

BRITE STRIPER

3000^{SP}

Airless Line Striper

3A0441A

ENG

- For the application of athletic field line striping materials -

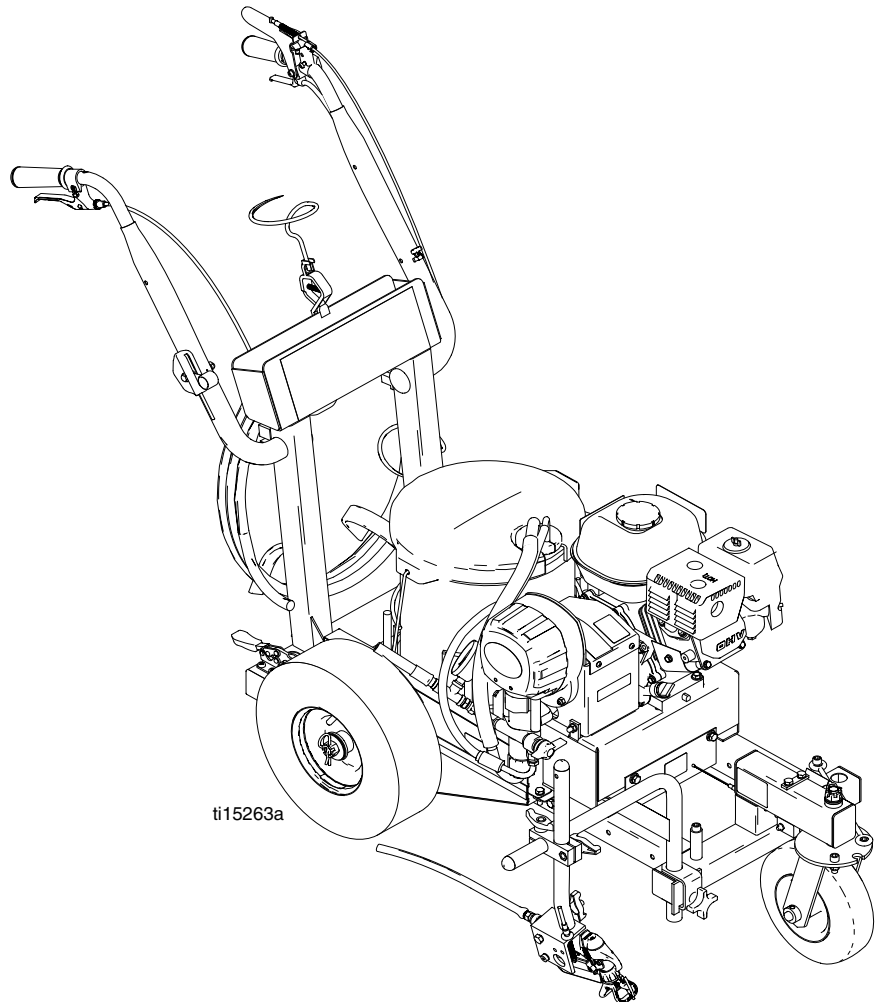
Model 867786

3000 psi (20.7 MPa, 207 bar) Maximum Working Pressure



IMPORTANT SAFETY INSTRUCTIONS

Read all warnings and instructions in this manual. Save these instructions.


















Contents

Warnings	3
Uni-Tip Selection	5
Component Identification	6
Operation	7
Setup	7
Pressure Relief Procedure	8
Startup	8
Gun Operation	10
Clean-up	12
Handle Bar Adjustment	13
Maintenance	14
Striper	14
Gun	16
Troubleshooting	17
General Troubleshooting	17
Airless Spray Troubleshooting	19
Field Troubleshooting	20
Repair	21
Pail Bracket	21
Pressure Sensor	22
Pressure Control and Circuit Board	23
Drain Valve	24
Fluid Pump	25
Clutch	28
Gear Box	29
Drive Chain	30
Drive Assembly	31
Engine	32
Tires	34
Wheel Axle	35
Parts	36
Parts List	37
Gun Parts	42
Gun Parts List	42
Pump Parts	43
Pump Parts List	43
Pressure Control Wiring Diagram	44
Technical Data	45
Brite Stripe 3000SP Striper:	45
Dimensions:	45
Gun:	45
Pioneer Limited Warranty	46

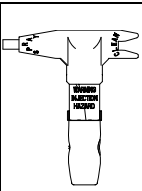

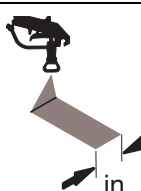
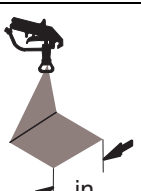
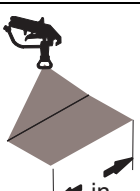
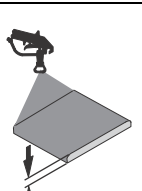
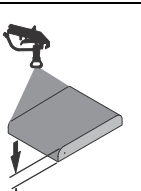
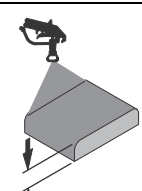
Warnings

The following are general warnings related to the safe setup, use, grounding, maintenance and repair of this equipment. In the text of this manual, the exclamation point symbol alerts you to a warning and the hazard symbol refers to specific risks. Refer back to these General Warnings pages. Additional procedure-specific warnings will be included where applicable.

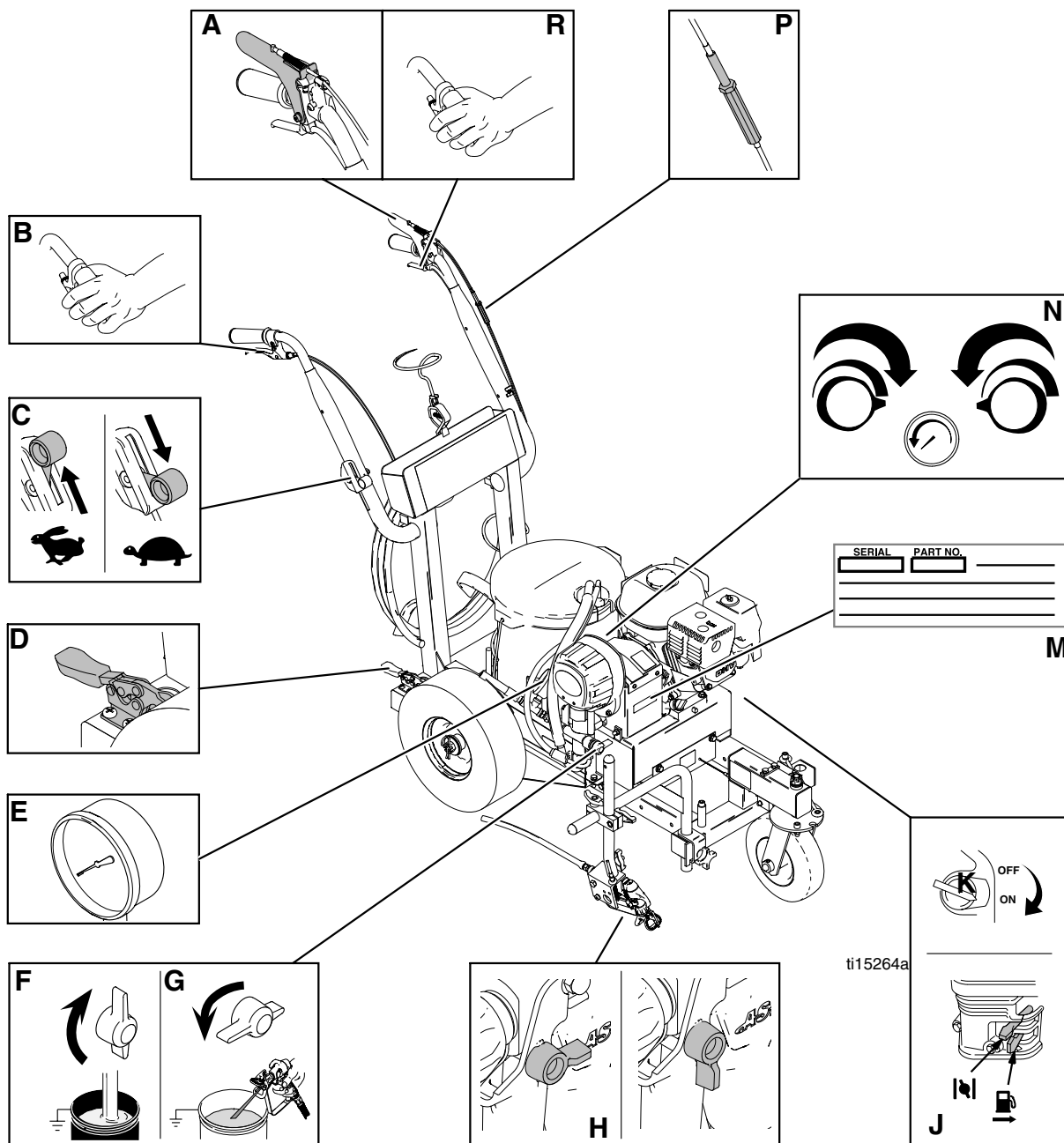
	<h2>Warnings</h2>
	<p>EQUIPMENT MISUSE HAZARD Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • Do not operate the unit when fatigued or under the influence of drugs or alcohol. • Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Data in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer. • Do not leave the work area while equipment is energized or under pressure. Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. • Do not alter or modify equipment. • Use equipment only for its intended purpose. Call your distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or over bend hoses or use hoses to pull equipment. • Keep children and animals away from work area. • Comply with all applicable safety regulations.
	<p>FIRE AND EXPLOSION HAZARD Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Do not fill fuel tank while engine is running or hot; shut off engine and let it cool. Fuel is flammable and can ignite or explode if spilled on hot surface. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Ground all equipment in the work area. See Grounding instructions. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. • If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
	<p>CARBON MONOXIDE HAZARD Exhaust contains poisonous carbon monoxide, which is colorless and odorless. Breathing carbon monoxide can cause death. Do not operate in an enclosed area.</p>

	Warnings
	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read MSDSs to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
  	<p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> • Do not spray without Uni-Tip Guard and trigger guard installed. • Engage trigger lock when not spraying. • Do not point gun at anyone or at any part of the body. • Do not put your hand over the Uni-Tip. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses and couplings daily. Replace worn or damaged parts immediately.
	<p>BURN HAZARD</p> <p>Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:</p> <ul style="list-style-type: none"> • Do not touch hot fluid or equipment.
 	<p>MOVING PARTS HAZARD</p> <p>Moving parts can pinch, cut or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> • Keep clear of moving parts. • Do not operate equipment with protective guards or covers removed. • Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.
	<p>PRESSURIZED ALUMINUM PARTS HAZARD</p> <p>Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.</p> <ul style="list-style-type: none"> • Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents. • Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.
	<p>PRESSURIZED ALUMINUM PARTS HAZARD</p> <p>Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.</p>
	<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Uni-Tip Selection

							
69-213*	2 (5)				✓		
69-215*	2 (5)					✓	
69-217		4 (10)				✓	
69-219		4 (10)					✓
69-315		4 (10)			✓		
69-317		6 (15)			✓		
69-319		6 (15)				✓	
69-321		6 (15)				✓	
69-327		6 (15)					✓
69-417			6-8 (15-20)		✓		
69-517				10 (25)	✓		
69-615*				12 (30)	✓		
69-617				12 (30)		✓	
* Use 100 mesh filter to reduce tip clogs							

Component Identification



A	Self-Propel Engagement Lever
B	Spray Gun Control
C	Engine Throttle
D	Brake
E	Pressure Gauge
F	Prime Valve
G	Drain/Spray Valve

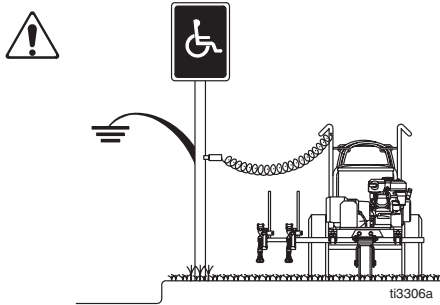
H	Gun Trigger Lock
J	Engine Controls
K	Engine ON/OFF Switch
M	Serial Identification Tag
N	Pressure Control
P	Cable Adjustment
R	Turn Control

Operation

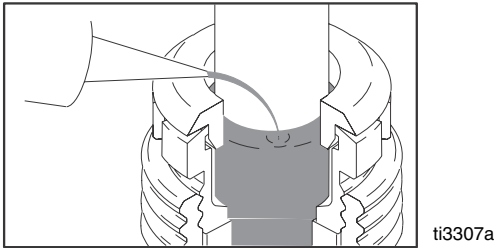
Setup



1. Ground striper with grounding clamp during **Setup** and **Cleanup**.



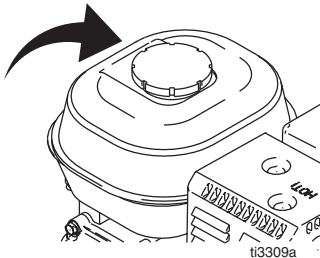
2. Each time your spray and store, add 3 to 5 drops of Throat Seal Oil (TSO) to decrease packing wear.



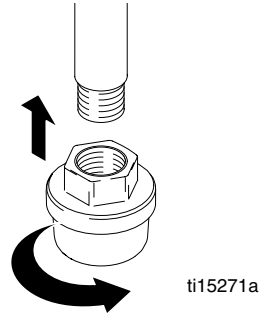
3. Check engine oil level. Add SAE 10W-30 (summer) or 5W-20 (winter). See engine manual.



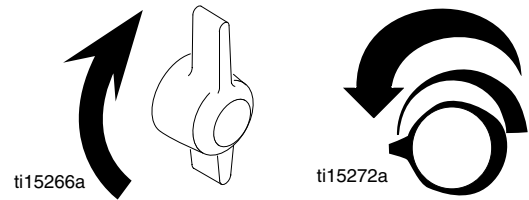
4. Fill fuel tank.



5. If removed, install strainer.

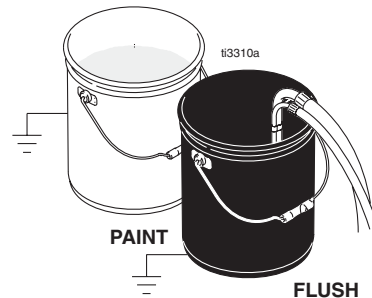


6. Open prime valve. Turn pressure control counter-clockwise to lowest pressure.



NOTE: Minimum hose size allowable for proper striper operation is 1/4 in. x 50 ft.

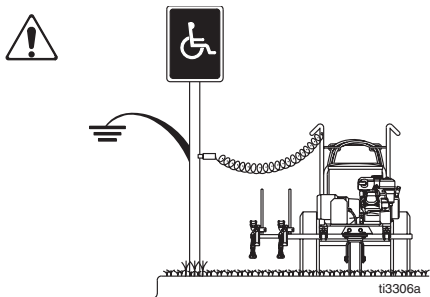
7. Place siphon tube set in grounded metal pail partially filled with flushing fluid. Attach ground wire to pail and to true earth ground. Do 1. - 5. of **Startup** to flush out storage oil shipped in striper. Use water to flush water-base paint and mineral spirits to flush oil-base paint and storage oil.



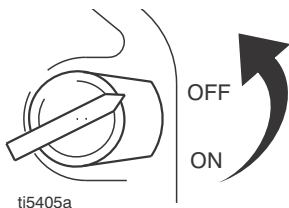
Pressure Relief Procedure



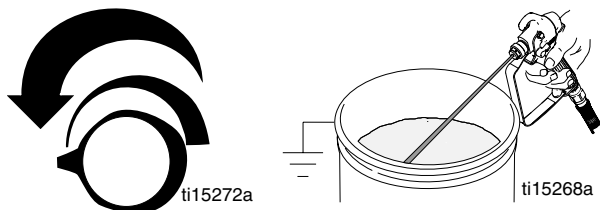
1. Ground striper with grounding clamp.



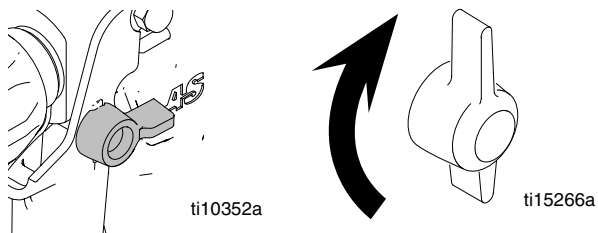
2. Turn engine **OFF**.



3. Turn pressure to lowest setting. Trigger gun to relieve pressure.



4. Engage gun trigger safety. Open prime valve.



If you suspect that the Uni-Tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen Uni-Tip Guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Then clear tip or hose.

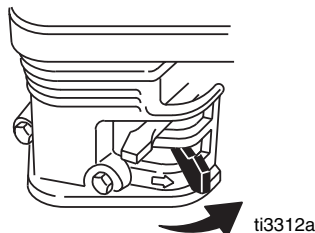
Startup



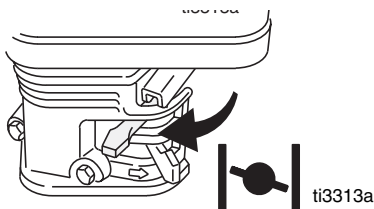
1. Perform **Pressure Relief Procedure**.

2. Start Engine.

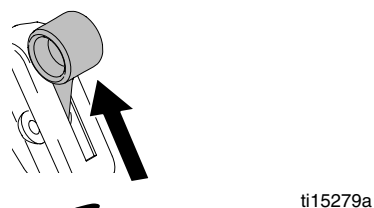
- a. Move fuel valve to open.



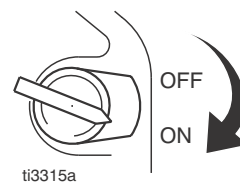
- b. Move choke to closed.



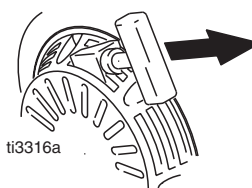
- c. Set throttle to fast.



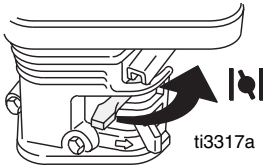
- d. Set engine switch **ON**.



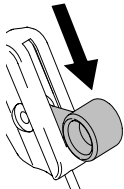
- e. Pull starter cord.



- f. After engine starts, move choke to open.



- g. Set throttle to desired setting.



ti15280a

3. Increase pressure enough to start pump. Allow fluid to circulate for 15 seconds.

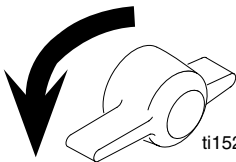


ti15273a

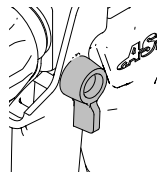


15 SEC.

4. Turn pressure down, close prime valve. Disengage gun trigger safety.



ti15265a



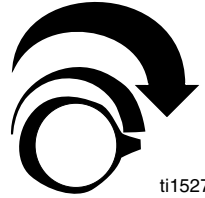
ti10353a

5. Hold gun against grounded metal flushing pail. Trigger gun and increase fluid pressure slowly until pump runs smoothly.



FLUSH

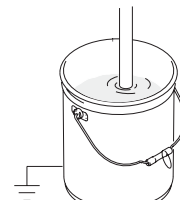
ti15267a



ti15273a

Inspect fittings for leaks. Do not stop leaks with your hand or a rag! If leaks occur, turn striper OFF immediately. Perform **Pressure Relief** (page 8). Tighten leaky fittings. Repeat **Startup**, steps 1-2. If no leaks, continue to trigger gun until system is thoroughly flushed. Proceed to step 3.

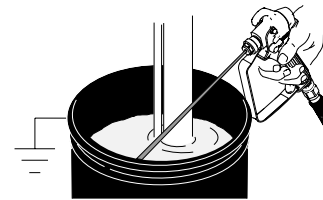
6. Place siphon tube in paint pail.



ti3316a

PAINT

7. Trigger gun again into flushing fluid pail until paint appears. Assemble Uni-Tip and Uni-Tip Guard.



FLUSH

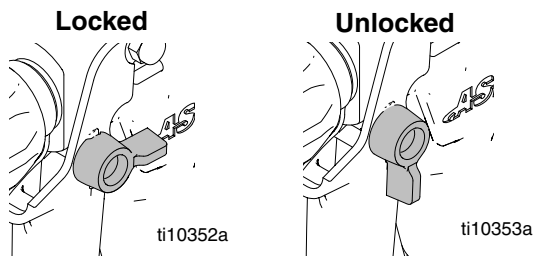
ti15267a

Gun Operation

Gun Trigger Lock

--	--	--	--	--	--	--

To prevent injury when the gun is not in use, always engage the gun trigger lock if unit is being shut down or left unattended.



Setup

--	--	--	--	--	--	--

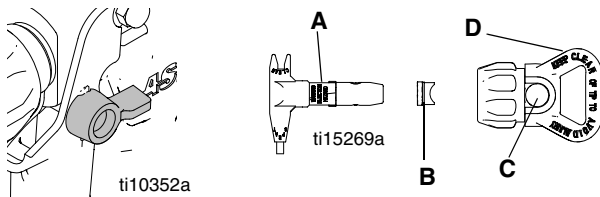
Make sure striper is turned off and unplugged from power source.

Connect Gun to Striper

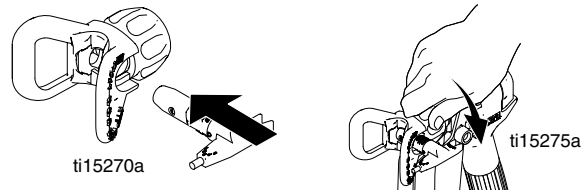
1. Attach supply hose to striper fluid outlet.
2. Attach other end of supply hose to gun swivel. Use two wrenches (one on the swivel and one on the hose) to tighten all connections securely.

Uni-Tip and Uni-Tip Guard Assembly

1. Engage trigger safety. Use end of Uni-Tip (A) to press Uni-Tip Seal (B) into Uni-Tip Guard (D), with curve matching tip bore (C).

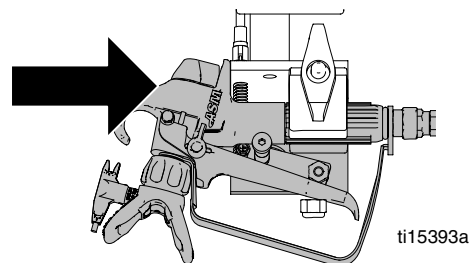


2. Insert Uni-Tip in tip bore and firmly thread assembly onto gun.

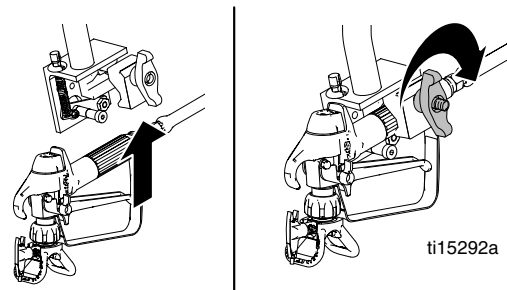


Gun Placement

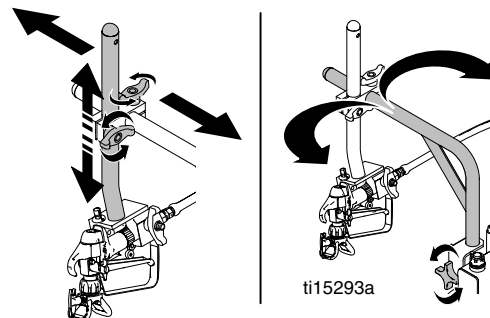
1. **Install Gun:** Insert gun into gun holder with head guard pressed against the holder assembly bracket.



2. Tighten gun into clamp.



3. **Position Gun:** Up/down, forward/reverse, left/right.

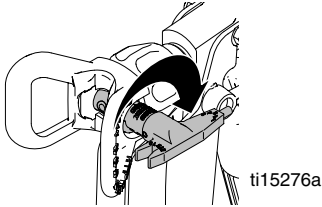


NOTE: Verify that the gun can still be triggered **and** that the trigger safety can still be engaged after installation. Make adjustments if necessary.

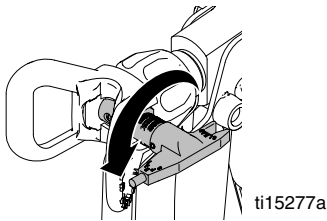
Clearing Tip Clogs



1. Release trigger, engage gun trigger safety. Rotate Uni-Tip. Disengage gun trigger safety and trigger gun to clear the clog. Never point gun toward your hand or into a rag!



2. Engage gun trigger safety, return Uni-Tip to original position, disengage gun trigger safety and continue spraying.



Spraying Gun



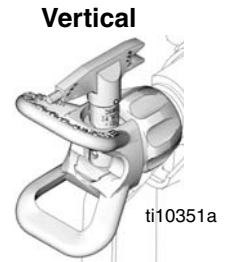
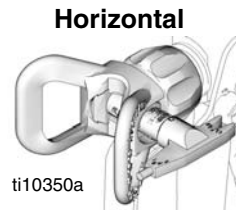
1. Disengage trigger lock.
2. Be sure the arrow-shaped tip faces forward (spray).

3. Hold gun perpendicular and approximately 12 in. (304 mm) from surface. Move gun first, then pull trigger to spray a test pattern.
4. Slowly increase pump pressure until coverage is uniform and even (see striper instruction manual for additional information).

Aligning Spray



1. Perform **Pressure Relief Procedure**, page 8. Engage trigger lock.
2. Loosen guard and retaining nut.
3. Align guard horizontally to spray a horizontal pattern, vertically to spray a vertical pattern.



Cleanup

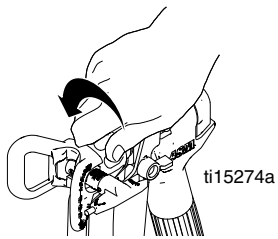
Flush gun after each work shift and store in a dry location. Do not leave the gun or any parts in water or cleaning solvents.

Clean-up



Perform **Pressure Relief Procedure**, page 8.

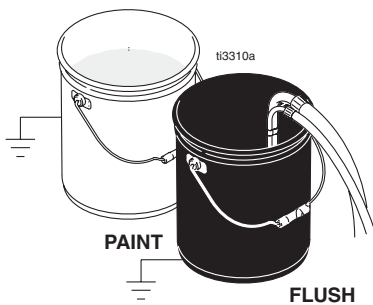
1. Remove Uni-Tip Guard and Uni-Tip.



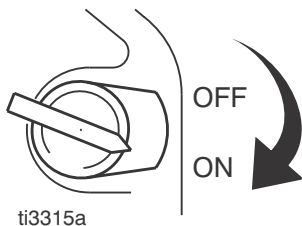
2. Clean gun filter, Uni-Tip Guard and Uni-Tip in flushing fluid.



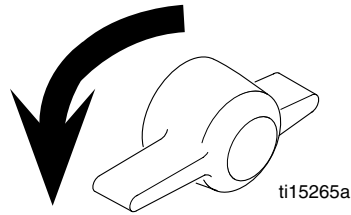
3. Remove siphon tube set from paint and place in flushing fluid. Use water or pump conditioner for water-base paint and mineral spirits for oil-base paint.



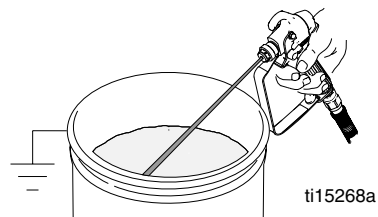
4. Turn engine **ON** and start engine.



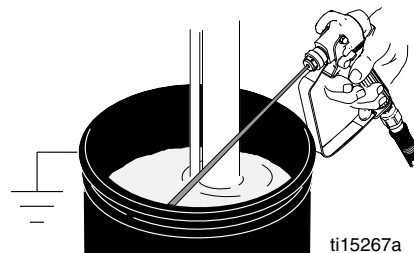
5. Close prime valve.



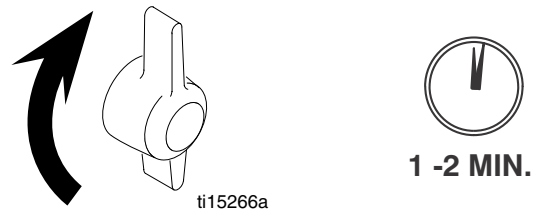
6. Hold gun against paint pail. Disengage gun trigger safety. Gradually turn pressure control up until motor begins to drive pump. Trigger gun until flushing fluid appears.



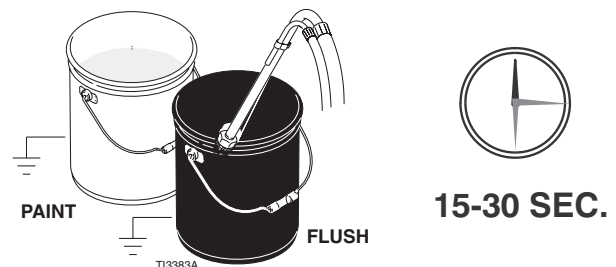
7. Move gun to flushing pail, hold gun against pail, trigger gun to thoroughly flush system. Release trigger and engage trigger safety.



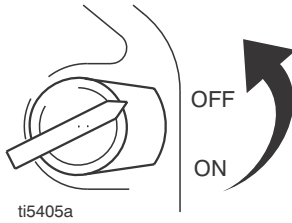
8. Open prime valve and allow flushing fluid to circulate for 1 to 2 minutes to clean drain tube.



9. Raise siphon tube above flushing fluid and run stripper for 15 to 30 seconds to drain fluid.



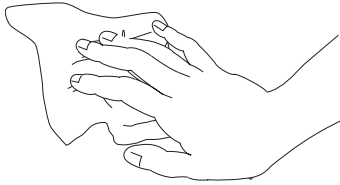
10. Turn engine **OFF**.



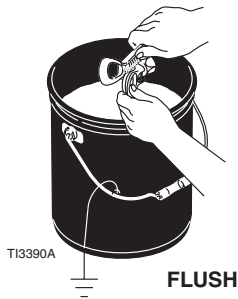
NOTICE

If flushing with water, flush again with pump conditioner to leave a protective coating to prevent freezing or corrosion.

11. Wipe striper, hose and gun with a rag soaked in water or mineral spirits.



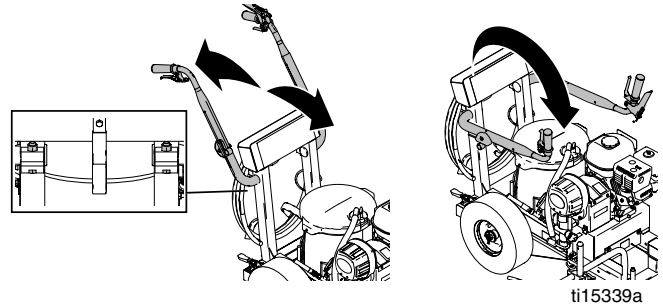
12. Clean Uni-Tip, Uni-Tip Guard and gasket with a soft bristle brush to prevent part failure due to dried materials. Assemble parts and attach loosely onto gun.



Handle Bar Adjustment

To adjust height and angle of handle bars, loosen two nuts (147) and move handle bars to desired position. Then tighten two nuts (147).

NOTE: Handle bars can be moved to down position for storage.



Maintenance

Striper

NOTE: Minimum hose size allowable for proper striper operation is 1/4 in. x 50 ft.

For detailed engine maintenance and specifications, refer to separate engine manual supplied.

DAILY: Check engine oil level and fill as necessary.

DAILY: Check hose for wear and damage.

DAILY: Check gun safety for proper operation.

DAILY: Check pressure drain valve for proper operation.

DAILY: Check and fill gas tank.

AFTER THE FIRST 20 HOURS OF OPERATION: Drain engine oil and refill with clean oil. See engine manual for correct oil viscosity.

WEEKLY: Remove air filter cover and clean element. Replace element if necessary. If operating in an unusually dusty environment, check air filter daily and replace if necessary.

Replacement elements can be purchased from your local engine dealer.

WEEKLY: Check level of TSO in fluid pump packing nut. Add 3 to 5 drops if necessary. Keep TSO in nut to help prevent fluid buildup on piston rod and premature wear of packings.

AFTER EACH 100 HOURS OF OPERATION: Change engine oil. See engine manual for correct oil viscosity.

SPARK PLUG: Use only BPR6ES (NGK) or W20EPR-U (NIPPONDENSO) plug. Gap plug to 0.028 to 0.031 in. (0.7 to 0.8 mm). Use spark plug wrench when installing and removing plug.

Swivel Wheel

- Stripers are factory aligned, but if necessary, loosen two bolts (128) on swivel wheel assembly just enough to be able to move the wheel by hand. Align wheel and re-tighten bolts.

- Place turnbuckle (43) over the two mounting numbs on the frame.
- Pressurize the unit with water and Pioneer's Pump Conditioner and spray out several lines with the swivel assembly in the locked position. Use the turnbuckle to fine tune the alignment of the wheels until the stripes are straight.
- Tighten the jam nuts on the turnbuckle to affix the turnbuckle length for future reference.
- Tighten the ratchet handles.

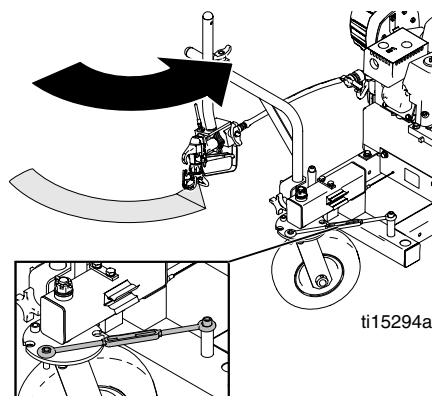
Drive Wheel

NOTICE

The drive wheel is designed to slip. When adjusting drive wheel, do NOT over-tighten castle nut (see page 34). Axle could become locked and damage the drive assembly.

Curves and Arcs

- Similar to the above, except that the swivel wheel assembly is set at an angle. The swivel assembly can be adjusted to 30 degrees either side of straight ahead. If you have arcs that you paint regularly, purchase additional turnbuckles (43) and keep them set to those arc sizes.



Pump

- Always stop the pump at the bottom of its stroke when you take a break or at the end of the day. This helps keep material from drying on the rod, damaging the packings.
- Keep the displacement pump packing nut/wet cup 1/3 full of Throat Seal Oil (2501) at all times. The TSO helps protect the packings and rod.
- Lubricate Connecting Rod Pin every three months.
- Inspect the packing nut daily. The paint pump has a patented "Triple Life Packing System". Packing life will be extended a minimum of three times if the proper packing tightening procedure is followed.

PACKING TIGHTENING PROCEDURE:

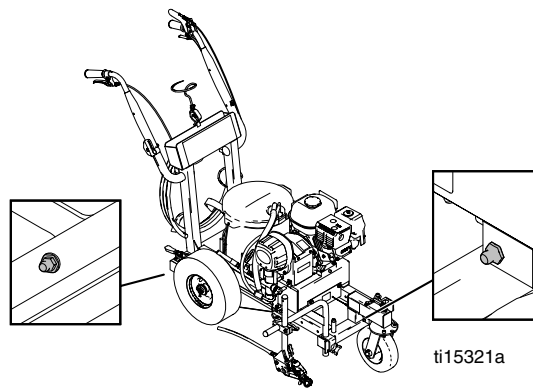
Inspect the packing nut daily. If seepage of paint into the packing nut and/or movement of the piston upward is found (while not spraying), the packing nut should be tightened enough to stop leakage only, but not any tighter.

NOTICE

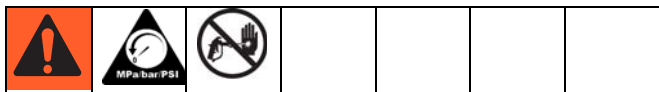
Do NOT over-tighten packings. Packings will become damaged and reduce the packing life.

Grease Points

- Fill grease points at swivel wheel and in center of drive assembly axle until grease purges from end collars. Wipe away any excess grease. Use only quality-grade water resistant grease.



Gun



Cleaning/Replacing Filter

1. Perform **Pressure Relief Procedure**, see page 8. Engage trigger lock.
2. Disconnect hose.
3. Disconnect trigger guard (404) from guard retainer (422).
4. Unscrew handle (423) from gun.
5. Remove filter (406) through top of handle.
6. Clean filter using a soft brush.
7. Insert clean filter into handle.
8. Reattach handle to gun. Tighten securely.
9. Reconnect trigger guard to guard retainer.

Replacing Needle

1. Perform **Pressure Relief Procedure**, see page 8. Engage trigger lock.
2. Remove tip (415) and guard (402). Disconnect hose.
3. Disengage trigger lock.
4. Squeeze trigger while unscrewing diffuser/seat (401). For newer gun kits, remove needle housing (411) and gasket (417).
5. Remove locknut (433) and end cap (408).
6. Tap out needle (401b) using a plastic hammer.
7. Use a soft brush to clean internal passages of gun.
8. Grease o-rings of new needle using a non-silicon grease.
9. Guide new needle into front of gun.

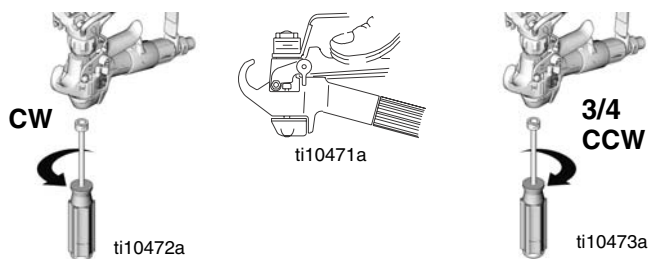
10. Install end cap and lockout, loosely.

11. For needle housing (411), apply medium strength (blue) thread sealant to threads.

12. Squeeze trigger while installing needle housing. Torque to 26-32 ft-lb (35-43 N•m).

Adjusting Needle

1. Perform **Pressure Relief Procedure** (page 8). Engage trigger lock.
2. Remove tip (415) and guard (402). Disconnect hose.
3. Disengage trigger lock.
4. Hold gun with nozzle pointing up. Turn locknut (433) clockwise (CW) until you see and feel trigger (403) raise slightly.
5. Turn locknut 3/4 turn counter-clockwise (CCW). When properly adjusted, trigger will move freely.



6. Connect hose. Install tip and guard. Prime striper.
7. Trigger gun into pail until fluid flows from gun.
8. Release trigger. Fluid flow should stop immediately.
9. Engage trigger lock. Try to trigger gun. No fluid should flow.
10. If the gun fails either test, repeat steps 1-9.

Troubleshooting

General Troubleshooting

Problem	Cause	Solution
Engine Will Not Start	Engine switch is OFF	Turn engine ON
	Engine is out of gas	Refill gas tank (see engine manual).
	Engine oil level is low	Try to start engine. Replenish oil if necessary (see engine manual).
	Spark plug cable is disconnected or damaged	Connect spark plug cable or replace spark plug.
	Cold engine	Use choke.
	Fuel shut-off lever is OFF	Move lever to ON position.
	Oil is seeping into combustion chamber	Remove spark plug. Pull starter 3 to 4 times. Clean or replace spark plug. Start engine. Keep striper upright to avoid oil seepage.
Engine operates, but fluid pump does not operate	Pressure setting is too low	Turn pressure adjusting knob clockwise to increase pressure
	Uni-Tip or gun filter is clogged	Clean Uni-Tip or gun filter (see gun manual).
	Fluid pump piston rod is stuck due to dried paint	Repair pump (see pump manual).
	Connecting rod is worn or damaged	Replace connecting rod, page 29.
	Drive housing is worn or damaged	Replace drive housing, page 31.
	Electrical power is not energizing clutch field.	Check wiring connections, page 41. See pressure control repair, page 23. Test sensor by reading resistance between the red and black wires. The resistance runs between 1.5-3k Ohms. Have pressure control checked by authorized Pioneer dealer.
	Clutch is worn, damaged, or incorrectly positioned.	Replace clutch, page 28.

Problem	Cause	Solution
Pump output is low	Piston ball is not seating	Service piston ball. See pump manual.
	Piston packings are worn or damaged	Replace packings. See pump manual.
	O-ring in pump is worn or damaged	Replace o-ring. See pump manual.
	Worn, missing, or improperly installed parts in suction nut	Remove suction nut and check that all parts are present and installed correctly.
	Engine speed is too low	Increase throttle setting. See Startup , page 8.
	Clutch is worn or damaged	Replace clutch, page 28.
	Pressure setting is too low	Increase pressure. See Startup , page 8.
	Uni-Tip filter or tip is clogged or dirty	See gun manual.
	Large pressure drop in hose with heavy materials	Use larger diameter hose and/or reduce overall length of hose. Use of more than 100 ft of 1/4 in. hose significantly reduces performance of striper. Use 1/4 in. hose for optimum performance (50 ft minimum).
Excessive paint leakage into throat packing nut	Throat packing nut is loose	See pump manual.
	Throat packings are worn or damaged	Replace packings. See pump manual.
	Fluid rod is worn or damaged	Replace rod. See pump manual.
Fluid is spitting from gun	Air in pump or hose	Check and tighten all fluid connections. Reprime pump.
	Uni-Tip is partially clogged	Clear Uni-Tip. See gun manual.
	Fluid supply is low or empty	Refill fluid supply. Reprime pump. Check fluid supply often to prevent running pump dry.
Pump is difficult to prime	Air in pump or hose	Check and tighten all fluid connections. Reduce engine speed and cycle pump as slowly as possible during priming.
	Suction nut is leaking	Clean suction nut. Be sure ball seat is not nicked or worn and that ball seats well. Reassemble suction nut.
	Pump packings are worn	Replace pump packings. See pump manual.
	Paint is too thick	Thin the paint according to supplier recommendations
	Engine speed is too high	Decrease throttle setting before priming pump.
High Engine Speed at no load	Incorrect throttle setting	Adjust throttle cable as needed
	Worn engine governor	Replace or service engine governor

Airless Spray Troubleshooting

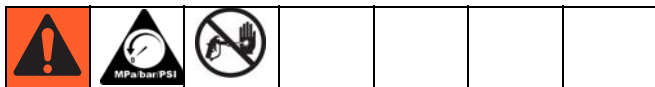
Problem	Cause	Solution
Coarse spray	Low pressure	Increase pressure
Excessive fogging (overspray)	High pressure Material too thin	Reduce pressure to satisfactory pattern distribution. Use less thinner.
Pattern too wide	Spray angle too large	Use smaller spray angle Uni-Tip
Pattern too narrow	Spray angle too small	Use larger spray angle Uni-Tip (if coverage is acceptable, try tip in same nozzle group)
Too much material	Nozzle too large Material too thin Pressure too high	Use smaller nozzle Reduce pressure
Too little material	Nozzle too small	Use next larger nozzle Material too thick
Thin distribution in center of pattern "horns"	Worn Uni-Tip Wrong Uni-Tip	Change to new Uni-Tip Use nozzle with narrow spray angle
Thick skin of work	Material too viscous Application too heavy	Thin cautiously Reduce pressure and/or use Uni-Tip in next smaller nozzle group
Coating fails to close and smooth over	Material too viscous	Thin cautiously
Spray pattern irregular, deflected	Orifice clogged Uni-Tip damaged	Clean carefully Replace with new Uni-Tip
Craters or pock marks, bubbles on work	Solvent balance	Use 1 to 3% "short" solvents remainder "long" solvents (this is most likely to happen with material of low viscosity, lacquers, etc).
Clogged gun screens	Extraneous material in paint Coarse pigments Poorly milled pigments (paint pigments glocculate)	Clean screen. Use coarse screen if orifice size allows. Use courser screen with larger orifice tips. Obtain ball milled paint. If thinner has been added, test to see if a cover screen. Incompatible drop placed on top of paint mixes or flattens out on the paint mixture and thinners on the surface. If not, try different thinner in fresh batch of paint.

Field Troubleshooting

Problem	Cause	Solution
Striper will not prime	Air leak due to: <ul style="list-style-type: none"> • Loose suction nut • Worn o-rings • Hole in siphon hose • Stuck or fouled balls 	<ul style="list-style-type: none"> • Tighten suction nut • Replace o-ring (867-361) on suction seat • Replace siphon hose (331-290) • See pump manual
Striper primes but has poor or no pressure	<ul style="list-style-type: none"> • Pressure set too low • Filter is clogged • Outlet valve fouled/worn • Prime/pressure valve bypassing • Packings and/or piston worn 	<ul style="list-style-type: none"> • Turn up pressure • Clean or replace gun filter • Service outlet valve • Clean or replace prime valve • Tighten packing nut with tool • Repack unit
Unit does not maintain good spraying pressure	<ul style="list-style-type: none"> • Blown Uni-Tip • Packings and/or pistons worn • Upper seat worn 	<ul style="list-style-type: none"> • Replace Uni-Tip • Repack striper • Replace upper seat and ball
Clutch does not engage	Clutch failed. Check resistance between leads (should read between .6 - .7k Ohms).	Take to Pioneer Service Center
	Engine voltage is below 19-24 VAC	Take to Honda Engine Service Center
	Pressure Sensor Check 1.5 - 3.5k Ohms	Replace the sensor

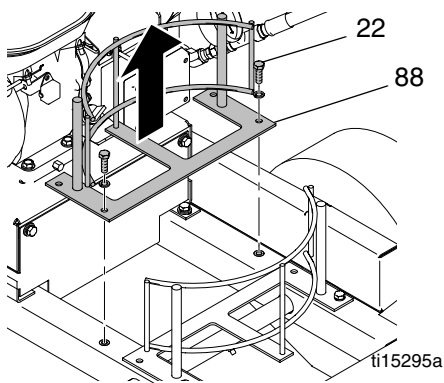
Repair

Pail Bracket



Removal

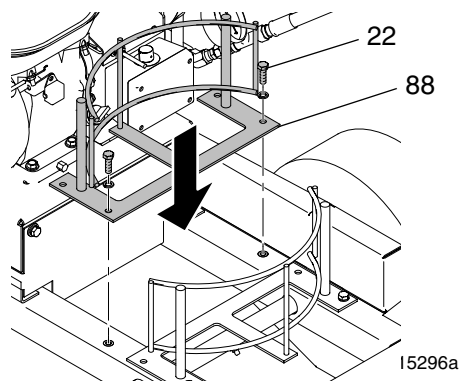
1. Remove pail (103).
2. Remove two screws (22) and remove pail bracket (88).



NOTE: The pail bracket is adjustable to fit different pail configurations.

Installation

1. Replace pail bracket (88) and tighten two bolts (22).



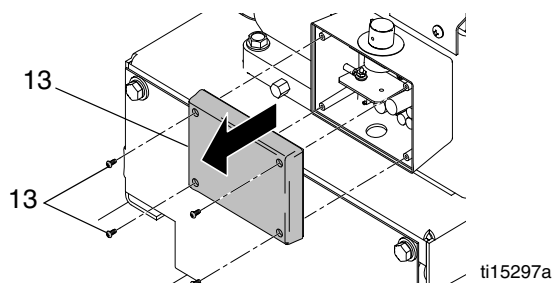
2. Replace pail (103).

Pressure Sensor

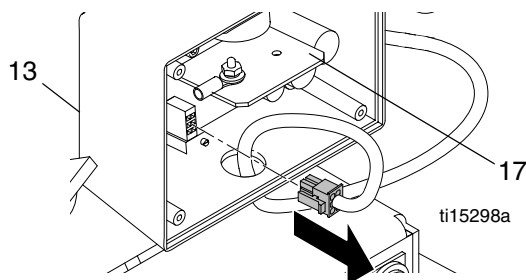


Removal

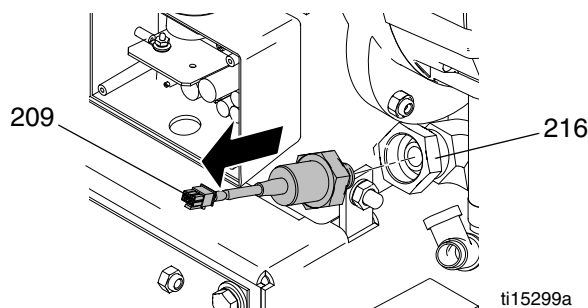
1. Perform **Pressure Relief Procedure**, page 7.
2. Remove pail (103).
3. Use small phillips screwdriver to remove four screws (13) and remove control box cover (13).



4. Squeeze sides of pressure sensor connector to disconnect pressure sensor wire from control board (17). Pull pressure sensor wire through access hole in bottom of control box (13).



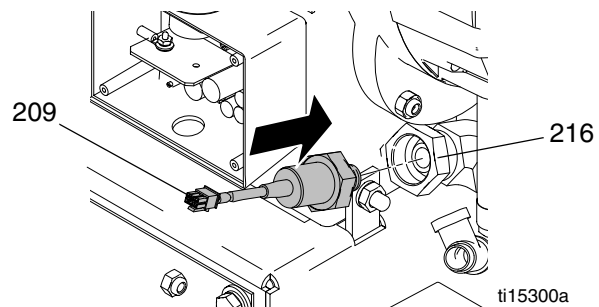
5. Use two wrenches to unscrew pressure sensor (209) from swivel fitting (216).



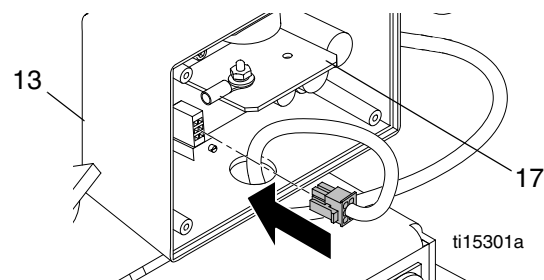
6. Remove pressure sensor (209).

Installation

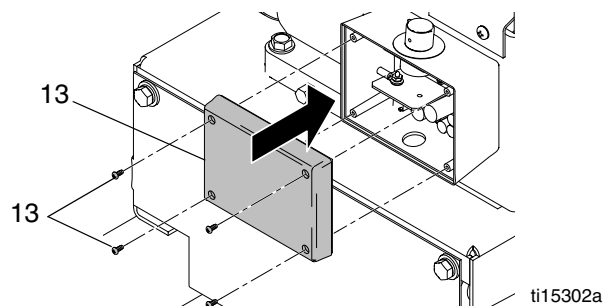
1. Install new pressure sensor (209) and tighten onto swivel fitting (216).



2. Feed pressure sensor wire through access hole in bottom of control box (13). Connect pressure sensor wire to control board (17).



3. Replace control box cover (13) and use a small phillips screwdriver to tighten four screws (13).



NOTICE

Be careful not to overtighten four screws (13). They can easily become stripped or damaged.

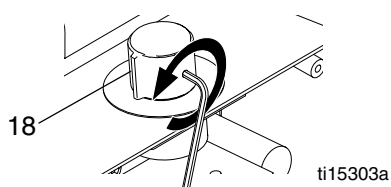
4. Replace pail (103).

Pressure Control and Circuit Board

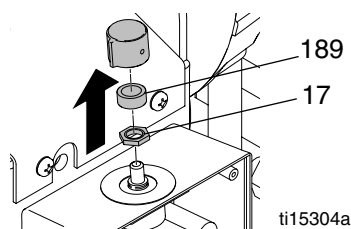


Removal

1. Perform **Pressure Relief Procedure**, page 7.
2. Remove pail (103).
3. Use small phillips screwdriver to loosen four screws (13) and remove control box cover (13).
4. Use a small allen wrench to loosen screw in pressure control knob (18). Remove knob.

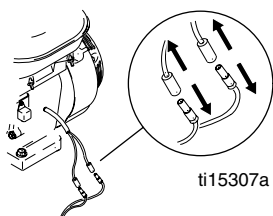


5. Remove spacer (189) then loosen and remove hex nut (17) from pressure control.

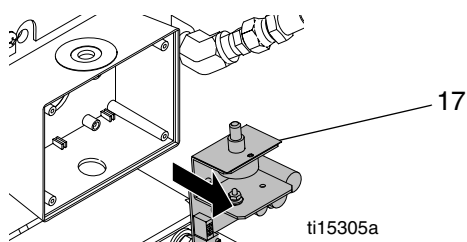


6. **Single Engine Wire Models:** Loosen grounding nut and screw on board heat sink and remove ground wire.

Double Engine Wire Models: Disconnect all wires to circuit board and Honda engine. Be sure to mark all wires to refer to when reconnecting, or refer to **Wiring Diagram** (see page 41).

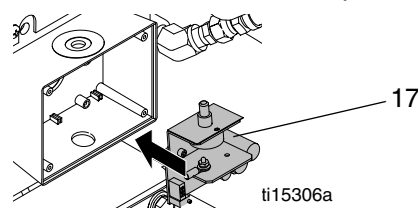


7. Remove circuit board and pressure control (17).



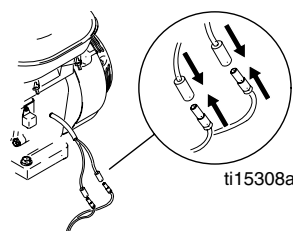
Installation

1. Install new circuit board and pressure control (17).

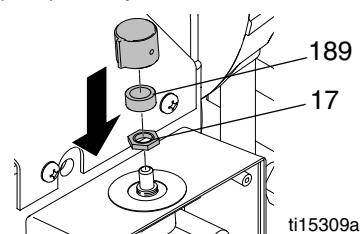


2. **Single Engine Wire Models:** Replace grounding wire and tighten grounding nut and screw on board heat sink.

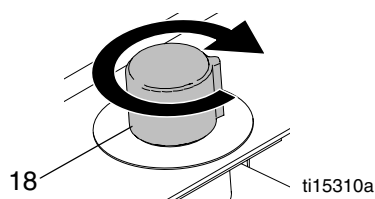
Double Engine Wire Models: Reconnect wire(s) to circuit board and place wires back into control box.



3. Install and tighten hex nut (17) and replace spacer (189) onto pressure control.

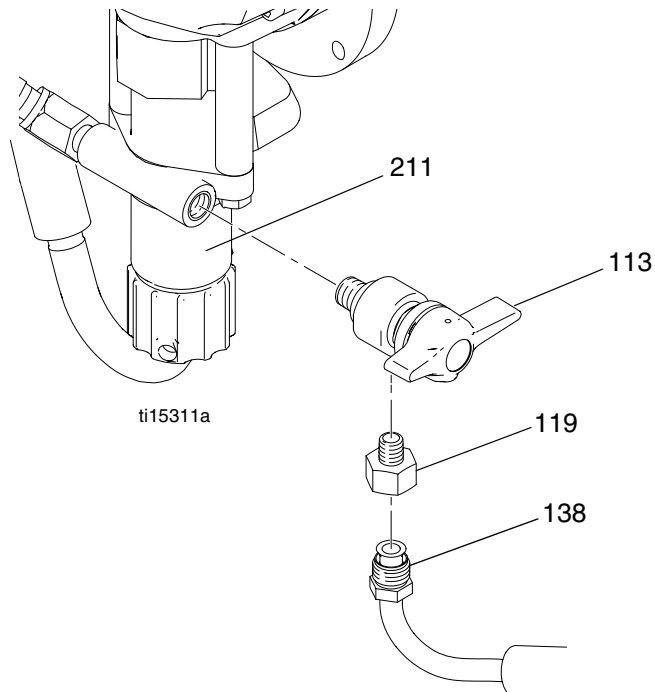


4. Turn pressure control fully clockwise and install knob (18) (knob should point to arrow on label). Use allen wrench to tighten screw on knob.



5. Replace control box cover (13) and use a small philips screwdriver to tighten four screws (13).
6. Replace pail (103).

Drain Valve



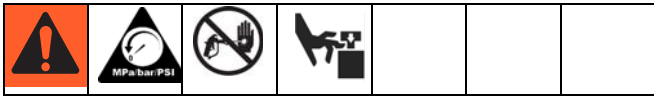
Removal

1. Perform **Pressure Relief Procedure**, page 7.
2. Remove drain line (138) and fitting (119).
3. Use a wrench to loosen drain valve (113) and remove it from pump (211).

Installation

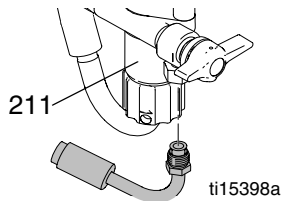
1. Thread drain valve (113) into pump (211) opening.
2. Hand tighten securely. Use a wrench to tighten new drain valve into pump. **NOTE:** Tighten drain valve so fitting (119) will install from bottom.
3. Replace fitting (119) and drain line (138).

Fluid Pump

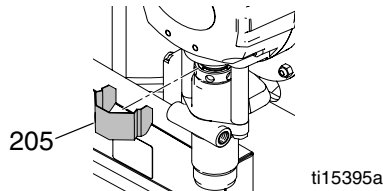


Removal

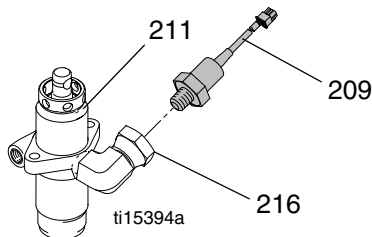
1. Perform **Pressure Relief Procedure**, page 7.
2. Flush material out of striper.
3. Disconnect drain line from the pump (211).



4. Remove connecting rod shield (205).



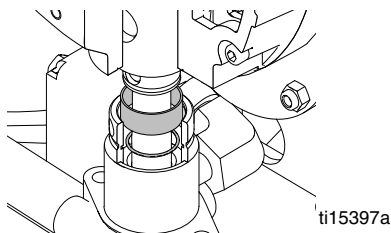
5. Slowly cycle pump to move piston rod so that connecting rod pin is visible.
6. Disconnect pressure sensor (209) from the pump (211) by holding sensor in place with a wrench and unscrewing the swivel fitting (216) with an additional wrench.



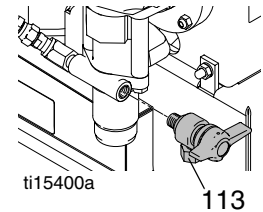
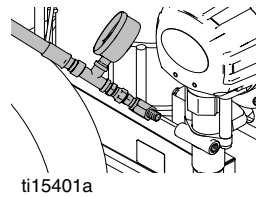
NOTICE

Do not turn the sensor. The cable will become damaged.

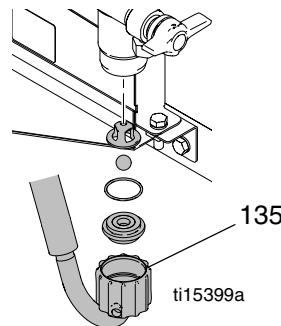
7. Remove retaining ring from connecting rod and slide sleeve down revealing connecting rod pin.



8. Remove hose fittings and drain valve (113).

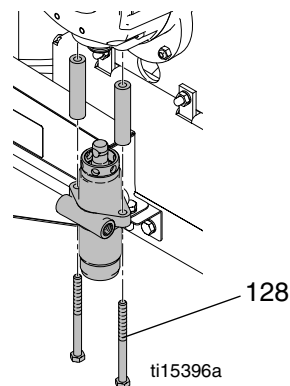


9. Remove siphon tube/hose assembly from fluid pump by unscrewing suction nut with packing adjustment tool.

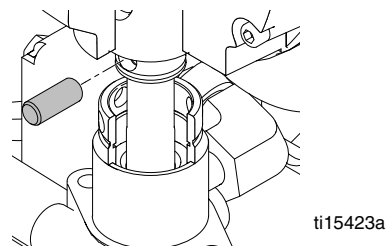


NOTE: When siphon tube (135) is removed from pump intake, be sure to catch ball cage, ball, ball seat, and o-ring or they will fall to the floor. Keep these pieces together in the same order.

10. Use wrench to unscrew two bolts (128) from front cover assembly (the fluid pump will hang loosely).



11. Remove connecting rod pin out of connecting rod to allow for removal of fluid pump from striper.



Repacking the Pump

NOTE: The packing kit comes completely assembled (except for the packing holder 509) ready for installation. There is no need to break it apart. Reuse your old packing holder (509).

1. Unscrew and remove the packing nut (516).
2. Push the piston rod (517) down through the packings and out of the pump.
3. Use the packing removal tool (866435) to push up through the bottom of the fluid pump and remove from the top, bringing the packings, spacer, springs and holder along with it, leaving the fluid body (505) empty.

NOTE: Make sure all old packings and glands have been removed from the fluid body.

4. Clean the inside of the fluid body.
5. Lightly lubricate outside of new packing kit assembly (331210) with a light weight oil or Throat Seal Oil.
6. Replace black o-ring (502) and the white o-ring (501) on the packing holder (509), with the new o-rings from the packing kit.
7. Slide the packing holder on top of the new upper packings.
8. Slide the complete packing assembly down into the clean fluid pump body (505).
9. Install packing nut (516) loosely, not putting any pressure on new packings.
10. Remove the plastic packing tool (311465) down through bottom of fluid pump body. Lightly lubricate inside of the new packings with light weight oil or Throat Seal Oil.

11. Replacing the Outlet Valve Parts:

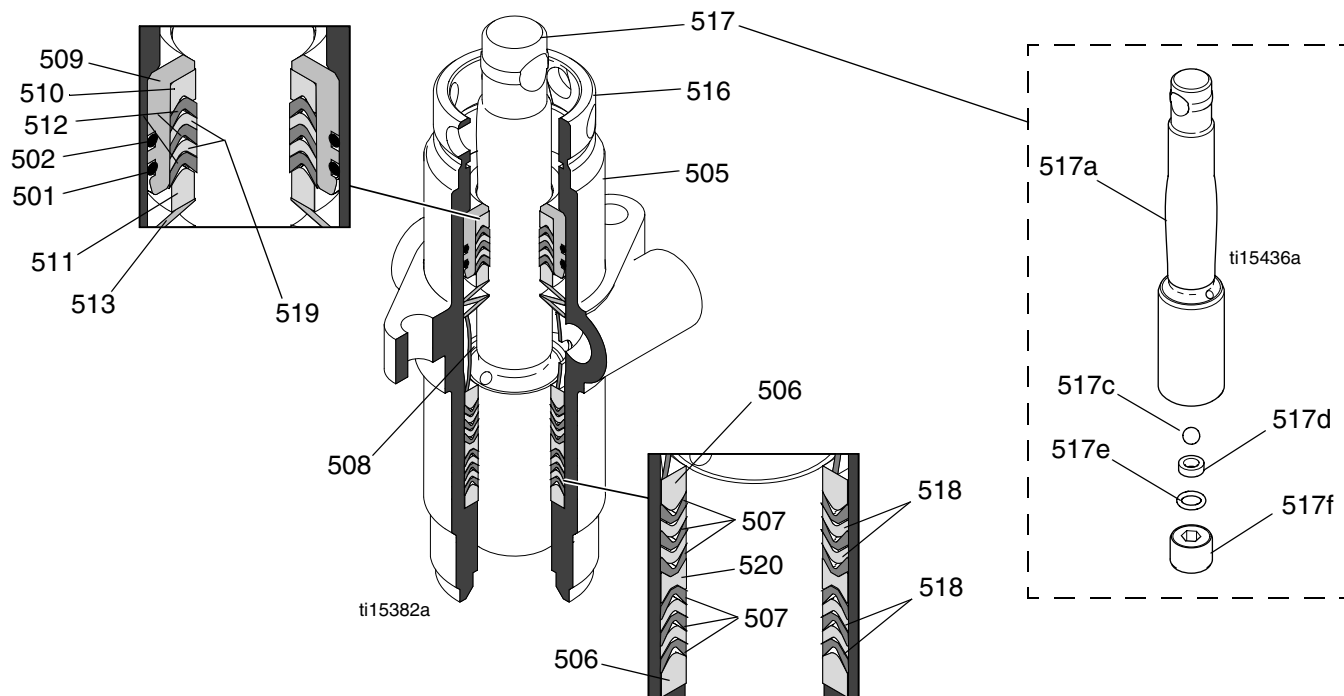
- a. Place piston holder (331195) in a vise and slide piston into holder and lock in place with a 3/8 in. dowel.
- b. Use a 1/4 in. allen wrench to unscrew the outlet seat retainer (517f) from the piston.
- c. Remove the outlet seat (517d), o-ring (517e) and outlet ball (517c).
- d. Inspect the outlet ball, o-ring and seat for wear. Replace as necessary.
- e. While piston is still locked in the holder, install parts back into the piston in the following order: **ball, outlet seat, and o-ring.**

NOTE: The outlet seat needs to be oriented properly when assembling so that the inside diameter edge chamfer of the seat faces up (mating to ball).

- f. Before reinstalling the outlet seat retainer, apply two drops of (113500) thread sealant on threads and torque to 20 ft-lb.

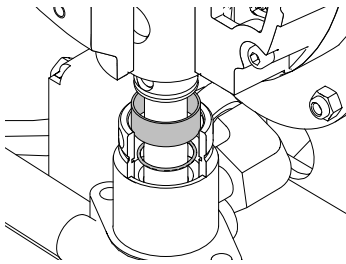
12. Slip the piston rod (517) up through the bottom of the fluid pump body, through the packings and into its upper position.

13. Tighten the packing nut until you feel a slight resistance against the Belleville Springs (513). Use the packing adjustment tool (865008), tighten another 3/4 of a turn.



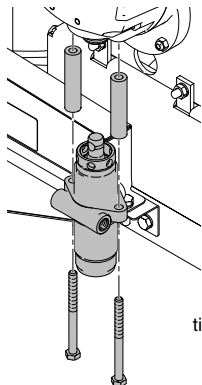
Installation

1. Loosen the packing nut and ensure that the piston rod (517) is in its upper position in the fluid pump body. Slip the sleeve (206) and the retaining ring (203) over the piston rod.
2. Push the piston rod up into the connecting rod (199) and align the holes. Insert the connecting rod pin (214) through the connecting rod and piston.
3. Slip the sleeve over the connecting rod pin and insert the retaining ring into the groove on the connecting rod.



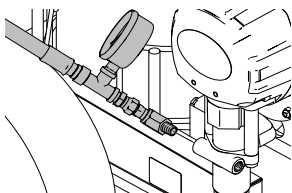
ti15397a

4. Push the two bolts (128) through the tube spacers (204) and screw them into cover assembly (210). Use a torque wrench to tighten two bolts evenly (alternating between them) to 20 ft-lb.

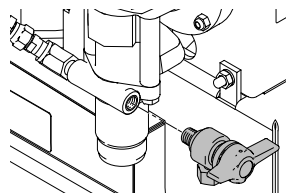


ti15396a

5. Reattach hose fittings and drain valve (113). Use plumbers tape around threads to ensure a good seal.

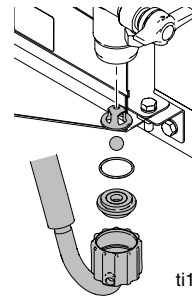


ti15401a



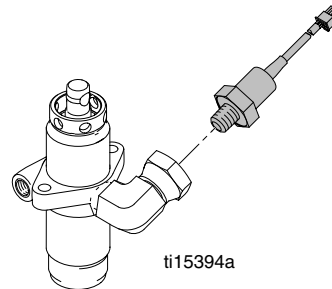
ti15400a

6. Reassemble the lower suction valve assembly by placing the suction seat assembly (o-ring, seat, suction ball, and suction ball guide) in the suction nut and screw onto the pump body.



ti15399a

7. On pumps with electronic pressure control, reconnect the sensor to the pump body (211). Hold the sensor with a wrench while tightening the swivel fitting (216) with an additional wrench.

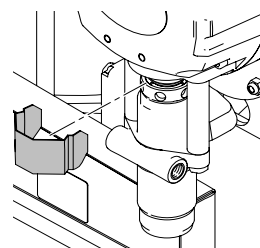


ti15394a

NOTICE

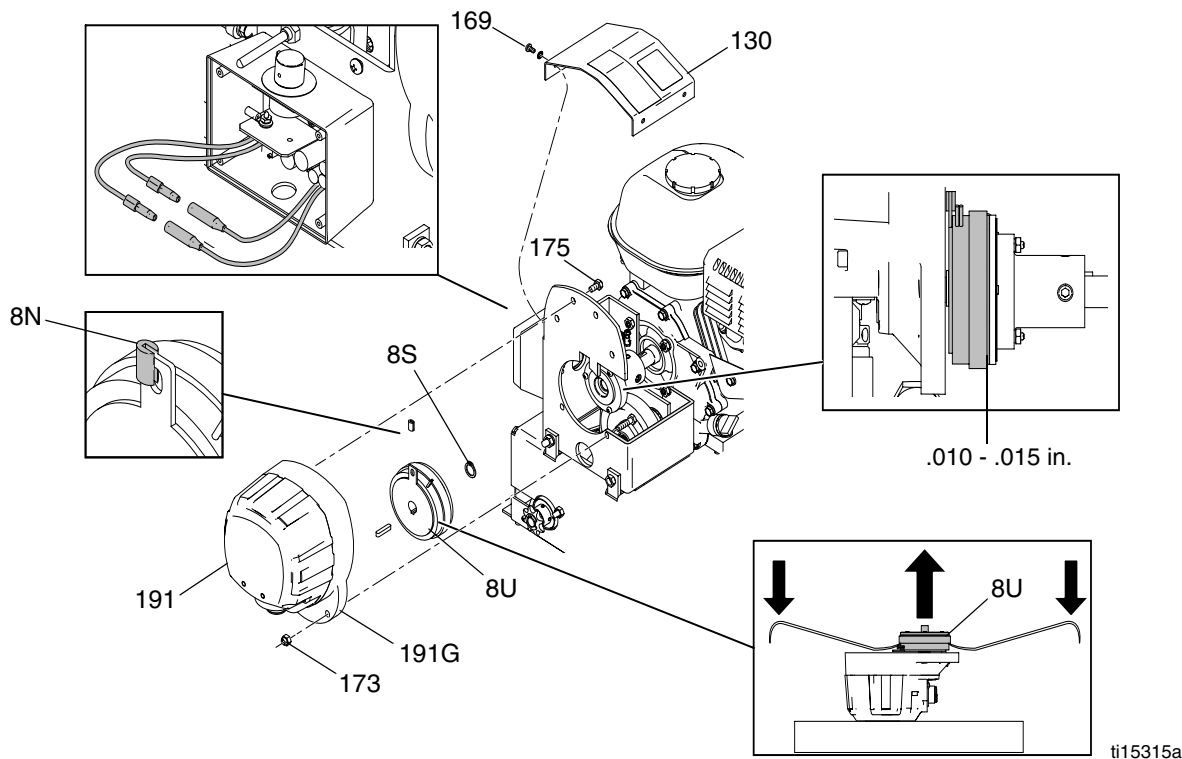
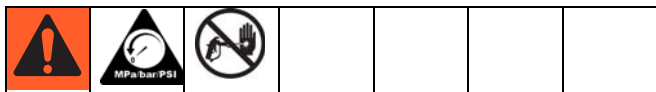
Do not turn the sensor. The cable will become damaged.

8. Start striper and operate slowly to check piston rod for binding. Readjust the two bolts to eliminate binding if necessary.
9. Tighten packing nut until slight resistance is felt against the belleville spring (these springs retain internal tension against the packings), then tighten an additional 3/4 turn. Place five drops of Throat Seal Oil into the packing nut.
10. Run the striper at full pressure for several minutes. Perform **Pressure Relief Procedure**, see page 8, and readjust the packing nut (see step 8).
11. Install connecting rod shield so that the small hole is in the upper right hand corner.



ti15395a

Clutch



Removal

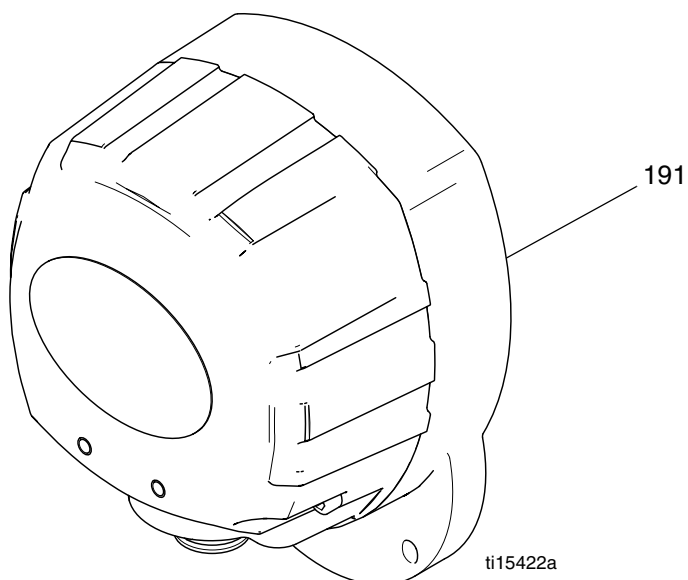
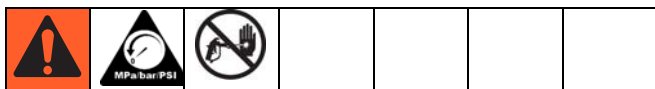
1. Perform **Pressure Relief Procedure**, page 7.
2. Remove pail (103).
3. Disconnect and remove siphon and drain tubes.
NOTE: When siphon tube is removed from pump intake, be sure to catch ball cage, ball, ball seat, and o-ring or they will fall to the floor. Keep these pieces together in the same order.
4. Remove **Control Board Cover**, page 23.
5. Disconnect pressure sensor wire, page 22.
6. Remove **Pump**, page 25.
7. Remove four screws (169) on clutch housing cover (130) and remove cover.
8. Cut plastic wire holder (be careful not to cut wires), and disconnect clutch wire. Mark wires to refer to when reconnecting.
9. Remove four top screws (175) and two bottom screws and nuts (173) and remove gear box (191).
10. Use a small pliers to remove clutch retaining clip (8S).
11. Place clutch housing on a flat surface and use two pry bars to evenly lift clutch off of shaft.

NOTE: The clutch installs onto a square key. Retain key when removing clutch.

Installation

1. Install key into shaft.
2. Install edge grommet onto side of clutch orientation tab. **NOTE:** If the clutch is not installed correctly, a loud rattle will be heard during operation.
3. Align new clutch with keyway and push clutch (8U) onto shaft.
4. Install clutch retaining clip (8S).
5. Align clutch orientation tab with slot on gear box and replace clutch housing (191G). Tighten screws (173 and 175). Check gap between clutch and clutch plate (clutch should be .010 to .015 in. from gear box).
6. Route wires through tie strap and secure into place.
7. Replace clutch housing cover (130) and tighten four screws (169).
8. Replace **Pump**, page 25.
9. Reconnect pressure sensor wire, page 22.
10. Replace **Control Board Cover**, page 23.
11. Reconnect siphon and drain tubes.
12. Replace pail (103).

Gear Box



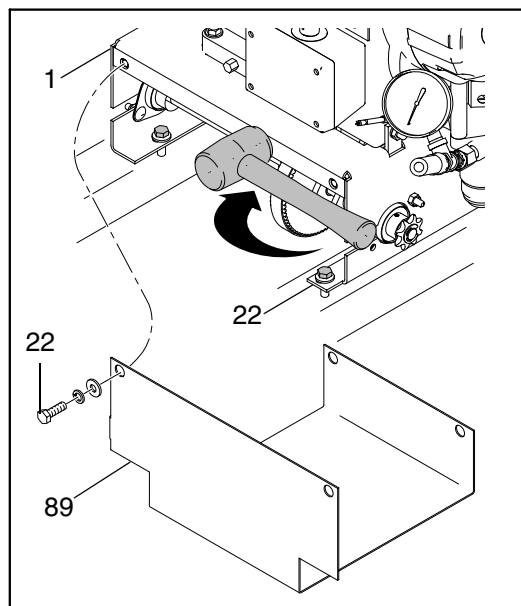
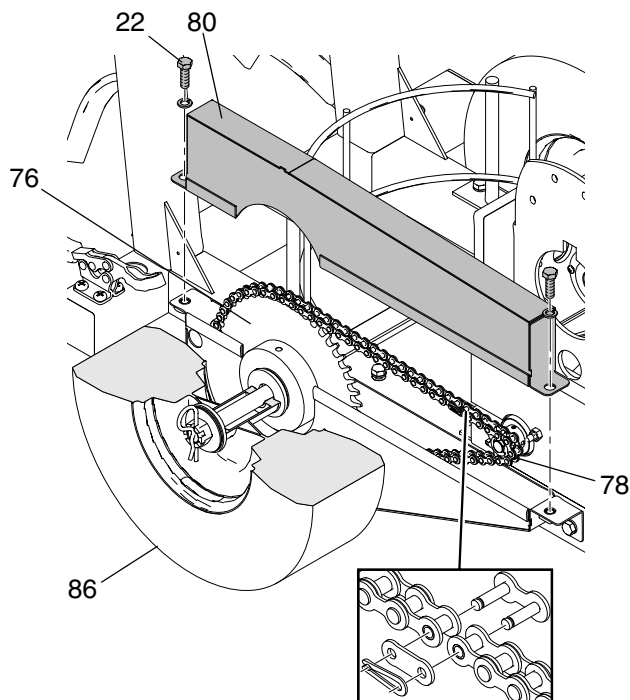
Removal

1. Perform **Pressure Relief Procedure**, page 7.
2. Remove **Pail Bracket**, page 21.
3. Disconnect and remove all hoses. **NOTE:** When siphon tube is removed from pump, be sure to catch ball cage, ball, ball seat, and o-ring or they will fall to the floor. Keep these pieces together in the same order.
4. Remove **Pressure Sensor**, page 22.
5. Remove **Pump**, page 25.
6. Remove **Clutch**, page 28.
7. Remove gear box (191).

Installation

1. Replace gear box (191).
2. Replace **Clutch**, page 28.
3. Replace **Pump**, page 25.
4. Replace **Pressure Sensor**, page 22.
5. Reconnect all hoses.
6. Replace **Pail Bracket**, page 21.

Drive Chain



ti15318a

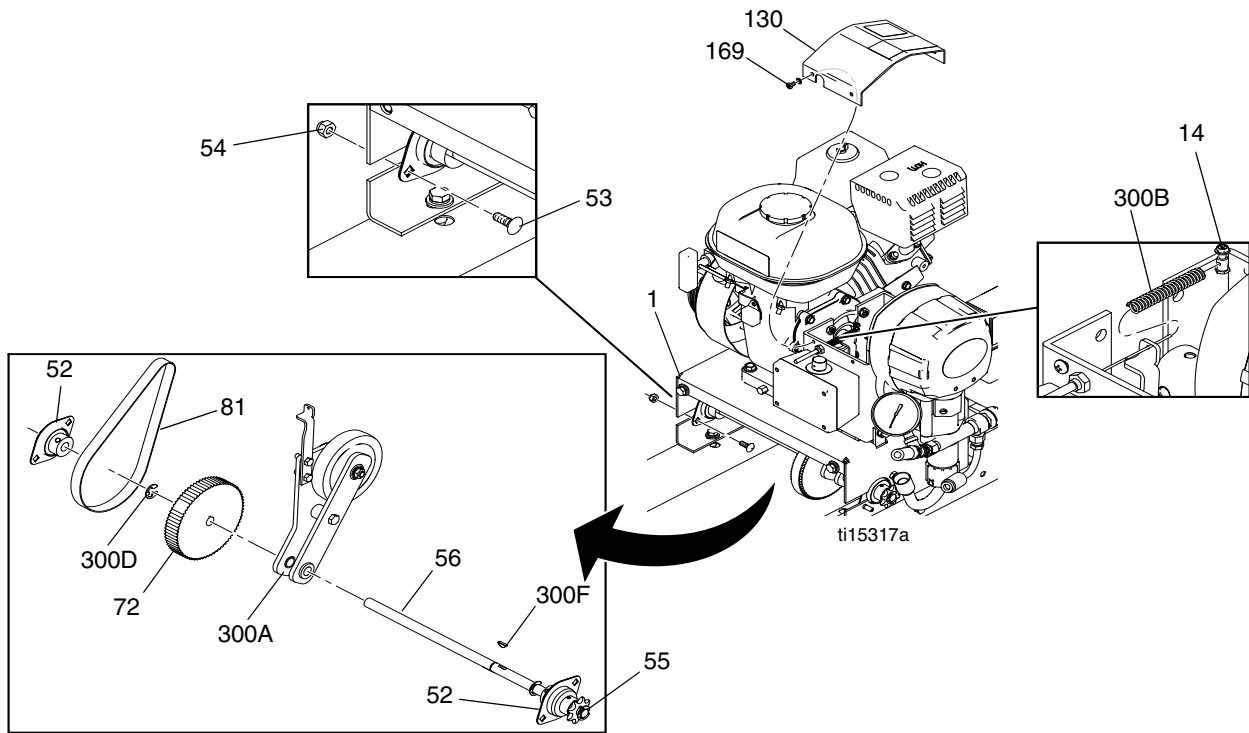
Removal

1. Perform **Pressure Relief Procedure**, page 7.
2. Remove **Pail Bracket**, page 21.
3. Remove four bolts (22) and remove bottom engine cover (89).
4. Loosen four bolts (22) on engine mount bracket (1) and tap with mallet to move bracket toward large sprocket (76) to loosen chain.
5. Remove two bolts (22) and remove top chain guard cover (80).
6. Slowly turn tire (86) by hand to rotate chain (78) and locate master link. Disassemble and remove master link.
7. Remove chain (78)

Installation

1. Install new chain (78) and connect master link.
2. Use a rubber mallet to tap engine bracket away from large sprocket (76) until chain is tight.
3. Replace top chain guard cover (80) and tighten two bolts (22).
4. Tighten four bolts (22) on engine bracket mount (1).
5. Replace bottom engine cover (89) and tighten four bolts (22).
6. Replace **Pail Bracket**, page 21.

Drive Assembly



Removal

1. Perform **Pressure Relief Procedure**, page 7.
2. Remove **Pail Bracket**, page 21.
3. Remove **Drive Chain**, page 30.
4. Remove four screws (169) and washers and remove clutch housing cover (130).
5. Loosen screw on drive engage cable (14) from drive assembly arm and remove spring (300B).
6. Use allen wrench to loosen two set screws on bearing (52) on each side of drive assembly (300A).
7. Remove two nuts and bolts (53 and 54) on bearing shaft collar flanges (52) on each side of drive assembly.
8. Slide shaft collar flanges and slide bearings in and remove drive assembly (300A).
9. Slowly turn pulley wheel (72) by hand while pushing belt (81) off of pulley to remove belt.
10. Slide one bearing (52) off drive assembly.
11. Remove retaining clip (300D) and remove pulley (72) from drive assembly.
12. Slide drive assembly (300A) off drive shaft (56).

NOTE: Pulley wheel (72) is held into position with woodruff key. Retain key for reinstallation.

Installation

1. Slide new drive assembly (300A) onto drive shaft (56).

2. Install woodruff key (300F) onto drive shaft (56).
3. Install pulley (72) onto drive shaft (56) and woodruff key (300F) and install retaining clip (300D).
4. Slide bearing (52) back onto shaft. Note the orientation (do NOT install backwards).
5. Slowly turn pulley wheel by hand while pushing belt (81) onto large sprocket (72) to install belt.
6. Replace drive assembly (300A) and slide shaft collars and bearings (52) into frame.
7. Tighten four nuts and bolts (53 and 54) on shaft collar flanges on engine mounting bracket (1).
8. Use rubber mallet to tap on small sprocket (55) until it becomes aligned with drive chain sprocket (76). Hold a straight-edge to both sprockets to make sure they are properly aligned (see page 35).
9. Use allen wrench to tighten two screws on bearings (52) on each side of drive assembly.
10. Install drive engage cable (14) to drive assembly arm, replace spring (300B), and tighten screw. Check cable engagement and make adjustments if needed.
11. Replace clutch housing cover (130) and tighten four screws (169) and washers.
12. Replace **Drive Chain**, page 30.
13. Replace **Pail Bracket**, page 21.

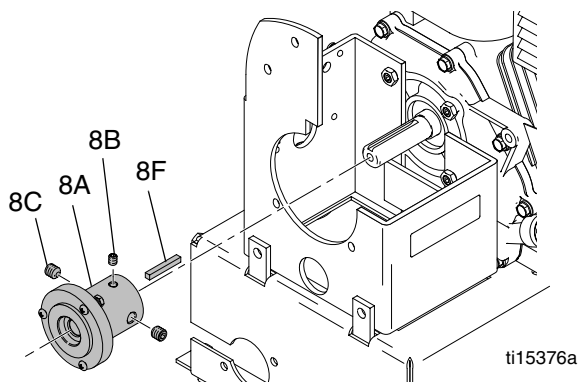
Engine

For further information on engine maintenance and repair, see Honda Engine manual.

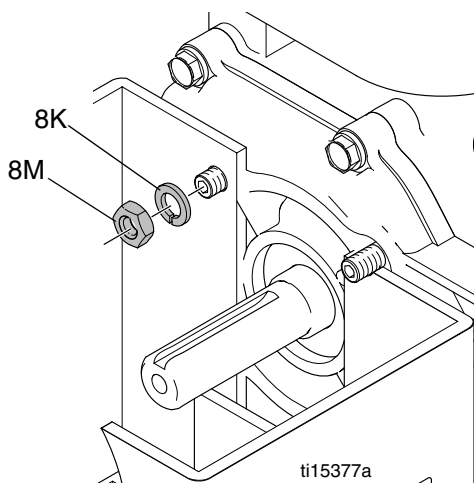


Removal

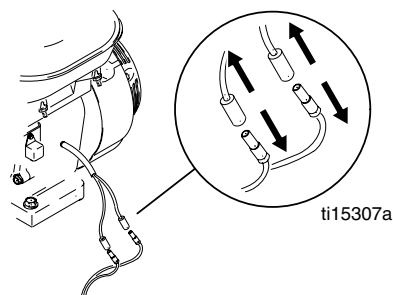
1. Perform **Pressure Relief Procedure**, page 7.
2. Remove **Pail Bracket**, page 21.
3. Remove **Gear Box**, page 29.
4. Remove **Drive Chain**, page 30.
5. Remove **Drive Assembly**, page 31.
6. Remove three set screws (8C) and clutch adapter (8A). Remove key (8F) from shaft.



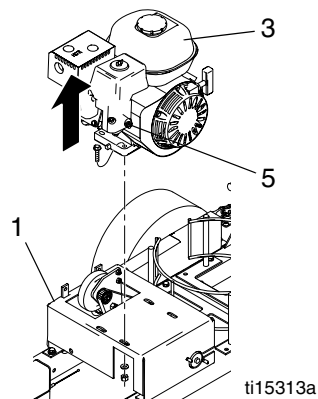
7. Remove four hex nuts (8M) and washers (8K) between clutch housing and engine.



8. Disconnect engine wire(s). Be sure to mark wires to refer to when reconnecting.

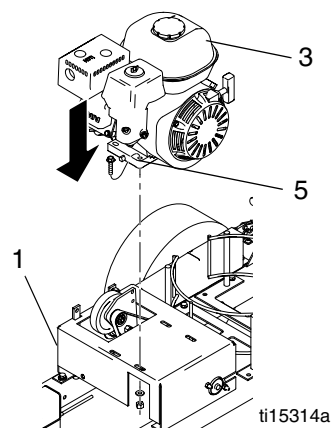


9. Use wrench to remove four engine bolts (5) and remove engine (3) from engine mount bracket (1).

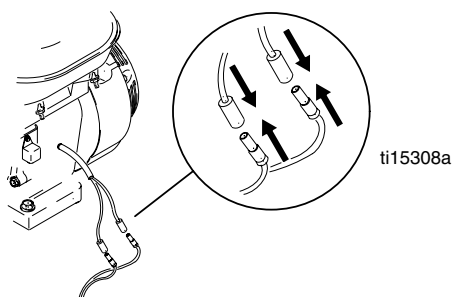


Installation

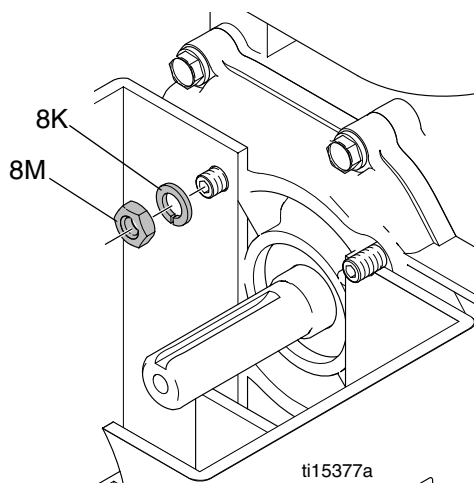
1. Install new engine (3) into engine mount bracket (1) and use wrench to tighten four engine bolts (5).



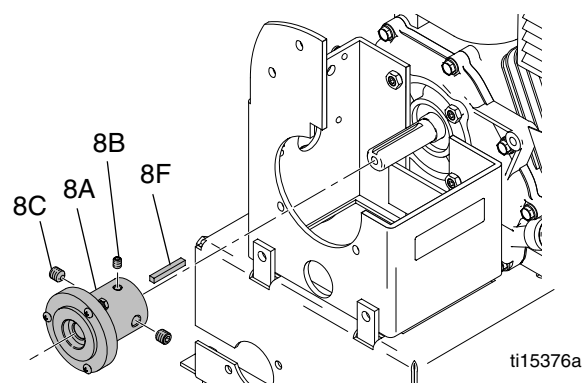
2. Connect engine wires.



3. Replace four hex nuts (8M) and washers (8K) between clutch housing and engine.

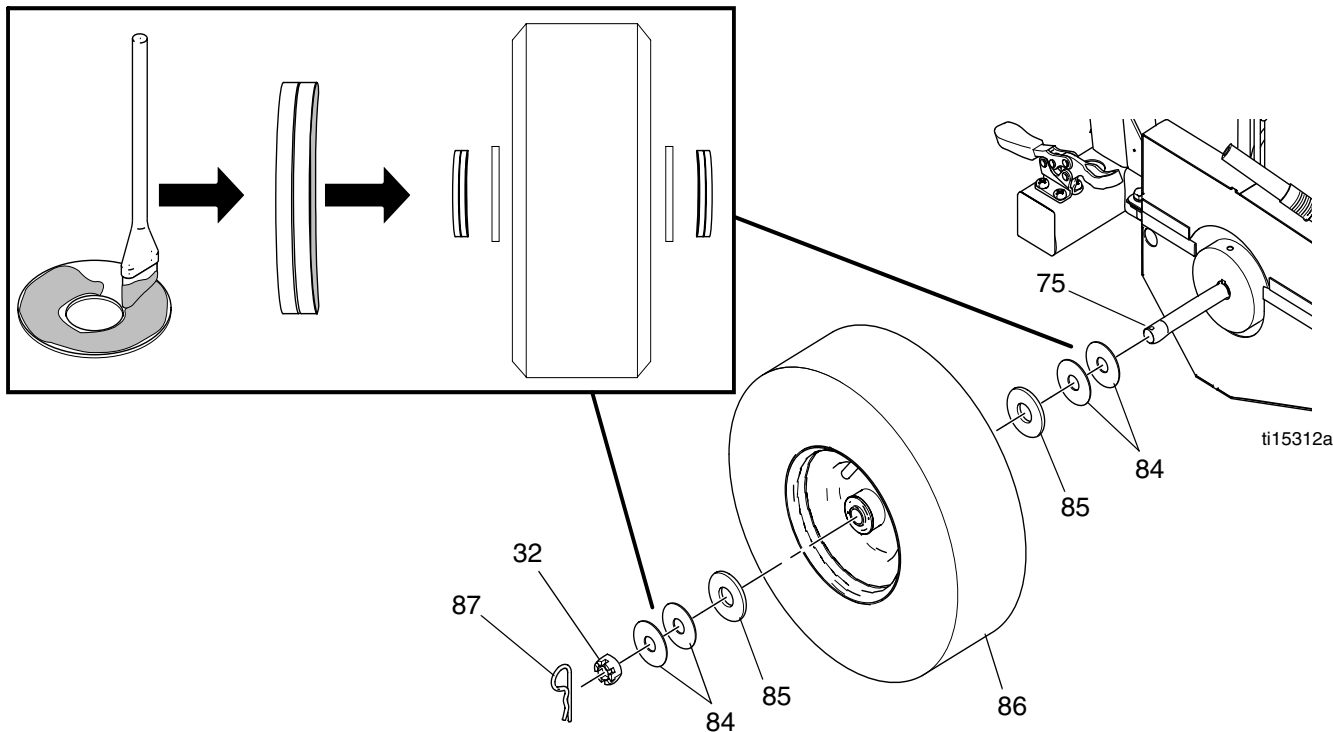


4. Install key (8F) into shaft. Replace clutch adapter and tighten three set screws (8C). Clutch adapter plate should be .010 to .015 in. from clutch.



5. Replace **Drive Assembly**, page 31.
6. Replace **Drive Chain**, page 30.
7. Replace **Gear Box**, page 29
8. Replace **Pail Bracket**, page 21.

Tires



Removal

1. Perform **Pressure Relief Procedure**, page 7.
2. Remove hairpin (87).
3. Use wrench to remove castle nut (32).
4. Remove washers (84 and 85) and tire (86).

Installation

NOTE: Apply quality-grade water resistant grease to axle and all washer surfaces prior to assembly.

1. Install spacer and washers (84 and 85) onto axle (75). **NOTE:** Make sure cupped sides of washers face the wheel hub.
2. Install tire (86) and remaining spacers and washers.
3. Install castle nut (32) and hand tighten.
4. Use a wrench to turn castle nut (32) an additional 3 1/2 full turns. Insert hairpin (87) through castle nut slots.

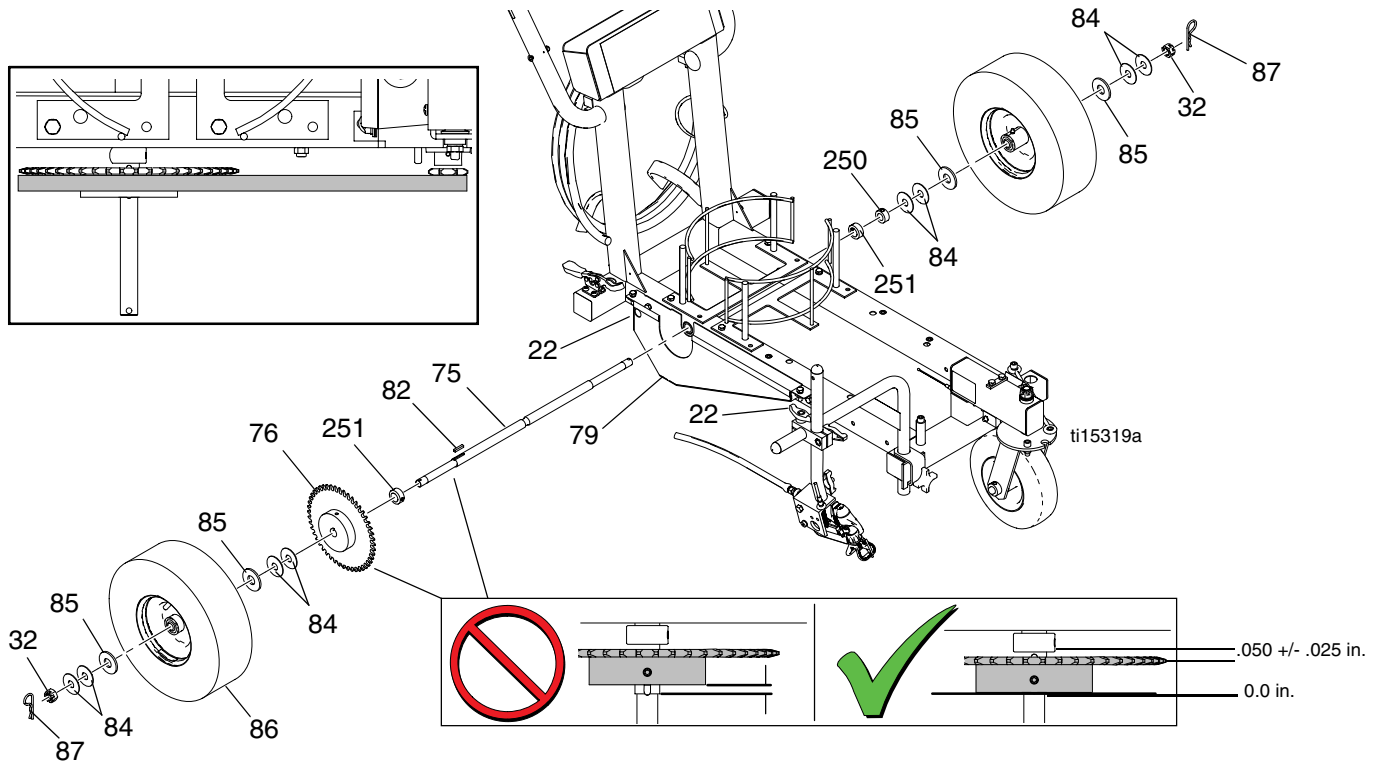
Castle Nut Adjustment

- Restrain opposite tire from turning while tightening nut with wrench.
- If tires slip too much, remove hairpin (87), and tighten castle nut (32) one notch clockwise.
- If tires turn with too much resistance, remove hairpin and turn castle nut (32) one notch counterclockwise.
- Tire tension should be tested again while operating unit to verify correct tension.
- Make sure all washers are oriented so that the cup is facing the wheel.

NOTICE

The drive wheel is designed to slip when adjusting the drive wheel. Do NOT over-tighten castle nut. The axle could become locked and damage the drive assembly.

Wheel Axle



Removal

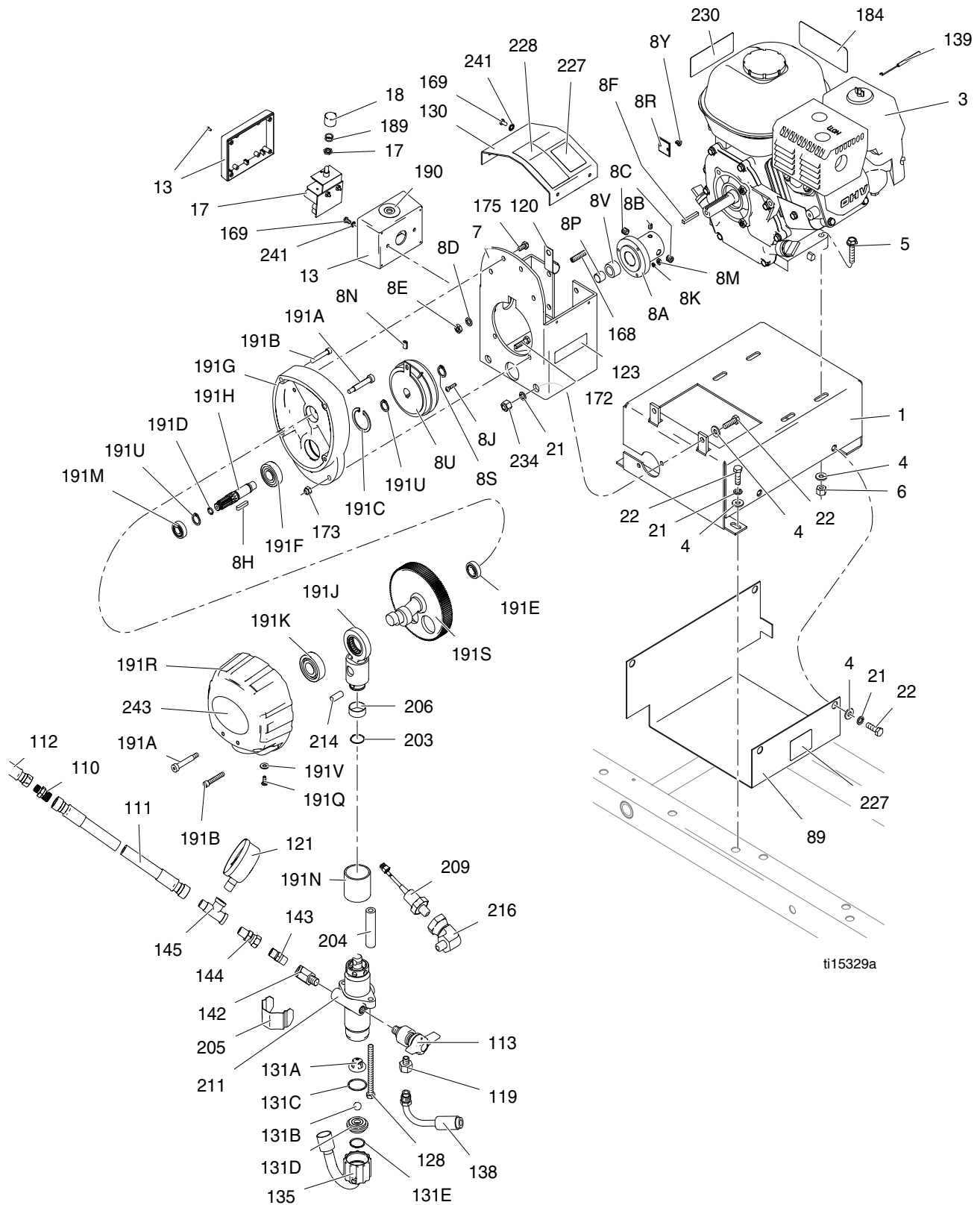
1. Perform **Pressure Relief Procedure**, page 7.
2. Remove **Drive Chain**, page 30.
3. Set unit on blocks to elevate wheels.
4. Remove **Tires**, page 34.
5. Use socket with extension to remove two bolts (22) in bottom chain guard (79).
6. Use allen wrench to remove two set screws and slide sprocket (76) off axle (75). Remove sprocket square key (82) on axle. **NOTE:** It may be necessary to use a rubber mallet to tap sprocket off of axle.
7. Use allen wrench to loosen screws on shaft collars (250 and 251) and remove collars.
8. Remove axle (75).

Installation

NOTE: Apply quality-grade water resistant grease to entire axle surface prior to assembly.

1. Replace axle (75) as shown above.
2. Replace shaft collars (250 and 251) and use wrench to tighten screws.
3. Install sprocket key in axle as shown above. Slide sprocket (76) on and use allen wrench to tighten two setscrews.
4. Use grease gun to fill grease inlet until grease appears between axle and outer collars.
5. Use straight edge to align small and large sprockets.
6. Slide collar against frame and tighten set screw.
7. Slide opposite collar against frame and tighten set screw.
8. Replace bottom chain guard (79) and use socket with an extension to tighten two bolts (22).
9. Replace **Tires**, page 34.
10. Replace **Drive Chain**, page 30.

Parts



Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
1	24D772	SPACER, motor, weldment	1	142	121283	FITTING, 1/4 mf x 45 degree	1
3	114530	ENGINE, gas, 5.5HP, Honda	1	143	162453	CONNECTOR, hose connect	1
4	100527	WASHER, plain	14			1/4 nps x npt	
5	110837	SCREW, flange, hex	4	144	156823	SWIVEL, 1/4 NPT M>F nps	1
6	110838	NUT, lock	6	145	116504	FITTING, tee 1/4 npt M-F-F	1
7	24E115	BRACKET, mounting, weldment	1	168	331496	SCREW, set, 5/16-24	4
8	24E860	KIT, clutch, repair		169	110637	SCREW, 10-24 x .37 .PN HD	6
8A		ADAPTER, clutch	1	172	867496	SCREW, 1/4-20 x 1.00 HX HD	2
8B		SCREW, set, socket head	1	173	136217	NUT, nut 1/4-20 jam ny-lock st	2
8C		SCREW, set, 3/8-24 x .38	2	175	100333	SCREW, 1/4-20 x .50 HEX HD	4
8D		WASHER, lock	4	184	342461	LABEL, engine speed	1
8F		KEY, (for motor shaft)	1	189	331184	SPACER, 3/8 id .54 od .23l	1
8H		KEY, key 5mm sq x 25mm	1	190	342520	LABEL, pressure	1
8J		SCREW, screw #8-32	3	191	24E861	KIT, gear box, repair	
8K		WASHER, washer locking	3	191A		SCREW, shoulder screw	2
8M		NUT, locknut- 8-32	3			5/16 x 1.50	
8N		EXTRUSION, rubber extrusion	1	191B		SCREW, 1/4-20 x 1.50	2
8P		BUSHING, PTFE lined	1	191C		RETAINER, internal 40mm	1
8R		BASE, mounting	1	191D		O-RING, 2-011 extreme VT	1
8S		RETAINER, ring	1	191E		BEARING, ball bearing 6001	1
8U		CLUTCH, clutch mcs-1.2	1	191F		BEARING, 6203 2RS	1
8V		BUSHING	1	191G		HOUSING, end bell machined	1
8Y		TIE STRAP	1	191H		SHAFT, pinion	1
13	305277	ENCLOSURE, machined	1	191J		YOKE, crosshead assy	1
17	865676	KIT, control, press. control	1	191K		BEARING, ball bearing 6204	1
18	867291	KNOB	1	191M		BEARING, ball bearing 6001	1
21	100214	WASHER, lock	28	191N		BEARING, sleeve	1
22	124227	SCREW, cap, hex HD, 5/16-18 x 1.00	22	191Q		SCREW, 10-24 x .50 .flphhd	2
				191R		COVER, machined striper	1
89	16D355	COVER, drive, bottom	1	191S		GEAR, crank .32 assy	1
110	164672	ADAPTER	1	191U		RETAINER, ring	2
111	867742	HOSE, whip hose 3/8 in. x 6 ft	1	191V		WASHER, .562 .250 .060 .st	2
113	866428	KIT, drain, valve	1	203	331062	CLIP, retaining	1
119	867759	CONNECTOR, male, 3/8 tube x 1/8 pipe	1	204	331074	SPACER, 2.691 long	2
				205	331111	COVER, guard	1
120	866211	CLIP, J clip	1	206	331117	SLEEVE	1
121	102814	GAUGE, press, fluid	1	209	331294	SENSOR, assy	1
128	867539	SCREW, screw 5/16-18 x 3.75 HX HD	4	211	331432	KIT, LP pump replacement (includes 131A, 131B, 131C, 203, 214) See pump parts list, page 43	1
130	305268	COVER, cover engine mount	1				
131	24E849	KIT, pump, inlet, repair		214	866082	PIN, cross pin .375	1
131A		RETAINER, retainer ny 6/6 gf	1	216	155541	FITTING, swivel, 90 degree	1
131B		BALL, ball .500 GR100	1	227▲	198492	LABEL, warning	3
131C		O-RING, o-ring 2-024	1	228▲	15F638	LABEL, GMAX warning fire & skin	1
131D		SEAT, suction seat assy lo-boy	1	230▲	194126	LABEL, warning	1
131E		O-RING	1	234	111303	NUT	1
135	331290	HOSE, suction hose assy (includes 131E)	1	241	100718	WASHER, star	6
138	248217	KIT, repair, drain hose (includes 220)	1	243	124310	LABEL, identification, Pioneer	1
139	305376	CABLE, throttle cable	1				

▲ Replacement Danger and Warning labels, tags, and cards are available at no cost.

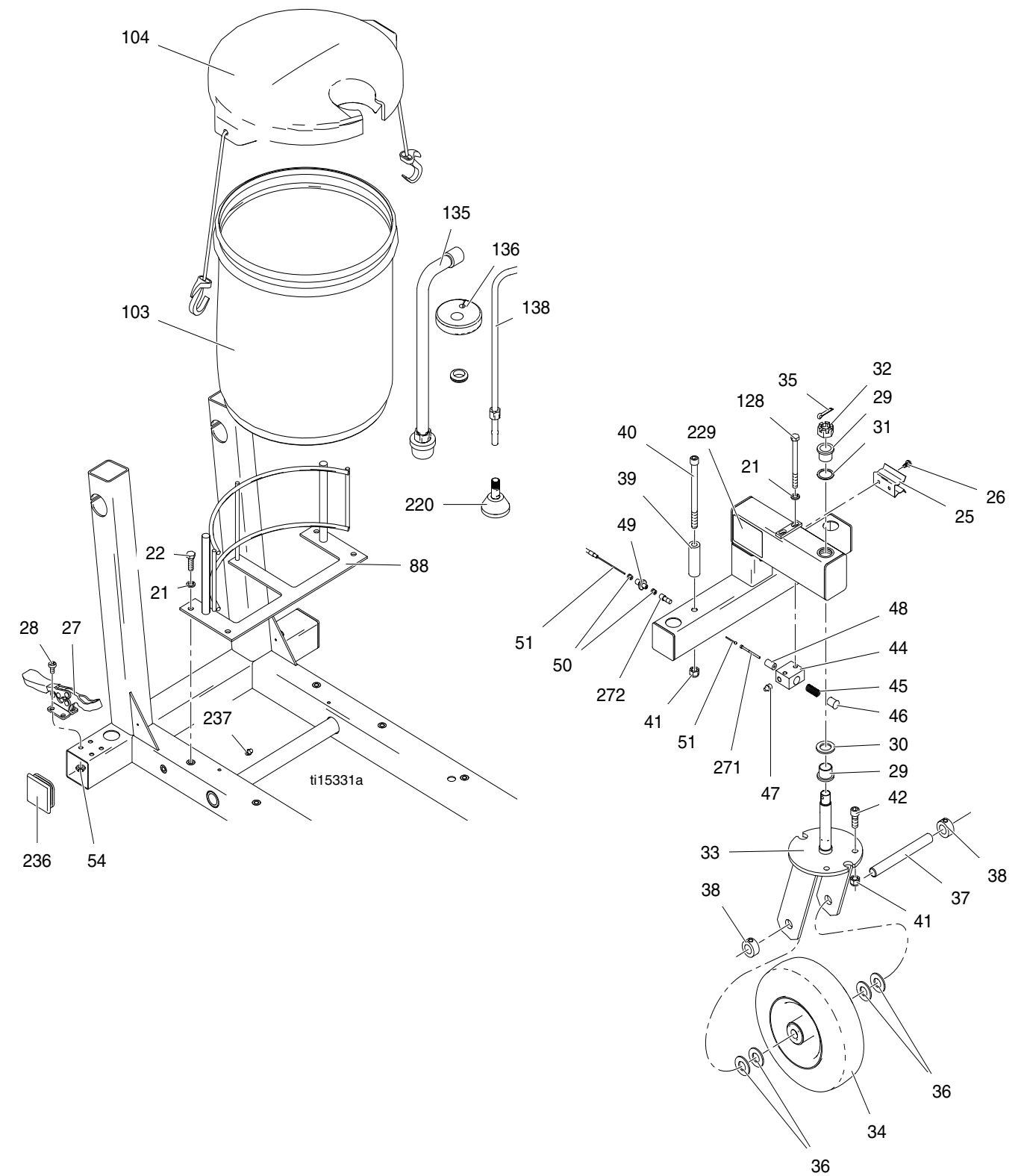


Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
2	305245	FRAME, Pioneer	1	101	124133	SPRING, compression	1
6	110838	NUT, lock	6	105	867125	CLAMP, clamp	1
14	123937	CABLE, drive	1	106	305108	PLATE, plate	1
21	100214	WASHER, lock	28	108	139353	ARM, arm for sg- short	1
22	124227	SCREW, cap, hex HD, 5/16-18 x 1	22	109	143027	BALL, ball glide	2
23	305315	HANDLE, weldment, right	1	112	865674	HOSE, paint hose 1/4 in. x 50 ft	1
24	305314	HANDLE, weldment, left	1	118	123979	HOOK, hose	3
32	867021	NUT, 5/8-18 slotted nut	3	125	289316	GUN, 500, 4 finger, ASM, packaged	1
50	305089	INSERT, cable	4	137	111145	KNOB, pronged	1
51	866047	CABLE, assy 80.75	1	139	305376	CABLE, throttle	1
52	123900	BEARING, flange, 2 bolt	2	140	244524	WIRE, ground assembly w/ clamp	1
53	111570	BOLT, carriage	4	141	112798	SCREW, thread forming, hex hd	1
54	102040	NUT, lock, hex	11	146	867780	SCREW, 1/2-20 x 2.25", GRADE 5	2
55	123892	SPROCKET, driver 8 tooth	1	147	867318	NUT, nut- 1/2-20 lock	2
56	16D354	SHAFT, drive, main	1	148	867776	SCREW, hex head, 1/4-20 x 2.50	1
57	113983	RING, retaining	3	150	123975	BRACKET, cable, end	1
72	123903	PULLEY, drive, 5 mm, 72 groove	1	153	114137	SCREW, set	1
75	16D637	AXLE, frame	1	160	16E057	LABEL, Brite Striper 3000SP	1
76	16D155	SPROCKET, driven, 48 tooth	1	181	867419	CAP, tube, round	2
78	123899	CHAIN, roller #41	1	227▲	198492	LABEL, warning	3
79	24D643	GUARD, bottom, weldment	1	232	123974	KEY, square 1/8 x 3/4	1
80	24D644	GUARD, top, weldment	1	236	867107	CAP PLUG, square	1
81	123898	BELT, timing, 5 mm	1	238	158223	WASHER, special	2
82	113267	KEY, square	1	239	867638	HOLDER, cable	1
84	123973	WASHER, belleville	8	240	867487	SCREW	1
85	124190	WASHER, plain	4	250	24E842	COLLAR, socket head 5/8	1
87	124141	PIN, cotter, hairpin	2	251	24E844	COLLAR, socket head 3/4	2
86	301166	WHEEL, wheel 13	2	273	136023	CABLE, end lug	1
90	16D332	BLOCK, mounting, lever	1	300	24E733	KIT, assembly, drive	1
91	111235	SCREW, mach, pnh	1	300B		SPRING, compression	1
92	24D833	TRIGGER, handle, striper	1	300C		SWIVEL, wire swivel assy	1
93	305105	LEVER, lever 128 right hand	1	300D		RING, retaining, ext.	2
94	123938	GRIP, handle	2	300E		BEARING, bronze	2
95	866520	LEVER, assembly	1	300F		KEY, woodruff	1
96	111017	BEARING, flange	2				
97	116941	SCREW, shoulder, skt HD	1				
98	116969	NUT, lock	1				
100	124134	TUBE, cable	1				

▲ Replacement Danger and Warning labels, tags, and cards are available at no cost.

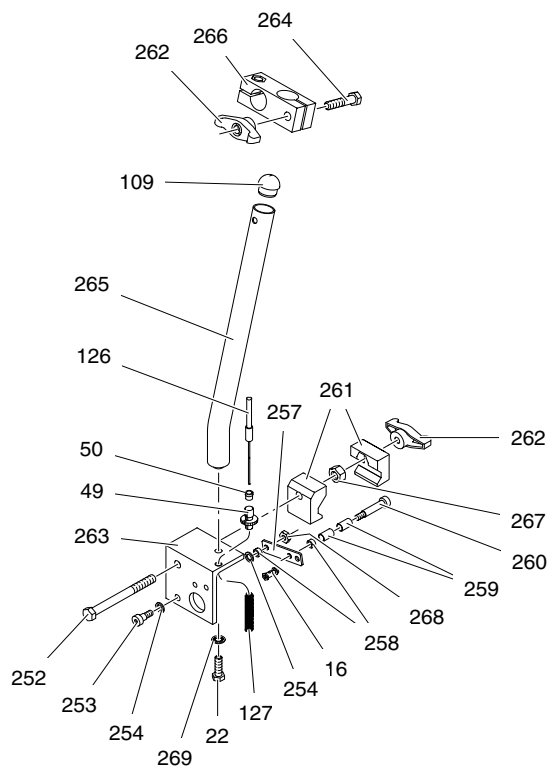
Parts



Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
21	100214	WASHER, lock	28	44	305258	LOCK, swivel	1
22	124227	SCREW, cap, hex HD, 5/16-18 x 1	22	45	136223	SPRING, compression .48od	1
25	867622	SPRING, clamp plated	1	46	305257	PIN, swivel lock	1
26	139355	SCREW, tek screw #10 x .500 tapng	2	47	867007	FITTING, grease ftg 1/8-27	1
27	305185	CLAMP, clamp (brake)	1	48	305259	LOCK, end lug-lock	1
28	113783	SCREW, machine, PN HD	4	49	305141	ADJUSTER, 8mm x 1.25	2
29	867230	BEARING, flanged	2	50	305089	INSERT, cable	4
30	154628	WASHER	1	51	866047	CABLE, assy 80.75 LG	1
31	145006	SEAL, washer flat CP	1	52	123900	BEARING, flange, 2 bolt	2
32	867021	NUT, 5/8-18 slotted nut	3	54	102040	NUT, lock, hex	11
33	305253	CLAMP, clamp-swivel	1	88	16D209	BRACKET, pail support weld	2
34	119542	WHEEL, small	1	103	305299	PAIL	1
35	867139	PIN, cotter pin 3/16 x 1.25L	1	104	287590	KIT, pail cover	1
36	111841	WASHER, plain 5/8	4	128	867539	SCREW, 5/16-18 x 3.75 HX HD	4
37	136230	AXLE, 5/8 x 5.50	1	135	331290	HOSE, suction hose assy	1
38	143029	COLLAR, set collar 5/8 ID	2	136	15F514	GASKET, pail	1
39	865010	SPACER, tube	2	138	248217	KIT, repair, drain hose (includes 220)	1
40	867520	SCREW, screw 3/8-16 x 5 SH CS.	2	220	241920	DEFLECTOR, threaded	1
41	101566	NUT, lock	4	233	16D431	GROMMET	1
42	C19837	SCREW, cap, socket HD	2	236	867107	CAP, tube, square	1
43	136231	TURNBUCKLE, 12-1/4 max (not shown)	1	237	100846	FITTING, lubtn, st	1

Gun Arm Parts

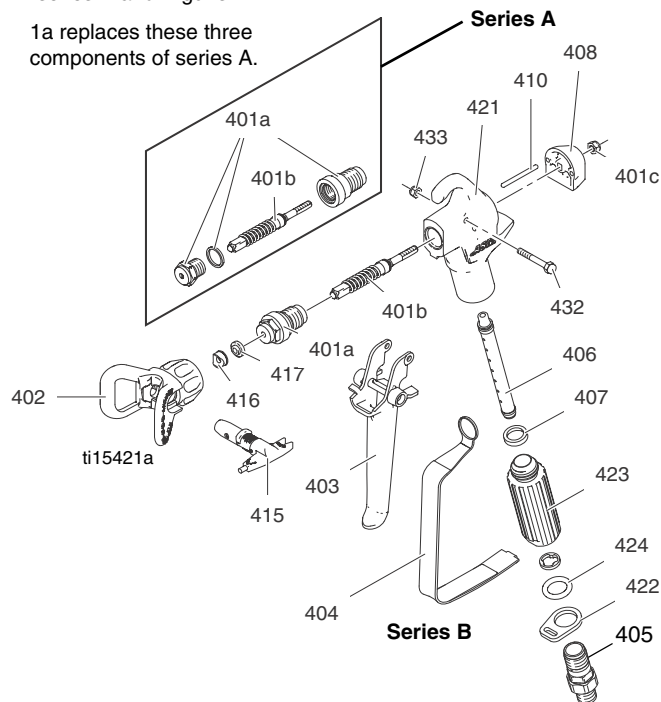


Ref.	Part	Description	Qty.
16	305079	SWIVEL, wire swivel assy	2
22	124227	SCREW, cap hex hd, 5/16-18 x 1.00	22
49	305141	ADJUSTER, adjuster 8mm x 1.25	2
50	305089	INSERT, cable	4
109	143027	BALL, ball glide	2
126	305077	CABLE, cable asy 115.5	1
127	867627	SPRING, spring compression	1
252	124234	SCREW, cap hex hd, 3/8-16x4, GR.5	1
253	305158	SCREW, shoulder screw 1/4-20	1
254	305156	WASHER, washer .499 x .315 x .052	2
257	305155	LEVER, lever - sg holder assy	1
258	305161	SPACER	2
259	305159	BEARING, sleeve bearing	2
260	866339	SCREW, shoulder screw 5/16 x 1.25	1
261	305152	CLAMP, clamp outer - casting	2
262	305157	KNOB, knob - sg holder assy	3
263	305154	BRACKET, bracket clamp - sg hold	1
264	867513	SCREW, screw 3/8-16 x 1.75 HX HD	2
265	305297	HOLDER, GS holder	1
266	867653	BLOCK, swivel clamp block plas.	1
267	100303	NUT, nut 3/8-16 zinc HX HD	1
268	140045	NUT, nut jam 1/4-20 x .15	2
269	100186	WASHER, lock washer	1

Gun Parts

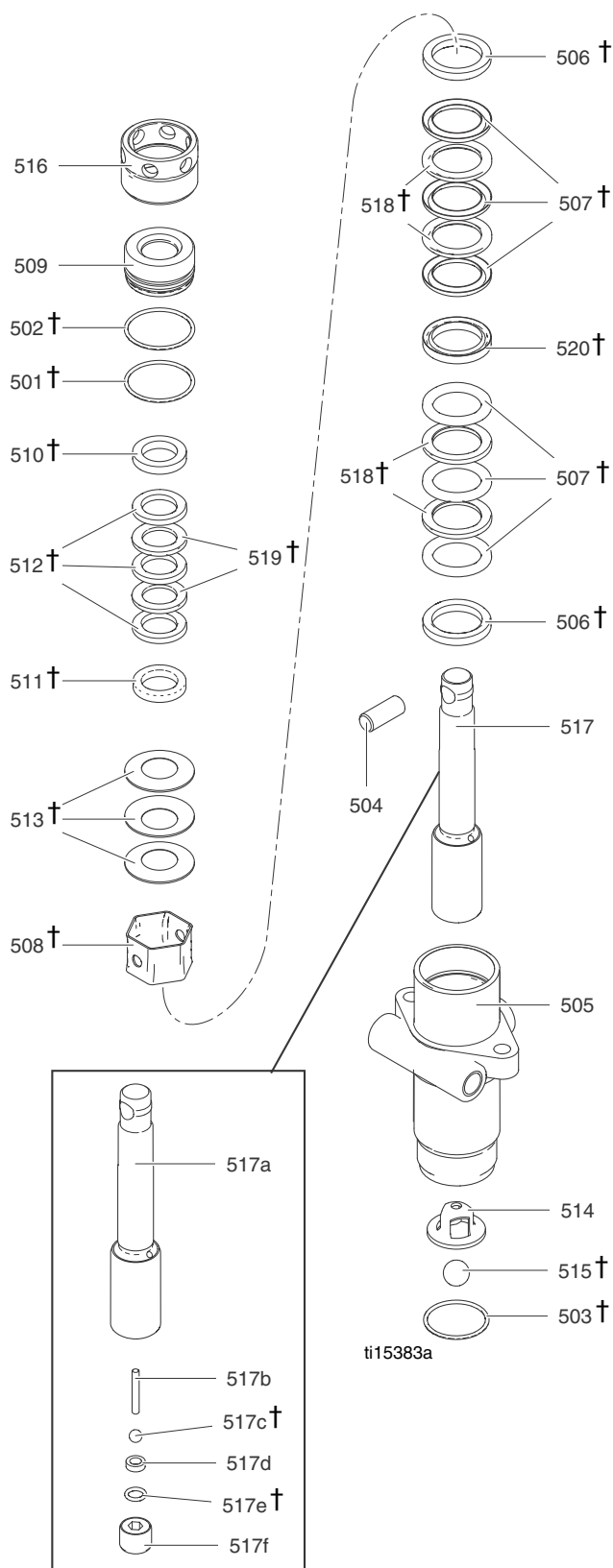
*Kit 288817 repairs both series A and B guns.

1a replaces these three components of series A.



Ref.	Part	Description	Qty.
401	288817	DIFFUSER/SEAT KIT (includes 1a, 1b, 1c)	1
401a		SEAT, valve	1
401b		NEEDLE	1
401c		NUT, lock	1
402	248200	GUARD, tip	1
403	255126	TRIGGER, 4 finger (288681, 289284)	1
404	195495	GUARD, trigger	1
405	287099	SWIVEL, gun	1
406	4433-2	FILTER, mesh 50, white (standard)	1
	4434-2	FILTER, mesh 100, yellow (optional)	1
	4435-2	FILTER, mesh 200, red (optional)	1
	4436-2	FILTER, mesh 30, green (optional)	1
407	4418	SEAL, sleeve	1
408	277430	CAP, end	1
410	115484	PIN, actuator	2
411	195419	HOUSING, needle	1
415	69-517	TIP, reversible, 517	1
	69-519	TIP, reversible, 519	1
	69-521	TIP, reversible, 521	1
416	195558	SEAT, cylinder	1
417	115524	GASKET	1
421	277429	HOUSING, fluid	1
422	119506	RETAINER, guard	1
423	717-20	HANDLE	1
424	C20179	PACKING, o-ring	1
432	177538	STUD, trigger	1
433	105334	NUT, lock, hex	1
437	15E774	WASHER (not shown, included with 405)	1

Pump Parts



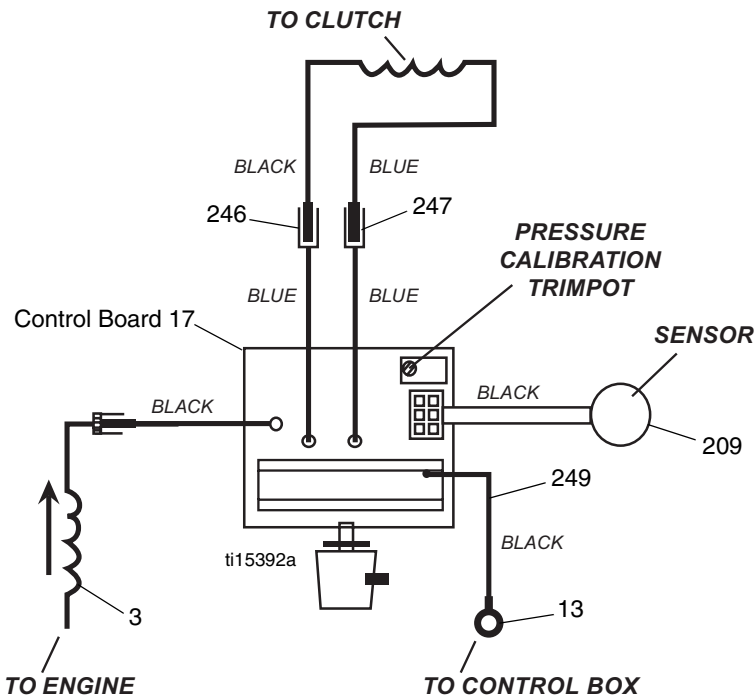
Pump Parts List

Ref.	Part	Description	Qty.
501	867362	O-RING, o-ring 2-026	1
502	867363	O-RING, o-ring 2-026	1
503	108526	O-RING, o-ring 2-024	1
504	866082	PIN, cross pin .375	1
505	331011	BODY, pump body	1
506	331014	ADAPTER, adaptor male	2
507	331016	PACKING, v-packing 1.349/.971 dia	6
508	331018	SPACER, spacer 1.33 x .85	1
509	331019	HOLDER, seal	1
510	331021	ADAPTER, adaptor female	1
511	331022	ADAPTER, adapter male	1
512	331023	PACKING, v-packing 1.064/.687 DIA	3
513	331025	WASHER, spring belleville	3
514	331029	RETAINER, retainer	1
515	331030	BALL, ball .500 gr100	1
516	331037	NUT, packing	1
517	331093	PISTON, assy, lp, rod	1
517a		PISTON	1
517b		PIN SPRING	1
†517c		BALL	1
517d		SEAT	1
†517e		O-RING	1
517f	331314	RETAINER	1
518	331306	PACKING, v-packing leather	4
519	331307	PACKING, v-packing leather	2
520	331308	ADAPTER, adaptor female	1

† These parts are also included in repair kit 331210 which may be purchased separately.

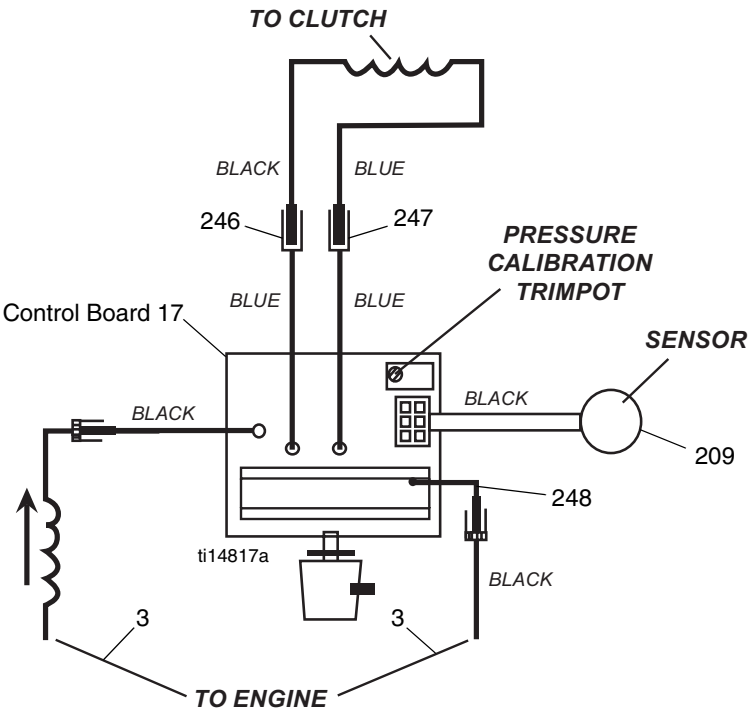
Pressure Control Wiring Diagram

Engine - Single Wire Models:



Ref.	Part	Description	Qty.
3	114530	ENGINE, gas	1
13	305277	ENCLOSURE, mach	1
17	865676	KIT, control, pressure (includes 246, 247)	1
209	331294	SENSOR, assy	1
246	117316	CONNECTOR, bullet M	1
247	867095	CONNECTOR, bullet F	1
248	24E873	WIRE, control board	1
249	24E874	WIRE, control board	1

Engine - Double Wire Models:



Technical Data

Brite Stripe 3000SP Striper:

Honda GX160 Engine

Power Rating @ 3400 rpm

ANSI 5.5 Horsepower

DIN 6270B/DIN 6271

NA 2.9 Kw - 4.0 Ps

NB 3.6 Kw - 4.9 Ps

Maximum working pressure..... 3000 psi (206 bar, 20.6 MPa)

Noise Level

Sound power..... 105 dBa, per ISO 3744

Sound pressure 96 dBa, measured at 3.1 feet (1 m)

Maximum delivery

Brite Stripe 3000SP 0.8 gpm (3.6 liter/min)

Maximum tip size

Brite Stripe 3000SP 1 gun with 0.029 in. tip

Inlet paint strainer 16 mesh (1190 micron) stainless steel screen, reusable

Outlet paint strainer 50 mesh (250 micron) stainless steel screen, reusable

Pump inlet size..... 3/4 in. npt (m)

Fluid outlet size 1/4 npsm from fluid filter

Wetted parts nickel-plated carbon steel, PTFE, Nylon, polyurethane, UHMW polyethylene, fluoroelastomer, acetal, leather, tungsten carbide, stainless steel, chrome plating

Dimensions:

Model 867786

Weight (dry, without packaging) 188 lb (85.2 kg)

Height Handles Down: 29.75 in. (76 cm) / Handles Up: 45 in. (114 cm)

Length Handles Down: 54 in. (137 cm) / Handles Up: 63 in. (160 cm)

Width 26.5 in.

Gun:

Maximum Working Pressure	3600 psi (248 bar, 25 MPa)
Fluid Orifice Size	0.125 in. (3.18 mm)
Weight (with tip and guard)	22 oz (630 g)
Inlet	1/4 npsm swivel
Maximum material temperature	120° F (49° C)
Wetted Parts	Stainless steel, polyurethane, nylon, aluminum, tungsten carbide, solvent resistant elastomer, brass
Noise Level*	
Sound Power	87 dBa
Sound Pressure	78 dBa

*Measured at 3.1 ft (1 m) while spraying water-based paint, specific gravity 1.36, through a 517 tip at 3000 psi (207 bar, 20.7 MPa) per ISO 3744.

Notes

[illegible]

Notes

[illegible]

PIONEER LIMITED WARRANTY

PIONEER warrants the Brite Striper 3000SP manufactured by it to be free from defects in material and workmanship on the date of sale by an authorized PIONEER Distributor to the original purchaser. Pioneer will, for the period of twelve (12) months from the date of sale, repair or replace any part of the equipment proven defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Pioneer's written recommendations.

This Warranty does not apply to equipment which has been resold or rented, or has damage from wear caused by abrasion, corrosion or misuse, negligence, accident, faulty installation or tempering in a manner to impair normal operation, inadequate or improper maintenance or substitution of non-Pioneer component parts.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to a Pioneer authorized service center for verification of the claim. If the claim is verified, Pioneer will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

Pioneer makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose, with respect to accessories, equipment, materials or components sold but not manufactured by Pioneer. These items sold, but not manufactured by Pioneer, such as engines, hoses, etc, are subject to warranty, if any, of their manufacturer. Pioneer will provide purchaser with reasonable assistance in making any claim for these warranties.

TO PLACE AN ORDER OR FOR SERVICE, contact Pioneer at
1-800-877-1500 (fax 1-800-877-1511) to identify the nearest service center.

*All written and visual data contained in this document reflects the latest product information available at the time of publication.
Pioneer reserves the right to make changes at any time without notice.*

MM 3A0441

Original instructions. This manual contains English.

Pioneer Athletics
4529 Industrial Parkway
Cleveland, OH 44135
www.pioneerathletics.com
01/2010