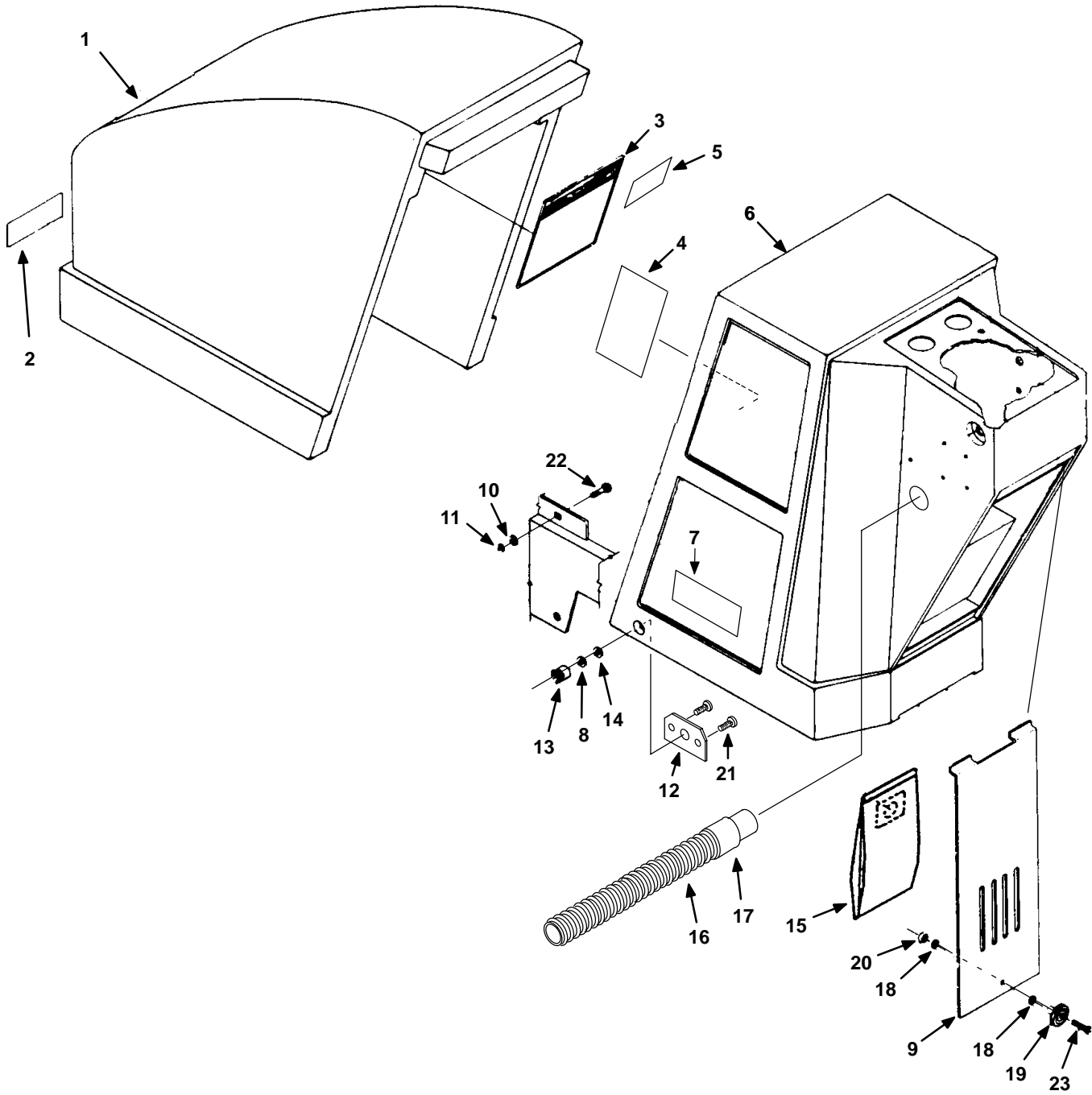
REF	PART #	DESCRIPTION	QTY.
15	069767007	SPROCKET	1
16	069767005	●SPACER, WHEEL	1
17	140501	NUT, 1/4-20 NYLK	4
18	140016	WASHER, 1/4 LOCK	2
19	069767010	MOTOR, DRIVE	1
20	602130000	●MOTOR BRUSH (SET/2)	1
21	069767006	●SPACER, SPROCKET MNT.	4
22	069767161	SUPPORT, WHEEL MNT.	1
23	140209	SCREW, 1/4-20 X 2-1/2 HEX HD.	4
	621311000	SERVICE KIT, WHL SHIMS	1
24	140546	NUT, 5/16-18 NYLK (BR-2250)	4
	140546	NUT, 5/16-18 NYLK (BR-2500)	8
25	069760091	WASHER, .560 X 1.38 X .100 FLAT (BR-2250)	4
	069760091	WASHER, .560 X 1.38 X .100 FLAT (BR-2500)	5
26	579210	WASHER, M6 FLAT	2
27	069762426	WASHER, 3/4 X 1-1/4 X .02 FLAT	4
28	200609438	SCREW, M6 X 20 HXHDPC	2

▽ ASSEMBLY

▲ INCLUDED IN ASSEMBLY

● RECOMMENDED STOCK ITEMS

COVER GROUP



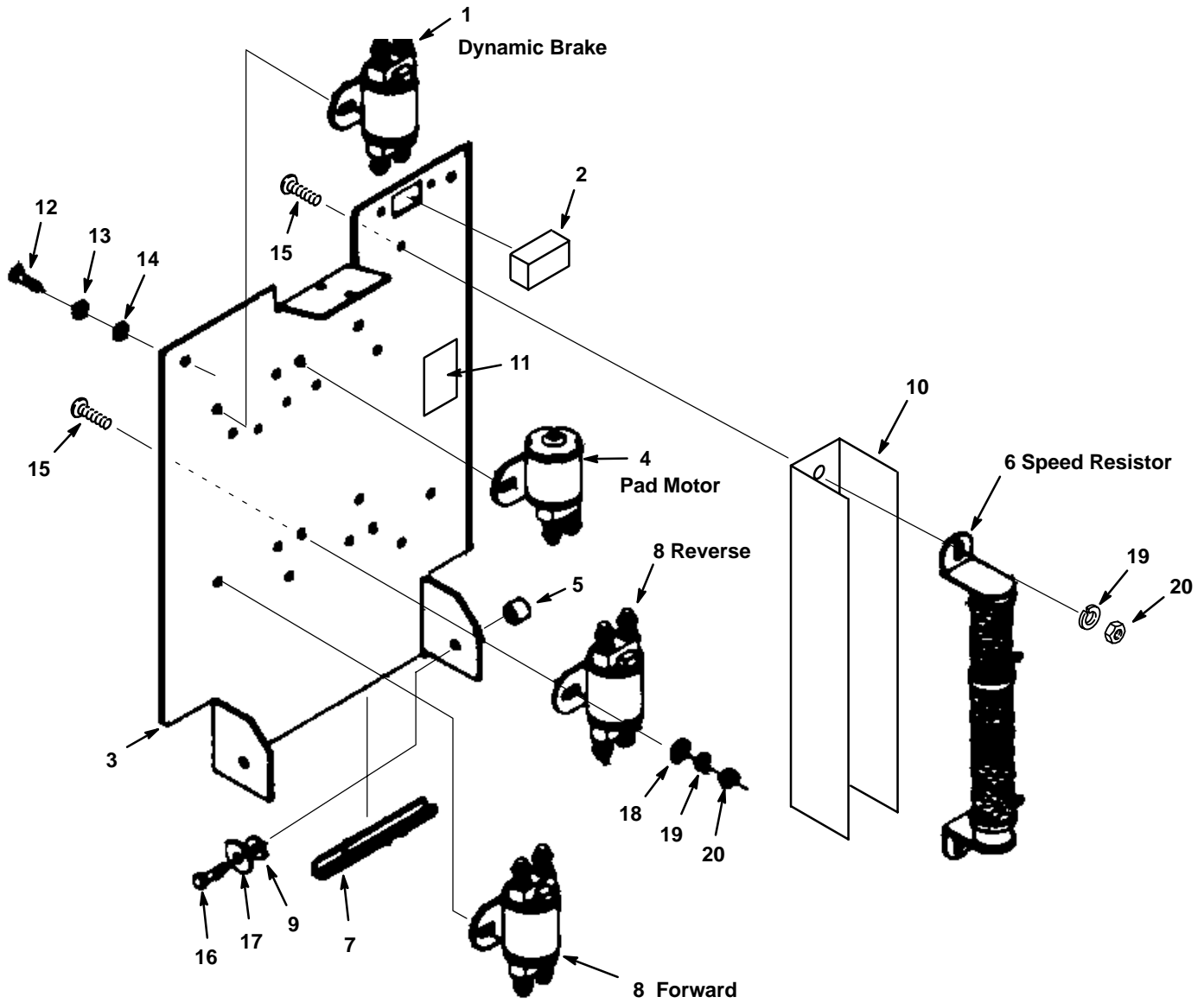
COVER GROUP

REF	PART #	DESCRIPTION	QTY.
1	607355	HOOD, FRONT, BLUE	1
2	120101	DECAL, "CASTEX"	1
3	069767135	DECAL, MAINT.	1
4	604957	DECAL, BATTERY DIAGRAM (BR-2250)	1
	069767119	DECAL, WIRING (BR-2500)	1
5	069780017	DECAL, CAUTION CHARGE	1
6	607353	SHROUD, REAR, BLUE	1
7	608194	DECAL, "BR-2250"	2
	607570	DECAL, "BR-2500"	2
8	200370019	WASHER, M8 LOCK	2
9	069767179	DOOR, VAC. COMPART.	1
10	14880.5	WASHER, 5/16 FLAT	2

● RECOMMENDED STOCK ITEMS

REF	PART #	DESCRIPTION	QTY.
11	140546	NUT, 5/16-18 NYLK	2
12	069767096	STIFFENER, R. SHROUD	2
13	602074000	●NUT, WING, SHROUD	2
14	14880.5	WASHER, 5/16 FLAT	2
15	611786	●BAG, VACUUM, PAPER (10 PCS)	1
	069767155	●BAG, VACUUM, CLOTH	1
16	069767187	●HOSE, DUST CONTROL	1
17	069767189	●CUFF, DUST CONTROL	1
18	602139000	WASHER, M6 FLAT, NYLON	2
19	578439	KNOB	1
20	579028	NUT, M6 HXLCK	1
21	200058432	SCREW, M6 X 1.0 X 10 FLAT HEAD	4
22	621129000	SCREW, 5/16-18 X 1.25 CARRIAGE	2
23	200031441	SCREW, M6 X 1.0 X 25 HXHDPC	1

COMPONENT PANEL GROUP



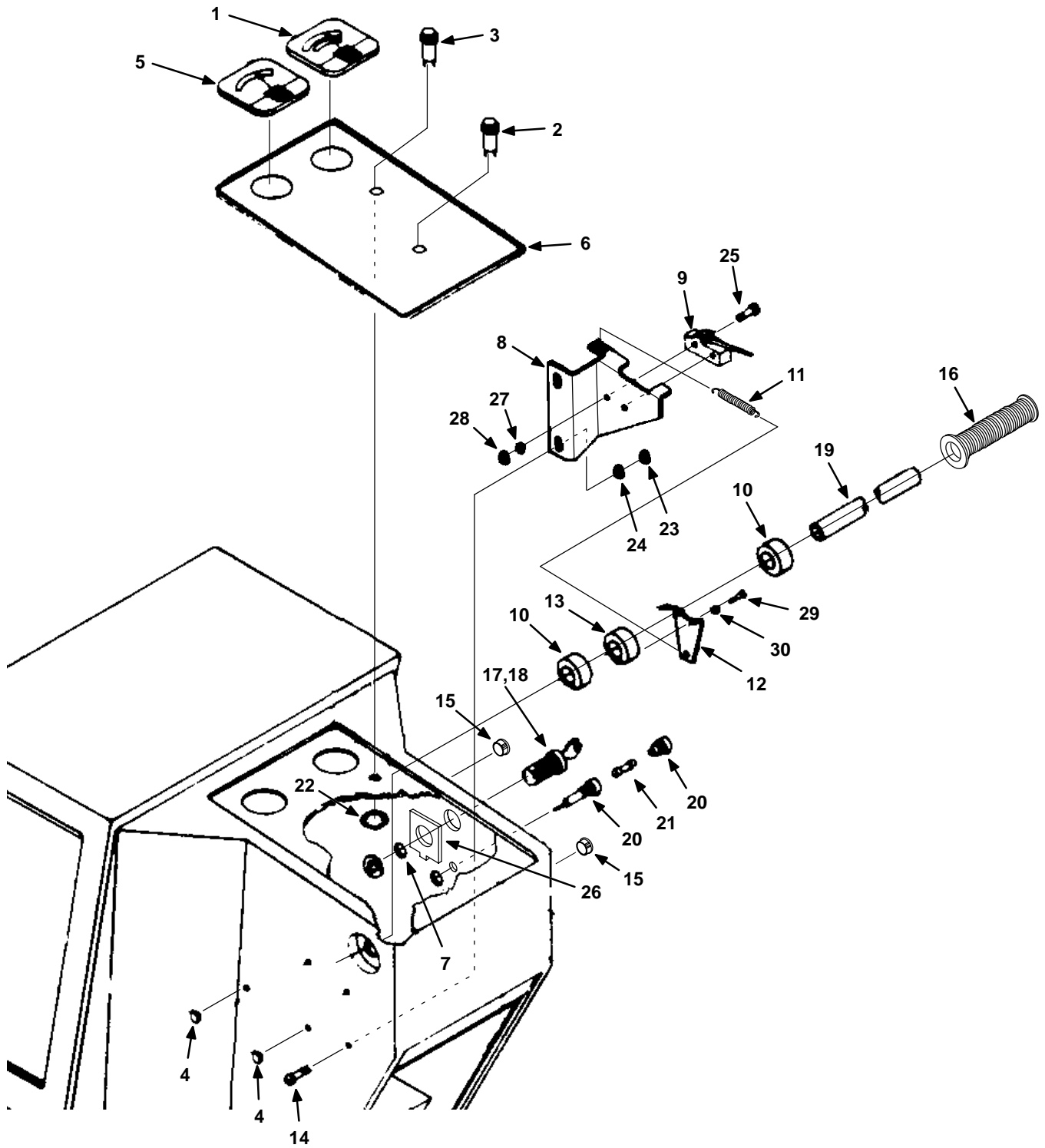
COMPONENT PANEL GROUP

REF	PART #	DESCRIPTION	QTY.
1	069760440	●CONTACTOR, SPDT, 100A	1
2	621297000	KIT, HOURMETER, (OPTION)	1
3	069767033	PANEL, ELECTRICAL	1
4	621381000	●CONTACTOR, 200A, PAD MOTOR	1
5	019686055	SPACER, NYLON	2
6	069764063	RESISTOR, SPEED (BR-2500)	1
7	180014003	EDGING, 8"	1
8	069760440	●CONTACTOR, SPDT, 100A (BR-2500)	2
9	630446	WASHER, .318 NYLON	2
10	602203000	HEAT SHIELD (BR-2500)	1
11	602202000	DECAL, CAUTION HOT (BR-2500)	1
12	200031433	SCREW, M6 X 1.0 X 12 HXHDCP	2

● RECOMMENDED STOCK ITEMS

REF	PART #	DESCRIPTION	QTY.
13	578728	WASHER, M6 LOCK	2
14	579210	WASHER, M6 FLAT	2
15	069767164	SCREW, 1/4-20 X 1/2 CARRIAGE (BR-2250)	4
	069767164	SCREW, 1/4-20 X 1/2 CARRIAGE (BR-2500)	10
16	200609438	SCREW, M6 X 20 HXHDCP	2
17	579210	WASHER, M6 FLAT	2
18	200303019	WASHER, M8.4 FLAT (BR-2250)	4
	200303019	WASHER, M8.4 FLAT (BR-2500)	8
19	140016	WASHER, 1/4 LOCK (BR-2250)	4
	140016	WASHER, 1/4 LOCK (BR-2500)	10
20	14501	NUT, 1/4-20 HEX (BR-2250)	4
	14501	NUT, 1/4-20 HEX (BR-2500)	10

INSTRUMENT PANEL GROUP (BR-2250)



INSTRUMENT PANEL GROUP (BR-2250)

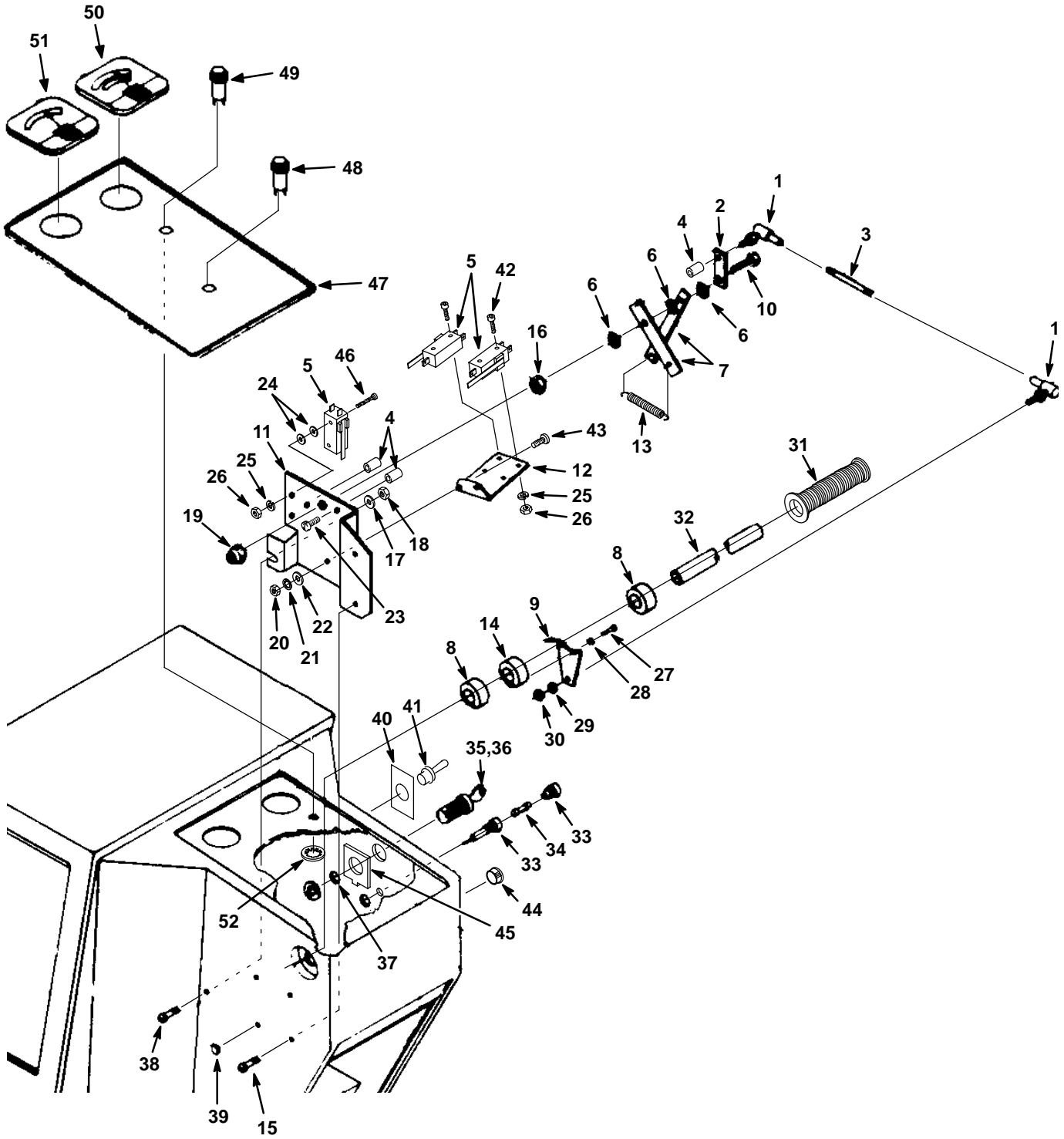
REF	PART #	DESCRIPTION	QTY.
1	602235	METER, PAD PRESSURE	1
2	611148000	LIGHT, PILOT, AMBER	1
3	626114	LIGHT, PILOT, GREEN	1
4	130164	PLUG, DOME	3
5	610026	METER, BATTERY	1
6	600345	DECAL, CONSOLE	1
7	069762306	WASHER, LOCK	1
8	069767055	BRACKET, SWITCH	1
9	069764009	●SWITCH, SNAP	1
10	630186	COLLAR, SHAFT	2
11	069764069	SPRING	1
12	069767026	PLATE	1
13	069764005	COLLAR, SWITCH ACTUATOR	1
14	069764060	SCREW, 5/16-18 X 3/4 TRUSS HD.	2
15	069764626	PLUG, DOME	2

REF	PART #	DESCRIPTION	QTY.
16	200823	GRIP, HANDLE BAR	2
17	607475	SWITCH, KEY LOCK	1
18	607821	KEY, REPLACEMENT	1
19	069764062	BAR, HANDLE	1
20	578418	FUSE HOLDER	1
21	069760639	●FUSE, 15A, 32V	1
22	602140000	WASHER, RETENTION	2
23	140546	NUT, 5/16-18 NYLK	2
24	140015	WASHER, 5/16 LOCK	2
25	069764002	SCREW, #6-32 X 1 HXHDCP	2
26	621437000	BRACKET, KEY SWITCH	1
27	069764054	WASHER, #6 LOCK	2
28	140540	NUT, #6-32 HEX	2
29	069764190	SCREW, M3 X .5 X 16 HXHDCP	2
30	200351012	WASHER, M3 LOCK	2

● RECOMMENDED STOCK ITEMS

PARTS LIST

INSTRUMENT PANEL & SPEED CONTROL GROUP (BR-2500)



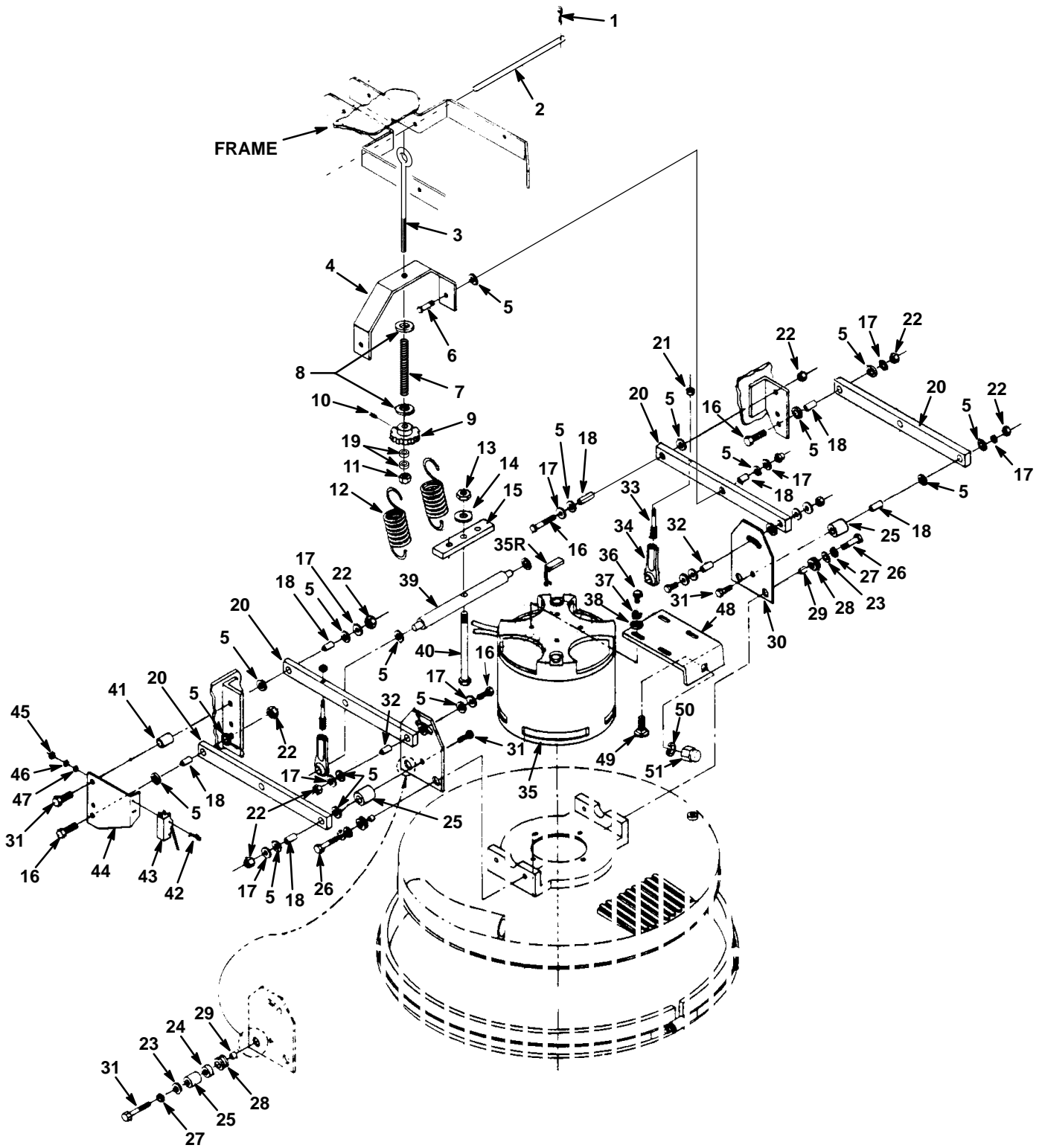
INSTRUMENT PANEL & SPEED CONTROL GROUP (BR-2500)

REF	PART #	DESCRIPTION	QTY.
1	069767070	BALL JOINT	2
2	621059000	STRIP ARM	1
3	069767058	ROD, SPEED CTRL.	1
4	621440000	SPACER, NYLON	3
5	069764009	●SWITCH, SNAP	3
6	621439000	WASHER, .32 NYLON	3
7	069767066	LINK, SCISSOR	2
8	630186	COLLAR, SHAFT	2
9	069767026	PLATE	1
10	200032496	SCREW, M8 X 1.25 X 35 HXHDCP	1
11	621058000	BRACKET, SPD./DIR. CTRL.	1
12	069767057	BRACKET, SWITCH	1
13	069764069	SPRING	1
14	069764005	COLLAR, SWITCH ACTUATOR	1
15	069764060	SCREW, 5/16-18 X 3/4 TRUSS HD.	2
16	200160017	NUT, M8 LOCK	1
17	140015	WASHER, 5/16 LOCK	1
18	140546	NUT, 5/16-18 NYLK	1
19	200160017	NUT, M8 LOCK	1
20	200102014	NUT, M4 HEX	2
21	140023	WASHER, #8 LOCK	2
22	069760097	WASHER, #8 FLAT	2
23	186002085	SCREW, #10-32 X 3/4 PAN SLOT	2
24	140026	WASHER, #6 FLAT	4
25	069764054	WASHER, #6 LOCK	6
26	140540	NUT, #6-32 HEX	6

● RECOMMENDED STOCK ITEMS

REF	PART #	DESCRIPTION	QTY.
27	069764190	SCREW, M3 X .5 X 16 HXHDCP	2
28	200351012	WASHER, M3 LOCK	2
29	069762005	WASHER, #10 FLAT	1
30	575380	NUT, #10-32 HEX	1
31	200823	GRIP, HANDLE	2
32	069764062	BAR, HANDLE	1
33	578418	HOLDER, FUSE	1
34	069760639	●FUSE, 15A, 32V	1
35	607475	SWITCH, KEY LOCK	1
36	607821	KEY, REPLACEMENT	1
37	069762306	WASHER, M20 LOCK	1
38	602234	SCREW, 5/16-18 X 1 TRUSS HD.	1
39	130164	PLUG, BUTTON	2
40	602212000	DECAL, SPEED	1
41	130728	●SWITCH, TOGGLE SPEED	1
42	069764002	SCREW, #6-32 X 1 HXHDCP	4
43	579259	SCREW, M4 X .7 X 12 PANPHL	2
44	069764626	PLUG	1
45	621437000	BRACKET, KEY SWITCH	1
46	140830	SCREW, #6-32 X 1-5/8 PANPHL	2
47	600346	DECAL, CONSOLE	1
48	611148000	LIGHT, PILOT, AMBER	1
49	626114	LIGHT, PILOT, GREEN	1
50	602235	METER, PAD PRESSURE	1
51	610026	METER, BATTERY	1
	602970	KIT, LOW VOLT INTERRUPT (OPTION)	1
52	602140000	WASHER, RETENTION	2

PAD SHROUD LINKAGE GROUP



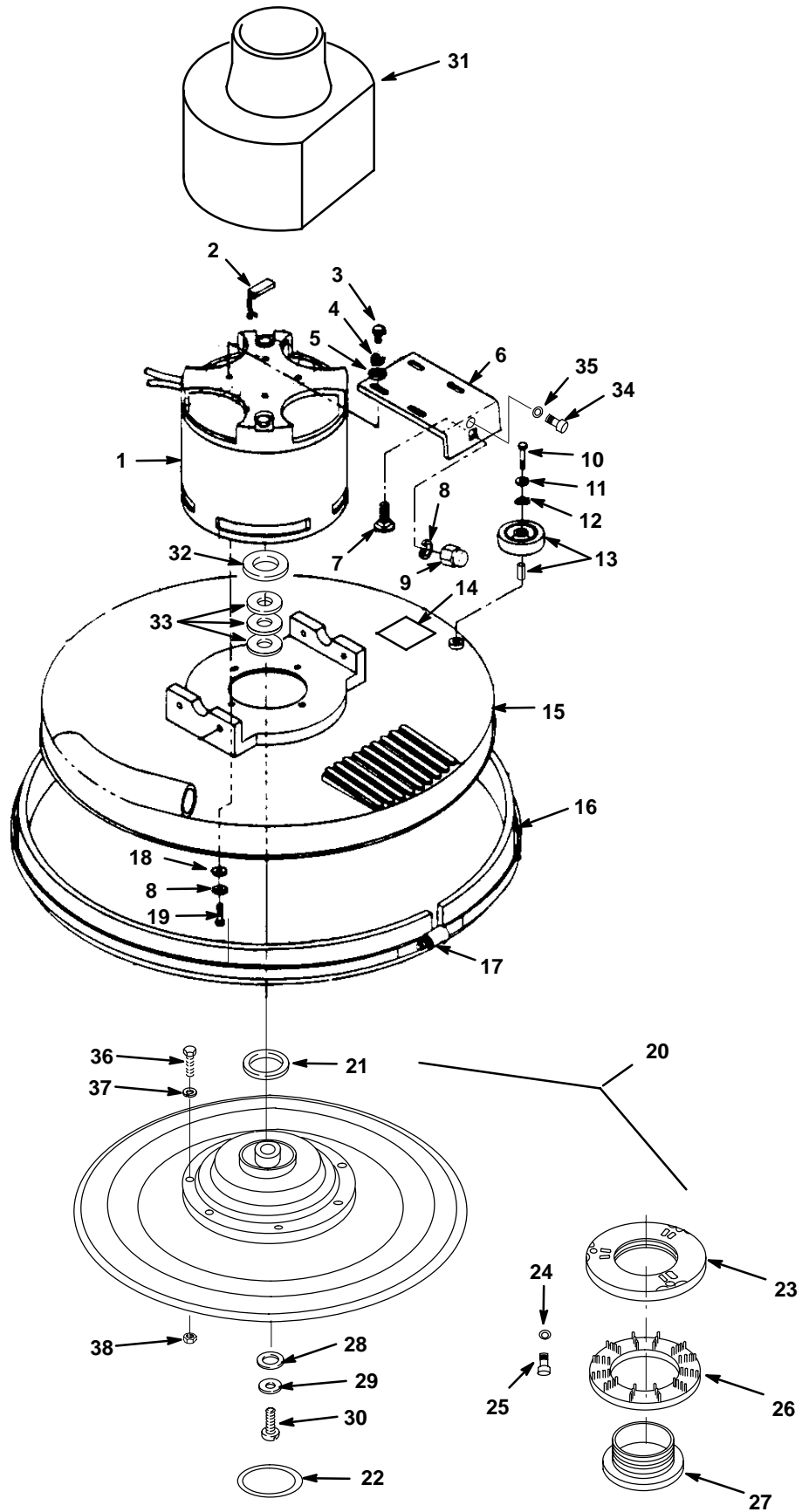
PAD SHROUD LINKAGE GROUP

REF	PART #	DESCRIPTION	QTY.
1	578421	PIN, COTTER	2
2	602009000	PIN, HEADLESS	1
3	602027000	SCREW, 3/8-16 X 10 EYEBOLT	1
4	621178000	BRACKET, SPRING SUPP.	1
5	630447	WASHER, M12.7 NY	22
6	200031494	SCREW, M8 X 1.25 X 30 HEX	2
7	621446	SPRING, PRESSURE ADJ.	1
8	579144	WASHER, M10 FLAT	2
9	602029000	●KNOB, ADJUSTING	1
10	602046000	SCREW, 10-24 X 3/8 SET, NYLON	1
11	140515	NUT, 3/8-16 NYLCK	1
12	069767128	SPRING, EXT.	2
13	069767162	NUT, 1/2-20 HEX	1
14	069760091	WASHER, .560 X 1.38 X .100 FLAT	1
15	069767148	PLATE, SPRING ADJ.	1
16	200032496	SCREW, M8 X 1.25 X 35 HXHDCP	5
17	14880.5	WASHER, 5/16 FLAT	11
18	069760417	SLEEVE, BEARING	8
19	575524000	WASHER, .39 X .62 X .26 NYLON	2
20	069767012	LINK, SUSPENSION	4
21	579028	NUT, M6 HXLCK	2
22	200160017	NUT, M8 LOCK	10
23	14880.5	WASHER, 5/16 FLAT	4
24	069764631	WASHER, M8.4 FLAT	2
25	069767163	SPACER, 1.0 X .75	4
26	200031494	SCREW, M8 X 1.25 X 30 HEX	2

REF	PART #	DESCRIPTION	QTY.
27	140015	WASHER, 5/16 LOCK	4
28	602055000	GROMMET	4
29	602056000	SPACER	4
30	069767137	BRACKET	2
31	200031501	SCREW, M8 X 1.25 X 50 HEX	5
32	069767177	SLEEVE, BEARING	2
33	069767171	MOUNTING, ROD END	2
34	069767091	ROD END	2
35	621445	MOTOR, 36 VDC, 3 HP	1
35R	621478	●BRUSHES, MOTOR	4
36	200609438	SCREW, M6 X 20 HXHDCP	4
37	578728	WASHER, M6 LOCK	4
38	019680127	WASHER, FLAT, WHEEL AXLE	4
39	621177000	CROSS ARM, HEAD LIFT	1
40	069767158	SCREW, 1/2-20 X 6 HXHDCP	1
41	621207000	SPACER	1
42	069764002	SCREW, #6-32 X 1 HXHDCP	2
43	069764009	SWITCH, SNAP, 25A	1
44	069767056	BRACKET, SWITCH	1
45	140540	NUT, #6-32 HEX	2
46	069764054	WASHER, #6 LOCK	2
47	140026	WASHER, #6 FLAT	2
48	621186000	BRACKET, HEAD STOP	1
49	602079000	SCREW, 3/8-16 X 5/8 CARRIAGE	1
50	140017	WASHER, 3/8 LOCK	1
51	602080000	NUT, 3/8-16 ACORN	1

● RECOMMENDED STOCK ITEMS

PAD DRIVER GROUP



PAD DRIVER GROUP

1016426

REF	PART #	DESCRIPTION	QTY.
1	621445	MOTOR, 36 VDC, 3 HP (120V)	1
2	621478	●MOTOR BRUSH (SET/4)	4
3	200609438	SCREW, M6 X 20 HXHDCP	4
4	578728	WASHER, M6 LOCK	4
5	019680127	WASHER, FLAT, WHEEL AXLE	4
6	621186000	BRACKET, HEAD STOP	1
7	602079000	SCREW, 3/8-16 X 5/8 CARRIAGE	1
8	140017	WASHER, 3/8 LOCK	5
9	602080000	NUT, 3/8-16 ACORN	1
10	603154	SCREW, M8 X 1.25 X 40 PANPHL	1
11	069760082	WASHER, 1/4 FLAT	1
12	602035000	WASHER, M12 WAVE	1
13	630450	WHEEL, RUBBER	1
14	578769	DECAL, MOVING PARTS	1
15	069767020	HEAD, DRIVE BLOCK	1
16	621474	●ASSEMBLY, SKIRT	1
17	602044000	●FASTENER, ADJUSTING BAND	1
	069767094	KIT, BAND REPLACEMENT	1
	630613	SKID STRIP, 1.69M (NOT SHOWN)	1
18	140013	WASHER, 3/8 FLAT	4

REF	PART #	DESCRIPTION	QTY.
19	140201	SCREW, 3/8-16 X .75 HEX HD	4
▽ 20	621340000	ASM., DRIVER, FLEXIBLE DISC	1
▲ 21	069764512	RING, WATER CONTAINMENT	1
▲ 22	572061000	O-RING, DRIVE BLOCK HUB	1
▲ 23	621326000	CENTERLOCK, STATIONARY	1
▲ 24	069760097	WASHER, #8 FLAT	3
▲ 25	186002062	SCREW, #8-32 X 3/8, SLOTTED	3
▲ 26	572084000	RING, PAD LOCK	1
▲ 27	621327000	CENTERLOCK, REMOVEABLE	1
28	069764631	WASHER, M8.4 FLAT	1
29	41186	WASHER, BELLEVILLE	1
30	140203	SCREW, 5/16-24 X 1-1/4 HXHDCP	1
31	611753	COVER, MOTOR	1
32	231059	WASHER, .786 X 1.5 X .3	1
33	621471	SPACER, .75 X 1.12	3
34	200070432	SCREW, STOP	1
35	140016	WASHER, 1/4 LOCK	1
▲ 36	069762115	SCREW, 1/4-20 X 1/2 HXHDCP	8
▲ 37	140016	WASHER, 1/4 LOCK	8
▲ 38	572083000	NUT, 1/4-20 WELD	8

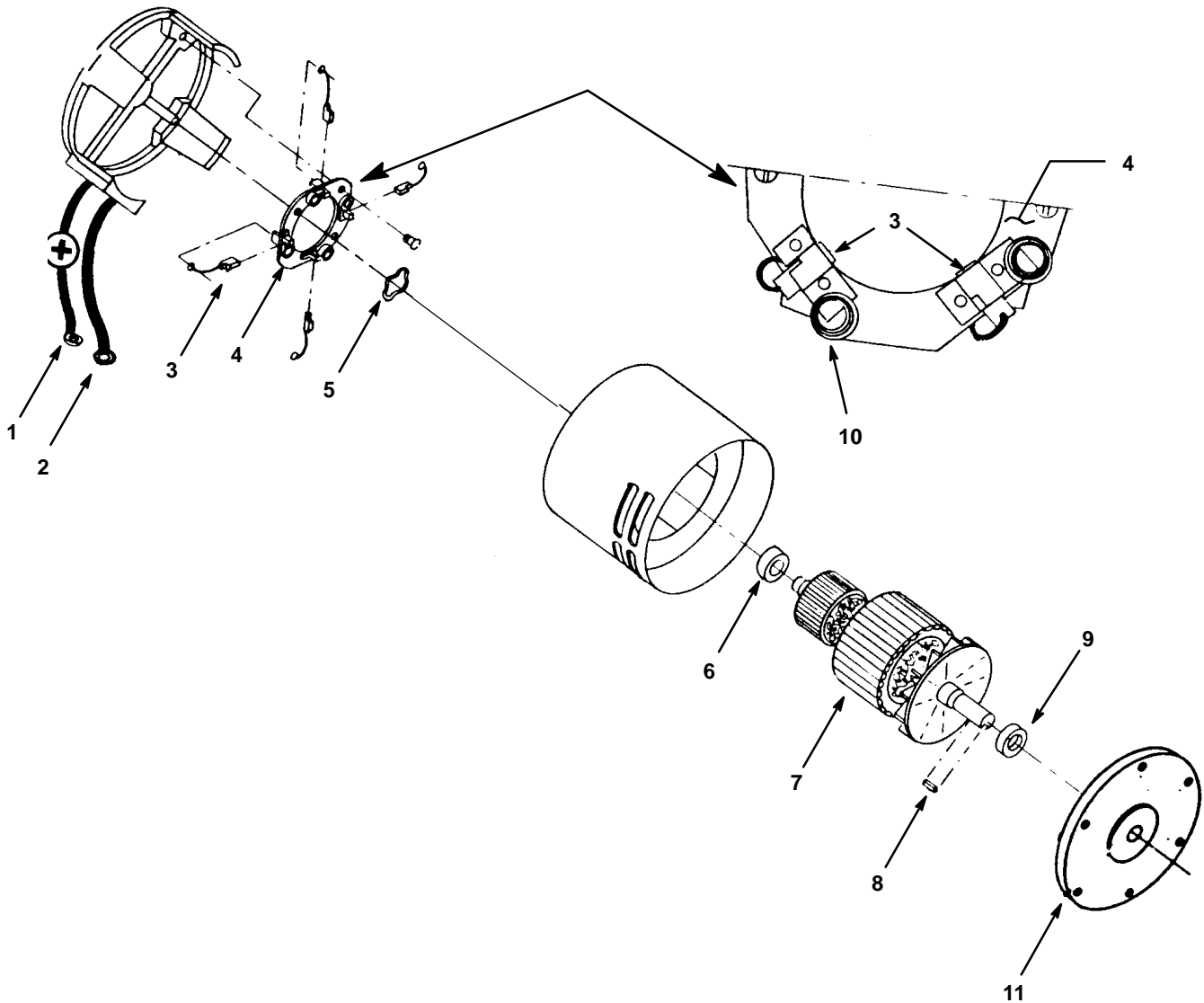
▽ ASSEMBLY

▲ INCLUDED IN ASSEMBLY

● RECOMMENDED STOCK ITEMS

PARTS LIST

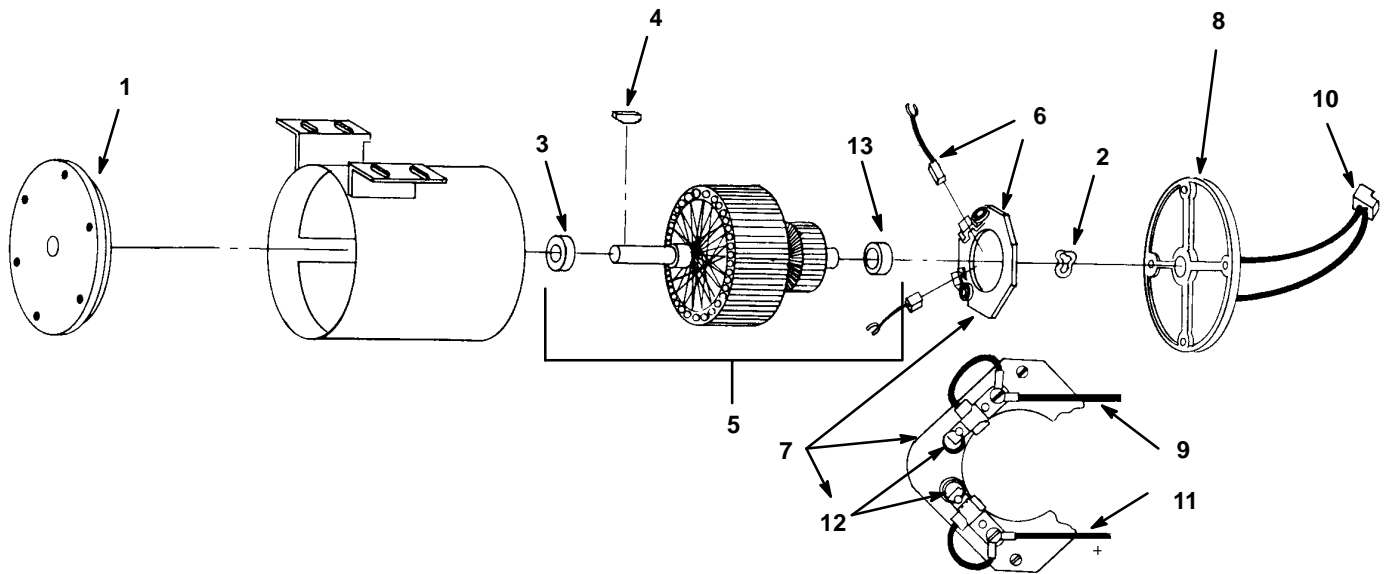
PAD MOTOR BREAKDOWN



REF	PART #	DESCRIPTION	QTY.
	621445	MOTOR, 36V, 3HP (COMPLETE)	1
1	621362000	ASM., LEAD (POSITIVE)	1
2	621362000	ASM., LEAD (NEGATIVE)	1
3	621478	ASM., BRUSH (SET OF 4)	4
4	621300000	ASM., BRUSH BOARD	1
5	602087000	WASHER, HELICAL	1

REF	PART #	DESCRIPTION	QTY.
6	602088000	BEARING	1
7	190313	ASM., ARMATURE	1
8	602010000	KEY, SHAFT	1
9	140124	BEARING	1
10	602131000	SPRING, BRUSH (SET OF 4)	4
11	603329	BRACKET, B.E.	1

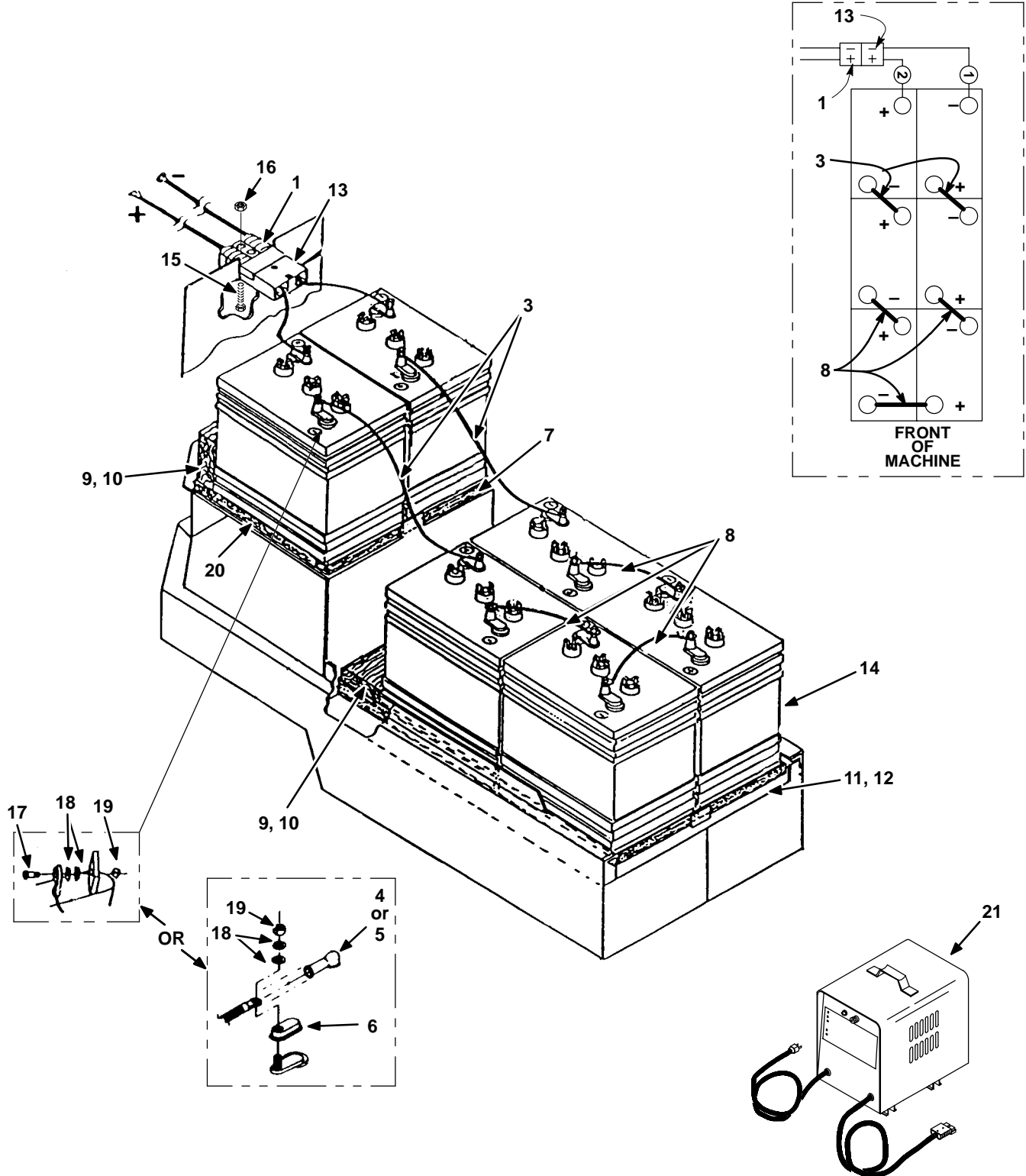
DRIVE MOTOR BREAKDOWN



REF	PART #	DESCRIPTION	QTY.
	069767010	MOTOR, .15 HP (COMPLETE)	1
1	602086000	BRACKET, B.E.	1
2	602087000	WASHER, HELICAL	1
3	602088000	BEARING	1
4	069764176	KEY, WOODRUFF	1
5	602090000	ARMATURE	1
6	602130000	ASM., BRUSH	2

REF	PART #	DESCRIPTION	QTY.
7	602091000	ASM., BRUSH BOARD	1
8	602092000	BRACKET, COMMUTATOR	1
9	602093000	ASM., LEAD (NEGATIVE)	1
10	630456	CONNECTOR, HOUSING	1
11	602095000	ASM., LEAD, (POSITIVE)	1
12	602131000	SPRING, BRUSH (SET OF 2)	2
13	602088000	BEARING	1

BATTERY GROUP



BATTERY GROUP

REF	PART #	DESCRIPTION	QTY.
1	069767101	WIRE HARNESS, BATTERY	1
∇ 2	469767951	KIT, BATTERY CABLES	1
▲ 3	611117000	CABLE, BATTERY, 457MM	2
▲ 4	611222	BOOT, RED	6
▲ 5	611221	BOOT, BLACK	6
▲ 6	45962	COVER, TERMINAL	12
7	069767088	BATTERY TRAY, UPPER	1
▲ 8	611116000	CABLE, BATTERY, 305MM	3
9	630375	INSERT, BATTERY	2
10	602032000	INSERT, BATTERY (BR-2500)	2
11	602146000	PLATE, BATTERY SUPPORT	1
12	069767089	BATTERY TRAY, LOWER	1
▲ 13	602015000	BATTERY CABLE ASSY.	1

∇ ASSEMBLY

▲ INCLUDED IN ASSEMBLY

REF	PART #	DESCRIPTION	QTY.
14	069764222	BATTERY, 6V. 235 AMP (BR-2250)	6
	606991	BATTERY, 6V. 305 AMP (BR-2500)	6
	602240	BATTERY, 6V. 350 AMP (BR-2500) REQUIRES 602004, 36A CHARGER	6
15	200031444	SCREW, M6 X 1.0 X 30 HXHDCP	2
16	579028	NUT, M6 HXLCK	2
▲ 17	140219	SCREW, 5/16-18 X 1 HXHDCP	12
▲ 18	140027	WASHER, 5/16 FLAT	24
▲ 19	140546	NUT, 5/16-18 NYLK	12
20	621052000	PLATE, BATTERY	1
21	469764962	CHARGER, BATTERY, 36V/25A DC, 120V/15A AC (FOR 235 & 305 AMP BATTERIES)	1
	602004	CHARGER, BATTERY, 36V/36A DC, 120V/15A AC (FOR 305 & 350 AMP BATTERIES)	1