

# GH<sup>TM</sup> 833 Sprayers

311283J

EN

For use with Architectural Coatings, Paints, Roof Coatings and Below Grade Coatings. For professional use only. Not approved for use in explosive atmospheres or hazardous (classified) locations.

**Models: 249318, 249617, 253471, 253472, 16U287, 16U288, 16V258, 16V260, 249318V, 16U287V**

4000 psi (27.6 MPa, 275.8 bar) Maximum Working Pressure



### IMPORTANT SAFETY INSTRUCTIONS

Read all warnings and instructions in this manual and related manuals.  
Be familiar with the controls and the proper usage of the equipment.  
Save these instructions.

### Related Manuals



311279



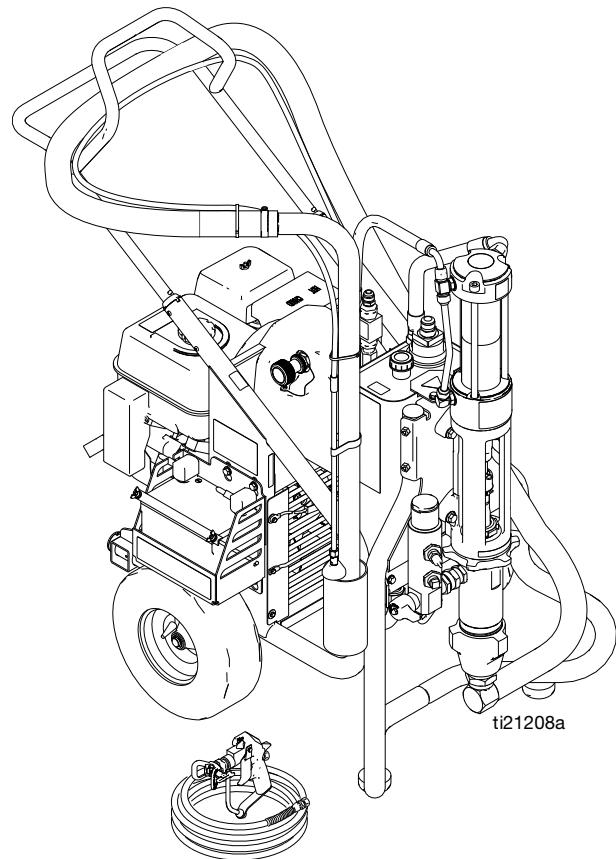
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# Warning

The following warnings are for the 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. When these symbols appear in the body of this manual, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 <b>WARNING</b>	
	<p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• 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.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area. See <b>Grounding</b> instructions.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail.</li> <li>• If there is static sparking or you feel a shock, <b>stop operation immediately</b>. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>
	<p><b>SKIN INJECTION HAZARD</b></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. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Do not point gun at anyone or at any part of the body.</li> <li>• Do not put your hand over the spray tip.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Do not spray without tip guard and trigger guard installed.</li> <li>• Engage trigger lock when not spraying.</li> <li>• Follow <b>Pressure Relief Procedure</b> in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.</li> </ul>
	<p><b>PRESSURIZED EQUIPMENT HAZARD</b></p> <p>Fluid from the gun/dispense valve, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> <li>• Follow <b>Pressure Relief Procedure</b> in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.</li> </ul>
	<p><b>RECOIL HAZARD</b></p> <p>Brace yourself; gun may recoil when triggered and cause you to fall, which could cause serious injury.</p>

# ! WARNING



## EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- 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 forms from distributor or retailer.
- 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.



## MOVING PARTS HAZARD

Moving parts can pinch or amputate fingers and other body parts.

- 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.



## PRESSURIZED ALUMINUM PARTS HAZARD

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.



## SUCTION HAZARD

Never place hands near the pump fluid inlet when pump is operating or pressurized. Powerful suction could cause serious injury.



## 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.



## TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read Safety Data Sheets (SDS) 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.



## 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.

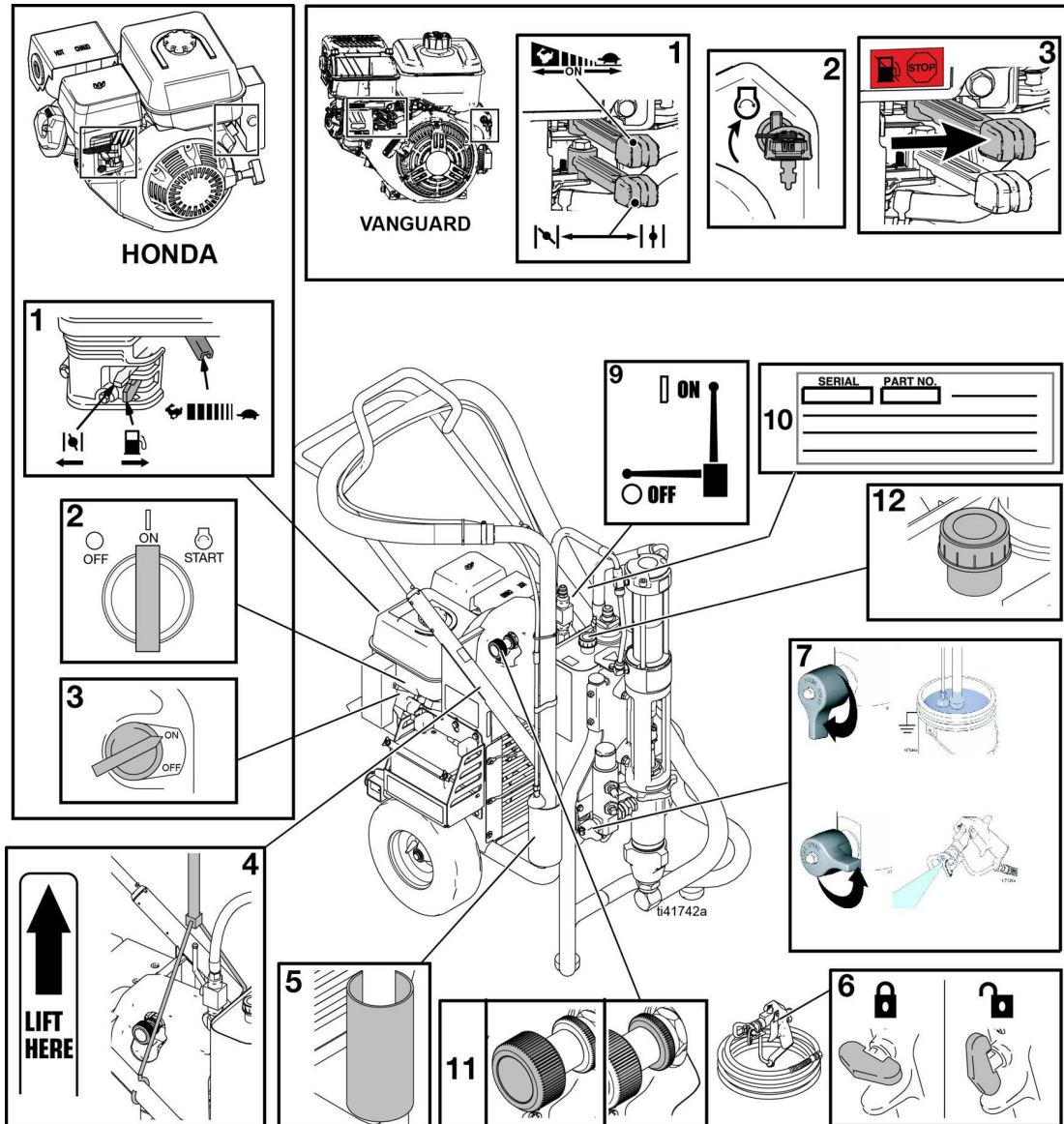


## PERSONAL PROTECTIVE EQUIPMENT

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:

- Protective eyewear
- Clothing and respirator as recommended by the fluid and solvent manufacturer
- Gloves
- Hearing protection

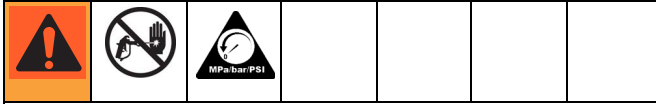
# Component Identification



Ref.	Description
1	Engine Controls
2	Ignition
3	Engine ON/OFF Switch
4	Lift Location
5	Suction Holder
6	Trigger Lock
7	Drain Valve
8	Lock Ring
9	Hydraulic Pump Valve
10	Serial Number ID Label
11	Pressure Control
12	Hydraulic Oil Fill

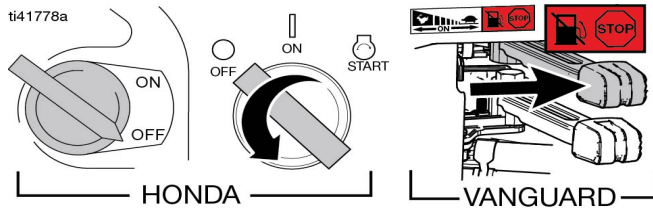
# Operation

## Pressure Relief Procedure

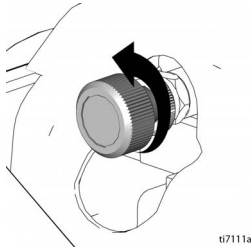


System pressure must be manually relieved to prevent it from starting or spraying accidentally. Fluid under high pressure can be injected into the skin and cause serious injury. To reduce risk of injury from injection, follow this procedure whenever you are instructed to relieve pressure, stop spraying, service equipment or install or clean spray tip. Read warnings, page 4.

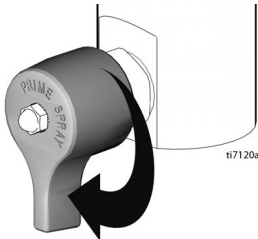
1. Set pump valve OFF. Turn engine OFF.



2. Turn pressure to lowest setting. Trigger gun into pail to relieve pressure.

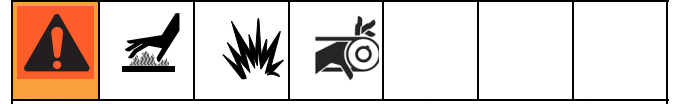


3. Open prime valve (vertical).



*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. Then clean tip and hose.*

## General Repair Information



Hydraulic system and engine may become very hot during operation and could burn skin if touched. Flammable materials spilled on hot, bare engine could cause fire or explosion. Have belt guard in place during operation to reduce risk of pinching or loss of fingers.

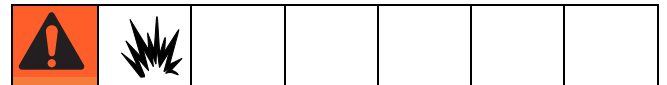
- Install belt guard before operation of sprayer and replace if damaged. Belt guard reduces risk of pinching and loss of fingers.



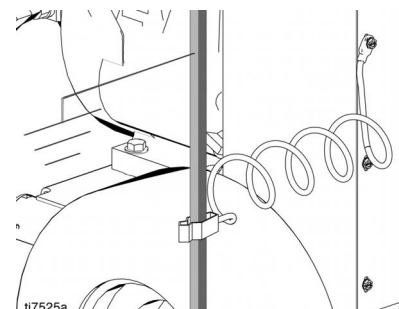
To reduce risk of serious injury:

- Keep all screws, nuts, washers, etc. removed during repair procedures. These parts usually are not provided with replacement kits.
- Test repairs after problems are corrected.
- If sprayer does not operate properly, review repair procedure to verify you did it correctly. See **Troubleshooting**, page 7.
- Do not touch moving parts with fingers or tools while testing repair.

## Grounding



Ground sprayer with grounding clamp to earth ground for safe sprayer operation.



# Maintenance



For detailed engine maintenance and specifications, refer to separate Honda Engines Owner's Manual, supplied.

## Spark Plug:

- Use BPR6ES (NGK) or W20EPR-U (NIPPON-DENSO) plug, only.
- Gap plug to 0.028 to 0.031 in. (0.7 to 0.8 mm).
- Use spark plug wrench when installing and removing plug.

Frequency	Procedure
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 pressure drain valve for proper operation.
Daily	Check and fill gas tank.
Daily	Check that displacement pump is tight.
Daily	Check level of TSL in displacement pump packing nut. Fill nut, if necessary. Keep TSL in nut to help prevent fluid build up on piston rod and premature wear of packings and pump corrosion.
After first 20 hours of operation	Drain engine oil and refill with clean oil. Reference Honda Engine or Vanguard Engine Owner's Manual for correct oil viscosity.
Weekly	Remove engine air filter cover and clean element. Replace element, if necessary. If operating in an unusually dusty environment; check filter daily and replace, if necessary. Replacement elements can be purchased from your local Honda or Vanguard dealer.
Weekly/Daily	Remove and debris or media from hydraulic rod.
After each 100 hours of operation	Change engine oil. Reference Honda Engine or Vanguard Engine Owner's Manual for correct oil viscosity.
Semi-annually	Check belt wear; replace if necessary.
Yearly or 2000 hours	Replace hydraulic oil and filter element with Graco ISO 46 Hydraulic Oil 169236; 5 gallon/20 liter or 207428; 1 gallon/3.8 liter) and filter element 287871.

# Troubleshooting

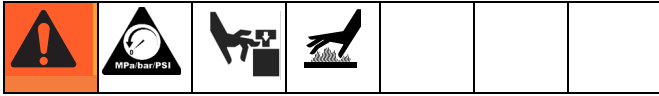
PROBLEM	CAUSE	SOLUTION
Gas engine pulls hard (won't start)	Hydraulic pressure is too high	Turn hydraulic pressure knob counterclockwise to lowest setting
Gas engine does not start	Switch OFF, low oil, no gasoline	Consult engine manual, supplied
Gas engine doesn't work properly	Faulty engine	Consult engine manual, supplied
Gas engine operates, but displacement pump doesn't operate	Pump valve is OFF	Set pump valve ON
	Pressure setting too low	Increase pressure
	Displacement pump outlet filter (if used) is dirty or clogged	Clean the filter
	Tip or tip filter (if used) is clogged	Remove tip and/or filter and clean
	Hydraulic fluid too low	Shut off sprayer. Add fluid*.
	Belt worn, broken or off	Replace belt.
	Hydraulic pump worn or damaged	Bring sprayer to Graco distributor for repair
	Dried paint seized paint pump rod	Service pump. See manual 311485
Displacement pump operates, but output is low on upstroke	Hydraulic motor not shifting	Set pump valve OFF. Turn pressure down. Turn engine OFF. Pry rod up or down until hydraulic motor shifts.
	Piston ball check not seating properly	Service piston ball check. See manual 311485
Displacement pump operates but output is low on downstroke and/or on both strokes	Piston packings worn or damaged	Replace packings. See manual 311485
	Piston packings worn or damaged	Tighten packing nut or replace packings. See manual 311485
	Intake valve ball check not seating properly	Service intake valve ball check. See manual 311485
Paint leaks and runs over side of wetcup	Suction tube air leak	
	Loose wet-cup	Tighten wet-cup enough to stop leakage
Excessive leakage around hydraulic motor piston rod wiper	Throat packings worn or damaged	Replace packings. See manual 311485
	Piston rod seal worn or damaged	Replace these parts.
Fluid delivery is low	Pressure setting too low	Increase pressure
	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

PROBLEM	CAUSE	SOLUTION
The sprayer overheats	Paint buildup on hydraulic components	Clean
	Oil level is low	Fill with oil.
Spitting from gun	Air in fluid pump or hose	Check for loose connections on siphon assembly, tighten, then re-prime pump.
	Loose intake suction	Tighten.
	Fluid supply is low or empty	Refill supply container.
Excessive hydraulic pump noise	Low hydraulic fluid level	Turn sprayer OFF. Add fluid*.
*Check hydraulic fluid level often. Do not allow it to become too low. Use only Graco approved hydraulic fluid, page 6.		



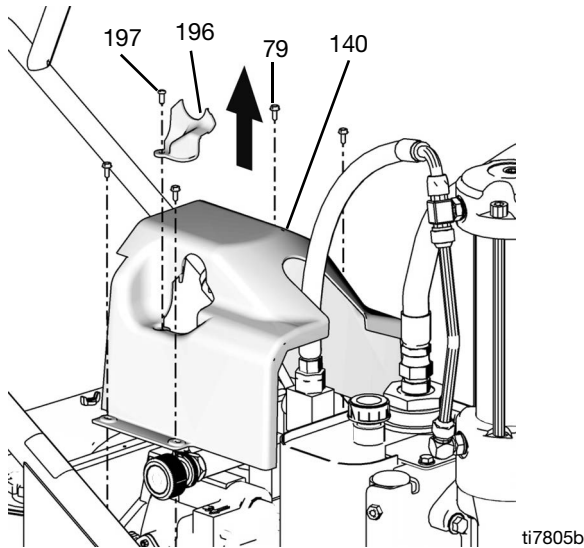
# Compensator Seal Replacement

## Removal



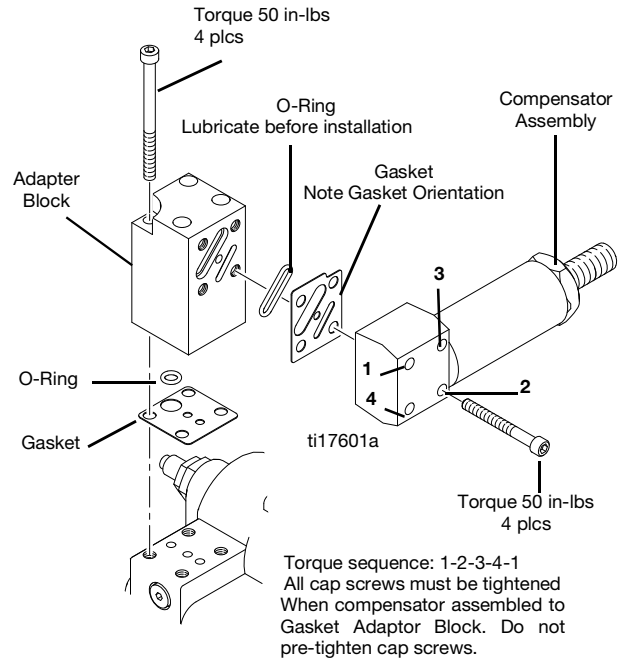
1. Relieve pressure, page 5. Allow hydraulic system to cool before beginning the service procedure.
2. Remove screw(197) and pump handle cover (196). Remove four cover bolts (79) and cover (140).

**NOTE:** It is not necessary to remove the hydraulic lines before removing the cover. The cover is designed to provide ample room for the cover to fit over the hose.

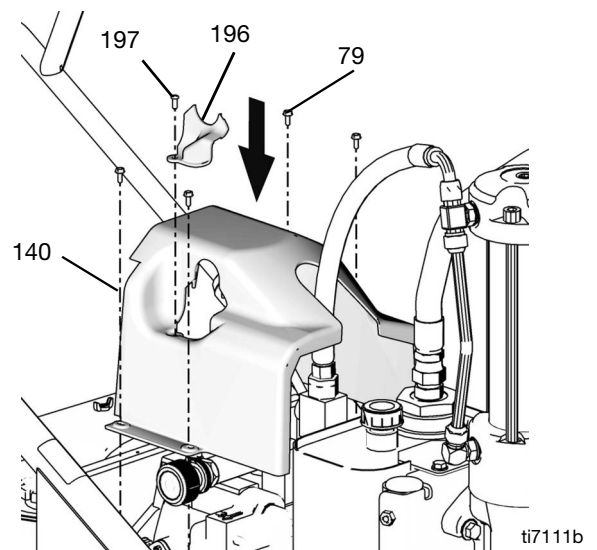


3. Remove compensator screws and separate compensator and adapter block.

4. Install new gaskets and torque screws.



5. Install cover (140) with four screws (79). Torque to 25-30 in-lb (2.8 - 3.4 N m). Install pump handle cover (196) with screw (197).



# Displacement Pump Replacement

See manual 311485 for pump repair instructions.

5. Remove clip (121).

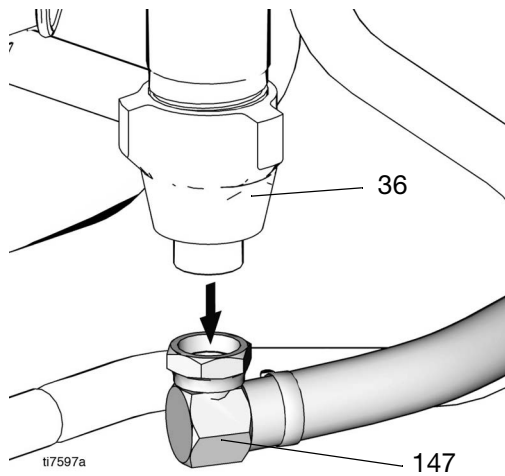
## Removal

1. Flush pump (36). Stop pump on down stroke if possible.

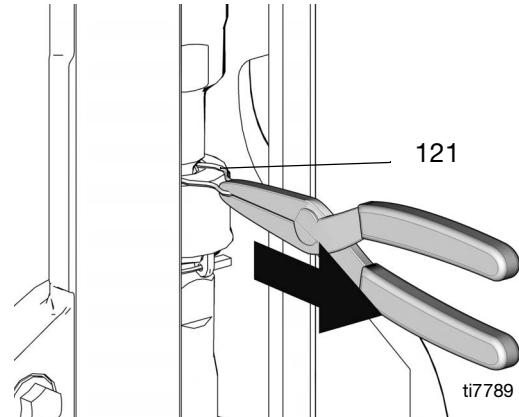
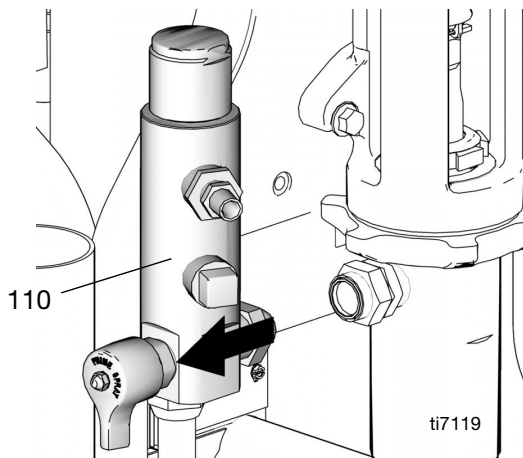


2. Relieve pressure, page 5.

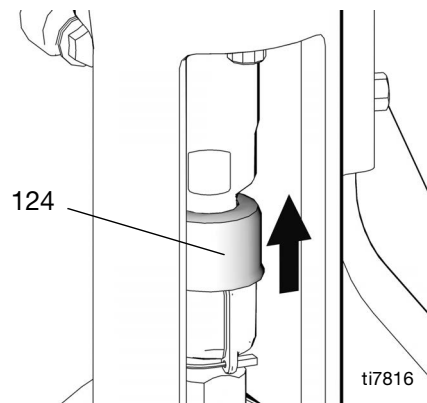
3. Remove suction set (147) from pump (36).



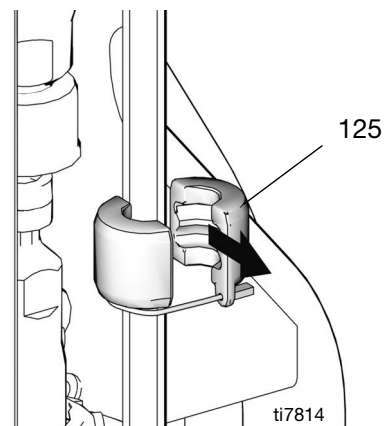
4. Remove filter housing (110), page 15.



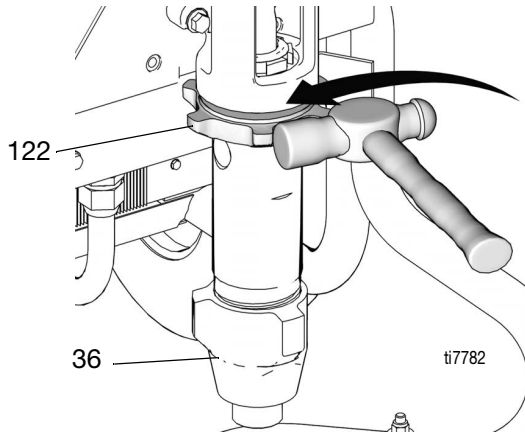
6. Slide cover up (124).



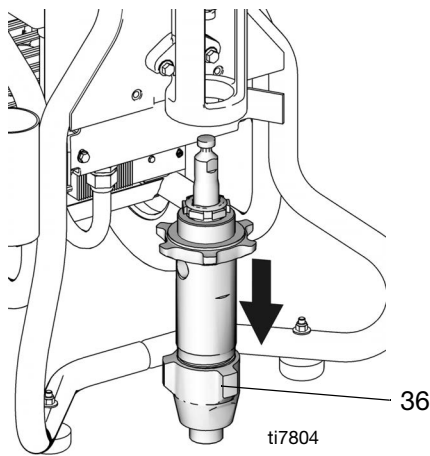
7. Separate coupling (125) and remove.



- Loosen jam nut (122) with a hammer. Unscrew pump (36) from power head.

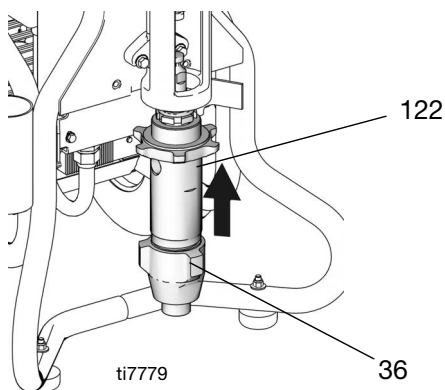


- Remove pump (36).

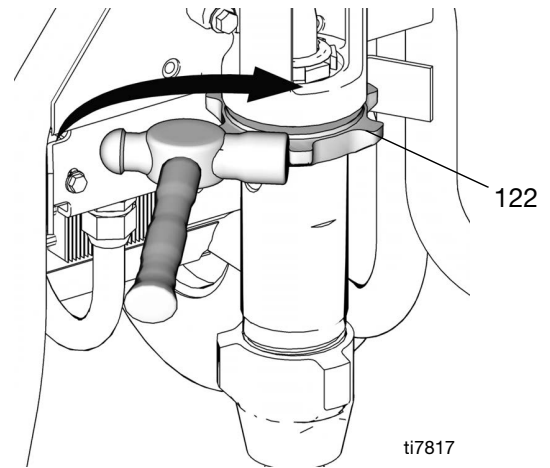


### Installation

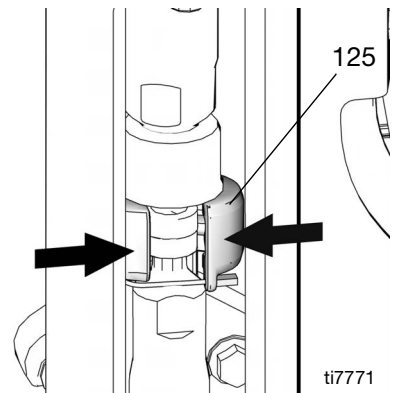
- Screw jam nut (122) to bottom of pump threads (36).
- Slide cover (124) up over pump rod. Screw pump completely up into power head.



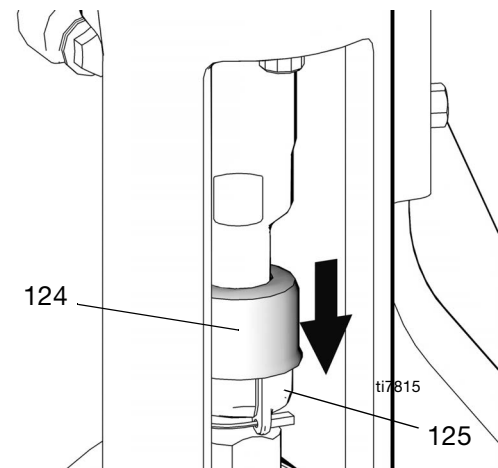
- Hand tighten jam nut (122). Then tighten securely 1/8 to 1/4 turn with hammer or torque to 330 ft-lb (447.4 N•m).



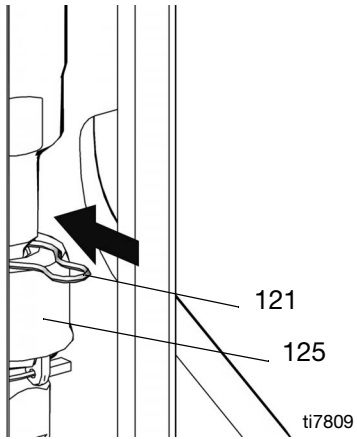
- Slide cover (124) up over pump rod. With engine in OFF position, pull recoil starter to move rod until it contacts pump rod.
- Install coupling (125) around pump rod.



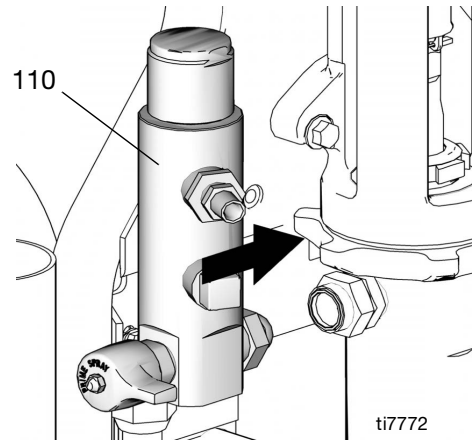
- Slide cover (124) over coupling (125).



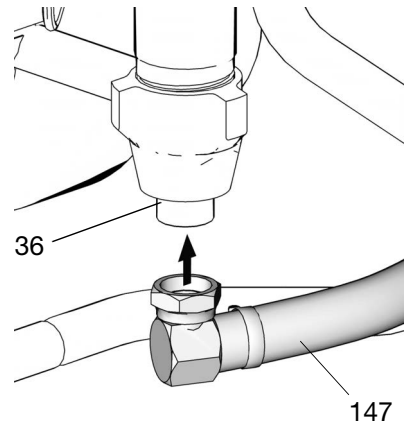
7. Install clip pin (121) to secure.



8. Install filter housing (110), page 15.

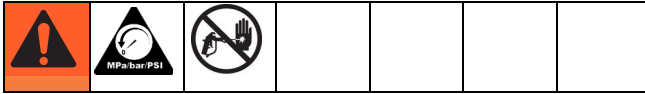


9. Connect suction hose (147) to pump outlet (36).

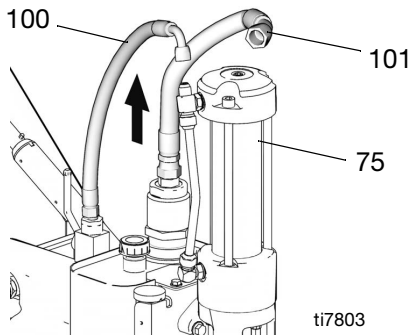


# Pump Power Head Replacement

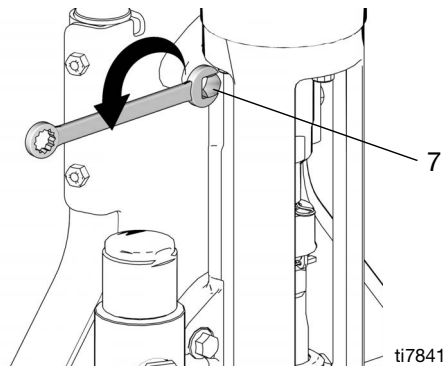
## Removal



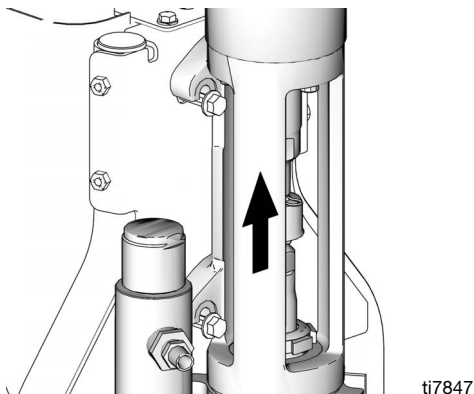
1. **Relieve pressure**, page 5.
2. Remove hydraulic lines (100, 101) from head (75).



3. Loosen four mounting bolts (7) on the adapter enough to lift and remove assembly.

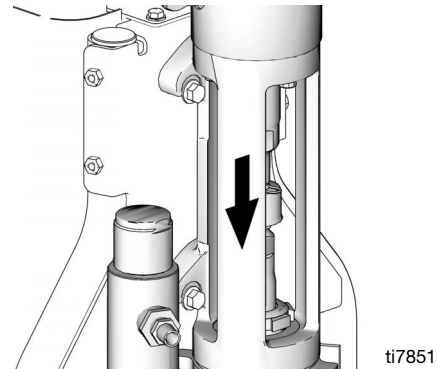


4. Remove power head from unit.

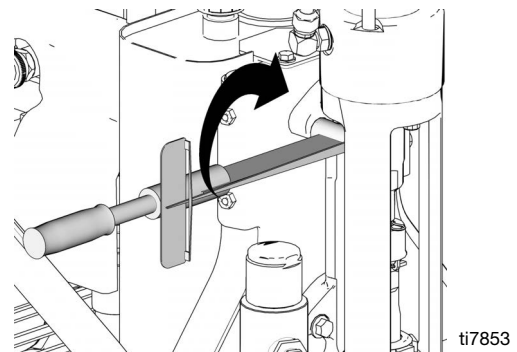


## Installation

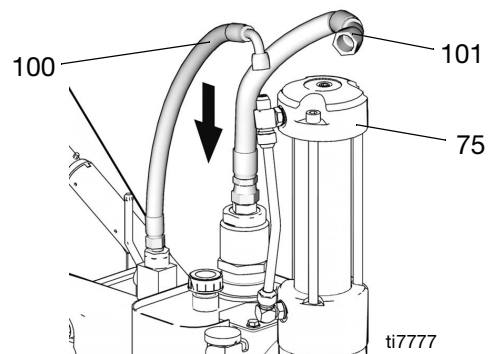
1. Install power head on unit.



2. Tighten power head bolts (7). Torque bolts to  $400 \pm 10$  in-lb ( $45 \pm 1$  N•m).



3. Attach hoses (100, 101) to head (75). Torque to  $450 \pm 10$  in-lb ( $50.84$  N•m).



4. To purge air from hydraulic lines, increase pressure enough to start hydraulic motor stroking and allow fluid to circulate for 15 seconds. Turn pressure down. Turn prime valve horizontal (closed).

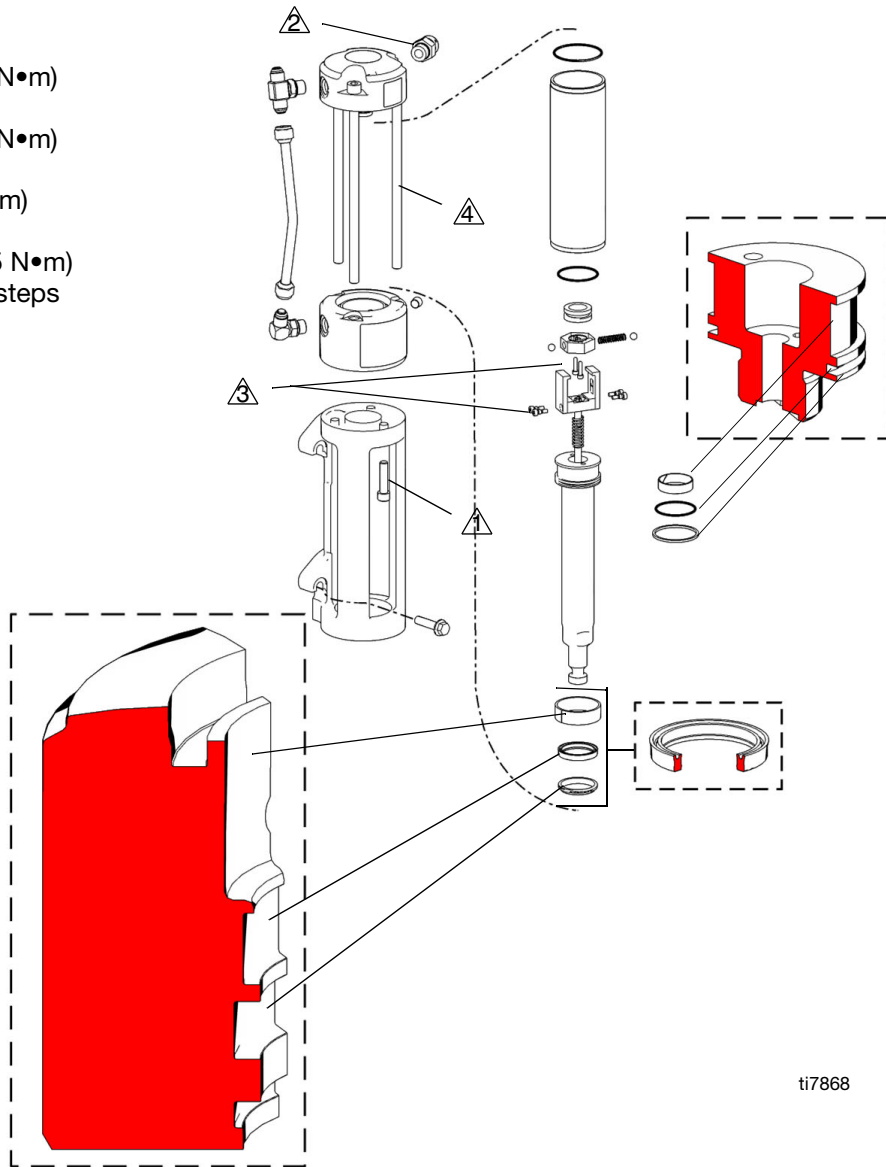
# Hydraulic Motor

⚠ 450 in-lb (51 N•m)

⚠ 600 in-lb (68 N•m)

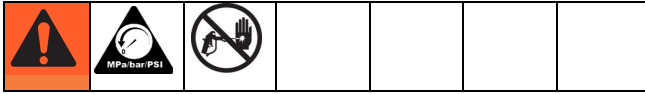
⚠ 60 in-lb (7 N•m)

⚠ 930 in-lb (105 N•m)  
Torqued in 3 steps



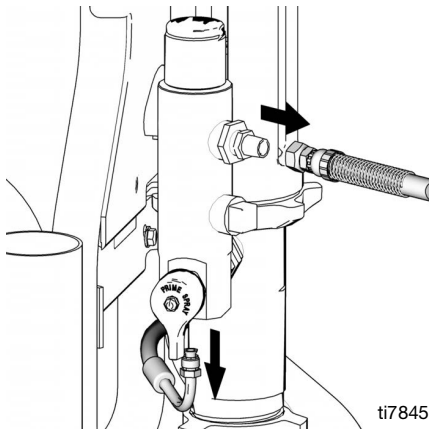
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# Filter Housing Replacement

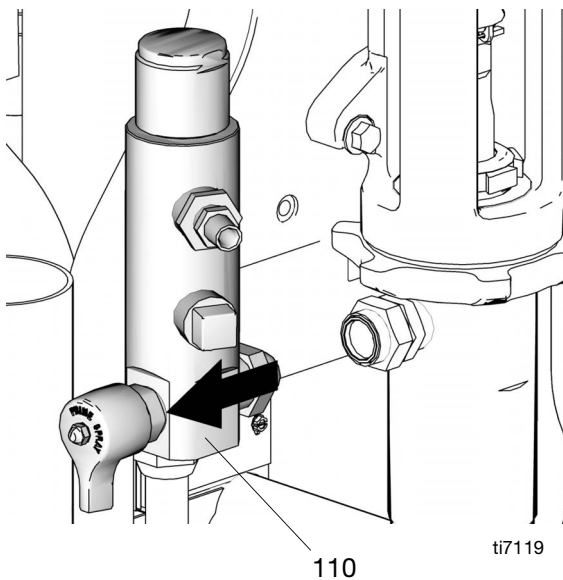


## Removal

1. Relieve pressure, page 5.
2. Remove paint and drain lines from filter housing.

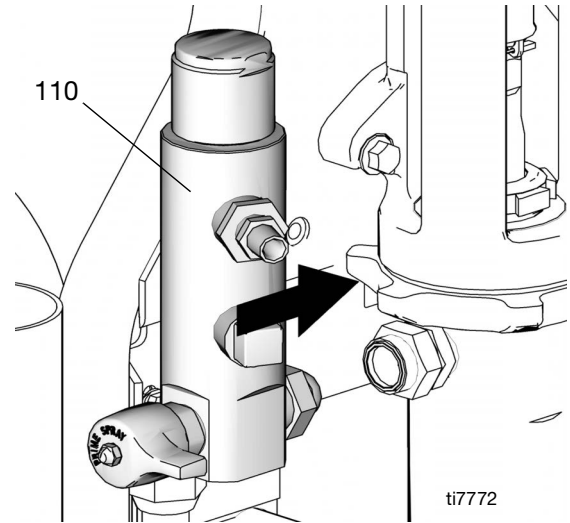


3. Loosen filter housing fitting (110) until housing and remove housing from pump.

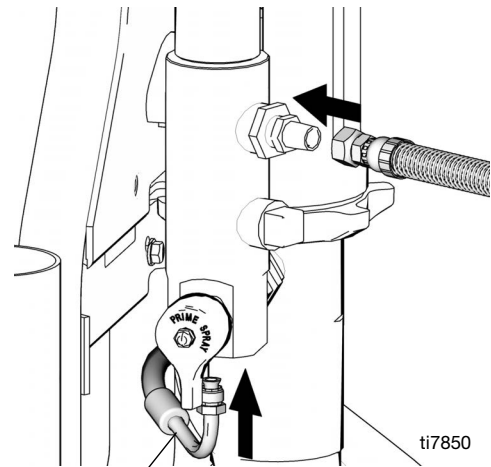


## Installation

1. Install filter housing (110) in pump opening.



2. Tighten fitting.
3. Attach paint and drain lines.



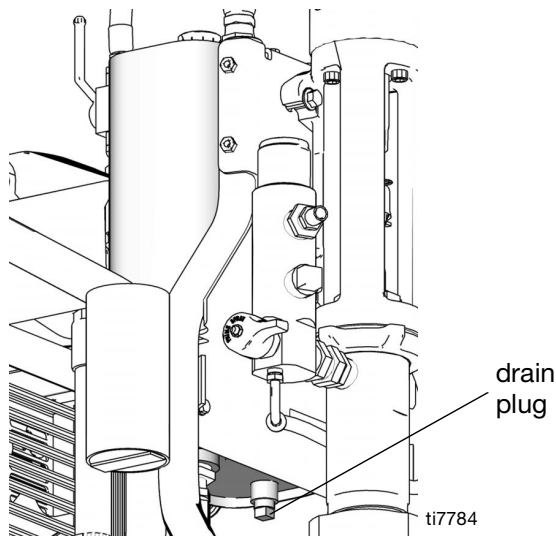
Torque to 225 ± 10 in-lb. (25.4 ± 1.1 N•m)

# Hydraulic Pump Replacement

## Changing Hydraulic Oil

### Draining Oil

- Place drain pan under oil tank and drain plug.
- Unscrew reservoir (64) drain plug and drain oil from reservoir.



### Refilling Oil

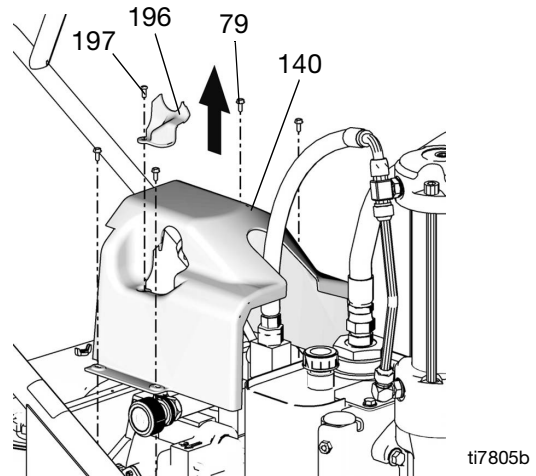
- Replace drain plug.
- Fill tank with Graco Hydraulic Oil, ISO 46. Tank holds approximately 4 gallons.

## Removal

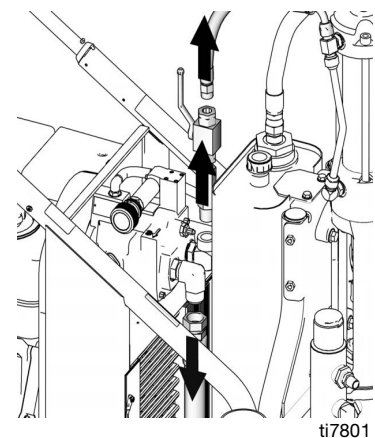
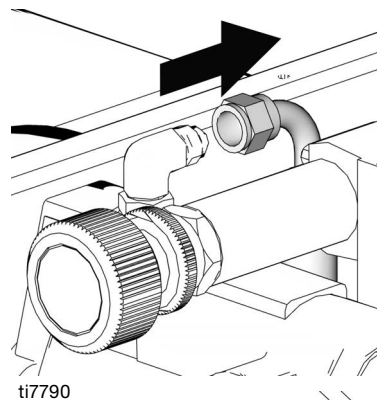


- Relieve pressure**, page 5. Allow hydraulic system to cool before beginning the service procedure.
- Drain oil, **Changing Hydraulic Oil** procedure, page 16.

- Remove screw (197) and pump handle cover (196). Remove four cover bolts (79) and cover (140). (It is not necessary to remove the hydraulic lines before removing cover. The cover is designed to provide ample room for the cover to fit over the hose.)

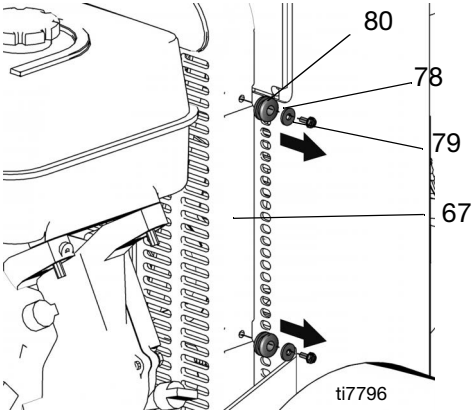


- Unscrew suction line connections to hydraulic pump. Place a container under hoses to catch any dripping oil.

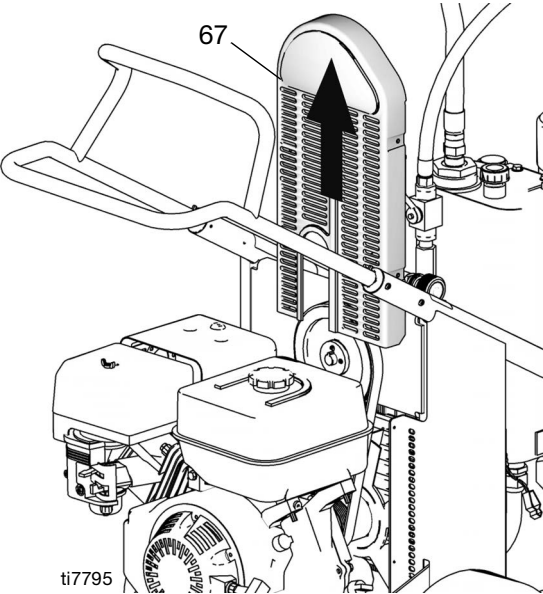




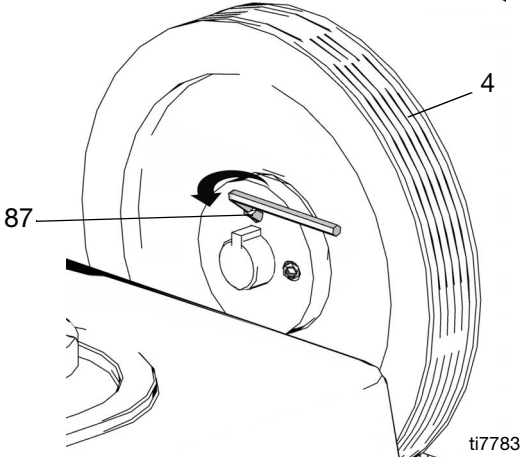
- 5. Remove four belt cover screws (79), washers (78) and grommets (80) (2 each side).



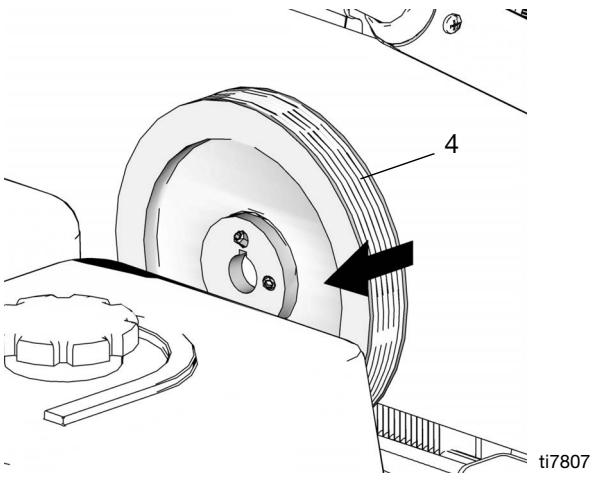
- 6. Remove belt cover (67).



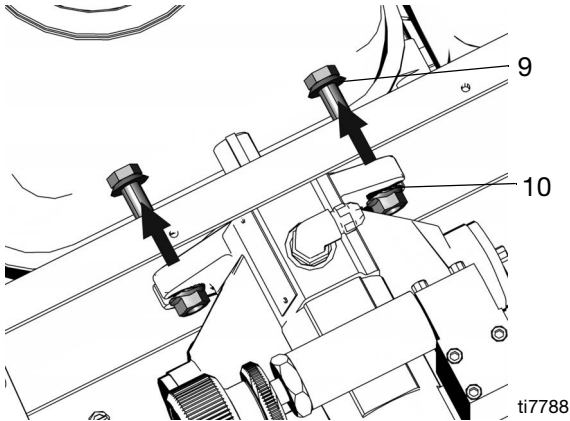
- 7. Remove belt (19), page 20.
- 8. Loosen set-screws (87) on front of large pulley (4).



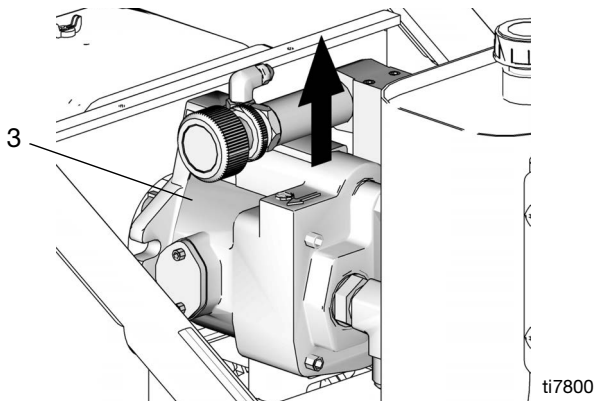
- 9. Remove pulley (4) from hydraulic pump shaft.



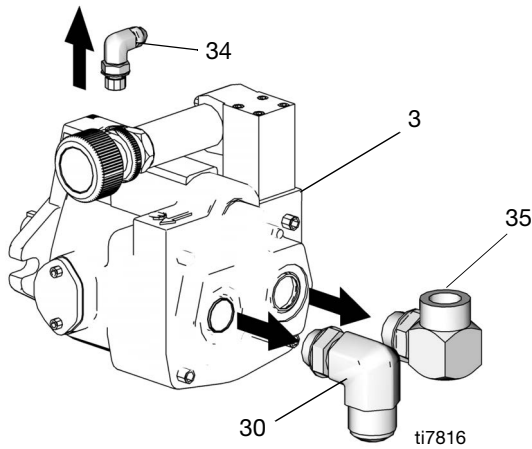
- 10. Remove nuts (10) and screws (9) holding pump to frame.



11. Remove hydraulic pump (3).

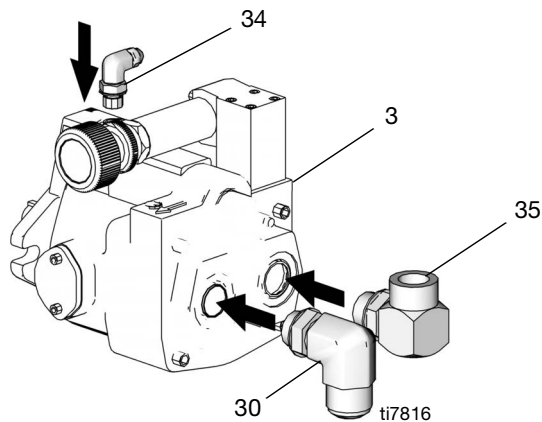


12. Remove fittings (30, 34, 35) from pump (3) and set aside to use on the new pump.



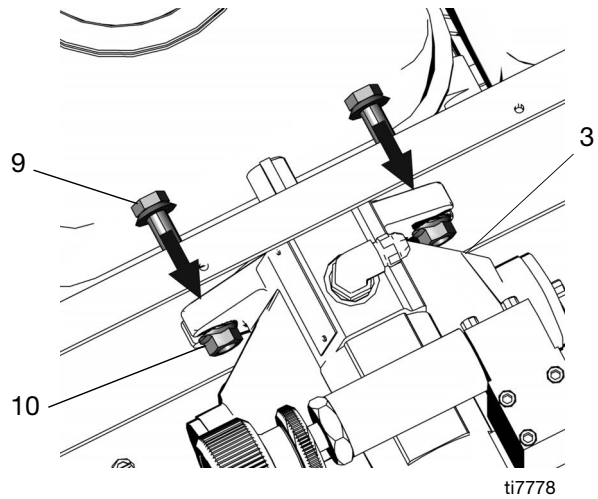
### Installation

1. Install fittings (30, 34, 35) from old pump on new pump. Torque fitting 30 and 35 to  $600 \pm 10$  in-lb ( $67.8 \text{ N}\cdot\text{m}$ ). Torque fitting 34 to 450 in-lb ( $50.8 \text{ N}\cdot\text{m}$ ).

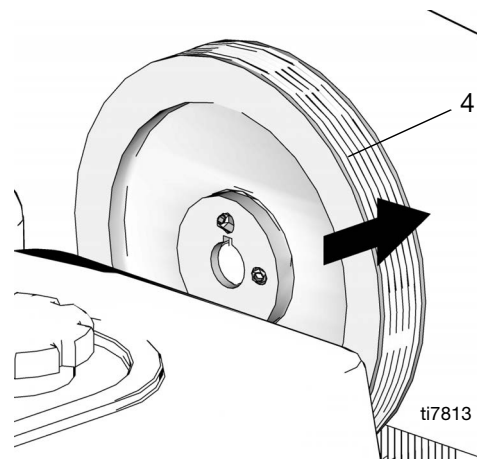


**NOTE:** Fill pump casing with hydraulic oil before installing fitting (34).

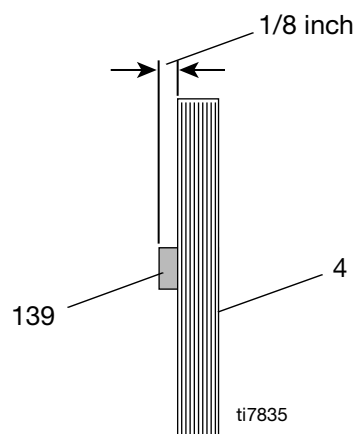
2. Install new pump (3) in frame.
3. Install screws (9) and nuts (10). Torque to  $225 \pm 10$  in-lb ( $25.42 \text{ N}\cdot\text{m}$ ).



4. Replace large pulley (4) on hydraulic pump shaft.



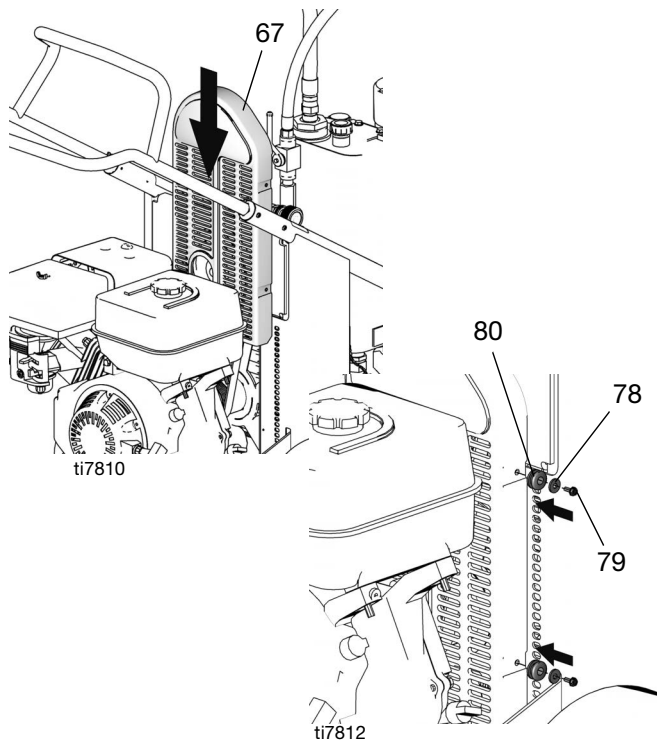
5. Align pulley (4) on shaft. When properly positioned approximately 1/8 inch of shaft (139) will protrude.



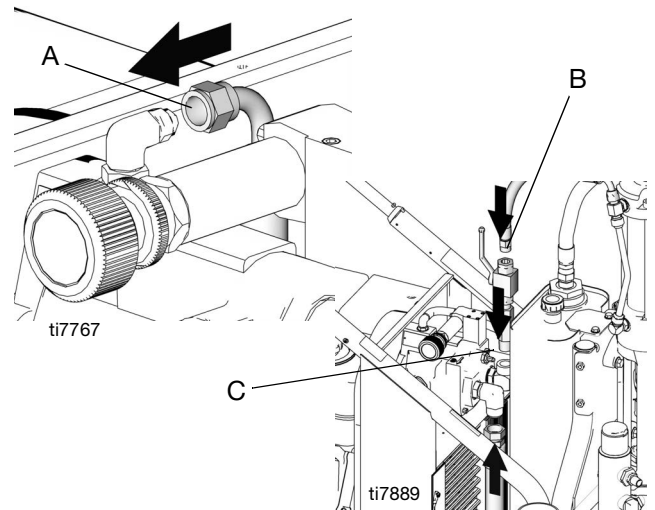
- Replace set-screws (87). Tighten and torque to  $60 \pm 2$  in-lb ( $6.8 \pm 0.2$  N•m).

NOTE: Tighten set-screw on shaft before tightening set-screw on pump shaft.

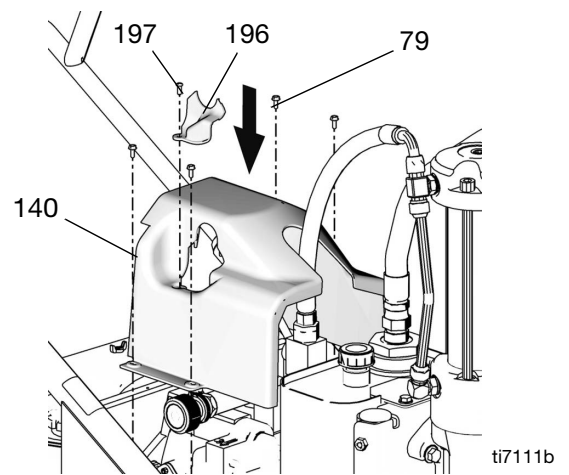
- Position belt (19) over pulleys (4, 6); Installing Belt, page 20.
- Replace belt cover (67) and grommets (80), washers (78) and screws (79), (2 each side). Torque screws to 25-30 in-lb (2.8 -3.4 N•m).



- Install suction lines. Tighten fittings. Torque fitting A to  $225 \pm 10$  in-lb ( $25.4 \pm 1.1$  N•m). Fitting B to  $450 \pm 10$  in-lb ( $50.1 \pm 1.1$  N•m). Fitting C to 225 in-lb (25.4 N•m).



- Install cover (140) and with four screws (79). Torque to 25-30 in-lb (2.8 - 3.4 N•m). Install pump handle cover (196) with screw (197).

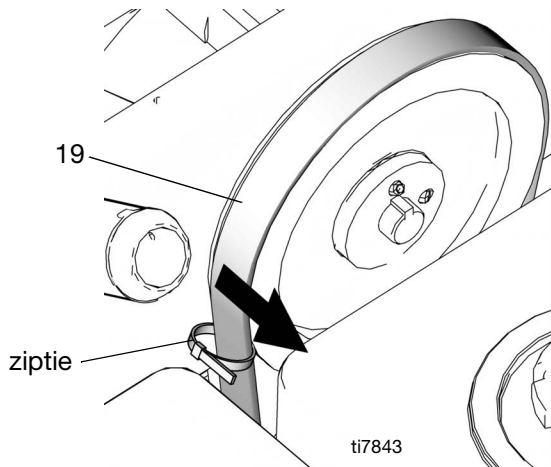


- Fill oil tank following **Refilling Oil** procedure on page 16.

## Belt Removal and Replacement (recommended method)

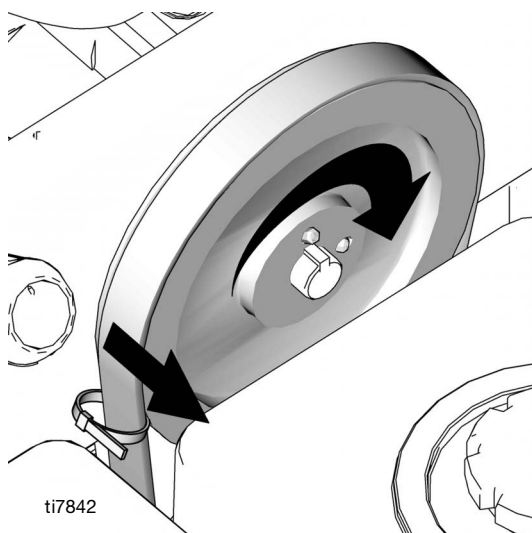
### Removing Belt

- a. Place a ziptie around belt (19).



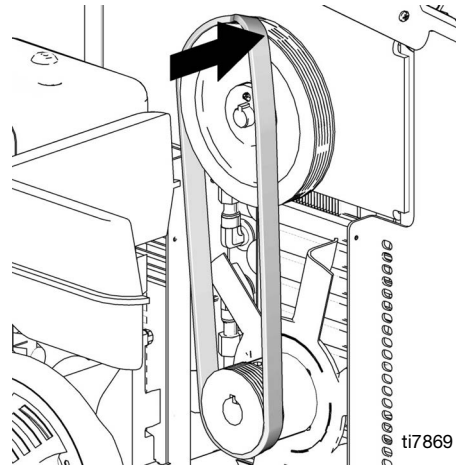
<p>Moving parts can pinch or amputate fingers and other body parts. To avoid serious injury be sure engine is in OFF position before pulling engine recoil.</p>					

- b. Slowly pull ziptie toward you while at the same time slowly pulling engine recoil to rotate pulleys. It may be necessary to reposition zip tie and repeat this procedure a few times to completely remove belt from pulley.

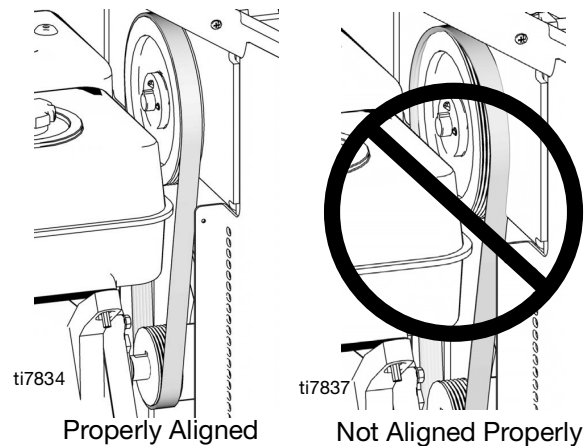


### Installing Belt

- a. Put belt over lower pulley (6) and align correctly.
- b. Line up belt over top left side of large pulley (4).



- c. With the palm of your hand, hold the belt snug to large pulley while at the same time slowly pull engine recoil to rotate pulleys.
- d. Check belt (19) alignment on both large (4) and small pulley (6). When properly positioned over pulleys, belt is centered on pulleys and completely over all grooves.



**NOTE:** If belt is not aligned properly, to adjust belt, slowly pull engine recoil while at the same time pushing or pulling belt to reposition over pulley.

## Alternate Belt Removal and Installation

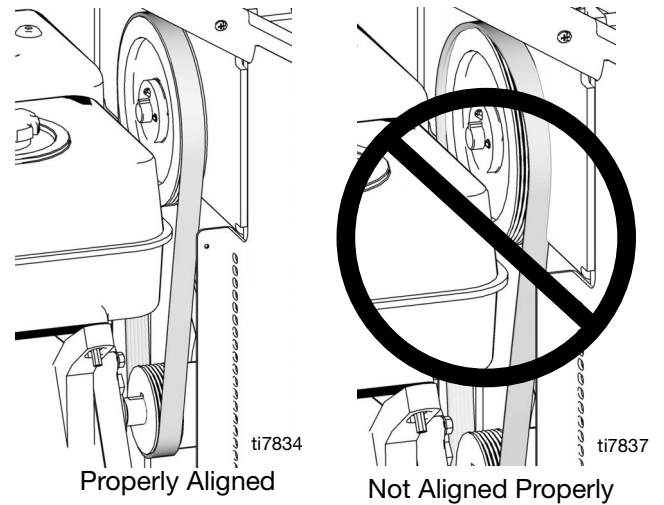
### Removing Belt

- a. Loosen engine bolts (21) to relieve tension on belt.
- b. Slide belt off pulleys.

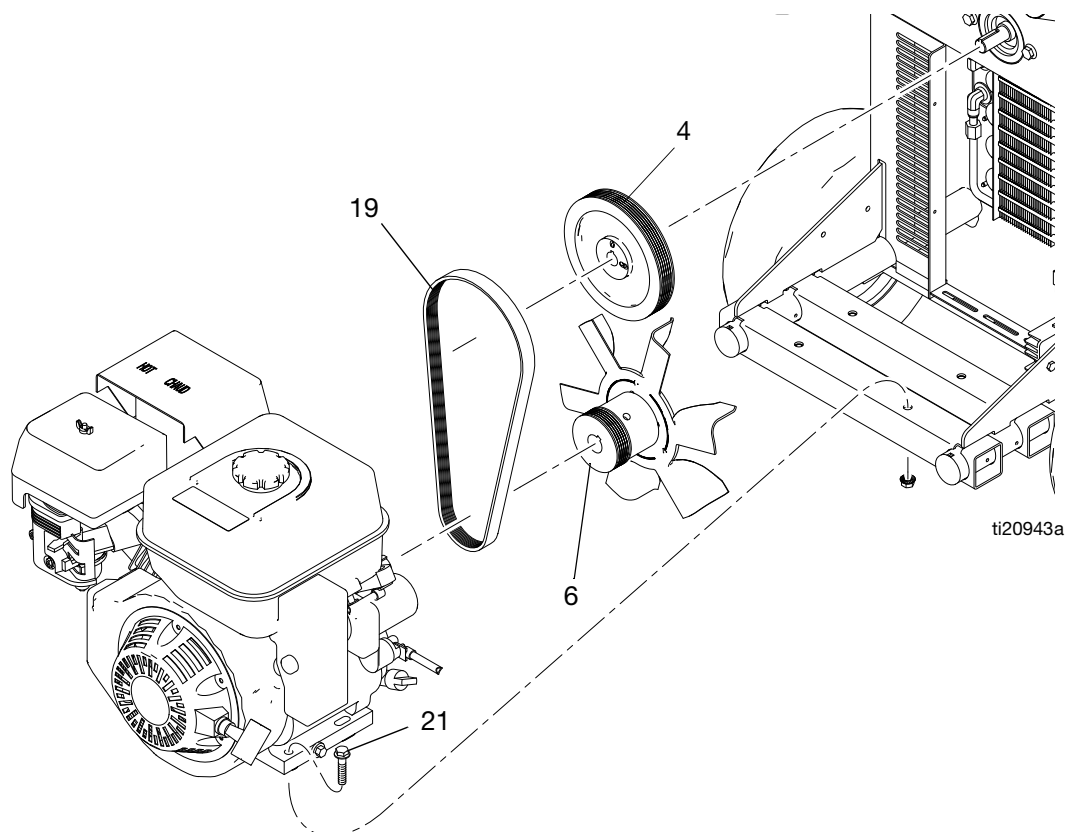
### Installing Belt

- a. Install belt (19) over small (6) and large (4) pulleys.

- b. Tighten engine bolts (21). Torque to  $225 \pm 10$  in-lb ( $25.4 \pm 1.1$  N•m).
- c. Check belt (19) alignment on both large (4) and small pulley (6). When properly positioned over pulleys, belt should be centered on pulleys and completely over all grooves.



**NOTE:** If belt is not aligned properly, to adjust belt, slowly pull engine recoil while at the same time pushing or pulling belt to reposition over pulley.

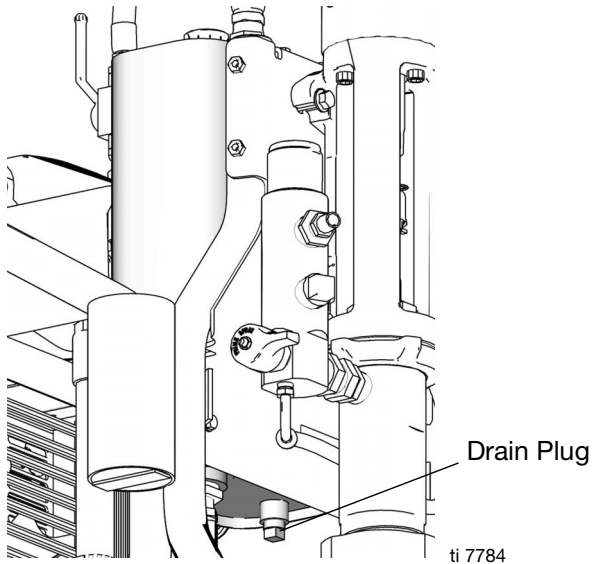


# Replacing Oil Reservoir

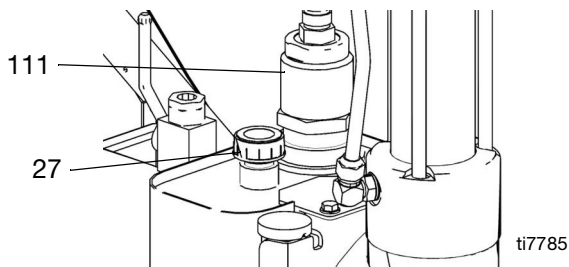
## Removal



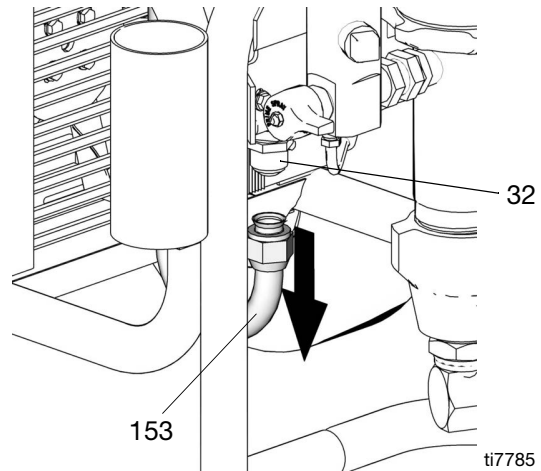
1. Relieve pressure, page 5.
2. Drain oil from reservoir (64) following Draining Oil procedure, page 16. Keep plug for use on new reservoir.



3. Remove fill cap (27) and filter assembly (111). Keep for use on new reservoir.

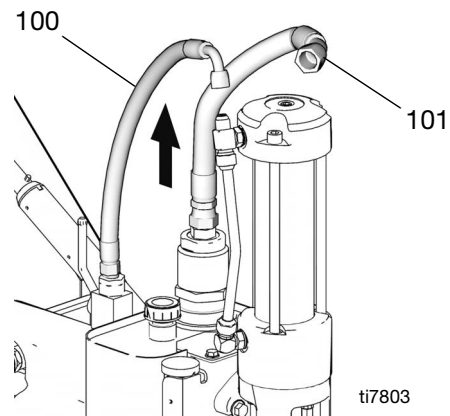


4. Loosen and remove suction hose (153).

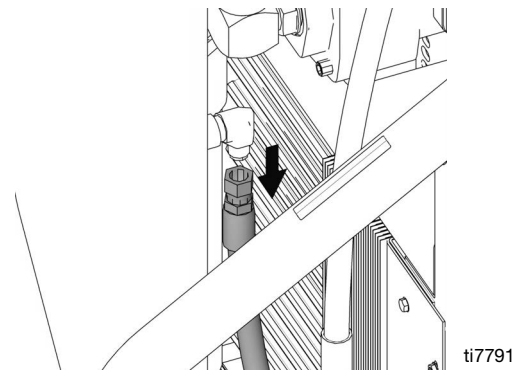


5. Remove and keep suction fitting (32) for use on new reservoir.

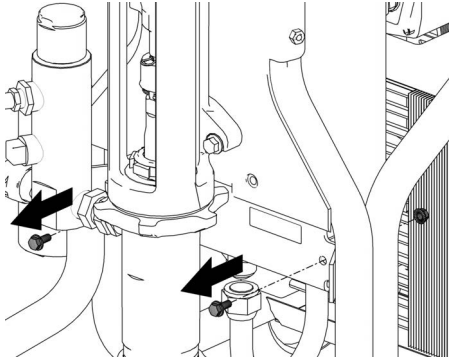
6. Loosen and remove return lines (100, 101).



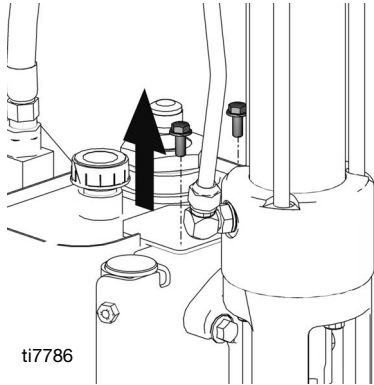
7. Remove cooler line from reservoir (64).



- 8. Remove two top bolts (86) and two bottom nuts (84) securing reservoir (64) to frame.

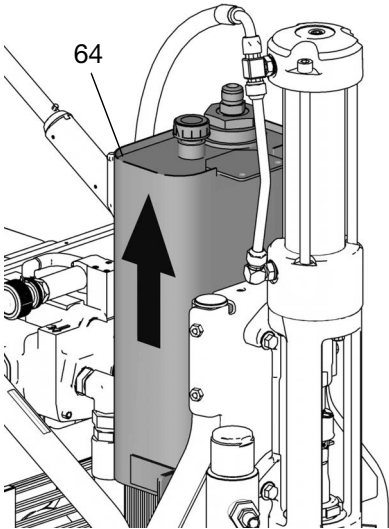


ti7846



ti7786

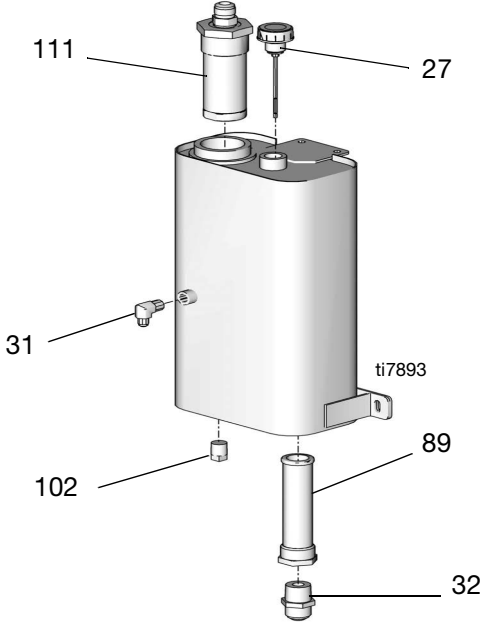
- 9. Lift reservoir (64) out of frame.



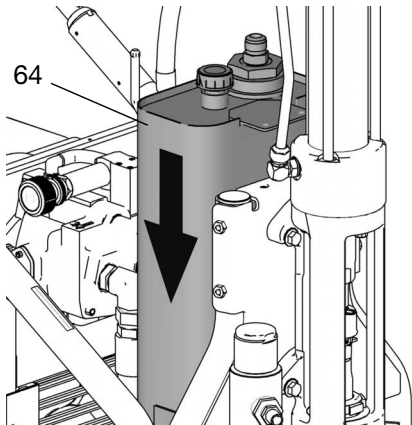
ti7806

**Installation**

- 1. Install plug (102), return elbow (31), suction fitting (32), inlet screen (89) and filter assembly (111) in new reservoir (64).

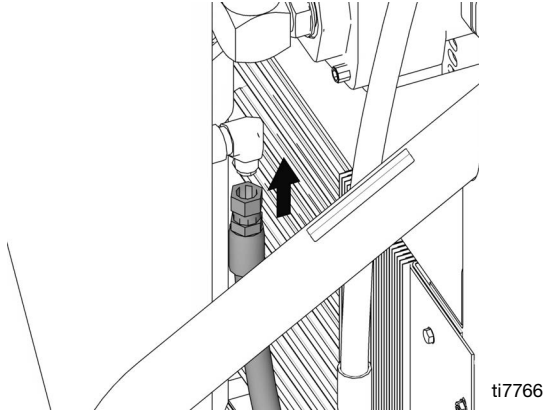


- 2. Install new reservoir (64) in frame.

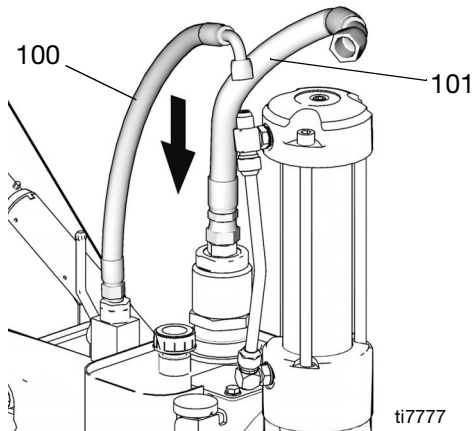


ti7781

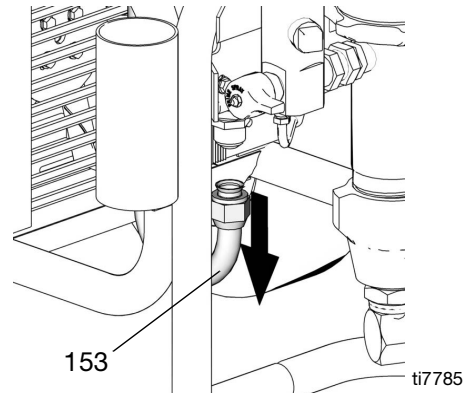
3. Replace bolts (86) and nuts (84). Tighten bolts. Torque to  $125 \pm 10$  in-lb  $14 \pm 1.1$  N•m).
4. Connect coolant line to reservoir (64). Torque to 225 in-lb (14.1 N•m).



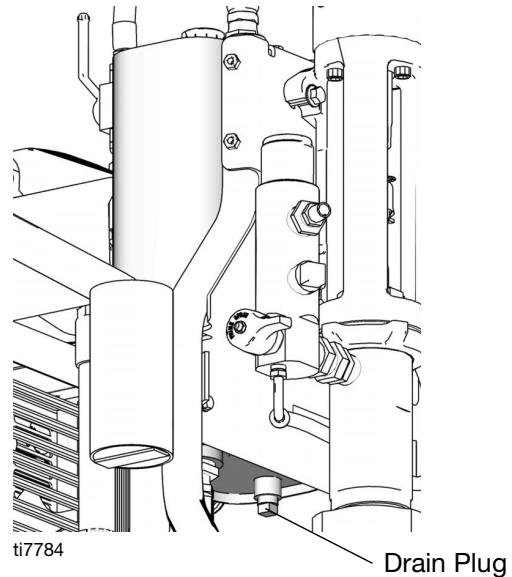
5. Reattach return lines (100, 101). Torque to  $450 \pm 10$  in-lb ( $51 \pm 1.1$  N•m).



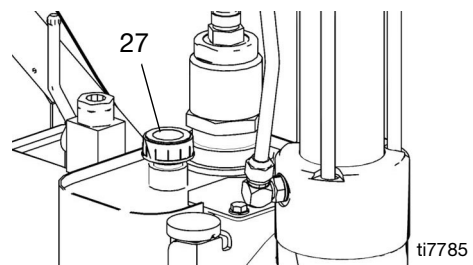
6. Reattach suction hose (153). Torque to  $600 \pm 10$  in-lb ( $68 \pm 1.1$  N•m).



7. Verify drain plug has been replaced. Fill oil reservoir with oil to high mark on dip stick (approximately 3.5 gallons).



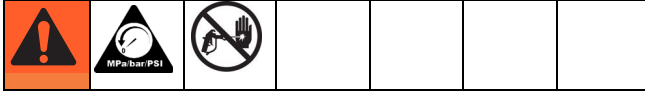
8. Replace cap (27).





# Changing Hydraulic Fluid Filter

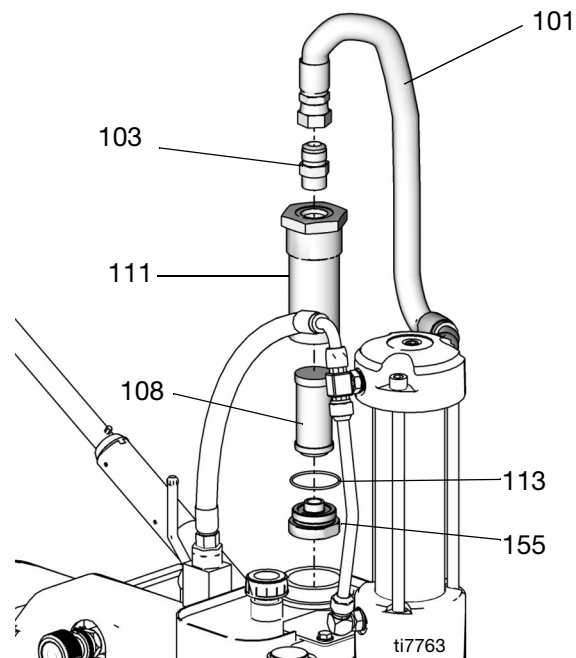
## Removal



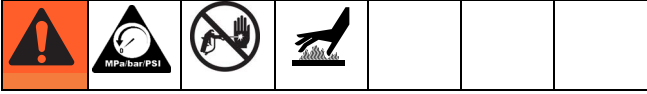
1. **Relieve pressure**, page 5.
2. Loosen and remove hose (101) from fitting (103).
3. Remove filter housing (111) from reservoir (64).
4. Remove bottom filter cap (155) from housing (111).
5. Pull filter (108) off cap (155).

## Installation

1. Install new o-ring (113) from kit.
2. Install new filter (108) over cap (155).
3. Install cap (155) and filter (108) in filter housing (111). Hand tighten cap till snug. Then torque to  $375 \pm 10$  in-lb ( $42 \pm 1.1$  N•m).
4. Install filter housing (111) into reservoir.
5. Install fitting (103) in filter housing (111). Torque to  $600 \pm 10$  in-lb ( $67.8 \pm 1.1$  N•m).
6. Reattach hose (101) to fitting (103). Torque to  $450 \pm 10$  in-lbs ( $51 \pm 1.1$  N•m).

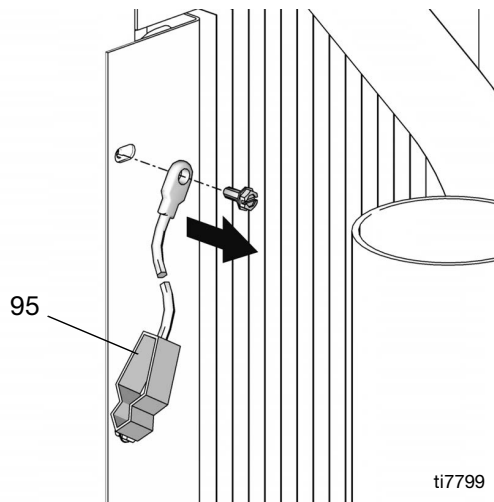


# Cooler Replacement

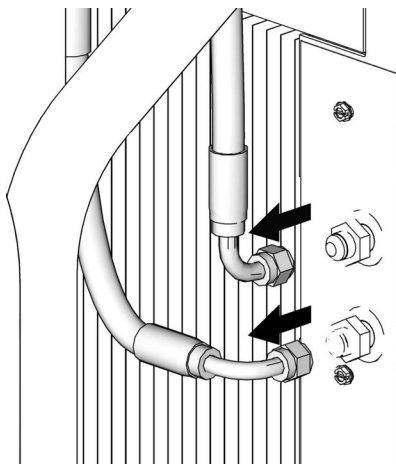


## Removal

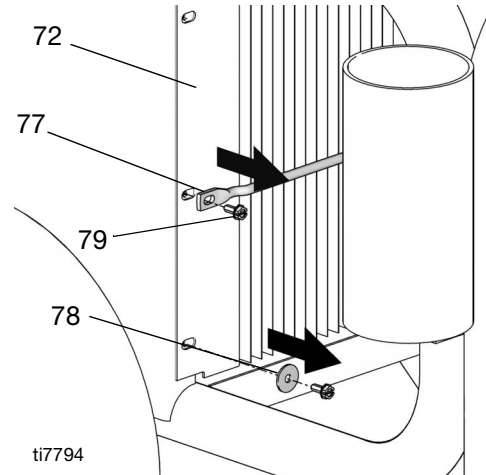
1. **Relieve pressure**, page 5.
2. Loosen ground screw and remove ground clamp (95) from sprayer.



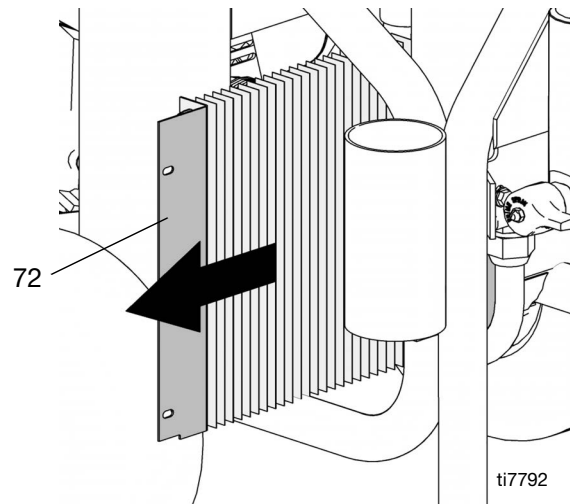
3. Loosen and remove return line to oil tank and hydraulic line to cooler.



4. Remove screws (79), washers (78) and support bar (77) from cooling coil (72).

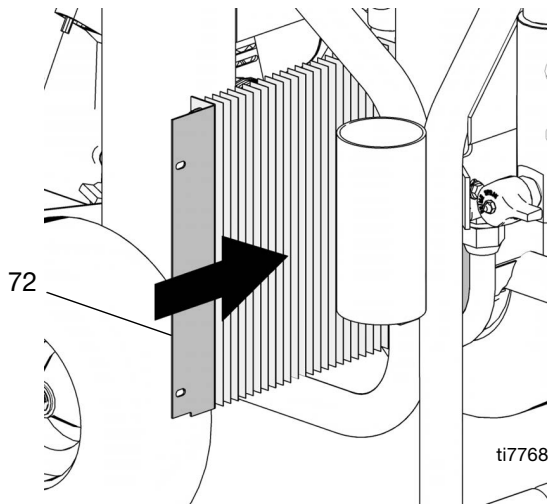


5. Remove coil (72) from sprayer frame.

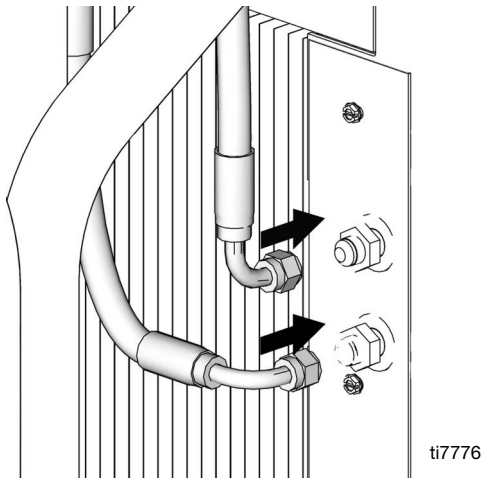


## Installation

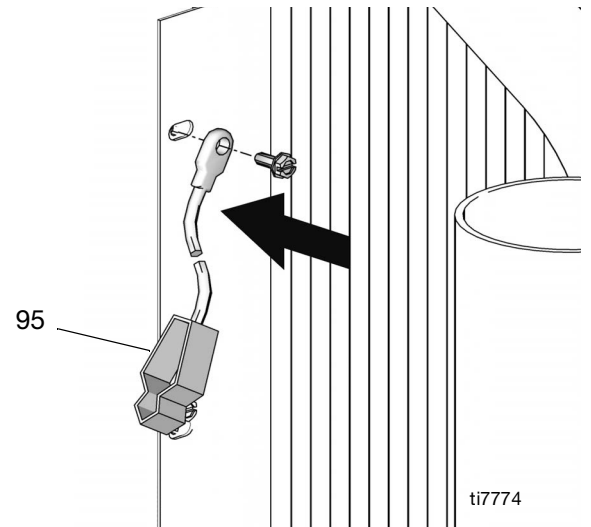
1. Install new coil (72). Replace support bar (77), washers (78) and screws (79). Tighten screws.



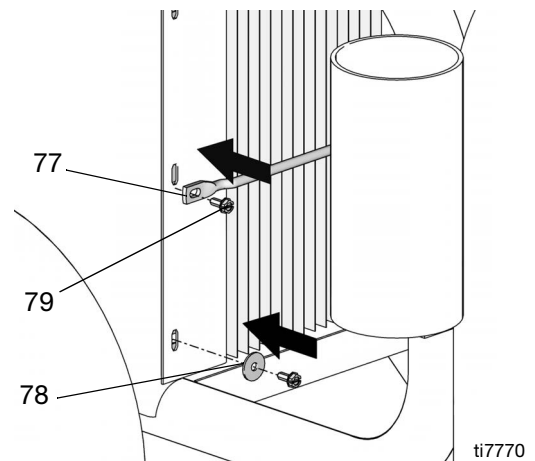
2. Reconnect return line to oil tank and hydraulic line to cooler. Torque to 225 in-lb (25.4 N•m).



3. Replace ground wire (95) and tighten screw. Torque to 25-30 in-lbs (2.8 - 3.4 N•m).



4. Replace bar and screws. Torque to 25-30 in-lb (2.8-3.4 N•m).

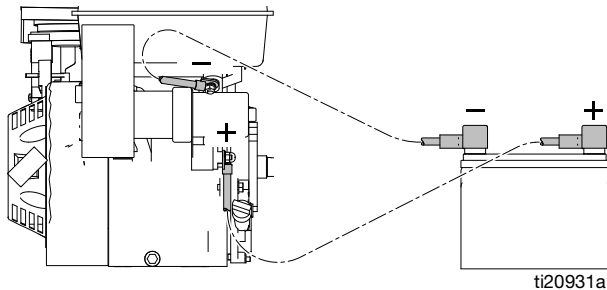


# Engine Replacement



## Removal

1. **Relieve pressure**, page 5.
2. Remove screws (79) and washers (78) and belt cover (67).
3. Remove belt (19), page 20.
4. Remove screws (21), washers (70) and nuts (10) securing engine (5) to frame.
5. **Electric start models only:** Disconnect battery cables and voltage regulator cable.



6. Remove engine (5) from frame.

## Replacing Engine Fan

### Removal

- a. Loosen and remove bolts (86) on front of fan (14).
- b. Pull fan (14) off small pulley (6).

### Installation

- a. Position new fan (14) over small pulley (6).
- b. Replace bolts (86) and tighten securely. Torque to  $125 \pm 10$  in-lb ( $14.1 \pm 1.1$  N•m).

## Removing Pulley (6)

**NOTE:** This procedure is only necessary if you are replacing the engine. When you install a new engine you reuse the existing pulley.

### Removal

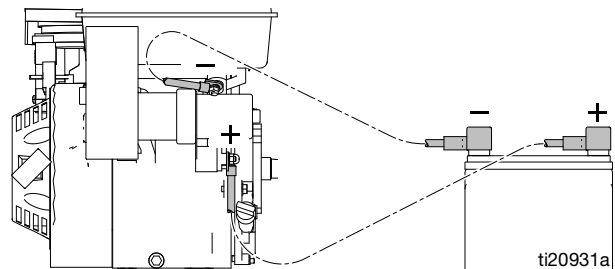
- a. Loosen set screw (87) located on the side of the pulley (6).
- b. Remove large bolt (24) in the center of pulley (6).
- c. Pull pulley (6) off engine (5).

### Installation

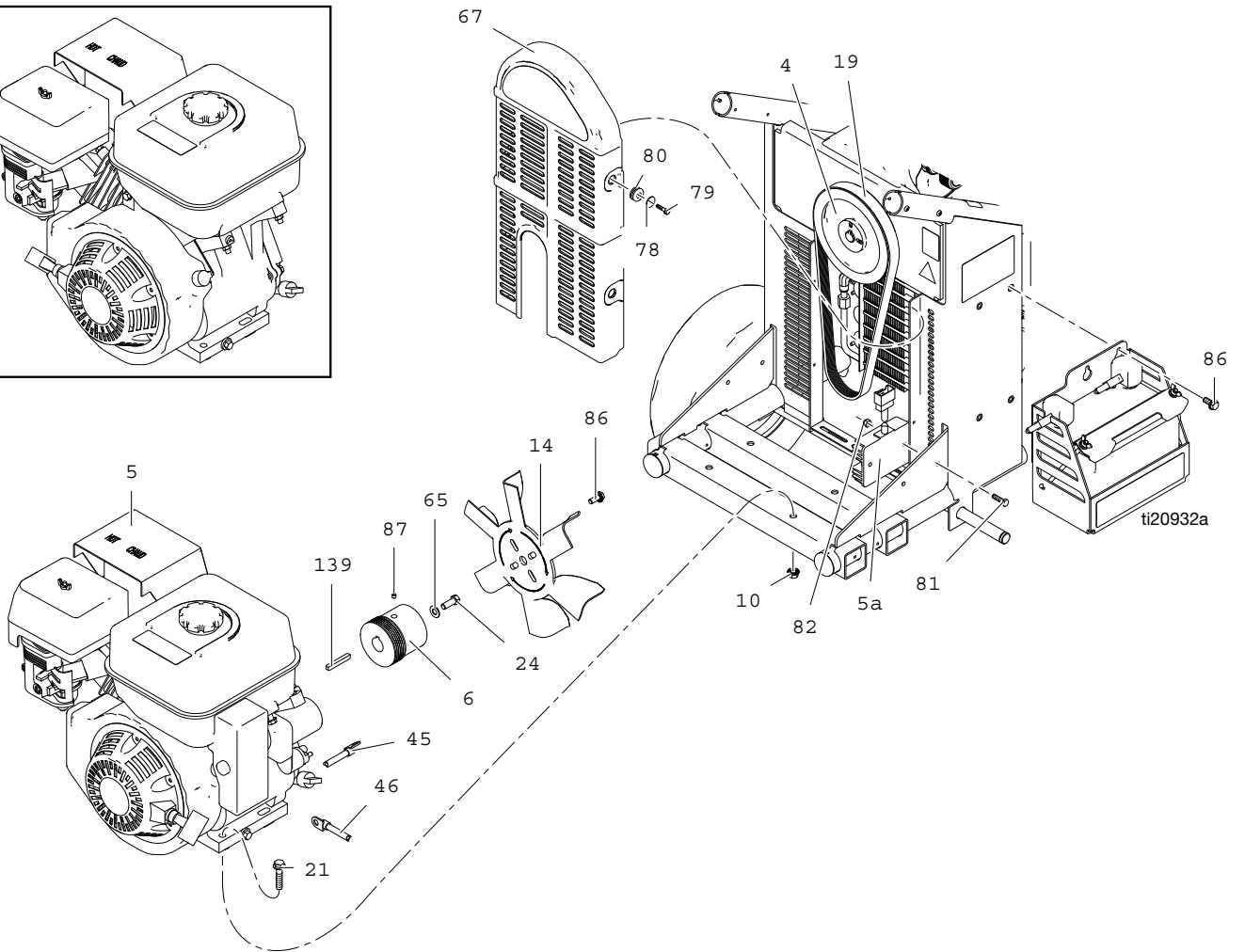
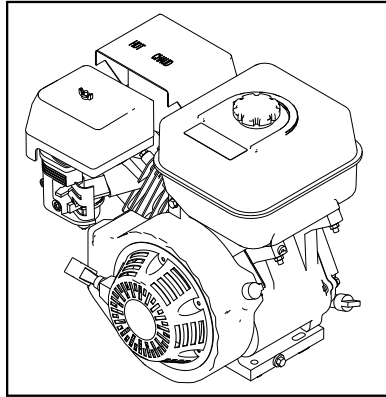
- a. Position new pulley (6) on engine (5).
- b. Install large bolt (24) and washer (65) in center of pulley (6). Torque to  $125 \pm 10$  in-lb ( $14.1 \pm 1.1$  N•m).
- c. Tighten set screw (87). Torque to  $60 \pm 2$  in-lb ( $25.4$  N•m).

## Installation

1. Install engine (5) in frame.
2. **Electric start models only:** Reconnect battery cables and voltage regulator connection.



3. Replace all screws (21), washers (70) and nuts (10). Tighten securely.
4. Install belt (19) over pulleys (4, 6), page 20.
5. Replace belt cover (67) and screws (79) and four washers (78). Using a wrench tighten bolts. Torque to 25-30 in-lb (2.8 - 3.4 N•m).



# Removing Handle



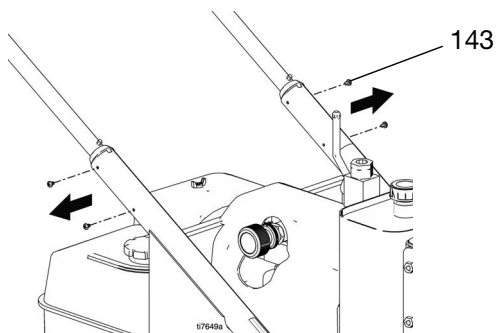
## Fixed Mounting (optional)

To prevent damaging the unit when transporting it in a truck or on a trailer, Graco recommends fixed mounting to the vehicle.

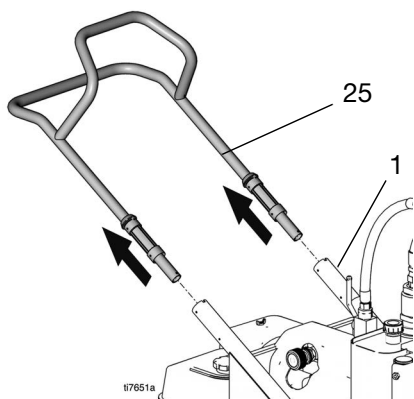
## Repositioning Handle

Before you can secure the unit to a truck or trailer bed, you must reposition the handle.

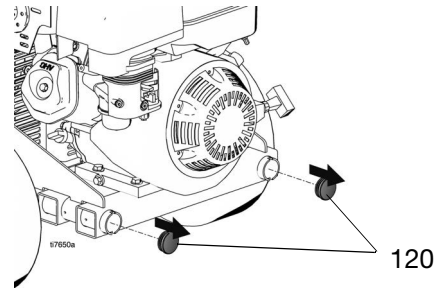
1. Remove four handle sleeve screws (143).



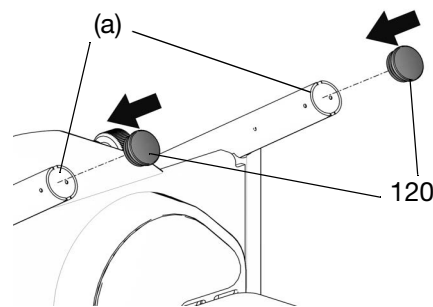
2. Pull handle assembly (25) out of upper frame tubes (1).



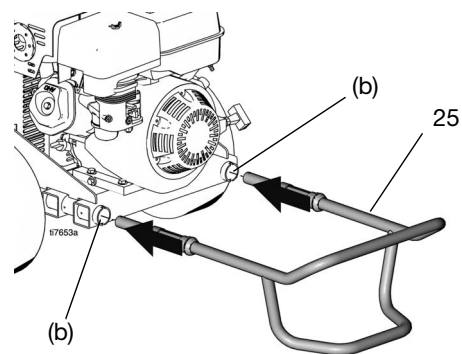
3. Remove frame tube plugs (120) located behind the wheels.



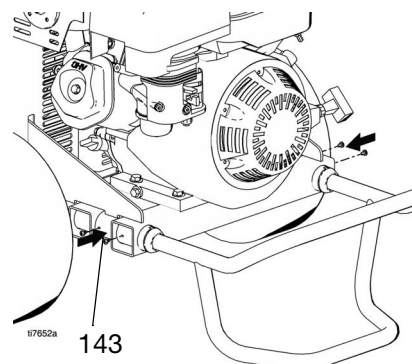
4. Insert plugs (120) in upper frame handle tubes (a).



5. Insert handle assembly (25) into lower frame tubes (b). The hose bracket should face down. Adjust to appropriate in/out location.



6. Install sleeve screws (143) in lower frame tubes.

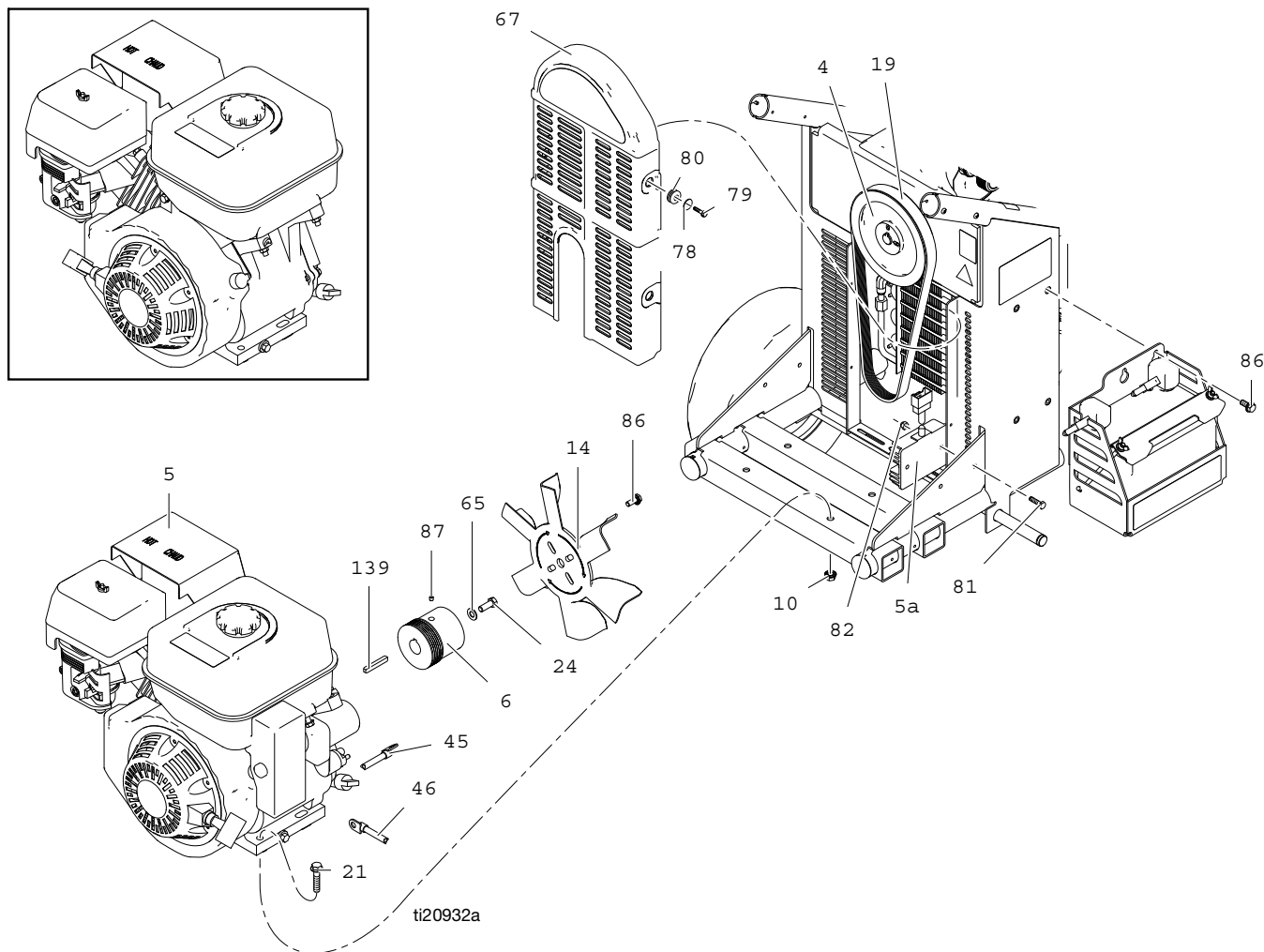


## Securing Unit to Vehicle Bed

For fixed mounting, fasten U-bolts over sprayer frame as indicated in the following illustration.

1. Reposition handle, steps 1-5, page 30.

2. Place U-bolts over sprayer frame and through holes in vehicle bed. Place a washer and nut over bolt end. Using a wrench, tighten nut securely.



# Technical Data

## Sprayer

### GH833 Gas

Hydraulic Pressure psi (bar)	2750 (19.0)
Hydraulic Reservoir Capacity Gallon (liters)	4.0 (15.1)
Engine HP (kW)	Honda 13 (9.7), Vanguard 14 (10.3)
Maximum Delivery gpm (lpm)	4.0 (15.1)
Maximum Tip Size	
• 1 gun	.065
• 2 guns	.046
• 3 guns	.037
• 4 guns	.032
• 5 guns	.028
• 6 guns	.026
Fluid Inlet inches	1-1/2 to 11-1/2 NPT (m)
Fluid Outlet inches	1 to 11-1/2 NPT (f)

## Dimensions

Weight lb (kg)	Electric Start - 398 (181) Pull Start - 360 (163)
Height inch (cm)	40 (101.6)
Width inch (cm)	28 (71)
Length inch (cm)	47 (119.3)

## Sound Levels\*

Sound Pressure	91 dB(A)
Sound Power	106 dB(A)

\*measured at maximum normal load conditions

## Graco-Approved Hydraulic Oil

- 169236 - 5 gallons (19 liters)
- 207428 - 1 gallon (3.8 liters)



# Graco Standard Warranty

Graco warrants all equipment referenced in this document which is 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.

## **FOR GRACO CANADA CUSTOMERS**

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# Graco Information

For the latest information about Graco products, visit [www.graco.com](http://www.graco.com).

For patent information, see [www.graco.com/patents](http://www.graco.com/patents).

**TO PLACE AN ORDER**, contact your Graco distributor or call 1-800-690-2894 to identify the nearest distributor.

*All written and visual data contained in this document reflects the latest product information available at the time of publication.  
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Original instructions. This manual contains English. MM 311283

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