

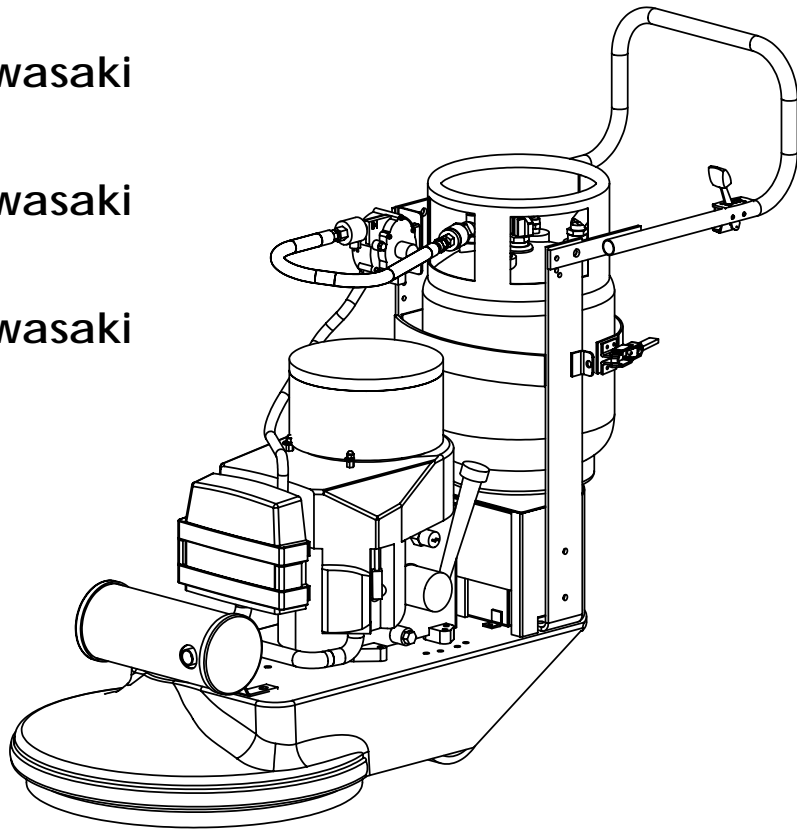


## Propane Powered Floor Burnishers

PB21-17  
17hp Kawasaki

PB24-17  
17hp Kawasaki

PB28-17  
17hp Kawasaki



## Operator's Manual Parts Schematic



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## **WARNING**

**LETHAL EXHAUST GAS**

**NEVER RUN THE ENGINE**  
**IN A CLOSED BUILDING**  
**OR CONFINED AREA**

**Exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odorless, colorless, and can cause death if inhaled.**

# CARBON MONOXIDE - MUST READ THIS!

## Carbon Monoxide Poisoning Symptoms

**Train your employees to know the warning signs of carbon monoxide poisoning.**

**Mild carbon monoxide poisoning may cause any of the following: headache, drowsiness, faintness, poor coordination, nausea, and vomiting. Turn the engine off and immediately get to fresh air if you have any of these symptoms.** Do not run the machine until it is given an emissions test and repairs made by a Betco Corporation distributor.

Moderate or severe carbon monoxide poisoning causes confusion, unconsciousness, chest pain, shortness of breath, and coma. Thus, most victims are not able to move themselves and must be rescued. Severe poisoning is often fatal.

Carbon monoxide is dangerous because a person may not recognize drowsiness as a symptom of poisoning. Consequently, someone with mild poisoning can go to sleep and continue to breathe the carbon monoxide until severe poisoning or death occurs. Some people with long-standing, mild carbon monoxide poisoning caused by furnaces or heaters may mistake their symptoms for other conditions, such as the flu or other viral infections.

## Carbon Monoxide Detectors

CO detectors are a must for safe operation of your equipment. Various types are available. A "CO" carbon monoxide detector detects carbon monoxide before it reaches dangerous levels. Detectors are a must for those who run propane powered equipment. The CO Detector is for everyone's protection against Carbon Monoxide Poisoning.

- Carbon Monoxide Detector - Passive
  - Effective for 30 days after package has been opened.
  - Write the date opened on the detector.
  - Mount with self-adhesive strip on the machine handle.
  - Train machine operator to check detector regularly.
  - If the orange disk on the detector changes to gray or black - your Carbon Monoxide Levels are at a Dangerous Level.
  - If the orange disk changes to gray or black you must turn your buffer off immediately and return it to your nearest authorized Betco Corporation distributor for an emissions test.
  - Do Not Restart the machine until the emissions have been checked and corrected.
  - This is for your protection as well as your customers. CO detectors are a must for safe operation and maximum efficiency of your equipment.
  - For replacement CO detectors, contact your Betco Corporation distributor. Ask for the carbon monoxide detector, part E012426.
- Carbon Monoxide Detector - battery operated with alarm
  - Available from various sources.

# SAFETY

## Important Safety Information

All LPG (Liquid Propane Gas) powered engines, including this engine, produce Carbon Monoxide (CO). It is a LETHAL POISON that is colorless, odorless, tasteless, and non-irritating gas. You must read “Danger: Lethal Exhaust Gas” information below.

Keep hands, feet, and loose clothing away from all moving parts while the machine is in operation. The exhaust system gets very hot so keep hands, clothing and any items that can burn away from the engine, engine manifold, and muffler.

Betco machines are built tough and durable, however do not abuse the machine. With proper care and maintenance this unit will give you years of trouble free operation.

### **Danger: Lethal Exhaust Gases**

Engine exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odorless, colorless, tasteless, and can cause death if inhaled.

Failure to provide proper venting of CO, failure to properly maintain the engine, or failure to properly train personnel of the dangers and warning signs of carbon monoxide exposure may result in SERIOUS INJURY OR DEATH to the operator and others in the area.

- Any equipment with the potential to produce carbon monoxide presents a significant hazard when used indoors. They must be used with great caution. Opening a door or window, or running an exhaust fan will not necessarily supply adequate ventilation. Avoid inhaling exhaust fumes and never run the engine in a closed building or confined area without proper ventilation.
- Do not allow engine to run unattended.
- If you have any indication that the engine is not running properly, immediately shut the machine off and have it checked over and repaired by qualified maintenance personnel.
- Workers should be trained to recognize the hazards of carbon monoxide and the early symptoms of carbon-monoxide poisoning.
- A carbon-monoxide detector and alarm should be available to alert workers of emissions.
- Have a carbon monoxide detector attached to machine handle or have machine operator wear a carbon monoxide detector. (See carbon monoxide detector page).

# SAFETY

continued from previous page

- Use only as described in this manual.
- Use only manufacturer's recommended components.
- Maintenance and repairs must be done by qualified personnel.
- Only trained operators should be allowed to operate propane powered floor machines.
- If the machine is not working properly, have it serviced by an authorized service center.
- Install fuel cylinder in a well ventilated place.
- Be aware of possible leaks of propane gas if odor is present.
- If the machine is stored inside a building, remove the fuel cylinder and store properly outside.
- Secure fuel cylinders when being transported.
- If tank is left attached to the machine then valve should be OFF.
- Never store fuel cylinders in a vehicle, building, or area where they may be exposed to high temperature.
- Do not operate the machine with any openings blocked.
- Keep openings free of debris that may reduce airflow.
- Remove fuel cylinder and disconnect battery before servicing.

# TANK USE AND STORAGE

We use the Worthington gas cylinders designed for vapor withdrawal. The fuel lock offs, regulators, and engines are also designed for vapor withdrawal.

- Use the OPD (Overflow Protection Device) vapor withdrawal type cylinder. These style tanks have a triangle shaped valve handle.
- Do not overfill - the best gauge is a scale - never allow tank to weigh over 36 pounds for an aluminum tank and 43 pounds for a steel tank.
- Store tanks outside in a well-ventilated area.
- Never store fuel cylinders in a vehicle, building, or area where they may be exposed to high temperature.
- If the machine is stored inside a building, remove the fuel cylinder and store properly outside.
- Connect fuel cylinder to machine in a well ventilated place.
- Be aware of possible leaks of propane gas if odor is present.
- Secure fuel cylinders when being transported.
- If tank is left attached to the machine then valve should be OFF.
- Store tanks in the upright position (valves up).



# BEFORE STARTING THE MACHINE

Before the machine is operated, you first should read your Engine Operation Manual and your Owner's Manual.

- Your machine is shipped ready operation; however there is no fuel in the tank. When having the tank filled, you must make sure the tank is never over filled.
  - The best way to do this is to tell the filling station to weigh the tank full. On an aluminum tank, it should weigh no more than 36 pounds and on a steel tank no more than 43 pounds. (See more information at "Tank Storage and Maintenance" page.)
- Adjust the handle for comfortable operation. Remove hairpin cotter pins from clevis pins, remove pins, and adjust to the hole alignment that gives the most comfortable height. Replace clevis pins and hairpin cotter pins. Tighten nuts and bolts if needed.
- Make sure pad is not torn, pad is well attached and centering device is tightened.
- Check Oil Level: Starting the engine without the proper amount of oil will cause severe engine damage. Always keep the engine oil level between the full and add marks on the dipstick. Do not loosen oil fill cap or remove dipstick while engine is running.
  - Park your burnisher on a level surface.
  - Turn the oil fill cap counter clockwise and then lift from the fill tube.
  - Wipe the dip stick clean and push it back into the oil fill tube until the cap seats and then withdraw it to check: the oil level. (Do not screw cap on to check oil). Add if necessary. If the oil level is low, add API Class SM oil having a SAE viscosity grade appropriate for the expected temperatures as indicated in the Operators Manual (Usually a HD30 or 10W30).
  - ***Important Note: DO NOT OVERFILL***
  - Replace oil cap.
- Inspect fuel hoses and fittings for wear and leaks. Have all worn hoses and leaks repaired before operating..
- Look and listen for exhaust leaks. Have all leaks repaired before operating.
- Check the carburetor filter and air filter for debris. Clean and replace if necessary.
- Connect fuel hose to tank by screwing the hose fitting to tank. You must tighten all the way down to make fuel connection. Turn tank knob slowly until you hear the flow of fuel into fuel system.

# **STARTING AND STOPPING THE KAWASAKI ENGINE**

## **STARTING THE KAWASAKI ENGINE**

The Kawasaki engine is equipped with a 12 volt starter and a key switch start.

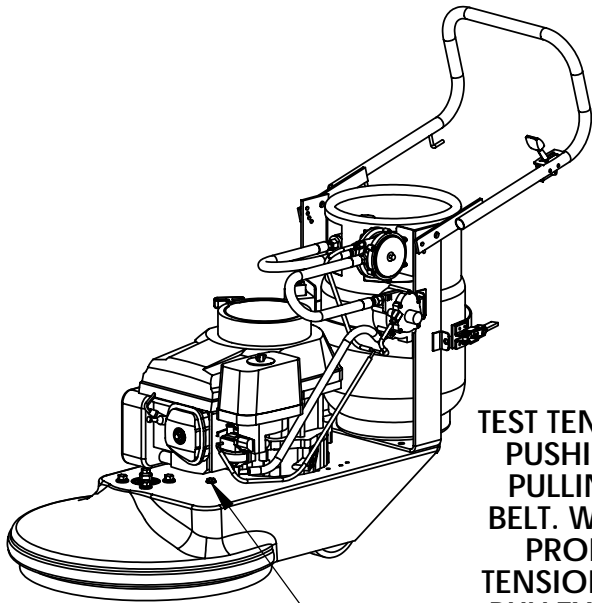
- 1) Install tank.
- 2) Attach propane hose coupling and fully tighten.
- 3) Tilt machine back so that pad is off the floor.
- 4) Open propane tank valve (turn counterclockwise). Hose will fill. Must not be any leaks.
- 5) Put throttle cable into the “slow” position.
  - a. Note: If starting is difficult, you can place throttle in the “fast” position.
- 6) Turn the ignition - start switch to the “start” position and hold it there until the engine starts. Do not crank for more than 20 seconds at a time and wait at least one minute between tries when cranking. See troubleshooting guide if the engine does not start after several tries.
- 7) After engine starts, set throttle to a slow operating speed until the motor warms up. Can increase engine speed after 3 to 5 minutes.

## **STOPPING THE KAWASAKI ENGINE\*\*\***

- 1) Turn propane tank valve to the closed position (turn clockwise) and allow the engine to continue running until it runs out of fuel.
- 2) Turn key to the off position.

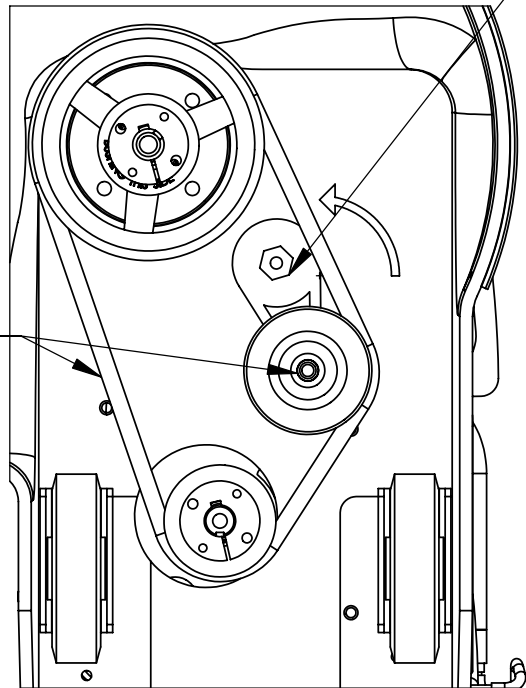
\*\*\* In an emergency, turn the key to the off position. Backfiring may occur when using this method.

# BELT TENSIONING INSTRUCTIONS



TENSIONER BOLT  
USE 9/16"  
WRENCH

USE 15/16 SOCKET WITH EXTENSION  
TO TIGHTEN TENSIONER IN DIRECTION  
SHOWN TO PUSH INSIDE OF BELT OUT



TEST TENSION BY  
PUSHING OR  
PULLING ON  
BELT. WITH BELT  
PROPERLY  
TENSIONED, THE  
PULLEY ON THE  
TENSIONER ARM  
SHOULD MOVE  
ONLY ABOUT  
AN INCH.

## TO TIGHTEN THE BELT TENSIONER

(Tensioner may have slipped, or belt may have stretched)

1. Tilt machine back onto rear caster.
2. Using a 3/4" open end wrench, secure the top of the shaft and remove pad driver assembly. (see "Pad Changing Instructions" page)
3. On the top of the deck, use a 9/16" wrench to loosen tensioner bolt. Leave a little snug to help hold tensioner in place after adjustment.
4. Using a 15/16" socket with an extension, fully tighten tensioner from the underside of deck, and back off 10 to 15 degrees. This will be about 2 inches at the end of the socket handle. (Note: This is about one mark on the tensioner. There are five marks on the side of the tensioner, which are difficult to see with the tensioner in place. Each mark is equal to about 15 degrees. This leaves the tensioner at about 60 degrees of tightness.)
5. While holding position tensioner in this proper location, fully tighten the tensioner bolt from the top. **TIGHTEN SECURELY!**
6. Make sure tensioner did not slip by pushing or pulling on side of belt away from tensioner. Belt should be tight and move the tensioner arm 10 to 15 degrees (about 1").

### BELTS FOR PROPANE POWERED FLOOR BURNISHERS

ENGINE	PAD SIZE	PART DESCRIPTION	PART NUMBER
KAWASAKI OR HONDA	21"	BX41 V-BELT	E010294
HONDA	24"	BX48 V-BELT	E010303
KAWASAKI	24"	BX53 V-BELT	E010475
KAWASAKI	28"	BX51 V-BELT	E010472

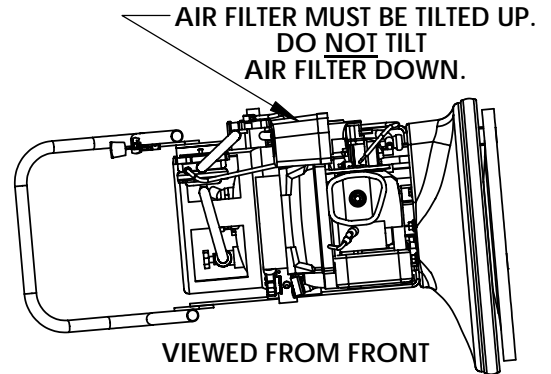
### PULLEYS FOR PROPANE POWERED FLOOR BURNISHERS

PAD SIZE	PART DESCRIPTION	PART NUMBER
21"	10.0" PULLEY	E010428
24"	8.5" PULLEY	E012403
28"	7.5" PULLEY	E012401

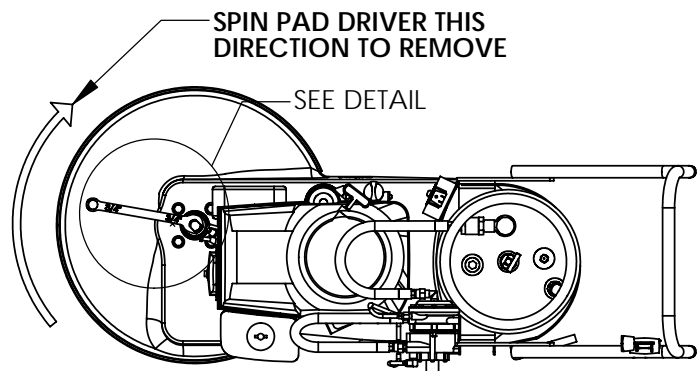
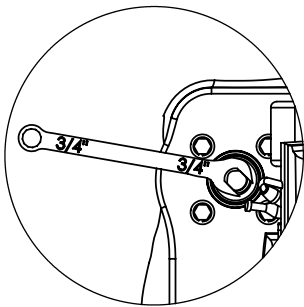
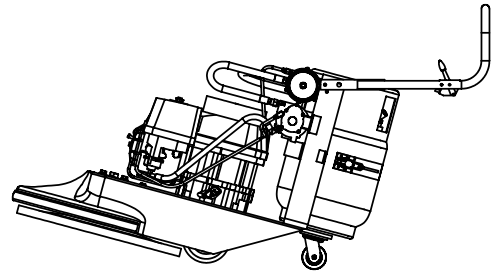
# PAD CHANGING INSTRUCTIONS

## THERE ARE THREE WAYS TO CHANGE THE PAD

- TILT MACHINE ON SIDE.
  - HONDA MACHINE MUST BE TILTED TO THE RIGHT, AS VIEWED FROM THE REAR. DO NOT TILT AIR FILTER DOWN. RIGHT IS RIGHT.
  - DOES NOT MATTER WHICH SIDE TO TILT KAWASAKI, SINCE AIR FILTER IS IN THE FRONT.
- REMOVE PAD CENTERING DEVICE.
- REPLACE PAD. BE SURE IT IS CENTERED WELL.
- REPLACE PAD CENTERING DEVICE. SCREW TIGHT.



- TILT THE MACHINE BACK ON CASTER.
- REMOVE PAD CENTERING DEVICE BY UNSCREWING.
- REMOVE OLD PAD.
- REPLACE WITH NEW PAD OF CORRECT SIZE. BE SURE PAD IS CENTERED.
- REPLACE PAD CENTERING DEVICE AND FULLY TIGHTEN.



- TILT MACHINE BACK
- PLACE 3/4" OPEN END WRENCH ON FLATS ON TOP OF SHAFT
- SPIN PAD DRIVER IN DIRECTION SHOWN TO REMOVE (COUNTER-CLOCKWISE AS VIEWED FROM BOTTOM)
- REPLACE PAD AS DESCRIBED ABOVE
- SPIN PAD DRIVER ON SHAFT (CLOCKWISE AS VIEWED FROM BOTTOM). MAY NEED TO LAY ON FLOOR TO GET THREADS STARTED.

# ENGINE MAINTENANCE

## KAWASAKI FH541V 17 HP

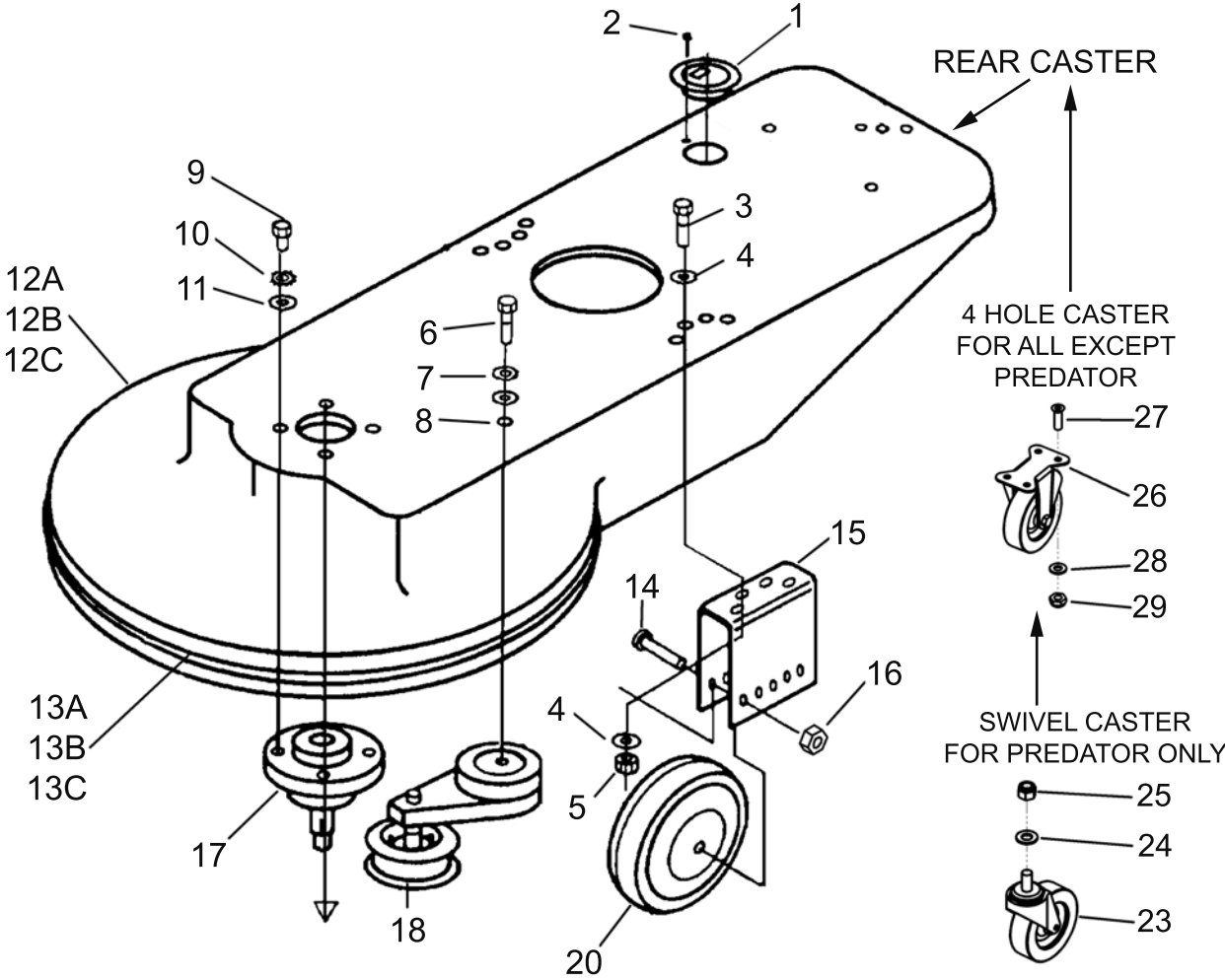
<b><u>PERIODIC MAINTENANCE</u></b> PLEASE REFER TO ENGINE OWNERS MANUAL FOR MORE INFORMATION	BEFORE EACH USE	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY 200 HOURS
<ul style="list-style-type: none"> <li>• Check engine oil level and add if needed</li> <li>• Check and clean engine bonnet filter (replacement is E012360)</li> <li>• General check for loose or lost nuts and screws, oil leakage, etc...</li> <li>• Check fuel hose and connections</li> </ul>	* * * *				
<ul style="list-style-type: none"> <li>• Clean air cleaner foam element</li> <li>• Clean air cleaner paper element</li> <li>• Check belt tensions</li> <li>• Check battery electrolyte level</li> </ul>		* * * *			
<ul style="list-style-type: none"> <li>• Change engine oil and oil filter (1)</li> </ul>			*		
<ul style="list-style-type: none"> <li>• Clean dust and dirt from cylinder and cylinder head cooling fins</li> <li>• Tighten nuts and screws</li> <li>• Clean and reset gap on spark plugs</li> </ul>				*  * *	
<ul style="list-style-type: none"> <li>• Replace air cleaner paper element (E012361)</li> <li>• Replace air cleaner foam element (E012362)</li> <li>• Replace spark plugs (E012364)</li> <li>• Check and adjust valve clearance</li> <li>• Clean combustion chamber</li> <li>• Clean and lap valve seating surface</li> </ul>					*  *  * * *

**IMPORTANT NOTES:**

- (1) Change engine oil and filter after first 8 hours of operation
- PLEASE REFER TO ENGINE OWNERS MANUAL FOR MORE INFORMATION

**MAINTENANCE SHOULD BE DONE  
BY QUALIFIED PERSONNEL ONLY**

# DECK, WHEELS, AND MORE



# DECK, WHEELS, AND MORE

ITEM NO.	PART NO.	DESCRIPTION
1	E012282	HOUR METER P15387
2	E010111	RIVET, AAP48
3	E012366	WASHER, FLAT, 5/16"
4	E010112	BOLT, 5/16-18 x 1.25
5	E012445	NUT, LOCK, 5/16"
6	E010113	BOLT, 1/2-13 x 1-1/4
9	E010116	BOLT, 7/16-14 x 1.25
10	E010117	WASHER, LOCK, 7/16"
11	E012447	WASHER, FLAT, 7/16"
12A	E011281	DECK, 21"
12B	E011281	DECK, 24"
12C	E011840	DECK, 28"
13A	E012356	BUMPER GUARD, 52" (FOR 21" DECK)
13B	E012391	BUMPER GUARD, 63" (FOR 24" DECK)
13C	E012296	BUMPER GUARD, 76" (FOR 28" DECK)
14	E010902	BOLT, 5/16-18 x 2-1/2, GRADE 8
15	E012365	WHEEL BRACKET, ADJUSTABLE
16	E010141	NUT, JAM, 5/16"
17	E012284	FRONT END HOUSING, COMPLETE
18	E010459	BELT TENSIONER
20	E012285	WHEEL, 6", WITH BUSHING
21	E012368	NUT, JAM, 3/8-16
22	E012367	WASHER, FLAT, 5/16"
23	E012283	CASTER, SWIVEL WITH POST (PREDATOR MODEL ONLY)
24	E010135	WASHER, FLAT, 3/8" (PREDATOR MODEL ONLY)
25	E012470	NUT, LOCK, 3/8" (PREDATOR MODEL ONLY)
26	E010462	CASTER, SWIVEL, PLATE MOUNT
27	E010710	SCREW, FLAT HD SOCKET, 5/16-18 x 1
28	E012444	WASHER, FLAT, SAE, 5/16"
29	E010199	NUT, ELASTIC JAM, 5/16-18

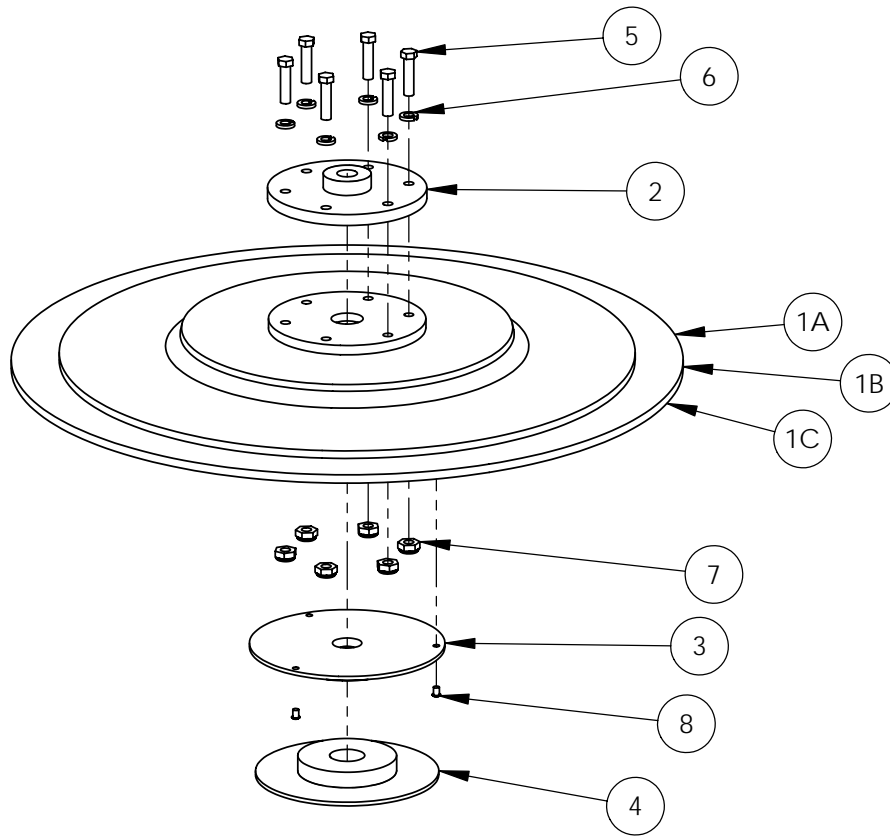




# HANDLE PARTS FOR KAWASAKI

ITEM NO.	PART NO.	DESCRIPTION
1	E012390	HAND GRIP (24") (NOT ON PREDATOR)
2B	E011226	UPPER HANDLE, KAWASAKI 12V START
3	E012406	BOLT, 1/2-13 x 1.75
4	E010723	WASHER, LOCK, 1/2
5	E012407	WASHER, FLAT, SAE, 1/2
6B	E012404	THROTTLE CABLE, KAWASAKI, 56"
6C	E012374	THROTTLE CABLE, KAWASAKI, OPTIMA LINE, 48"
7	E010724	NUT, LOCK, 1/4-20
8	E012408	WASHER, LOCK, STAR, 1/2
9	E010266	SCREW, 10-32 x 1.75 PPHMS
10	E012410	NUT, LOCK, 1/2-13
11	E010725	BOLT, 1/4-20 x 1.75
12B	E011223	LOWER HANDLE, KAWASAKI 12V BATTERY START
13	E012294	LATCH SCREW
14	E010726	FELT, 24"
15	E010727	FELT, 13"
16	E012366	WASHER, FLAT, 5/16"
17	E012445	NUT, LOCK, 5/16"
18	E010112	BOLT, 5/16-18 x 1.25
19	E010120	NUT, LOCK, 10-32
20	E012290	KEY FOR KEY SWITCH
21	E012291	SWITCH, KEY SWITCH
22	E010768	KEY SWITCH BOX AND COVER
23	E012466	RIVET, AAP54
24	E010724	NUT, LOCK, 1/4-20

# FLEX-LOC PAD DRIVER ASSEMBLY

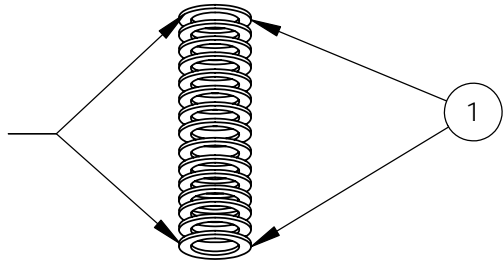


ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	E010250	1	FLEX-LOC 21
1B	E010250		FLEX-LOC 24
1C	E010251		FLEX-LOC 28
2	E010586	1	SHAFT TO PAD DRIVER COUPLING
3	E012517	1	CENTER-LOC 2 (COMES AS A SET 1 OF 2)
4	E012517	1	CENTER-LOC 2 (COMES AS A SET 2 OF 2)
5	E012247	6	BOLT, HEX, 5/16-18 x 1.25
6	E011505	6	WASHER, LOCK, 5/16
7	E011176	6	NUT, NYLOC, 5/16-18
8	E010118	3	RIVET, AAP64

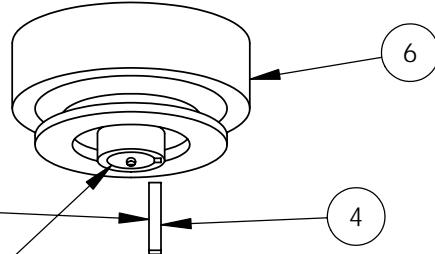
<b>COMPLETE PAD DRIVER ASSEMBLED (ALL PARTS SHOWN)</b>		
<b>BURNISHER SIZE</b>	<b>PART DESCRIPTION</b>	<b>PART NUMBER</b>
<b>21"</b>	<b>21" FLEX LOK COMPLETE ASSEMBLY</b>	<b>PE50028</b>
<b>24"</b>	<b>21" FLEX LOK COMPLETE ASSEMBLY</b>	<b>PE50027</b>
<b>28"</b>	<b>21" FLEX LOK COMPLETE ASSEMBLY</b>	<b>PE50039</b>

# CENTRIFUGAL CLUTCH OPTION

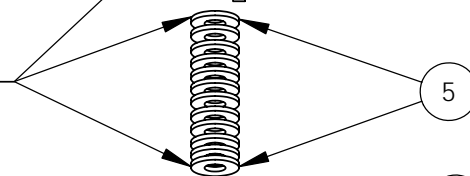
THE LARGER WASHERS ARE PUT ON THE ENGINE SHAFT SO THE CLUTCH IS PARALLEL TO THE TENSIONER AND PULLEY. THIS CAN VARY A LITTLE FROM MACHINE TO MACHINE.



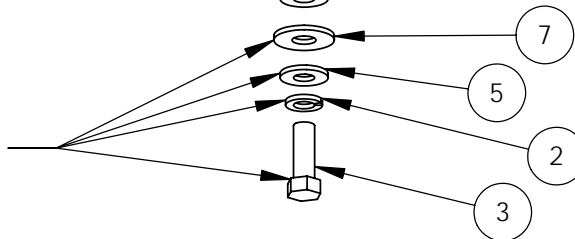
THE KEY IS INSTALLED AND THE CLUTCH IS PUSHED ON THE SHAFT.



THE INSIDE OF THE CLUTCH IS FILLED WITH 7/16 FLAT WASHERS UNTIL THEY ARE ALMOST EVEN WITH THE BOTTOM OF THE CLUTCH.

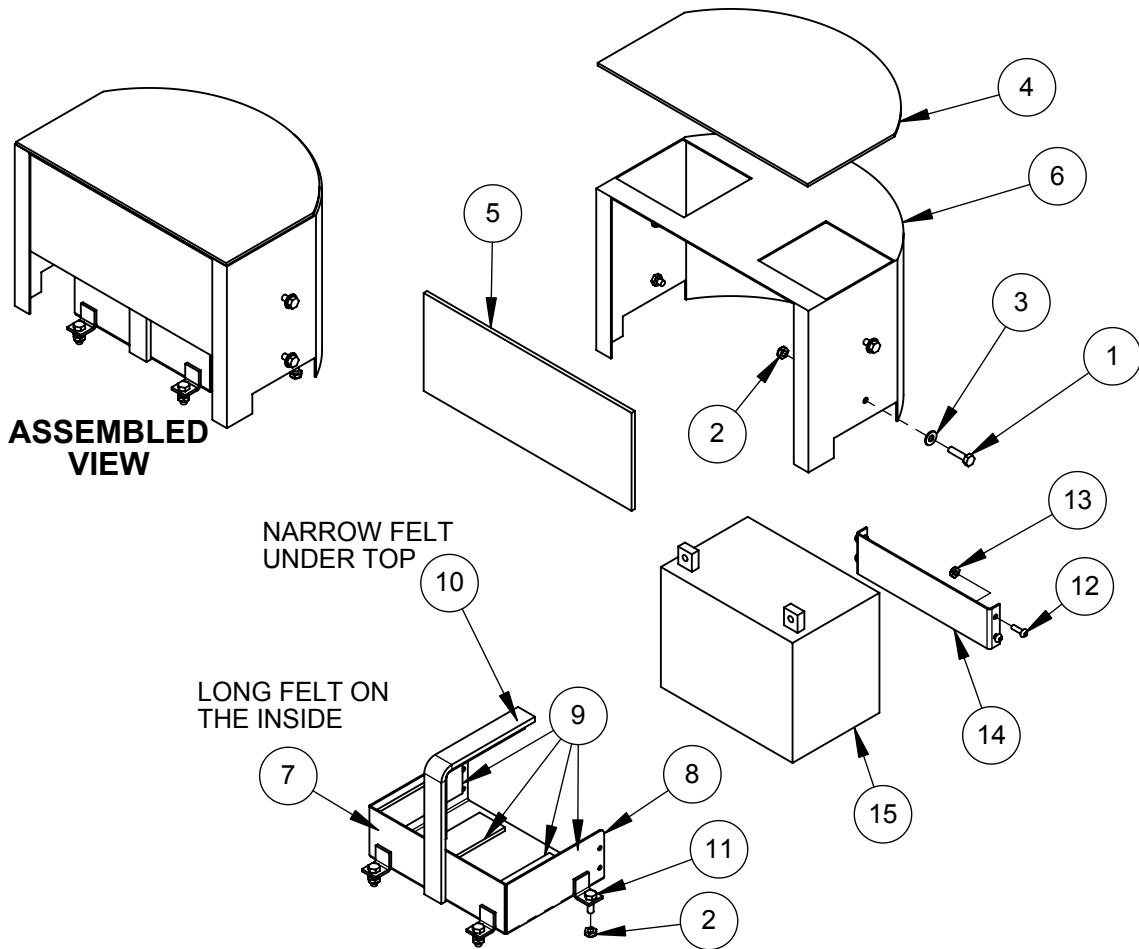


THE LARGER WASHER, FLAT WASHER, LOCK WASHER, AND BOLT ARE INSTALLED TO SECURE THE CLUTCH.



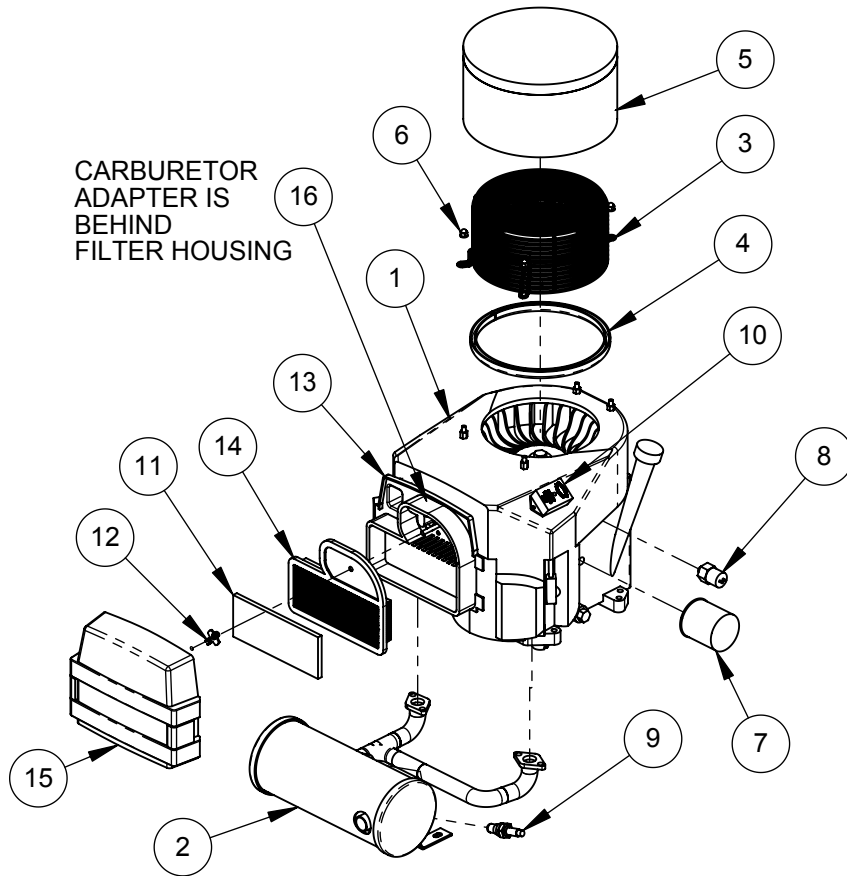
ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	E012427	15	WASHER, BUSHING, 1" ID x 14 GA
2	E012409	1	WASHER, LOCK, 7/16
3	E010598	1	BOLT, HEX HEAD, 7/16-20 x 1.75 UNF GR5
4	E011289	1	KEY 1/4 x 1/4
5	E012447	13	WASHER, FLAT, 7/16 SAE 68
6	E012434	1	CLUTCH, CENTRIFUGAL
7	E011501	1	WASHER, FLAT, 7/16 USS

# BATTERY TRAY AND BATTERY COVER



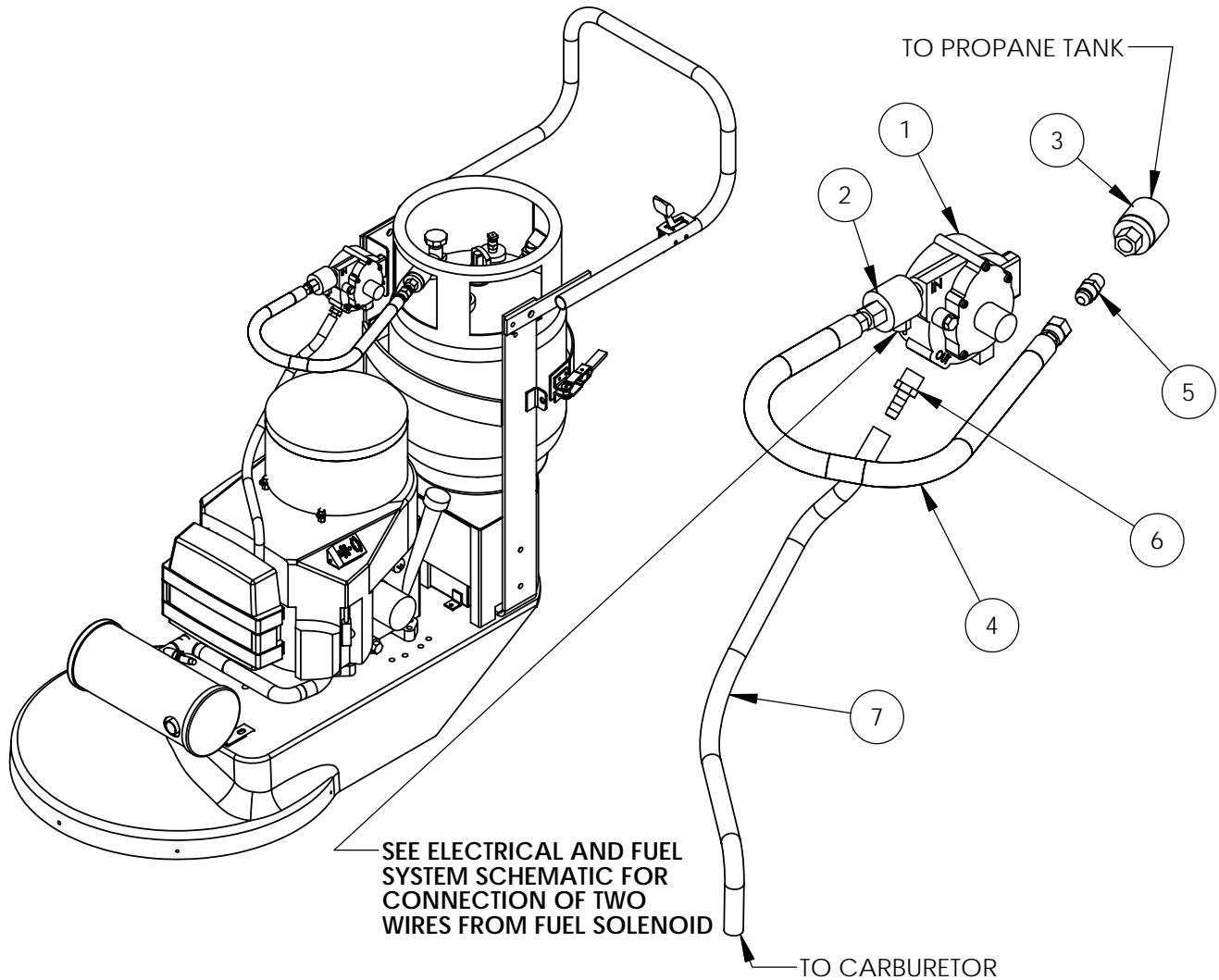
ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	E012248	4	BOLT, HEX, 1/4-20 x 1
2	E012242	8	NUT, NYLOCK, 1/4-20
3	E010717	4	WASHER, FLAT, USS, 1/4"
4	E010761	1	TANK PAD
5	E010760	1	BATTERY COVER BACK (PLASTIC)
6	E010758	1	BATTERY COVER FABRICATION
7	E010714	1	FELT, 1.5" x 7.5"
8	E010763	1	BATTERY TRAY WELDMENT
9	E010713	4	FELT, 1.5" x 5"
10	E010715	1	FELT, 0.75" x 7.5"
11	E011421	4	BOLT, HEX, 1/4-20 x 3/4
12	E010121	4	SCREW, 10-32 x .625 PHMS
13	E010120	4	NUT, NYLOCK, 10-32
14	E010765	1	BATTERY TRAY RETAINER BRACKET
15	E011287	1	BATTERY, 12V OLT POWERSONIC

# KAWASAKI ENGINE AND RELATED PARTS



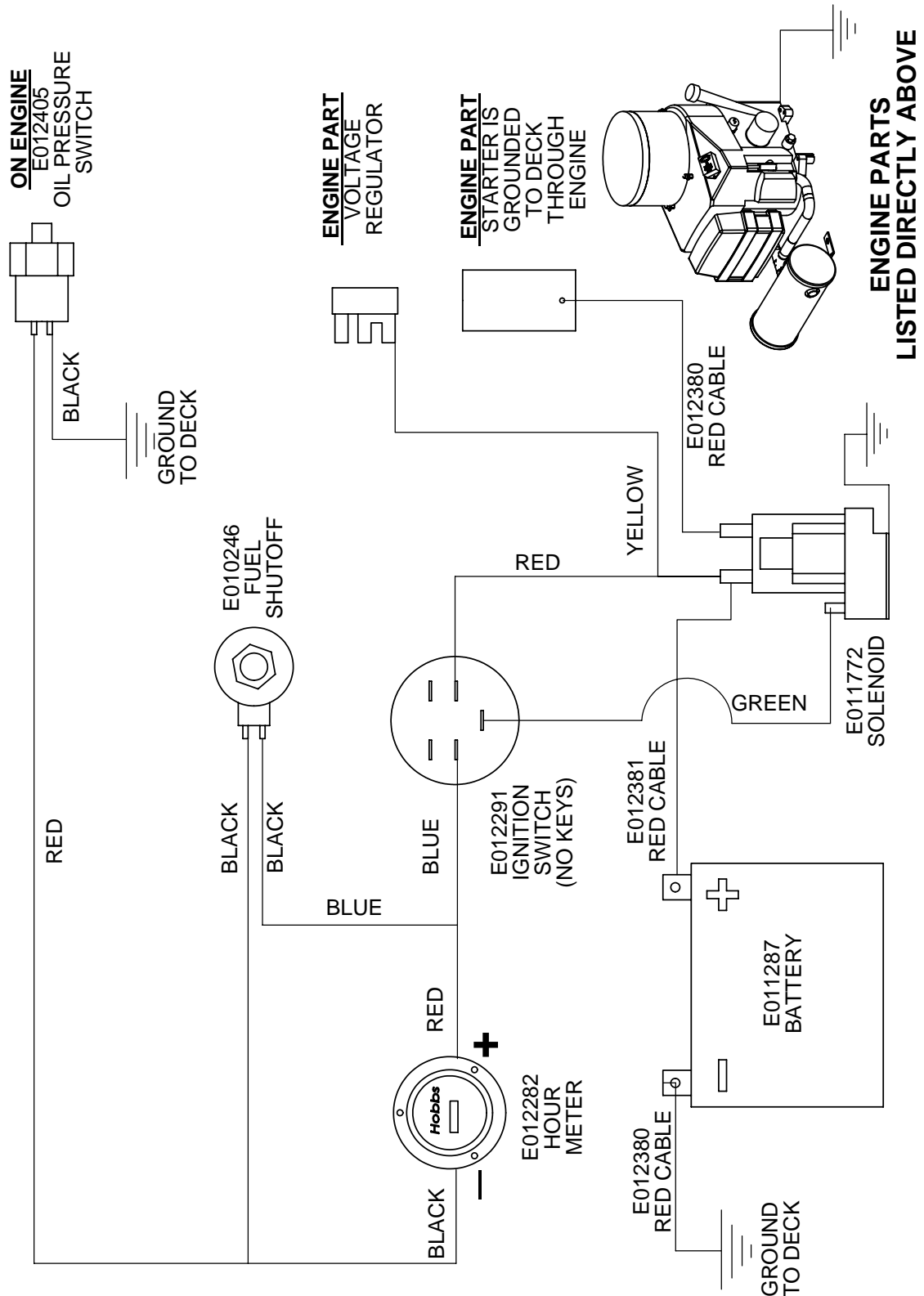
ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	E010925	1	KAWASAKI MOTOR FH541V 17HP
2	E010239	1	CATALYTIC MUFFLER WITH MANIFOLD
3	E010241	1	COOLING AIR INTAKE GUARD
4	E010243	1	EDGE TRIM
5	E012360	1	BONNET AIR FILTER NA40C
6	ENGINE PART	4	NUT, ACORN, 6mm
7	E012363	1	OIL FILTER
8	E012405	1	OIL PRESSURE SWITCH SM-19A-11R / WL415
9	E010249	1	O2 SENSOR, 4 WIRES
10	E010248	1	EMISSIONS SHUTDOWN MODULE (MODULE ONLY)
11	E012362	1	FOAM PRE-FILTER
12	ENGINE PART	1	NUT, FOR AIR FILTER
13	ENGINE PART	1	FILTER MOUNT
14	E012361	1	PAPER ELEMENT AIR FILTER
15	ENGINE PART	1	AIR FILTER COVER
16	E010244	1	CARBURETOR ADAPTER KIT (HIDDEN)

# FUEL SYSTEM KAWASAKI



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	E010746	1	FUEL REGULATOR MODEL T60-F-N
2	E010246	1	FUEL SHUT-OFF SOLENOID
3	E010751	1	TANK COUPLING, 7141F
4	E012359	1	STANDARD FUEL HOSE
5	E010082	1	UNION, HALF UNION, .375 x.25
6	E010080	1	HOSE BARB, 3/8 x 3/8
7	E010074	1	FUEL HOSE, 6 LOLA

# ELECTRICAL AND FUEL SYSTEM SCHEMATIC KAWASAKI STANDARD MODEL



# TROUBLE SHOOTING

PROBLEM	CAUSE	POSSIBLE SOLUTION
Engine will not turn over.	(a) Battery is dead. (b) Loose wire or bad connection. (c) Bad electrical component (Starter, solenoid, etc...)	(a) Recharge battery or replace if necessary. (b) Check wires and connections. (c) Replace bad component. Refer to engine owner's manual and read IMPORTANT below.
Engine turns over, but will not start.	(a) Tank valve in off position. (b) Propane tank empty. (c) Engine problem. (d) Fuel system problem.	(a) Turn on valve. (This is the first thing to check.) (b) Fill tank. (c) and (d) Refer to engine owner's manual and read IMPORTANT below
Hard to start.	Engine problem	Refer to engine owner's manual and read IMPORTANT below
Lacks power.	Engine problem.	Refer to engine owner's manual and read IMPORTANT below.
Engine stops suddenly and will not restart.	(a) Out of propane. (b) Low oil.	(a) Get propane (b) Add oil.
Engine stops suddenly and will restart, but then stops again. (Optima line of burnishers)	Emission shut-down system engaged.	Problem with engine or fuel system. Have serviced. Read IMPORTANT below.
Engine overheats.	(a) One of the air filters is dirty. (b) Incorrect oil level.	(a) Clean filters. (b) Add or remove oil to proper level.
Machine vibrates excessively	(a) Pan not centered (b) Pad damaged (c) Loose bolts	(a) Center pad (b) Replace pad (c) Check and tighten bolts
Machine hard to push or pulls left excessively	Front end bearing housing needs to be set up properly	Set up according to front end bearing housing set up
Nothing I find here fixes the problem.	Problem could have several causes. Everything cannot be covered here.	Read IMPORTANT below.

## IMPORTANT

- PROPANE FUELED COMBUSTION ENGINES PRODUCE DANGEROUS GASES AND MUST BE SERVICED BY AUTHORIZED SERVICE PERSONNEL TRAINED SPECIFICALLY TO SERVICE PROPANE FUELED ENGINES AND FUEL SYSTEMS.
- THE TROUBLE-SHOOTING TIPS ARE NOT INTENDED TO TAKE THE PLACE OF AUTHORIZED SERVICE PERSONNEL.
- IF YOU ARE UNSURE OF WHAT TO DO—THEN DO NOT DO ANYTHING, EXCEPT TO CONTACT AUTHORIZED SERVICE PERSONNEL.
- BEFORE WORKING ON THIS MACHINE, YOU MUST BE FAMILIAR WITH THE SAFETY INSTRUCTIONS IN THIS MANUAL.





## Betco Warranty Express Program™ Revised November 1, 2006

### 10 Year Coverage

Subject to the conditions stated below, Betco Corporation warrants parts and labor on rotationally molded polyethylene tanks/housings and injection molded vacuum head assemblies to be free from defects in materials and workmanship for a period of ten years to the original purchaser.

### 3 Year Coverage

Subject to the conditions stated below, Betco Corporation warrants parts and labor on all other Betco components to be free from defects in materials and workmanship for a period of three years to the original purchaser.

### 1 Year Coverage

Subject to the conditions stated below, Betco Corporation offers a limited warranty on parts and labor on the following equipment, parts and accessories to be free from defects in material and workmanship for a period of one year to the original purchaser.

- DM Series Vacuums:  
#85506-00, #85507-00
- Bac Pac Lite Vacuum:  
#85903-00
- FiberPRO® Floor Dryer:  
#85507-00
- WORKMAN™ Series Vacuums:  
#85024-00, #85025-00,  
#85026-00, #85027-00
- CV100T Vacuum:  
#85023-00
- All Tools and Accessories
- All Battery Chargers
- All Batteries are pro-rated for 1 year.

### **Allowable Travel Time Warranty Reimbursement:**

Eligible equipment: All battery and propane powered equipment products.

Warranty period: 90 days from date of sale to the original purchaser. A maximum 60 mile round trip at 44 cents per mile will be allowed for warranty consideration.

### **Propane Machine Warranty:**

Honda engines are warranted by Honda for a period of 2 years against manufacturer defect. Kawasaki engines are warranted by Kawasaki for a period of 2 years against manufacturer defect. All other components (except wear items)\* are warranted by Betco Corporation for a period of 3 years.

### **\*Wear items exempt from warranty consideration include but may not be limited to: power cords, transport wheels, vacuum bags, belts, squeegee blades, pad drivers, clutch plates, handle grips, filters, screens, throttle cables, brushes and carbon brushes.**

Subject to the conditions and exceptions stated in this warranty, Betco warrants the Betco products to be free from defects in material and workmanship, under normal use and service, for the periods listed under the warranty policy to the original purchaser. At any time during the warranty period, Betco will furnish replacement parts for the Betco products to the original purchaser. Such parts will be furnished and charged including transportation costs, to the original owner through any Betco authorized Service Distributor. If the original part is returned within the warranty policy period from date of delivery for inspection by Betco and is found to be defective, the owner will be credited for the cost of replacement parts plus shipping and handling. Replacement parts that have become defective through wear or abuse are not included in this warranty.

This warranty does not apply to damage or defect caused by accident, misuse, negligence, fire or to any Betco product which has been serviced or repaired by other than an authorized Betco Service Distributor or Betco factory personnel. This warranty is void if products are used for any purpose other than that which was intended. There are no other warranties expressed or implied. In no event shall Betco be liable for incidental or consequential damages or any damage to person or property. (Please note some states do not allow the exclusion or limitations for incidental and consequential damages.)