

Repair – Parts List



LineLazer™ IV 200HS Airless Paint Striper

Chinese Patent ZL03802251.6
U.S. Patent 6,913,417

311021 rev.H

– For the application of line striping materials –

3300 psi (228 bar, 22.8 MPa) Maximum Working Pressure

248870	✓		✓			
248871		✓	✓			
249012	✓			✓		
249013		✓		✓		
248872	✓		✓		✓	
248873		✓	✓		✓	✓



[311018](#)



[309277](#)



[309741](#)



[309055](#)

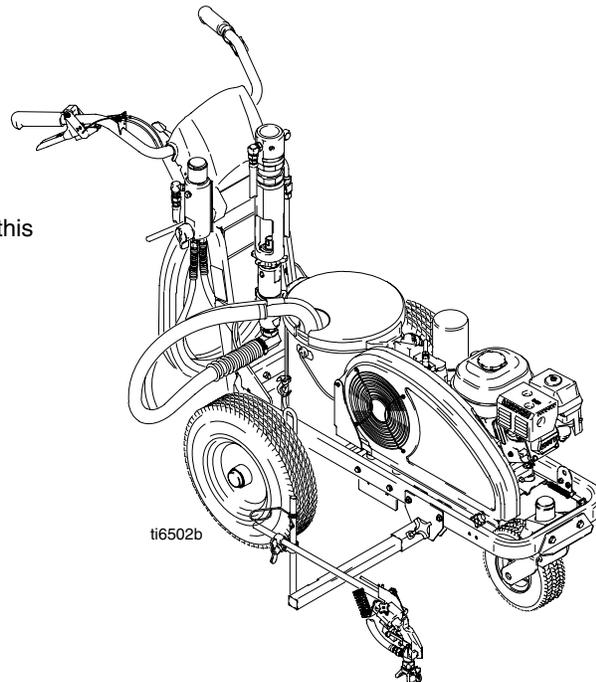


[311049](#)



Important Safety Instructions

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



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Warnings

The following Warnings are for the safe setup, use, grounding, maintenance and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. Refer back to these Warnings.

WARNING



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:

- 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 equipment and conductive objects in work area. See Grounding instructions.
- Use grounded hoses only.
- 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 fire extinguisher in the work area.



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.



SKIN INJECTION HAZARD

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.**

- Do not point gun at anyone or any part of the body.
- Do not put your hand over spray tip.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not spray without tip guard and trigger guard installed.
- Engage trigger lock when not spraying.
- Follow **Pressure Relief Procedure** in this manual when you stop spraying and before cleaning, checking or servicing equipment.



PRESSURIZED EQUIPMENT HAZARD

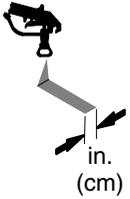
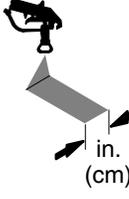
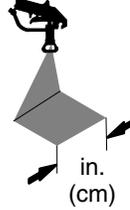
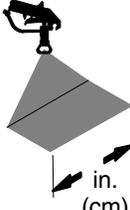
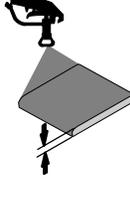
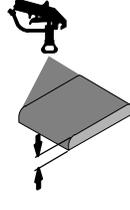
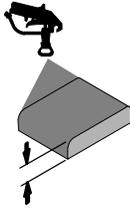
Fluid from gun/dispense valve, leaks or ruptured components can splash in the eyes or on skin and cause serious injury.

- Follow **Pressure Relief Procedure** in this manual when you stop spraying and before cleaning, check or servicing equipment.
- Tighten all fluid connections before operating equipment.
- Check hoses, tubes and couplings daily. Replace worn or damaged parts immediately.

WARNING

 INSTRUCTIONS	EQUIPMENT MISUSE HAZARD Misuse can cause death or serious injury. <ul style="list-style-type: none">• Do not exceed the maximum working pressure of the lowest rated system component. See Technical Data in all equipment manuals.• Use fluids or solvents that are compatible with equipment's wetted parts. See the Technical Data in all equipment manuals. Read the fluid and solvent manufacturer's warnings.• Check the equipment daily. Repair or replace worn or damaged parts immediately.• Do not alter or modify equipment• Read all instruction manuals, tags, and labels before operating the equipment.• Use the equipment only for its intended purpose. Call your Graco distributor for information.• Route the hoses away from the traffic areas, sharp edges, moving parts, and hot surfaces.• Do not kink or overbend hoses or use hoses to pull the equipment.• Keep children and animals away from work area.• Comply with all applicable safety regulations.
	BURN HAZARD Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns, do not touch hot fluid or equipment. Wait until equipment/fluid has cooled completely.
	MOVING PARTS HAZARD Moving parts can pinch or amputate fingers and other body parts. <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 in this manual. Disconnect power or air supply.
	PERSONAL PROTECTIVE EQUIPMENT 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, inhalation of toxic fumes, burns and hearing loss. This equipment includes but is not limited to: <ul style="list-style-type: none">• Protective eyewear• Clothing and respirator as recommended by the fluid and solvent manufacturer• Gloves• Hearing protection
	RECOIL HAZARD Brace yourself; gun may recoil when triggered and cause you to fall, which could cause serious injury.

Tip Selection

	 in. (cm)	 in. (cm)	 in. (cm)	 in. (cm)			
LL5213*	2 (5)				✓		
LL5215*	2 (5)					✓	
LL5217		4 (10)				✓	
LL5219		4 (10)					✓
LL5315		4 (10)			✓		
LL5317		4 (10)			✓		
LL5319		4 (10)				✓	
LL5321		4 (10)				✓	
LL5323		4 (10)				✓	
LL5325		4 (10)					✓
LL5327		4 (10)					✓
LL5329		4 (10)					✓
LL5331		4 (10)					✓
LL5333		4 (10)					✓
LL5335		4 (10)					✓
LL5355		4 (10)					✓
LL5417			6 (15)		✓		
LL5419			6 (15)		✓		
LL5421			6 (15)		✓		
LL5423			6 (15)			✓	
LL5425			6 (15)			✓	
LL5427			6 (15)			✓	
LL5429			6 (15)			✓	
LL5431			6 (15)				✓
LL5435			6 (15)				✓
LL5621				12 (30)	✓		
LL5623				12 (30)	✓		
LL5625				12 (30)	✓		
LL5627				12 (30)	✓		
LL5629				12 (30)	✓		
LL5631				12 (30)		✓	
LL5635				12 (30)		✓	
LL5639				12 (30)			✓

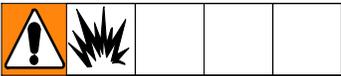
* Use 100 mesh filter to reduce tip clogs

General Repair Information



1. **Keep all screws, nuts, washers, gaskets, and electrical fittings removed during repair procedures.** These parts are not normally provided with replacement assemblies.
2. **Test repair** after problem is corrected.
3. **If sprayer does not operate properly,** review repair procedure to verify procedure was done correctly. If necessary, see Troubleshooting Guide, page 8, for other possible solutions.
4. **Install belt guard before operation** of sprayer and replace if damaged. Belt guard reduces risk of pinching and loss of fingers; see preceding **WARNING**.

Grounding



Ground sprayer with grounding clamp to earth ground when flushing sprayer. Fig. 1.

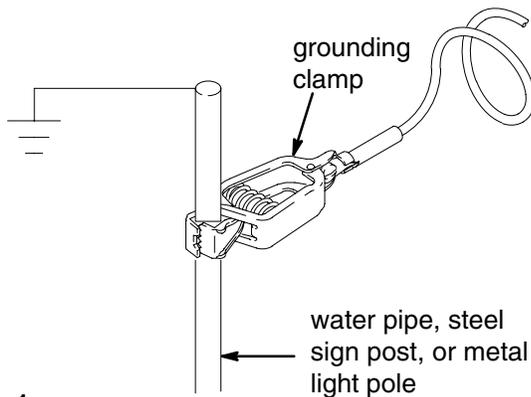
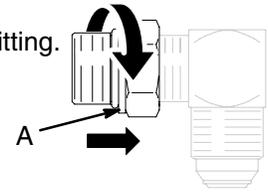


Fig. 1

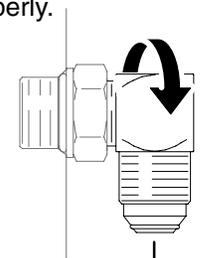
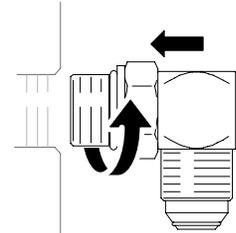
06250

SAE O-Ring Installation

1. Unscrew lock nut to touch fitting.
2. Lubricate o-ring (A).
3. Screw in fitting hand tight.
4. Unscrew fitting until oriented properly.

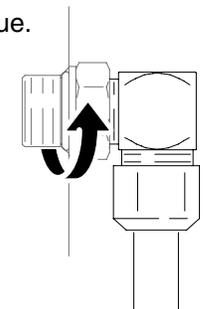


ti5415a



ti5416a

5. Tighten lock nut to indicated torque. (Make sure washer is seated properly without pinching o-ring).



ti5417a

Maintenance



Pressure Relief Procedure

1. Engage gun trigger safety.
2. Turn engine ON/OFF switch to OFF.
3. Move pump valve to OFF (clockwise) and turn pressure control knob fully counterclockwise.
4. Disengage trigger safety. Hold metal part of gun firmly to side of grounded metal pail, and trigger gun to relieve pressure.
5. Engage gun trigger safety.
6. Open pressure drain valve. Leave valve open until ready to spray again.

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

CAUTION

- Minimum hose size allowable for proper sprayer operation is 3/8 in. x 50 ft
- For detailed engine maintenance and specifications, refer to separate Honda Engines Owner's Manual, supplied.

DAILY: Check engine oil level and fill as necessary.

DAILY: Check hydraulic oil level and fill as necessary.

DAILY: Check hose for wear and damage.

DAILY: Check gun safety for proper operation.

DAILY: Check prime/spray drain valve for proper operation.

DAILY: Check and fill gas tank.

DAILY: Check that displacement pump is tight.

DAILY: Top off TSL level in displacement pump packing nut to help prevent material buildup on piston rod and early wear of packings.

AFTER THE FIRST 20 HOURS OF OPERATION:

Drain engine oil and refill with clean oil. Reference Honda Engines Owner's Manual for correct oil viscosity.

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

WEEKLY/DAILY: Remove any debris from hydraulic rod.

AFTER EACH 100 HOURS OF OPERATION:

Change engine oil. Reference Honda Engines Owner's Manual for correct oil viscosity.

SEMI-ANNUALLY:

Check belt wear, page 18; replace if necessary.

YEARLY OR 2000 HOURS:

Replace hydraulic oil and filter element with Graco hydraulic oil 169236 (5 gallon/18.9 liter) or 207428 (1 gallon/3.8 liter) and filter element 246173; page 22.

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.

Caster Wheel

(See letter call-outs in **Parts** drawing on page 36)

1. Once each year, tighten nut (127, Detail A) until spring washer bottoms out. Then back off the nut 1/2 to 3/4 turn.
2. Once each year, tighten nut (127) until it begins to compress spring washer. Then tighten the nut an additional 1/4 turn.
3. Once each month, grease wheel bearing (F).
4. Check pin (55) for wear. If pin is worn out, there will be play in the caster wheel. Reverse or replace pin as needed.
5. Check caster wheel alignment as necessary. To align: loosen bolt (145), align wheel and tighten bolt.

Troubleshooting



PROBLEM	CAUSE	SOLUTION
E=XX is displayed	Fault condition exists	Determine fault correction from table, page 14.
Gas engine pulls hard (won't start)	Hydraulic pressure is too high	Turn hydraulic pressure knob counterclockwise to lowest setting
Engine won't start	Engine switch is OFF	Turn engine switch ON
	Engine is out of gas	Refill gas tank. Honda Engines Owner's Manual.
	Engine oil level is low	Try to start engine. Replenish oil, if necessary. Honda Engines Owner's Manual.
	Spark plug cable is disconnected or damaged	Connect spark plug cable or replace spark plug
	Cold engine	Use choke
	Fuel shutoff 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 sprayer upright to avoid oil seepage.
Engine operates, but displacement pump does not operate	Pump valve is OFF	Turn pump valve ON.
	Pressure setting is too low	Turn pressure adjusting knob clockwise to increase pressure. Manual 311018.
	Fluid filter (11) is dirty	Clean filter.
	Tip or tip filter is clogged	Clean tip or tip filter. Manual 309741.
	Displacement pump piston rod is stuck due to dried paint	Repair pump. Manual 309277.
	Belt worn, broken or off pulley	Replace
	Hydraulic fluid too low	Shut of sprayer. Add fluid*.
	Hydraulic motor not shifting	Set pump valve OFF. Turn pressure down. Turn engine OFF. Pry rod up or down until hydraulic motor shifts.

*Check hydraulic fluid level often. Do not allow it to become too low. Use only Graco approved hydraulic fluid, page 7.

Troubleshooting

PROBLEM	CAUSE	SOLUTION
Displacement pump operates, but output is low on up-stroke	Piston ball is not seating	Service piston ball. Manual 309277.
	Piston packings are worn or damaged	Replace packings. Manual 309277.
Displacement pump operates but output is low on downstroke and/or on both strokes	Strainer (34e) is clogged	Clean strainer.
	O-ring in pump is worn or damaged	Replace o-ring. Manual 309277.
	Intake valve ball is packed with material or is not seating properly	Clean intake valve. Manual 309277.
	Engine speed is too low	Increase throttle setting. Manual 311018.
	Suction tube air leak	Tighten suction tube.
	Pressure setting is too low	Increase pressure. Manual 311018.
	Fluid filter (11), tip filter or tip is clogged or dirty	Clean filter. Manual 311018 or 309741.
	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 sprayer. Use 3/8 in. hose for optimum performance (50 ft minimum).
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.
	Intake valve is leaking	Clean intake valve. Be sure ball seat is not nicked or worn and that ball seats well. Reassemble valve.
	Pump packings are worn	Replace pump packings. Manual 309277.
	Paint is too thick	Thin the paint according to the supplier's recommendations
	Engine speed is too high	Decrease throttle setting before priming pump. Manual 311018.
High engine speed at no load	Misadjusted throttle setting	Reset throttle to 3700 – 3800 engine rpm at no load
	Worn engine governor	Replace or service engine governor
Low stall or run pressure shown on display	New pump or new packings	Pump break-in period takes up to 100 gallons of material
	Faulty transducer	Replace transducer

Troubleshooting

PROBLEM	CAUSE	SOLUTION
Excessive paint leakage into throat packing nut	Throat packing nut is loose	Remove throat packing nut spacer. Tighten throat packing nut just enough to stop leakage.
	Throat packings are worn or damaged	Replace packings. Manual 309277.
	Displacement rod is worn or damaged	Replace rod. Manual 309277.
Fluid is spitting from gun	Air in pump or hose	Check and tighten all fluid connections. Reprime pump. Manual 311018.
	Tip is partially clogged	Clear tip. Manual 309741.
	Fluid supply is low or empty	Refill fluid supply. Prime pump. Manual 311018. Check fluid supply often to prevent running pump dry.
Excessive leakage around hydraulic motor piston rod wiper	Piston rod seal worn or damaged	Replace these parts.
Fluid delivery is low	Pressure setting too low	Increase pressure. See manual 311018.
	Displacement pump outlet filter (if used) is dirty or clogged	Clean filter
	Intake line to pump inlet is not tight	Tighten
	Hydraulic motor is worn or damaged	Bring sprayer to Graco distributor for repair
	Large pressure drop in fluid hose	Use larger diameter or shorter hose
The sprayer overheats	Paint buildup on hydraulic components	Clean
	Oil level is low	Fill with oil, page 7.
Excessive hydraulic pump noise	Low hydraulic fluid level	Shut off sprayer. Add fluid*, page 7.
Gallon counter not working	Broken or disconnected wire	Check wires and connections. Replace broken wires.
	Bad sensor	Replace sensor
	Missing or damaged magnet	Replace magnet. Locate in correct spot.
Sprayer operates, but display does not	Bad connection between control board and display	Remove display and reconnect
	Display damaged	Replace display
	Loose cables	Connect cables to back of control board
	Control board LED not flashing	Replace control board

Troubleshooting

PROBLEM	CAUSE	SOLUTION
Distance counter not operating properly	Trigger sensor not set correctly	See "Spray icon does not show on display when fluid is sprayed"
	Bad wiring connections	Check connector, and reconnect
	Distance sensor not spaced correctly from gear	Adjust space between sensor and gear to .050 +/- .020 in. (page 15.)
	Distance and gear not aligned	Remove tire, and press in or pull out gear to align sensor and gear.
	Gear teeth missing or damaged.	Replace distance gear/wheel
	Wire cracked or broken	Replace sensor
Mils not calculating	Distance sensor	See "Distance counter not operating properly"
	Trigger sensor	See "Spray icon does not show on display when fluid is sprayed"
	Gallon counter	See "Gallon counter not working"
	Bad or damaged control board	Replace control board
Fluid spray starts after spray icon is shown on display	Interrupter (164) is improperly positioned	Turn screw counterclockwise until spray icon synchronizes with fluid spray
Fluid spray starts before spray icon is shown on display	Interrupter (164) is improperly positioned	Turn screw clockwise until spray icon is synchronized with fluid spray
Spray icon does not show on display when fluid is sprayed	Loose connector	Check that 5-pin connector and reed switch are properly connected
	Interrupter (164) is improperly positioned	Turn screw counterclockwise until spray icon synchronizes with fluid spray
	Reed switch assembly (18) is damaged	Replace reed switch assembly (18)
	Magnet on assembly (18) is missing	Replace reed switch assembly (18)
	A connector on wiring harness or on reed switch (18) is damaged	Disconnect reed switch and 5-pin connector from back of control board. Check continuity between pin 1 on 2-pin connector and pin 1 on 5-pin connector. Check continuity between pin 2 on 2-pin connector and pin 4 on 5-pin connector. If there is no continuity in either case, replace wiring harness. If there is continuity in both cases replace reed switch assembly (18).
	Cut or sliced wire	Replace wiring harness.
	Control board is damaged	Replace control board
Display is damaged	Replace display	
Spray icon is always shown on display	Interrupter (164) is improperly positioned	Turn screw clockwise until spray icon is synchronized with fluid spray
	Reed switch assembly (18) is damaged	Replace reed switch assembly (18)
Pressure control knob does not rotate	Knob is jammed	Pull back cover where remote cable connects to hydraulic pump and turn counter clockwise (ccw) until free
Pressure control knob rotates freely with no pressure change	Remote cable broken or disconnected	Replace or reconnect cable
Engine bounces when striping	Spring is broken, loose or missing	Replace or reconnect spring

Digital Tracking System

ON/OFF Switch

Removal



1. Relieve pressure; page 7.
2. Fig. 2. Remove two screws (103) and cover (31).
3. Pull display connector wings (A) open on PC board and pull display connector out.
4. Disconnect ON/OFF switch connector (B) from PC board.
5. Press in on two retaining tabs on each side of ON/OFF switch (15g) and remove switch.

Installation

1. Fig. 2. Install new ON/OFF switch (15g) so tabs of switch snap into place on inside of pressure control housing.
2. Connect ON/OFF switch connector (B) to PC board.
3. Push display connector into PC board and close display connector wings (A) on PC board.
4. Install cover (31) with two screws (103).

PC Board

Removal



1. Relieve pressure; page 7.
2. Fig. 2. Remove two screws (103) and cover (31).
3. Pull display connector wings (A) open on PC board and pull display connector out.

4. Note on paper, lead connections to the control board. Disconnect leads from control board (15d).
5. Remove four screws (15k) from control board.

Installation

1. Fig. 2. Install control board (15d) and four screws (15k). Torque to 105–115 in-lb.
2. Connect leads to control board. (Refer to note on lead connections.)
3. Push display connector into PC board close display connector wings (A) on PC board.
4. Install cover (31) with two screws (103).

Pressure Control Transducer

Removal



1. Relieve pressure; page 7.
2. Fig. 2. Remove two screws (103) and cover (31).
3. Disconnect transducer lead (C) from control board (15d).

4. Remove pressure control transducer (259) and o-ring (124) from filter housing.

Installation

1. Fig. 2. Install o-ring (124) and pressure control transducer (259) in filter housing. Torque to 35–45 ft-lb.
2. Connect transducer lead (C) to motor control board (15d).
3. Install cover (31) with two screws (103).

Digital Tracking System

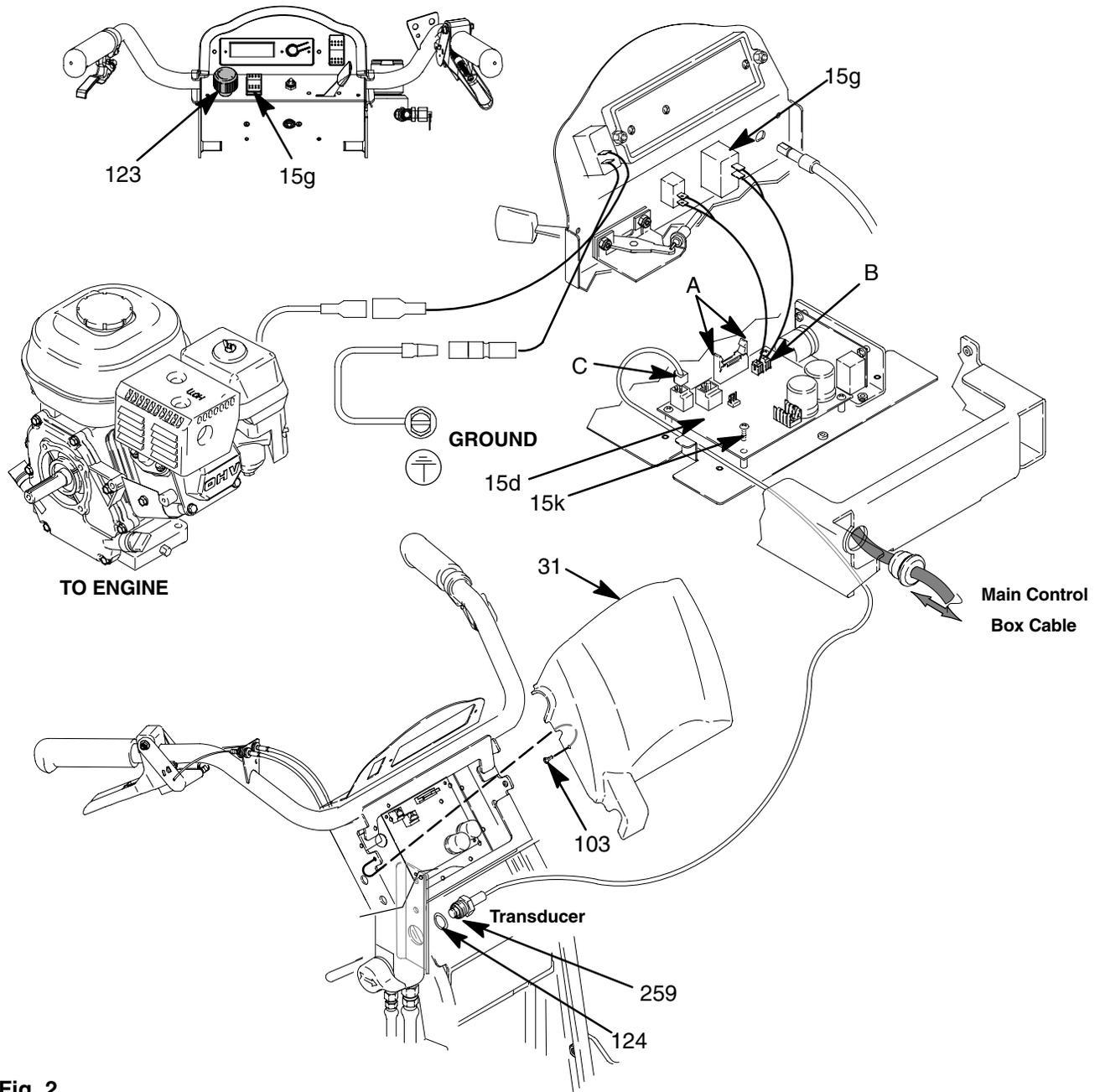


Fig. 2

PC Board Diagnostics



- No display does not mean the sprayer is not pressurized.

Digital Display Messages

DISPLAY	SPRAYER OPERATION	INDICATION	ACTION
No Display	Sprayer may be pressurized.	Loss of power or display not connected	Check power source. Relieve pressure before repair or disassembly. Verify display is connected.
- - - -	Sprayer may be pressurized.	Pressure less than 200 psi (14 bar, 1.4 MPa)	Increase pressure as needed
3000 psi 210 bar 21 MPa	Sprayer is pressurized. Power is applied. (Pressure varies with tip size and pressure control setting.)	Normal operation	Spray
E-02	Engine and system continue to run.	Exceeded pressure limit	Remove any filter clogs or flow obstructions.
E-03	Engine and system continue to run.	Pressure transducer faulty, bad connection or broken wire.	Check transducer connections and wire. Replace transducer or control board, if necessary.

After a fault, follow these steps to restart sprayer:

1. Correct fault condition
2. Turn sprayer OFF
3. Turn sprayer ON

Trigger Sensor Adjustment

Refer to **Troubleshooting** for trigger sensor adjustment, and Operation Manual 311018.

Distance Sensor Adjustment

Gear Alignment



1. Relieve pressure; page 7.
2. Fig. 3. Remove dust cap (142) from wheel. Remove nut (127).
3. Remove wheel (120) from LineLazer.
4. Align gear (67) with sensor.
 - a. Pull gear out from wheel with gear puller.
 - b. Push gear in toward wheel with mallet.

5. Install wheel (120) on LineLazer.
6. Install nut (127) until tight, then back off 1/4 turn. Install dust cap (142) on wheel.

Sensor Height Adjustment

1. Remove wheel (120) from LineLazer.
2. Remove distance sensor (66).
3. Adjust sensor assembly height with two 17 mm nuts of sensor so bottom surface of sensor is 0.638 ± 0.020 from bottom surface of shield. Torque to 8 ± 2 in-lb.

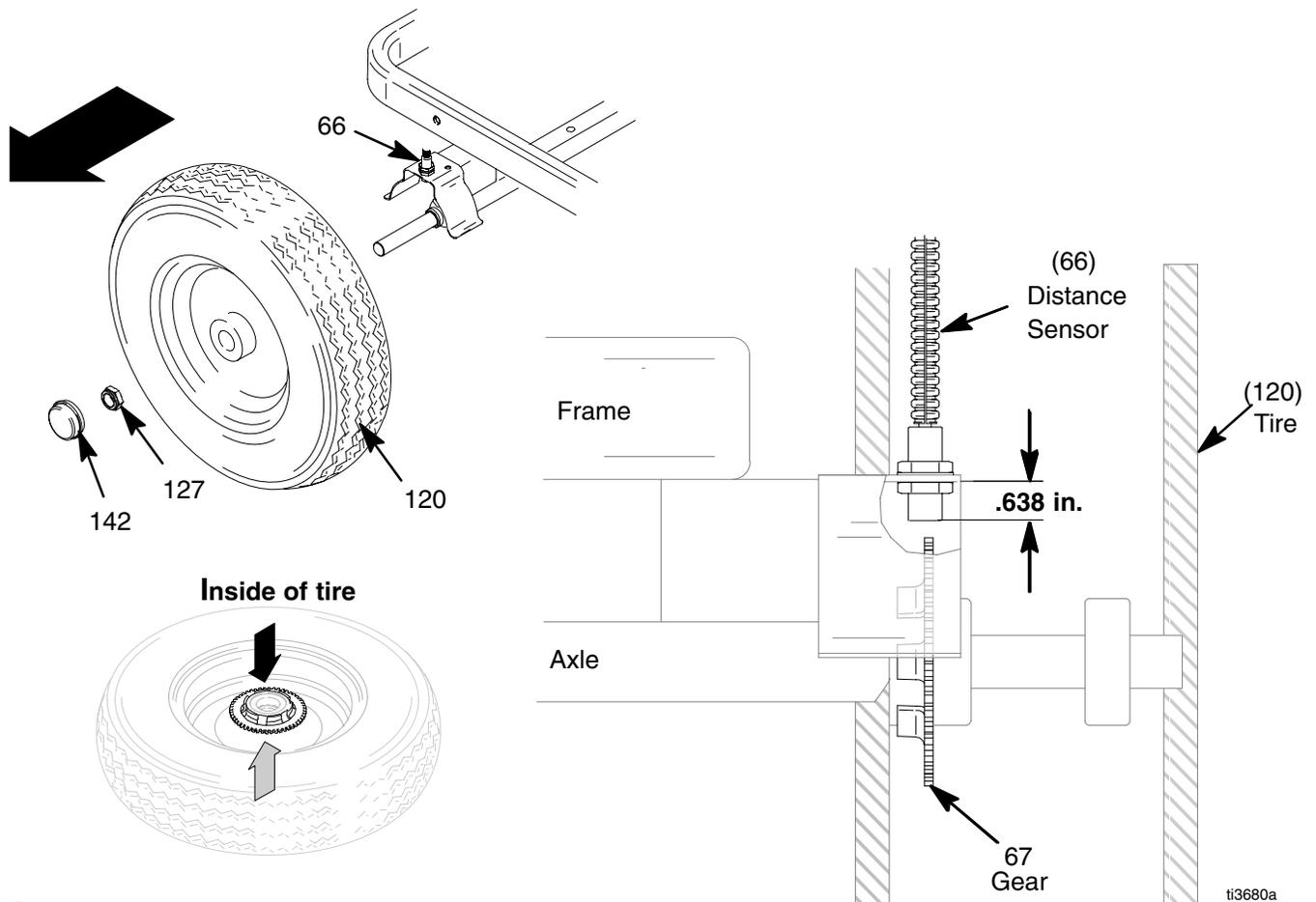


Fig. 3

Hydraulic Pump

Removal



1. Allow hydraulic system to cool before beginning service.
2. Relieve pressure; page 7.
3. Place drip pan or rags under sprayer to catch hydraulic oil that leaks out during repair.
4. Remove drain plug (195) and oil filter (199) and allow hydraulic oil to drain.
5. Remove screw (224), loosen belt guard knob (241) and belt guard (24).
6. Raise motor and remove belt (143).
7. Remove two set screws (169) and fan pulley (86).
8. Remove case drain tube (251).
9. Remove elbow (182).
10. Loosen screw (184) and remove pressure control guard (63).
11. Loosen set screw (102) and remove remote pressure control cable (12).
12. Remove eight screws (184) and washers (101), reservoir cover (237), filter assembly (A) and gasket (85).
13. Remove four screws (215) and o-rings (178), o-ring (180) and hydraulic pump (252) from reservoir cover (237).

Installation

1. Install hydraulic pump (252) on reservoir cover (237) with four screws (215) and o-rings (178), o-ring (180); torque 100 in-lb (11 N·m).
2. Install gasket (85) filter assembly (A) and reservoir cover (237) with eight washers (101) and screws (184); torque 90 in-lb (10 N·m).
3. Install elbow (182) per instructions, page 6; torque to 15 ft-lb (20.3 N·m).
4. Install pressure control guard (63) and tighten screw (184).
5. Connect hydraulic hoses (32) and (35).
6. Install case drain tube (251); torque to 15 ft-lb (20.3 N·m).
7. Install fan pulley (86) with two set screws (193).
8. Raise motor and install belt (143).
9. Install belt guard (24) with screw (224) and belt guard knob (241).
10. Install remote pressure control cable (12). Tighten set screw (102).
11. Install drain plug (195); torque to 110 in-lb (12.4 N·m). Install oil filter (199); tighten 3/4 turn after gasket contacts base. Fill with Graco hydraulic oil, page 7.
12. Start up and allow pump to operate at low pressure for approximately 5 minutes to purge all air.
13. Check and top off hydraulic oil level.

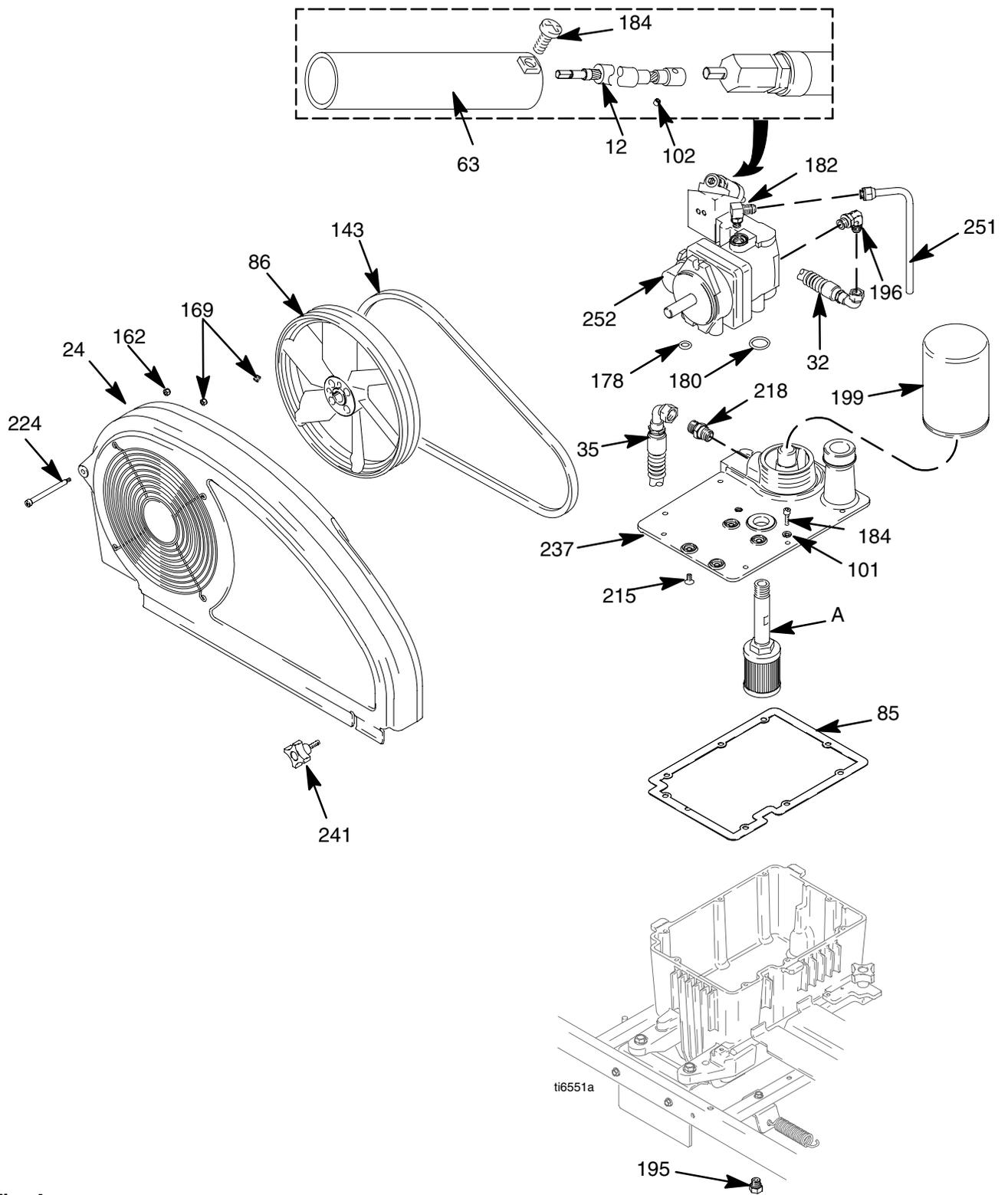


Fig. 4

Fan Belt

Removal



1. Relieve pressure; page 7.
2. Fig. 5. Loosen belt guard knob (241).
3. Rotate belt guard (24) up.
4. Lift engine (185) up to remove tension on belt (143).
5. Remove belt from fan pulley (86) and fan pulley (87a).

Installation

1. Thread belt (143) around fan pulley (87a) and fan pulley (86).
2. Lower engine (185) to put tension on belt.
3. Rotate belt guard (24) down.
4. Tighten belt guard knob (241).

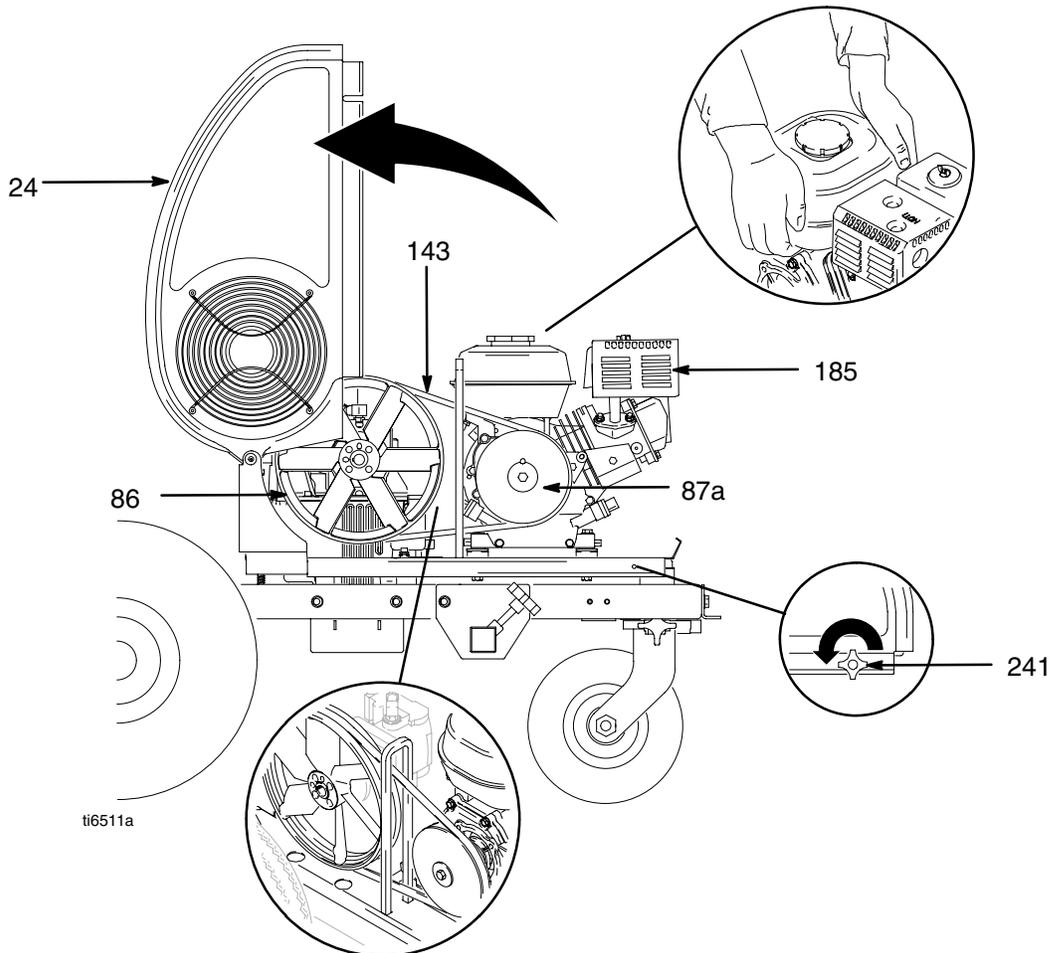


Fig. 5

Engine

Removal



1. Relieve pressure; page 7.
2. Remove throttle cable from engine.
3. Do **Fan Belt, Removal**; page 18.
4. Loosen hand nut (241). Swing bracket (30) out.
5. Fig. 6. Disconnect blue, brown and orange leads from engine (185).
6. Remove engine and rocker plate (87c) from sprayer.
7. Remove four screws (189), washers (114), washers (170) and nuts (118) and remove rocker plate, dampeners (59) and washers (114) from engine.

NOTE: All service to the engine must be performed by an authorized HONDA dealer.

Installation

1. Install rocker plate (87c), dampeners (59) and washers (170), washers (114) on engine (185) with four screws (189), washers (170) and nuts (118); torque to 20 ft-lb (27.1 N·m).
2. Install engine and rocker plate (87c) on sprayer.
3. Connect blue, brown and orange leads.
4. Do **Fan Belt, Installation**; page 18.
5. Swing motor retainer bracket (30) in. Tighten hand nut (241).

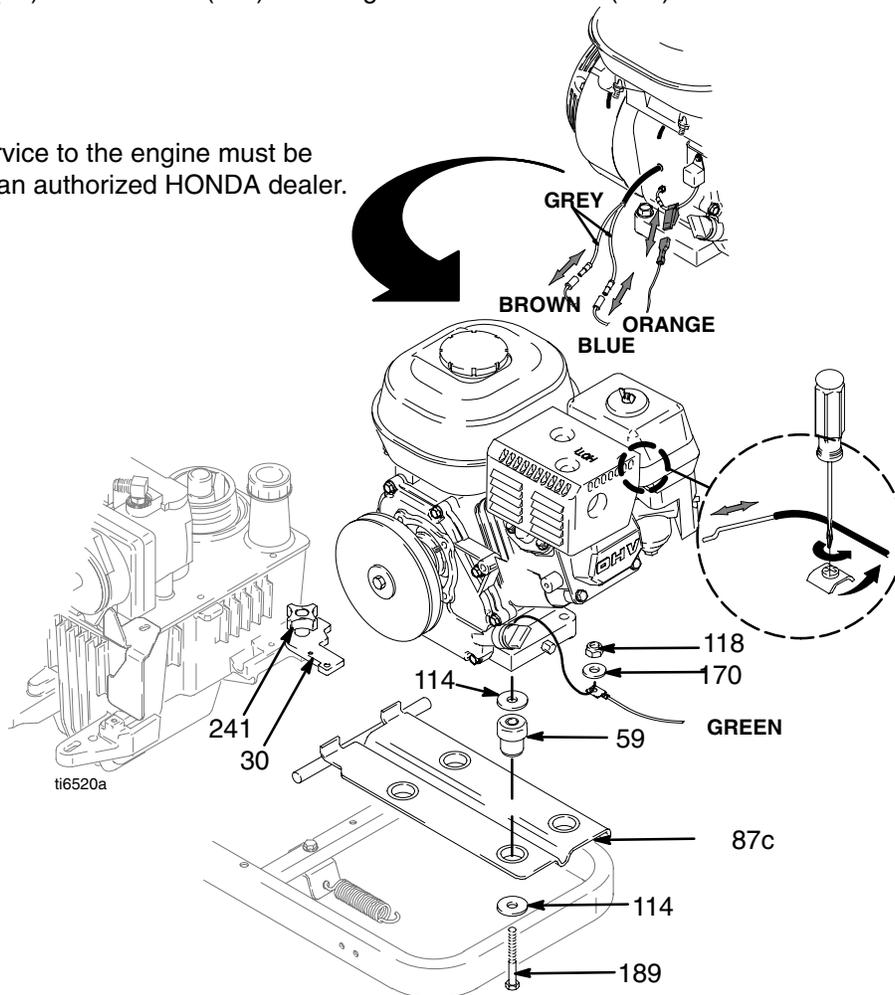


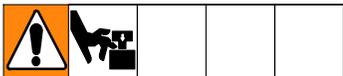
Fig. 6

Hydraulic Motor Yoke

Removal



1. Relieve pressure; page 7.
2. Place drip pan or rags under sprayer to catch hydraulic oil that leaks out during repair.
3. Fig. 7. Slide retainer clip (194) and magnet ring (222) down to remove. Remove pump pin (249).
4. Remove hydraulic lines (35, 250) from fittings (217) at top left and right side of hydraulic motor.
5. Loosen jam nut (183).
6. Unscrew and remove hydraulic motor cap (25).
7. Slide piston rod/hydraulic motor cap assembly (A) from hydraulic motor cylinder.
8. Remove yoke (22).
 - a. Clamp hydraulic motor cap in vise with hydraulic motor piston rod facing up.
 - b. Use shortened Allen wrench to remove two screws (175) from spring retainer (247). Remove yoke, spring retainer, piston and trip rod assembly from hydraulic motor cap.



Do not remove spring retainer (247) from yoke (22). If yoke is worn, replace yoke and spring retainer assembly with Yoke Repair Kit 246175.

- c. Put yoke in vise. Remove set screw (22c) and remove piston rod assembly from yoke.

Installation

1. Assemble yoke (22b) to trip rod (22a)
 - a. Clean threads with primer or chlorinated solvent and let dry 3 to 4 minutes. Apply thread sealant to female threads of yoke. Clamp yoke in vise and, with wrench on flats of trip rod, screw trip rod into yoke. Torque to 55 in-lb (6.2 N·m). Install set screw (22c). Allow thread sealant to dry for 3 hours prior to contact with hydraulic fluid.



- b. Fig. 7. Put hydraulic motor cap (25) in vise.
 - c. Install yoke, spring retainer, piston and trip rod assembly in hydraulic motor cap. Use shortened Allen wrench to install two screws (175) in spring retainer to secure piston rod assembly to hydraulic motor cap.
2. Slide piston rod assembly (A) into hydraulic motor cylinder.
 3. Screw down hydraulic motor cap (25) until cap bottoms out. Unscrew hydraulic motor cap until inlet and outlet align with hydraulic line fittings and test hole in hydraulic motor cap points toward belt guard (24).
 4. Torque jam nut (183) against hydraulic motor cap (25) to 150 ft-lb (17 N·m).
 5. Install hydraulic lines (35, 250) to fittings (217) to top left and right side of hydraulic motor per procedure on page 6; torque to 40 ft-lb (54.2 N·m).
 6. Pull start rope slowly to align pin holes of hydraulic motor and displacement pump (21). Connect with pump pin (249); install magnet ring (222) and retainer clip (194), page 23.
 7. Start engine and operate pump for 30 seconds. Turn engine OFF. Check hydraulic oil level and fill with Graco hydraulic oil, page 7.

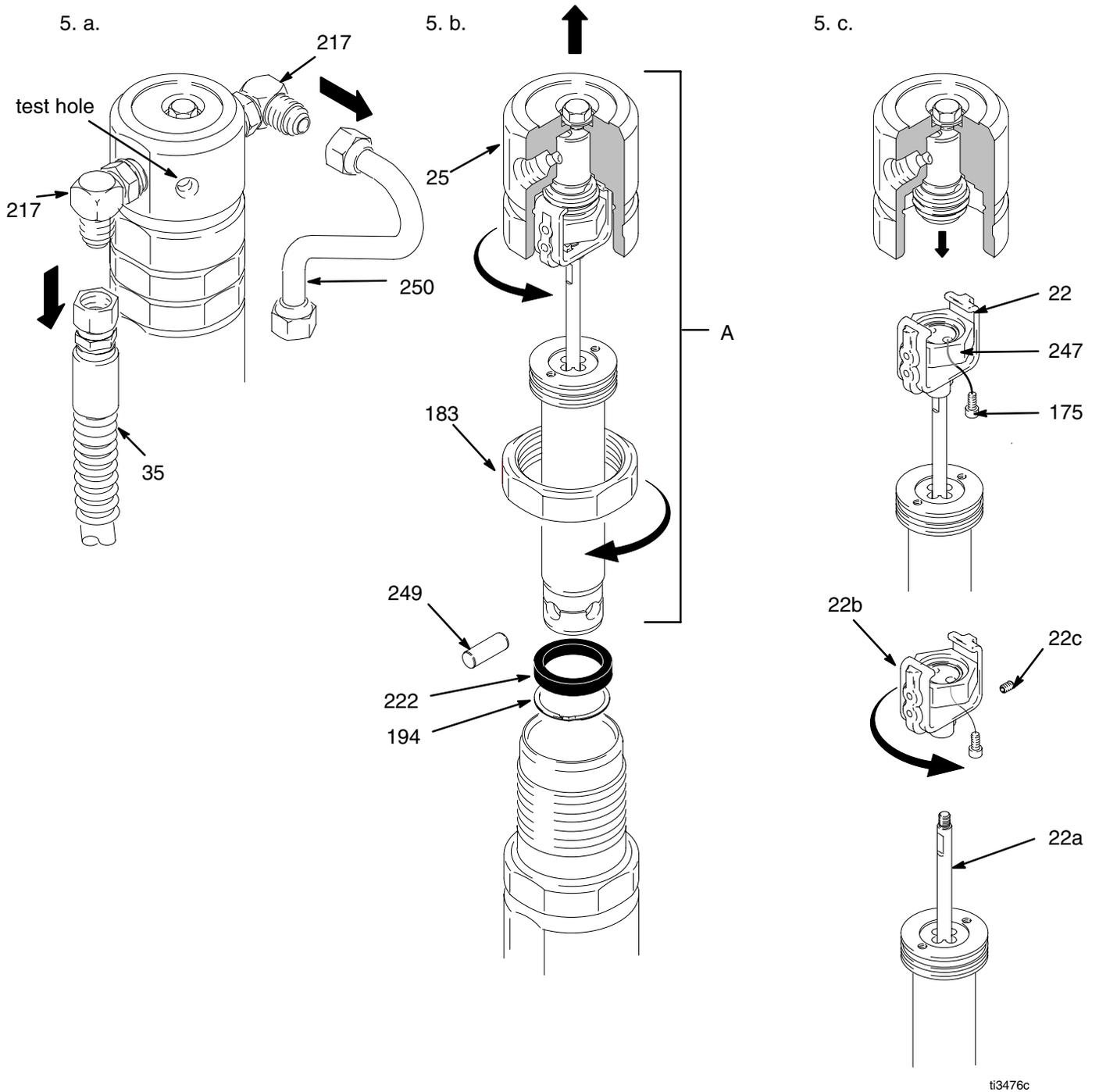
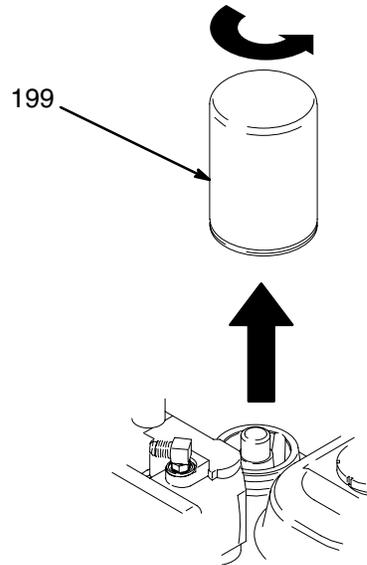


Fig. 7

Oil/Filter Change

Removal

1. Fig. 8. Place drip pan or rags under sprayer to catch hydraulic oil that drains out.
2. Remove drain plug (195). Allow hydraulic oil to drain.
3. Unscrew filter (199) slowly – oil runs into groove and drains out rear.



ti2271a

Fig. 8

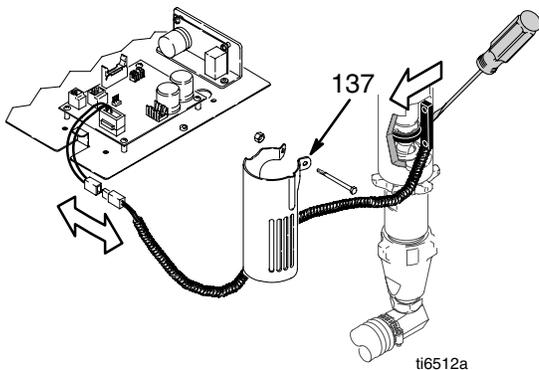
Installation

1. Install drain plug (195). Apply a light coat of oil to oil filter gasket and install oil filter (199). Tighten oil filter 3/4 turn after gasket contacts base.
2. Fill with 1.25 gallons (4.73 liters) of Graco hydraulic oil 169236 (5 gallon/20 liter) or 207428 (1 gallon/3.8 liter)
3. Check oil level.

Gallon Counter

Removal

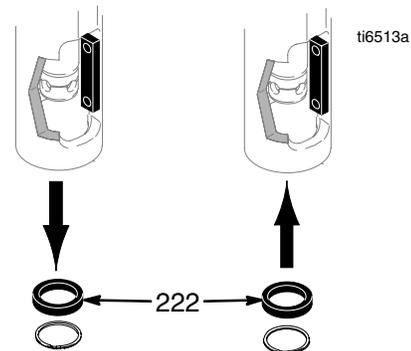
1. Fig. 9. Disconnect gallon counter cable at back of pressure control and at engine.
2. Remove guard (137) and reed switch from hydraulic motor.



ti6512a

Fig. 9

3. Fig. 11 – 13. Remove pump.
4. Fig. 10. Remove ring magnet (150).



ti6513a

Fig. 10

Installation

1. Fig. 10. Install new ring magnet (222) with dimple marks facing down.
2. Fig. 14 – 16. Install pump.
3. Install new reed switch and guard (137) on hydraulic motor.
4. Fig. 9. Connect gallon counter cable at back of pressure control and at engine.

Displacement Pump

See manual 309277 for pump repair instructions.

Removal

1. Flush pump.



2. Relieve pressure; page 7.
3. Fig. 11. Remove suction tube (34) and hose (26).

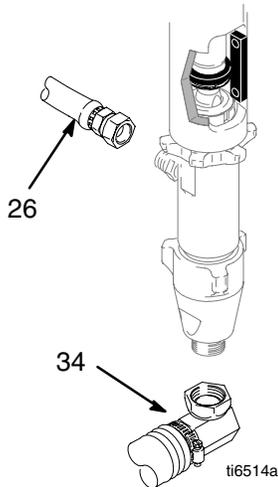


Fig. 11

CAUTION

Gallon counter may error if magnet ring and/or sensor assembly are damaged during disassembly and assembly.

4. Fig. 12. Push magnet ring (222) up. Push retaining spring (194) up. Push out pin (249).

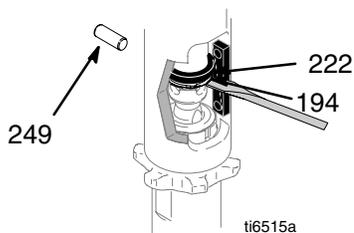


Fig. 12

5. Fig. 13. Loosen jam nut. Unscrew pump.

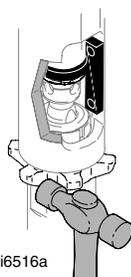


Fig. 13

Installation

CAUTION

If the pump jam nut loosens during operation, the threads of the hydraulic motor manifold will be damaged. Tighten jam nut as specified.

1. Fig. 14. Screw jam nut to bottom of pump threads. Screw pump completely into manifold. Unscrew pump from manifold until pump outlet aligns with hose. Hand tighten jam nut, then tap 1/8 to 1/4 turn with hammer or torque to 200 ft-lb (270 N-m).

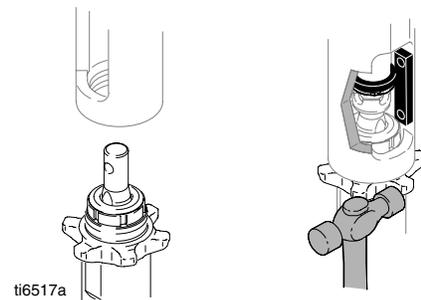


Fig. 14



2. Fig. 15. Slowly pull engine starter rope until pump rod pin hole is aligned with hydraulic rod hole. Fig. 12. Push pin (249) into hole. Push magnet ring (222) down. Push retaining spring (194) into groove.

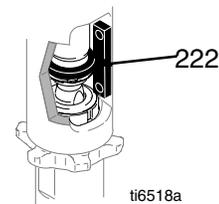


Fig. 15

- Fig. 16. Fill packing nut with Graco TSL.

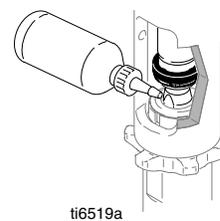
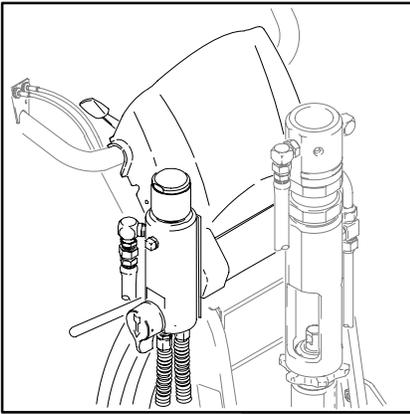


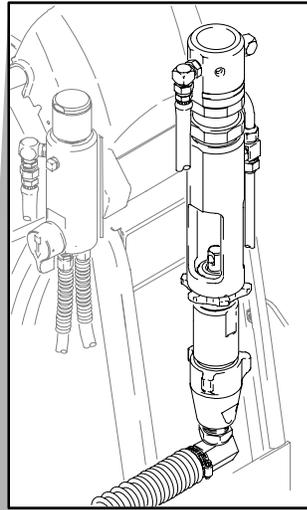
Fig. 16

Parts – LineLazer IV 200Hs

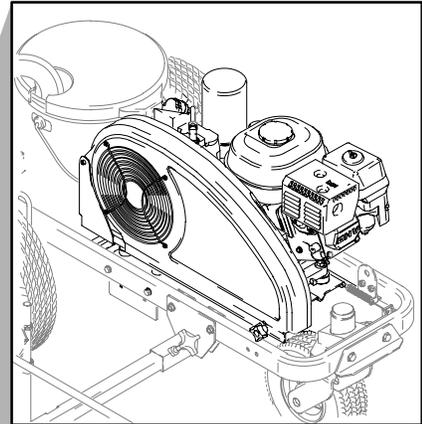
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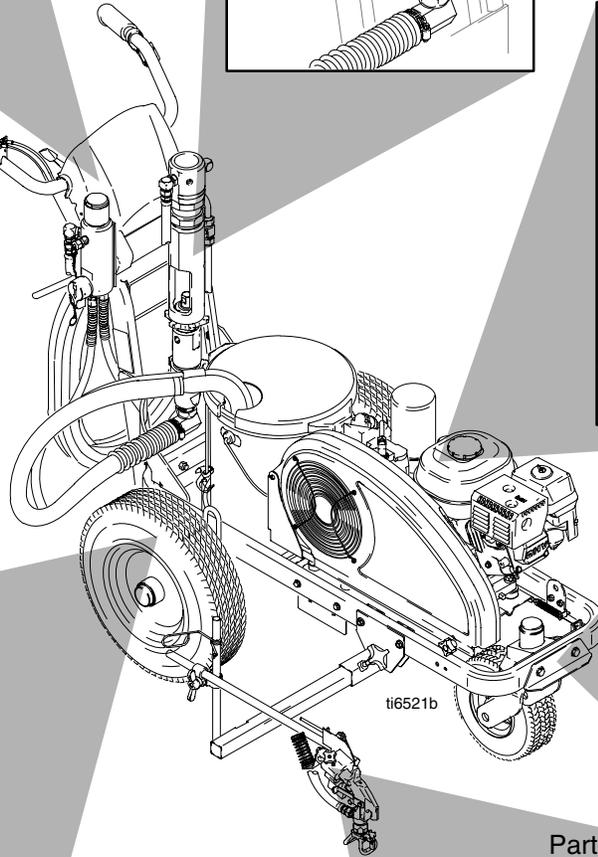
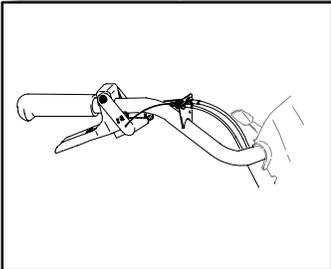
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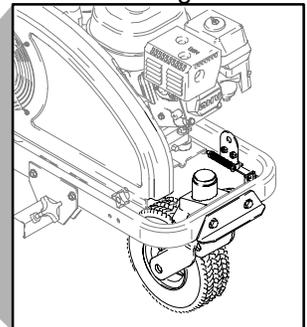
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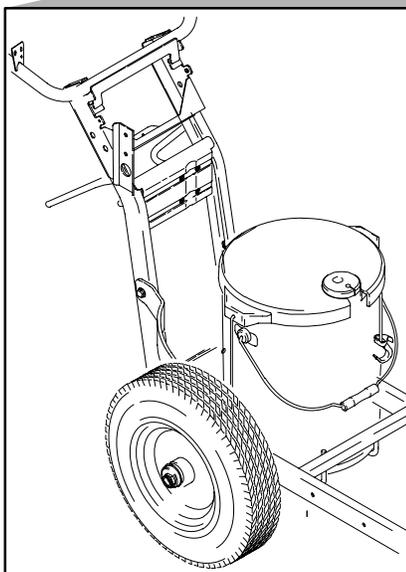
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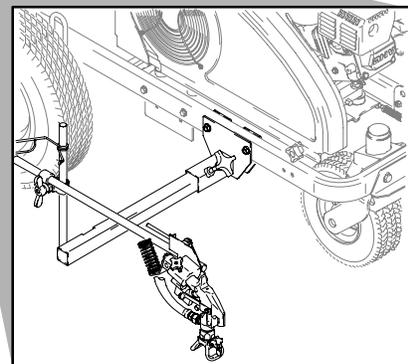
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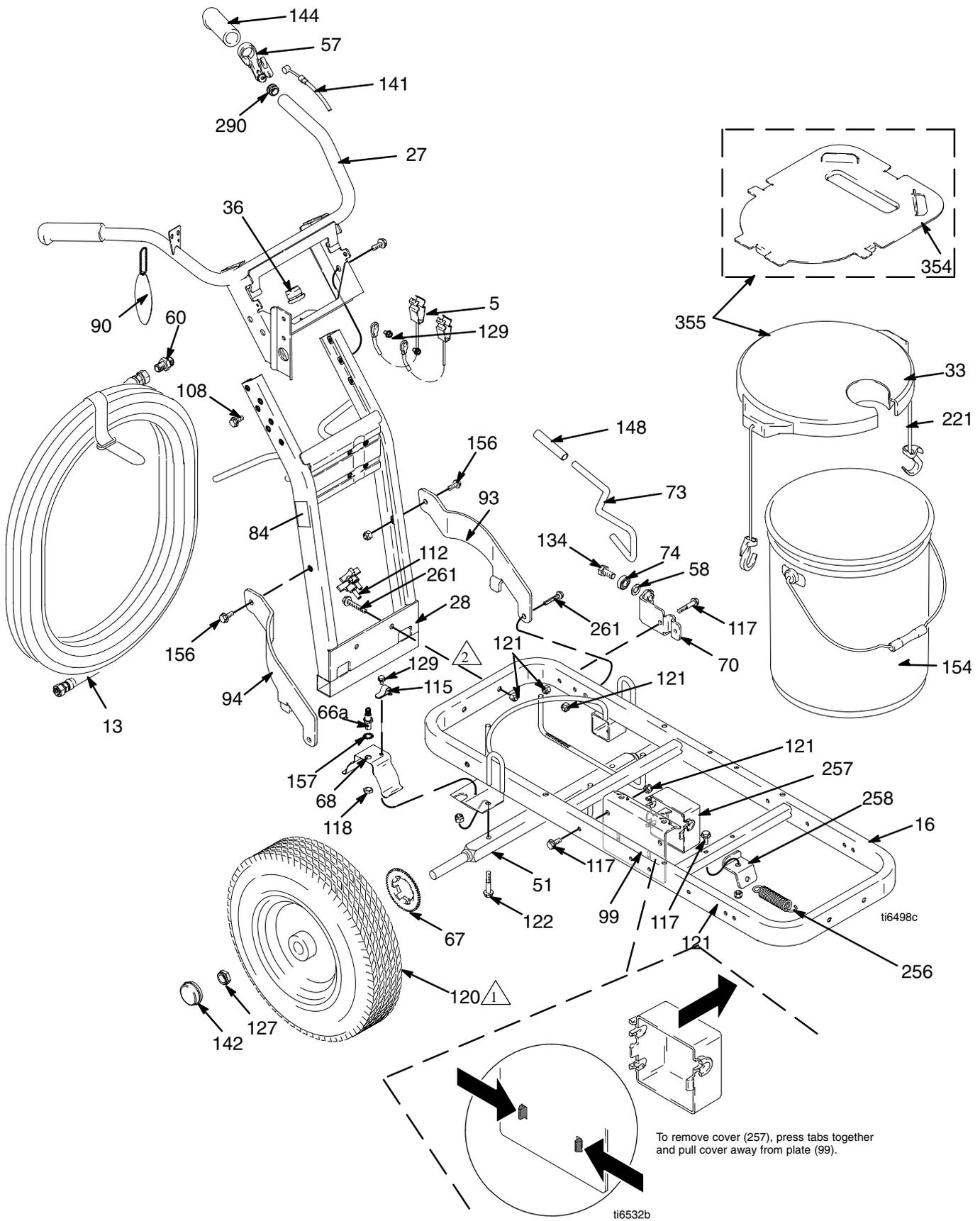
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Parts Page 28



Parts – LineLazer IV 200HS



Parts – LineLazer IV 200HS

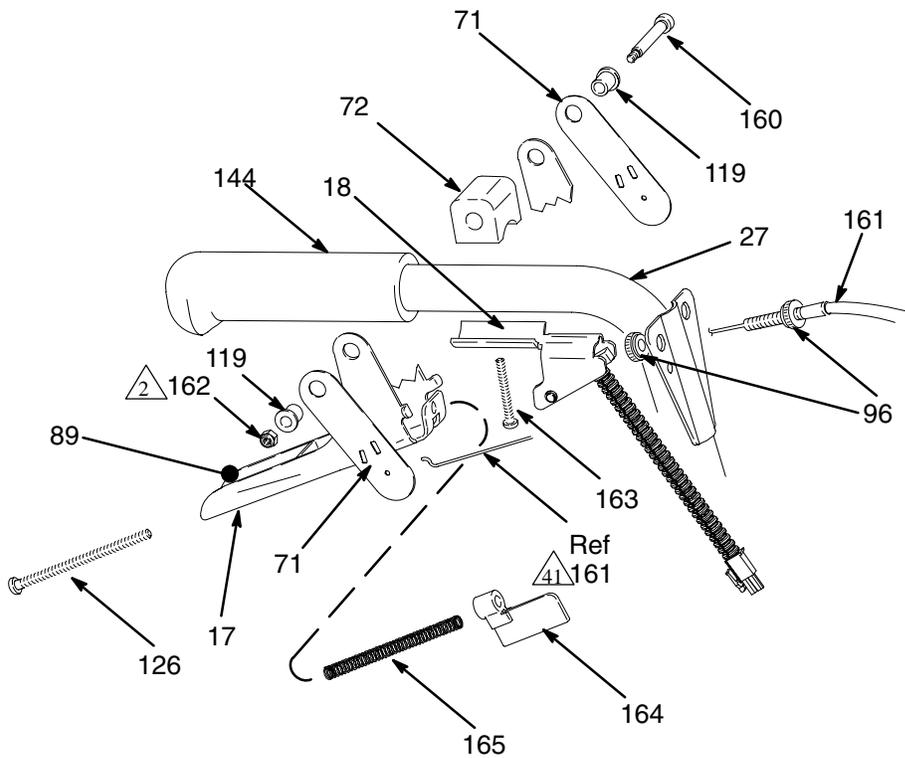
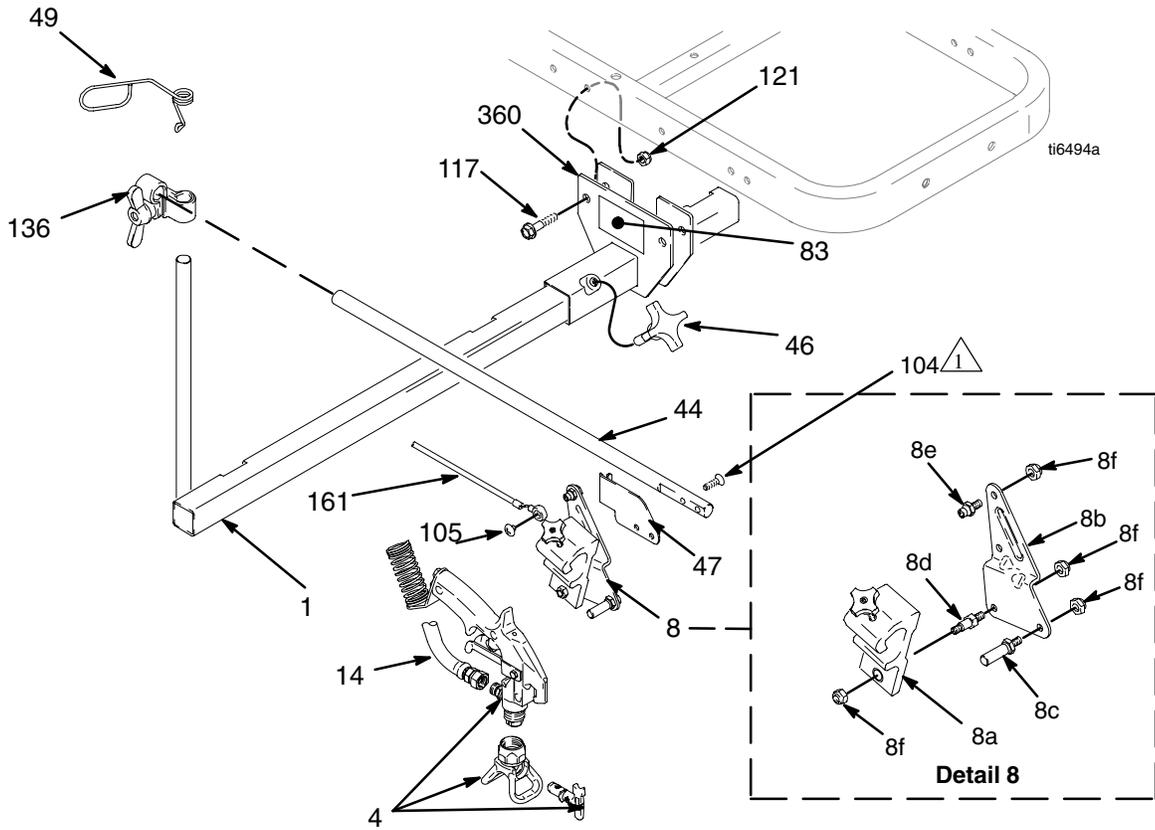
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
5	237686	CLAMP, grounding assy	1	115	108868	CLAMP, wire	3
13	245225	HOSE, 3/8 in. X 50 ft	1	117	110837	SCREW, flange, hex	10
16	287623	FRAME, linestriper	1	118	110838	NUT, lock	4
27	287417	HANDLE	1	120	111020	WHEEL, pneumatic	2
28	287622	SUPPORT, handle, painted	1	121	111040	NUT, lock, insert, nylock, 5/16	10
33		COVER, pail		122	111194	SCREW, cap flange hd	2
	287590	(models 248870, 248871, 248872, and 248873), includes 221	1	127	112405	NUT, lock	4
	240926	(models 249012, 249013) no 221	1	129	112798	SCREW, thread forming, hex hd	2
36	115642	BUSHING, strain relief	1	134	113961	SCREW, cap, hex hd	1
51	193405	AXLE	1	141	241445	CABLE, caster	1
57	194310	LEVER, actuator	1	142	114648	CAP, dust	3
58	195134	SPACER, ball guide	1	144	114659	GRIP, handle	2
60	196176	ADAPTER, nipple	1	148	114808	CAP, vinyl	1
66	287698	KIT, sensor, distance includes 66a, 68, 115, 129, 157	1	154	115077	PAIL, plastic (models 248870, 248871, 248872 and 248873)	1
66a		SENSOR, distance	1	156	112395	SCREW, cap, flng hd	2
67	245734	KIT, repair, wheel, LineLazer includes 120	1	157	116287	WASHER, sst, ext, starwasher	1
68	198612	SHIELD, sensor, distance	1	221	119771	STRAP, cover	2
70	198891	BRACKET, mounting	1	256	119696	SPRING, extension	1
73	198930	ROD, brake	1	257	287695	BOX, electric, includes 109	1
74	198931	BEARING	1	258	15F441	BRACKET, frame	1
81	240997	CONDUCTOR, ground (not shown)	1	261	116780	SCREW, hex hd	4
84▲	15F638	LABEL, warning, fire and skin	1	290	120151	PLUG, tube	2
90	15D849	TAG, Endurance Advantage Program	1	354	194312	BRACKET, pail (models 249012, 249013)	1
93	15F577	BRACE, left, painted	1	355	240717	KIT, conversion, (Euro pail), (models 249012, 249013) includes 33, 354 but not 221	1
94	15F576	BRACE, right, painted	1				
99	15F425	BRACKET, reservoir	1				
108	101566	NUT, lock	2				
109	102478	STRAP, wiring tie (not shown)	6				
112	111145	KNOB, pronged	2				

▲ Replacement warning labels may be ordered free of charge

Notes

- ① Maintain tire pressure at 28–32 psi
- ② Torque to 17–23 ft–lb

Parts – LineLazer IV 200Hs



Parts – LineLazer IV 200Hs

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	224052	BRACKET, support gun	1	83▲	15F637	LABEL, skin injection	1
4	248157	GUN, flex, basic, includes guard & tip	1	89▲	15A644	LABEL, trigger	1
8	287570	KIT, holder, gun	1	96	15F624	NUT, cable, gun	2
8a	287569	HOLDER, gun	1	97	15F377	HARNESS, wiring	1
8b	15F214	LEVER, actuator	1	104	119647	SCREW, cap, socket, flthd	2
8c	15F209	STUD, pull, trigger	1	105	119648	SCREW, mach tursshhd, cross recess	1
8d	15F210	STUD, pivot	1	109	102478	STRAP, wiring tie	6
8e	15F211	STUD, cable	1	117	110837	SCREW, flange, hex	2
8f	102040	NUT, lock	4	119	111017	BEARING, flange	2
14	245798	HOSE, 1/4 x 7 ft	11	121	111040	NUT, lock	2
17	245733	KIT, trigger handle repair, includes 89, 126, 164, 165	1	126	112381	SCREW, mach, pan hd	1
18	287699	KIT, repair, trigger includes 18, 166, 168	1	136	287566	KIT, clamp	1
27	287417	HANDLE	1	141	241445	CABLE	1
28	287622	SUPPORT, handle, painted (not shown)	1	144	114659	GRIP, handle	2
35	287176	HOSE, hydraulic, return (not shown)	1	160	116941	SCREW, shoulder, socket head	1
44	15F212	ARM, support	1	161	287696	CABLE, includes 96	1
46	111145	KNOB, pronged	1	162	116969	NUT, lock	2
47	15F213	BRACKET, cable	1	163	116973	SCREW, #10 taptite phil	1
49	188135	GUIDE, cable	1	164	117268	BRACKET, interrupter	1
71	198895	PLATE, lever, pivot	2	165	117269	SPRING	1
72	198896	BLOCK, mounting (mach)	1	168	117317	SCREW, plastite, pan head	2
				360	15F389	BRACKET, gun arm	1

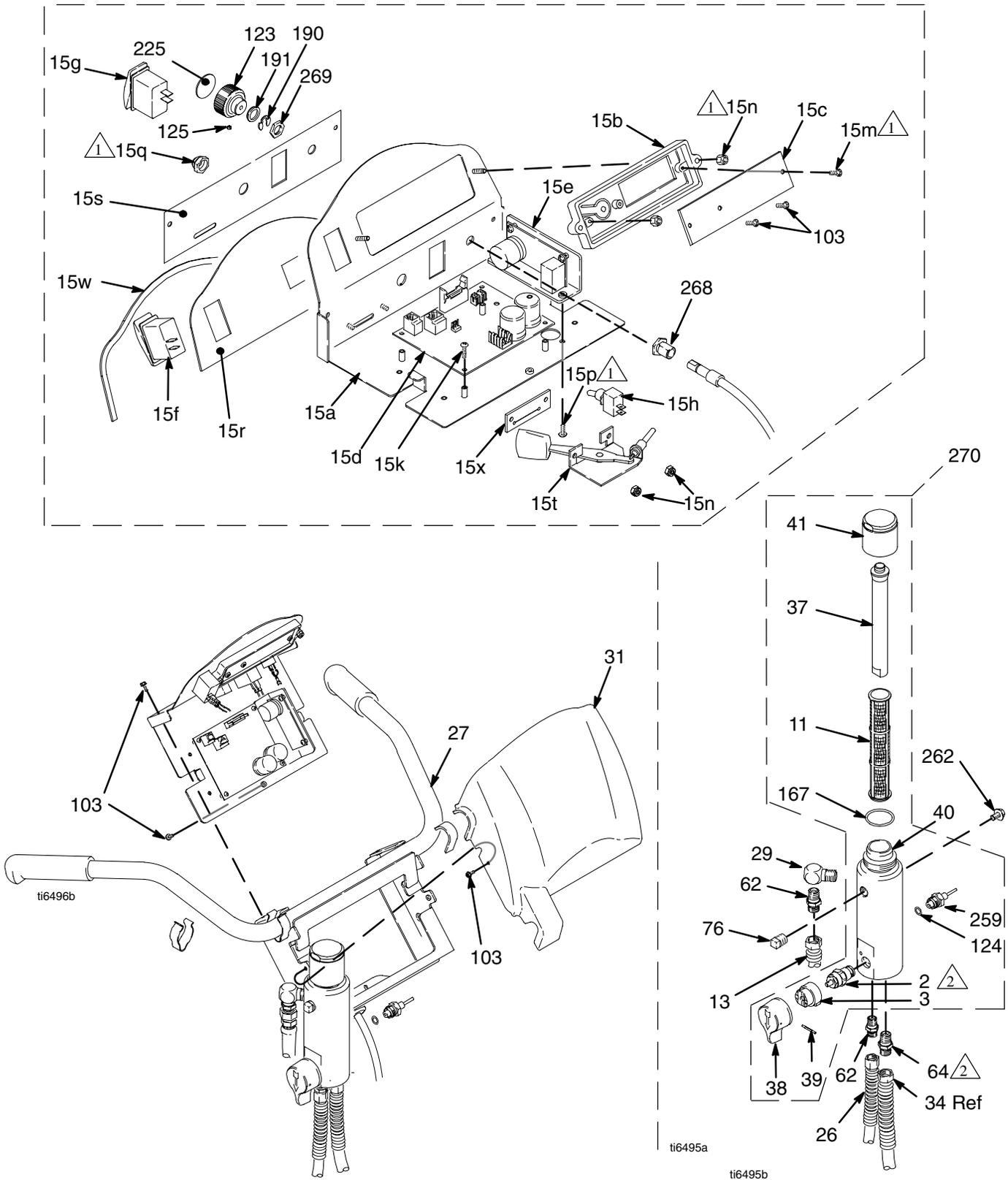
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Notes

1 Torque to 90–110 in–lb

2 Torque to 10–20 in–lb

Parts – LineLazer IV 200hs



Parts – LineLazer IV 200HS

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
2	239914	VALVE, drain	1	29	196179	FITTING, elbow, street	2
3	224807	BASE, valve	1	31	15F589	COVER, control	1
11	244067	FILTER, fluid	1	37	15C766	TUBE, diffuser	1
13	245225	HOSE, 3/8 in. x 50 ft	1	38	15C780	HANDLE	1
15	287601	CONTROL, plate	1	39	15C972	PIN, grooved	1
15a	15F272	PLATE, control	1	40	15H561	MANIFOLD, filter, 3/8 npt	1
15b	287688	BOARD, display, includes 15c, 15m	1	41	287285	KIT, repair, filter cap, includes 37, 167	1
15c		DISPLAY, board, LCD (included with 15b)	1	62	196178	ADAPTER, nipple	2
15d	287689	CONTROL, board, includes 15k	1	64	196181	FITTING, nipple	1
15e	287596	BOARD, light, includes 15n	1	76	104813	PLUG, pipe	1
15f	114954	SWITCH, rocker	1	103	116719	SCREW, 8/32, hex washer hd	5
15g	116752	SWITCH, rocker	1	123	118359	KNOB, pressure control	1
15h	119541	SWITCH, toggle	1	124	111457	O-RING	1
15k	111839	SCREW, mach, pnh, sems	4	125	112303	SCREW, set, sch	1
15m	117317	SCREW, plastite, pan head	3	167	117285	O-RING	1
15n	109466	NUT, lock, hex hd	4	190	115999	RING, retaining	1
15p	116719	SCREW, 3/82 hex washer head	3	191	176754	GLAND, packing, male	1
15q	195428	BOOT, toggle	1	225▲	15A464	LABEL, control	1
15r▲	15F543	LABEL, control, top	1	259	287172	TRANSDUCER, pressure control includes 124	1
15s▲	15F544	LABEL, control, bottom	1	262	111801	SCREW, cap, hex	2
15t	287692	CONTROL, throttle	1	268	15F710	BUSHING, mount panel	1
15u	119736	CLAMP, cable (not shown)	1	269	119775	NUT, panel	1
15v	119737	PLUG (not shown)	1				
15w	15F777	GASKET, control	1	270	288100	KIT, repair, filter, includes 2, 3, 11, 37, 38, 39, 40, 41, 124, 167, 259	
15x	15F776	GASKET, throttle	1				
26	248007	HOSE, coupled, 3/8 in.	1				
27	287417	HANDLE	1				

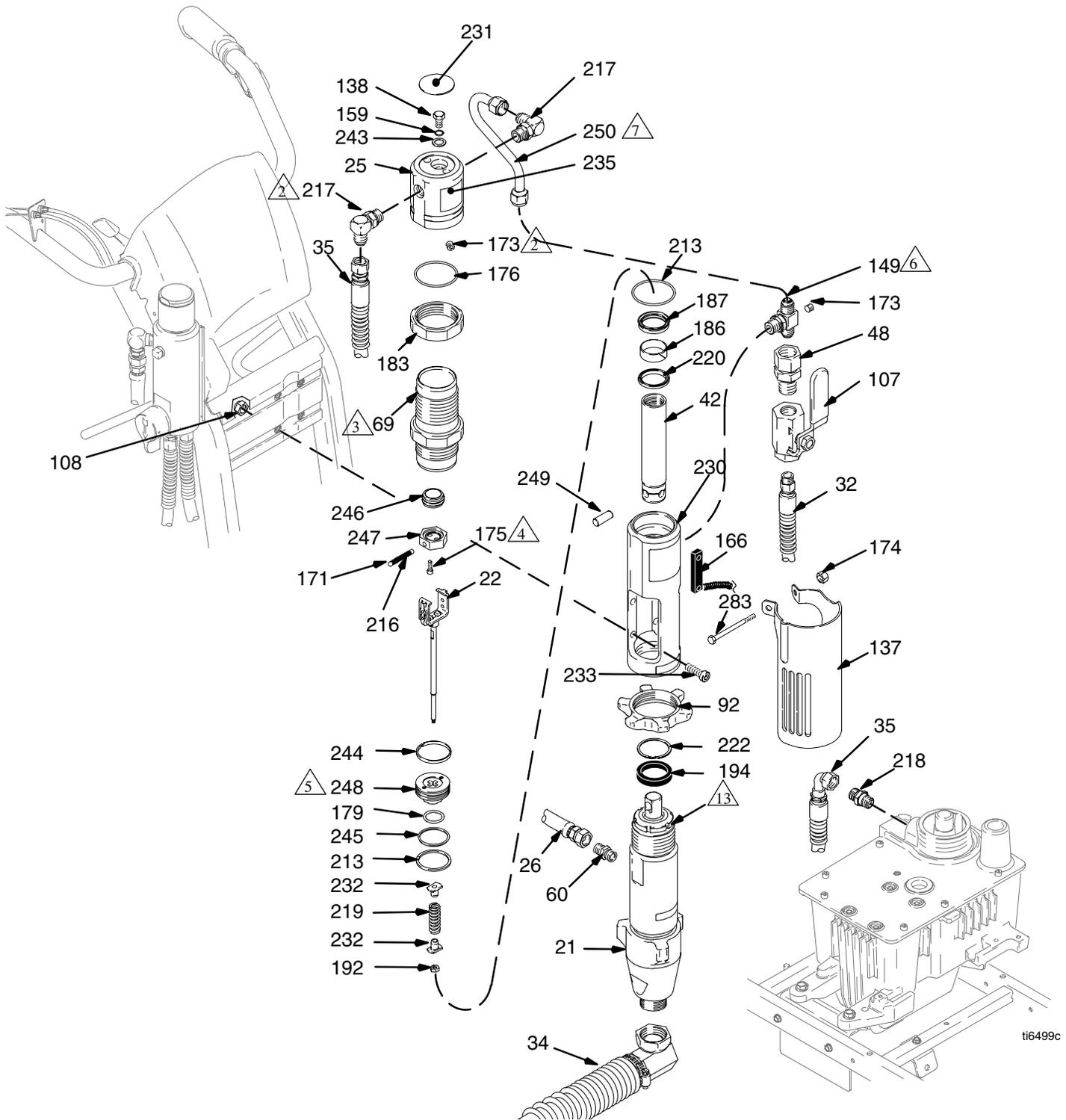
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Notes

① Torque to 115–135 in-lb

② Torque to 130–150 in-lb

Parts – LineLazer IV 200Hs



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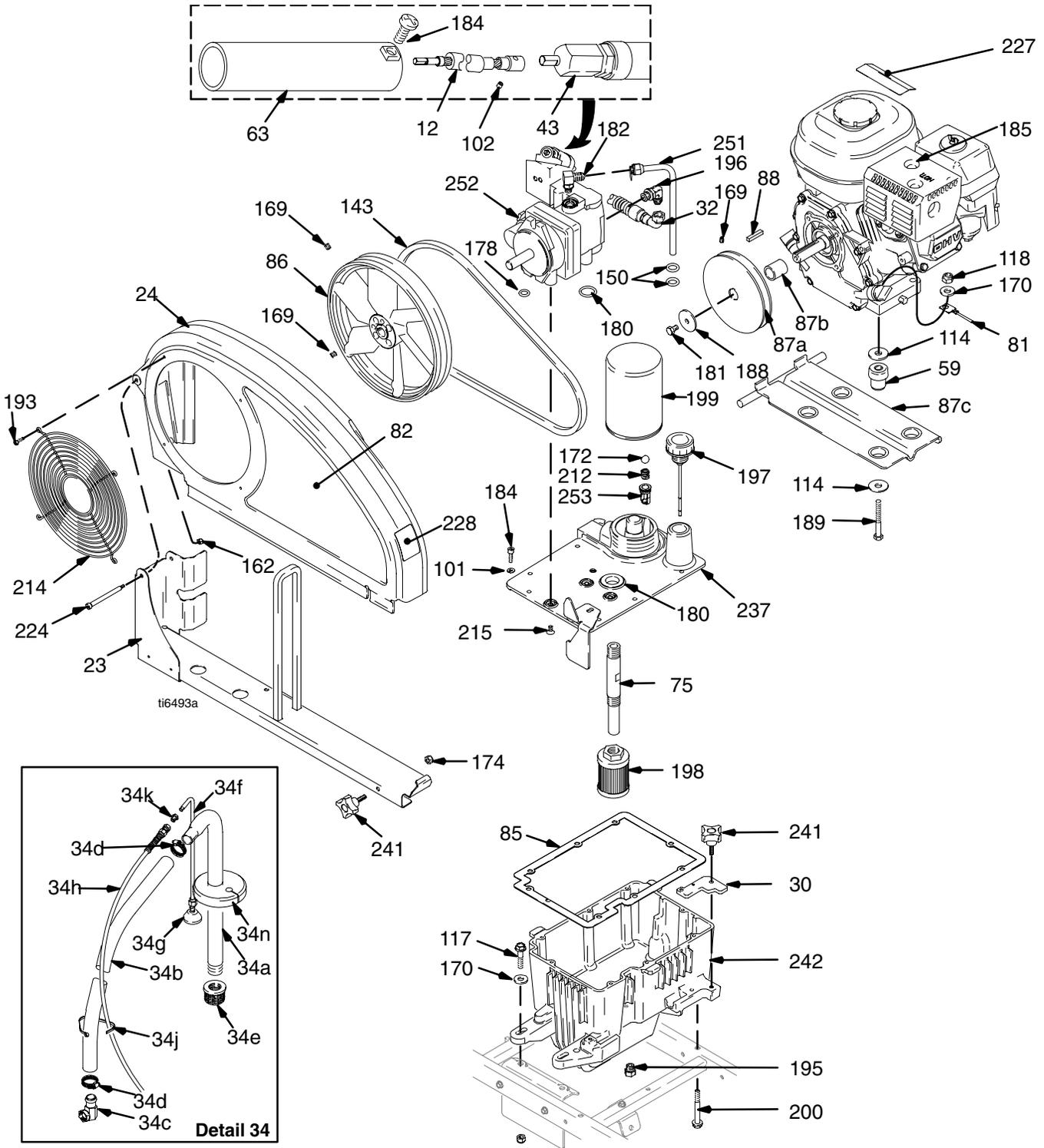
Parts – LineLazer IV 200Hs

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
21	277068	PUMP, displacement Manual 309277	1	183	15A726	NUT, jam	1
22	246610	YOKE, assembly (includes 22a, 22b)	1	186	112342	BEARING, rod	1
22a	15A690	ROD, trip, (page 21)	1	187	112561	PACKING, block	1
22b	246175	YOKE, valve (page 21) includes 22c, 171, 175, 219, 247	1	192	114231	NUT, lock, hex	1
22c	118123	SCREW, set (page 21)	1	194	116551	RING, retaining	1
25	246180	CAP, hydraulic head, assy, includes 138, 173, 231, 235 and 243	1	213	117283	O-RING	1
26	248007	HOSE, coupled, 3/8 in.	1	216	117494	SPRING, compression	1
32	287175	HOSE, hydraulic, supply	1	217	117607	FITTING, elbow, std thd	2
34	287206	HOSE, suction/drain	1	218	117608	FITTING, nipple, straight	1
35	287176	HOSE, hydraulic, return	1	219	117645	SPRING, compression	1
42	15A693	ROD, hydraulic motor	1	220	117739	WIPER, rod	1
48	117328	FITTING, nipple, straight	1	222	287186	MAGNET, ring	1
60	196176	ADAPTER, nipple	1	230	15A728	MANIFOLD, adapter	1
69	246176	SLEEVE, hydraulic cylinder, includes 213	1	231	15B063	LABEL,	1
92	193394	NUT, retaining	1	232	15B463	RETAINER, spring	2
107	117441	VALVE, ball	1	233	107210	SCREW, cap, socket head	4
108	101566	NUT, lock	4	235	15B804	LABEL, Graco Logo	1
137	15F911	GUARD, pump rod	1	243	178179	WASHER, sealing	1
138	106276	SCREW, cap, hex hd	1	244	178207	BEARING, piston	1
149	119841	FITTING, tee, branch, str thd	1	245	178226	SEAL, piston	1
159	155685	O-RING	1	246	189072	SLEEVE, valve	1
166	119720	SWITCH, reed w/connector	2	247	192654	STOP, valve (spring retainer)	1
171	100069	BALL	2	248	192656	PISTON,	1
173	100139	PLUG, pipe	1	249	197443	PIN, pump	1
174	102040	NUT, lock, hex	2	250	15F519	TUBE, hydraulic, supply	1
175	104092	SCREW, cap, sch	2	283	110982	SCREW, cap, hex head	1
176	105765	O-RING	1				
179	108014	O-RING	1				
				Kits			
				246174,		KIT, repair, seal, hydraulic, includes 176, 186, 213, 220, 244, 245	
				246255		KIT, repair, trip rod/piston, includes 42, 171, 175, 176, 192, 216, 219, 232, 247, 248	

Notes

- △₁ Torque to 75 ft-lb
- △₂ Torque to 85-95 in-lb
- △₃ Torque to 150 ft-lb
- △₄ Torque to 54-56 in-lb
- △₅ Torque to 40-44 ft-lb
- △₆ Torque to 40 ft-lb
- △₇ Torque to 25 ft-lb

Parts – LineLazer IV 200Hs

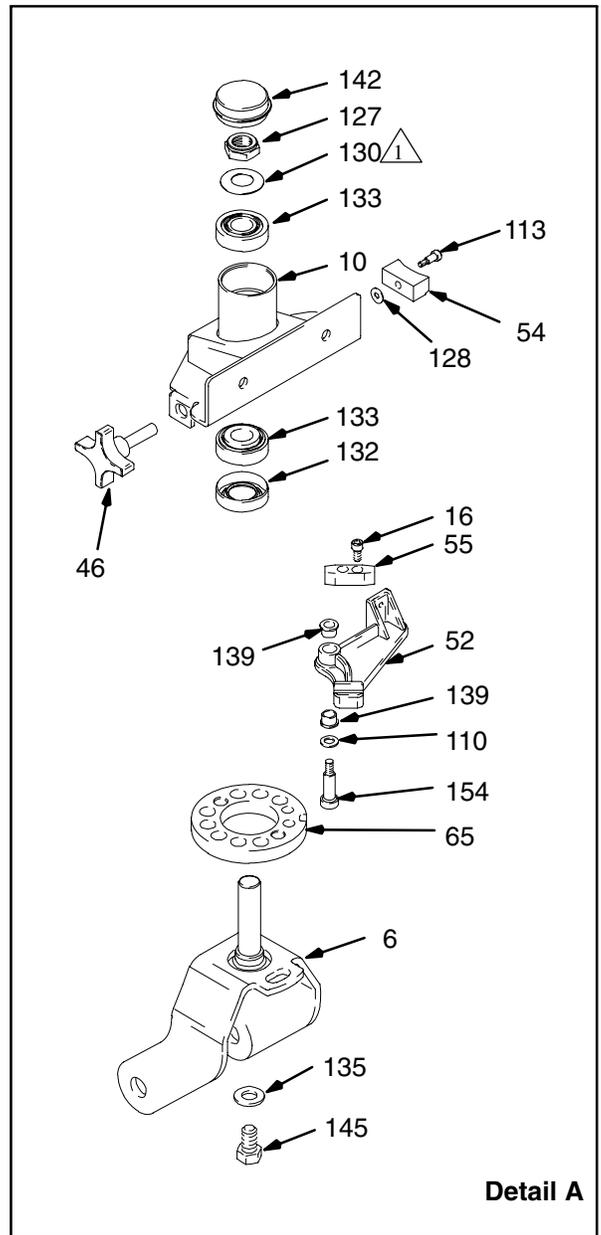
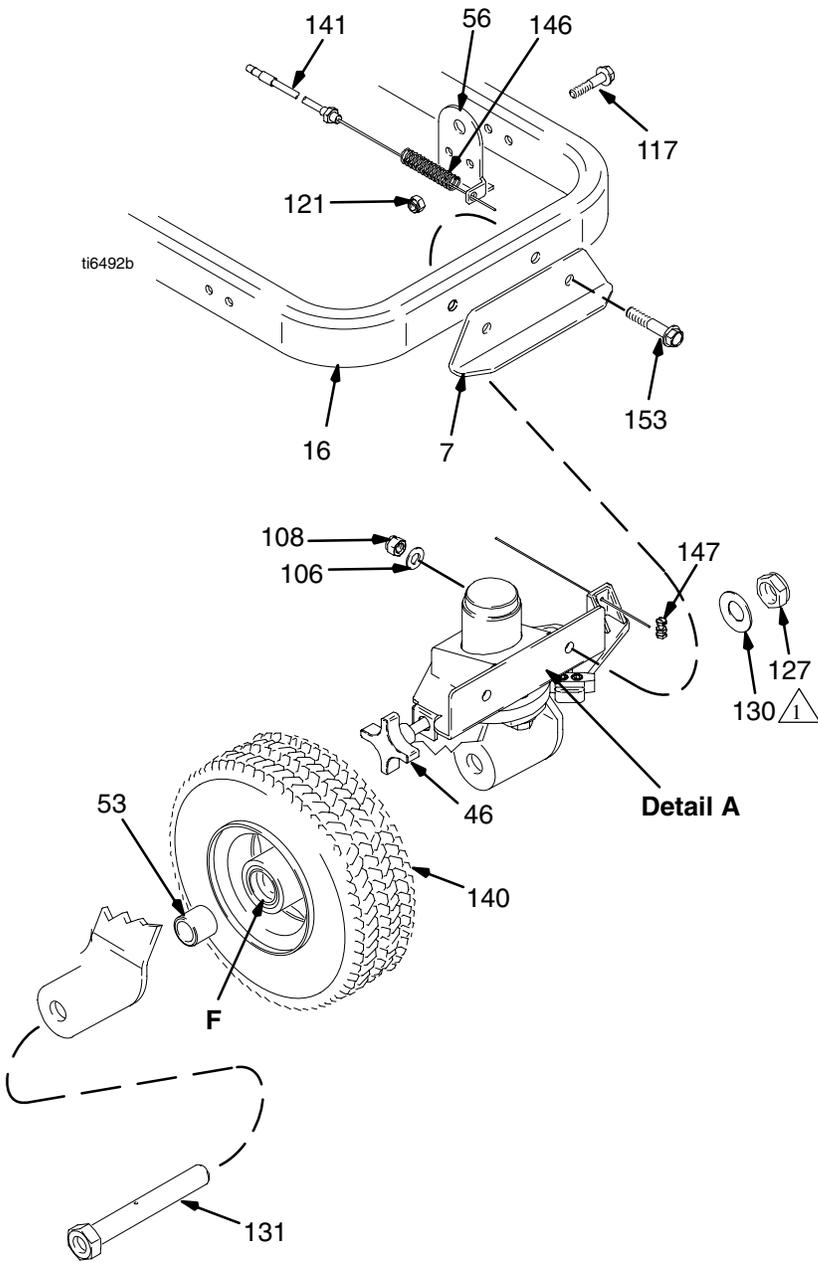


Parts – LineLazer IV 200HS

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
12	287687	SHAFT, flexible, includes 125, 190, 191, 268, 269	1	170	100023	WASHER, flat	6
23	248976	RAIL, belt, includes 162, 174, 224 and 241	1	172	100084	BALL, metallic	1
24	248973	GUARD, belt, includes: 162, 193, 214, 224, and 228	1	174	102040	NUT, lock	1
30	15E476	BRACKET, retainer, motor	1	178	107188	O-RING	1
32	287175	HOSE, hydraulic supply	1	180	156401	O-RING	1
34	287206	HOSE, suction/drain	1	181	108842	SCREW, cap, hex head	1
34a	170957	TUBE, suction	1	182	110792	ELBOW, male, 90 degree	1
34b	194306	HOSE, fluid	1	184	112166	SCREW, cap, sch	15
34c	198119	ELBOW, barbed	1	185	248943	KIT, engine, gas, 5.5 hp, Honda, includes: 59, 81, 87, 88, 98, 114, 118, 169, 170, 181, 185a, 188, 189, 227 and 234	1
34d	101818	CLAMP, hose	1	185	114530	ENGINE, gas, 5.5 hp, Honda	1
34e	181072	STRAINER, inlet	1	188	112717	WASHER,	1
34f	198601	TUBE, drain	1	189	113664	SCREW, flange, hex	4
34g	241920	DEFLECTOR, threaded	1	193	115477	SCREW, mach, torx pan hd	4
34h	248008	HOSE, coupled 1/4 in. x 4 ft	1	195	116754	PLUG, hex head, hydraulic	1
34j	114958	STRAP, tie	7	196	116793	FITTING, elbow, hydraulic	1
34k	196180	BUSHING	1	197	116915	CAP, breather filler	1
34m	195119	LABEL, warning (not shown)	1	198	116919	FILTER, hydraulic, suction	1
34n	15F513	GASKET, pail	1	199	246173	FILTER, oil, spin on	1
43	15C400	ADAPTER, pressure control	1	200	118280	SCREW, hex washhd	2
59	15E888	DAMPENER, motor mount	4	206	70408	SEALANT, pipe, sst	
63	15C958	GUARD, pressure control	1	208	70274	TAPE, PTFE, sealant	
75	15E587	TUBE, suction	1	211	73004	FLUID, hydraulic	
81	240997	CONDUCTOR, ground	1	212	116967	SPRING, compression	1
82▲	15F548	LABEL, brand 200HS		214	117284	GRILL, fan guard	1
85	246172	GASKET, reservoir	1	215	117471	SCREW, 1/4–20 flat hd mach	4
86	15E410	PULLEY, fan	1	218	117608	FITTING, nipple, straight	1
87a	15E758	PULLEY, 5.50 diameter	1	224	119434	SCREW, shoulder, socket head	1
87b	15E759	SPACER, shaft, engine	1	227▲	194126	LABEL, warning	1
87c	15F485	BRACKET, engine mount	1	228▲	198492	LABEL, warning	1
88	117632	KEY, square, 3/16 X 1.25	1	237	15C676	COVER, reservoir, GH200 LL	1
101	100016	WASHER	8	241	15D862	NUT, hand	2
102	118123	SCREW, ste, socket w/patch	2	242	15E342	TANK, reservoir	1
114	108851	WASHER, plain	8	251	246167	TUBE, hydraulic, case drain, includes: 150	1
117	110837	SCREW, flange, hex	10	252	287179	PUMP, hydraulic, includes: 43, 102, 155, 178, 180, 215, 223, 238, 239, 240	1
118	110838	NUT, lock	4	253	198841	RETAINER, ball, press bypass	1
143	119433	BELT, vee, gripnotch	1				
150	154594	O-RING	2				
151	114956	TERMINAL, wire tap, insulated	1				
162	116969	NUT, lock	2				
169	100002	SCREW, set, sch	3				

▲ Replacement warning labels may be ordered free of charge

Parts – LineLazer IV 200Hs



Parts – LineLazer IV 200Hs

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
6	240942	SHAFT, fork	1	128	112776	WASHER, plain	1
7	240991	BRACKET, caster, front	1	130	112825	SPRING, Belleville	3
10*	15G952	BRACKET, hub	1	131	113471	SCREW, cap, hex hd	1
16	287623	FRAME, linstriper, painted	1	132*	113484	SEAL, grease	1
46	181818	KNOB, pronged	1	133*	113485	BEARING, cup/cone	2
52	193528	ARM, detent	1	135	113962	WASHER, hardened	1
53	193658	SPACER, seal	2	139	114548	BEARING, bronze	2
54	193661	JAW	1	140	114549	WHEEL, pneumatic	1
55	193662	STOP, wedge	1	141	241445	CABLE	1
56	15F910	BRACKET, cable	1	142	114648	CAP, dust	3
65	198606	DISK, adjuster	1	145	114681	SCREW, cap, hex hd	1
106	100731	WASHER	2	146	114682	SPRING, compression	1
108	101566	NUT, lock	2	147	114802	STOP, wire	1
110	15J603	WASHER, plain	1	153	114982	SCREW, cap, flng hd	2
113	108483	SCREW, shoulder, soc hd	1	154*	120476	BOLT	1
116	110754	SCREW, cap, soc hd	2				
117	110837	SCREW, flange, hex	10				
121	111040	NUT, lock	2				
127	112405	NUT, lock	4				

* Included in 240940 Bracket Repair Kit; purchase separately

Note

 Install washers (130) concave surface to inside.

Pressure Control Wiring Diagram

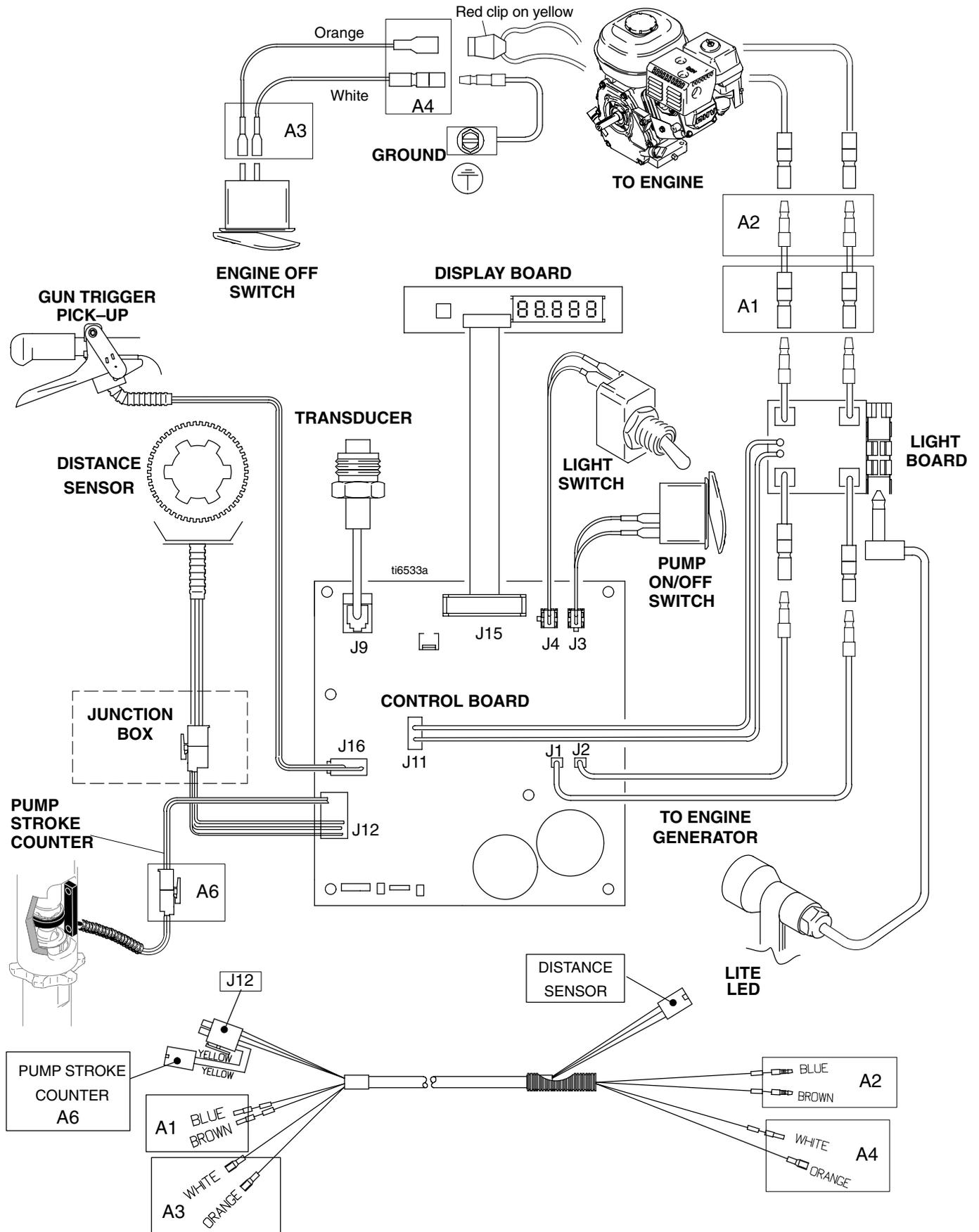


Fig. 17

*Technical Data

Honda GX160 Engine	Maximum delivery	2.0 gpm (7.6 lpm)
Power Rating @ 3600 rpm	Maximum tip size	
ANSI	1 gun	with 0.046 in. tip
DIN 6270B/DIN 6271	2 guns	with 0.033 in. tip
NA	Inlet paint strainer	16 mesh (1190 micron)
NB		stainless steel screen, reusable
Maximum working pressure	Outlet paint filter	60 mesh (250 micron)
(227 bar, 22.7 MPa)		stainless steel screen, reusable
Noise Level	Pump inlet size	1 in. npsm(m)
Sound power	Fluid outlet size	3/8 npt(f)
	Hydraulic reservoir capacity	1.25 gallon (4.73 liters)
	Hydraulic pressure	1825 psi (124 bar)
Sound pressure	Weight (dry, without packaging)	242 lb (110 kg)
measured at 3.1 feet (1 m)	Height	40 in. (101.6 cm)
Vibration Level*	Length	65 in. (165.1 cm)
Left Hand	Width	32 in. (81.3 cm)
Right Hand	Wetted parts	PTFE, Nylon, polyurethane, V-Max™
*Vibration measured per ISO 5349 based on 8 hr daily exposure.		UHMWPE polyethylene, fluoroelastomer, acetal, leather, tungsten carbide, stainless steel, chrome plating, nickel-plated carbon steel, ceramic,
Cycles/gallon (liter)		
		104 (27.5)

Accessories

Must be purchased separately.

GRACO-APPROVED HYDRAULIC OIL

169236	5 Gallons (19 liters)
207428	1 Gallon (3.8 liters)

Graco Standard Warranty

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco 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.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose in connection with accessories, equipment, materials or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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ADDITIONAL WARRANTY COVERAGE

Graco does provide extended warranty and wear warranty for products described in the "Graco Contractor Equipment Warranty Program".

Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you:
1-800-690-2894 Toll Free

*All written and visual data contained in this document reflects the latest product information available at the time of publication.
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