

NIGHTHAWK 20", 24" & 27"

PROPANE BURNISHERS

OPERATING & MAINTENANCE INSTRUCTIONS

INTRODUCTION

READ THIS BOOK

This operator's book has important information for the use and safe operation of this machine. **Read and understand the Engine Operator's Manual and this manual before starting the machine.** Keep this book and tell all operators to read the book. **If you do not follow the instructions, you can cause an injury or damage equipment, furniture or buildings.**

For new books write to:

Pacific Steamex, Inc.
2259 S. Sheridan
Muskegon, MI 49442-6252

Carefully inspect all components to ensure that there is no concealed freight damage. If such damage is discovered, file a "CONCEALED DAMAGE REPORT" immediately with the delivering carrier.

The contents of this manual are based on the latest product information available at the time of publication. Pacific Steamex reserves the right to make changes or improvements to its machines without notice.

**FOR YOUR CONVENIENCE, RECORD THE
MACHINE AND ENGINES MODEL AND SERIAL
NUMBERS HERE:**

MACHINE MODEL _____
MACHINE SERIAL NUMBER _____
ENGINE MODEL _____
ENGINE SERIAL NUMBER _____

TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS.....	3
OPERATING PROCEDURES.....	5
A. Check the Engine Oil.....	5
B. Properly Fill and Check LP Tank and Lines for Leaks.....	5
C. Connecting the HP Hose to LP Tank.....	5
D. Installing Pads.....	5
E. Starting the Engine.....	5
F. Stopping the Engine.....	6
G. Transporting the Machine.....	6
H. Storing the Machine.....	6
MAINTENANCE.....	6
A. Machine Maintenance.....	6
B. Changing the Drive Belt.....	6
C. Changing the Angle of Attack & the Head Pressure.....	7
NIGHTHAWK ILLUSTRATION GUIDE.....	8
PAD DRIVER ASSEMBLY.....	9
RAIL & HUB ASSEMBLY.....	10
HANDLE & THROTTLE ASSEMBLY.....	11
WHEEL ASSEMBLY.....	11
TANK ASSEMBLY.....	12
BRACKET ASSEMBLY.....	12
HANDLE BRACKET & HP HOSE ASSEMBLY.....	13
REGULATOR ASSEMBLY.....	13
STARTER ASSEMBLY.....	14
ENGINE.....	14
HONDA ENGINE DISTRIBUTORS.....	15
WARRANTY POLICY.....	16

IMPORTANT SAFETY INSTRUCTIONS

READ AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS BEFORE OPERATING THIS MACHINE!

WARNINGS:

1. DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS MACHINE.
2. NO SMOKING, NO SPARKS, NO FLAMES NEAR UNIT OR LP TANK.
3. OPERATE ONLY IN WELL VENTILATED AREAS. BUILDINGS MUST BE PROVIDED WITH :
 - A) A CONTINUOUS MECHANICAL VENTILATION THAT REMOVES THE PRODUCTS OF COMBUSTION TO THE OUTDOORS OF NOT LESS THAN 300 CFM FOR EACH 10,000 BTUH OR FRACTION THEREOF; OR
 - B) NATURAL VENTILATION OF NOT LESS THAN 300 CFM FOR EACH 10,000 BTUH INPUT OR FRACTION THEREOF, BASED ON A MAXIMUM OF ONE-QUARTER AIR EXCHANGE PER HOUR FOR THE NET BUILDING VOLUME.
4. IF YOU SMELL LP GAS, STOP THE UNIT AND CHECK FOR LEAKS. ALSO OPEN WINDOWS, DON'T TOUCH ELECTRICAL SWITCHES, EXTINGUISH ANY OPEN FLAMES. CALL YOUR GAS SUPPLIER IF NO LEAKS ARE FOUND.
5. DO NOT ADJUST THE FUEL SYSTEM WITHOUT THE PROPER ANALYSIS EQUIPMENT.
6. NEVER TURN THE UNIT ON ITS SIDE.
7. KEEP HANDS AND FEET CLEAR OF ALL MOVING PARTS.
8. TURN THE GAS OFF AT THE TANK TO KILL THE ENGINE.
9. REMOVE THE LP TANK AND STORE IT IN AN APPROVED AREA WHEN NOT IN USE. A "NO SMOKING" SIGN SHOULD BE PERMANENTLY DISPLAYED AT THE STORAGE AREA.
10. KEEP ALL OBJECTS CLEAR OF THE EXHAUST SYSTEM DURING AND AFTER OPERATION.
11. DO NOT LEAVE THIS MACHINE UNATTENDED WHILE THE ENGINE IS RUNNING.
12. WHEN THE LP TANK IS ATTACHED TO THE MACHINE AND NOT RUNNING, THE OPERATOR SHOULD NOT LEAVE THE MACHINE UNATTENDED EXCEPT FOR SHORT PERIODS OF TIME SUCH AS REST STOPS, WASHROOM OR MEAL STOPS.
13. THE OPERATOR MUST COMPLETELY UNDERSTAND ALL INSTRUCTIONS, WARNINGS AND OPERATING PROCEDURES BEFORE USING THIS MACHINE.
14. THIS MACHINE MUST BE MAINTAINED IN ACCORDANCE WITH THIS MANUALS RECOMMENDED MAINTENANCE INSTRUCTIONS AND THE ENGINE MANUFACTURERS RECOMMENDED MAINTENANCE PROCEDURES. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE MACHINE, EQUIPMENT, FURNITURE, BUILDINGS OR PERSONAL INJURY!

NOTES

OPERATING PROCEDURES

WARNING! Follow the instructions given in this booklet, the Engines Owners Manual and the training given by your supervisor for the safe operation of this machine. Failure to do so can result in personal injury and/or damage to the machine or property.

DO NOT OPERATE THIS MACHINE IN AN EXPLOSIVE ENVIRONMENT!

The NightHawk Propane Burnishers are intended for commercial use.

A. CHECK THE ENGINE OIL BEFORE EVERY OPERATION!

Make sure the machine is level when checking the oil. Always take 2 readings of the dip stick before adding oil. If the oil level is below the full mark, add just enough oil to the engine to bring the oil level up to the full mark. **Never over fill.** Follow the guidelines in your Engine Owners Manual. Check for foreign material on the dipstick.

B. PROPERLY FILL AND CHECK YOUR LP TANK AND ALL LP FUEL LINES FOR LEAKS!

1. Every tank we sell has been pressure and leak tested. However, **every time a tank is filled and/or connected to the machine it should be soap tested.** All LP lines must be pressurized and every inch of line and connections must be sprayed. If you find a leak, make the proper repairs before operating the machine. **NOTE:** The connection and disconnection of the LP tank must be done in a well ventilated area with NO source of ignition within 10 feet (3 meters) from the point of connection.

2. **Never over fill the LP tank.** Your buffer's LP tank is designed to hold just 20 pounds of propane. Make sure to weigh the tank as it is being filled. The gross weight of a full tank should not exceed 48 pounds. If while operating the machine you notice frost forming on the LP lines or the regulator, your tank has been over filled. If you continue to operate the machine in this condition damage will occur. The excess propane in the tank must be removed before normal operations resume. The bleeding of a propane tank should be done in a safe location outside the building. In some cases the regulator must defrost before restarting the engine.

C. CONNECTING THE HIGH PRESSURE HOSE TO THE LP TANK: Make sure the couplers are in line and screwed together hand tight (see page 13). If this is not done properly, fuel will not pass through to the regulator.

D. INSTALL A FRESH PAD BEFORE EVERY JOB; if not new, at least clean. To install a fresh pad, set the machine down in the rear. Unscrew and remove the yellow pad-centering ring. **See page 9, the "Pad Driver Assembly"**. Remove the old pad and center the new pad onto the pad driver. Reinstall the yellow pad-centering ring. Never "flip" a pad. Keep the same side down throughout the life of the pad. Even after a pad is cleaned, you can tell the down side by the centering ring indentation. This practice will increase the pad life and help maintain a properly functioning pad driver. **NEVER TILT A MACHINE ON ITS SIDE!**

E. STARTING THE HONDA ENGINE.

1. Make sure you have completed items A,B,C and D above. Also make sure the fuel is on at the tank. Set the machine down in the rear. If your unit is equipped with a centrifugal clutch, set down is not necessary.
2. Push the throttle lever all the way forward to engage the choke (see page 11).
3. Plug the starter cord into a 115-volt outlet (page 14).
4. Push the starter button.
5. When the engine starts, release the starter button and adjust the throttle back to a high idle. Unplug the cord.
6. Lower the buffing deck to the floor and set the throttle to the desired buffing speed. **Always keep the machine moving while the pad is touching the floor.**
7. Keep hands, fingers and feet clear of all moving parts while the machine is in operation.

OPERATING PROCEDURES

F. STOPPING THE ENGINE.

1. Pull the throttle back and low idle the engine.
2. Turn the propane tank valve clockwise to a closed position.

NOTE: The exhaust system will be very hot and takes several minutes to cool, so keep yourself and all materials clear!

G. TRANSPORTING THE MACHINE.

1. The tank should be securely fastened.
2. The tank valve must be closed.

The transport area should be well ventilated

H. STORING THE MACHINE.

1. The engine should be stopped properly and the tank valve closed.
2. Remove the LP tank from the machine and store the tank in an approved area.
3. Store your machine in a safe area: away from enclosed high heat, away from sparks or flames, away from traffic lanes of heavy equipment.

REFER TO SAFETY INSTRUCTIONS!

MAINTENANCE

A. MACHINE MAINTENANCE

1. Change the oil and filter according to the Honda Engine Owners Manual. Change the oil at the first 20 hours of operation. Thereafter, oil should be changed at 50-hour intervals.
2. Grease the wheels every 50 hours of operation.
3. Keep the cooling air filter (on top of the engine) clean at all times. Wet clean it at the end of every use. Never operate the machine unless the filter is clean and properly installed.
4. Each week wet clean the carburetor foam pre-filter with soap and water. Blot dry with paper towels and reinstall. Do not treat this filter with oil. Never operate the unit unless the paper element and the pre-filter are properly installed. Install a new paper element every 200 hours of operation.
5. Clean the entire unit after each use.
6. When cleaning the unit, check for possible loose nuts and bolts.
7. Check the pad driver weekly for rigidity and wear. Replace the harpoon face as needed.
8. Check the bearing hub shaft and bearings weekly. If the shaft shows any looseness, the bearings and possibly the shaft must be replaced.

Remember that being safe is a full-time, every day job. Follow all information posted on the machine and the LP tank.

9. Soap test for LP leaks at least every time you install a fresh LP tank. To do this test properly, the LP lines must be pressurized and every inch of line and connections must be sprayed. If you find a leak, make the proper repairs before operating the machine. Also see Item B under Operating Procedures.

Never allow anyone to operate this machine that has not read or cannot understand the given instructions.

B. CHANGING THE DRIVE BELT.

1. The engine should be off and the machine level with the floor.
2. Remove the front cover (7/16-inch wrench).
3. Loosen only (do not remove) the 4 hub plate mounting bolts (3/4-inch wrench). These are the front 2 bolts located on the right and left sides of the main frames above the hood. The third bolt on either side mount the push bar and should not be loosened.

B. Changing the Drive Belt Continued.

4. Turn the 2 tension rods counter clockwise equal turns until you can push the bearing hub plate to the rear (3/4-inch socket).
5. Remove the old belt and install the new one.
6. Tension the new belt by reversing step #4. The belt should be just tight enough to not slip or squeal. Care must be taken not to over tension the belt. Over tension will cause premature bearing wear.
7. Retighten the 4 bearing hub plate mounting bolts.
8. Replace the front cover.

C. CHANGING THE ANGLE OF ATTACK (PAD TO FLOOR) & THE HEAD PRESSURE.

If the machine has been dropped or you notice a distinct increase in the torque during operation, this adjustment may be needed. For this operation, you will need: a 3/4-inch wrench, a new pad installed on the machine, a framing level, a wood block and shims, and a level floor

area on which to set the machine. The end results of this operation should be a machine with framework that sets slightly low in both the rear and on the right side. The right frame should be 1/8-inch lower than the left frame at the wheel bracket point. You may measure the distance from the top of the axle plate to the top of the main frame to establish this difference. The 1/8-inch variance from the left to the right is critical for level buffing and ease of operation. If the difference is increased (more than 1/8-inch), torque relief will increase but level buffing will decrease; you will shine harder on the right side of the machine than the left. If the difference is decreased (less than 1/8-inch), torque relief will decrease and level buffing will increase. The machine will be harder to operate. When you get it right, the machine will deliver good level buffing with a minimum of operating effort.

1. Install a new pad onto the machine.
2. Place the machine onto a level floor area.
3. Remove the LP tank.

4. Place the wood block and shims under the tails of the right and left main frames of the machine; enough to slightly raise the wheels from the floor.
5. Loosen the right and left axle brackets, two bolts each.
6. Level the left main frame with the framing level. You will need to remove the wood shims as this is done. Tap the wheel up or down as needed to maintain floor contact. The frame should be slightly low in the rear (about 1/4 inch below level at the tail).
7. When this measure is achieved, tap the left wheel to the floor and tighten the mounting bolts.
8. Now measure the distance between the top of the left wheel bracket and the top of the left main frame.
9. Subtract 1/8-inch from the measurement in step #8. Set the right wheel bracket to this new measurement.
10. Tighten all wheel bracket mounting bolts and remove the wood block and shims.

If the unit seems to over torque after a test run, you may correct this problem by simply raising both wheel brackets equal amounts. This adjustment changes the angle of attack pad to floor and should be made in small 1/8-inch increments. Always keep the right frame 1/8-inch lower than the left at the wheel bracket point.

If you desire to increase the head pressure of your unit, simply move the right and left axle brackets to the rear equal amounts. Make this move in 1/2 inch increments. Test run the unit after each adjustment until you reach the desired head pressure. If you find that you have increased the head pressure and increased the torque, the torque may be decreased by raising both the right and left wheels equal amounts. The wheel system on this unit is designed for the professional. There are enough adjustments to make the machine buff any way you want. The ability to control the head pressure and angle of attack are advantageous to level buffing, ease of operation, and superior pad life.

NIGHTHAWK



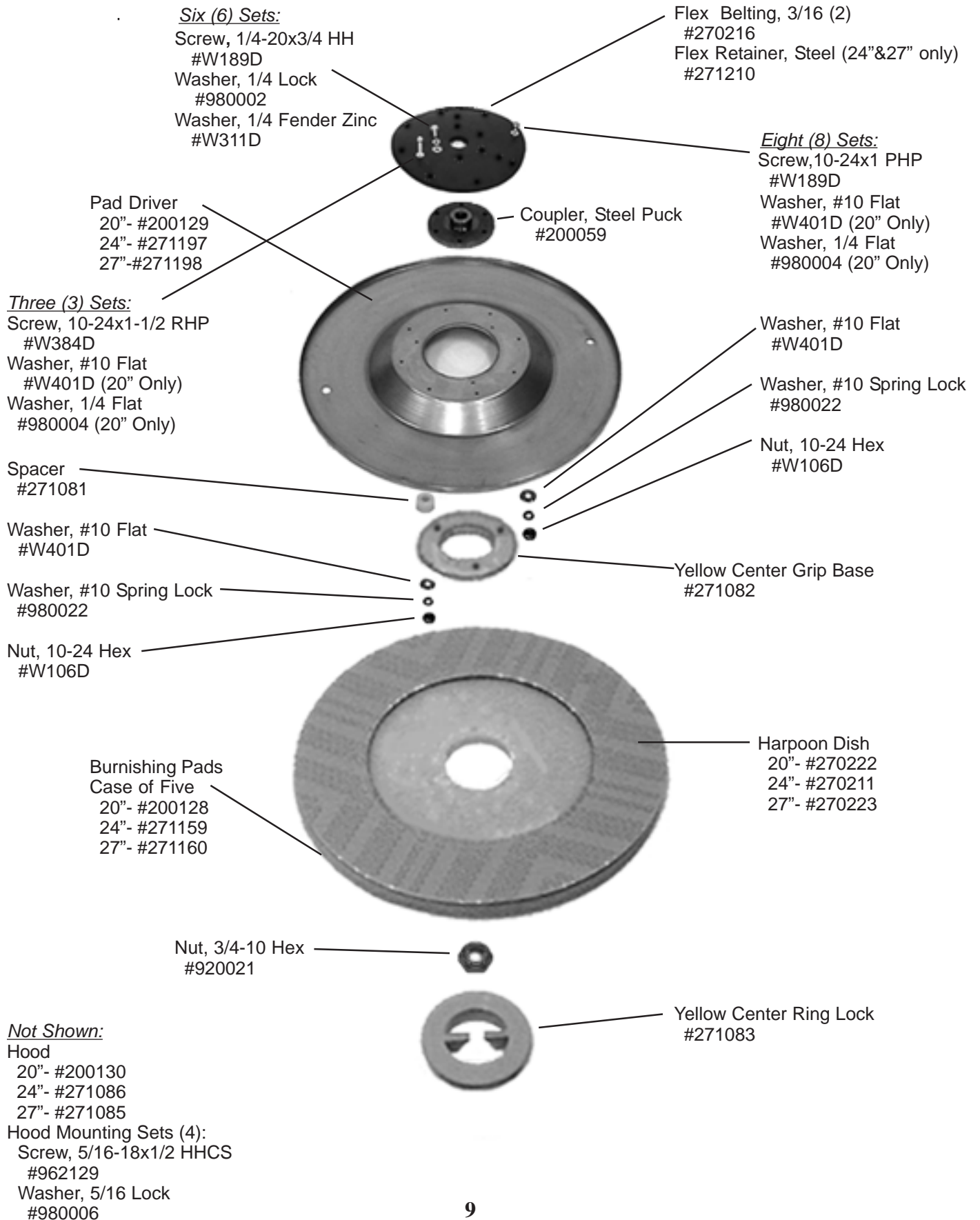
MACHINE DESCRIPTION:

NightHawk 20" with 11 HP Honda Engine
NightHawk 20" with 13 HP Honda Engine
NightHawk 24" with 13 HP Honda Engine
NightHawk 27" with 13 HP Honda Engine

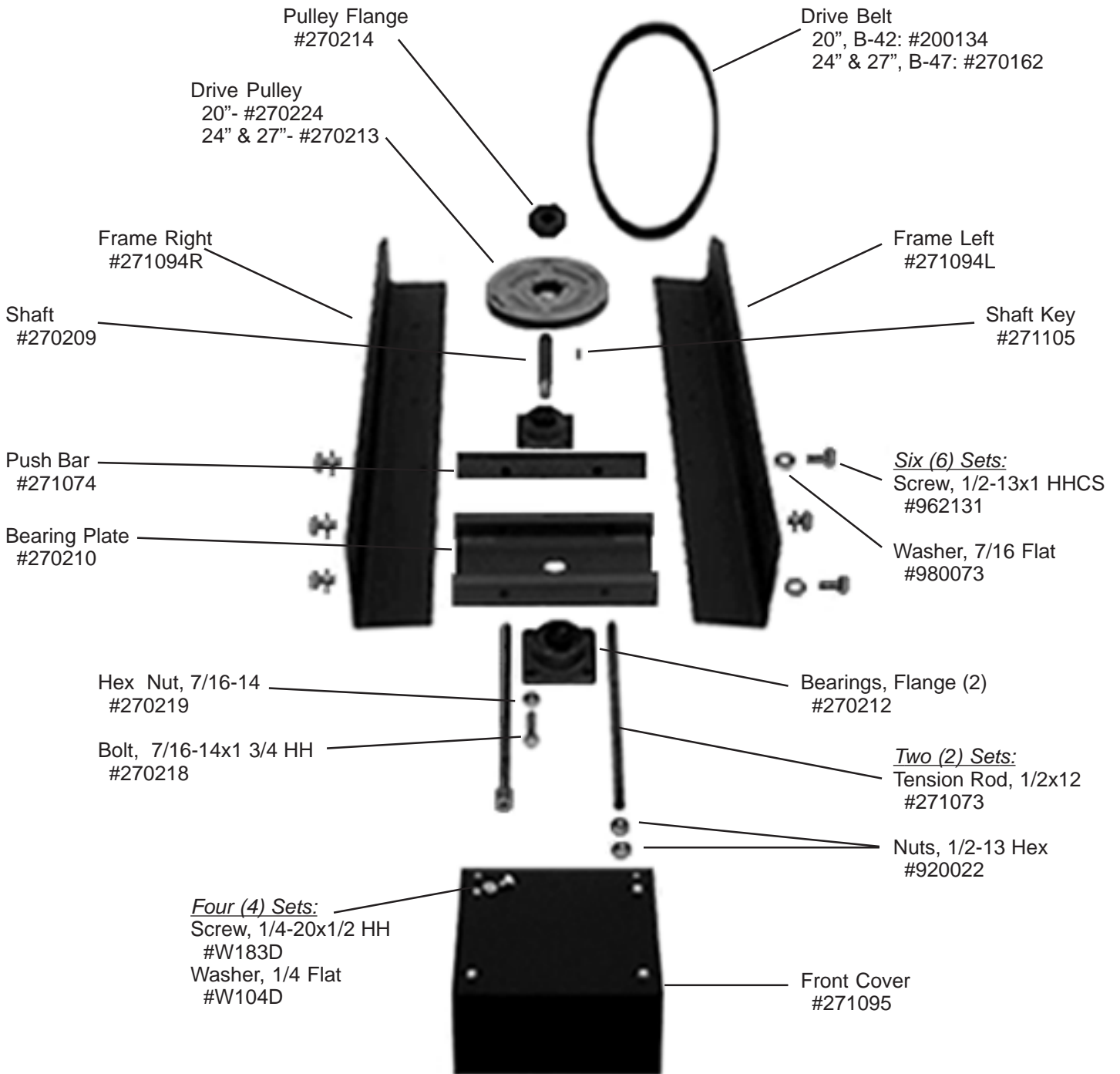
PART NUMBER:

275414
275415
275417
275420

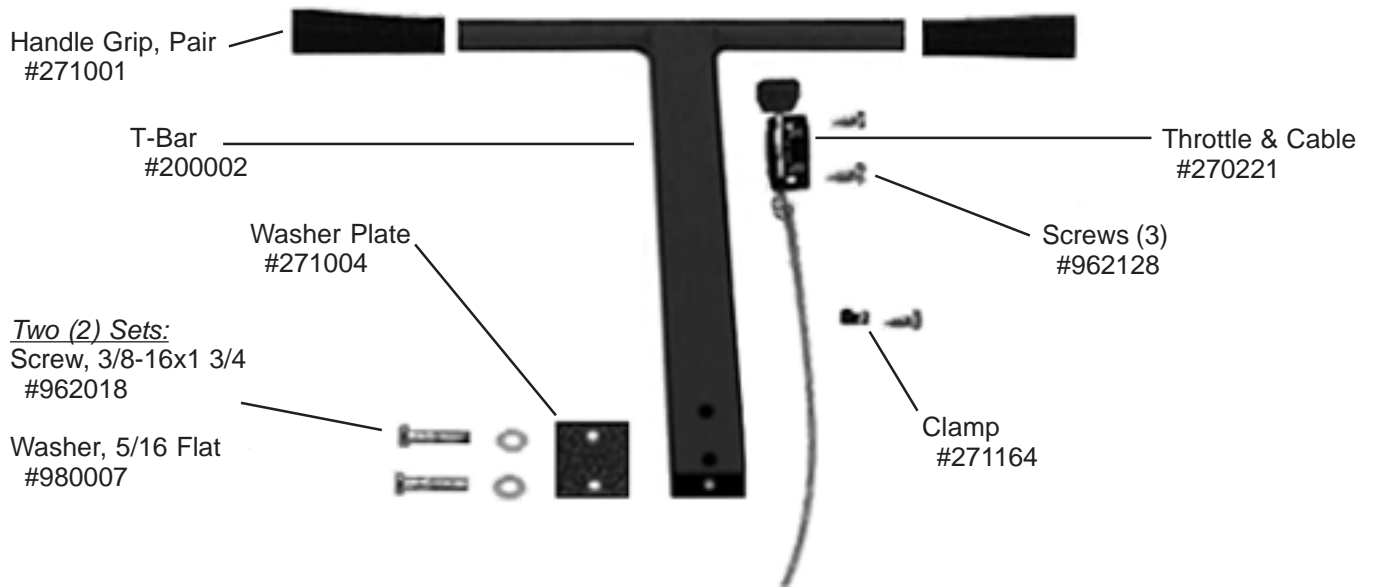
PAD DRIVER ASSEMBLY



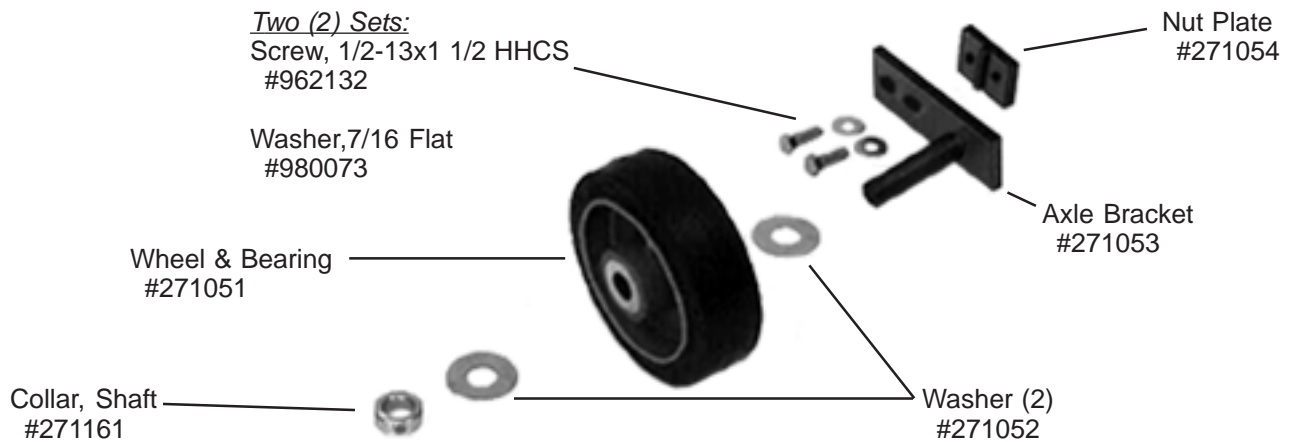
RAIL & HUB ASSEMBLY



HANDLE & THROTTLE ASSEMBLY



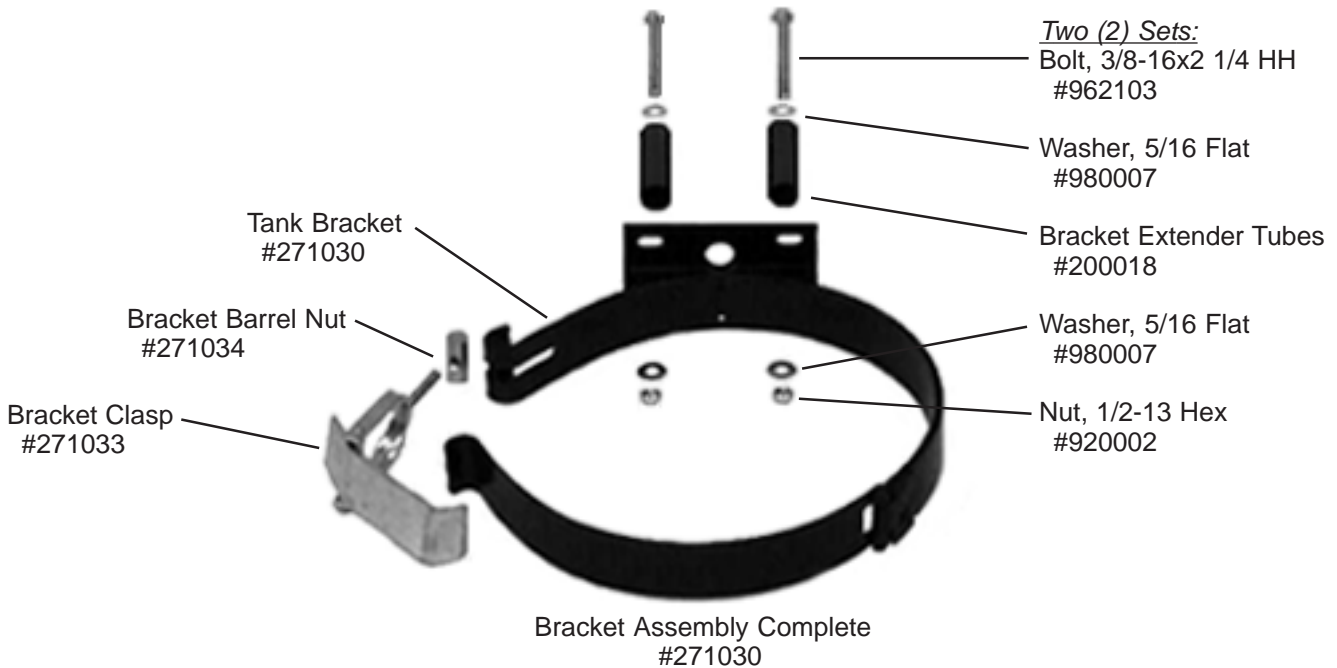
WHEEL ASSEMBLY



TANK ASSEMBLY



BRACKET ASSEMBLY



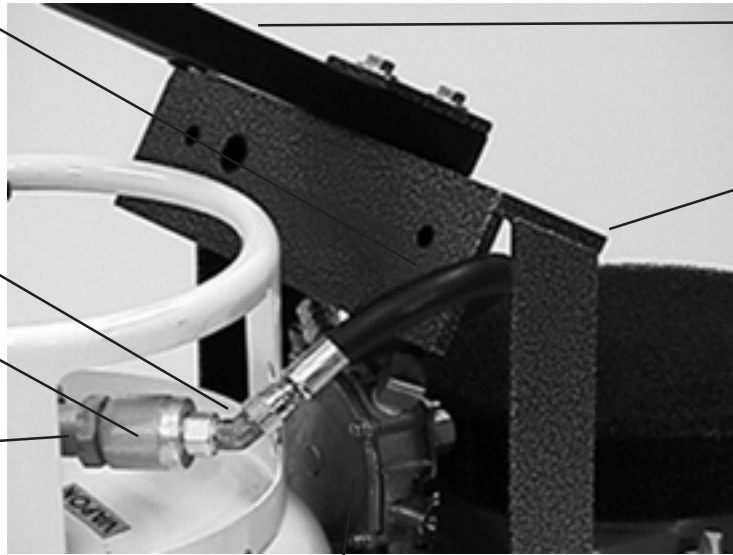
HANDLE BRACKET & HP HOSE ASSEMBLY

High Pressure (HP) Hose
(Tank to Regulator, 12")
#271050

Elbow, 1/4 MPTx3/8M 45
#271170

Female Coupler
#271048

Male Coupler
#271047



T-Bar
#200002

Handle Bracket
#271019

*Not Shown,
Four (4) Sets:*
Screw, 3/8-16x1 1/4
#271020
Washer, 5/16 Flat
#980007
Nut, 3/8-16 Hex
#920002

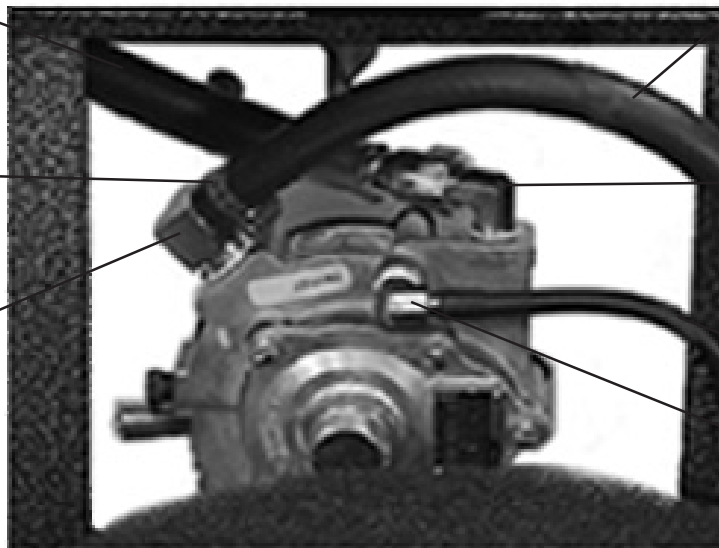
Regulator
#200019

REGULATOR ASSEMBLY

High Pressure Fuel Hose
#271050

Hose Clamp (2)
(Each end of LP Hose)
#S453P

LP Hose Fitting
#203361



Low Pressure Fuel Hose
#200026

Elbow,
1/4 MPTx3/8M 90
#271173

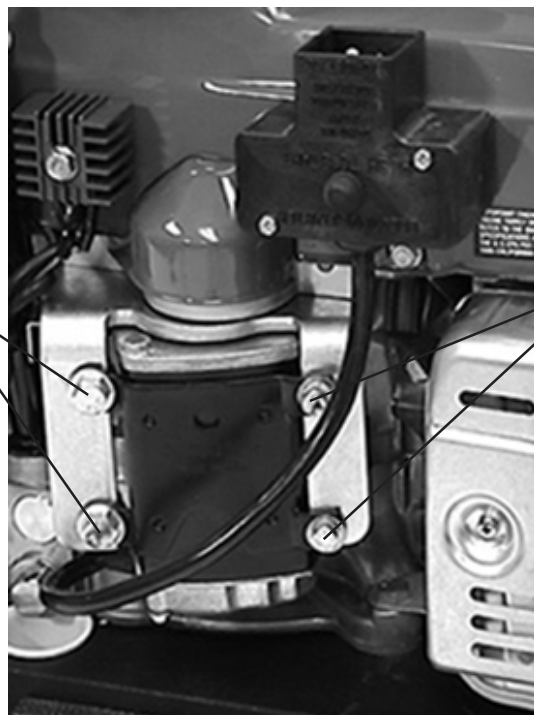
Vacuum Hose, 5/32
#200028

Elbow, 1/8MPTx1/4
#200023

Regulator
#200019

STARTER ASSEMBLY

**Starter, AC
#200083**



Starter Mounting Kit, 2 Sets:

- Screw, 5/16-18x1 HH #962021
- Washer, 1/4 Flat #980004 (BRACKET)
- Washer, 1/4 Flat #980004
- Washer, 5/16 Lock #980006
- Nut, 5/16-18 Hex #920003

Starter Mounting Kit, 2 Sets:

- Screw, 6MM-1x20MM HHCS #270217
- Washer, 1/4 Lock #980002
- Washer, 1/4 Flat SAE SS #W104D (BRACKET)

ENGINE

Cooling Filter:

- #270236 (11 HP Honda)
- #270237 (13 HP Honda)

Paper Air & Pre-Cleaner

- #270238
- Air Pre-Filter Only #270239

Engine Mounting Bolts:

Left Side

- Two (2) Sets:
- Screw, 5/16-24x1 HHCS #200081
 - Washer, 1/4 Flat #980004
 - Washer, 5/16 Lock #980006

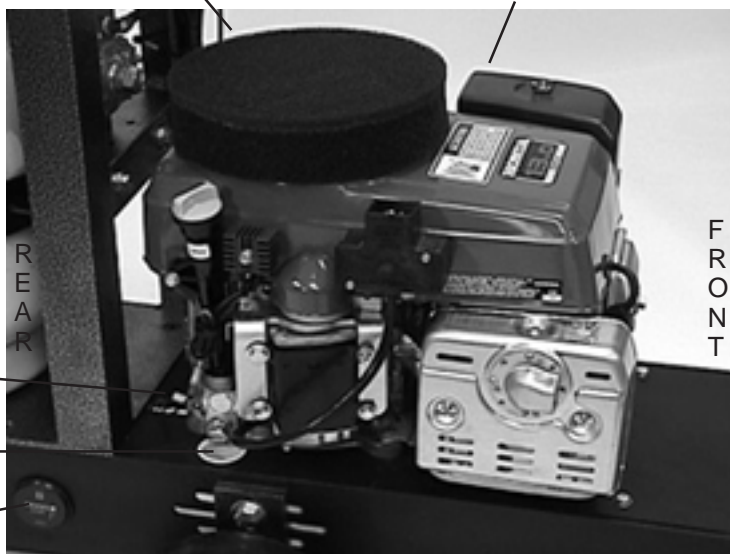
Ring Terminal #271192

Bushing, Oil Drain #200070

Hour Meter #271099

Meter Leads (2):

1. #271101 positive lead w/male bullet terminal #271189.
2. #271101 negative lead connected to ring terminal #271192 (located above).



Right Side View

Engine Mounting Bolts:

Right Side

Front Set (1):

- Screw, 5/16-18x1 1/2 HH #962049
- Washer, 1/4 Flat #980004
- Washer, 5/16 Lock #980006
- Nut, 5/16-18 Hex #920003

Rear Set (1):

- Screw, 5/16-18x2 HH #W206D1
- Washer, 1/4 Flat #980004
- Washer, 5/16 Flat #980007
- Washer, 5/16 Lock #980006
- Nut, 5/16-18 Hex #920003

Engine:

- 11 HP Honda (20" only) #200080
- 13 HP Honda (20",24"&27") #270220

Engine Pulley, BC-34

- #200084
- Key #271105

NOTES

WARRANTY POLICY

PACIFIC STEAMEX INC. LIMITED WARRANTY

This **Pacific Steamex** Inc. Industrial Maintenance Machine has been manufactured, tested and inspected in accordance with specific engineering requirements and is WARRANTED to be free from defects in workmanship and materials for periods as follows from the date of purchase:

Two (2) years-Honda Engine

One (1) year-all other items unless excluded.

This warranty extends to the original user/purchaser and only when used, operated and maintained in accordance with **Pacific Steamex** Inc. Operating and Maintenance instructions.

This warranty does not apply to certain wear parts and accessories of the machine such as filters, belts, pad drive face, pad centering devise, etc., nor does it apply to damage or failure caused by improper use, abuse or neglect. Warranty credit or replacement of return parts including wheels, shafts, etc., is subject to incoming inspection of those items.

To secure repair under this warranty, the following procedure should be taken:

1. The inoperative machine or warranted parts must be delivered to the authorized dealer with shipping and delivery charges prepaid. If unable to locate the Dealer, you may contact **Pacific Steamex** Inc. at the address listed herein for the location of the nearest **Pacific Steamex** Inc. repair center or agent or for other instructions pertaining to your warranty difficulty.
2. For Engine Warranty repair deliver the machine to the nearest Honda Warranty Service Center (reference page 15).
3. Upon compliance with the above warranty procedure, all warranted repairs will be completed at no additional charge or cost to the user.
4. Only **Pacific Steamex** Inc. or its authorized dealers and agents may make no charge warranty repairs on this product. All others do so at their own risk.

This warranty limits **Pacific Steamex** Inc. liability to the repair of the product and/or warranted parts replacement and does not include incidental or consequential damages arising from the use of a **Pacific Steamex** Inc. machine whether defective or not.

This warranty is in lieu of all other expressed or implied warranties and is extended to the original purchaser/user.

PACIFIC STEAMEX, INC.

2259 S. SHERIDAN

MUSKEGON, MICHIGAN 49442-6252

800-968-1332

FAX 1-800-863-9536