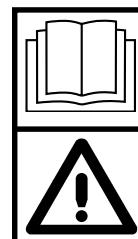


# SelectGloss™ 21/28PS

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## **OPERATOR MANUAL AND PARTS LIST** **Kent MODELS 56010815, 56010816**



**RECORD THIS IMPORTANT INFORMATION**

DATE OF PURCHASE \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_ CONTACT \_\_\_\_\_

MACHINE SERIAL NUMBER \_\_\_\_\_

ENGINE \_\_\_\_\_

ENGINE SERIAL NUMBER \_\_\_\_\_

**IMPORTANT PHONE NUMBERS**

Medical Emergency \_\_\_\_\_

Police \_\_\_\_\_

Fire Department \_\_\_\_\_

# Safe Operating Practices

for  
Kent by Nilfisk-Advance  
Propane Powered Burnishers

- \* Allow only qualified and trained personnel to operate equipment.
- \* Follow closely maintenance and operating instructions.
- \* Keep accurate records of maintenance and service in provided log book.
- \* Remember, routine maintenance **NOW** will prevent a breakdown **LATER**.
- \* Always check oil level before starting.
- \* Keep nuts and bolts tightened and hose connections snug.
- \* Refer to engine manufacturer's service manual or contact Nilfisk-Advance for engine repairs or adjustments not listed in this manual.
- \* Never alter or reconstruct the fuel system. To do so may be dangerous and will void the factory warranty.
- \* Always use U.L., C.T.C./D.O.T listed safety fill cylinders supplied by Nilfisk-Advance.
- \* Be careful not to cross thread the Rego gas line coupling at the fuel cylinder.
- \* Always store the fuel cylinder **outside** away from heat and direct sunlight.
- \* Never leave the machine running unattended.
- \* Always operate in a well ventilated area. (Catalytic mufflers need to warm up before they are effective).
- \* Check pad holder for cracks each time the pad is changed.
- \* Have the machine serviced by a certified technician, including an emission check, every three (3) months.
- \* Before attempting any service on the machine, turn the ignition switch "OFF" and remove the key to avoid accidental start-up.

**WARNING:** Keep hands and feet clear of rotating pad!

**WARNING:** Failure to follow the instructions and warnings appearing in this operating manual or on machine labels may result in serious injury to the person using the machine and possibly to other persons and property

**NOTE:** *This machine is manufactured for commercial use only.*

**SAFE OPERATING PRACTICES** (continued)

Propane Powered Floor Burnishers are designed and manufactured for high-speed commercial floor buffing only. These machines are designed to buff most modern types of floors including composition tile, stone, marble, terrazzo, and resilient floor covering using floor coatings designed for high-speed buffing.

Even though NFPA 58 8-4.5 says ...“these machines shall be permitted to be used in buildings frequented by the public, including the times when such buildings are occupied by the public”, Nilfisk-Advance suggests that the machines be operated when occupancy of a given work area is at a minimum.

**These machines should not be used:**

- in nursing homes, hospitals, day-care centers etc.
- by unqualified or untrained personnel.
- unless properly maintained and adjusted.
- on areas with obstructions such as thresholds, floor outlet boxes, etc.
- in areas where loose tile or objects are present.
- in rooms without proper ventilation.

**These machines should not be left running unattended.**

These Propane Powered Burnishers are designed with the burnishing head offset to the right side to make it easier to burnish the floor close to the edge. It is recommended to start burnishing on the right side of the isle, turn and come back down the isle in the opposite direction overlapping the previous path slightly. Continue this pattern until the floor area to be burnished has been covered with the last pass being on the right side of the machine. The forward speed is generally at a normal walking speed.

**CAUTION: Do not allow the burnisher to operate without moving the machine. It may burn the floor and could damage the floor covering.**

**SPECIFICATIONS:**

**SelectGloss™ 21PS**

Pad	21" (53,3 cm)
Pad Speed	2000 RPM
Width	22.75" (57,8 cm)
Length	51.5" (130,8 cm)
Engine	Kawasaki 17hp
Starting	12V Battery
Weight	192 lbs. (87 kg)
Handle	Welded Steel Adjustable
Adjustable	
Deck	Cast Aluminum Alloy
Vibration	Less than 2.5 m/s <sup>2</sup>
Sound Level	87 db

**SelectGloss™ 28PS**

Pad Size	28" (71,1 cm)
Pad Speed	1700 RPM
Width	30" (76,2 cm)
Length	58.25" (148,0 cm)
Engine	Kawasaki 17hp
Starting	12V Battery
Weight	215 lbs. (97,5 kg)
Handle	Welded Steel
Adjustable	
Deck	Cast Aluminum Alloy
Vibration	Less than 2.5 m/s <sup>2</sup>
Sound Level	87 db

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# **I. PROPANE MACHINE SAFETY**

## **A. Purpose**

The accepted demand for and use of propane powered burnishers underscores the need for responsible manufacturers and users to stress the importance of safety. This manual is designed to provide the information you need to ensure proper and safe use of propane powered burnishers.

In addition, we recommend operators of propane powered burnishers complete a program of training and certification on the safe operation of this equipment.

## **B. Refueling and Storage of Fuel Cylinders**

Propane cylinders should only be filled by an authorized propane dealer. When not in use, they should always be stored outside in an upright position in a secure, tamper-proof, steel mesh storage cabinet. This cabinet may be located next to the building but with at least five feet of space between the cabinet and the nearest building opening (door or window).

The National Fire Protection Association (NFPA) Standard for Storage and Handling of LP Gas is the appropriate authority on safe propane use. A copy of this publication is available through the National Fire Protection Association in Quincy, Massachusetts (1-800-334-3555).

## **C. Safety in Engineering**

Nilfisk-Advance engineers and manufactures machines utilizing U.L. (Underwriters Laboratories), CE, and C.G.A. (Canadian Gas Association) approved components where possible. When a tag or tags bearing the U.L. and/or C.G.A. insignia is/are affixed to the machine, it indicates that the entire machine has been researched, tested, and is listed by one or both organizations as having met all of their safety criteria.

In some cases, the tag will be affixed to a particular component. This means that only the component is listed. Component recognition for the following parts is important: fuel cylinders, couplings, regulators, and fuel lines. We strongly recommend that you use only machines meeting the above minimum requirements.

Even though the Kent propane powered burnishers meet the O.S.H.A. Time Weighted Average (TWA) standard for noise, hearing protection is supplied with each machine and must be worn.

## **D. Use and Care**

Your Kent propane powered burnisher is packaged with a detailed Operator's Manual. Safety dictates that before using any new equipment operators read and understand the Operator's Manual. We strongly recommend this practice.

## **E. Canadian Safety Regulations**

1. "A sign indicating "NO SMOKING" shall be permanently displayed at the storage area. The sign shall be in accordance with the sign required in Clause 10.12.3 of CAN/CGA-B149.2-M91, Propane Installation Code."
2. "When the cylinder is attached to the floor maintenance machine for use, the operator shall not leave the unit unattended except for short periods of time such as rest stops, washroom or meal stops."
3. "The requirements of 1.10.1 (e) and (g) do not apply in industrial buildings."
4. "A floor maintenance machine shall only be used in buildings:
  - a) provided with continuous mechanical ventilation that removes the products of combustion to the outdoors of not less than 300 CFM for each 10,000 Btu-hr input or fraction thereof;
  - b) provided with natural ventilation of not less than 300 CFM for each 10,000 Btu-hr input or fraction thereof, based on a maximum of one quarter air exchange per hour for the net building volume."
5. "The owner of a floor maintenance machine shall ensure that the operator has participated in a course authorized by the manufacturer of the unit on the safe handling of propane and the safe operation of the machine."
6. "The owner of a floor maintenance machine shall ensure that the unit is maintained in accordance with the manufacturer's recommended maintenance procedures in a safe operating condition and the owner shall maintain a record of the maintenance for a period of two years."
7. "Before transporting a floor maintenance machine, the cylinder shall be securely fastened, with the system valve closed and the cylinder shall be located in a well ventilated space."

## II. MACHINE PREPARATION

### A. Adding Oil

The Burnisher is shipped by overland freight with the correct amount of oil in the engine. Air freight shipments require the machine to be shipped without oil.

**The machine is also shipped with the battery disconnected.**

When filling a "dry" burnisher or changing oil, **add no more than 1.5 quarts (or 1.75 quarts when the oil filter is changed)** then check the dip stick in the fill cap. Add oil if necessary but **DO NOT OVERFILL! ALWAYS CHECK OIL BEFORE USING THE MACHINE.** Refer to Engine Owner's Manual.

**IMPORTANT:** WHEN CHECKING OIL ON KAWASAKI MODELS, REMOVE OIL FILLER CAP AND CLEAN DIPSTICK WITH CLEAN CLOTH, THEN INSERT DIPSTICK INTO TUBE WITHOUT SCREWING IN. THEN CHECK OIL LEVEL. **ALWAYS MAKE SURE THE MACHINE IS SITTING LEVEL WHEN CHECKING OIL.**

### B. Connecting the Battery

Connect the **RED** positive battery cable **FIRST**.

Connect the **BLACK** negative battery cable **LAST**.

### C. Adjusting the Handle

The burnisher handle adjusts for comfort and optimum control. Height may be changed to suit the individual operator. (See page 8)

### D. Filling the Safety Fill Fuel Cylinder

Nilfisk-Advance uses the 20 lb. capacity aluminum safety fill cylinder which meets the D.O.T. 4E240 standards. These cylinders are also listed by U.L. Filling should **ONLY** be done by a qualified propane dealer. **FILL THROUGH THE STOP FILL VALVE ONLY.** (See page 9) A properly filled cylinder should not exceed 80% of the rated capacity.

**DO NOT attempt safety fill cylinder repair.** Return the cylinder to your propane dealer if repair is necessary. Please note that D.O.T. regulations prohibit shipping of cylinders after the cylinder has been filled with propane.

### E. Installing the Safety Fill Fuel Cylinder

Align the slot in the top flange of the cylinder with the locating pin on the machine. Strap the safety fill cylinder in place by clamping the toggle assembly to the cylinder band. Adjust the toggle assembly by screwing in or out in order to keep the tank firmly secured. Connect the fuel hose coupling to the service valve by turning right (clockwise). **HAND TIGHTEN ONLY.** Make sure coupling is not cross threaded and check for leakage by noting any odors of propane immediately after cylinder is connected. (It is sometimes easier to install if the connection to the service valve is made before strapping the cylinder in place.)

TO REMOVE THE SAFETY FILL CYLINDER, reverse above procedure. Always connect or change cylinders in a well ventilated area.

## III. OPERATING INSTRUCTION

### A. Starting Instructions

1. Check oil and fuel levels.

2. Check and clean engine air filter.

**NEVER RUN CONTINUOUSLY FOR MORE THAN 1 HOUR WITHOUT CLEANING OR CHANGING ENGINE DUST FILTER.** (See "Scheduled Maintenance")

3. Check carburetor air filter. Change if necessary. (see "Scheduled Maintenance")

4. Turn propane service valve counterclockwise to open.

5. Allow machine to tilt backward (pad off floor) and move the throttle to the **SLOW** position.

6. Engage starter by turning the key-switch to the starting position for approximately 5 seconds. If the machine fails to start, let the ignition switch return to the run position (Do not turn off). Wait approximately 5 seconds and try again for another 5 seconds. (**NOTE:** Do not engage starter for more than 10 seconds. Allow a 60 second cool-down period for each 10 second start-up cycle.)

7. After engine starts, a GREEN light will flash for a 3 minute warm-up cycle of the SmartAir system. (The machine may be operated during this warm-up period.) After the warm-up cycle the green light will remain on steady as long as the machine is running safely.



## B. Operation

After the engine has started, allow approximately 30 seconds for the engine to "warm up" then advance the throttle to operating speed.

Engage the clutch by pulling up on the switch lever (mounted on the handle).

Lower the burnishing head to the floor while moving the machine forward slowly.

**CAUTION!** DO NOT RUN THE MACHINE WITHOUT MOVING THE MACHINE. IF ALLOWED TO RUN IN ONE SPOT DAMAGE TO THE FLOOR MAY OCCUR.

To stop burnishing, push down on handle raising the burnishing head off the floor and release the clutch switch lever.

**NOTE: This machine is equipped with SmartAir emission monitoring system and catalytic muffler.**

Upon starting the engine, the GREEN LED will flash for 3 minutes during a warm-up period. After that time it will be on steady unless a warning is being signaled. If the carbon monoxide in the exhaust is approaching a hazardous level the green light will go out and the RED LED will start flashing. When the red light goes to STEADY RED it will shut the machine down within 1 minute.

**WARNING! Catalytic mufflers require a few minutes to warm up before effectively removing harmful emissions. Make sure of proper ventilation during this warm-up period!**

## C. Idling and Stopping the Machine

If for any reason the machine needs to idle for short periods (less than 3 minutes), simply raise the burnishing head and release the clutch switch and move the throttle to the SLOW position. **The SmartAir system will not allow the engine to idle unnecessarily. After 2 minutes the GREEN LED will start flashing. In another 1 minute the engine will shut down.**

To stop the engine close the service valve on the fuel cylinder by turning it clockwise. (The engine will stop when the fuel in the lines is used up.) **After the engine stops, turn the key switch to "OFF" position.** Failing to turn the key OFF may drain the battery.

## D. Installing/Changing Burnishing Pad

1. With engine OFF turn the machine over on the **RIGHT** side (the starter side). This can be accomplished easily by pushing down on the right handle grip with some force while the machine is tilted back.
2. Remove centering device (if used) and carefully pull old pad off the velcro pad holding material.
3. **CAREFULLY INSPECT THE PAD HOLDER FOR CRACKS OR DAMAGE! Replace if necessary.**  
**NOTE:** A damaged pad holder rotating at high speeds may be an extreme hazard if it should come apart.
4. Pull center from new pad, center pad on pad holder and secure with centering device (if used) or tuck the center under the plastic center ring.
5. Press pad onto velcro.
6. Return machine to upright position.

## E. Storage

Only authorized, trained personnel should have access to propane cylinders and machines.

1. **Remove propane fuel cylinder when not in use and store it outside in a storage cage in accordance with NFPA Section 5 or Subsection 9.5.2 of CAN/CGA B149.2. Do not release or bleed propane inside of the building.**  
Please consult your local Fire Marshal to insure that you are in compliance with local fire codes.
2. Store machine away from objects that may fall and damage it.
3. Never store machine or fuel cylinders near an open flame or heat producing devices.
4. Make sure machine is cleaned properly before storing.
5. Never store machines with cylinders installed, or spare cylinders, in an enclosed van or trailer.

## F. Transportation

When transporting a propane powered burnisher with the fuel cylinder installed, the cylinder should be securely fastened with the service valve closed and the machine should be secured in the vehicle. Any propane fuel cylinders not installed on a machine should be securely fastened to avoid movement and damage. The service valves should be closed. Never store machines with cylinders installed, or spare cylinders, in an enclosed van or trailer.

It is a good practice to check propane cylinders for overfilling before transporting them. If overfilled, correct before loading them in the vehicle by venting the excess propane outside in a safe area using the fixed liquid level gauge.

#### IV. SCHEDULED MAINTENANCE

Following proper scheduled maintenance procedures will provide years of uninterrupted service.

KAWASAKI ENGINE ITEM or TYPE of SERVICE		REGULAR SERVICE PERIOD (Performed At Indicated Hour Intervals)					
		Break In 8 hrs.	Each Use	25 hrs.	50 hrs.	100 hrs.	300 hrs.
Engine Oil	Check Level		2				
	Change	2,4,5			2,4,5		
Oil Filter	Change					4,5	
Engine Dust Filter	Inspect		1				
	Clean/Change		1,2				
Carburetor Air Cleaner	Inspect		2				
	Clean/Change Element				2,4,5		
	Clean Pre-Foam Element			2			
Belt	Inspect	2	2				
	Adjust/Replace	As Required (5 below)					
Fuel Hose & Connections	Inspect	2	2				
	Replace	If Signs of Wear are Present (3,5 below)					
Cooling Fins	Clean				2		
Burnishing Head Assembly	Inspect				6		
Pad Holder	Inspect	When Changing Pads					
	Replace	If Cracks Appear (2 below)					
Bolts & Connections	Inspect				6		
	Tighten				6		
Spark Plug	Clean/Replace				5,6	4,5	
Battery & Battery Cables	Inspect				2		
Exhaust Emissions	Check						3,5
Check & Adjust Valve Clearance Retorque Heads							5,6,7

1. Perform after each hour of operation.
2. Refer to Section V "GENERAL MAINTENANCE PROCEDURES".
3. These items should be serviced by an authorized Kent Service Center.
4. Refer to Engine Manufacturer's "OWNER'S MANUAL" for recommended replacement.
5. Always enter maintenance performed in "SERVICE LOG BOOK".
6. Routine maintenance.
7. Refer to Engine Service Manual.

## **V. GENERAL MAINTENANCE PROCEDURES**

### **A. Fuel System**

The fuel system works from vacuum created by the engine running. Turning the fuel cylinder service valve ON pressurizes the system for flow to the carburetor once the engine starts to crank.

#### **1. Adjusting the Regulator**

**NOTE:** The regulator and carburetor have been "factory preset" and should not require any modification. Only Kent authorized personnel, trained and certified in propane systems, should modify or adjust the system or its setting.

N.F.P.A. 58 8-1.4 states, "In the interest of safety, each person engaged in installing, repairing, filling, or otherwise servicing an LP-Gas engine fuel system shall be properly trained in the necessary procedures."

#### **2. Engine Dust Filter**

The engine dust filter should be **cleaned each hour** and after each use by shaking out the dust and then rinsing with mild detergent. Squeeze out the excess water (do not wring). Allow the filter to air dry.

**Failure to maintain a clean engine filter will cause the engine to overheat. Also, it may cause the exhaust emissions to elevate to harmful levels.**

#### **3. Carburetor Air Filter**

- a. Loosen wing nut on top of the air cleaner cover.
- b. Remove foam pre-cleaner and paper filter element.
- c. Clean foam pre-cleaner using the same procedure as "2" above.
- d. Clean filter seal, making sure no dust is allowed in the carburetor inlet.
- e. Inspect paper element. Replace if dirty, bent or damaged.
- f. Install the clean paper element, pre-cleaner, air filter cover and wing nut.

**NOTE: Failure to service the carburetor air cleaner may produce excessive carbon monoxide emissions and cause the SmartAir™ system to shut the engine down.**

#### **4. Hose and Fuel Connections**

- a. Inspection
  - (1) Inspect hoses for abrasions and other signs of wear; replace all worn or damaged hoses.
  - (2) Check for gas leaks by spreading soapy water solution around all the connections while the service valve is turned ON and the fuel system is pressurized.
- b. Fixing Leaking Joints
  - (1) Uncouple bad joint, clean joint then apply pipe sealing compound (Loc-Tite Pipe Sealant with Teflon or equivalent) to the clean joint.
  - (2) Recouple the joint finger tight plus 1/2 turn.
  - (3) **Recheck for leaks using soapy water solution. Watch for bubbles at the joint with the fuel cylinder service valve turned on and the fuel system pressurized.**

### **B. Engine Maintenance**

#### **1. Cooling Fin Maintenance**

- a. Remove the blower housing and other cooling shrouds.
- b. Clean the cooling fins as necessary using compressed air or pressure washer.
- c. Reinstall all housings and shrouds.

#### **2. Head Bolt Maintenance**

- a. Refer to Engine Manufacturer's "Service Manual".

### 3. Changing the oil

- a. Run engine for 5 minutes to warm oil, then stop the engine by closing the fuel service valve, allowing the engine to stop by itself. Turn the key "OFF". (Failing to turn the key "OFF" may run the battery down.)

**NOTE: Must be running above 2150 RPM or SmartAir will shut the engine down.**

- b. Locate the oil drain pipe located on the right side of the machine.
- c. Remove the cap by turning counterclockwise with a wrench.

**CAUTION: Do not pull it off!**

- d. Allow oil to drain completely into the receptacle.
- e. Replace the cap by turning clockwise.
- f. When filling a "dry" burnisher or changing oil, **add no more than 1.5 quarts or 1.75 quarts when the oil filter is changed**, then check the dip stick in the fill cap.
- g. Check oil level with dip stick in oil fill cap. Add additional oil if necessary.

**DO NOT OVERFILL AND NEVER RUN ENGINE LOW ON OIL!**

**IMPORTANT: REMOVE OIL FILLER CAP AND CLEAN DIPSTICK WITH CLEAN CLOTH, THEN INSERT DIPSTICK INTO TUBE WITHOUT SCREWING IN. THEN CHECK OIL LEVEL. ALWAYS MAKE SURE THE MACHINE IS SITTING LEVEL WHEN CHECKING OIL.**

- h. Replace fill cap. Hand tighten only.

### C. Belt Maintenance (Back-Side Idler System)

To inspect the belt it is necessary to turn the machine over. The machine should be turned on its right side. This can be easily accomplished by pushing down on the handle grip with some force while the machine is tilted back. (If badly cracked or worn it should be replaced.)

To check for the proper tightness squeeze the belt together. The belt should depress between 1/4 and 1/2 inch.

To change belt:

1. Turn the machine over on its right side.
2. Remove the pad holder by holding the end of the shaft on the top of the machine with a 3/4 inch wrench and turn the pad holder counterclockwise.
3. Use the 3/4" wrench to turn the end of the spindle shaft on top of the machine while removing the old belt from the spindle pulley.
4. Finish removing the belt from the engine pulley, if necessary.
5. Check engine pulley for correct alignment with the spindle pulley. Check hardware attaching pulleys for correct tightness.
6. Install the new belt onto the engine pulley.
7. Reinstall the new belt onto the spindle pulley using the 3/4" wrench to turn the spindle clockwise. Make sure the belt is correctly placed on the idler pulley.
8. Reinstall the padholder onto the spindle shaft.
9. Turn the machine upright in the burnishing position.
10. Check belt for correct operation. Check all hardware for correct tightness.

#### D. Battery Maintenance and Replacement

The battery supplied with this machine is a sealed/gelled, electrolyte, maintenance free type. It should never need servicing.

When battery replacement becomes necessary, the replacement should have the same specifications as the original. If in doubt, contact a Nilfisk-Advance Customer Service Representative. To replace:

1. Remove the propane fuel cylinder from the machine.
2. Raise battery cover to expose battery.
3. Disconnect battery cables from terminals. Always disconnect the **BLACK** cable first.
4. Remove battery "hold-down" clamp.
5. Lift old battery out and replace with new battery.
6. Reinstall "hold-down" clamp. **NOTE: DO NOT OVER TIGHTEN HOLD-DOWN CLAMP.** Doing so may cause the battery to rupture.
7. Connect the **RED** positive battery cable first.  
Connect the **BLACK** negative battery cable last.

**Dispose of old battery in the proper manner.**

### SAFETY INSTRUCTIONS RECHARGEABLE BATTERY

**! DANGER !**

ALL BATTERIES CONTAIN CORROSIVE ACIDS AND  
PRODUCE EXPLOSIVE GASES DURING RECHARGING

GAS EXPLOSION  
CAN CAUSE  
BLINDNESS OR INJURY  
SHIELD EYES

BATTERY ACID  
CAN CAUSE  
BLINDNESS OR  
SEVERE BURNS

- \* Do not make direct contact between battery terminals as this can cause an explosion or fire.
- \* Batteries should not be stored discharged.
- \* Only adults should recharge batteries.
- \* Keep charger away from children.
- \* Use only the charger provided by the equipment manufacturer.
- \* Do not recharge batteries upside down.
- \* Charging produces explosive gases. Charge battery in a well ventilated area away from sparks, flames and smoking.
- \* Disconnect charger from battery after 24 hours.

### IN CASE OF CONTACT WITH BATTERY ACID

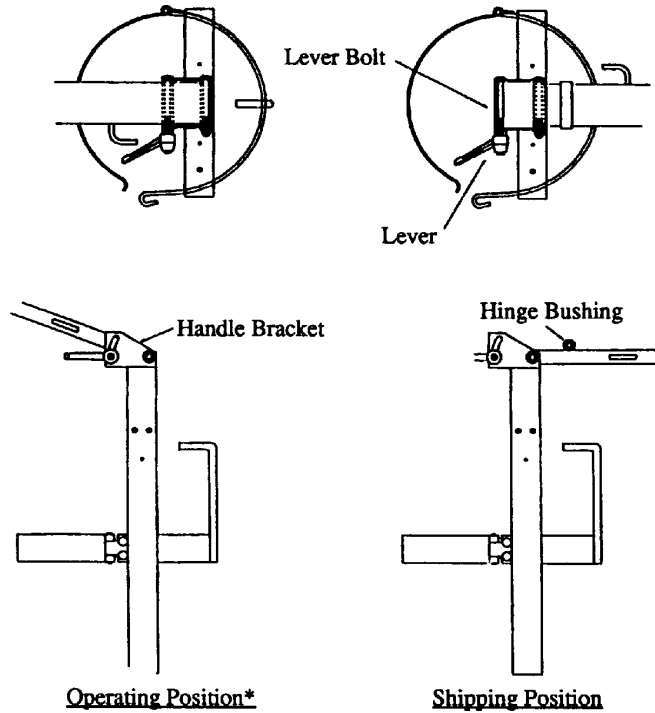
**INTERNAL**  
TAKE MILK, EGG WHITES,  
AND WATER.  
**DO NOT INDUCE VOMITING**

**EXTERNAL**  
FLUSH IMMEDIATELY FOR  
15 MINUTES IF ACID GETS  
IN EYES OR ON SKIN

**CALL PHYSICIAN IMMEDIATELY**

### E. Adjusting the Handle

\* Insert lever bolt through handle bracket and hinge bushing to locate handle in operating position.



## VI. TROUBLE SHOOTING

### SYMPTOM

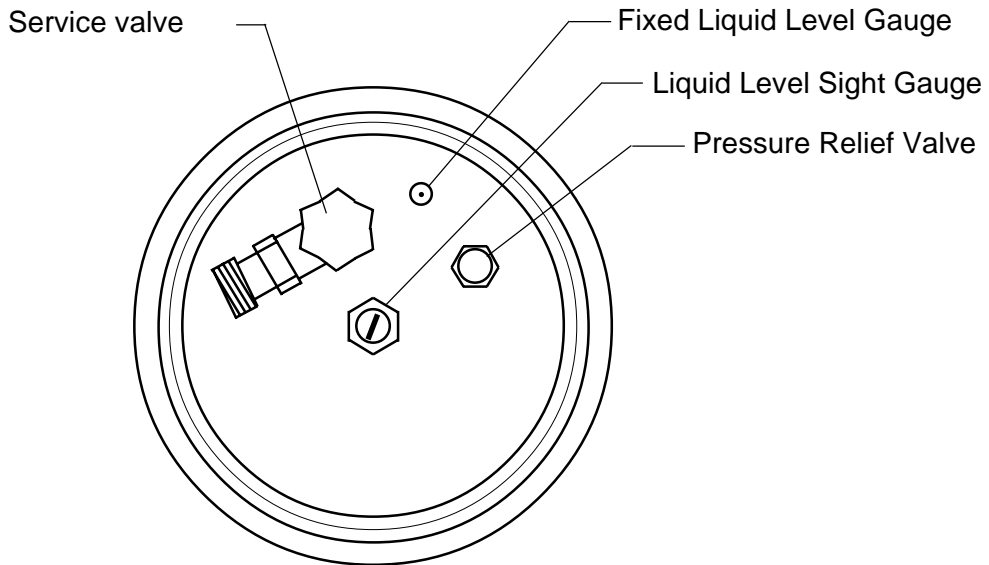
1. Hard to start
2. Will not start
3. Engine lacks power
4. Smell of burned rubber
5. Machine vibrates
6. Machine "Bogs Down" when in use
7. Machine pulls to one side
8. Engine stops running

### POSSIBLE CAUSES

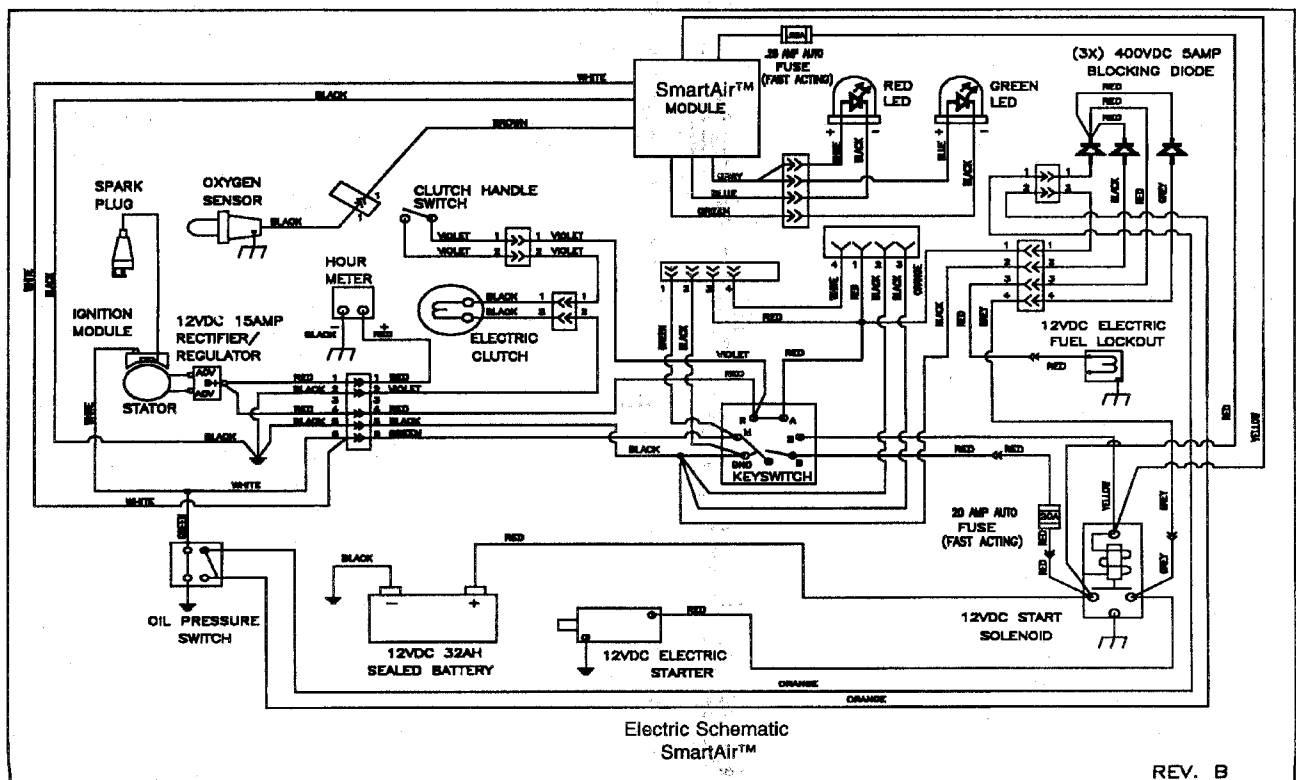
- + Spark plug or head bolts loose
- + Blown head gasket
- + Insufficient vacuum
- + Coil, air gap needs adjusting
- + Low oil
- + No fuel
- + Blown head gasket
- + Insufficient vacuum
- + Defective spark plug
- + Defective coil
- + Dirty air filter
- + Low oil
- + Fuse blown in SmartAir
- + Wires broken or disconnected
- + Leaking head gasket
- + Insufficient vacuum
- + Governor needs adjusting
- + No compression - worn rings
- + Dirty air filters
- + Belt out of adjustment
- + Loose bolts
- + Pad not centered
- + Operator bearing down too hard
- + Dirty air filters
- + Bent wheel bracket
- + Dirty air filter
- + High exhaust emissions
- + Out of fuel
- + Low fuel

## VII. DRAWING AND PARTS LIST

### A. Safety Fill Cylinder Head Layout

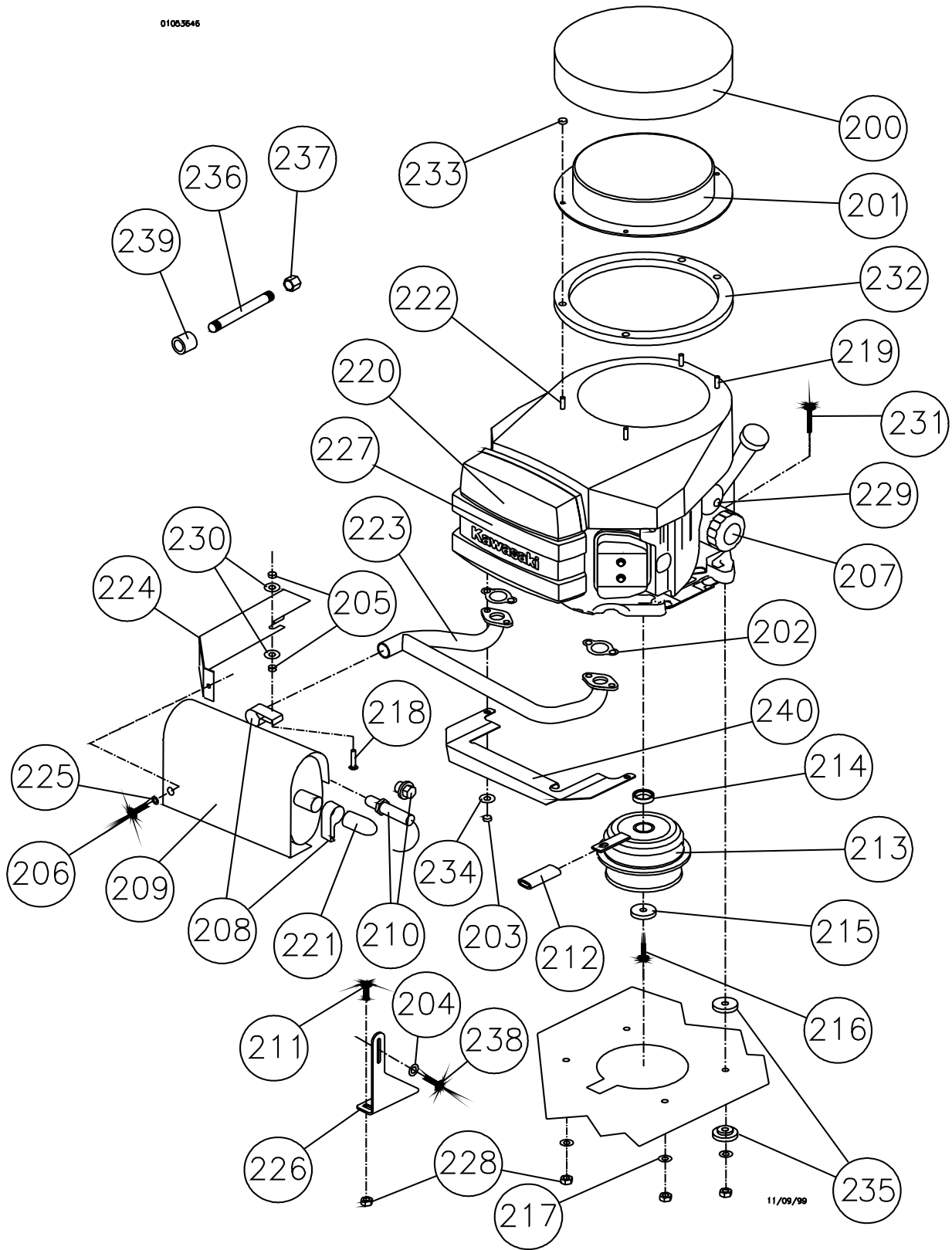


### B. Wiring Diagram



# SelectGloss™ 21PS / SelectGloss™ 28PS Engine

01003646



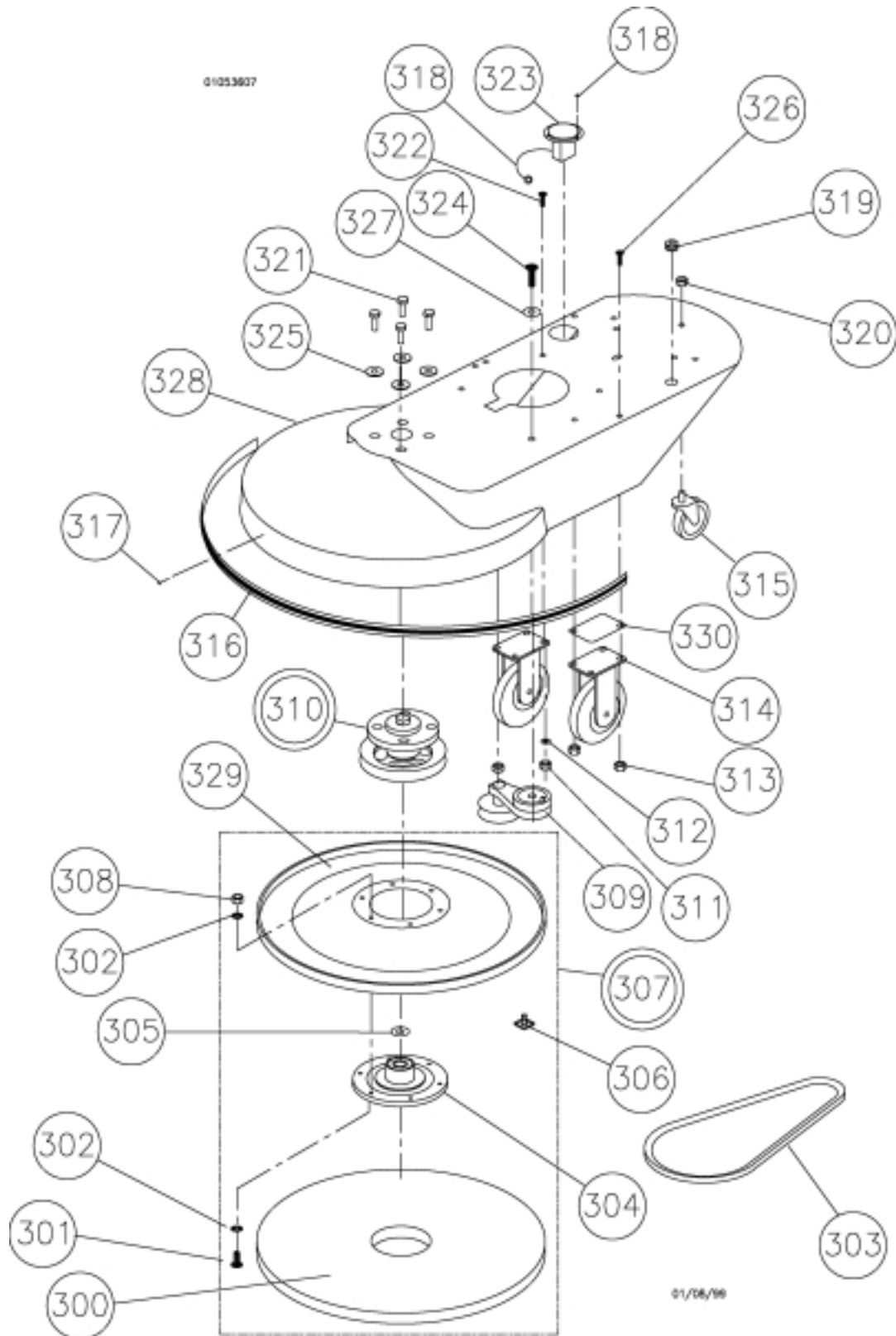
11/09/99



**SelectGloss™ 21PS / SelectGloss™ 28PS****Engine Parts List**

ITEM	REF. NO.	DESCRIPTION	QTY
200	56622088	Filter, Recoil, Kawasaki .....	1
201	56648211	Support, Filter, Kawasaki .....	1
202	56648212	Gasket, Muffler .....	2
203	56648213	Nut, 8mm .....	4
204	56622073	Washer .....	2
205	56622119	Nut, 5/16-18, NC .....	2
206	56622117	Screw, BH, 1/4-20 X 3/4 .....	6
207	56622070	Filter, Oil (FH500V & FD501V) .....	1
208	56648215	Clamp, Muffler .....	2
209	56648216	Muffler, w/Catalyst .....	1
210	56622082	Sensor, Oxygen .....	1
211	56622125	Screw, BH, 5/16-18 X 1 .....	3
212	56630100	Tubing, Norprene, Clutch Arm, 1 ft. ....	1
213	56630099	Clutch, Asm., Model 5215-63 .....	1
214	56622097	Spacer, Clutch, Top .....	1
215	56630101	Spacer, Clutch, Bottom, Hub Base .....	1
216	56622157	Screw, Hex, 7/16-20 X 1 1/2 .....	1
217	56630145	Washer, Flat 5/16 .....	3
218	56648218	Bolt, Carriage, 5/16-18 x 2 .....	1
219	56648219	Stud, Long .....	2
220	56622068	Precleaner, Air .....	1
221	56648220	Deflector, Exhaust .....	1
222	56648221	Stud, Short .....	2
223	56648222	Manifold, Long, V-Twin, Kawasaki .....	1
224	56648223	Shield, Manifold .....	1
225	56622112	Washer, Star Lock, 1/4 .....	5
226	56648224	Bracket, Muffler, Kawasaki .....	1
227	56622069	Filter, Air, Kawasaki, UL .....	1
228	56630136	Nut, Lock, 5/16-18 NC .....	6
229	56622086	Switch, Oil Pressure .....	1
230	56630145	Washer, Flat, 5/16 .....	2
231	56648226	Screw, Hex, 5/16-18 X 1 3/4 .....	4
232	56648227	Seal, Filter, Kawasaki, Std. ....	1
233	56648228	Nut .....	4
234	56648229	Washer, Spring .....	4
235	56648230	Washer, Fender 1/4 x 1 1/4 .....	4
236	56648231	Nipple, Pipe, 3/8 NPT x 4" (21PS) .....	1
	56648232	Nipple, Pipe, 3/8 NPT x 3" (28PS) .....	1
237	56648233	Cap, Hex, 3/8 NPT .....	1
238	56622072	Screw, Flange, M6 x 1.0 x 16 .....	1
239	56622071	Adapter, Drain, Oil .....	1
240	56648234	Shield, Manifold, Kawasaki .....	1

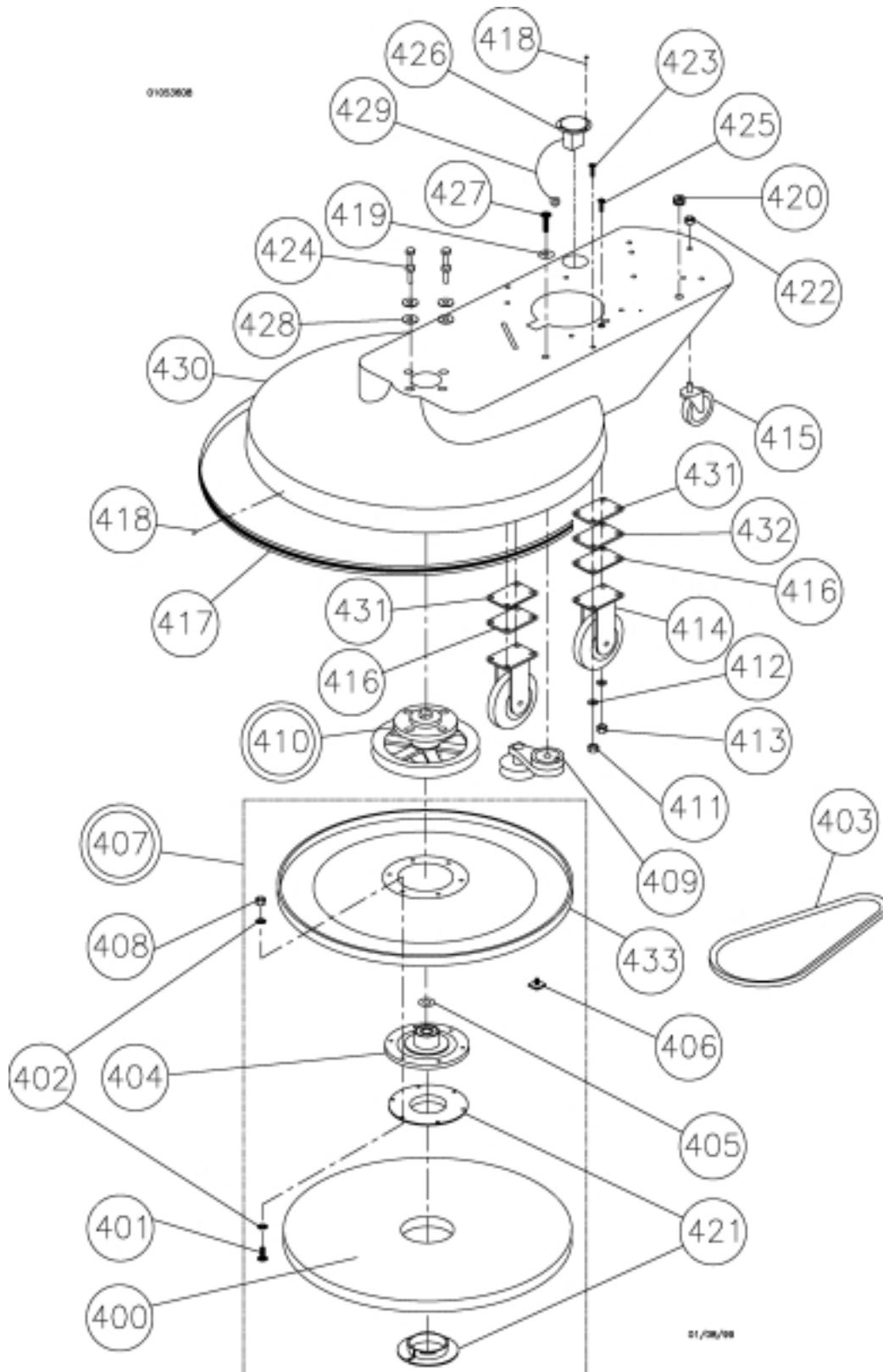
# SelectGloss™ 21PS Deck Sub-Assembly



## SelectGloss™ 21PS Deck Sub-Assembly Parts List

ITEM	REF. NO.	DESCRIPTION	QTY
300	56630163	Pad, 21", Blue (pkg of 5) .....	1
301	56630146	Screw, BH, 1/4-20 x 1 .....	6
302	56630138	Washer, Flat, 1/4 .....	12
303	56630115	Belt, BX-38 .....	1
304	56630176	Flexi Disc .....	1
305	56630141	Washer, .755 x 1.005 x .060, S.S. ....	1
306	56630119	Velcro, Studs .....	50
307	56648240	Padholder, 21", Complete Asm. ....	1
308	56630137	Nut, Lock, 1/4 .....	6
309	56630098	Tensioner, Belt, w/4" Pulley .....	1
310	56630112	Spindle, w/6.25" Pulley, Asm. ....	1
311	56622119	Nut, 5/16 - 18 NC .....	1
312	56622132	Washer, Lock 5/16 .....	1
313	56630136	Nut, Lock, 5/16 - 18 NC .....	3
314	56630122	Wheel, w/Bracket 5" .....	2
315	56630080	Caster, 2 1/2", Rear, 3/4" Stem .....	1
316	56630130	Moulding, 1 1/8, Black, Bumper .....	5 ft.
317	56630133	Rivet, Pop, 1/8 x 1/4 .....	11
318	56622110	Wire, Ground, Hour Meter, Assembly .....	1
319	56622133	Grommet 1/2 ID x 3/8 W x 1 D .....	1
320	56648237	Nut, Hex, 1/2 - 13, Jam .....	1
321	56622135	Bolt, Hex, 1/2 x 1, NC .....	4
322	56622122	Bolt, Carriage, 5/16 x 1 .....	1
323	56630126	Meter, Hour, Round .....	1
324	56630143	Screw, Cap, 3/8 x 1 1/4 .....	1
325	56622136	Washer, Flat, 7/16 .....	4
326	56622125	Screw, BH, 5/16 - 18 x 1 .....	3
327	56630139	Washer, Flat, 3/8 .....	1
328	56648247	Deck, 21", Kent, BA, Painted, Complete ....	1
329	56630170	Padholder, 21", W/Studs Only .....	1
330	56630102	Block, Wheel, 14GA .....	1

# SelectGloss™ 28PS Deck Sub-Assembly

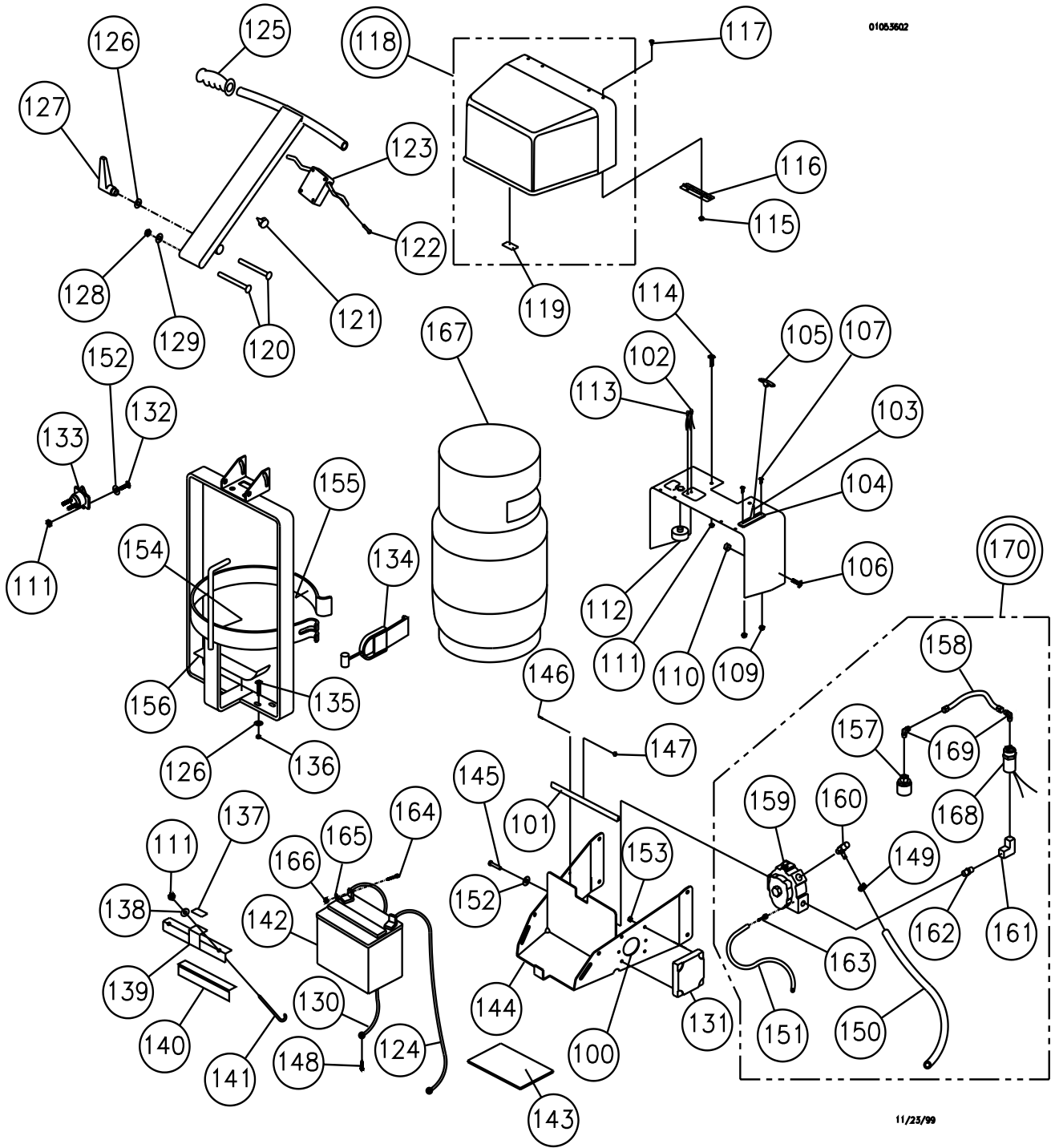


## SelectGloss™ 28PS Deck Sub-Assembly Parts List

ITEM	REF. NO.	DESCRIPTION	QTY
400	56648235	Pad, 28", Blue (pkg of 5) .....	1
401	56630147	Screw, Cap, BH, 1/4 - 20 x 1 1/4 .....	6
402	56630138	Washer, Flat, 1/4 .....	12
403	56630077	Belt, BX-52 .....	1
404	56630177	Flexi Disc, w/o Lip .....	1
405	56630141	Washer, .755 x 1.005 x .060, S.S. ....	1
406	56630119	Velcro, Studs .....	70
407	56648236	Padholder, 28", Complete Asm. ....	1
408	56630137	Nut, Lock, 1/4 .....	6
409	56630098	Tensioner, Belt, w/4" Pulley .....	1
410	56630111	Spindle, w/8.75" Pulley, Asm. ....	1
411	56622119	Nut, 5/16 - 18 NC .....	1
412	56622132	Washer, Lock, 5/16 .....	2
413	56630136	Nut, Lock, 5/16 - 18 NC .....	3
414	56630122	Wheel, w/Bracket 5" .....	2
415	56630080	Caster, 2 1/2", Rear, 3/4" Stem .....	1
416	56622098	Wheel Block 2800 .....	1
417	56630130	Moulding, 1 1/8, Black, Bumper .....	7 ft.
418	56630133	Rivet, Pop, 1/8 x 1/4 .....	11
419	56630139	Washer, Flat, 3/8 .....	1
420	56622133	Grommet, 1/2 ID x 3/8 W x 1 D .....	1
421	56630079	Retainer, Pad, Center-Lok II .....	1
422	56648237	Nut, Hex, 1/2 - 13, Jam .....	1
423	56622126	Screw, BH, 5/16 - 18 x 1 1/2 .....	3
424	56622135	Bolt, Hex, 1/2 x 1, NC .....	4
425	56622123	Bolt, Carriage, 5/16 - 18 x 1 1/2 .....	1
426	56630126	Meter, Hour, Round .....	1
427	56630143	Screw, Cap, 3/8x 1 1/4 .....	1
428	56622136	Washer, Flat, 7/16 .....	4
429	56622110	Wire, Ground, Hour Meter, Assembly .....	1
430	56648238	Deck, 28", Kent, Painted, Complete .....	1
431	56630102	Wheel Block, .074 Thk. ....	2
432	56648239	Wheel Block, 11GA .....	1
433	56630171	Padholder, 28", W/Studs Only .....	1

# SelectGloss™ 21PS / SelectGloss™ 28PS Handle

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**SelectGloss™ 21PS / SelectGloss™ 28PS  
Handle Parts List**

ITEM	REF. NO.	DESCRIPTION	QTY	ITEM	REF. NO.	DESCRIPTION	QTY
100	56622066	Base, Mounting, 4 Way, Adh, Blk .....	2	141	56622101	Hook, Battery Clamp .....	2
101	56622067	Trim, Battery Tray .....	1 ft.	142	56630173	Battery, 12V, Sealed, Deka Type .....	1
102	56630069	Light, Fault, Red .....	1	143	56622145	Pad, Battery .....	2
103	56622085	Cable, Throttle, Control .....	1	144	56648203	Tray, Battery, Kawasaki, Asm. ....	1
104	56648198	Plate, Throttle .....	1	145	56648204	Bolt, Hex, 1/4 - 20 x 5/8 .....	2
105	56622077	Knob, Throttle, Tee .....	1	146	56622111	Scr, Machine, Rd Hd 8 - 32 x 1 1 /4 .....	1
106	56622125	Screw, BH, 5/16 - 18 x 1 .....	4	147	56630151	Nut, Keps, 8 - 32, Zinc .....	1
107	56622137	Screw, Pan HD 6 - 32 x 1/2 .....	2	148	56648206	Banding Buckle, 5/8" .....	1
109	56622138	Nut, Lock/Washer, 6 - 32 .....	2	149	56630144	Hose, Clamp, No. 38 .....	2
110	56630136	Nut, Lock, 5/16 - 18 NC .....	4	150	56630132	Fuel, Line, 3/8", 1 Ft. ....	3
111	56630137	Nut, Lock, 1/4 .....	6	151	56630131	Hose, Vacuum, 5/32, 1 Ft. ....	3
112	56630071	Switch, Starter .....	1	152	56622131	Washer, Lock, 1/4 .....	4
113	56630103	Light, 5V, Green .....	1	153	56648207	Nut, Keps, 10-32 .....	2
114	56630146	Screw, BH, 1/4 - 20 x 1 .....	2	154	56622099	Velcro, Felt, Black, 1 Yd. ....	1
115	56622140	Nut, Lock, 10-24, Nylon .....	4	155	56622099	Velcro, Felt, Black, 1 Yd. ....	1
116	56622102	Hinge, Battery/Regulator Cover .....	2	156	56622099	Velcro, Felt, Black, 1 Yd. ....	1
117	56622127	Scr, Mach, Truss HD,10 - 24 x 1/2 .....	4	157	56630093	Coupler, Quick Rego, Female .....	1
118	56648199	Lid Assembly .....	1	158	56630092	Hose, 12", Regulator .....	1
119	56622099	Velcro, Felt, Black, 1 Yd. ....	1	159	56100863	Regulator, Nolff, N51-A-C .....	1
120	56630148	Bolt, Carriage, 3/8 - 16 x 4, Zinc .....	2	160	56622081	Fuel, Adjustment, Assembly .....	1
121	56648200	Clip, 8mm, Cable .....	2	161	56630091	Fitting, 1/4", Brass Elbow, NPT Fem .....	1
122	56648201	Screw, Sheet Metal 8 x 1 1/4 .....	4	162	56630089	Fitting , 3325 x 4, Reg to Fuelock .....	1
123	56630075	Box, Micro (Complete) .....	1	163	56648208	Hose, Barb, 1/8 NPT 1/4 Barb .....	1
124	56622092	Cable, Battery, Positive .....	1	164	56648209	Screw, 5/16 - 18 x 3/4 .....	2
125	56630105	Grip, Handle .....	2	165	56622132	Washer, Lock, 5/16 .....	2
126	56630145	Washer, Flat, 5/16 .....	6	166	56622119	Nut, 5/16 - 18, NC .....	2
127	56630104	Handle, Adjustable Lever .....	1	167	56648210	Cylinder, Painted w/Decal .....	1
128	56630149	Nut, Acorn, 3/8-16 UNC .....	1	168	56630094	Fuelock, 12 Volt .....	1
129	56630139	Washer, Flat, 3/8 .....	1	169	56630090	Fitting, 49 x 6, Reg to Fuelock .....	2
130	56648202	Cable, Battery, Negative .....	1	170	56622089	Regulator, Nolff, Asm. ....	1
131	56622090	Module, SafeSense, Kawasaki .....	1				
132	56622117	Screw, BH, 1/4 - 20 x 3/4 .....	1				
133	56630106	Solenoid, 12VDC, Int. Duty .....	1				
134	56630107	Toggle, Tank Strap .....	1				
135	56622129	Bolt, Carriage, 3/8 - 16 x 1 1/4 .....	5				
136	56622120	Nut, Lock, 3/8 NC .....	5				
137	56622107	Velcro, Hook, 1" w/Adhesive, 1 Yd. ....	1				
138	56630138	Washer, Flat, 1/4 .....	2				
139	56622078	Clamp, Battery, Asm. ....	1				
140	56622103	Insulator, Rubber, Battery, Clamp .....	2				



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