



Wyco High-Cycle Vibrator Operator's and Service Manual

READ ALL SAFETY PRECAUTIONS BEFORE OPERATING

- 1. POWER EQUIPMENT:** Make sure that the power supply equipment complies with the relevant safety requirements of the local and international standards.
 - Electric Machine: Operator must ensure that the machine is connected to the correct voltage and frequency specified on the nameplate. The power supply cable has to be properly sized. Check that the cable and the plug of the machine are not damaged.
▲WARNING: Never switch off the machine by pulling the plug from its socket. Use the machine switch.
 - Machine Powered By Gas or Diesel Engine: Gas has an extremely low flash point and can be explosive in certain situations.
▲WARNING: Keep away from all hot or spark generating objects, do not smoke when handling fuel. Wait until the machine has cooled before filling the tank. Avoid spilling gas or diesel fuel on the ground.
- 2. GENERAL SAFETY INFORMATION & EQUIPMENT:** Long time exposure to loud noise without ear protection can cause permanent damage to hearing. Long time exposure to vibration can cause damage to the hands, fingers & wrists. Do not use the machine if you are experiencing discomfort, cramps or pain. Consult a doctor before working again with the machine. Always use approved safety equipment. The following safety equipment applies to operators and other personnel in the immediate vicinity of the working zone.
- 2. SAFETY INFORMATION & EQUIPMENT (cont'd):**
 - Safety Helmet
 - Ear Protection
 - Dust Mask (dusty environments)
 - Protective Gloves
 - Protective Shoes
 - Eye ProtectionTo avoid the risk of clothing being caught in the machine, avoid wearing loose-fitting clothes. If you have long hair, cover it with a hair net.
- 3. MACHINE KNOWLEDGE:** Before starting the equipment make yourself familiar with the machine and make sure that the machine does not show any obvious faults or wear. Then start the machine according to the instructions and spare parts catalog.
- 4. OPERATION:** Use the machine only for the purpose for which it is intended. Make sure you know how to stop the machine quickly in the event of an emergency situation. Do not touch rotating parts during operation.
- 5. MAINTENANCE:** Maintenance work must only be carried out by a skilled operator. Keep unauthorized people away from the machine. Do not carry out maintenance work while the machine is moving or while the engine is running. Never use a machine that is damaged.
- 6. BE ALERT:** Always concentrate on what you are doing. Use common sense and never operate the machine if you are tired or under the influence of drugs, alcohol or other substances which can affect your vision, reaction time, ability or judgement.

Manufacturers Limited Warranty

The WYCO Tool Company warrants that the products manufactured by it, when properly installed, used and maintained, shall be free from defects in material or workmanship, and will perform according to the manufacturer's specifications under normal conditions, subject to the limitations stated in this Manufacturer's Limited Warranty.

WYCO's obligation under this warranty shall be limited to repairing or replacing the part or parts, or, at WYCO's option, the products which prove defective upon return to the manufacturer's factory. Cost of transportation and other expenses connected with replacing parts are not covered.

WYCO's obligation under this Warranty is limited to a period of 18 months from the date of shipment, or 12 months from the date of purchase by the first user of the product, whichever is longer.

Written authorization from WYCO is required before any product can be returned for warranty consideration.

WYCO is not liable for any consequential damages or any contingent liabilities arising out of the failure of product manufactured by it, or any component part or accessory.

This Manufacturer's Limited Warranty is in lieu of all other warranties. All other warranties, either express or implied, arising by operation of law, course of dealing, usage of trade or otherwise are excluded.

THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PURPOSE.

No agent, representative or distributor has any authority to alter the terms of this warranty in any way.

SAVE THESE INSTRUCTIONS

DISASSEMBLY INSTRUCTIONS

VIBRATOR HEAD:

- Hold square head (1) in a vise, leaving the stator housing (10) tilted up so any oil will remain in the head and not leak out when separated.
- Unscrew the stator housing (10) from the square head (1) using a girth grip wrench and slowly remove it making sure that the motor rotor (6) stays connected to the head.
- Remove the rotor assembly from head housing by pulling on the motor rotor (6).
- Replace the following parts each time the vibrator head has been disassembled:
 - 2 Bearings (4)
 - Motor Rotor Bearing (7)
 - Head Oil (See Page 4)
- To remove bearings (4)(7) from rotor (5) hold rotor in place using a vise on the fin of the rotor.
- Loosen hex jam nuts (2)(8) and the motor rotor (6) and pull bearings off. **Note:** These threads are all left hand.
▲ WARNING: Never hold the motor rotor on the field (the raised middle section) as this will permanently damage the motor rotor.

SWITCH:

- Hold switch housing (26) in a vise with four screws facing up. **Note:** Do not over-tighten housing in the vise as it may damage the housing or internal parts.
- Loosen the four screws and lift the back plate off to allow access to the switch and wires.
- Loosen the screws that hold the wires to the switch and remove the wires from the switch. **Note:** Green wires are spliced with connector and remain in place.
- Loosen the two screws that hold the switch to the housing and remove the switch.

PLUG:

- Slide rubber boot off back of plug housing.
- Loosen two screws holding the cord to the plug housing.
- Loosen two screws holding the plug end in the housing.
- Slide the wire and plug end out to allow access to the individual wire connections.
- Loosen the four screws and slide the wires out of their proper termination points.

ASSEMBLY INSTRUCTIONS

VIBRATOR HEAD:

- Before re-assembly be sure to clean the inside and the outer threads of the head housing (1) and rotor (5) to remove dirt, oil and any impurities that may be present. Also clean the inside threads of the stator housing (10).
- Check the condition of the stator (9) and inside the stator housing (10), looking for chips in the epoxy coating and excessive wear on the inside of the stator. **Note:** Removal of stator from housing is not recommended since it has a tight press fit. If needed you can purchase parts separately or as a kit (See Page 3).
- Refill with proper amount of Wyco #514-O non-foaming vibrator oil (Wyco #655140):
#1000 - 60mL #1300 - 70mL #1600 - 80mL
- Reverse disassembly procedures. **Note:** When re-assembling parts be sure to use loctite 242 on all threads that retain bearings and use loctite 545 on threads holding the head (1) to the stator housing (10).
- Before running repaired unit be sure to check clamps, protective hose, wire, switch assy and plug for any defects or damage. (See Checklist on Page 4)
- After unit has been successfully repaired and tested according to checklist, flip switch to the "ON" position. Insure that unit is running properly by checking speed with tachometer and listening for a constant, high and even pitch.

SWITCH:

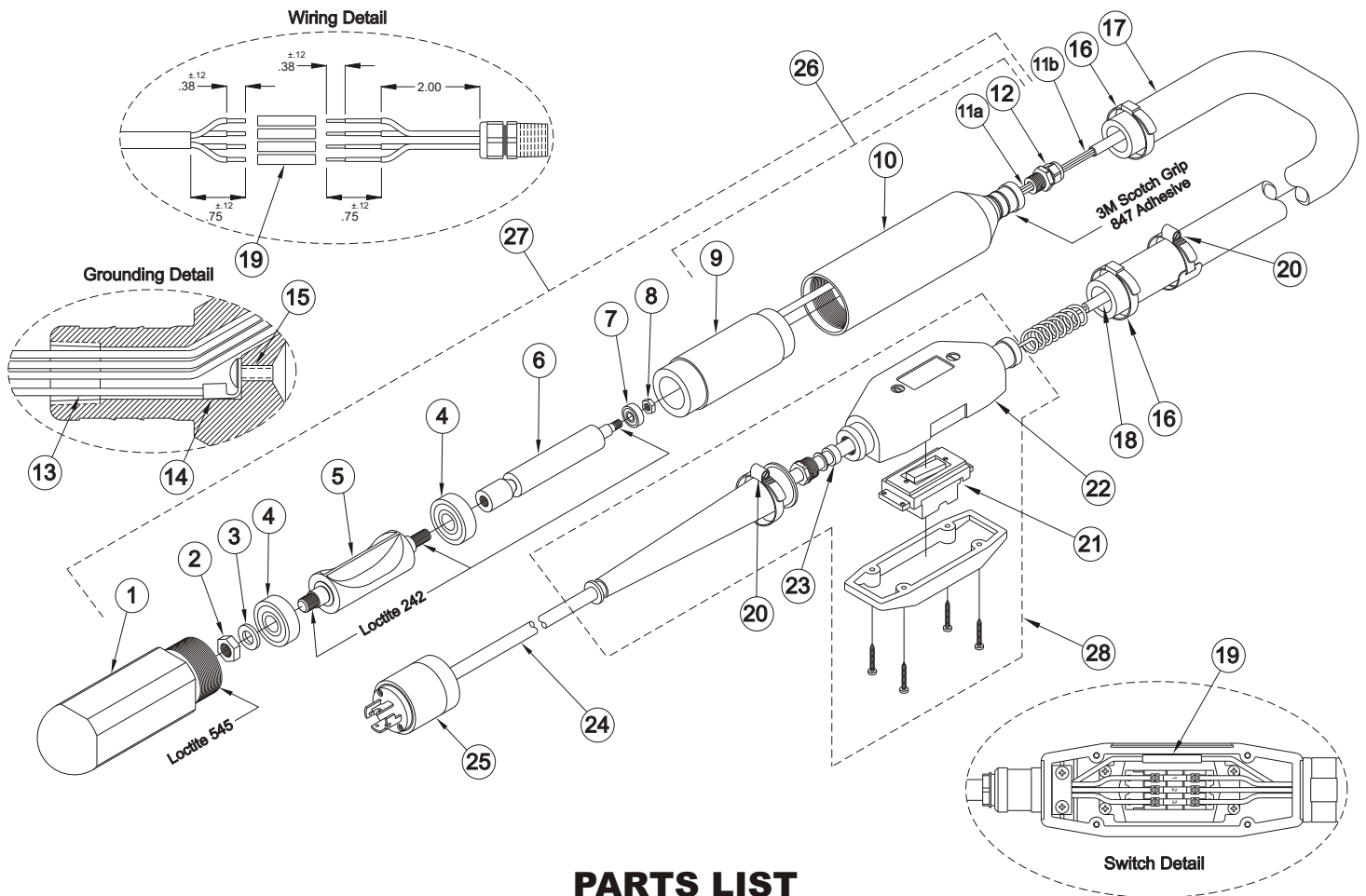
- Before re-assembly be sure to inspect the housing for damage and also clean inside the housing to remove dirt, oil and any other object that may cause a short. **Note:** You can purchase the nipple (23), gasket (24), rocker switch (25) and switch housing (26) separately for repairs or buy the switch assy kit (31) complete.
- Reverse disassembly procedures. **Note:** When re-attaching wires to switch use following wiring:
Red from Plug & Black #1 from Head to terminal 1
White from Plug & Black #2 from Head to terminal 2
Black from Plug & Black #3 from Head to terminal 3
Green Wires are spliced together inside the switch (See Page 3 - Switch Detail)

PLUG:

- Before re-assembly of the plug be sure to inspect the wires for cuts in the insulation, loose wire strands or other conditions that may cause a short. **Note:** Do not over-tighten screws to wires or housing as this will strip threads or damage the plug, rendering it unuseable.
- Reverse disassembly procedures. **Note:** When re-attaching wires to the plug use the following wiring instructions:

White Wires - X Black Wires - Y
Red Wires - Z Green Wires - WH

Drawing & Parts List



PARTS LIST

Item	Qty	#1000 Head	#1300 Head	#1600 Head	Description
1	1	416024	416016	416032	Housing, 2-3/8" Square Head
2	1		432707		Nut, Hex Jam; 9/16"; Left Hand
3	1		887011		Washer, Flat
4	2		096020		Bearing, Ball
5	1	416028	416020	416036	Rotor, Hi-Cycle
6	1		416013		Rotor, Motor; Hi-Cycle
7	1		416021		Bearing, Ball
8	1		432710		Nut, Hex Jam; 5/16"; Left Hand
9	1		416012		Stator, Motor; Hi-Cycle
10	1		416050		Stator Housing; Hi-Cycle
11a	12.5 In		416048		Sleeving, Fiberglass; PVC Coated
11b	8.5 In		416048		Sleeving, Fiberglass; PVC Coated
12	1		416023		Fitting, Strain Relief; 3/8" NPTF
13	6 In		221709		Wire, #16 AWG; Green
14	1		221706		Ring, Terminal; #10; High Cycle
15	1		416046		Screw, Button Head; #10-32 x 3/8"
16	2		259601		Clamp, Center Punch; 2-3/4"
17	XX Ft*		416011		Hose, Protective; Hi-Cycle
18	XX+2 Ft*		390255		Cable, Tray; 14 AWG; 4 Cond
19	5		416047		Connector, Butt Splice
20	2		259606		Clamp, Hose; #16
21	1		417001		Switch, Rocker; w/o Housing
22	1		417000		Assy, Switch Housing; w/Switch
23	1		416045		Tubing, Rubber; Switch Bushing
24	25 Ft		399400		Cord, 4 Conductor
25	1		399401		Plug, Lock; 20A/250V/Gnd; 7411SS
26	1		416-057		Assy, Stator Housing; Hi-Cycle
27	1	416-051	416-052	416-053	Assy, Head; Hi-Cycle
28	1		417-068		Switch Kit, Hi-Cycle (For Replacement)

* - XX is length of protective hose in feet.

Operation, Tech. Info & Accessories

OPERATING INSTRUCTIONS

⚠ CAUTION: After maintenance or repairs have been made observe the following checklist to avoid serious injury:

- ⇒ Check wires (X, Y & Z) to insure there is no continuity between each other & ground (WH).
- ⇒ Check wires (X, Y & Z) to insure there is no continuity between them and steel on head housing.
- ⇒ Check cord for cuts, exposed wires or other conditions which may cause an electrical hazard.
- ⇒ Check twist lock plug for damage to prongs or plug housing.
- ⇒ Check switch housing for damage or flaws that would allow dirt, water or foreign objects to enter the housing and produce a short or dangerous situation.
- ⇒ Check wires to insure there is 6 ohms nominal across all wires (X, Y & Z).
- ⇒ Check speed (VPM) with tachometer (example: Vibra-Tak).
- ⇒ Check that head moves from left to right when running with the tip touching floor. If it moves from right to left, swap the #2 & #3 black wires on the head end of the switch.

TO START:

1. Insure that power source corresponds to the frequency & voltage marked on the nameplate located on switch housing.
2. Push and twist plug to secure into place on power source.
3. Flip the switch to the "ON" position or "I" on the switch housing.
4. After switching the unit "ON", check that the unit is running correctly: It should have a high, even pitch if running correctly.

TO STOP:

1. Flip the switch to the "OFF" position or "0" on the switch housing.

OPERATING HINTS

1. Avoid bending the hose as much as possible at all times.
2. Do not use the vibrator head to spread the concrete.
3. The concrete has been thoroughly vibrated when the surface around the head is shiny and no large air bubbles rise to the surface (This normally takes 10 to 20 seconds at each location)
4. Withdraw the head slowly so that the concrete can flow back into the void left by the head.
5. When finished, clean all concrete off the vibrator.

TECHNICAL DATA

Information Type	#1000	#1300	#1600
Head Length (in)	17.30	18.30	19.30
Head Weight (lbs)	16	17	18
Head Oil (ml)	60	70	80
Eccentric Moment (in/lbs)	.300	.389	.478
Amplitude Total at Tip (in)	.073	.087	.100
Force at 133 Hz / 8,000 VPM (lbs)	546	710	874
Force at 180 Hz / 10,800 VPM (lbs)	1000	1300	1600
Force at 200 Hz / 12,000 VPM (lbs)	1234	1605	1975

WIRE WRAPPING OFF THE SWITCH: The 4 wires running from the head to the switch must be coiled properly. This is necessary to avoid pulling wires from their termination points when the protective hose is bent sharply. Wrap all 4 wires (#16 to #19) around a ½" piece of pipe and push into switch end of hose. Feed wires through hose before wire wrapping.

GROUNDING ON HEAD: Insuring a proper ground is essential in safe operation of Wyco High-Cycle Vibrators. Wyco supplied vibrator heads have a unique internal ground connection (Page 3 - Grounding Detail). **To make this connection follow these instructions:** Cut a 6" section of 16 AWG green wire, strip back insulation and attach terminal ring (14). To connect inside head bend the round end of the ring 90 degrees up. Guide button head cap screw (15) through terminal ring. Attach allen wrench to screw while holding the wire (This will allow you to guide the screw, wire and terminal ring into threaded area inside the head and tighten). Slide a 2" piece of sleeving (11) over ground wire and 3.5" piece over 3 other wires into head. Guide these 4 wires through the 4 holes in strain relief fitting and secure tightly to head using teflon tape.

ACCESSORIES

Wyco supplies the following accessories for use with High Cycle vibrators. (Contact your local dealer or call a Wyco Customer Sales Representative for details at 1-800-233-9926)

Description	Part No.
50 ft Extension Cord	399-415
100 ft Extension Cord	399-420
Select-Cycle™ Converter with 20 Amp Turnlok® Plug	416-055
Select-Cycle™ Converter with 30 Amp Turnlok® Plug	416-056
8 H.P. Briggs Hi-Cycle Generator	511804
8 H.P. Honda Hi-Cycle Generator	511807
Generator Wheel Kit	511808



**THE WYCO TOOL
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