

NOBLES®

BR2250/BR2500

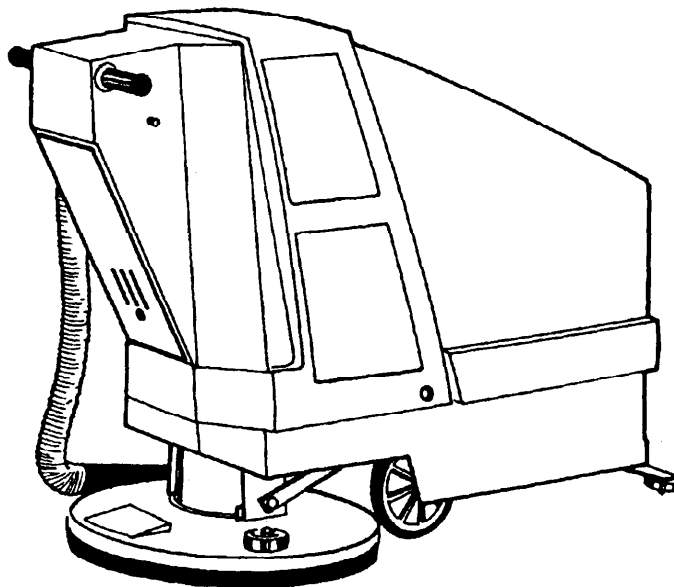
Burnisher

Models: BR2250, BR2500

Operator Manual
and Parts Lists



PDF Version of manual by:
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173266
Rev. 01 (05-96)

OPERATION

This manual is furnished with each new Nobles BR2250 & BR2500 Model. It provides necessary operation and machine care instructions. **Read this manual completely and understand the machine before operating or servicing it.**

A complete illustrated Parts Lists is also included in this manual, use this list to order parts. Before ordering parts or supplies, be sure to have your machine model number and serial number handy. Parts and supplies may be ordered by phone or mail from any Nobles parts and service center, distributor or from any of the Nobles subsidiaries.

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 care instructions provided.
- The machine is maintained with Nobles 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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SAFETY PRECAUTIONS

The following expressions are used throughout this manual as indicated in their description:

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

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

USAGE

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 dangerous type of dust is unsuitable and therefore usage of this type is not allowed.

The following information signals potentially dangerous conditions to the operator or equipment. Know when these conditions can exist. Locate all safety devices on the machine. Then, take necessary steps to train machine operating personnel. Report machine damage or faulty operation immediately. Do not use the machine if it is not in proper operating condition.

FOR SAFETY:

1. **Do Not Operate, Maintain, or Service Machine:**
 - **Unless Trained And Authorized.**
 - **Unless Operation Manual Is Read And Understood.**
 - **With Bare Feet or Open-Toed Shoes.**
2. **When Using Machine:**
 - **Remove Loose Objects On The Floor.**
 - **Keep Hands And Feet Away From Revolving Pad.**
 - **Keep Machine Moving To Prevent Damage To Finish Or Floor.**
 - **Do Not Operate In Areas Where Flammable Liquids Or Gases Are Present.**
 - **Do Not Operate On Ramps Or Inclines Unless Adequate Personnel Are Present For Assistance.**

3. Before Leaving Or Servicing Machine:

- **Make Sure Key Switch Is Turned "OFF" And Battery Connector Is Unplugged.**
- **Store Or Park Machine On Level Surface Only.**

⚠ WARNING: Hazardous Voltage. Shock or electrocution can result. Always disconnect batteries before servicing machine.

⚠ WARNING: Batteries Emit Hydrogen Gas. Explosion Or Fire Can Result. Keep Sparks And Open Flame Away. Keep Covers Open When Charging.

⚠ WARNING: Charge in a well ventilated area and keep hood propped open when charging batteries, explosion or fire can result.

⚠ WARNING: Battery acid can cause burns. Wear protective gloves and shield eyes when servicing batteries.

⚠ WARNING: Do not store outdoors and avoid getting wet by rain etc.

⚠ WARNING: The use of attachments other than those recommended and supplied by the manufacturer may be hazardous.

OPERATION

MACHINE COMPONENTS

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

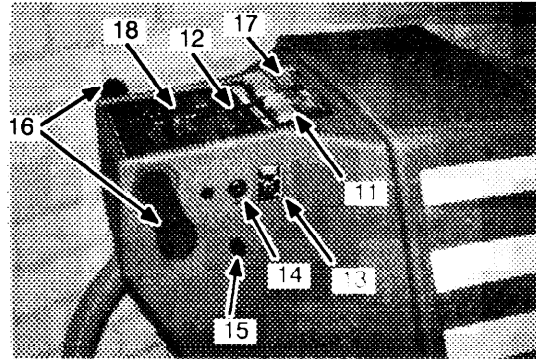
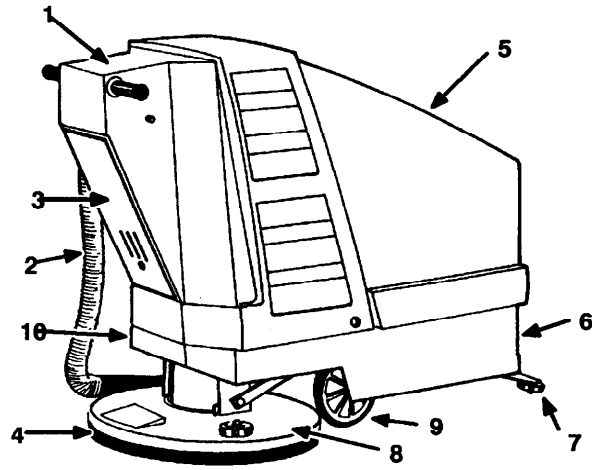


FIG. 1.

MACHINE INSTALLATION

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.

Battery installation must be accomplished after removing the machine from the pallet. Carefully follow the battery installation diagram on page 20 in your parts manual.

Complete the machine:

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.
- ⚠ WARNING: Make Sure The Key Switch Is In The "OFF" Position Before Installing Pad.**
2. Tap the right front side of the pad shroud with your toe. The head will rise to the pad mounting position. Figure 2.

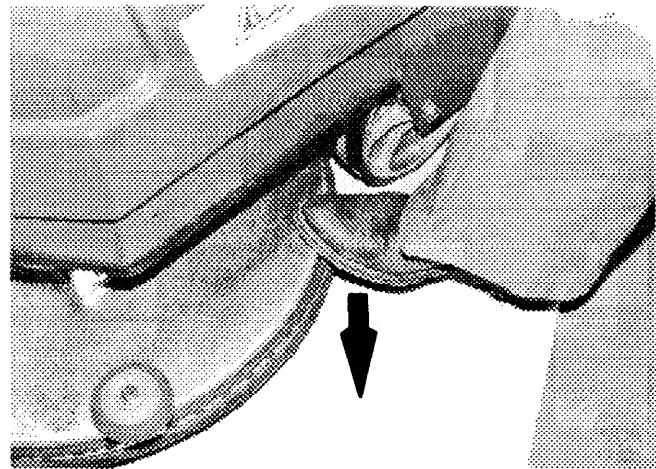


FIG. 2.

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)

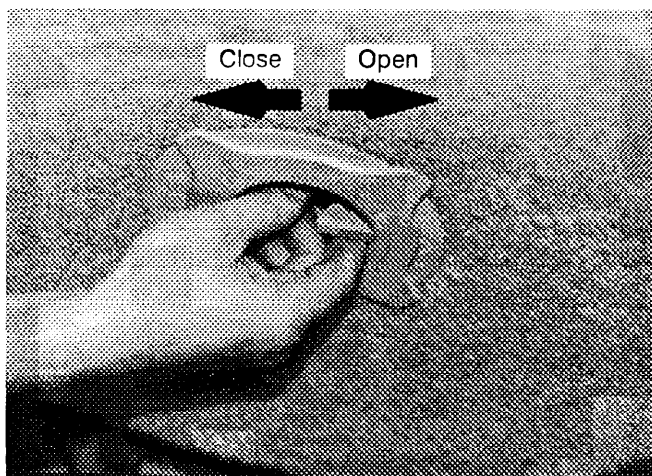


FIG. 3.

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

FOR SAFETY: Care must be exercised to be sure centerlock does not cross-thread or floor damage could occur. Do not overtighten.

⚠ WARNING: Do Not Operate Machine Without A Pad And The Pad Centerlock In Place.

MACHINE OPERATION

PRE OPERATION CHECKS

1. Check battery meter charge level to ensure batteries are fully charged. See CHARGING THE 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 THE BR2250 MODEL

⚠ WARNING: Loose Objects On Floor Can Become Dangerous Projectiles If Struck By The High Speed Pad. Remove Them Before Operating The Machine.

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

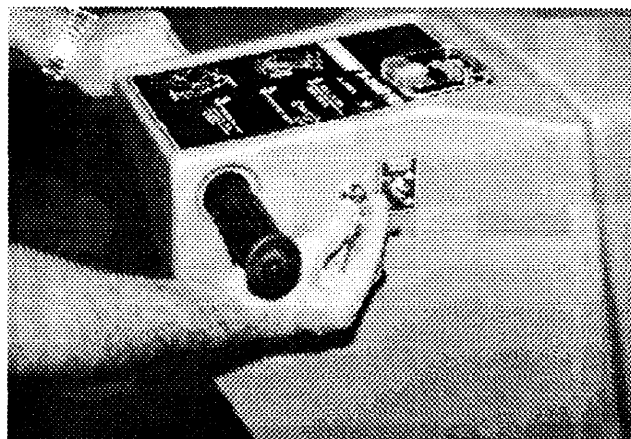


FIG. 4.

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)

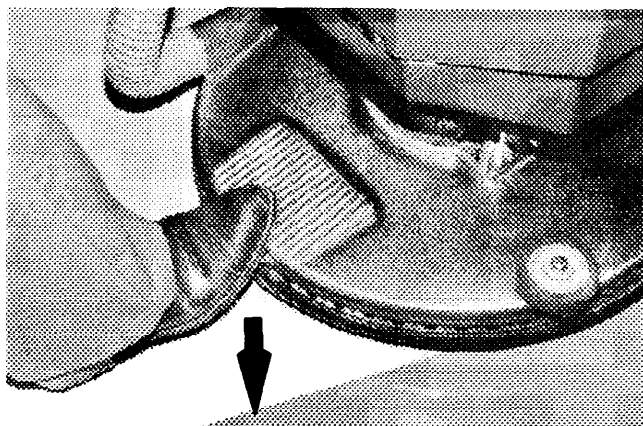


FIG. 5.

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.

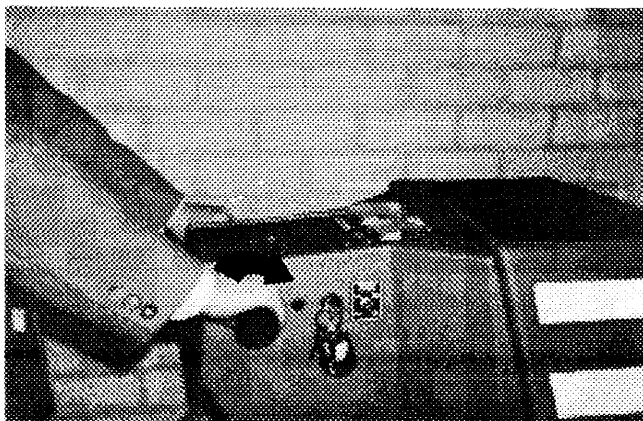


FIG. 6.

NOTE: Keep the machine moving at all times to prevent damage to the floor finish.

OPERATION

⚠ WARNING: Keep Hands And Feet Clear Of Revolving Pad.

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

BURNISHING WITH THE SELF-PROPELLED BR2500 MODEL

⚠ WARNING: Loose Objects On Floor Can Become Dangerous Projectiles If Struck By The High Speed Pad. Remove Them Before Operating The Machine.

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. (Refer to 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.

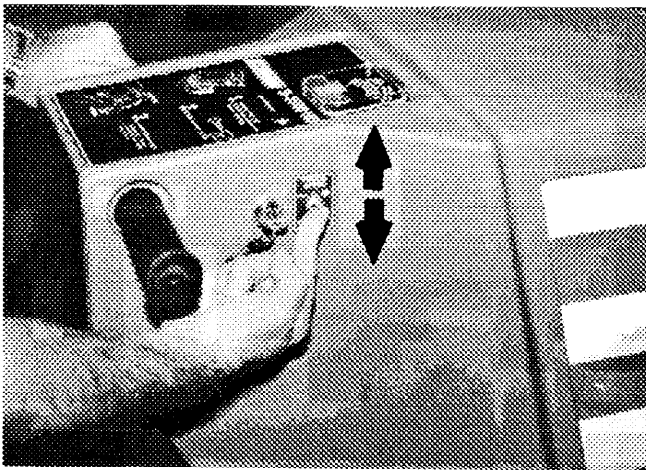


FIG. 7.

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.

NOTE: Keep the machine moving at all times to prevent damage to the floor finish.

⚠ WARNING: Keep Hands And Feet Clear Of Revolving Pad.

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.

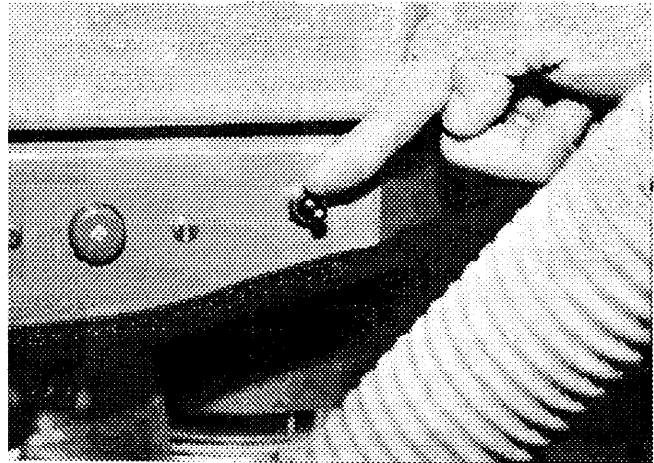


FIG. 8.

ADJUSTING PAD PRESSURE

⚠ WARNING: 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.

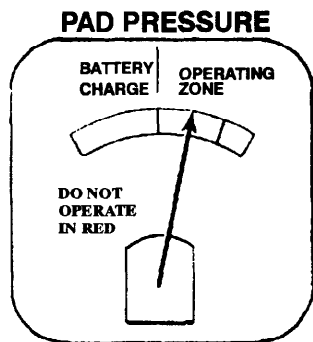


FIG. 9.

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)

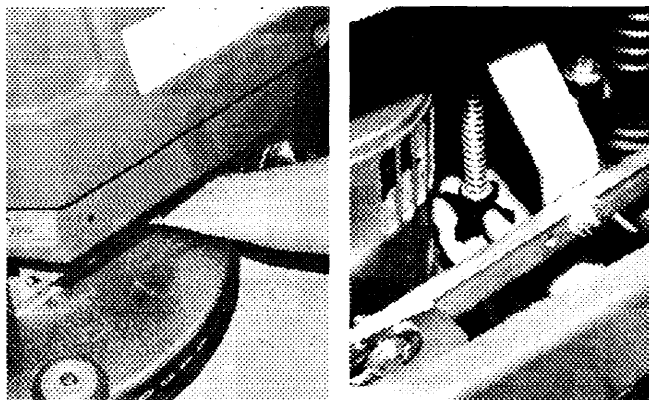


FIG. 10.

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.

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

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 INSTALLATION.

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 in the Maintenance 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 2 red bars (Figure 11):

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

RED BAR TO THE RIGHT: Indicates the batteries are overcharged or that the batteries are connected wrong. **If the needle runs in this area, turn the machine power off immediately and call your service technician.**

RED BAR TO THE LEFT: Indicates the batteries need to be recharged. See CHARGING BATTERIES section.

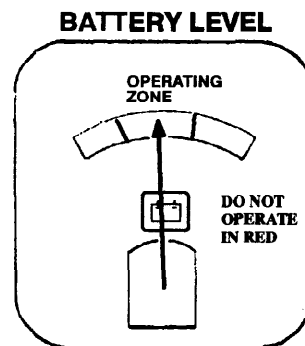


FIG. 11.

OPERATION

HOUR METER

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

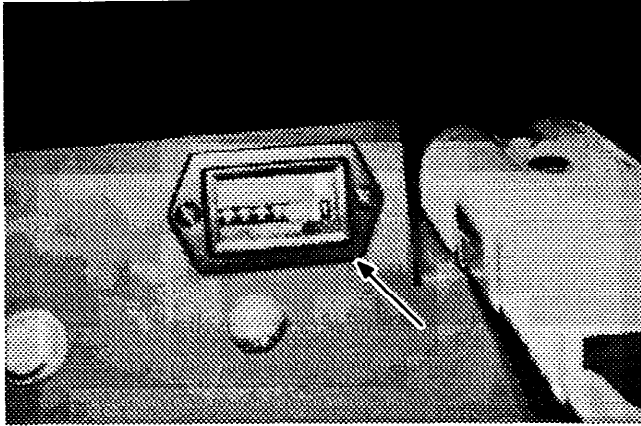


FIG. 12.

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 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 THREE MONTH MAINTENANCE section.

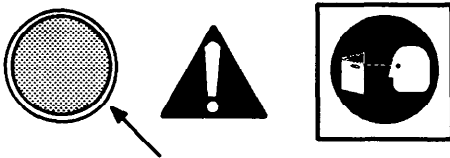


FIG. 13.

ROUTINE CARE and MAINTENANCE

The maintenance should be carried out by authorized maintenance personnel only. Every year the machine should be safety certified according to local safety standards (UVV). Contact your TENNANT dealer for the most adequate and best service.

⚠ WARNING: Make Sure The Key Switch Is In The "OFF" Position And The Battery Connector Is Unplugged Before Performing Any Maintenance Procedures.

Daily Maintenance:

1. Remove burnishing pad. Clean and replace or install a new pad. (Refer to Figure 3)
2. Dust bag maintenance:
Open the dust bag access door to gain access to the dust bag.

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.

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

Weekly Maintenance:

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 14)



FIG. 14.

Monthly Maintenance:

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 15)

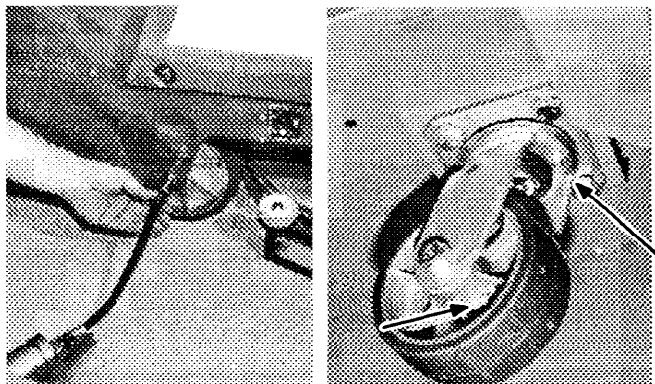


FIG. 15.

3. For self-propelled BR2250 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.

Three Month Maintenance (or after 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 10 mm or less.
2. Inspect the carbon motor brushes in the traction motor. Replace if worn to 10 mm or less.

CHARGING THE BATTERIES

⚠ WARNING: Batteries Emit Hydrogen Gas. Explosion Or Fire Can Result. Keep Sparks And Open Flame Away. Keep Covers Open When Charging.

⚠ WARNING: Battery Acid Can Cause Burns.

1. Slide the battery cover from the machine.
2. Remove all battery caps and check the water level in each battery cell.
3. If needed add enough distilled water to cover plates or to a maximum of 6 mm below the fill neck ring. (Figure 16)

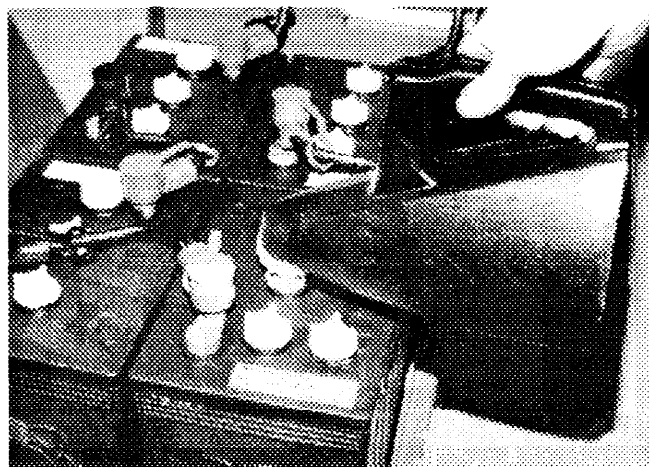


FIG. 16.

4. 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 17). Tip the console back on the hinge to access these cells.

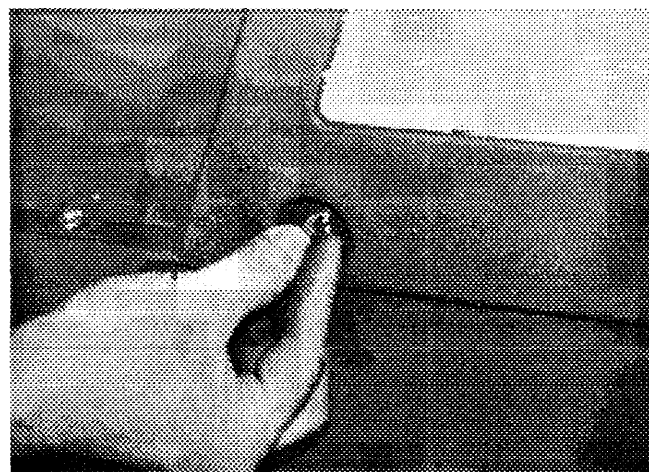


FIG. 17.

OPERATION

5. Disconnect the battery connector from the machine connector and plug the charger connector into the battery connector.
(Figure 18)

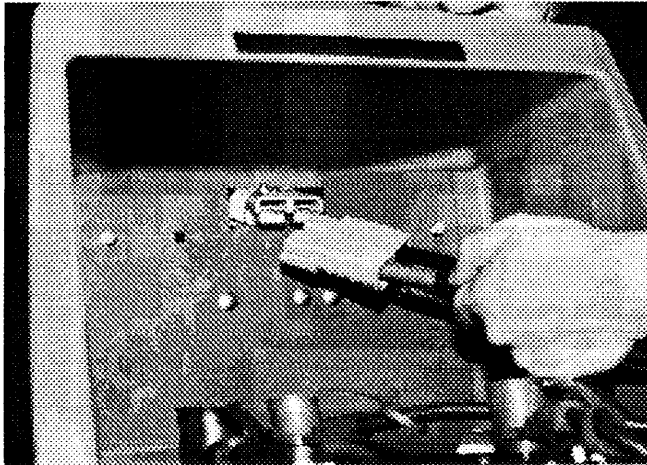


FIG. 18.

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

6. Plug the charger cord into a wall outlet. The charger will automatically start and charge the batteries.

After charging:

7. Make sure that the charger has turned off by making sure the needle on the charger is at "0".
8. Unplug the charger connector from the battery connector. Plug the battery connector into the machine connector.
9. Check all battery cells for low water level. Add distilled water to just below the fill ring if needed.
10. Replace the battery caps.
11. Wipe off the top of the batteries with a clean cloth.
12. Slide the battery cover into place.

STORAGE INFORMATION

The machine must be stored in a dry area in a horizontal upright position.

SPECIFICATIONS

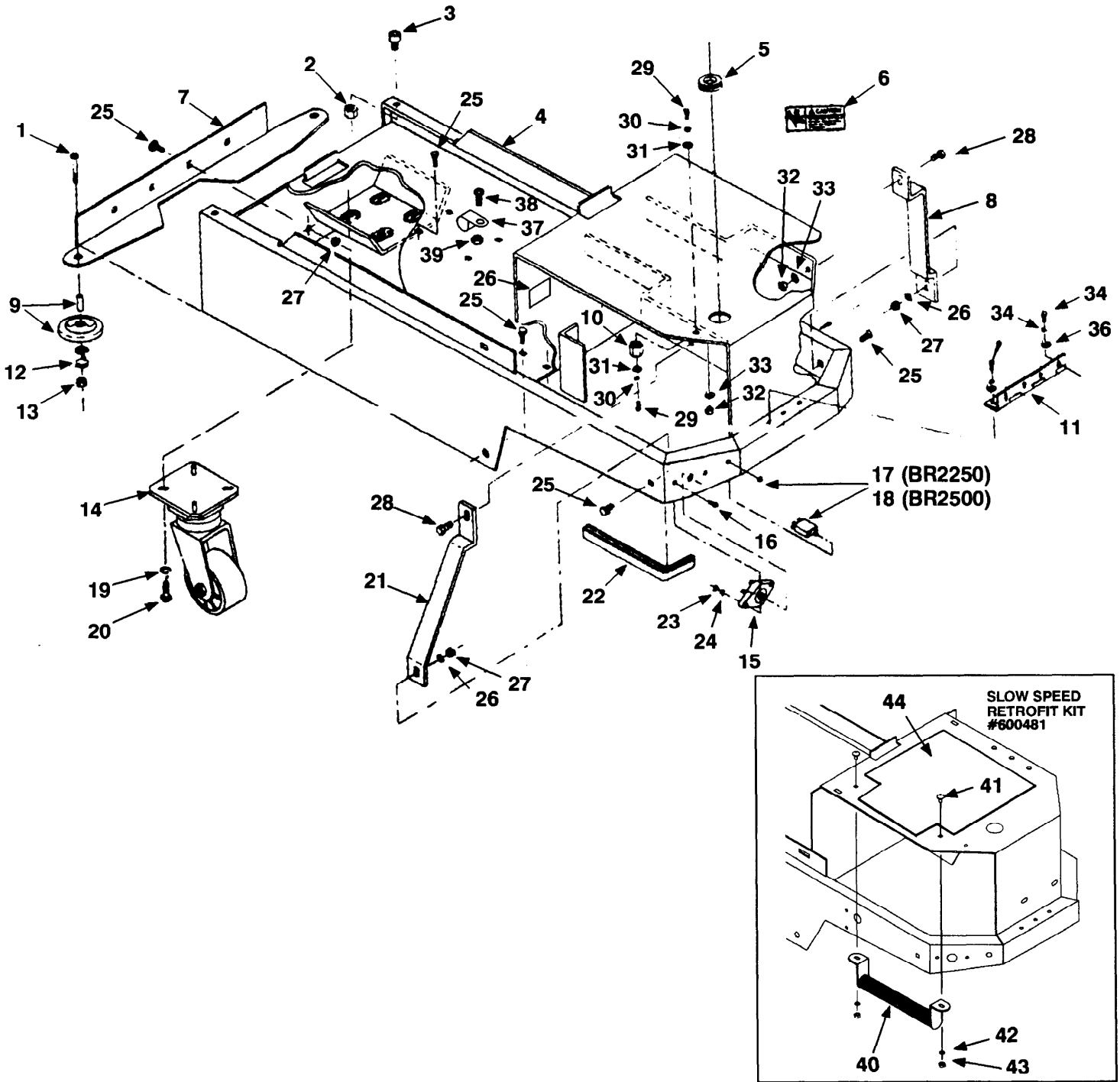
ITEM	MEASURE
Length	1350 mm
Width	550 mm
Height	1020 mm
Weight	BR2250 104 kg (excl. batteries)
	BR2500 118 kg (excl. batteries)
Speed	BR2250 Push
	BR2500 5 k/hour
Pad diameter	483 mm
Burnishing path	483 mm
Pad motor	2,24 kW (3 hp)
Pad speed	2,500 rpm
Standard Battery Capacity	
	BR2250 2,5–3,5 hours
	BR2500 2–3 hours

TROUBLE SHOOTING

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 (BR2500 model 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 not fully charged.	Charge batteries.
Batteries deliver below-normal run time.	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.
	Filter bag is full or dirty.	Empty, clean or replace.
	Skirt not adjusted properly or damaged.	Adjust skirt per instructions.
Dust control ineffective.	Pad is worn excessively.	Replace pad.
	Dust control hose plugged with debris.	Clean out hose.
	Operator attempting inclines.	Machine not designed for inclines.
Transport drive circuit breaker trips during use.	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.

PARTS LIST

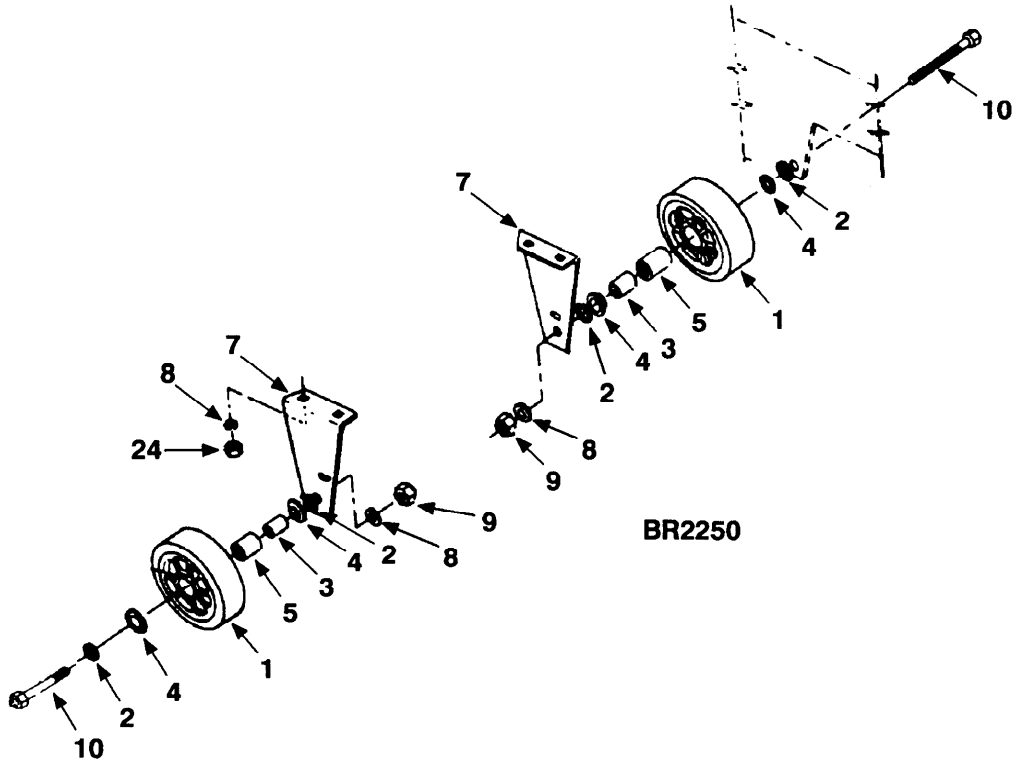
FRAME GROUP



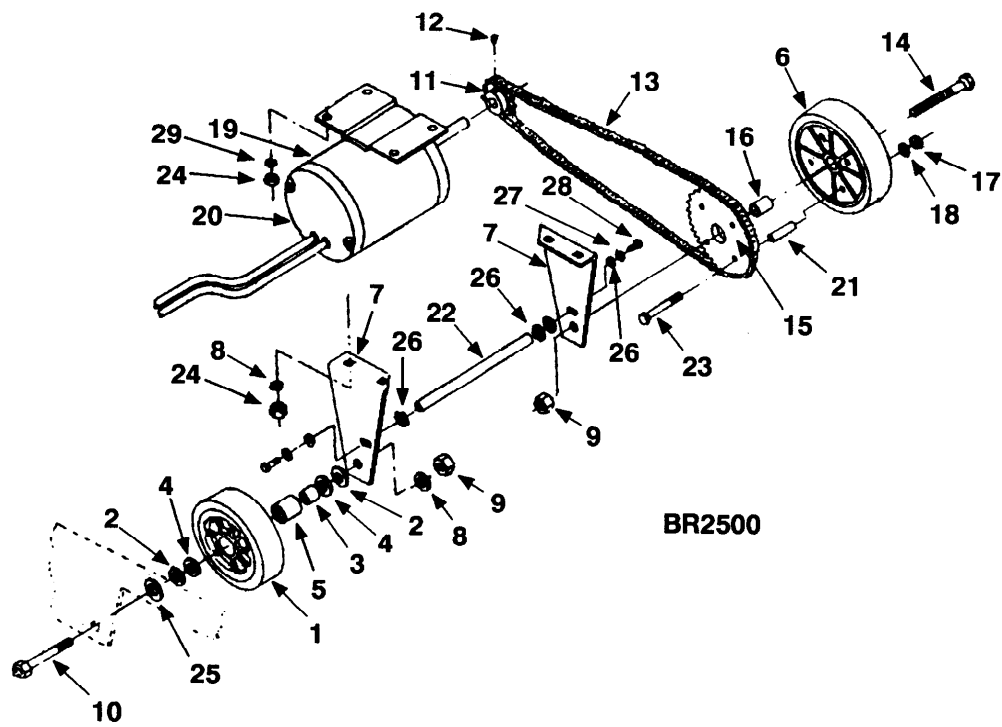
FRAME GROUP

Ref.	Part No.	Description	Qty.
1	621 286 000	Screw, pan hd.	2
2	200 160 017	Nut	2
3	200 001 483	Screw	2
4	069 767 001	Frame weldt.	1
5	069 762 009	Grommet	1
6	602 040 000	Decal, Caution	1
7	069 767 102	Bracket, wall roller	1
8	069 767 178	Bracket, frame supp.	1
9	630450	Wheel, rubber	2
10	578427	Standoff, terminal	1
11	069 767 036	Hinge, shroud	1
12	140015	Washer lock	2
13	200 640 017	Nut, hex	2
14	069 760 030	Caster	1
15	190905	Circ. break., 70 amp	1
16	186 002 085	Screw, pan hd.	2
17	130781	Circ. break., 80 amp	1 (2250)
18	069 767 136	Circ. break., 7 amp	1 (2500)
19	200 351 020	Washer, lock	4
20	200 031 541	Screw, hex hd.	4
21	069 787 174	Bracket, frame supp.	1
22	069 767 121	Edging	1
23	575380	Nut, hex	2
24	069 762 005	Washer, lock	2
25	069 767 077	Screw, carriage	14
26	602 202 000	Decal, Hot Caution	1
27	140546	Nut, Lock	12
28	200 607 491	Screw, hex hd.	2
29	069 762 115	Screw hex hd.	2
30	140016	Washer, lock	2
31	200 651 019	Washer, Flat	2
32	200 160 017	Nut, hex lock	2
33	200 303 019	Washer, Flat	2
34	200 031 433	Screw hex hd.	7
35	578 728	Washer, lock	2
36	140012	Washer	7
37	140916	Clamp	1
38	140196	Screw	1
39	140552	Nut, Lock	1
40	069 764 063	Resistor, slow speed	1
41	069 767 164	Screw, carriage	2
42	140016	Washer, lock	2
43	059 650 595	Nut, hex	2
44	621 052 000	Plate, battery	1

DRIVE GROUP



BR2250



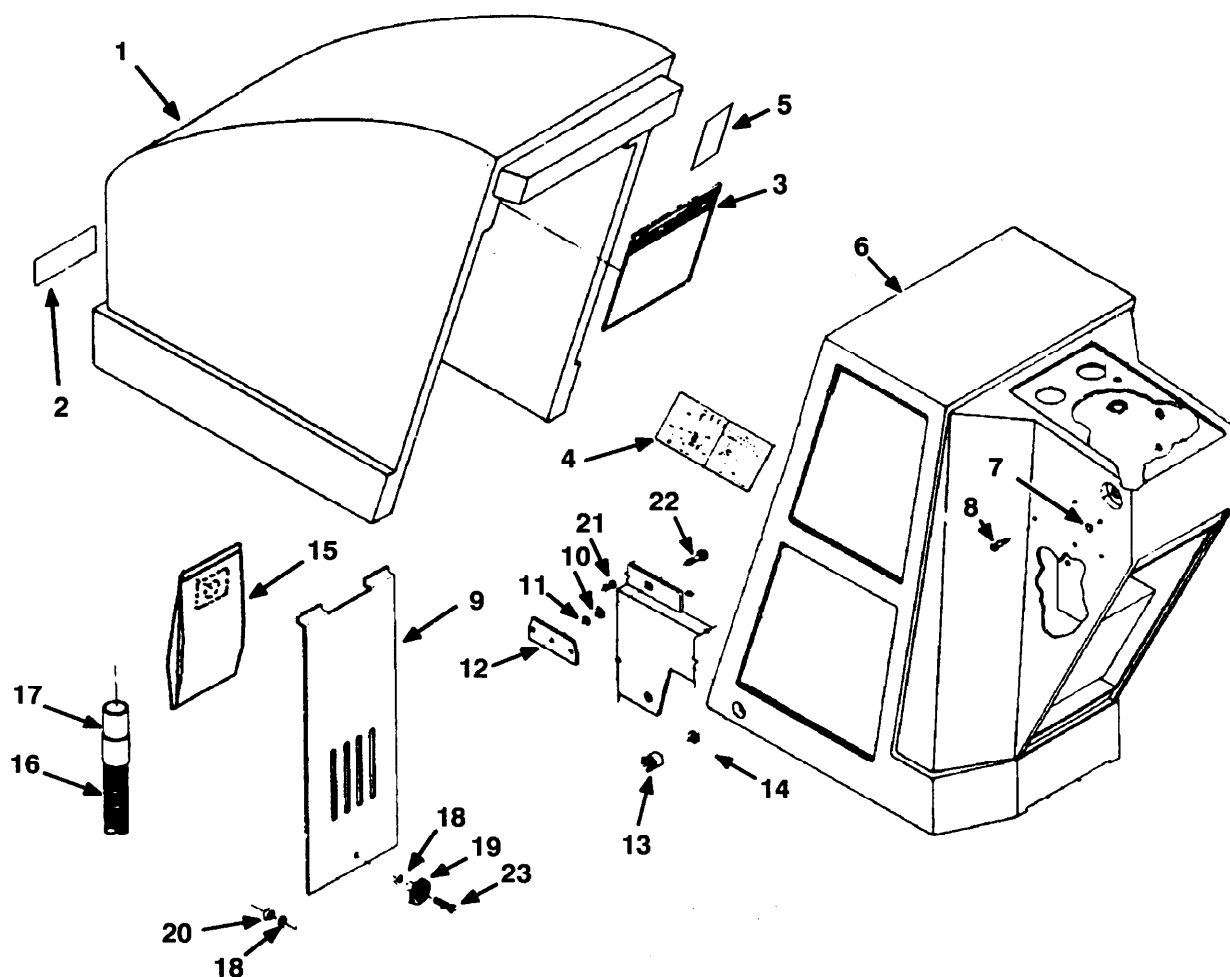
BR2500

DRIVE GROUP

Ref.	Part No.	Description	Qty.
▽ 1	069 767 082	Wheel	1
▲ 2	602 171 000	Washer thrust	4
▲ 3	069 767 004	Spanner, bushing	2
▲ 4	602 014 000	Grease retainer	2
▲ 5	602 013 000	Bearing, wheel	2
6	069 767 003	Wheel	1
7	069 767 002	Bracket, wheel mnt.	2
8	069 760 082	Washer, flat	2
9	069 764 157	Nut, hex lock	2
10	621 237 000	Screw, hex hd.	2
11	069 767 008	Sprocket	1
12	602 011 000	Screw, set	2
13	069 767 011	Chain	1
14	621 238 000	Screw, hex hd.	1
15	069 767 007	Sprocket	1
16	069 767 005	Spacer, wheel	1
17	054 650 595	Nut, hex	4
18	140016	Washer, lock	4
19	069 767 010	Motor, drive	1
20	602 130 000	Motor brush (set/2)	1
21	069 767 006	Spacer, sprock. mnt.	4
22	069 767 161	Support, wheel mnt.	1
23	579 212	Screw, hex hd.	4
	621 311 000	Service kit, whl shims	1
24	140546	Nut,Lock	4
25	621 311 000	Shim, wheel	1
26	579 210	Washer, flat	5
27	578 728	Washer, lock	9
28	200 031 438	Screw, hex hd.	2
29	14880.5	Washer	4

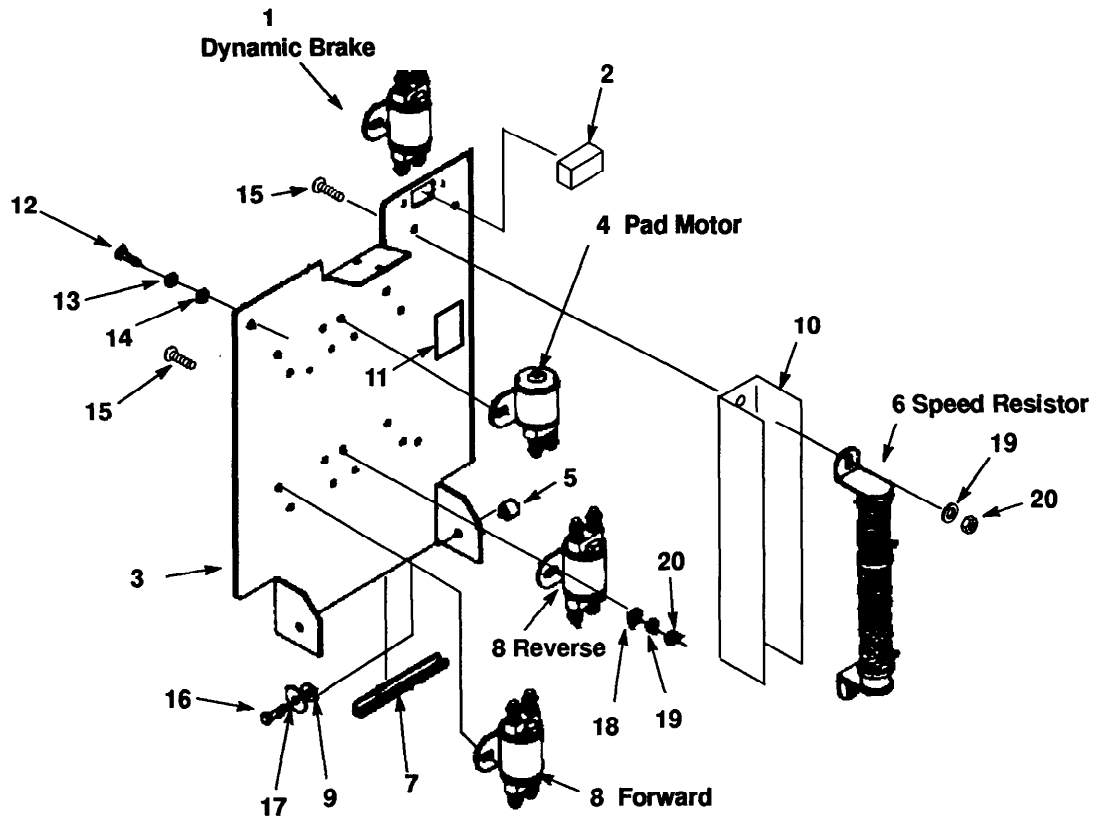
PARTS LIST

COVER GROUP



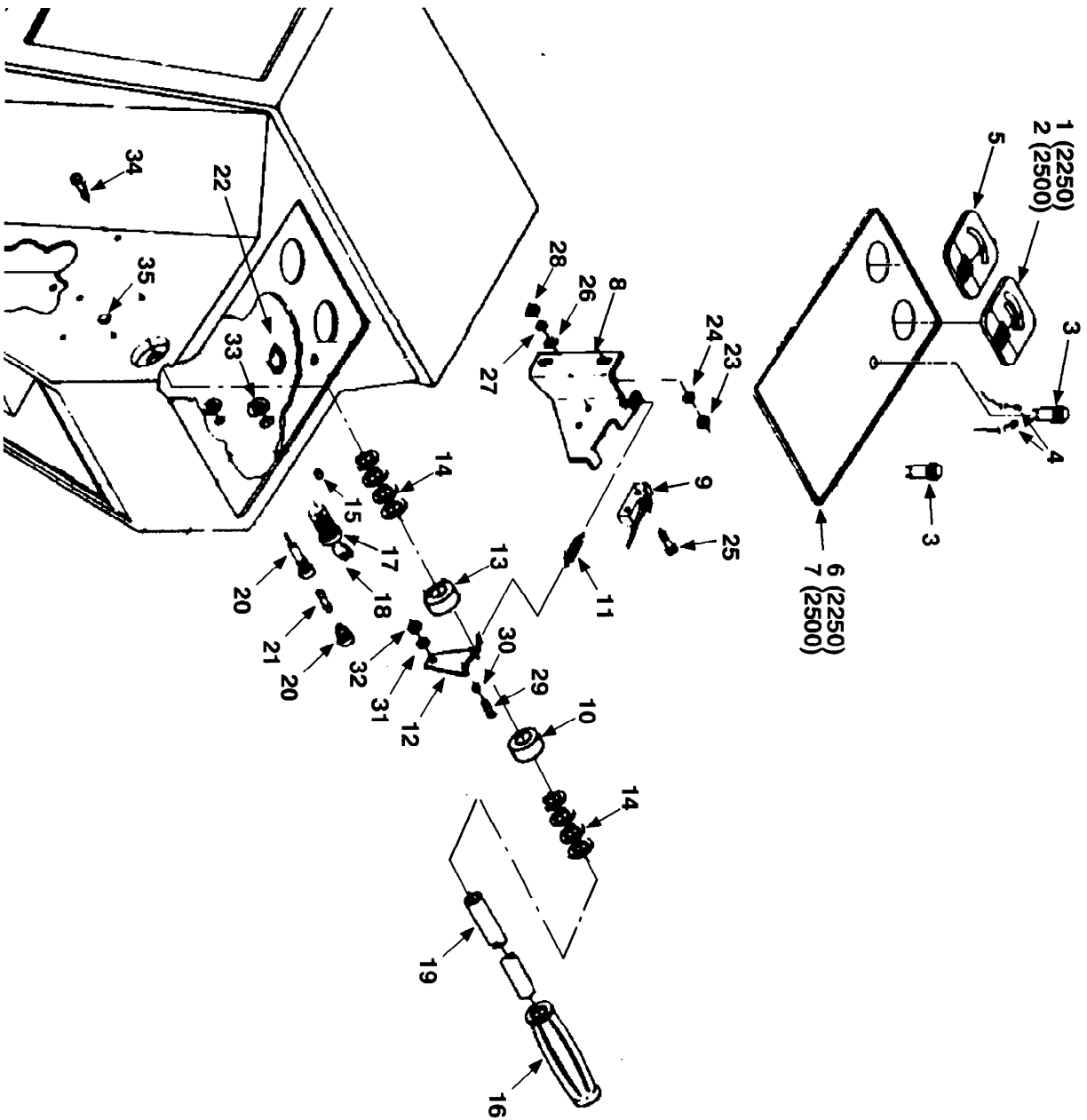
Ref.	Part No.	Description	Qty.
1	600707	Hood, front	1
2	120240	Decal, Nobles	1
3	069 767 135	Decal, maint.	1
4	069 767 074	Decal, wire	1 (2250)
	069 767 119	Decal, wire	1 (2500)
5	069 780 017	Decal, Caution Charge	1
6	600709	Shroud, rear	1
7	130164	Plug, button	3
8	069 764 060	Screw, truss hd	2
9	069 767 179	Door, vac compart.	1
10	14880.5	Washer, plain	2
11	621 325 000	Retainer, e ring	2
12	069 767 096	Stiffener, r. shroud	2
13	602 074 000	Nut, wing, shroud	2
14	14880.5	Washer, plain	2
15	039 707 079	Bag, Vacuum (10pcs)	1
16	069 767 187	Hose, dust control	1
17	069 767 189	Cuff, dust control	1
18	602 139 000	Washer, flat, nylon	2
19	578439	Knob	1
20	579028	Nut, Hex	1
21	200058432	Screw	4
22	602068000	Screw, Carriage	2
23	200031441	Screw	1

COMPONENT PANEL GROUP



Ref.	Part No.	Description	Qty.
1	069 760 440	Contactors, SPDT, 100A	1
2	621 297 000	Meter, Hour (Option)	1
3	069 767 033	Panel, Electrical	1
4	621 381 000	Contactors, 200A, Pad Motor	1
5	019 686 055	Spacer, Nylon	2
6	069 764 063	Resistor, Speed	1 (2500)
7	069 767 121	Edging, 8" L	11
8	069 760 440	Contactors, SPDT, 100A	2
9	630446	Washer, Nylon	2
10	602 203 000	Heat shield	1
11	602 202 000	Decal, Caution HOT	1
12	200 031 433	Screw, M06x10	2
13	578728	Washer, Lock, Spg.	2
14	579210	Washer	2
15	069 767 164	Screw, Carriage, .25-20x.5"	10
16	200 031 438	Screw, M06 x 20	2
17	579 210	Washer, Flat, 6.4 ID	2
18	200 303 019	Washer, Flat, M08	10
19	140016	Washer, Lock, SPG.	10
20	059 650 595	Nut, Hex, 1/4-20	10

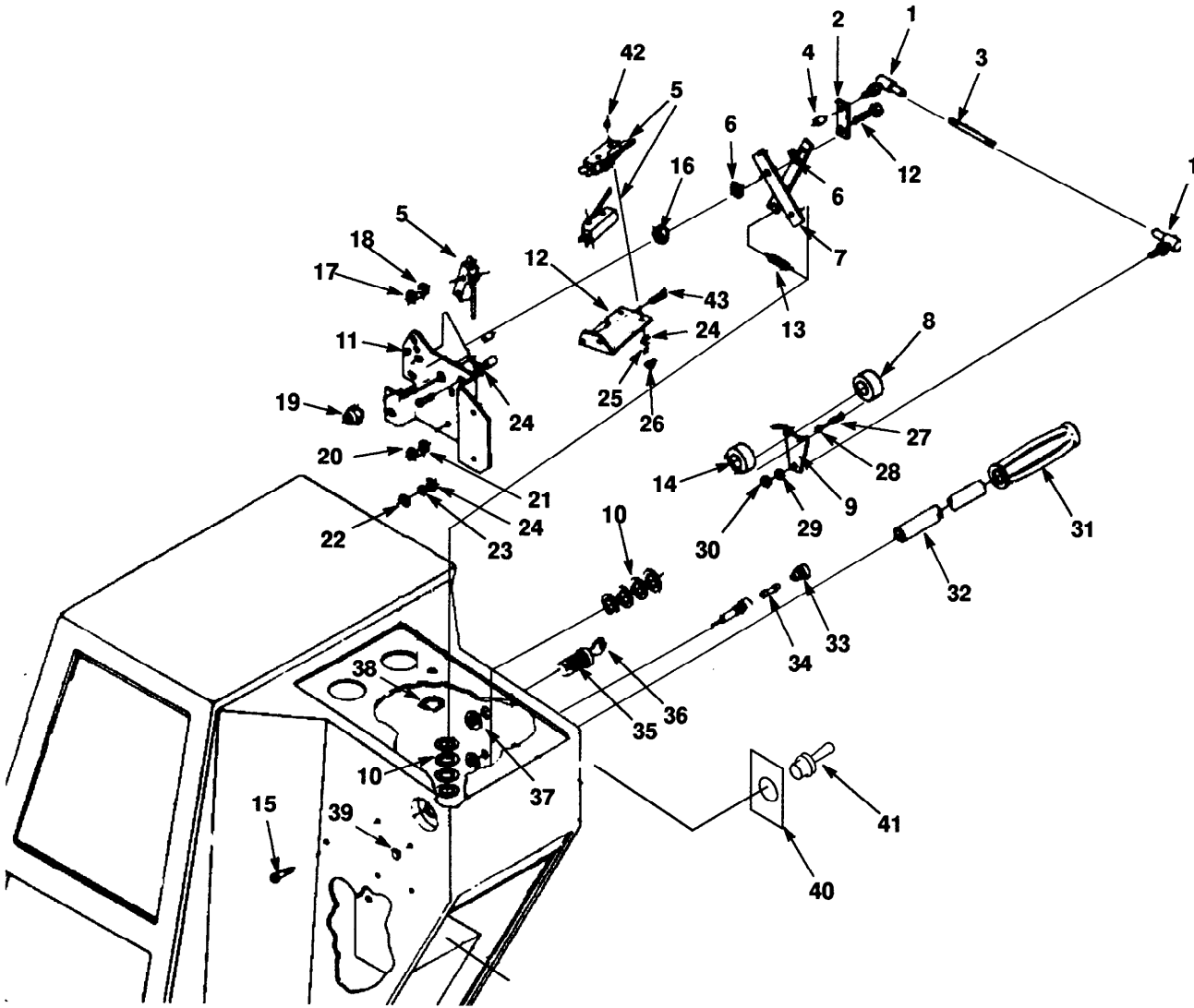
INSTRUMENT PANEL GROUP



INSTRUMENT PANEL GROUP

Ref.	Part No.	Description	Qty.
1	602235	Gauge, amp	1 (2250)
2	602235	Gauge, amp	1 (2500)
3	611 147 000	Pilot light	1
4	602 050 000	Wire assy	2
5	610026	Meter, Battery	1
6	600345	Decal, console	1 (2250)
7	600346	Decal, console	1 (2500)
8	069 767 055	Bracket, switch	1
9	069 764 009	Switch, snap	1
10	630186	Collar, shaft	1
11	069 764 069	Spring	1
12	069 767 026	Plate	1
13	069 764 005	Collar, swtch.actuator	1
14	069 760 582	Washer, nylon	8
15	N/A	Tab, key switch	2
16	590 002 000	Grip, handle bar	2
17	612471	Switch, key lock	1
18	069 762 236	Key	1
	621 437 000	Bracket, key Switch	1
19	069 764 062	Bar, Handle	1
20	578418	Fuse holder	1
21	069 760 639	Fuse	1
22	602 140 000	Washer, retention	1
23	140506	Nut	1
24	140015	Washer	1
25	069 764 002	Screw	2
26	069 764 053	Washer, flat	2
27	140023	Washer, lock	2
28	200 102 014	Nut, Hex	2
29	069 764 190	Screw	2
30	200 351 012	Washer	2
31	069 762 005	Washer, lock	1
32	575380	Nut	1
33	069 762 306	Washer, lock	1
34	069 764 060	Screw	3
35	130164	Plug, dome	3

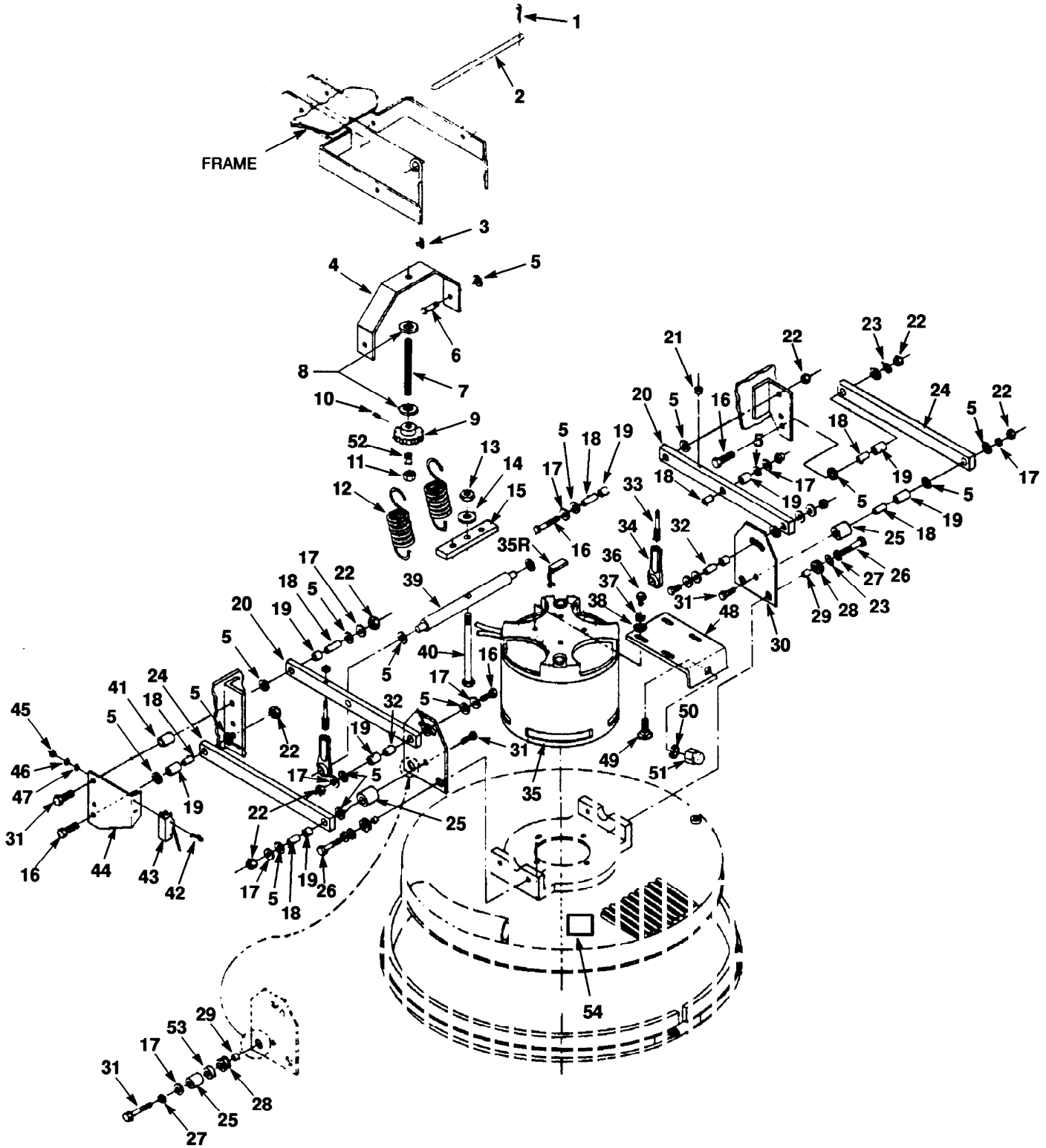
SPEED CONTROL GROUP (BR2500)



SPEED CONTROL GROUP (BR2500)

Ref.	Part No.	Description	Qty.
1	069 767 070	Ball joint	2
2	621 059 000	Strip arm	1
3	069 767 058	Rod, spd. ctrl.	1
4	621 440 000	Spacer, nylon	3
5	069 764 009	Switch, snap	1
6	630446	Washer, nylon	3
7	069 767 066	Link, Scissor	2
8	630186	Collar, shaft	1
9	069 767 026	Plate	1
10	069 760 582	Washer, nylon	8
11	621 058 000	Bracket, spd./dir.ctrl	1
12	069 767 057	Bracket, switch	1
13	069 764 069	Spring	1
14	069 764 005	Collar, swtch.actuator	1
15	069 764 060	Screw, truss hd.	3
16	200160 017	Nut	1
17	140015	Washer, Lock	1
18	140506	Nut	1
19	200 160 017	Nut, lock	1
20	140506	Nut	3
21	140015	Washer	1
22	200 102 014	Nut	2
23	140023	Washer, Lock	2
24	069 764 053	Washer, flat	2
25	069 764 054	Washer, Lock	2
26	069 762 159	Nut	2
27	069 764 190	Screw	2
28	200 351 012	Washer, lock	2
29	069 762 005	Washer, lock	1
30	575380	Nut	2
31	590 002 000	Grip, handle	2
32	069 764 062	Bar, Handle	1
33	578418	Holder, fuse	1
34	069 760 639	Fuse, 15A, 32V	1
35	612471	Switch, key lock	1
36	621 437 000	Bracket, key Switch	1
37	069 762 236	Key	1
38	069 762 306	Washer, lock	1
39	602 140 000	Washer, retention	1
39	130164	Plug, button	1
40	602 212 000	Decal, speed	1
41	130728	Switch, Toggle speed	1
42	069 764 002	Screw	6
43	579259	Screw	2

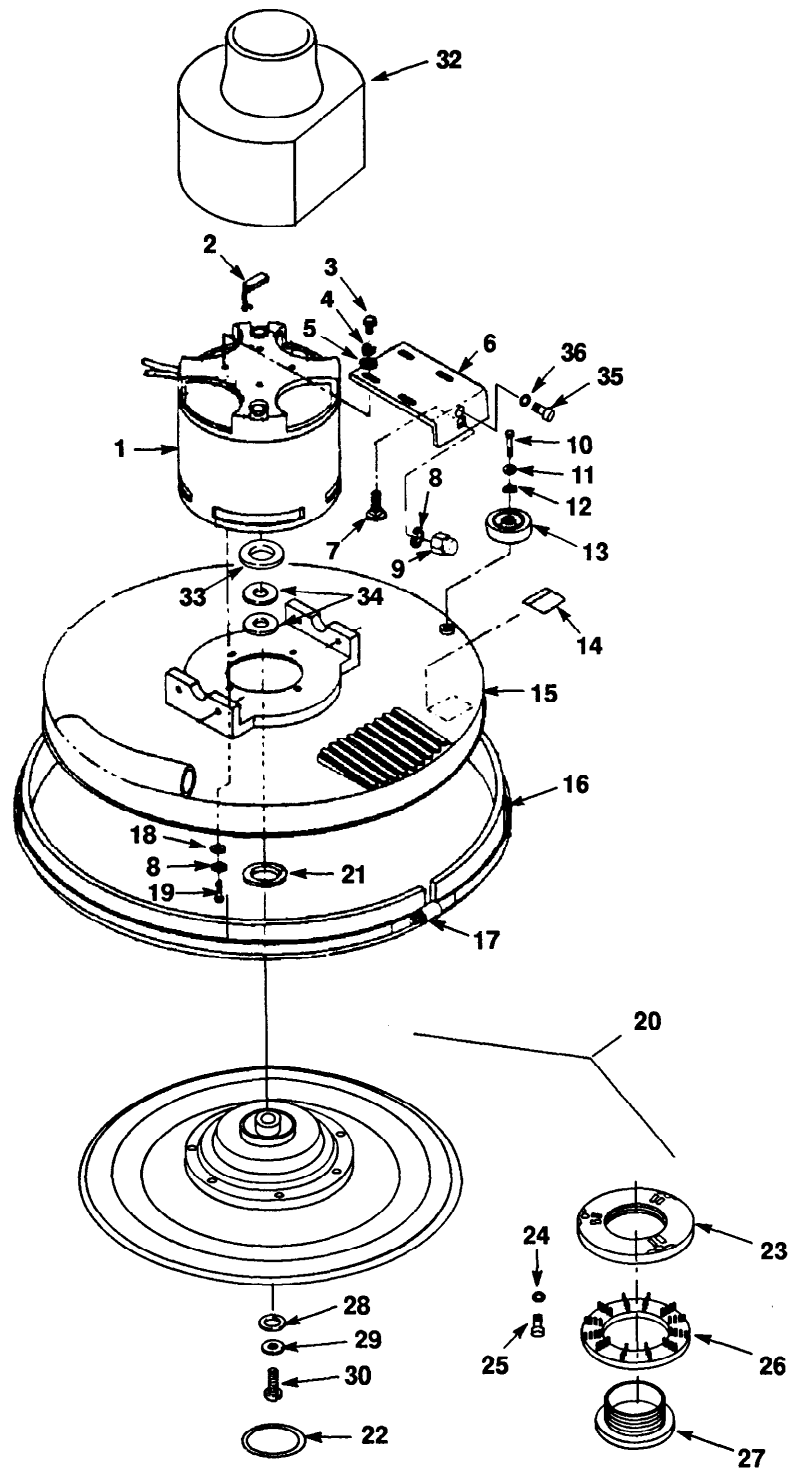
PAD SHROUD LINKAGE GROUP



PAD SHROUD LINKAGE GROUP

Ref.	Part No.	Description	Qty.
1	578421	Pin, Cotter	2
2	602 009 000	Pin, Headless	1
3	602 027 000	Bolt, Eye, .38-16x10.00	1
4	621 178 000	Bracket, spring supp.	1
5	630447	Washer, Nylon, 12.7x25.4	22
6	200 031 494	Screw, Hex, M08x30	2
7	621 446	Spring, pressure adj.	1
8	579 144	Washer, Flat	2
9	602 029 000	Knob, adjusting	1
10	602 046 000	Screw, set, nylon	1
11	140515	Nut, Hex Lock, .38-18	1
12	069 767 128	Spring, ext.	2
13	069 767 162	Nut, Hex, 1/2-20	1
14	069 760 091	Washer, Plain, .5	1
15	069 767 148	Plate, spring adj.	1
16	200 031 496	Screw, Hex M08x35	5
17	14880.5	Washer, Plain, .31	11
18	069 760 417	Sleeve, Bearing	8
19	069 760 416	Bearing, Journal, .5	10
20	069 767 012	Link, Suspension, Upper	2
21	579 028	Nut, Hex Lock, M06	2
22	200 160 017	Nut, Hex Lock, M08	10
23	14880.5	Washer, Plain, .31	4
24	069 767 013	Link, Suspension, Lower	2
25	069 767 163	Spacer, 1.0x.75	4
26	200 031 494	Screw, Hex, M08x30	2
27	575 533 000	Washer, Lock, Spg.	4
28	602 055 000	Grommet	4
29	602 056 000	Spacer	4
30	069 767 137	Bracket,	1
31	200 031 501	Screw, Hex	5
32	069 767 177	Sleeve, Bearing	2
33	069 767 171	Mounting, Rod End	2
34	069 767 091	Rod End	2
35	621445	Motor, 36 VDC, 3 HP	1
35R	621478	Brushes, Motor	4
37	578728	Washer, lock	4
38	019 680 127	Washer, Flat, Wheel Axle	4
39	621 177 000	Cross Arm, Head Lift	1
40	069 767 158	Screw, Hex, 1/2-20x6.0	1
41	621 207 000	Spacer	1
42	069 764 002	Screw, Hex, #6-32x1.0	2
43	069 764 009	Switch, Snap, 25A	1
44	069 767 056	Bracket, Switch	1
45	069 762 159	Nut, Hex, #6-32	2
46	069 764 054	Washer, Lock, #06,	2
47	069 764 053	Washer, Plain, #06,	2
48	621 186 000	Bracket, Head Stop	1
49	602 079 000	Carriage Bolt, .38-16x.63"	1
50	140017	Washer, Lock, .38	5
51	602 080 000	Nut, Acorn, .38-16	1
52	140153	Spacer, Knob	1
53	140015	Washer, Flat	3
54	602 063 000	Decal, Caution Pad Adj.	1

PAD DRIVER GROUP

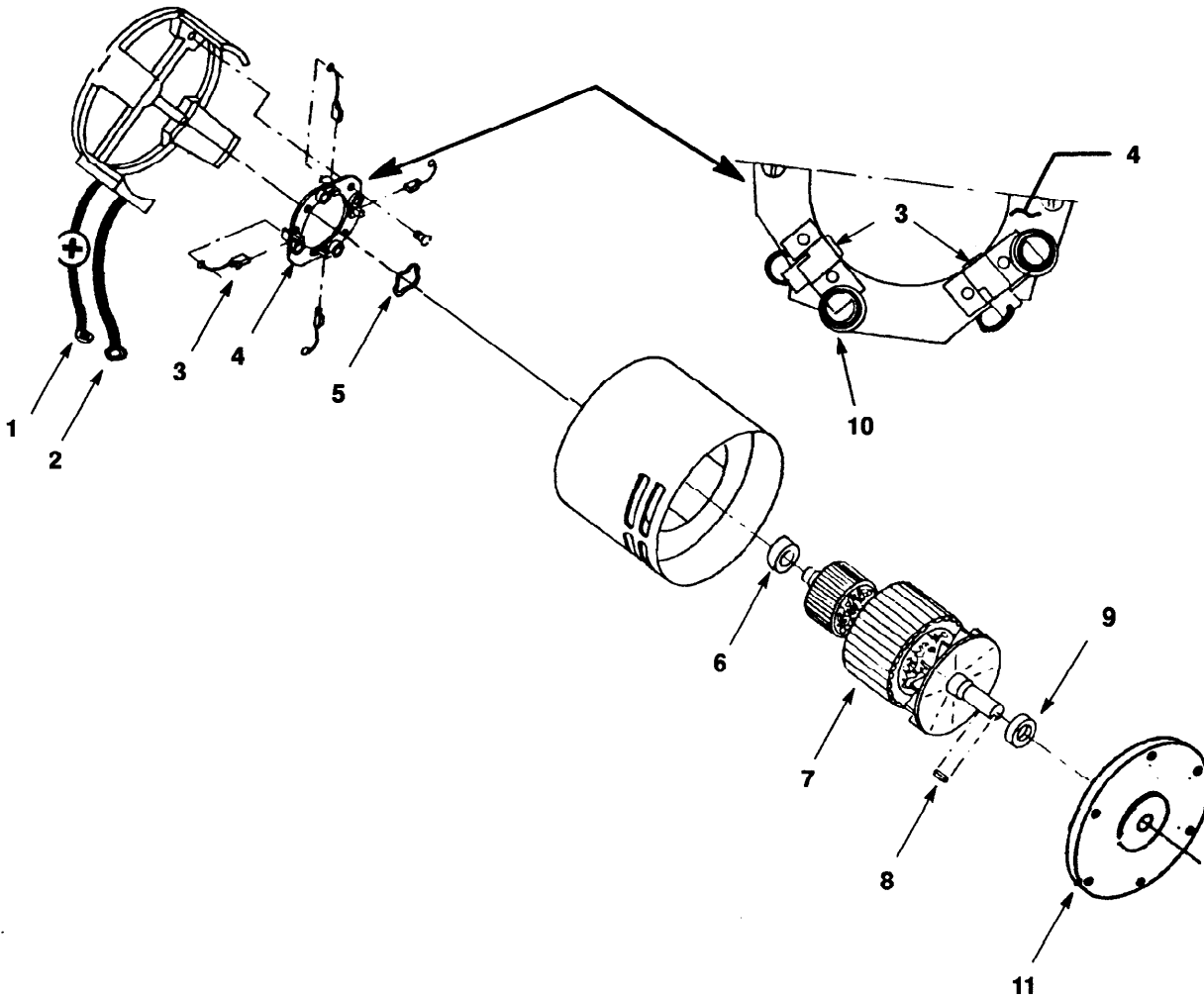


PAD DRIVER GROUP

Ref.	Part No.	Description	Qty.
1	621445	Motor, 36 VDC, 3 HP (120V)	1
2	621478	Motor brush (set/4)	4
3	200 031 438	Screw	4
4	578728	Washer, lock, SPG, 6.1MM	4
5	019 680 127	Washer, Flat, Wheel Axle	4
6	621 186 000	Bracket, Head Stop	1
7	602 079 000	Carriage Bolt, .38-16x.63"	1
8	140017	Washer, Lock, .38	5
9	602 080 000	Nut, Acorn, .38-16	1
10	069 767 190	Screw, M08x4	1
11	069 760 082	Washer, Plain, .25	1
12	602 035 000	Washer, Wave	1
13	630450	Wheel, Rubber	1
14	602 040 000	Decal, Caution Hand & Feet	1
15	069 767 020	Head, Drive Block	1
16	621474	Asm., Skirt	1
17	602 044 000	Fastener, Adjusting Band	1
	069 767 094	Band, pad head	1
	611 216 000	Skid Strip (Not Shown)	1.5m
18	140013	Washer, Plain	4
19	019 686 107	Screw, Hex, .38-16x.75	4
▽20	621 340 000	Asm., Driver, Flexible Disc	1
▲21	069 764 512	Ring, Water Containment	1
▲22	572 061 000	O-Ring, Drive Block Hub	1
▲23	621 326 000	Centerlock, Stationary	1
▲24	069 760 097	Washer	3
▲25	186 002 062	Screw, Slotted, #8-32	3
▲26	572 084 000	Ring, Pad Lock	1
▲27	621 327 000	Centerlock, Removeable	1
28	069 764 631	Washer, Flat	3
29	140015	Washer, Lock, .31	1
30	602 173 000	Screw, Hex, .31-24x1.0	1
32	100834	Cover, Motor	1
33	231059	Washer, .786x1.5x.3	1
34	621471	Spacer	2
35	200070432	Screw, Stop	1
36	140016	Washer, Lock	1

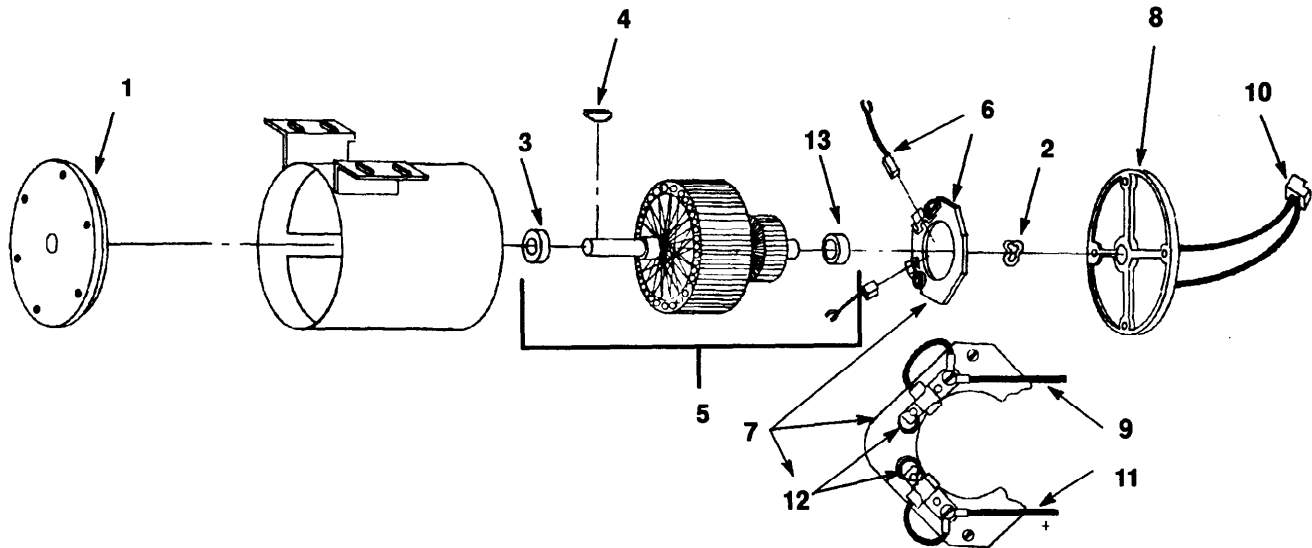
PARTS LIST

PAD MOTOR BREAKDOWN



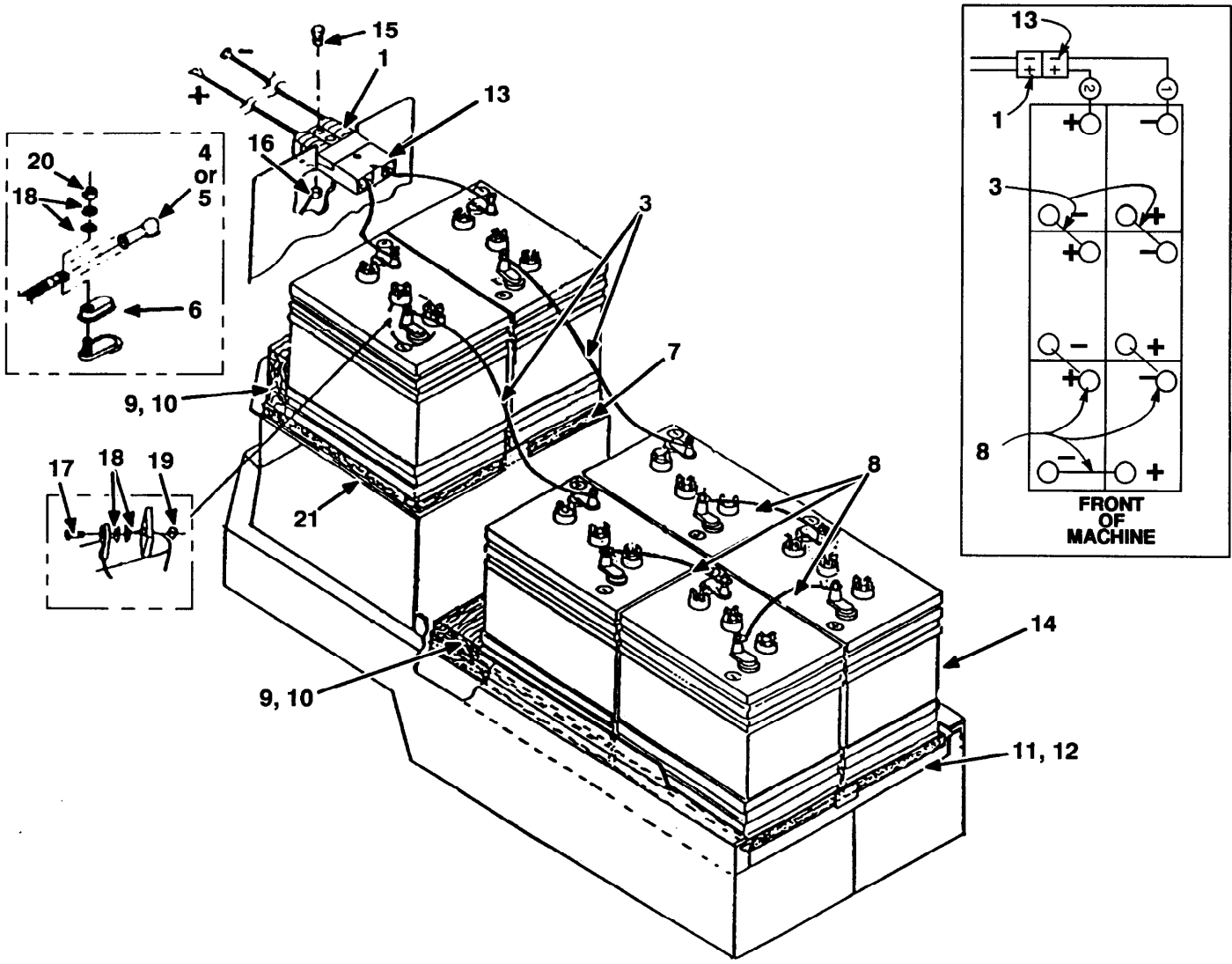
Ref.	Part No.	Description	Qty.
	621445	Motor, 36V, 3hp (Complete)	1
1	621 362 000	Asm., Lead (Positive)	1
2	621 362 000	Asm., Lead (Negative)	1
3	621478	Asm., Brush	Set Of 4
4	621 300 000	Asm., Brush Board	1
5	602 087 000	Washer, Helical	1
6	602 088 000	Bearing	1
7	190313	Asm., Armature	1
8	602 010 000	Key, Shaft	1
9	140124	Bearing	1
10	621 307 000	Spring, Brush	Set Of 4
11	019 683 016	Endbell, Motor	1

DRIVE MOTOR BREAKDOWN



Ref.	Part No.	Description	Qty.
	069 767 010	Motor, .15 HP (Complete)	1
1	602 086 000	Bracket, B.E.	1
2	602 087 000	Washer, Helical	1
3	602 088 000	Bearing	1
4	069 764 176	Key, Wooddrif	1
5	602 090 000	Armature	1
6	602 130 000	Asm., Brush	2
7	602 091 000	Asm., Brush Board	1
8	602 092 000	Bracket, Commutator	1
9	602 093 000	Asm., Lead Neg	1
10	602 094 000	Connector, Housing	1
11	602 095 000	Asm., Lead, Positive	1
12	602 131 000	Spring, Brush	Set Of 2
13	602 088 000	Bearing	1

BATTERY CABLES GROUP

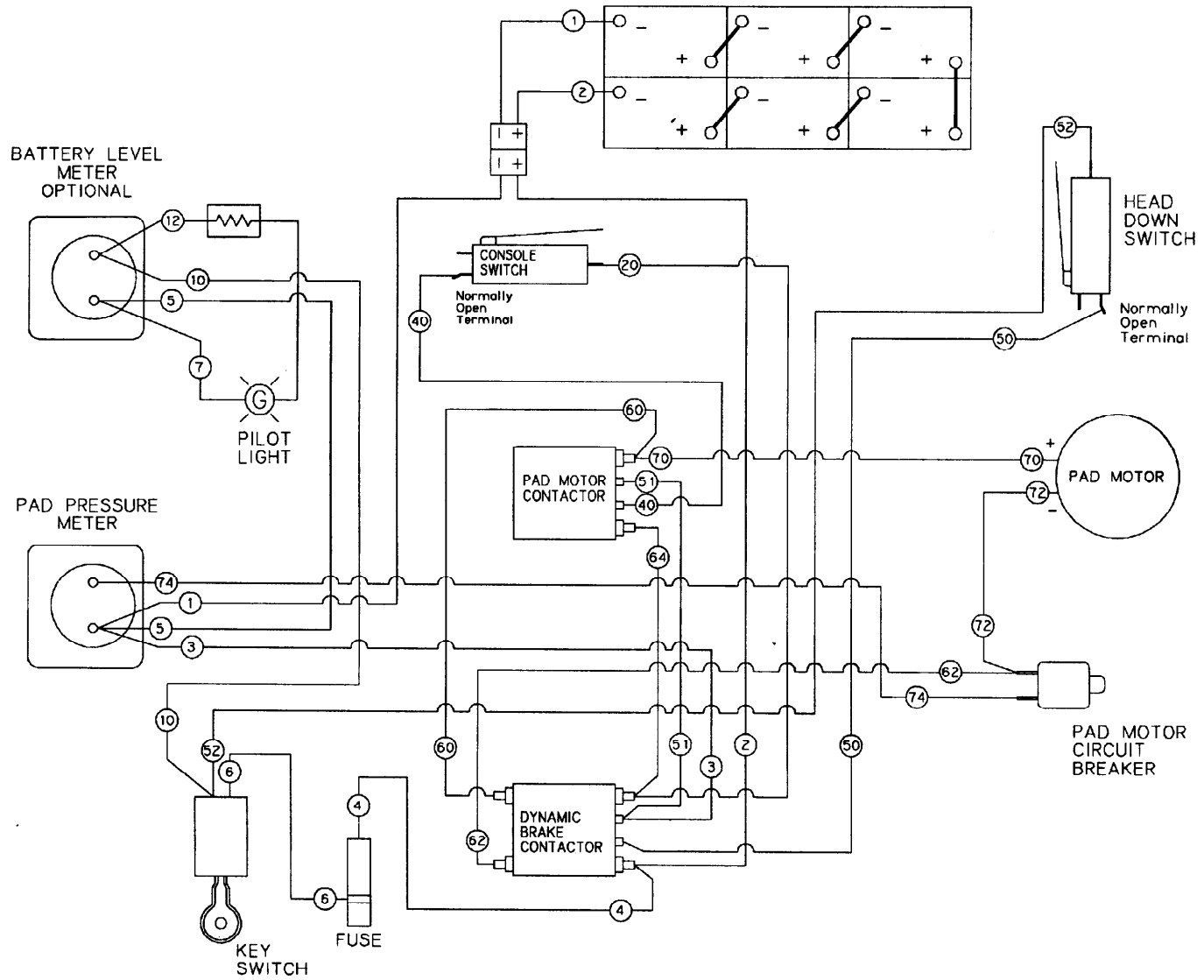


BATTERY CABLES GROUP

Ref.	Part No.	Description	Qty.
1	069 767 101	Wire harness, battery	1
▽ 2	469 767 951	Kit, battery cables	1
▲ 3	611 117 000	Cable, Battery	2
▲ 4	611 222	Boot, red	6
▲ 5	611 221	Boot, black	6
▲ 6	611 223	Terminal, cover	12
▲ 7	069 767 088	Battery tray, upper	1
▲ 8	611 116 000	Cable, Battery	3
9	630375	Insert, battery BR2250	2
10	602 032 000	Insert, battery BR2500	1
11	602 146 000	Plate, battery supp.	1
12	069 767 089	Battery tray, lower	1
13	602 015 000	Battery cable assy.	1
14	069 764 222	Battery, 6v. 240 Amp	6 (2250)
	069 760 654	Battery, 6v. 305 Amp	6 (2500)
▲ 15	200 031 444	Screw	2
▲ 16	579028	Nut	2
▲ 17	200 031 488	Screw	12
▲ 18	200 394 019	Washer	24
▲ 19	200 102 017	Nut	12
▲ 20	019 201 034	Nut	12
21	621 052 000	Plate, battery	1

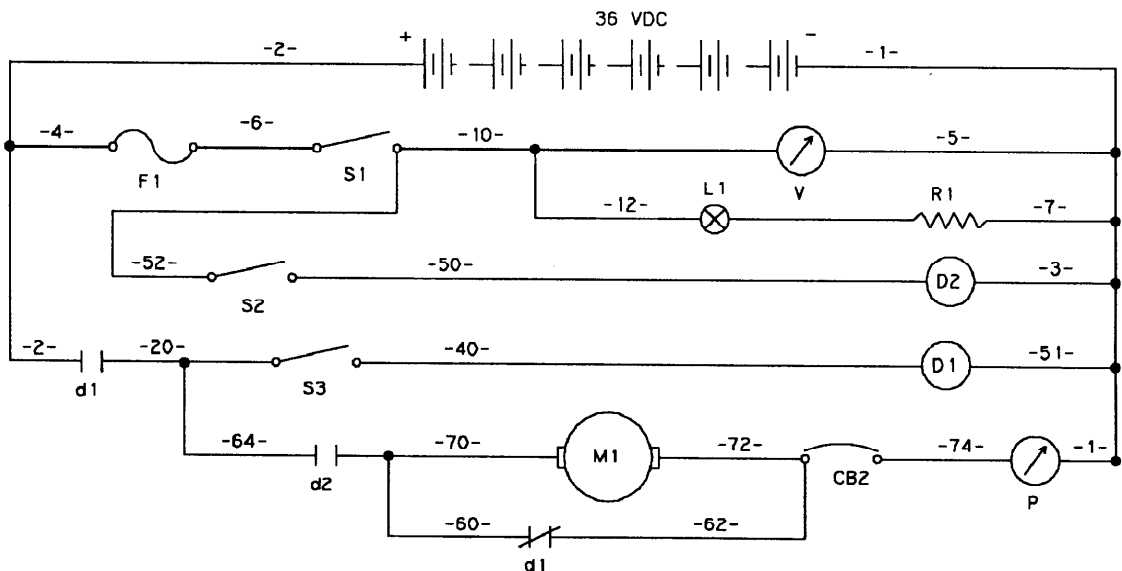
ELECTRICAL DIAGRAMS

BR2250 WIRE DIAGRAM

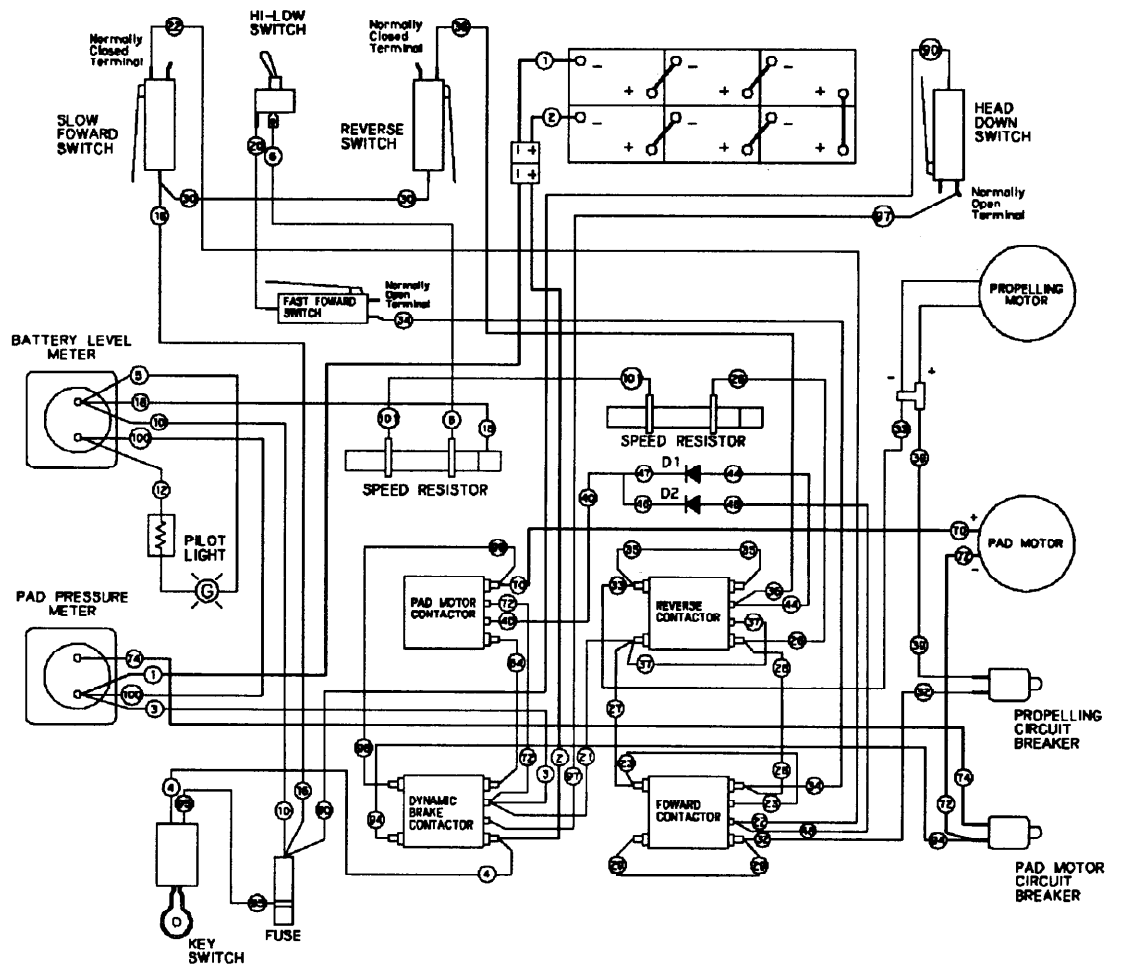


BR2250 LADDER DIAGRAM

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



BR2500 WIRE DIAGRAM



BR2500 LADDER DIAGRAM

