

Repair



TexSpray 1030TM FC

309662 rev.G

– *For portable spray application of architectural paints and coatings* –

0.9 to 3.0 gpm (3.4 to 11.4 lpm) Flow Rate

Model 234113, Series A

TexSpray 1030 FC sprayer, 235490 TexSpray gun
and 50 ft (15 m) air and fluid hose set



Read warnings and instructions.



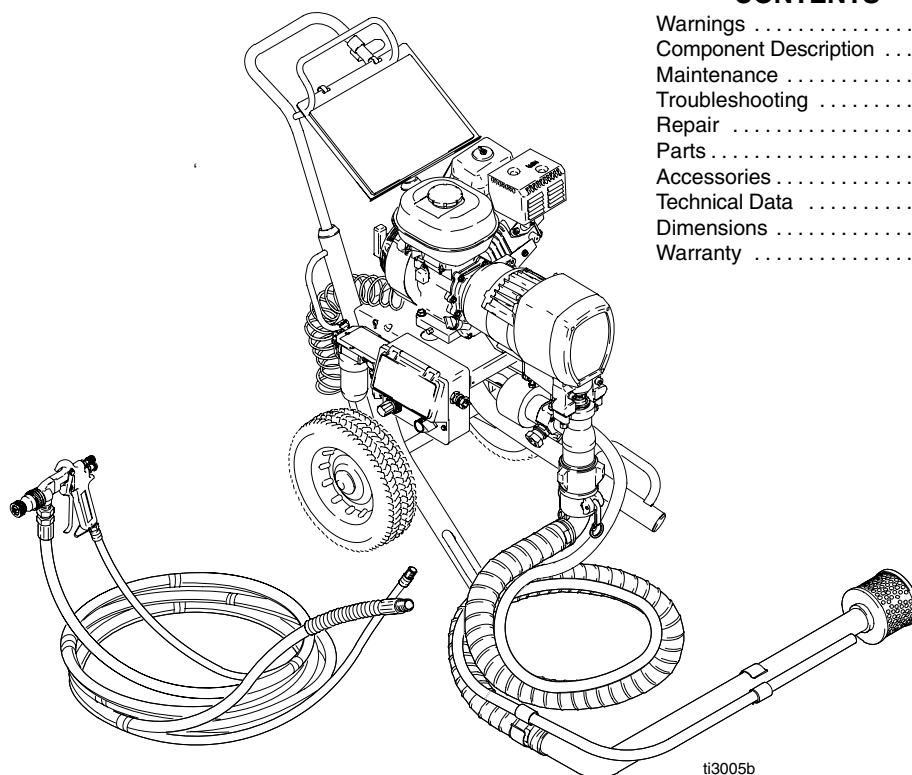
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PROVEN QUALITY. LEADING TECHNOLOGY.

Specifications

This equipment is not intended for use with flammable or combustible materials used in places such as cabinet shops or other “factory” or fixed locations. If you intend to use this equipment in this type of application, you must comply with NFPA 33 and OSHA requirements for the use of flammable and combustible materials.

Warnings

Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.




Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

The following are general Warnings related to the safe setup, use, maintenance and repair of this equipment. Additional, more specific warnings may be found throughout the text of this manual where applicable.

! WARNING

	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop clothes (potential static arc). • Sprayer generates sparks. When flammable liquid is used in or near sprayer or for flushing or cleaning, keep sprayer at least 20 ft (6 m) away from explosive vapors. • Do not clean with materials having flash points lower than 70°F (21°C). Use water-based materials or mineral spirits type material only. For complete information about your fluid, request the MSDS from the fluid distributor or retailer. • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Ground equipment and conductive objects in work area. Read Grounding instructions. • If there is static sparking or you feel a shock, stop operating immediately. Do not use equipment until you identify and correct the problem.
	<p>INJECTION HAZARD</p> <p>High pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate medical attention.</p> <ul style="list-style-type: none"> • Do not point gun at anyone or any part of the body. • Do not put your hand over the spray tip. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Engage trigger lock when not spraying. • Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking or servicing equipment.
	<p>PRESSURIZED ALUMINUM PARTS HAZARD</p> <p>Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious injury and/or substantial property damage.</p>

⚠ WARNING



INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Read all instruction manuals, tags, and labels before operating the equipment.
- Use equipment only for its intended purpose. Call your Graco distributor for information.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. This gun has a **150 psi (10 bar) maximum fluid working pressure at a 125 psi (9 bar) maximum incoming air pressure**. Read **Technical Data** in all equipment manuals.
- Do not alter or modify equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not lift pressurized equipment.
- Route the hoses away from the traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 180°F (82°C) or below -40°F (-40°C).
- Do not use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.
- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment, which contains aluminum and/or zinc parts. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious injury and/or substantial property damage.
- Wear eye and ear protection when operating this equipment. Keep body parts away from front of gun. See Sound Data in **TECHNICAL DATA**.



TOXIC FLUID HAZARD

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

- Read MSDS's to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers and dispose of it according to all applicable guidelines.



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 eye wear.
- Clothing and respirator as recommended by the fluid and solvent manufacturer.
- Gloves.
- Hearing protection.

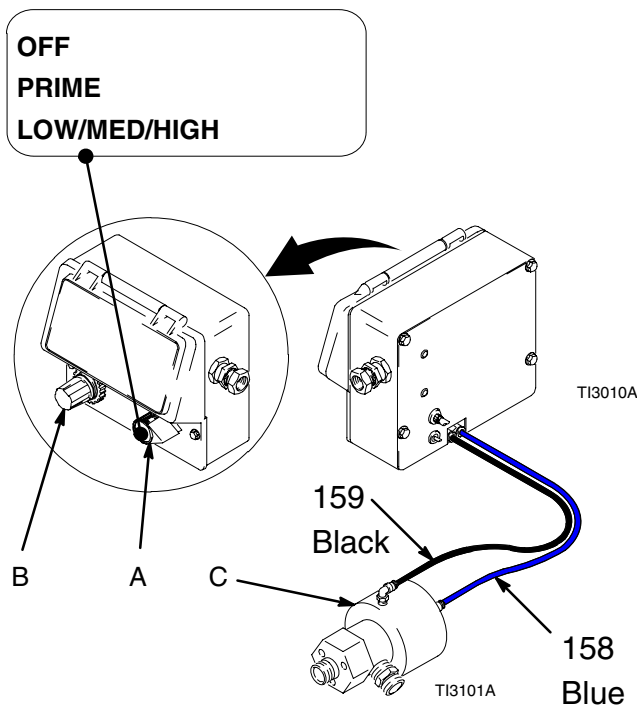
Component Description

Flow and Air Control

Fig. 1. The flow control (A) has a shut off and pressure relief feature to soft start each time the gun is triggered, instead of a blast of unatomized material. The flow control has three modes:

- **LOW/MED/HIGH:** Triggering the gun sends an air signal to the flow control that closes the prime valve and starts the pump which fills the material hose. When the gun trigger is released, the prime valve opens and relieves the system pressure into the supply container. When the gun is triggered the automatic pressure relief, special TexSpray hoses and pump design eliminate blasts of material and spray pulsing to ensure consistent atomization.
- **OFF:** Puts the sprayer in neutral/relieve pressure – neither the pump nor the gun will operate and there is no material pressure in the pump, hose or gun.
- **PRIME:** The prime valve remains open so material circulates through the pump and back to the supply container through the drain hose.

The air control (B) increases or decreases the air pressure to the sprayer from the air supply.



Prime Valve

Fig. 1. The prime valve (C) relieves system pressure and stops the pump when the gun trigger is released.

TexSpray Gun, 235490


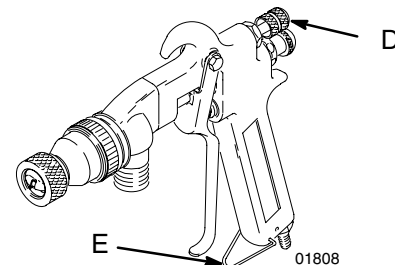
⚠ WARNING	
 INSTRUCTIONS	EQUIPMENT MISUSE HAZARD The TexSpray Gun 235490 is for use only with the GM 1030 TexSpray 234113 which is designed so the fluid pressure of the gun will not exceed the working pressure rating of the components. The maximum fluid working pressure of the GM 1030 TexSpray is 750 psi (5.1 MPa, 51 bar), but the recommended maximum is 500 psi (3.4 MPa, 34 bar).

Fig. 2. Air flow is controlled at the gun. During priming, turn the gun air control valve (D) in fully to prevent air from mixing with the fluid, which allows you to check and adjust the fluid flow accurately. (When this valve is closed the air exits the rear of the gun.) During operation, open the air control valve to introduce air at the correct volume for the desired spray pattern. The gun also has a trigger bail (E) to reduce operator fatigue when spraying large surfaces.



TexSpray Hoses

⚠ CAUTION
Use Graco hoses designed for this sprayer. Using other hoses will damage the flow control.

Component Description

Compressor Requirements

NOTE: This sprayer requires an external air compressor.

CAUTION

Install an air filter on external air compressor to reduce contamination to spray system.

Air compressor range: 10 scfm to 35 scfm, 30 to 140 psi (0.2–0.97 MPa, 2 to 9.7 bar)

Material	Air Requirements*	Minimum Compressor Size*
Elastomerics (textured)	30 scfm at 90 psi (0.84 m ³ /min at 0.63 MPa, 6.3 bar)	15 HP
Simulated Accoustical	20 scfm at 60 psi (0.56 m ³ /min at 0.42 MPa, 4.2 bar)	5.5 HP
Splatter Coat and Knockdown	15 scfm at 40 psi (0.42 m ³ /min at 0.28 MPa, 2.8 bar)	8 HP
Orange Peel	20 scfm at 60 psi (0.56 m ³ /min at 0.42 MPa, 4.2 bar)	8 HP

* Material, temperature and volume affect cfm needed to properly atomize material.

Maintenance

CAUTION

- For detailed engine maintenance and specifications, refer to separate HONDA engine manual.
- Close black fuel shutoff lever whenever you are transporting sprayer to prevent fuel from flooding engine.
- Keep sprayer upright and level when operating it and when transporting it. This prevents crankcase oil from leaking into combustion chamber, which makes startup very difficult.

Daily: Check engine oil level and fill as needed.

Daily: Check and fill gas tank.

Daily: Check sprayer air filter, clean and replace element as needed.

After first 20 hours of operation and each 100 hours thereafter: Change oil.

Weekly: Remove engine air filter cover and clean element. In very dusty environments, check filter daily. Replace element as needed. Replacement elements can be purchased from your local HONDA dealer.

Spark plug: Use only a (NGK) BP6ES or BPR6ES plug. Gap plug to 0.025 to 0.030 in. (0.7 to 0.8 mm). Always use a spark plug wrench.

6 months: Clean **Air Flow Sensor** as follows:

- Fig. 3. Loosen adapter (A). Pull down quick release (C) and swing out flow sensor regulator. Disconnect connector (B).
- Remove inlet fitting (D), retainer ring (E), piston (F) and spring (G) from flow sensor regulator (H).

CAUTION

Do not scratch or nick piston (F) or inside of flow sensor regulator (H).

- Clean all parts (D, E, F, G). Clean inside of (H) with a pipe cleaner.
- Assemble all parts and install flow sensor regulator.

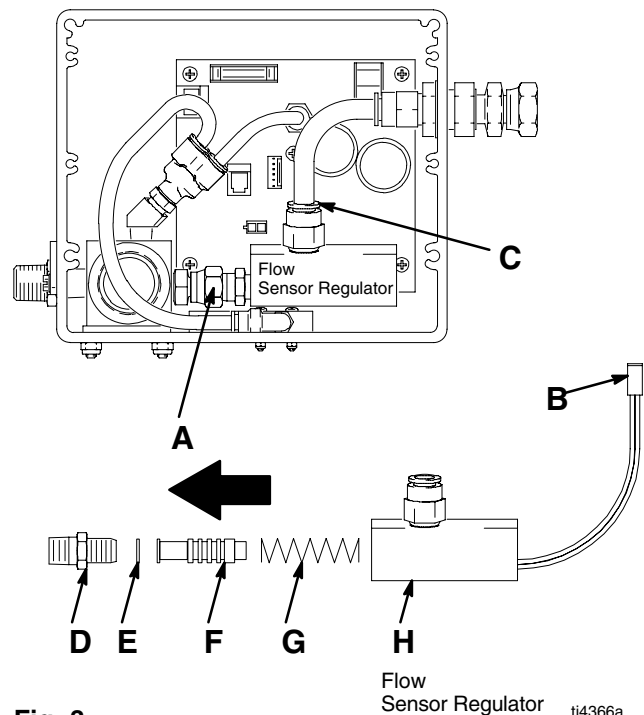


Fig. 3

Troubleshooting

WARNING

To reduce risk of injury due to sprayer starting unexpectedly, shut off engine before performing checks or service.

Check everything in chart before disassembling sprayer.

PROBLEM	CAUSE	SOLUTION
Engine does not start	Engine switch not ON	Turn engine switch ON
	Out of gas	Fill gas tank
	Spark plug cable disconnected or spark plug damaged	Connect spark plug cable or replace spark plug
	Oil seepage into combustion chamber	Remove spark plug. Pull starter rope 3 or 4 times. Clean and install spark plug. Try to start. Keep sprayer upright and do not overfill engine crankcase to avoid oil seepage.
	Oil level low	Add oil to engine crankcase
Engine operates, but displacement pump does not	Flow control set to OFF	Set flow control to PRIME mode or LOW/MED/HIGH while triggering gun
	Air compressor not on or insufficient air flow from compressor	Start air compressor Increase SCFM or compressor size. Check air passages and tips for obstructions. Check air filter element for clogs.
	Air pressure set to low	Check display for air pressure. System requires a minimum of 40 psi (0.28 MPa, 2.8 bar) to operate. Increase pressure by adjusting air control knob.
	Sprayer engine RPM too low	Increase engine speed
	Clutch connector into back of circuit board is loose.	Check and ensure a tight connection.
	Air filter dirty	Clean or replace filter element.
	Air flow sensor dirty or damaged	Check air filter. Clean air flow sensor (see page 4) or replace as needed.
	Air transducer failed	Check display for correct air pressure reading. Replace circuit board as needed.
	Fluid transducer failed	Check connection at circuit board. Replace fluid transducer.
	Clutch not engaging	Worn or damaged clutch. See page 18. Fluid transducer failure. Air transducer failure.
	Displacement pump rod seized by dry coating	Service pump. See page 10.

PROBLEM	CAUSE	SOLUTION
Engine operates, but displacement pump does not (Continued)	Connecting rod worn or damaged	Replace connecting rod. See page 14.
	Drive housing worn or damaged	Replace drive housing. See page 15.
	Pinion assembly worn or damaged	Service pinion assembly. See page 16.
Engine operates, displacement pump operates, but no material pressure at gun.	Flow control is set to PRIME	Set flow control to LOW/MED/HIGH while triggering gun.
	Fluid system over-pressurized	Spraying material is too thick or the material hose is too long. Use a less coarse material or a shorter hose.
	Gun nozzle/disk is clogged	Check and clean nozzle/disk as needed. Switch to a larger nozzle/disk.
	Material flowing out drain line	Check for air leaks to dump valve. Check dump valve for wear, replace as needed. Air flow sensor dirty or damaged.
	Pump is packed out	Disassemble and clean pump (see page 8), hose(s) and gun.
Low fluid delivery	Siphon hose strainer is clogged.	Clean or remove strainer
	Engine RPM too low	Increase engine speed. See Startup , procedure in operator manual.
	Flow control set too low	Increase flow control to MED or HIGH
	Hose too long or material too coarse	Change to a shorter hose or less coarse material.
	Material flowing out drain line	Check drain line for a constant flow of material when sprayer is operating in LOW/MED/HIGH mode. Check for air leaks to prime valve. Check dump valve for wear, replace as needed.
	Gun nozzle/disk is clogged	Check and clean nozzle/disk as needed. Switch to a larger nozzle/disk.
	Pump is packed out	Disassemble and clean pump (see page 8), hose(s) and gun.
Loss of air control or volume at gun	Gun air passages clogged with material	After releasing gun trigger, make sure system is fully depressurized before triggering gun again. This helps prevent material backing into gun passages.
	Air filter dirty	Clean or replace element
	Air flow sensor dirty or damaged	Check air filter. Clean air flow sensor (see page 4) or replace as needed.
Displacement pump output low on upstroke	Piston ball (220) not seating	Clean piston area. See page 12.
	Piston packings worn or damaged	Replace packings. See page 12.
	Siphon hose coupling gasket (1e) worn or missing.	Replace or install gasket
	Pump cylinder o-ring (205) worn or missing	Replace o-ring

Troubleshooting (Continued)

PROBLEM	CAUSE	SOLUTION
Displacement pump output low on downstroke or both strokes Material leaks into wet-cup	Siphon hose strainer is clogged	Clean strainer
	Piston packings worn or damaged	Replace packings. See page 12.
	Intake valve ball (216) not seating properly	Clean and service intake valve. See page 12.
	Clutch (9) worn or damaged	Replace clutch. See page 18.
Material leaks into wet-cup	Air leak at pump foot valve or siphon tube elbow	Be sure foot valve is tight each day. Be sure seal in elbow is in place and is not worn or damaged.
	Loose wet-cup (202)	Tighten wet-cup enough to stop leakage
	Throat packings worn or damaged	Replace packings. See page 12.
	Displacement rod (201) worn or damaged	Replace displacement rod. See page 12.
Intermittent material flow out of gun	Material supply is low or empty	Refill and prime pump. See Startup procedure in operator manual. Check material supply often to prevent running pump dry.
	Air control on gun is set too high.	Reduce the air flow through the gun by turning the air control knob on the back of the gun.
	Hose too long or material too coarse	Change to a shorter hose or less coarse material.
Heavy or poorly atomized material when gun is first triggered (lack of soft start)	Fluid pressure was not allowed to fully self relieve after releasing gun trigger	Wait longer between releasing gun trigger and re-triggering.
	Gun was not fully triggered immediately when squeezed, causing gun air passages to clog with material.	Always squeeze trigger fully to prevent just air from turning on, which starts pump and pressurizes hoses. Disassemble and clean gun.
	Air valve failure	Check and replace as needed
	Air flow sensor dirty or damaged	Check air filter. Clean air flow sensor (see page 4) or replace as needed.
Pump does not shut off after gun trigger is released	Air leaks in the system after the air flow sensor	Check and tighten all connections between the air flow sensor and the gun.
	Air leaks in gun	Check gun for excessive air leaks and repair. See manual 309661
	Air flow sensor dirty or damaged	Check air filter. Clean air flow sensor (see page 4) or replace as needed.
Premature prime valve failures	Pump does not shut off after gun trigger is released.	Read "Pump does not shut off after gun trigger is released" and fix appropriate problem. Repair or replace Prime Valve. See page 19.

Displacement Pump Repair

Removal

⚠ WARNING

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1. Fig. 4. Flush sprayer. Remove suction hose elbow (150a), pump outlet hose (A) and drain hose (64).

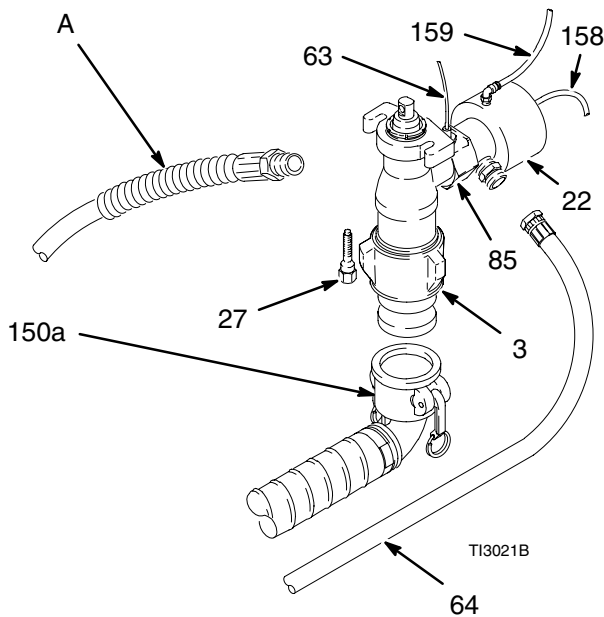


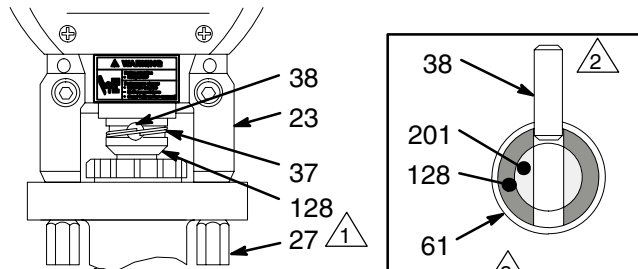
Fig. 4

⚠ WARNING



MOVING PARTS HAZARD

To reduce risk of amputating fingers, keep fingers away from connecting rod and pin while jogging engine.



1 Torque to 20 ft-lb (27 N.m)

2 Back of pump

3 Cutaway view shows how pin (38) goes through connecting rod

Fig. 5

0407

2. Fig. 5. Start engine. Jog flow control between PRIME and OFF until connecting rod stops near bottom of stroke. Shut off engine.

3. Loosen two quick disconnect screws (27).

4. Pry retaining spring (37) up on connecting rod (128). Push pin (38) out with a screwdriver.

5. Fig. 6. Remove cover (C) to control housing (54) by removing four screws (12). Detach pressure transducer cord (63, Fig. 4) from control board (9) at port (D). Remove pressure transducer cord from control box.

6. Fig. 4. Remove air hoses (158) and (159) from prime valve manifold (85). Note correct air hose connection to ports on air cylinder (22). Use 5/16 inch wrench to hold ring on hose fitting while removing hose from fitting.

7. Support weight of pump (3) and remove two quick disconnect screws (27).

8. Unscrew assembled dump valve manifold (85) and air cylinder (22) from pump (3).

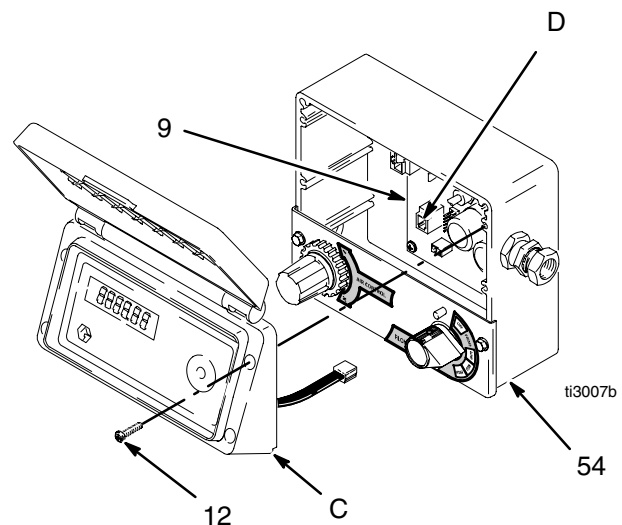


Fig. 6


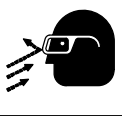
Repair

See page 12 for pump repair instructions.

Displacement Pump Repair

Installation

1. Fig. 4. Screw assembled dump valve manifold (85) and air cylinder (22) into pump (3).
2. Fig. 5. Pull piston rod (201) out of pump (3) 2 to 3 inches (50 to 75 mm).

 WARNING	
	MOVING PARTS HAZARD
	If pin works loose, parts could break off due to force of pumping action. Parts could project through the air and result in serious injury or property damage. Make sure pin and retaining spring are properly installed.

3. Lift pump (3) into position and push in pin (38). Be sure retaining spring (37) snaps down over end of pin.
4. Support weight of pump (3) and fasten two quick disconnect screws (27). Torque screws to 20 ft-lb (27 N.m).
5. Fig. 4. Reattach air hoses (158) and (159) to prime valve manifold (85). Ensure air hoses are attached to the correct port on air cylinder (22).
6. Fig. 6. Route the pressure transducer cord (63, Fig. 4) to the control box and attach to port (D) on control board (9). Assemble cover (C) to control housing (54) using four screws (12).

Pump Repair

WARNING

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Disassemble Pump

1. See **Displacement Pump Repair** on page 10 to remove pump.
2. Use a hammer on tabs of lug nut (214) to loosen foot valve housing.
3. Fig. 7. Disassemble pump, but do not disassemble piston rod (201) from piston housing (206) unless either needs to be replaced. These two parts are joined with high-strength (red) Loctite®. Joint must be heated to disassemble.

Clean and Inspect All Parts

1. Clean all traces of sealant from all parts with a compatible solvent.
2. Inspect all part for nicks and scratches. Replace worn or damaged parts as they cause packings to wear more quickly and may result in poor pump performance.

Repair Kit

Packing Repair Kit 235186 is available. Replace all parts in kit for best results.

Parts included in kit are marked with an asterisk in text and drawings. For example, 208*.

Assemble Pump

1. Fig. 7. If piston rod (201) and piston housing (206), were disassembled, clean threads thoroughly. Apply Loctite primer and then red Loctite to threads and torque to 80 to 100 ft-lb (110 to 135 N.m). Allow to dry at least 1 hour.
2. Assemble onto piston seat (213): washer (212); u-cup seal (218*) with lips toward ring; female gland (211*) and then alternate white (210*) and purple packings (219*), all with lips facing up; male gland (209*).

3. Install nut (208*) on piston seat (213). Hand tighten nut firmly.
4. Install ball (220*) in piston housing (206).
5. Apply blue Loctite to piston seat (213) threads and screw assembly onto rod, hand tight.

TIP: Draw a line across male gland, nut and piston housing for an alignment reference before tightening piston and nut.

6. Place piston seat (213) in a vise. Hold packing nut (208) steady with one wrench and use a torque wrench to tighten rod assembly to 90–125 ft-lb (122–170 N.m). Make sure reference line made in step 5 is aligned.
7. Grease throat of intake housing (227). Assemble into throat: male gland (204*), flat side first; alternate white packings (225*) and purple packings (203*) and then female gland, all with lips facing down. Install packing nut (202) and hand tighten, firmly.
8. Grease piston packings and inside throat packings.
9. Grease new o-rings (205*) and install on cylinder (221). Slide cylinder into bottom of intake housing (227) until you hear it snap.
10. Guide piston rod assembly into cylinder so piston rod flats are aligned with opening in front of pump. Push down until you hear another snap. Turn pump over and push assembly in completely.
11. Align rod hole to front of pump with a screw driver.
12. Grease o-ring (223*), install on plug (224), install plug and screws (222) loosely. Torque screws to 50–70 in-lb (5.6–8 N.m) in a crosswise pattern.
13. Install ball (216*) and ball guide (217) into foot valve. Place pump assembly on foot valve and push into place.
14. Screw on lug nut (214). Tighten lug nut securely with a hammer.

TIP: Lug nut must be tight or pump will not prime. Draw a line between intake housing and lug nut for an alignment reference during operation.

Pump Repair

- 1 Grease inside of throat before installing packings
- 2 Lips of v-packings in throat must face down
- 3 Grease inside of packings after installing
- 5 Torque piston housing to piston seat (213) to 90–125 ft-lb (122–170 N.m) without changing alignment of packing nut
- 6 Lips of v-packings on piston must face up
- 7 Grease outside of packings after installing
- 8 Lips of u-cup seal on piston must face down
- 9 If piston seat and rod were separated, apply Loctite primer, then red Loctite, and torque to 80–100 ft-lb (110–135 N.m)
- 10 Tighten with hammer

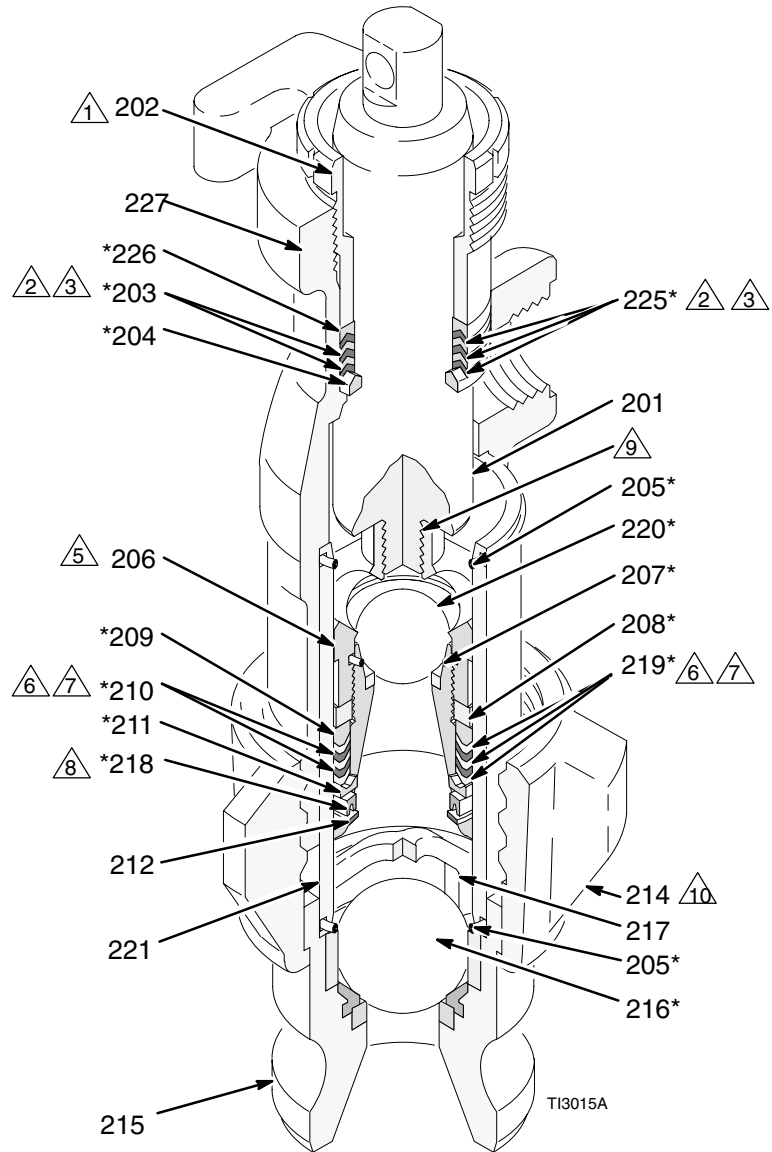


Fig. 7

TI3015A

Bearing Housing & Connecting Rod

Removal

WARNING

To reduce risk of injury due to sprayer starting unexpectedly, shut off engine before performing checks or service.

1. Fig. 8. Perform steps 1–8 of **Displacement Pump, Removal**, page 10.
2. Remove four screws (40) and front cover (21).
3. Remove four screws (48) and lockwashers (49) from bearing housing (23).
4. Pull connecting rod assembly (22) and lightly tap lower rear of bearing housing (23) with a plastic mallet to loosen it from drive housing (20). Pull bearing housing and connecting rod assembly off drive housing.
5. Inspect crank (A) for excessive wear and replace drive housing, if necessary, page 15.

Installation

1. Evenly lubricate inside of bronze bearing (E) in bearing housing (23) with high-quality motor oil. Liberally pack top roller bearing (B), lower bearing (C) inside connecting rod assembly (22) with bearing grease.
2. Assemble connecting rod (22) and bearing housing (23).
3. Clean mating surfaces of bearing housing (23) and drive housing (20).

CAUTION

Do not use bearing housing screws (48) to align or seat bearing housing with drive housing. Align these parts with locating pins (D), to avoid premature bearing wear.

4. Align connecting rod with crank (A) and carefully align locating pins (D) in drive housing (20) with holes in bearing housing (23). Push bearing housing onto drive housing or tap it into place with a plastic mallet.
5. Install four screws (48) and lockwashers (49) on bearing housing (23). Torque screws evenly to 25 ft-lb (34 N.m).
6. Do steps 2 – 5 of **Displacement Pump, Installation**, page 10.

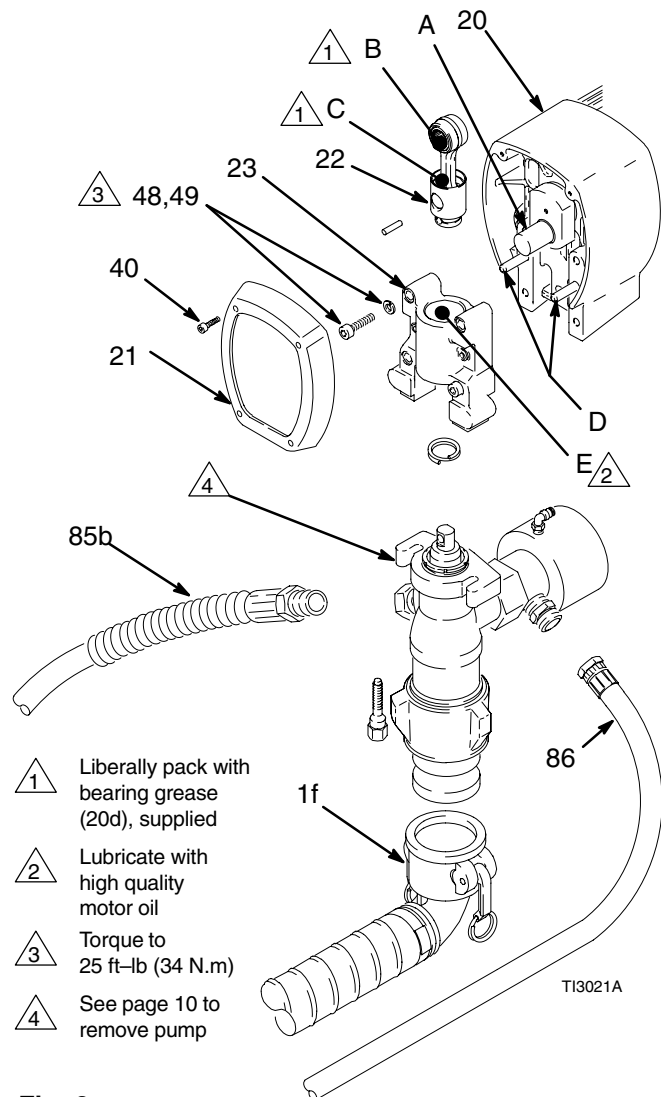


Fig. 8

Drive Housing

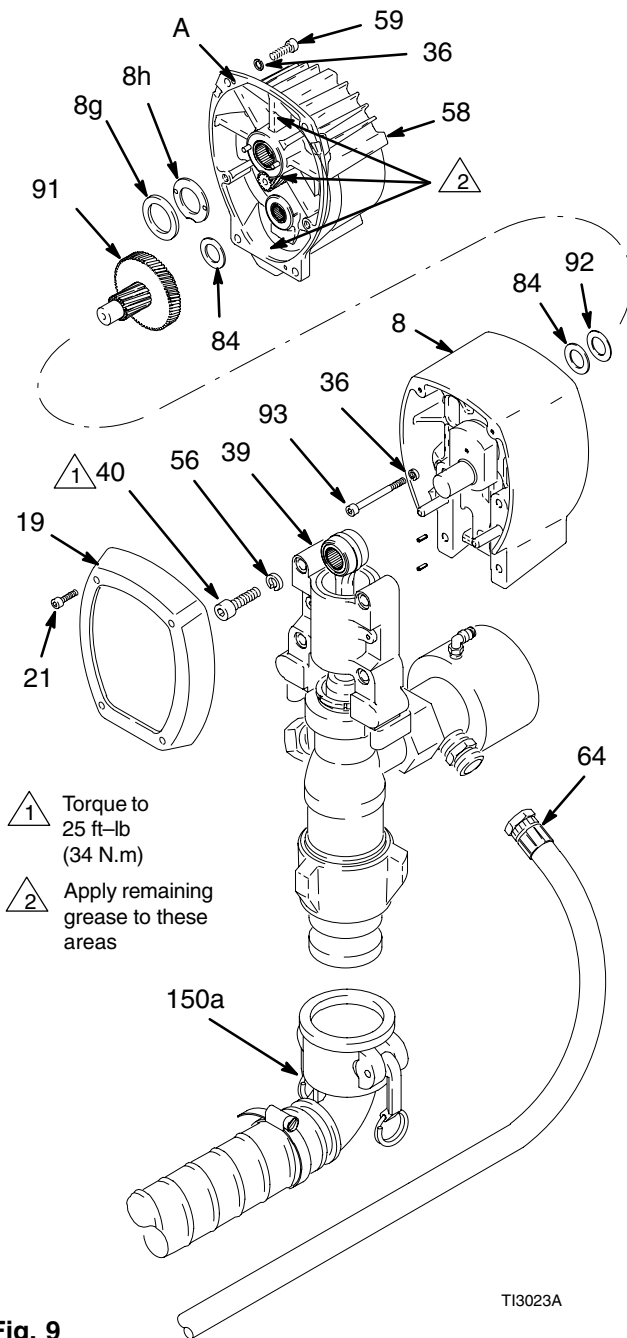


Fig. 9

⚠ WARNING

To reduce risk of injury due to sprayer starting unexpectedly, shut off engine before performing checks or service.

1. Fig. 9. Disconnect siphon hose elbow (150a), drain hose (64) and material hose (not shown) from pump outlet. Disconnect cables. Remove screws (21) and front cover (19).
2. Remove four screws (40) and lockwashers (56) from bearing housing (39).
3. Lightly tap back of bearing housing (39) with a plastic mallet. Pull pump, bearing housing and connecting rod away from drive housing (8) as one assembly.
4. Remove bearing housing screws (93) and lockwasher (36) and pinion housing screws (59) and lockwashers (36).
5. Lightly tap around drive housing (8) to loosen drive housing. Pull drive housing straight off pinion housing (58). Be prepared to support combination gear (91), which may also come out.
6. Liberally apply bearing grease (supplied with combination gear) to combination gear (91) and to areas called out by note 2.
7. Place bronze colored washer (8g) and then silver-colored washer (8h) on shaft protruding from big bearing of drive housing (8). Align gears and push new drive housing straight onto pinion housing and locating pins (A).
8. Reassemble sprayer. Or, go to next section in this manual if further service is needed.

Pinion Assembly/Rotor/Field/Shaft/Clutch

Removal

⚠ WARNING

To reduce risk of injury due to sprayer starting unexpectedly, shut off engine before performing checks or service.

If pinion assembly (58) is not removed from clutch housing (88), do 1. through 4. Otherwise, start at 5.

1. Remove drive housing (8); page 15.
2. Disconnect field cable from flow control.
3. Fig. 10. Remove five screws (99) and lockwashers (43) and pinion assembly (58).

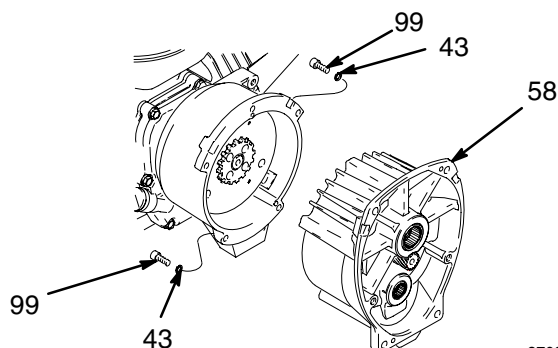


Fig. 10 8700A

4. Fig. 11. Place pinion assembly (58) on bench with rotor side up.
5. Remove four screws (95) and lockwashers (43). Install two screws in threaded holes (E) in rotor. Alternately tighten screws until rotor comes off.

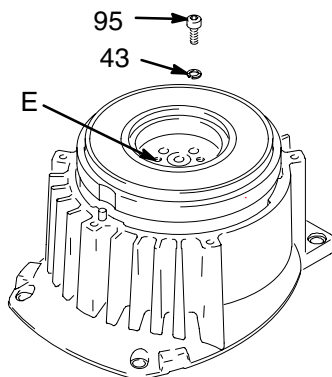


Fig. 11 8701B

6. Fig. 12. Remove retaining ring (58e).
7. Tap pinion shaft (58d) out with plastic mallet.

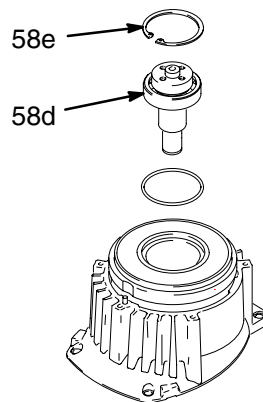


Fig. 12

8703B

8. Fig.13. Use an impact wrench or wedge something between armature (89) and clutch housing to hold engine shaft during removal.
9. Remove four screws (2) and lockwashers (43).
10. Remove armature (89).

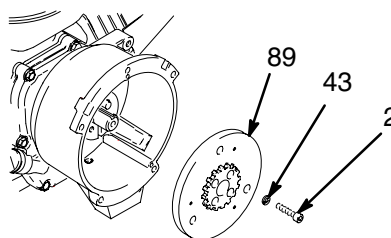


Fig. 13

8704A

Pinion Assembly/Rotor/Field/Shaft/Clutch

Installation

1. Fig. 14. Lay two stacks of two dimes on smooth bench surface.
2. Lay armature (89) on two stacks of dimes.
3. Press center of clutch down on bench surface.

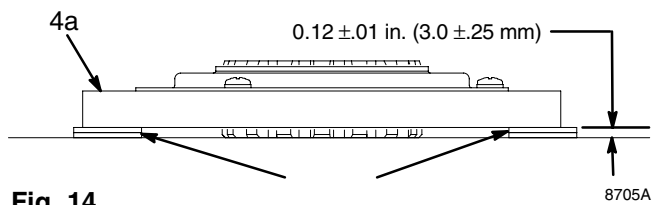


Fig. 14

4. Install armature (89) on engine drive shaft.
5. Install four screws (2) and lockwashers (43) with torque of 125 in-lb.

6. Fig. 12. Tap pinion shaft (58d) in with plastic mallet.
7. Install retaining ring (58e) with beveled side facing field.
8. Fig. 11. Place pinion assembly (58) on bench with rotor side up.
9. Apply locktite to screws. Install four screws (2) and lockwashers (43). Alternately torque screws to 125 in-lb until rotor is secure. Use threaded holes to hold rotor.
10. Fig. 10. Install pinion assembly (58) with five screws (99) and lockwashers (43).
11. Connect field cable to flow control.

Collar

Removal

1. Fig. 15. Loosen two screws (2) on collar (86),
2. Push screwdriver into slot in collar (86) and remove collar.

Installation

1. Fig. 15. Install engine shaft key (90).
2. Tap collar (86) on engine shaft (A) with plastic mallet.
3. Press collar (86) onto engine shaft (A). Maintain dimension shown note 2 in Fig. 15. Chamfer must face engine.

Check dimension: Place rigid, straight steel bar (B) across face of clutch housing (88). Use accurate measuring device to measure distance between bar and face of collar. Adjust collar as necessary. Torque two screws (16) to 125 ± 10 in-lb (14 ± 1.1 N·m).

- 1 Face of clutch housing
- 2 1.812 ± 0.010 in. (46.02 ± 0.25 mm)
- 3 Torque to 125 ± 10 in-lb (14 ± 1.1 N·m)
- 4 Chamfer this side

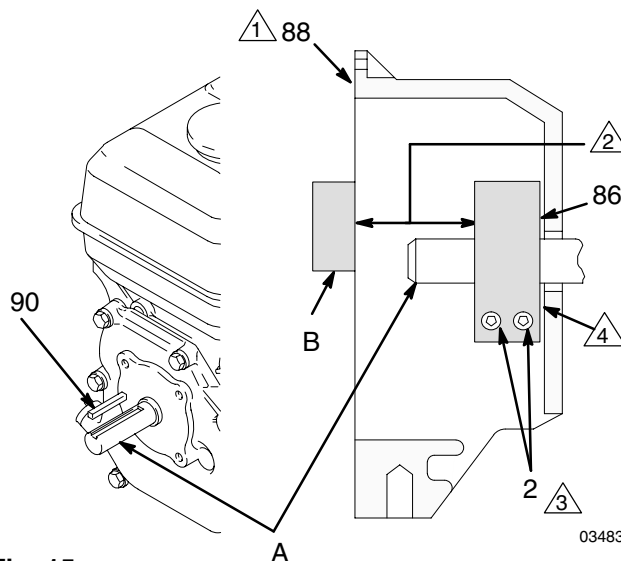


Fig. 15

Clutch Housing

Removal

1. Fig. 16. Remove four capscrews (42) and lockwashers (29) which hold clutch housing (88) to engine.
2. Remove screw (101) from under mounting plate (D).
3. Remove engine key (90).
4. Pull off clutch housing (88).

Installation

1. Fig. 16. Push on clutch housing (88).
2. Install four capscrews (42) and lockwashers (29) and secure clutch housing (88) to engine. Torque to 200 in-lb (22.6 N•m).
3. Install capscrew (101) from beneath mounting plate (D). Torque to 26 ft-lb (35.2 N•m).

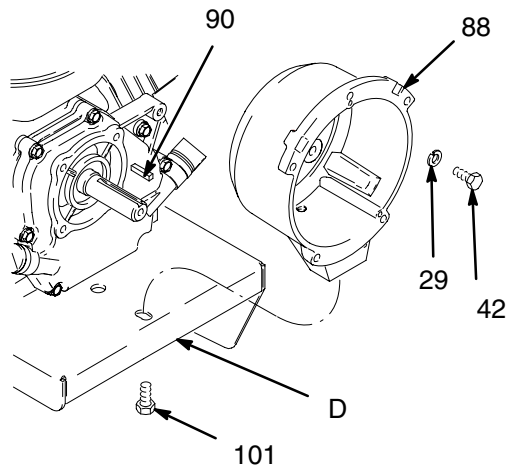


Fig. 16

8708A

Engine

Removal

1. Remove **Pinion Assembly/Rotor/Field/Pinion/Clutch, Clamp** and **Clutch Housing**, as instructed on pages 16, 17, and 18.
2. Fig. 17. Disconnect all necessary wiring.
3. Fig. 18. Remove two locknuts (18) and screws (17) from base of engine.
4. Lift engine carefully and place on work bench.

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

Installation

1. Lift engine carefully and place on cart.
2. Fig. 18. Install two screws (17) in base of engine and secure with locknuts (18). Torque to 200 in-lb (22.6 N•m).
3. Fig. 17. Connect all necessary wiring.
4. Install **Pinion Assembly/Rotor/Field/Pinion/Clutch, Clamp** and **Clutch Housing**, as instructed on pages 16 and 17 and 18.

SPRAYER WIRING DIAGRAM

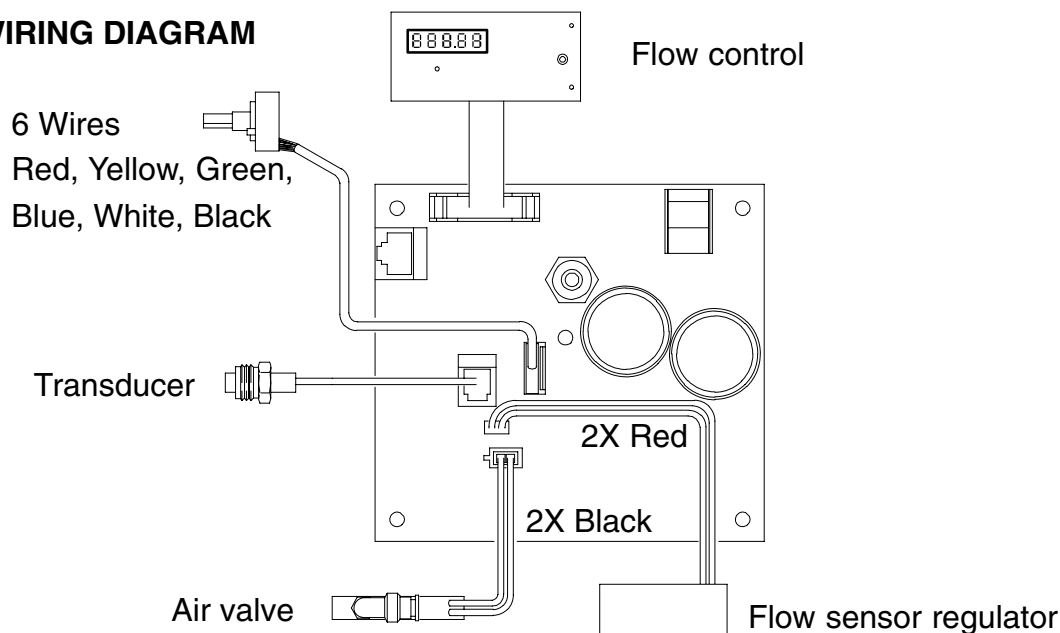


Fig. 17

TI3110A

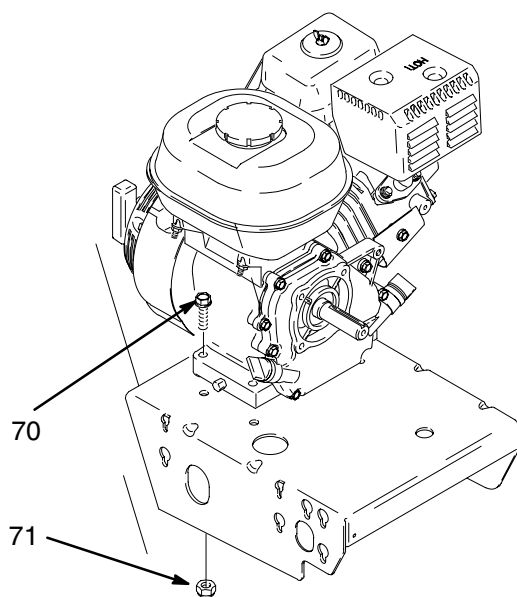


Fig. 18

8710A

Diagram of the bottom view of the TI4365a unit. The diagram shows the internal wiring and components from the underside. Key components and labels include:

- 61**: A cable or wire connected to the top of the unit.
- 13**: A bundle of cables or wires running across the top.
- 60**: A cable or wire connected to the top of the unit.
- 164**: A cable or wire connected to the top of the unit.
- 81**: A cable or wire connected to the top of the unit.
- TI4365a**: The main unit, shown from the bottom.
- 100**: A label pointing to the bottom of the unit.
- BOTTOM VIEW**: The title of the diagram.



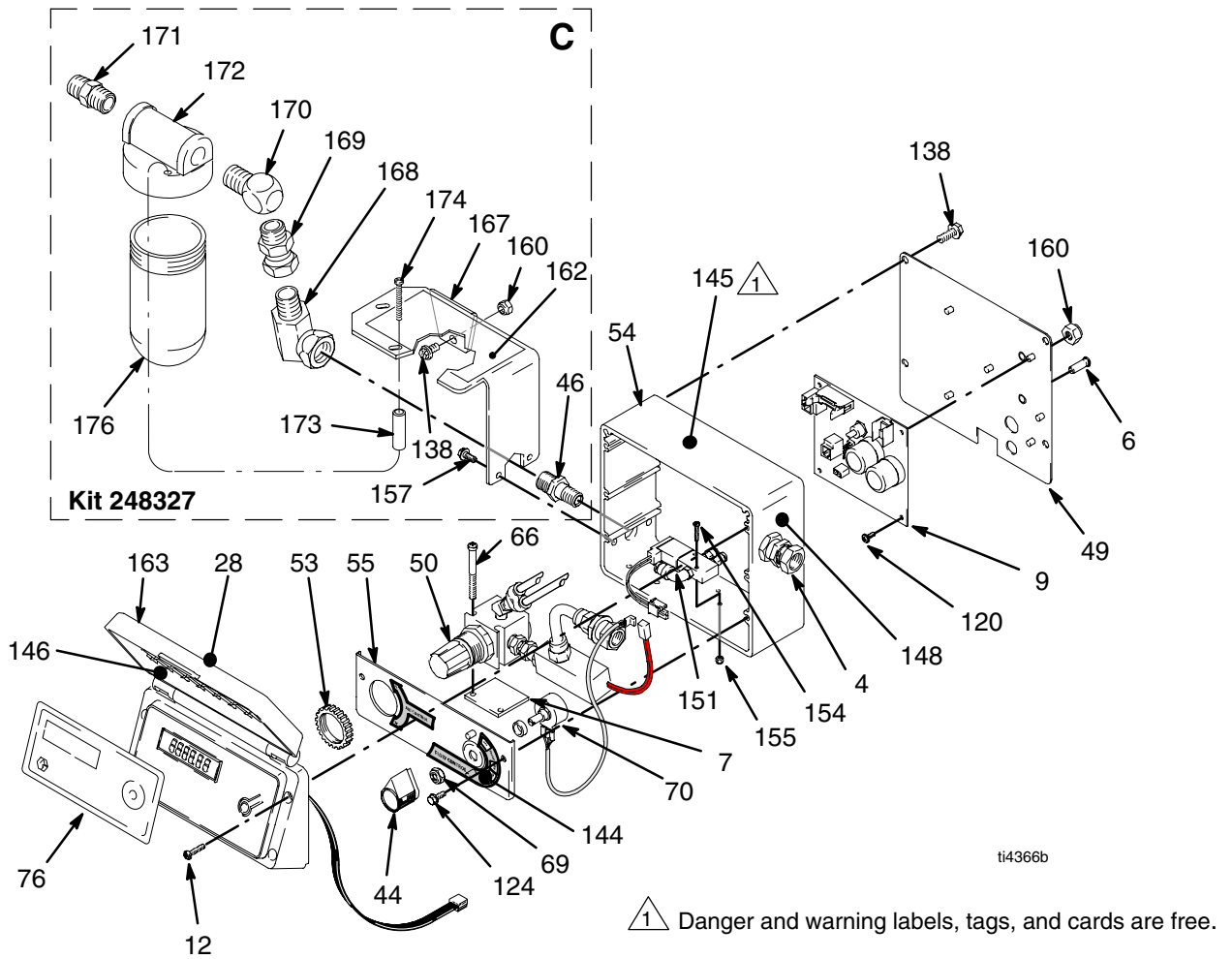
 Danger and warning labels, tags, and cards are free.

Parts - Sprayer

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	187604	SLEEVE, cart	2	73	188509	CLIP, spring	2
2	108803	SCREW, hex, socket head	6	75▲	290228	LABEL, caution	1
3	235706	PUMP, texture, 3 gpm	1	76**	15C003	LABEL, display LCD	1
4	157705	UNION, swivel	1	79	114151	FITTING, elbow, male, swivel	1
6	116354	BUSHING, strain relief	1	80	15C002	LABEL, identification	1
7	15B560	SPACER, bolt	1	81	114687	CLIP, retainer	1
8	287128	KIT, repair, drive housing	1	82	111832	SCREW, cap, sch	3
9	234234	KIT, control board	1	83	287127	KIT, dump valve (see pg 23)	1
12**	116252	SCREW, #8 taptite phil	4	84	114672	WASHER, thrust	2
13	15B935	WIRE, jumper	1	85	15B766	MANIFOLD, dump valve	1
14	183350	WASHER	2	86	193680	COLLAR, shaft	1
16	193682	PLUG, tube	2	87	193510	HUB, armature	1
17	110837	SCREW, flange, hex	2	88	193531	HOUSING, clutch	1
18	110838	NUT, lock	2	89†		ARMATURE, clutch, 5 in	1
19	241308	COVER, drive	1	90	183401	KEY, parallel	1
21	114818	SCREW, self-tap, filhd	4	91	241440	GEAR, combination	1
22	111836	CYLINDER, air	1	92	114699	WASHER, thrust	1
23	114263	FITTING, connector, male	1	93	114686	SCREW, cap, socket hd	2
24	237686	CLAMP, grounding assy	1	94†		ROTOR, clutch, 5	1
25	112798	SCREW, thread forming, hex hd	1	95	101682	SCREW, cap, sch	4
26	224442	KIT, repair, suction, (55 gal)	1	96	100020	WASHER, lock	3
27	187111	SCREW, quick disc	2	99	100644	SCREW, cap, sch	5
28**	15c004	LABEL, ctrl box cover	1	100	114678	BUSHING, strain relief	1
29	100214	WASHER, lock	4	101	113802	SCREW, hex hd, flanged	1
30	111834	NIPPLE, pipe, hex	1	102	114984	SCREW, tapping, phillips pan hd	2
31	157785	UNION, swivel	1	104	111483	CLAMP, cable	2
32	114530	ENGINE, gas, 5.5 hp, Honda	1	105	206994	FLUID, TSL 8 oz bottle	1
33	245162	FRAME, cart	1	112	108795	SCREW, mach, pnh	4
34	113084	RIVET, blind	2	117	245245	HANDLE, cart	1
35	192014	PLATE, indicator	1	118	198723	CLIP, axle	2
36	104008	WASHER, lock, spring	6	119	198720	WHEEL, semi pneumatic, 12 in.	2
37	183169	SPRING, retaining	1	120	114331	SCREW, mach, pnh, sems	6
38	183210	PIN, str, hdls	1	122	111482	RIVET, snap	2
39	287129	HOUSING, bearing	1	123	108068	PIN, spring straight	2
40	114666	SCREW, cap, socket hd	4	124	115522	SCREW, mach, pnh	3
41	15C088	ADAPTER, dump valve	1	128	241279	ROD, connecting	1
42	108842	SCREW, cap, hex hd	4	130	116891	WASHER	4
43	105510	WASHER, lock, spring (hi-collar)	15	138	112774	SCREW, mach	9
44	117740	KNOB, switch	1	140	235490	GUN, texture (see manual 308274)	1
45	111457	PACKING, o-ring	1	144	15C005	LABEL, flow control	1
46	164856	FITTING, nipple, reducing	1	145▲	189246	LABEL, warning	1
47	234231*	KIT, dump valve, repair	1	146**	15B668	LABEL, instruction	1
49	15B680	PLATE, control box	1	148	188634	LABEL, outlet	1
50	234232	KIT, flow sensor	1	150	235737	HOSE SET, 1/2" air x 3/4" fluid	1
51	104811	CAP, hub	2	151	15B683	VALVE, air	1
52	112827	BUTTON, snap	2	152	117780	FITTING, tee male branch	1
53	115244	NUT, regulator	1	153	110980	CLAMP, hose	1
54	15B558	HOUSING, control	1	154	117781	SCREW, machine, pnh	2
55	15B684	PANEL, control	1	155	C27076	NUT	2
56	106115	WASHER, lock spring (hi-collar)	4	156	15C190	PLATE, retaining	1
58	245399	KIT, repair, pinion housing	1	157	115492	SCREW, mach, slot hex wash hd	2
59	101864	SCREW, cap, sch	4	158	15C173	HOSE, 5/32" blue tubing	1
60	240997	CONDUCTOR, ground	1	159	15C174	HOSE, 5/32" black tubing	1
61	102478	STRAP, tie, wire	1	160	102040	NUT, lock, hex	2
62	194125	LABEL, danger, English	1	162	15C040	LABEL, instruction	1
63	287130	TRANSDUCER, pressure	1	163**	246606	KIT, digital display	1
64	235738	HOSE, drain, 12 ft	1	164	15C283	TUBE, nylon	1
66	117741	SCREW, mach, phillips	2	185	111340	GASKET	1
68	111831	SCREW, cap, skt, button hd	1	*	Kit 234231 contains: seat, sst tip, and o-rings		
69	109466	NUT, lock, hex	2	**	Kit 246606 contains items:12, 28, 76 and 146		
70	15B671	SWITCH, rotary	1	†	Kit 241113 contains items:89 and 94		
72▲	194126	LABEL, warning	1	▲	Danger and warning labels, tags, and cards are free.		

Parts - Flow Control

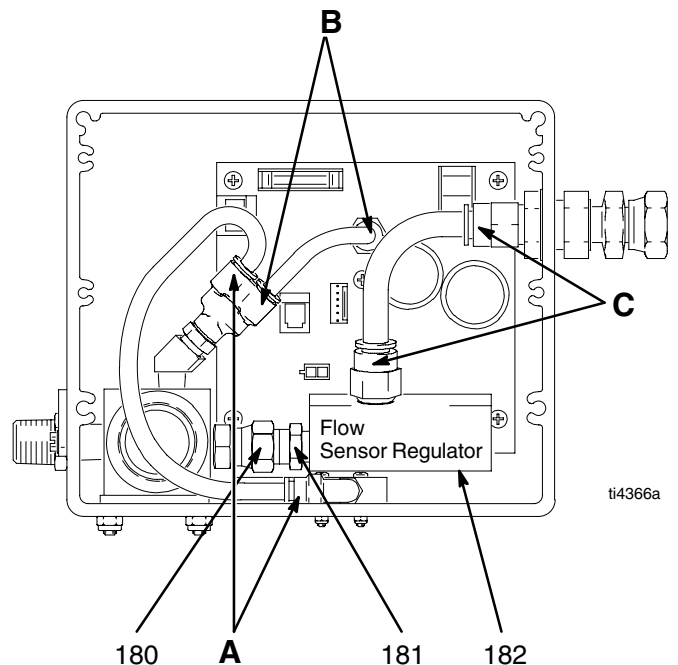
See page 21 for parts description and page 20 for location on sprayer.



Ref No.	Part No.	Description	Qty
138†	112774	SCREW, mach	9
157†	115492	SCREW, mach, slot hex wash hd	2
160†	102040	NUT, hex, 1/4-20	2
162†	15D885	LABEL, instructions	1
167†	15D864	BRACKET, 1030FC, air filter	1
168†	155494	UNION, swivel, 90 degree	1
169†	155665	UNION, adapter	1
170†	155699	ELBOW, street	1
171†	C20483	NIPPLE, hex, 3/8 npt	1
172†	106148	FILTER, air, 3/8 npt	1
173†	15D863	SPACER, standoff, 1030FC, filter	2
174†	119251	SCREW, self-tap, filhd, 8-32	2
176†	106151	VALVE, drain, auto	1
180‡	156823	UNION, swivel	1
181‡	162453	ADAPTER	1
182‡		FLOW SWITCH	1

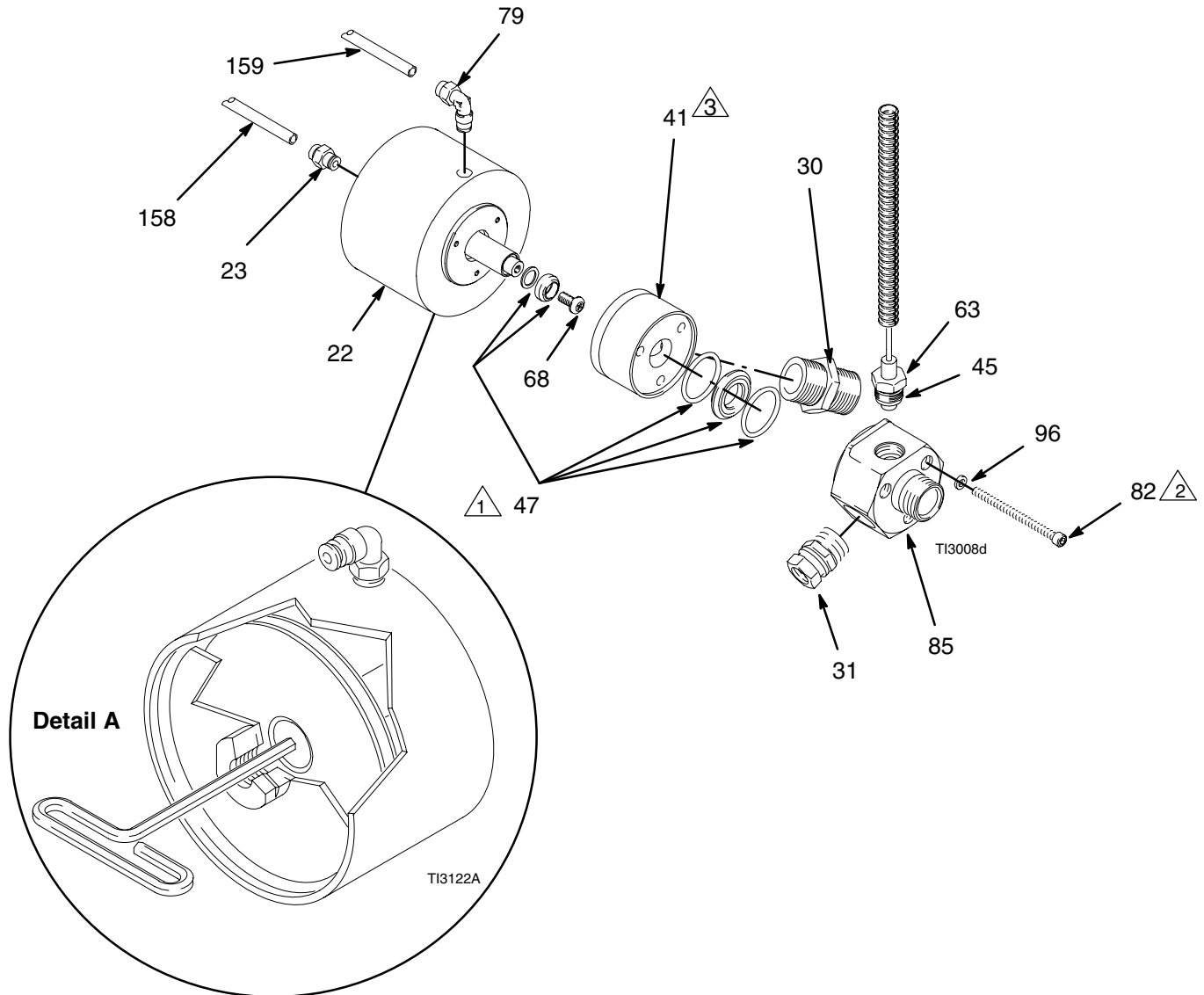
† Included in Kit 248327 which may be ordered separately

‡ Included in Kit 248328 which may be ordered separately



Parts - Dump Manifold


See page 21 for parts description and page 20 for location on sprayer.



Prime Valve Repair Kit 234231 Installation

1. Replace all parts shown for (47)
2. Apply blue LockTite to threads of screw (68)
3. **Detail A.** Hold piston assembly of air cylinder (22) with 3/16 in. hex driver and torque screw (68) to 40 to 50 in-lb.

Torque screw (82) to 40 to 50 in-lb

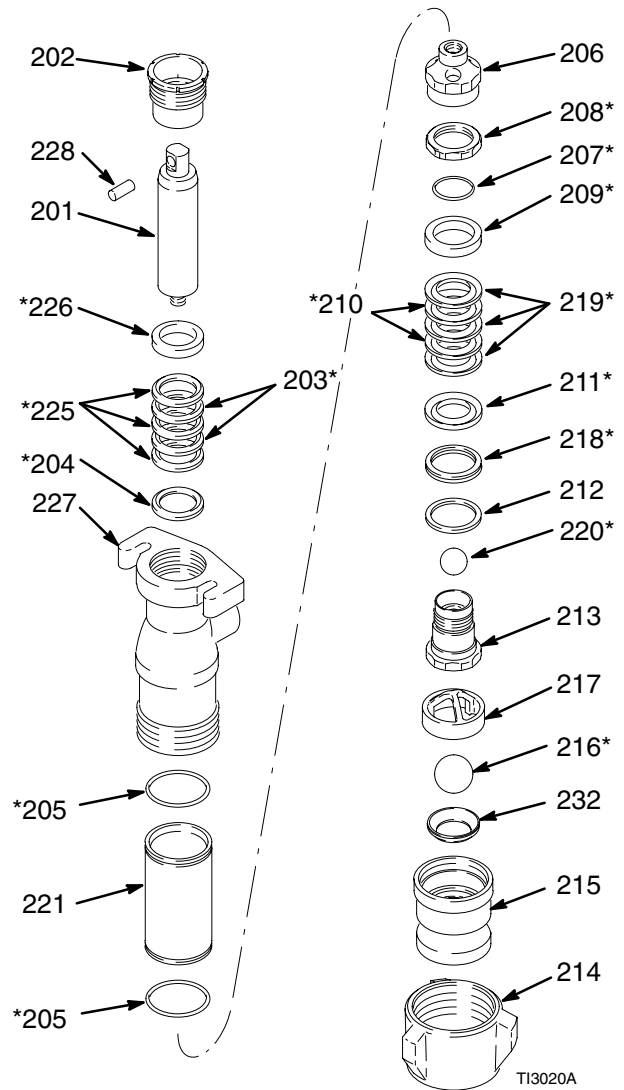
-  Item 41 must be installed with smaller ID bore and OD orientation groove (if present) toward air cylinder assembly.

Parts - Displacement Pump

Model 235166, Series A

Includes items 201227

Ref No.	Part No.	Description	Qty
201	188437	PISTON ROD	1
202	187068	PACKING NUT	1
203	188560*	V-PACKING, poly	2
204	187939*	GLAND, male	1
205	188557*	O-RING	2
206	187934	PISTON HOUSING	1
207	188559*	O-RING, fluoroelastomer	1
208	188434*	NUT	1
209	188432*	GLAND, male	1
210	188561*	V-PACKING, poly	2
211	188433*	GLAND, female	1
212	188627	BACKUP WASHER, nylon	1
213	235165	PISTON SEAT	1
214	187929	LUG NUT	1
215	235963	INTAKE HOUSING	1
216	102973*	BALL, intake, 1.25 in. Dia.	1
217	187064	BALL GUIDE	1
218	188558*	U-CUP SEAL, poly/fluoroelastomer	1
219	187072*	V-PACKING, poly	3
220	102972*	BALL, piston; 0.875 in. Dia.	1
221	187066	CYLINDER	1
225	187071*	V-PACKING, poly	3
226	187070*	GLAND, female	1
227	187933	HOUSING, outlet	1
228	183210	PIN	1
232	235962	SEAL, foot valve	1



* Included in **Repair Kit 235186**, purchased separately. Kit includes pressure drain valve u-cup packing, 111829.

Parts - Pinion and Drive Housing Repair Kits

Ref No. 58 and 8

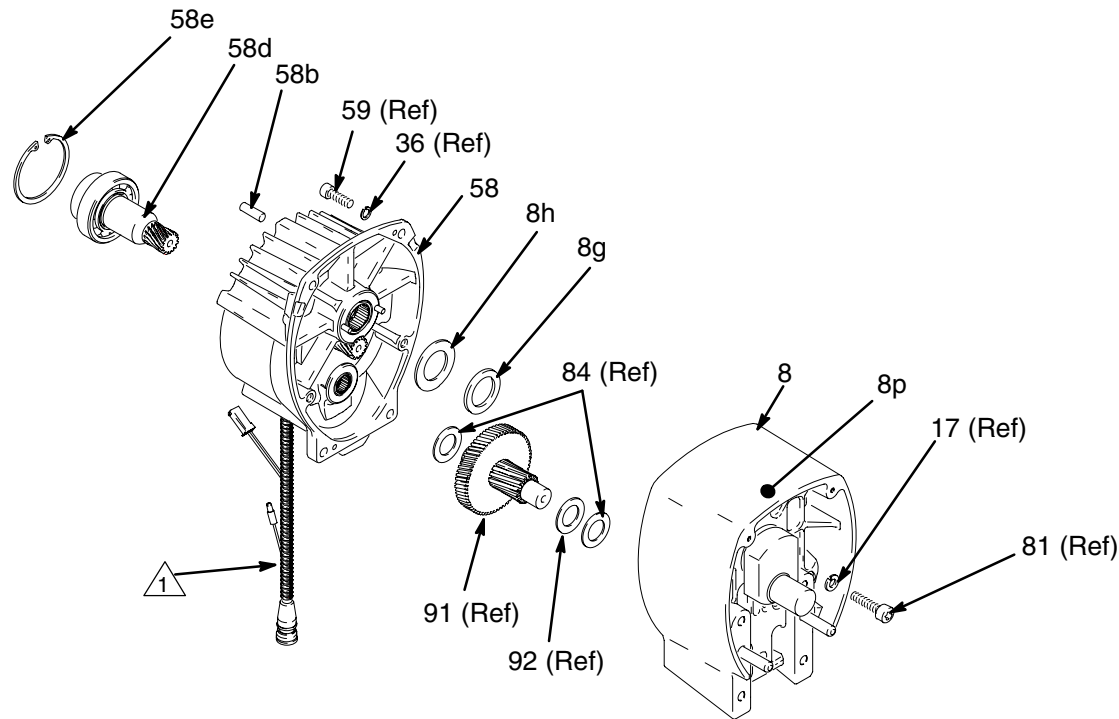
Pinion Housing Repair Kit

Ref No.	Part No.	Description	Qty
58	245399	KIT, repair, pinion housing	1
58b	105489	PIN	2
58d*	241114	PINION SHAFT	1
58e	112770	RETAINING RING, large	1

*Must be ordered separately.

Ref No. 8: Drive Housing Repair Kit

Ref No.	Part No.	Description	Qty
8	287128	KIT, repair, drive housing	1
8g	194173	WASHER	1
8h	116192	WASHER	1
8p	290228	LABEL, caution	1



TI0177B

△ Pinion housing assembly (58) includes clutch field and connector

Accessories

USE ONLY GENUINE GRACO PARTS AND ACCESSORIES

Air And Material Hose Kit

235737

Max. Working Pressure

Fluid: 750 psi (5.18 MPa, 51.7 bar)

Air: 300 psi (2.07 MPa, 20.7 bar)

50 ft (15.2 m) hoses to supplement 50 ft (15.2 m) hose kit supplied with sprayer. Use up to three more hose kits. **DO NOT** use this kit at sprayer outlet as it does not have a spring guard on material hose.

Technical Data

Honda GX160 Engine
Power Rating @ 3600 rpm
ANSI 5.5 Horsepower
DIN 6270/DIN 6271
NA 2.9 Kw–4.0 Ps
NB 3.6 Kw–4.9 Ps
Maximum Working Pressure 1000 psi
(7.0 MPa, 70 bar)
Cycles/gallon (liter) 42 (11)
Maximum Delivery 3 gpm (11 liter/min)
Fuel Tank Capacity 0.95 gallon (3.7 liter)
Pump Inlet Size 2 inch quick disconnect
Fluid Outlet Size 3/4 npsm(f)
Wetted Parts
Displacement Pump Nickle-plated carbon steel,
Stainless steel, Chrome-plated stainless steel,
Poly, Tungsten carbide, Viton®

Sound Data

Sprayer:

Sound Pressure Level 97dB(A)*

Sound Power Level 105dB(A)*

*Measured readings at 1 m, normal load.

Gun:

Sound Pressure Level 96dB(A)**

Sound Power Level 104dB(A)**

**Measured while spraying simulated acoustical texture
under typical conditions as specified by material
manufacturer.

Viton is a registered trademark of DuPont Co.

Dimensions

Weight (dry, without packaging) ... 150 pound (68 kg)
Height 32 inch (813 mm)
Length 30 inch (762 mm)
Width 23 inch (584 mm)

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