

Important Safety Instructions
Read all warnings and instructions in this manual. Save these instructions.

HydraMax[®] Sprayers

HydraMax 225

3600 psi (248 bar, 24.8 MPa) Maximum Working Pressure

Model	Series	Direct Immersion	30 Gallon Suction	RAC [®] X, Silver Gun and Hose
233640	C	X		
233641	C		X	
233642	C	X		X
233643	C		X	X

HydraMax 300

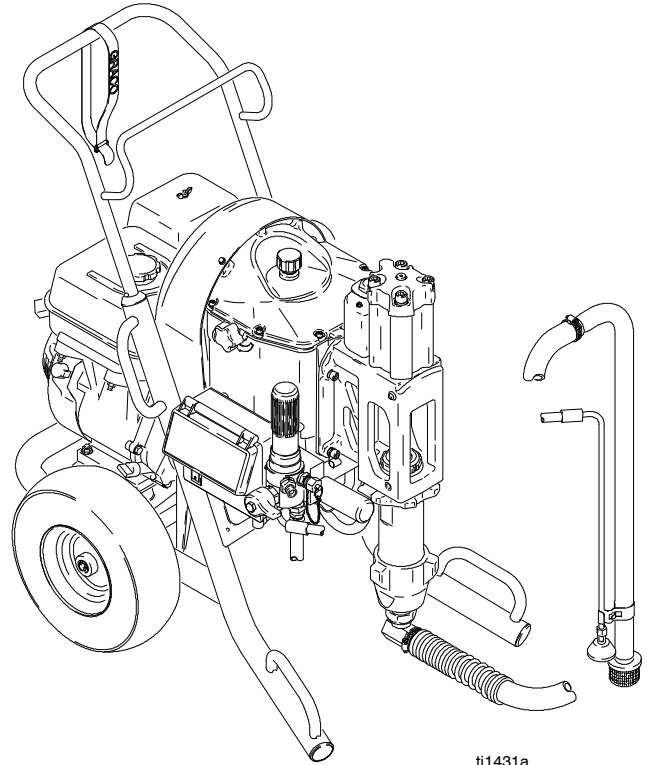
3600 psi (248 bar, 24.8 MPa) Maximum Working Pressure

Model	Series	Direct Immersion	30 Gallon Suction	RAC X, Silver Gun and Hose
233650	C		X	
233651	C		X	X

HydraMax 350

4000 psi (276 bar, 27.6 MPa) Maximum Working Pressure

Model	Series	Direct Immersion	30 Gallon Suction	GHD, Texture Gun and Hose
233660	C		X	
233661	B		X	X



ti1431a

Related Manuals

Operation	309378
Displacement Pump	309277
Spray Gun	309740
Spray Tip	309640
AutoClean	309380, 309278
Drain Valve	308961
Board Repair Kit 244981	309452

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⚠ WARNING

Fire and explosion hazard: Solvent and paint fumes can ignite or explode.

To help prevent a fire and explosion:

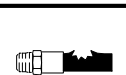
- Use only in an extremely well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes and plastic drop cloths (static arc hazard). Do not plug or unplug power cords or turn lights on or off in spray area.
- Ground Sprayer, object being sprayed, paint and solvent pails.
- Hold gun firmly to side of grounded pail when triggering into pail.
- Use only conductive airless paint hose.
- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use could result in a chemical reaction, with the possibility of explosion.
- To reduce risk of electric shock, use grounded outlet only. Shut OFF and unplug when repairing.

Fluid injection and high pressure hazard: High pressure spray or leaks can inject fluid into the body.

To help prevent injection, always:

- Engage trigger safety latch when not spraying.
- Keep clear of nozzle and leaks.
- Never spray without a tip guard.
- Do **PRESSURE RELIEF** if you stop spraying or begin servicing sprayer.
- Do not use components rated less than sprayer *Maximum Working Pressure*.
- Never allow children to use this unit.

SKIN INJECTION HAZARD! If high pressure fluid pierces your skin, the injury might look like "just a cut". But it is a serious wound! **Get immediate surgical treatment.**



⚠ ADVERTÊNCIA

Perigo de incêndio e explosão: os solventes e os vapores da pintura poderão explodir ou incendiar.

Para ajudar a evitar incêndio e explosão:

- Utilize **unicamente em áreas extremamente bem ventiladas.**
- Elimine todas as fontes de ignição, tais como luzes piloto, cigarros e arcos de estática resultantes dos plásticos de proteção. Não ligue nem desligue os cabos de alimentação ou as luzes numa área de pulverização.
- Ponha em contato com a terra o pulverizador, o objeto a ser pulverizado, e os baldes de tinta e de solventes.
- Segure a pistola firmemente de encontro ao lado do balde em contato com a terra, quando estiver descarregando para dentro do mesmo.
- Utilize somente tubos flexíveis condutores para pintura a alta pressão.
- Não utilize 1,1,1-tricloroetano, cloro de metileno, outros solventes de hidrocarbonetos halogenados ou líquidos contendo tais solventes em equipamento de alumínio pressurizado. Tal utilização poderá resultar numa reação química, com possibilidade de explosão.
- Para reduzir o risco de choque elétrico, use a tomada aterrada somente. Feche FORA e desconecte ao reparar.

Perigo de injeção de líquidos à alta pressão: a pulverização ou vazamentos à alta pressão podem injetar líquido no corpo.

Para ajudar a evitar injeção de líquido, faça sempre o seguinte:

- Engate o trinco de segurança do gatilho quando não estiver pulverizando.
- Mantenha-se afastado dos bocais e locais onde há vazamentos.
- Nunca pulverize sem que haja uma proteção na extremidade.
- **ALIVIE A PRESSÃO** quando parar de pulverizar e antes de iniciar a manutenção do pulverizador.
- Não utilize componentes com uma classificação inferior à do pulverizador *Pressão Máxima de Trabalho*.
- Nunca permita que crianças utilizem esta unidade.

Se o líquido a alta pressão penetrar na sua pele, o ferimento poderá parecer "simplesmente um corte". Mas é um ferimento grave! Procure o médico imediatamente.

⚠ MISE EN GARDE

Danger d'incendie et d'explosion : les gaz de solvant et de peinture peuvent s'enflammer ou exploser.

Pour éviter les risques d'incendie et d'explosion :

- N'utiliser l'appareil que dans une zone extrêmement bien aérée.
- Éliminer toute source d'inflammation ; telle que veilleuses, cigarettes et arcs d'électricité statique créés par les toiles de peintre en plastique. Ne pas brancher et débrancher de cordons électriques, ou allumer et éteindre des lumières dans la zone de pulvérisation.
- Mettre à la terre le pulvérisateur, l'objet à pulvériser ainsi que les seaux de peinture et de solvants.
- Tenir le pistolet fermement contre la paroi d'un seau mis à la terre lorsqu'on pulvérise dans le seau.
- N'utiliser qu'un flexible pour peinture pulvérisée sans air.
- Ne jamais utiliser de trichloroéthane 1,1,1, de chlorure de méthylène, d'autres solvants à base d'hydrocarbures halogénés, ni de produits contenant de tels solvants dans un équipement sous pression en aluminium. Cela pourrait provoquer une réaction chimique avec risque d'explosion.
- Pour réduire le risque de décharge électrique, employez la sortie au sol seulement. Coupez et débranchez quand la réparation.

Danger d'injection de fluide et haute pression : la pulvérisation sous haute pression ou les fuites peuvent injecter des fluides dans le corps.

Pour éviter les risques d'injection, toujours :

- Bloquer le loquet de sécurité de la gâchette à la fin de la pulvérisation.
- Se tenir loin de la buse et des fuites.
- Ne jamais pulvériser sans anti-gouttes.
- **DÉCHARGER LA PRESSÃO** à la fin de la pulvérisation ou avant de réparer le pulvérisateur.
- Ne pas utiliser de composants dont la pression nominale est inférieure à la *pression maximale de service du système*.
- Ne jamais permettre aux enfants d'utiliser cet appareil.

Si un fluide haute pression perce la peau, la blessure peut paraître une "simple coupure" Mais il s'agit bien d'une lésion grave! Consulter immédiatement un médecin.



⚠ ADVERTENCIA

Peligro de incendio o explosión: Los gases de los disolventes y de la pintura pueden inflamarse o provocar una explosión.

Para prevenir incendios y explosiones:

- Use **únicamente en un área muy bien ventilada.**
- Suprima todas las fuentes de ignición; como luces piloto, cigarrillos y arcos estáticos de carpetas plásticas para protección contra pintura. No enchufe ni desenchufe cables de alimentación ni apague ni encienda las luces en un área de pulverización.
- Ponga a tierra el pulverizador, el objeto que recibe el chorro pulverizado, las cubetas de pintura y disolvente.
- Sostenga firmemente la pistola a un lado de la cubeta puesta a tierra cuando dispare dentro de ella.
- Use solamente mangueras para pintura conductora sin aire.
- No utilice nunca tricloroetano-1,1,1, cloruro de metileno ni otros disolventes a base de hidrocarburos halógenos o fluidos que contengan dichos disolventes en un equipo a presión de aluminio. El uso de estas sustancias puede provocar una intensa reacción química, con riesgos de explosión.
- Para reducir el riesgo de la descarga eléctrica, utilice el enchufe puesto a tierra solamente. Apague y desenchufe al reparar.

Peligro de inyección de fluido y alta presión: por la pulverización o las filtraciones a alta presión se pueden inyectar fluidos en el organismo.

Para prevenir la inyección en la piel, siempre:

- Enganche el seguro del gatillo cuando no use el pulverizador.
- No se acerque a la boquilla ni a las filtraciones.
- Nunca aplique fluido pulverizado sin un guardaboquilla.
- Realice el **ALIVIO DE PRESSÃO** si deja de pulverizar fluido o repara el pulverizador.
- No use componentes de capacidad nominal inferior a la *presión máxima de operación del pulverizador*.
- No permita que niños usen esta unidad.

Si fluido de alta presión le penetra la piel, la lesión podría parecer "sólo un corte". ¡Es una lesión seria! Consulte de inmediato al médico.

General Repair Information

⚠ WARNING



MOVING PARTS HAZARD

To reduce risk of serious injury, do not touch moving parts with fingers or tools while testing repair. Shut off sprayer when repairing. Install all covers, gaskets, screws and washers before operating sprayer.

⚠ CAUTION

To reduce risk of pressure control malfunction:

- Use needle nose pliers to disconnect wires. Never pull on wire, pull on connector.
- Mate wire connectors properly. Center flat blade of insulated male connector in female connector.
- Route wires carefully to avoid interference with other connections of pressure control. Do not pinch wires between cover and control box.

1. **Keep all screws, nuts, washers, gaskets, and electrical fittings** removed during repair procedures. These parts are not normally provided with replacement assemblies.
2. **Test repair** after problem is corrected.
3. **If sprayer does not operate properly**, review repair procedure to verify procedure was done correctly. If necessary, see Troubleshooting Guide, page 5, for other possible solutions.

⚠ WARNING



HOT SURFACES HAZARD EXPLOSION HAZARD

Hydraulic reservoir and engine may be very hot during operation and could burn skin if touched.



Flammable materials spilled on hot engine could cause fire or explosion. Have fan shroud in place during operation to reduce risk of burns, fire or explosion.

4. **Install fan shroud before operation** of sprayer and replace if damaged. Fan shroud directs cooling air around reservoir to prevent overheating. It can also reduce risk of burns, fire, explosion and pinching; see preceding **WARNING**.

Grounding

Ground sprayer with grounding clamp to earth ground for safe sprayer operation. Fig. 1.

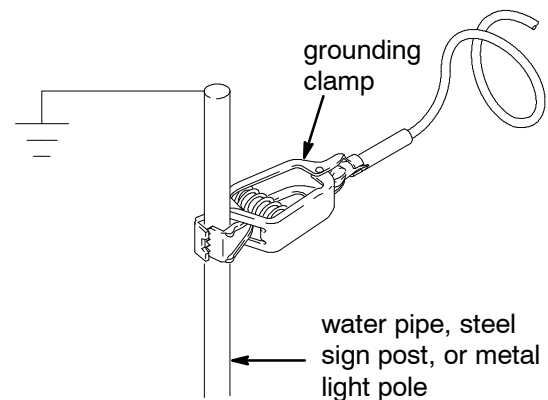


Fig. 1

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Maintenance

WARNING



INJECTION HAZARD

The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- stop spraying,
- check or service any of the system equipment,
- or install or clean the spray tip.

Pressure Relief Procedure

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

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

CAUTION

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

DAILY: Check engine oil level and fill as necessary.

DAILY: Check hydraulic oil level and fill as necessary.

DAILY: Check hose for wear and damage.

DAILY: Check gun safety for proper operation.

DAILY: Check pressure drain valve for proper operation.

DAILY: Check and fill the 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 buildup on piston rod and premature wear of packings and pump corrosion.

AFTER THE FIRST 20 HOURS OF OPERATION:

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

WEEKLY: Remove engine air filter cover and clean element. 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 dealer.

WEEKLY/DAILY: Remove any debris or media from hydraulic rod.

AFTER EACH 100 HOURS OF OPERATION:

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

SEMI-ANNUALLY:

Check belt tension, page 8; adjust if necessary.

YEARLY OR 2000 HOURS:

Replace hydraulic oil and filter element with Graco hydraulic oil 169236 (5 gallon/20 liter) or 207428 (1 gallon/3.8 liter) and filter element 244990; page 6.

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

Troubleshooting

⚠ WARNING



INJECTION HAZARD

To reduce risk of serious injury, when instructed to relieve pressure, follow steps 1. - 6.; page 4.

PROBLEM	CAUSE	SOLUTION
Gas engine pulls hard (won't start)	Hydraulic pressure is too high	Turn hydraulic pressure knob ccw to lowest setting
Gas engine will not start	Switch OFF, low oil, no gasoline	Consult engine manual, supplied
Gas engine races to high rpm at stall - bogs down on operation	Engine governor worn	Contact Honda Engine Service Center
Gas engine operates, but displacement pump does not	Directional valve not switching Pump switch is OFF Pressure setting too low Displacement pump outlet filter (if used) is dirty or clogged Tip or tip filter (if used) is clogged Hydraulic fluid too low Hydraulic pump worn or damaged Displacement pump rod seized by dried paint	Turn pump switch OFF, then ON; manual 309379 Turn pump switch ON Increase pressure, manual 309378 Clean the filter Remove tip and/or filter and clean Shut off sprayer immediately. Add fluid*; page 4. Bring sprayer to Graco distributor for repair Service pump; manual 309277
Displacement pump stays in downstroke	Powered off sprayer with engine ON/OFF. Magnet below bottom sensor.	Start engine. Turn pump switch OFF, then ON. Increase pressure.
Displacement pump operates, but output is low on upstroke	Piston ball check not seating properly. Piston packings worn or damaged.	Service piston ball check; manual 309277. Replace packings; manual 309277.
Displacement pump operates but output is low on downstroke and/or on both strokes	Piston packings worn or damaged. Intake valve ball check not seating properly.	Remove clip and retighten or replace packings; manual 309277. Service intake valve ball check; manual 309277
Paint leaks and runs over side of wetcup	Loose wet-cup Throat packings worn or damaged	Tighten just enough to stop leakage Replace packings; manual 309277
Excessive leakage around hydraulic motor piston rod wiper	Piston rod seal worn or damaged	Replace these parts; manual 309379
Fluid delivery is low	Pressure setting too low Displacement pump outlet filter (if used) is dirty or clogged Intake line to pump inlet is not tight Hydraulic motor is worn or damaged Large pressure drop in fluid hose	Increase pressure, manual 309378 Clean filter Tighten Bring sprayer to Graco distributor for repair Use larger diameter hose
The sprayer overheats	Cooler is damaged	Replace
	Oil level is low	Fill with oil. See page 6.
Spitting from gun	Air in fluid pump or hose	Check for loose connections on siphon assembly, tighten, then reprime pump
	Loose intake suction	Tighten
	Fluid supply is low or empty	Refill supply container
DTS does not display	Loose wiring	Remove cover and correct poor connections
	Bad LCD or board	Bring sprayer to Graco distributor for repair
DTS displays error codes	Various over-pressure conditions	Page 11

*Check hydraulic fluid level often. Do not allow it to become too low. Use only Graco approved hydraulic fluid, page 4.

Hydraulic Pump

Removal



1. Relieve pressure; page 4.

Let hydraulic system cool before beginning service.

2. Fig 2. Use 3.5 gallon container to catch hydraulic fluid. Remove reservoir drain plug (133) and drain hydraulic fluid.
3. Remove two screws (141) and fan shroud (23).
4. Remove eight screws (136), washers (81) and reservoir cover (50).
5. Remove cooler clip screw (141).
6. Loosen four engine mounting fasteners and belt tension adjustment screw (Fig. 3). Slide engine to left (rear view) to relieve tension on belt (6). Remove belt.
7. Remove two set screws (18) and fan (19).
8. Disconnect hydraulic tube (52) from elbow (54) and hydraulic motor manifold (46).
9. Disconnect strainer (25) with elbows (58, 30) assembled, from elbow (139).
10. Remove case drain tube (67).
11. Turn compensator stem (A) clockwise until stop. Loosen set screw (B). Pull compensator stem out. Remove holder (C), spring (D) and coupler (E).
12. Remove two pump bolts (94) from reservoir.
13. Lift hydraulic pump (2) up and toward front of reservoir to remove.

Installation

1. Transfer fittings (53, 139) to new pump (2).
2. Place strainer (25) with fittings (30, 58) assembled, into reservoir prior to installing pump.
3. Attach hydraulic tube (52) to pump (2) with elbow (53). Install new o-ring (56) on hydraulic pump flange

4. Fig 2. Set hydraulic pump (2) down and toward rear of reservoir to install.
5. Install two pump bolts (94) in reservoir with copper washers (64) on outside under screw heads. Torque to 31–35 ft-lb.
6. Connect strainer (25) to elbow (139).
7. Connect elbow (54) to hydraulic motor manifold (46). Connect hydraulic tube (52) to elbow (54). Torque hex nuts on elbows (139) and (53) to 38 – 42 ft-lb.
8. Insert spring (D) into coupler (E) and put holder (C) on exposed end of spring. Slide assembly (D, E, C) over compensator stem (A). Align flat on compensator stem with set screw (B). Hold compensator stem knob and torque set screw to 90 in-lb.
9. Install key (F) on pump shaft and install fan (19) with two set screws (18). Fan hub must overhang shaft approximately 0.20 in.
10. Install belt (6). Do **Fan Belt Installation**, page 8.
11. Install reservoir drain plug (133).
 - a. Fill pump with hydraulic oil.
 - b. Install case drain elbow (24) and tube (67).
 - c. Fill reservoir to fill level (approximately 2.75 gallons) with Graco hydraulic fluid.
12. Install reservoir cover (50) with eight washers (81) and screws (136). Torque to 95–100 in-lb.
13. Install cooler clip screw (141).
14. Install fan shroud (23) with two screws (141).
15. Verify hydraulic pump operation:
 - a. Run sprayer with hydraulic motor slow stroking and minimum pressure for 2 minutes.
 - b. Set hydraulic pressure at maximum. Turn pump switch OFF.
 - c. Check for hydraulic oil leaks. Add hydraulic oil as needed.

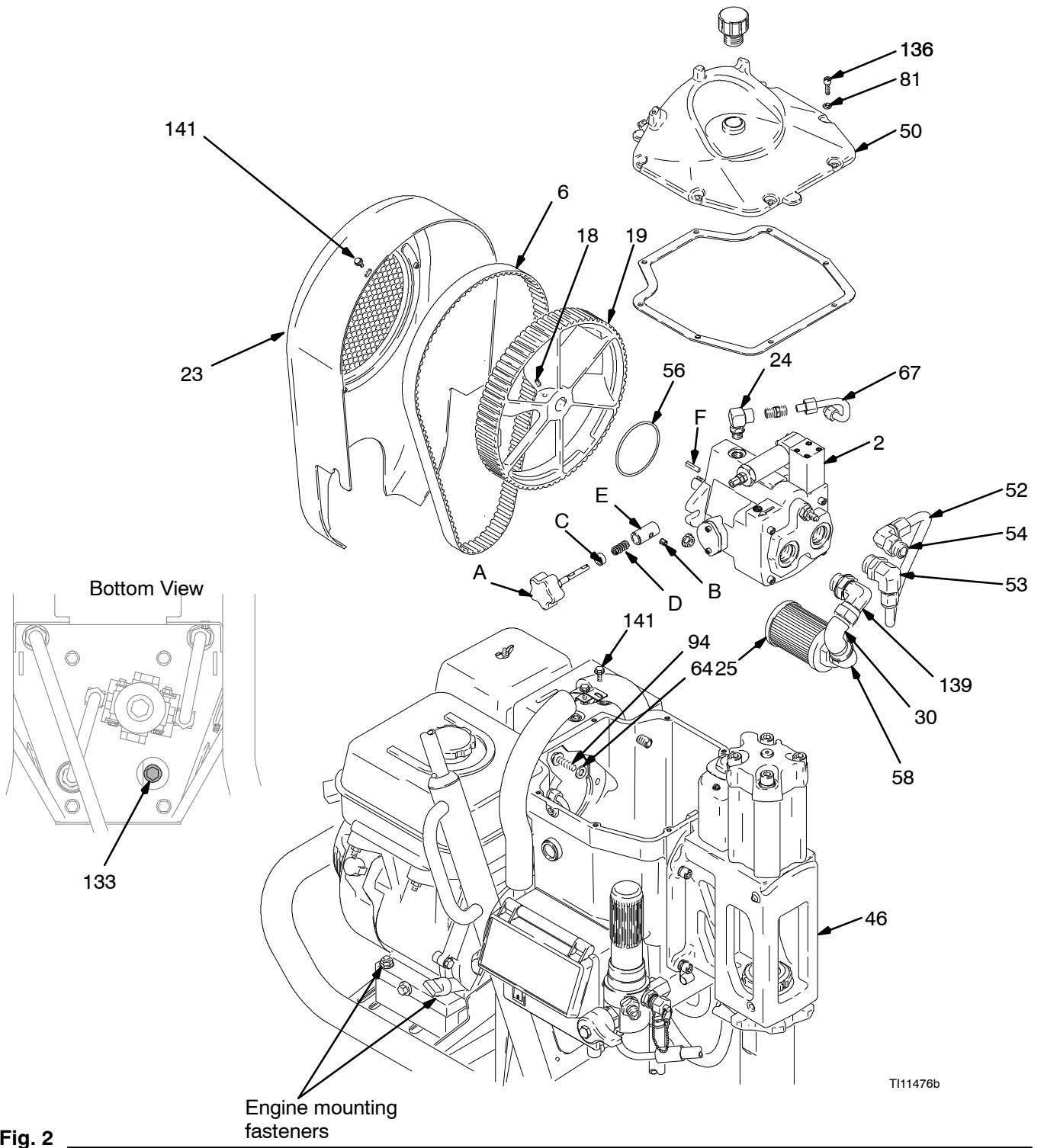


Fig. 2

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Engine mounting fasteners

Fan Belt

Removal

1. Fig. 3. Remove two screws (141) and slide shroud (23) up and off of sprayer.
2. Loosen four fasteners on underside of engine (1).
3. Loosen belt tension adjustment screw.
4. Slide engine to left (rear view) to remove tension on belt.
5. Remove belt (6).

Installation

1. Thread new belt around bottom drive pulley, and install on fan pulley.
 - a. lightly snug four engine fasteners.
 - b. Loosen jam nut on belt tension adjustment screw and slowly tighten screw. (This adjusts belt tension.) Tighten jam nut after belt is properly adjusted.
2. Adjust belt tension to be able to twist belt about 45° .
3. Align engine flush to front of alignment lip. Tighten four fasteners at base of engine.
4. Install fan shroud (23) with two screws (141).

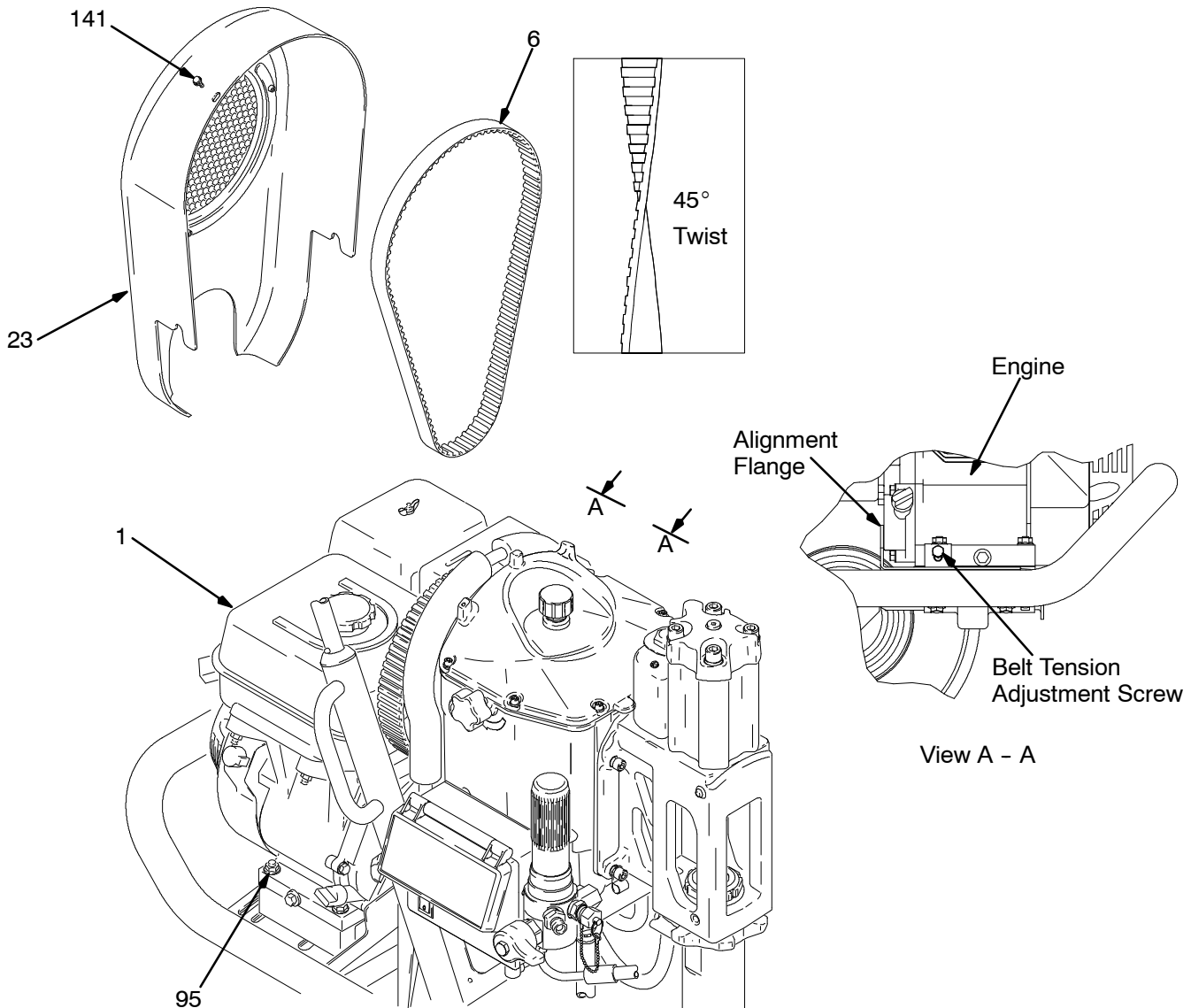



Fig. 3

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Pressure Control

Display and Control Board

Removal

1.  Relieve pressure; page 4.
2. Fig. 4. Remove four screws (100) and pressure control cover (99). Disconnect display connector from control board and remove display.
3. Disconnect wiring from switch (93).
4. Remove two screws (74) and switch panel (97).
5. Remove six screws (72).

6. Disconnect leads and remove control board (315).

Installation

1. Install control board (315) (Manual 309452) and connect leads.
2. Install six screws (72).
3. Install switch panel (97) with two screws (74).
4. Connect wiring to switch (93).
5. Install display and connect display connector to control board. Install pressure control cover (99) with four screws (100).

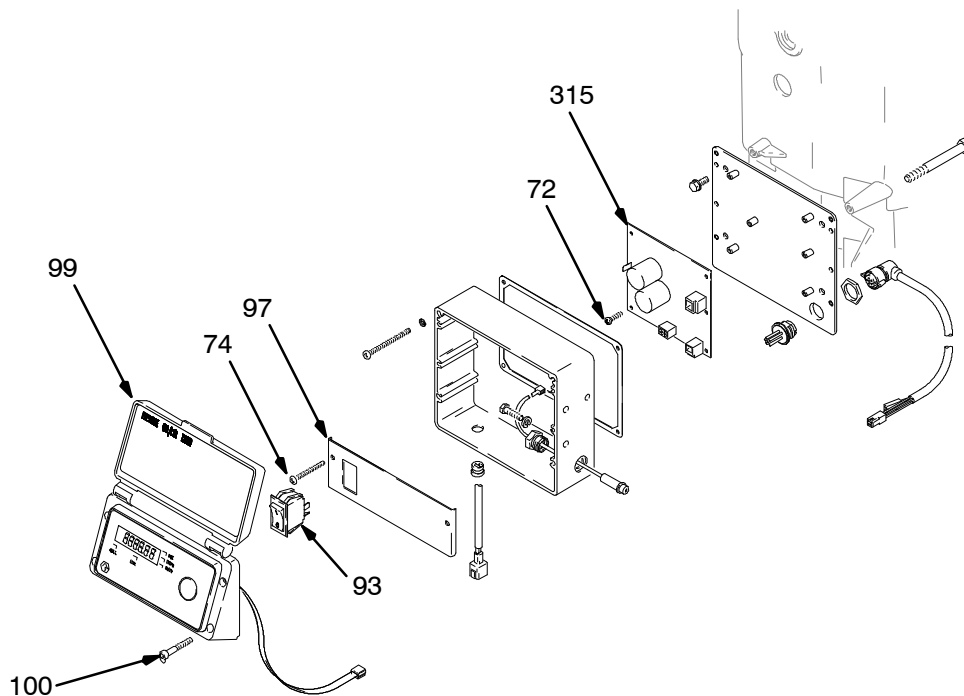


Fig. 4

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Pressure Control

Digital Tracking System™ (DTS)

The DTS contains stored data to assist with job control, troubleshooting and maintenance.

General

The DTS has Main and Secondary operation menus:

Main Menu – Three modes/displays (four if AutoClean is installed). The sprayer automatically enters the Main Menu when the engine starts.

- Pressure – Fluid pressure at sprayer. Pressure is default display and is displayed at start-up.
- Job Gallon – Job material pumped above 1000 psi (70 bar) since Job Gallon was last reset to zero. Counts in 1 gallon or 10 liter increments.
- Lifetime Gallon – Total material pumped above 1000 psi (70 bar) over lifetime of sprayer. Counts in 1 gallon or 10 liter increments.
- AutoClean Shut-Off Timer – Automatically shuts pump off after approximately 4.5 gallons of material have been pumped. Used with AutoClean kit 245159

Secondary Menu – Consists of sprayer set-up, and diagnostic tools. To enter this menu requires that you start the engine, hold down the DTS button and turn on the pump switch

Sprayer Set-Up

- Resettable Hour Meter – Total engine on or running hours since the resettable hour meter was last reset to zero. Counts in 1 hour increments.
- Lifetime Hour Meter – Total engine on or running hours over the lifetime of the sprayer. Counts in 1 hour increments.

- Lifetime Gallon Counter – Total material pumped at all pressures over the lifetime of the sprayer. Counts in 1 gallon or 10 liter increments.

Diagnostic Tools – uP and dn displays indicate whether current is present at proximity sensors

Diagnostics

UP

- UP – displays to indicate no current is present at electronic valve
- Pump moves to up position, and gal LED light indicates a complete circuit to upper proximity sensor

dn

- dn – displays to indicate current is present at electronic valve
- Pump moves to down position, and liter LED lights indicates a completed circuit to lower proximity sensor

Software/Equipment information

There are two informational displays that may be accessed:

Software revision level
Equipment model number

Operation

The operation instructions for the DTS are contained in Operation Manual 309378.

DTS Error Codes



No display does not mean that sprayer is not pressurized. Relieve pressure before repair; page 4.

DISPLAY	SPRAYER OPERATION	INDICATION	ACTION
E:02	Engine runs. Pump stops.	Pressure exceeded 4900 psi (338 bar, 34 MPa)	Correct over-pressure. Check transducer and board. Take to service.
E:03	Engines runs. Pump operates. No pressure displays.	Pressure transducer faulty, bad connection or broken wire.	Check transducer connection. Open drain valve. Replace new transducer for the sprayer. If sprayer is in place transducer.
E:07 (AutoClean)	Engine runs. AutoClean timer cancels.	Pressure exceeded 2000 psi (338 bar, 34 MPa) while in AutoClean.	Turn directional valve OFF then ON.
E:07 (Setup)	Engine runs. Setup is exited.	Pressure exceeded 500 psi (34 bar, 3.4 MPa) while in Setup.	Turn directional valve OFF then ON.
- - - -	Engine runs. Pump switch OFF	Normal condition	Turn pump switch ON. Increase pressure.

After a fault, follow these steps to restart sprayer:

1. Correct fault condition
2. Turn pump switch OFF
3. Turn pump switch ON

Engine

Removal

1. Do **Fan Belt, Removal**; page 8.
2. Fig. 5. Disconnect all necessary wiring.
3. Fig. 6. Remove four engine mounting fasteners from underside of engine.

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

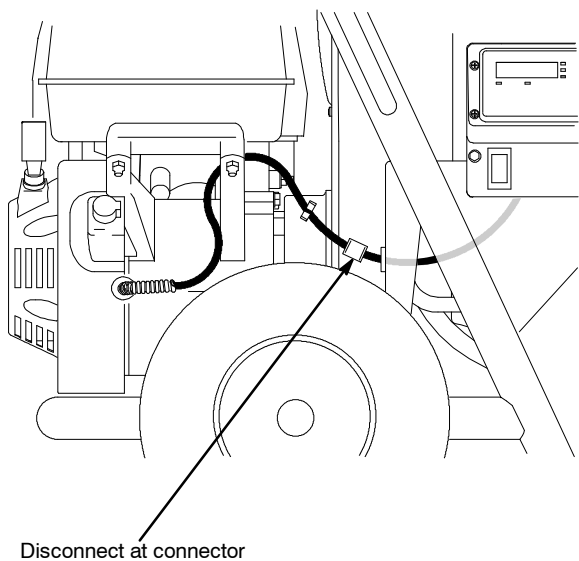


Fig. 5

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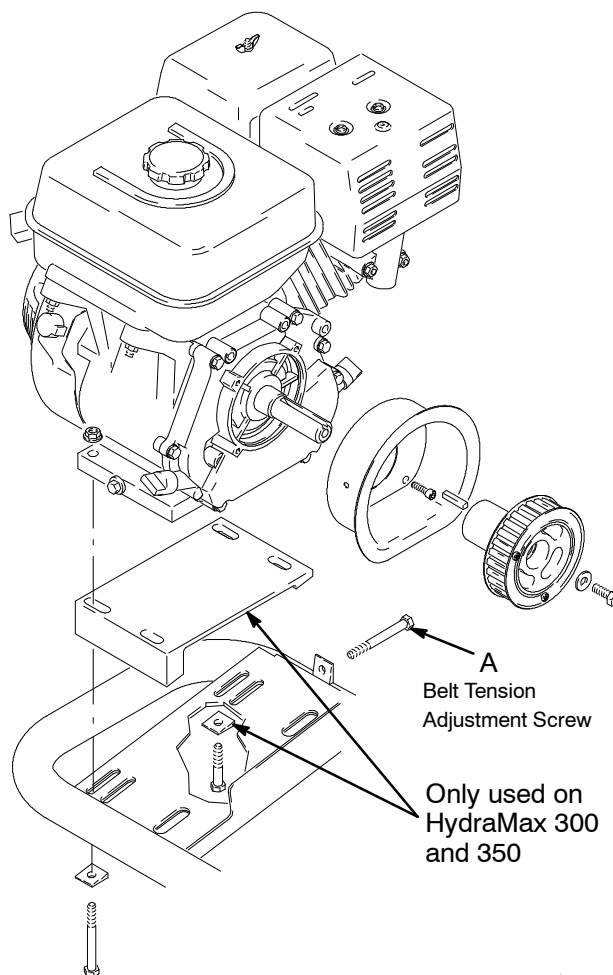


Fig. 6


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Installation

1. Fig. 6. Install four engine mounting fasteners on underside of engine and secure with locknuts (71). Torque to 200 in-lb (22.6 N•m).
2. Fig. 5. Connect all necessary wiring.
3. Do **Fan Belt, Installation**; page 8.

Hydraulic Motor

Removal

1.  Relieve pressure; page 4.
2. Remove screw (183), sensor bracket (184), sensor (47) and lock washer (185) from cylinder sleeve (36).
3. Fig. 7. Remove four cap screws (33), washers (128) and cylinder cap (34).
4. Remove o-ring (44) from cylinder sleeve (36).
5. Remove screw (141) and cover (106).
6. Disconnect magnetic sensor (47).
7. Check for set screw (186). If installed, remove.
8. Remove cylinder sleeve (36).
9. Remove hydraulic cylinder (37) and o-ring (44).

Installation

1. Install o-ring (44) and hydraulic cylinder (37),
2. Install sensor bracket (184), sensor (47) and lock washer (185) to cylinder sleeve (36) with screw (183).
3. Install cylinder sleeve (36).
4. Tighten set screw (186).
5. Connect magnetic sensor (47).
6. Install cover (106) with screw (141).
7. Install cylinder sleeve (36) and o-ring (44).
8. Install cylinder cap (34) with four washers (128) and cap screws (33). Torque capscrews (33) in an alternating 1, 2, 3, 4 sequence at a torque of 55 +/- 5 ft-lb.

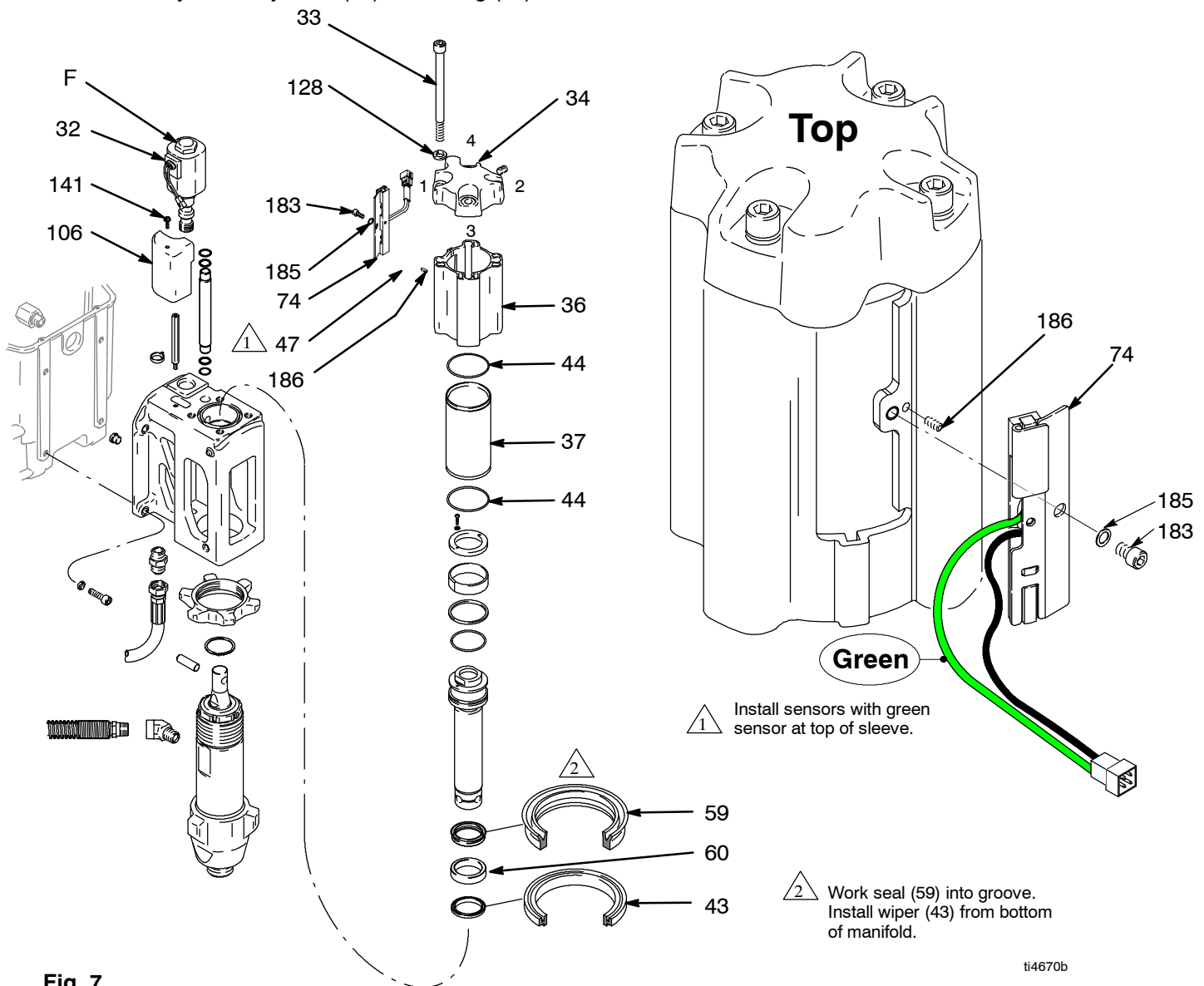




Fig. 7

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Directional Valve and Hydraulic Motor Switches

Directional Valve

Removal

1.   Relieve pressure; page 4.
2. Fig. 7. Remove large hex nut (F) on top of valve (32).
3. Slide coil off valve.
4. Remove valve body.

Installation

1. Install valve body by tightening large nut next to hydraulic manifold. Torque to 65 +/-5 ft-lb.

2. Slide coil onto valve.
3. Install large hex nut (F) on top of valve (32). Torque nut to 10 +/-1 ft-lb.

Hydraulic Motor Switches

The magnetic motor switches sense the piston position and energize/de-energize the solenoid to change the hydraulic fluid flow.

1.   Relieve pressure; page 4.
2. Follow Hydraulic Motor Removal/Installation.

Displacement Pump

See manual 309277 for pump repair instructions.

Removal

1. Flush pump.

2.  Relieve pressure; page 4.

3. Fig. 8. Remove suction tube and paint hose (remove at swivel end).

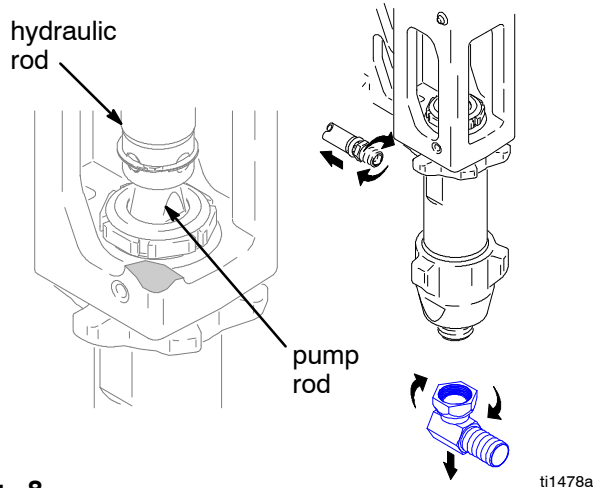


Fig. 8

ti1478a

4. Fig. 9. Push retaining spring up; push out pin (21).

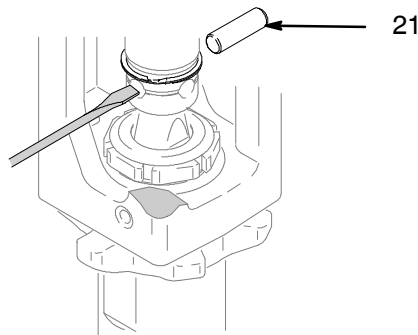


Fig. 9

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5. Fig. 10. Loosen locknut with hammer. Unscrew pump.

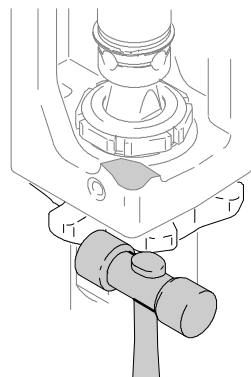


Fig. 10

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Installation

⚠ WARNING

If pin works loose, parts could break off and project through the air and result in serious injury or property damage. Make sure pin is properly installed.

CAUTION

If the pump jam nut loosens during operation, the threads of the bearing housing and drive train will be damaged. Tighten jam nut as specified.

1. Fig. 11. Enter Diagnostic (Manual 309378). Short press DTS button to send hydraulic piston rod down. Screw in pump until holes in pump rod and hydraulic rod align.

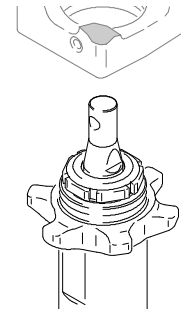


Fig. 11

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2. Fig. 9. Push pin (21) into hole. Push retaining spring into groove.

Fig. 12. Screw pump into hydraulic motor manifold until it is positioned as shown. Back off pump to align pump outlet with hose. Hand tighten jam nut, then tap 1/8 turn with hammer or torque to 150 ft-lb (203 N·m) (233640/641), 200 ft-lb (271 N·m).

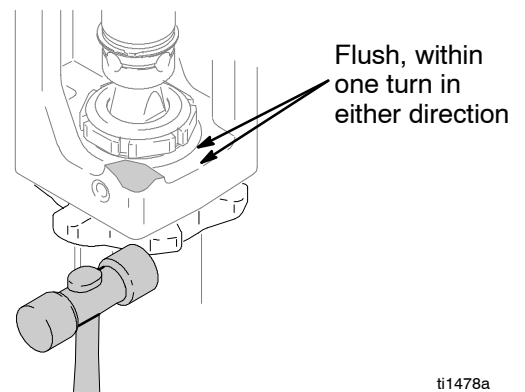


Fig. 12

ti1478a

- Fig. 13. Fill packing nut with Graco TSL.

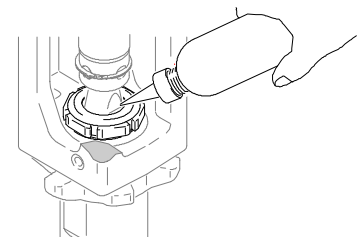
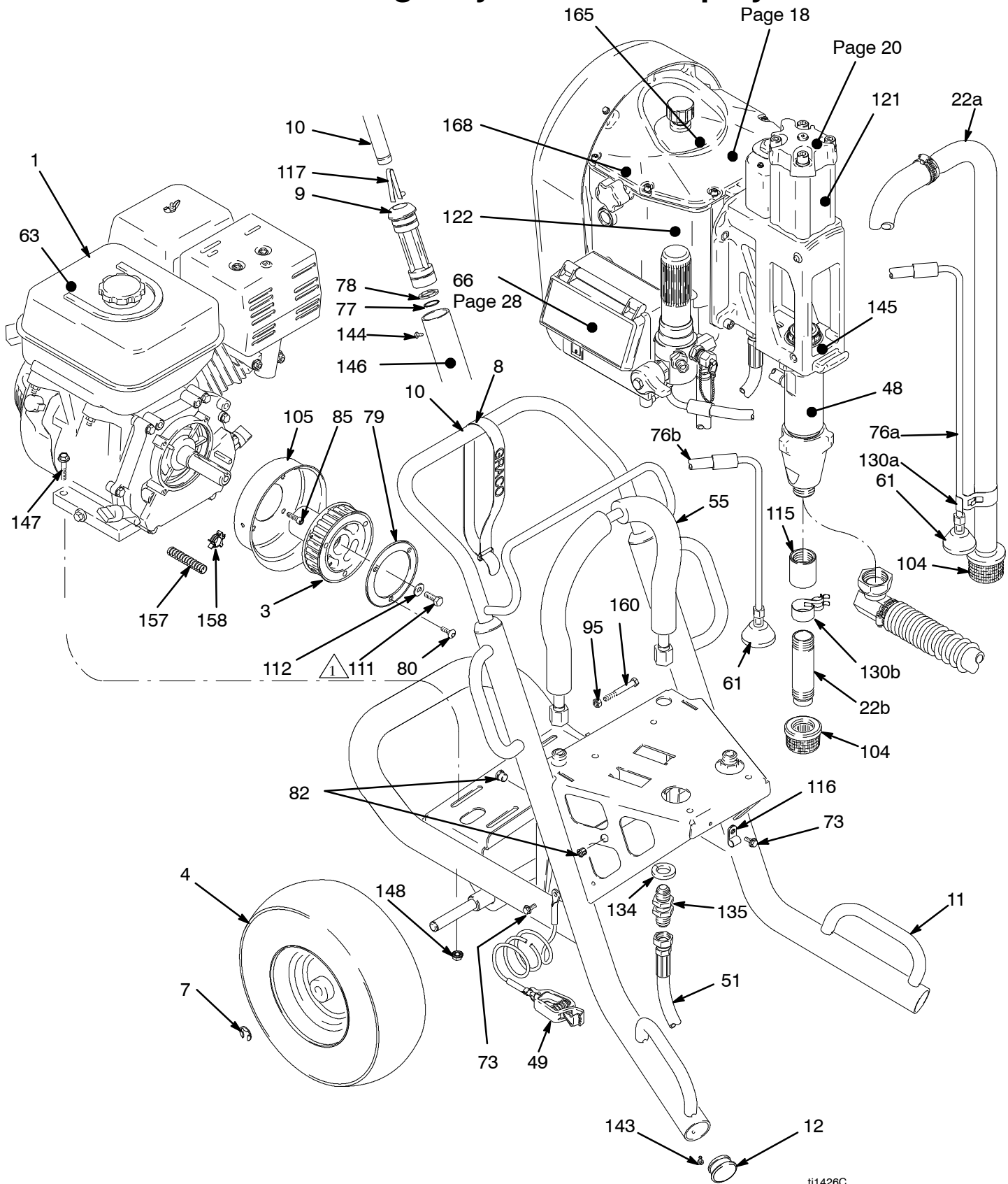


Fig. 13

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Parts Drawing - HydraMax 225 Sprayers



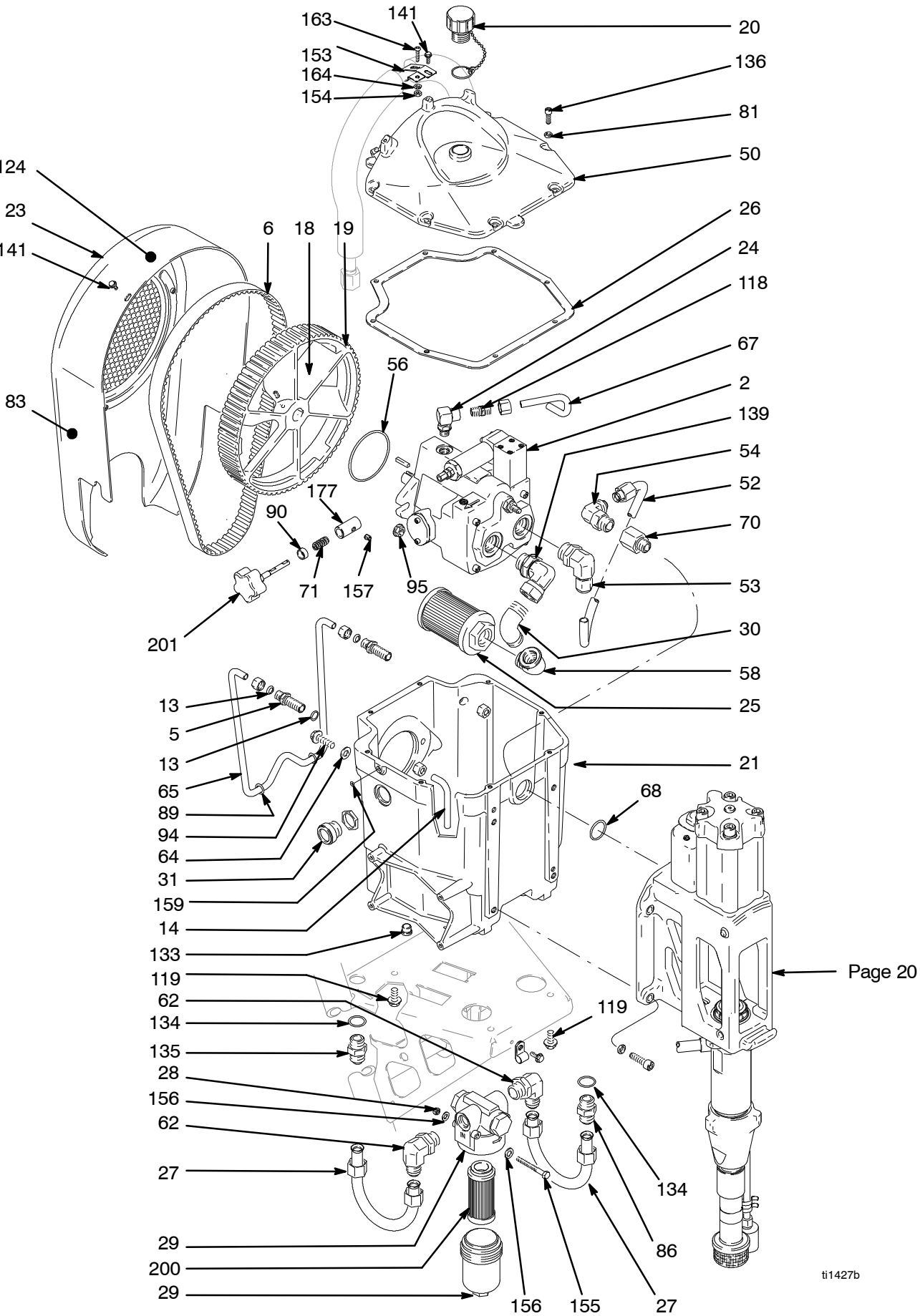
△ Apply anaerobic adhesive and torque to 190 - 210 in-lb

Parts List - HydraMax 225 Sprayers

Models 233640 and 233641

Ref				Ref			
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	116080	ENGINE, 6.5 hp	1	104†*	189920	STRAINER	1
3	244949	PULLEY, gearbelt includes 79, 80	1	105	198225	SHIELD, engine shaft	1
4	116399	WHEEL, pneumatic, 13"	2	111	108842	SCREW, cap, hex head	1
7	101242	RING, retaining, ext.	2	112	804523	WASHER, plain	1
8	114271	STRAP, retaining	1	115*	114967	COUPLING, pipe, 1 in.	1
9	191084	SLEEVE, cart	2	116	108868	CLAMP, wire	1
10	243962	HANDLE, cart, GH	1	117	112827	BUTTON, snap	2
11	243960	CART, GH1	1	121	198409	LABEL	1
12	193682	PLUG, tube	2	122	198535	LABEL	1
22a†	245473	TUBE, suction, inlet	1	130a†	196723	CLIP, spring	1
22b*	245472	TUBE, Intake	1	130b*	194194	CLIP, spring	1
48	244954	PUMP, displacement	1	134	101533	WASHER, spring lock	2
49	237686	CLAMP, grounding assy	1	135	116582	FITTING, bulkhead, hydraulic	2
51	196610	HOSE, return	1	143	114984	SCREW, tapping, phillips pan hd	2
55‡	244987	RADIATOR, oil reservoir	1	144	108795	SCREW, mach, pnh	4
61	241920	DIFFUSER	1	145▲	192840	LABEL, warning	1
63▲	194126	LABEL, warning	1	146§	290228	LABEL, caution	4
66		CONTROL, pressure, page 28	1	147	110837	SCREW, flange, hex head	4
73	112798	SCREW, thread forming, hex hd	1	148	110996	NUT, hex, flanged	4
76a†	246331	HOSE, drain (Lo-Boy) includes 61	1	157	198586	CONDUIT, corrugated	1
76b*	244240	HOSE, drain (Hi-Boy) includes 61	1	158	116785	CLIP	1
77	110243	RING, retaining	2	160	116777	SCREW	1
78	183350	WASHER	2	165§	198585	LABEL	1
79	198060	RING, pulley	2	168§	198584	LABEL, pressure	1
80	113415	SCREW	6		290011	LABEL, serial (underside of cart)	1
82	114678	BUSHING, strain relief	2	▲ DANGER and WARNING labels are available at no charge. † Included in Accessory Suction Kit 245249 (Model 641) * Included in Accessory Suction Kit 245242 (Model 640) ‡ Included in Cooler Repair Kit 245488 § Included in Cover Repair Kit 245489			
85	C20010	SCREW, cap, socket head	1				
95	112958	NUT	1				

Parts Drawing - HydraMax 225 Sprayers

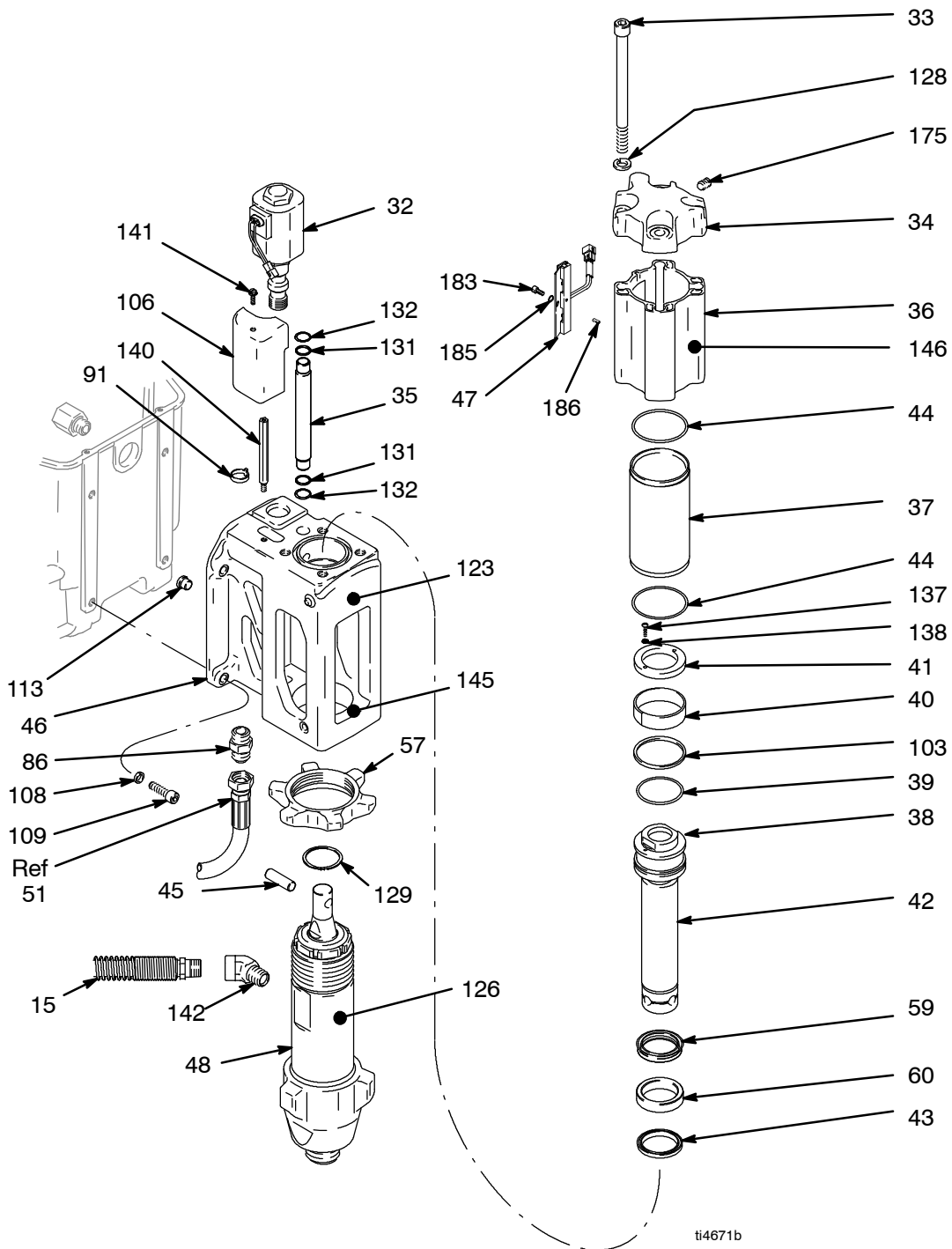


Parts List - HydraMax 225 Sprayers

Models 233640 and 233641

Ref				Ref			
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
2	116068	PUMP, hydraulic	1	71	117241	SPRING	1
5f	116060	FITTING, bulkhead, hydraulic	2	81	100016	WASHER, lock	8
6	116061	BELT, gearbelt, 'H'1/2	1	83▲	194317	LABEL, danger, English	1
13f	110925	PACKING, o-ring	2	86	116547	FITTING	1
14	198321	PIPE, case drain	1	89f	154594	O-RING	2
18	100002	SCREW, set, sch	2	90	15A572	SPRING HOLDER	1
19	197444	PULLEY, fan, gearbelt, h, 1/2 pitch	1	94	801546	SCREW, cap, hex hd	2
20	116047	CAP, breather	1	95	112958	NUT, hex, flanged	2
21	198068	RESERVOIR, hydraulic	1	118	116561	FITTING	1
23	245193	SHIELD, fan	1	119	116996	SCREW, hex hd, flanged, 3/8-16	4
24	116069	FITTING, elbow, hydraulic	1	124▲	198492	LABEL, warning	1
25	116085	SCREEN, suction, hydraulic oil	1	136	112166	SCREW, cap, sch	8
26§	15A312	GASKET, reservoir	1	139	116695	FITTING, elbow, str thd adapter	1
27	196606	PIPE, hydraulic, return, first	2	141‡	114631	SCREW, thread forming, hex hd	3
28	102040	NUT, locking	2	153‡	198545	CLIP, cooler	1
29	116088	MANIFOLD, filter, hydraulic oil	1	154‡	100179	NUT, 10-24 unc	1
30	108307	ELBOW, pipe, male	1	155	113469	SCREW, cap, 2-1/2 in. x 1/4-20, unc	2
31	116067	INDICATOR, oil level	1	156	110755	WASHER, plain	4
50§	196627	COVER, reservoir	1	157	103213	SET SCREW	1
52	198359	TUBE, hydraulic	1	159	154741	O-RING	1
53	116058	FITTING, elbow	1	163‡	107251	SCREW, mach, pan, hd	1
54	116696	FITTING, elbow	1	164‡	100020	WASHER, lock	1
56	112106	O-RING	1	177	15A554	COUPLER	1
58	100549	ELBOW, street, pipe, 90°	1	200	244990	KIT, repair, filter	1
62	116541	FITTING, elbow, hydraulic	2	201	246132	KIT, repair, pressure control knob	1
64	116554	WASHER	2			see 309379, Rev A, for Series A sprayers	
65f	196629	COOLER, case drain	1	▲ DANGER and WARNING labels are available at no charge.			
67	196636	TUBE, hydraulic	1	‡ Included in Cooler Repair Kit 245488			
68	113944	O-RING	1	f Included in Case Drain Cooler Repair Kit 245490			
70	116083	FITTING, reducer	1	§ Included in Cover Repair Kit 245489			

Parts Drawing - HydraMax 225 Sprayers



Parts List - HydraMax 225 Sprayers

Models 233640 and 233641

Ref				Ref			
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
15	244110	HOSE, coupled	1	109	C19839	SCREW, sch	4
32	244985	VALVE, directional	1	113	116546	PLUG	1
33	116375	SCREW, cap, socket head	4	123	198410	LABEL, manifold	1
34	197434	CAP, cylinder	1	126	194072	LABEL	1
35	197436	TUBE, hydraulic	1	128	100018	WASHER, lock, spring	4
36#	248600	SLEEVE, cylinder	1	129	116551	RING, retaining	1
37‡	245157	CYLINDER, hydraulic	1	131†	116063	RING, backup, o-ring	2
38*	197439	PISTON, hydraulic motor	1	132†	109576	PACKING, o-ring	2
39†*	178226	SEAL, piston, hydraulic motor	1	133	116754	PLUG, hex hd, hydraulic	1
40†*	178207	BEARING, piston, hydraulic motor	1	137*	116585	SCREW, pan, cross recess, sst	2
41*	197287	MAGNET, piston, hydraulic motor	1	138*	116605	WASHER, lock, external	2
42*	197441	ROD, hydraulic motor	1	140	198166	SPACER, standoff, m/f	1
43†*	112341	WIPER, rod	1	141	114631	SCREW, thread forming, hex hd	1
44†#‡*	116619	PACKING, o-ring	2	142	116756	ELBOW, 45°	1
45	197443	PIN, pump	1	182#§		SCREW, 6 mm x 3 mm, sst	2
46	197442	MANIFOLD, motor, hydraulic	1	183#	116527	SCREW, 10-32, sst	2
47#§	287607	SENSOR, kit	1	184#§		BRACKET, sensor, 225	1
48	244954	PUMP, displacement	1	185#	112906	WASHER, lock, # 10, sst	2
57	193394	NUT, retaining	1	186#	119453	SCREW, set, sst, 4-40 x 3/16	1
59†*	112561	PACKING, block	1	187#§		BRACKET, sensor, back	1
60†*	112342	BEARING, rod	1				
69	162485	FITTING	1				
86	116547	FITTING	1				
91	103473	STRAP, tie wire	1				
102†*	108014	O-RING	1				
103*	105765	PACKING, o-ring	1				
106	276667	COVER, valve	1				
108	106115	WASHER, lock	4				

▲ DANGER and WARNING labels are available at no charge.

* Included in Piston Rod Repair Kit 245156 (Parts not sold separately; except 197287, which may be ordered separately)

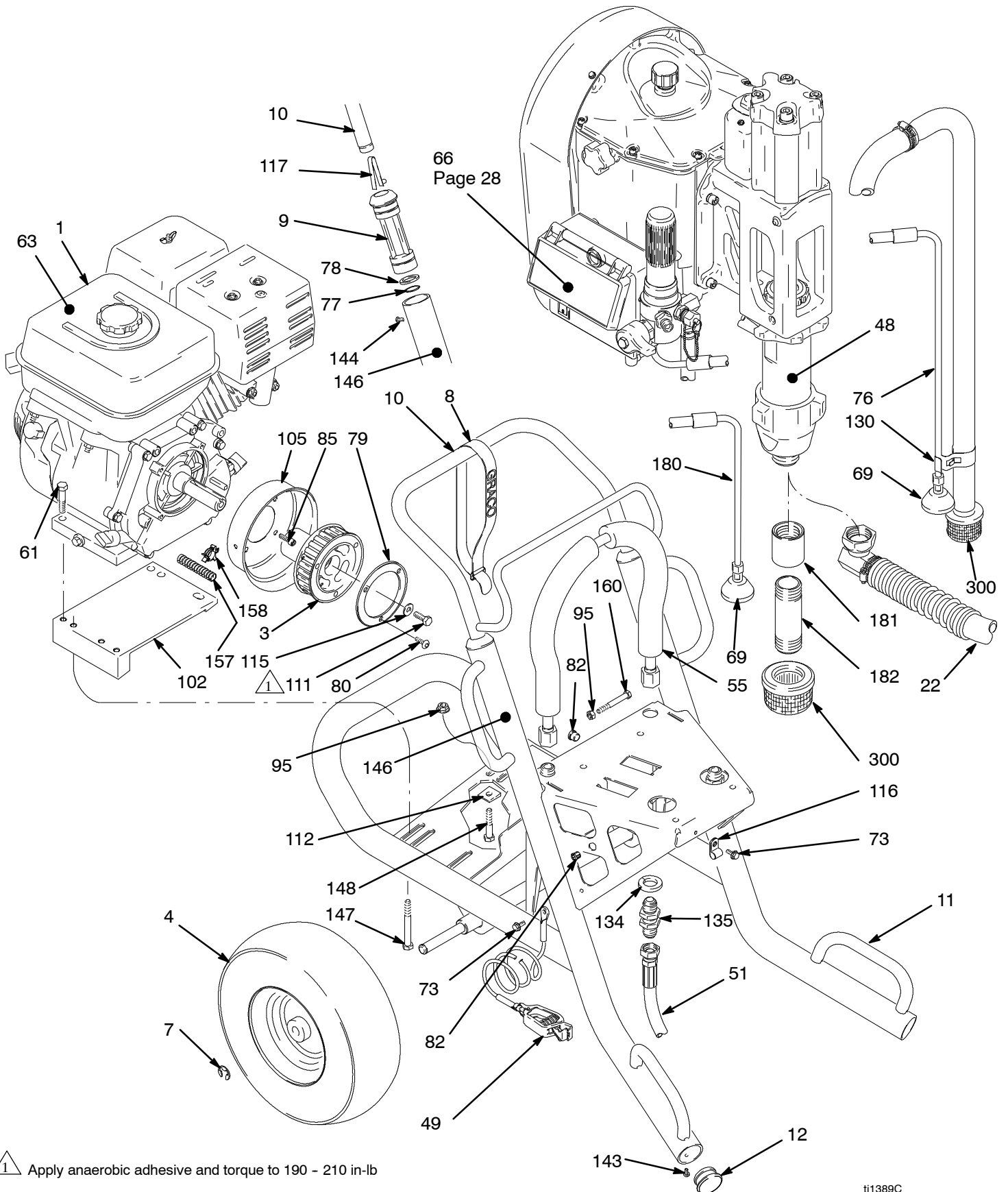
† Included in Hydraulic Seal Repair Kit 244997

‡ Included in Sleeve Repair Kit 245157


Included in Sensor/Sleeve Repair Kit 248598

§ Included in Sensor Repair Kit 287607

Parts Drawing - HydraMax 300/350 Sprayers



66 Page 28

 Apply anaerobic adhesive and torque to 190 - 210 in-lb

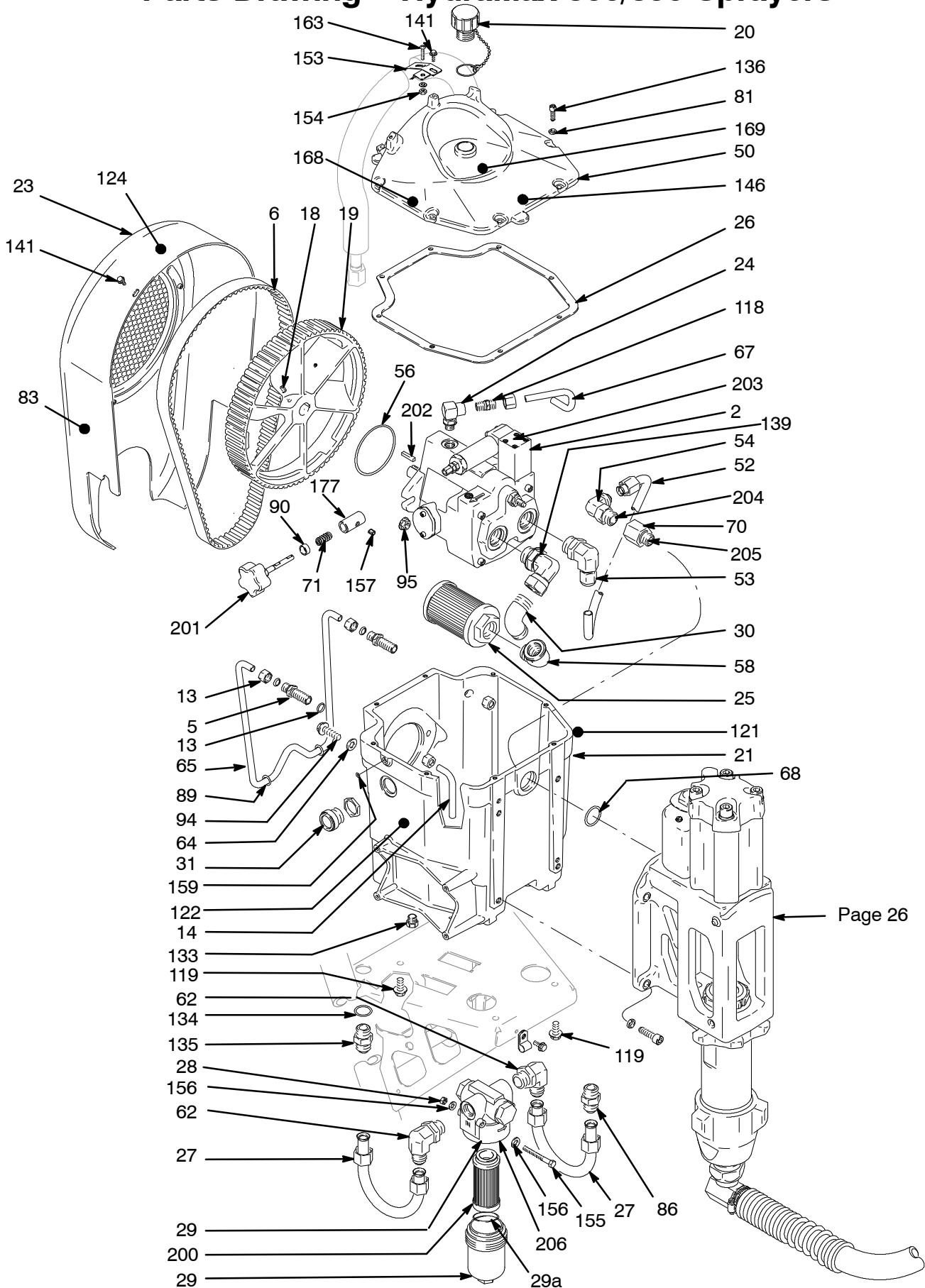
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Parts List - HydraMax 300/350 Sprayers

Model 233650 and 233660

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1		ENGINE		105	198206	SHIELD, engine shaft	1
	116081	Model 300, 9.0 hp	1	111	116645	SCREW, cap, hex head	1
	116082	Model 350 11.0 hp	1	112	116739	WASHER, bevel, square	4
3	243961	PULLEY, gearbelt includes 79, 80	1	115	100696	WASHER, plain	1
4	116399	WHEEL, pneumatic, 13"	2	116	108868	CLAMP, wire	1
7	101242	RING, retaining, ext.	2	117	112827	BUTTON, snap	2
8	114271	STRAP, retaining	1	130*†#	198542	CLIP, spring	1
9	191084	SLEEVE, cart	2	134	101533	WASHER, spring lock	2
10	243962	HANDLE, cart, GH	1	135	116582	FITTING, bulkhead, hydraulic	2
11	244511	CART, GH2/3	1	143	114984	SCREW, tapping, phillips pan hd	2
12	193682	PLUG, tube	2	144	108795	SCREW, mach, pnh	4
22*	245468	TUBE, suction, inlet	1	146	290228	LABEL, caution	2
48	244957	PUMP, displacement	1	147	111192	SCREW, cap, hex head	2
49	237686	CLAMP, grounding assy	1	148	105431	SCREW, cap, hex hd	2
51	196610	HOSE, hydraulic return	1	157	198586	CONDUIT, corrugated	1
55‡	244987	RADIATOR, oil reservoir	1	158	116785	CLIP	1
61	112785	SCREW, flanged, hex hd	2	160	116777	SCREW	1
63▲	194126	LABEL, warning	1		290011	LABEL, serial (underside of cart)	1
66		CONTROL, pressure, page 28	1	180†	244240	RETURN LINE	1
69*†	241920	DEFLECTOR	1	181†#	116985	COUPLING	1
73	112798	SCREW, thread forming, hex hd	2	182†#	116984	NIPPLE	1
76*	245440	HOSE, drain includes 69	1	300*†#	237840	SCREEN	1
78	183350	WASHER	2	203	113574	O-RING	1
79	198060	RING, pulley	2	204	110926	O-RING	1
80	113415	SCREW	6	205	110987	O-RING	1
82	114678	BUSHING, strain relief	2	206	115079	O-RING	1
85	C20010	SCREW, cap, socket head	4	▲ DANGER and WARNING labels are available at no charge.			
95	112958	NUT	2	* Included in Accessory Suction Kit 245250			
102	198502	SPACER, mount, motor	1	† Included in Accessory Siphon and Drain Kit 245471			
				# Included in Accessory Siphon Kit 245470			
				‡ Included in Cooler Kit 245488			

Parts Drawing - HydraMax 300/350 Sprayers



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Parts List - HydraMax 300/350 Sprayers

Model 233650 and 233660

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
2		PUMP, hydraulic		90	15A572	SPRING HOLDER	1
	116699	Model 300	1	94	100004	SCREW, cap, hex hd	2
	116700	Model 350	1	95	112958	NUT	2
5*	116060	FITTING, bulkhead, hydraulic	2	118	116561	FITTING	1
6	116059	BELT, gearbelt, 'H'1/2	1	119	116996	SCREW, hex hd, flanged, 3/8-16	4
13*	110925	PACKING, o-ring	2	121		LABEL, ident, right side	1
14	198321	PIPE, case drain	1		198536	Model 300	1
18	100002	SCREW, set, sch	2		198538	Model 350	1
19	197444	PULLEY, fan, gearbelt, h, 1/2 pitch	1	122		LABEL, ident, left side	1
20	116047	CAP, breather	1		198537	Model 300	1
21	15A249	RESERVOIR, hydraulic, machining	1		198539	Model 350	1
23	245193	SHIELD	1	124▲	198492	LABEL, warning	1
24	116069	FITTING, elbow, hydraulic	1	133	116754	PLUG, hex hd, hydraulic	1
25	116085	SCREEN, suction, hydraulic oil	1	134	101533	WASHER, spring lock	2
26†	15A312	GASKET, reservoir	1	135	116582	FITTING, bulkhead, hydraulic	2
27	196606	PIPE, hydraulic, return, first	2	136	112166	SCREW, cap, sch	8
28	102040	NUT	2	139	116695	FITTING, elbow, str thd adapter	1
29	116088	MANIFOLD, filter, hydraulic oil	1	141‡	114631	SCREW, thread forming, hex hd	3
29a	115079	PACKING, o-ring	1	146*	290228	LABEL, caution	1
30	108307	ELBOW, pipe, male	1	153‡	198545	CLIP, cooler	1
31	116067	INDICATOR, oil level	1	154‡	100179	NUT, 10-24 unc	1
50†	245489	COVER, reservoir	1	155	113469	SCREW, cap, 2-1/2 in. x 1/4-20, unc	2
		includes 26, 146, 168, 169		156	110755	WASHER, plain	4
52	198359	TUBE, hydraulic	1	157	103213	SET SCREW	1
53	116058	FITTING, elbow	1	159	154741	O-RING	1
54	116696	FITTING, elbow	1	163‡	107251	SCREW	1
56	112106	O-RING	1	164‡	100020	WASHER	1
58	100549	ELBOW, street, pipe, 90°	1	168*	198584	LABEL, pressure	1
62	116541	FITTING, elbow, hydraulic	2	169*	198585	LABEL, hydraulic fluid	1
64	116554	WASHER	2	177	15A554	COUPLER	1
65*	196629	COOLER, case drain	1	200	244990	KIT, repair, filter	1
67	196636	TUBE, hydraulic	1	201	246132	KIT, repair, pressure control knob	1
68	113944	O-RING	1			see 309379, Rev A, for Series A sprayers	
70	116083	FITTING, reducer	1				
71	117241	SPRING	1	202	117632	KEY, square	1
81	100016	WASHER, lock	8				
83▲	194317	LABEL, warning	1				
86	116547	FITTING, connector, straight thd	2				
89*	154594	O-RING	2				

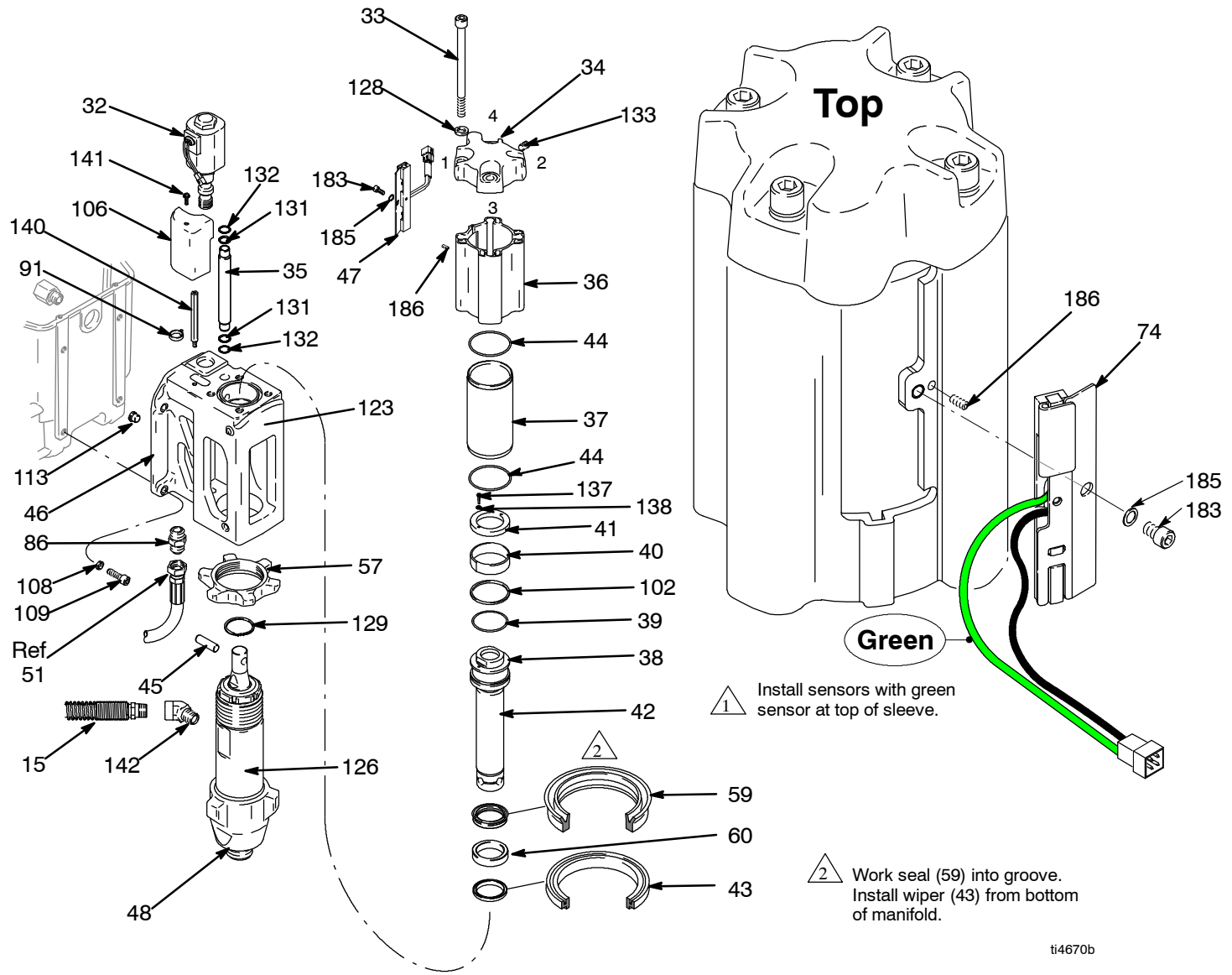
▲ DANGER and WARNING labels are available at no charge.

* Included in Case Drain Cooler Kit 245490

† Included in Cover Kit 245489

‡ Included in Cooler Kit 245488

Parts Drawing - HydraMax 300/350 Sprayers



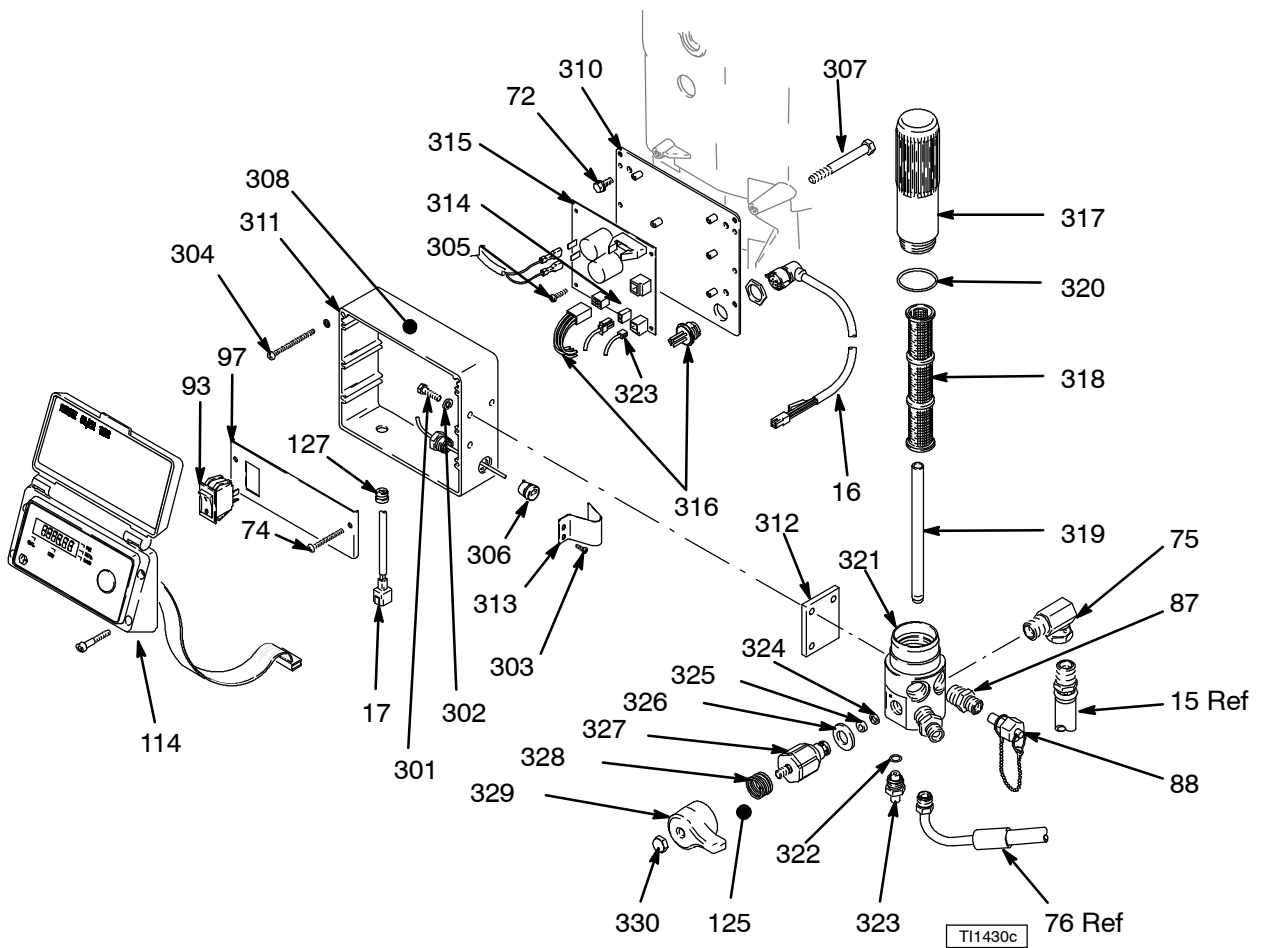
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Parts List - HydraMax 300/350 Sprayers

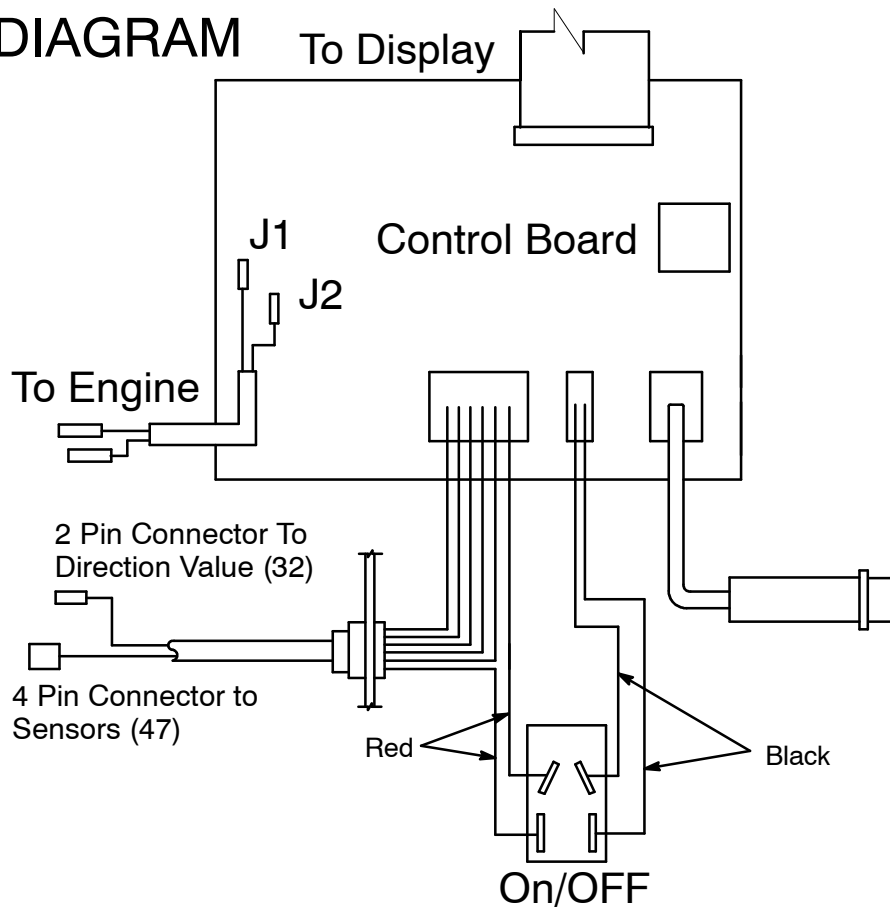
Model 233650 and 233660

Ref				Ref			
No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
15	245201	HOSE, coupled	1	123	198410	LABEL	1
32	244985	VALVE, directional	1	126	194072	LABEL	1
33	116376	SCREW, cap, socket head	4	125▲	195119	LABEL, warning	1
34	196626	CAP, cylinder	1	128	100018	WASHER, lock	4
35	196630	TUBE, hydraulic	1	129	116550	RING, retaining	1
36#	248601	SLEEVE, cylinder	1	131†	116063	RING, backup, o-ring	2
37	244991	CYLINDER, hydraulic	1	132†	109576	PACKING, o-ring	2
38*	196632	PISTON, hydraulic motor	1	137*	116585	SCREW, pan, cross recess, sst	2
39†*	116089	SEAL, piston, hydraulic motor	1	138*	116605	WASHER, ext tooth	2
40†*	116090	BEARING, piston, hydraulic motor	1	140	198166	SPACER, standoff, m/f	1
41*	196653	MAGNET, piston, hydraulic motor	1	141	114631	SCREW, thread forming, hex hd	1
42*	196633	ROD, hydraulic motor	1	142	116755	FITTING, elbow	1
43†*	116064	WIPER, rod	1	145▲	192840	LABEL, warning	1
44†#*	116084	PACKING, o-ring	2	146	290228	LABEL, caution	1
45	196614	PIN, pump	1	175	100139	PLUG, pipe, headless	1
46	196639	MANIFOLD, motor, hydraulic	1	182#§		SCREW, 6 mm x 3 mm, sst	1
47#§	287608	SENSOR, kit	1	183#	116527	SCREW, 10-32, sst	1
48	244957	PUMP, displacement	1	184#§		BRACKET, sensor, 300/350	1
57	196411	NUT, retaining	1	185#	112906	WASHER, lock, # 10, sst	1
59†*	116065	SEAL, rod	1	186#	119453	SCREW, set, sst, 4-40 x 3/16	1
60†*	116776	BEARING, rod	1	187#§		BRACKET, sensor, back	1
86	116547	FITTING	1	▲ DANGER and WARNING labels are available at no charge. † Include in Hydraulic Seal Repair Kit 244998 * Included in Piston Rod Repair Kit 244995 (Parts NOT sold separately for #38 & #42) # Included in Sensor/Sleeve Repair Kit 248599 § Included in Sensor Repair Kit 287608			
91	103473	STRAP, tie wire	1				
103†	162942	PACKING, o-ring	1				
106	276667	COVER, valve	1				
108	106115	WASHER, lock	4				
109	C19839	SCREW, shc	4				
113	116546	PLUG	1				

Parts Drawing - HydraMax 225/300/350 Sprayers



WIRING DIAGRAM



Parts List - HydraMax 225/300/350 Sprayers

Model 233650 and 233660

Ref	Part No.	Description	Qty	Ref	Part No.	Description	Qty
16‡	243985	CABLE, power	1	99*	244032	COVER, control	1
17‡		CABLE, power		100*	116252	SCREW	4
	244946	Model 225	1	101*	198425	LABEL, GH, LCD	1
	243986	Model 300/350	1	114*	244982	BOARD, display, LCD	1
301‡	100021	SCREW, cap, hex, hd	3	118	116561	FITTING, male, connector, hyD	1
302‡	105510	WASHER, lock, spring	3	120*	198424	LABEL, GH LCD instruction	1
303‡	105685	SCREW, thread forming	2	125▲	195119	LABEL, WARNING	1
304‡	107183	SCREW, cap, socket	2	127‡	114425	BUSHING, strain relief	1
305‡	111839	SCREW, mach, pan, hd		317‡#	196675	BOWL, filter	1
306‡‡	116893	BUSHING, strain relief	1	318‡#	244067	FILTER, fluid	1
307‡	198904	SCREW, #8	4	319‡#	196786	DIFFUSER, tube	1
308‡	189246	LABEL, warning	1	320‡#	104361	O-RING	1
310‡	196883	PLATE, control	1	321‡#	196634	HOUSING, filter	1
311‡	197968	HOUSING	1	322‡‡	111457	O-RING	1
312‡	198504	SPACER	1	323‡‡	243222	TRANSDUCER, pressure	1
313‡	198526	GUARD, transducer	1	324‡§	193710	SEAL, seat valve	1
314‡	243959	HARNESS, wiring	1	325‡§	193709	SEAT, valve	1
315‡	244981	BOARD, control, gas	1	326‡§	114797	GASKET	1
316‡	244139	HARNESS, wiring	1	327‡§	245103	VALVE, drain	1
72‡	112774	SCREW, mach	6	328‡§	114708	SPRING	1
74‡	114393	SCREW, mach, pan hd	2	329‡§	194102	HANDLE, valve	1
75		UNION, swivel 90°		330‡§	114688	NUT, cap	1
	161037	Model 225	1	▲ <i>DANGER and WARNING labels are available at no charge.</i>			
	155470	Model 300/350	1	‡ <i>Included in Transducer Repair Kit 244984</i>			
84*	115522	SCREW, mach, pnh	3	* <i>Included in Display Repair Kit 244982</i>			
87	159239	FITTING, nipple, pipe, rdcg	2	‡ <i>Included in Pressure Control Kit 244935 which includes kits 244933, 245103 and 244984</i>			
88	237479	CAP, filter	1	# <i>Included in Filter Kit 244933</i>			
93‡	116270	SWITCH	1	§ <i>Included in Drain Valve Kit 245103</i>			
97‡	197993	PLATE, switch	1				
98*	197148	LABEL, smart control	1				

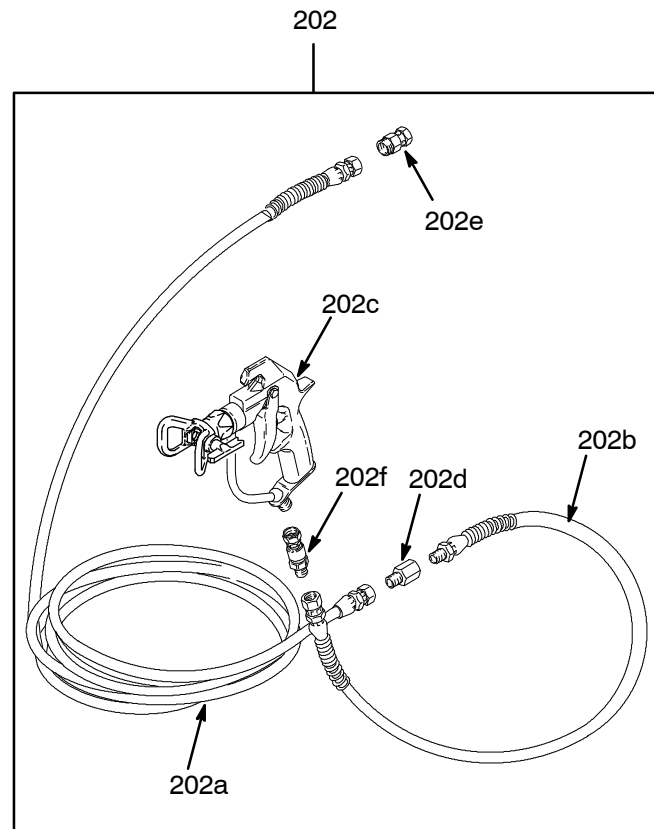
HydraMax Sprayers with Spray Gun and Hoses

HydraMax 225, 300 and 350 Sprayers

Models 233642, 233643, 233651, 233661

Includes items 202 to 202f

Ref No.	Part No.	Description	Qty
202		KIT, Hose and Gun	1
	287043	Models 233642, 233643, 233651	1
	244925	Model 233661	1
202a		HOSE, 50 ft	1
	H53850	Model 233661 grounded, nylon; 3/8 in. ID; cpld 3/8 (mbe); 50 foot (15 m); spring guards both ends 5000 psi (345 bar, 34.5 MPa)	1
	244340	Models 233642, 233643, 233651 grounded, nylon; 3/8 in. ID; cpld, 3/8 npsm(fbe) swivel nut; 50 foot (15 m); spring guards both ends 3600 psi (227 bar, 27.7 MPa)	1
202b		HOSE, 3 ft	1
	H52503	Model 233661 grounded, nylon; 1/4 in. ID; cpld 1/4 npsm(fbe) swivel; 3 foot (0.9 m); spring guards both ends 5000 psi (345 bar, 34.5 MPa)	1
	244926	Models 233642, 233643, 233651 grounded, nylon; 1/4 in. ID; cpld 1/4 npsm(f) x 3/8 npt(m) swivel; 3 foot (0.9 m); spring guards both ends 3600 psi (248 bar, 24.8 MPa)	1
202c		SPRAY GUN	
	246240	Models 233642, 233643, 233651 Silver Plus Spray Gun Includes RAC X 517-size SwitchTip™ and HandTite™ Guard See 309740 for parts	1
	241705	Model 233661 Texture Spray Gun Includes GHD631 Tip and RAC Tip Guard See 308491 for parts	1
202d	164672	Model 233661 COUPLER, 3/8 npt(f) X 1/4 npt(m)	1
202e	156849	Model 233661 UNION, swivel, 3/8 npt(f) X 3/8 npsm(f) in.	1
202f	189018	SWIVEL, 1/4 npsm(f) X 1/4 npsm(m)	1



Technical Data

Model	Hydraulic Pressure psi (bar)	Hydraulic Reservoir Capacity Gallons (Liters)	Motor HP (kW)	Cycles per gallon (liter)	Maximum Delivery gpm (lpm)	Maximum Tip size		Fluid Inlet in.	Fluid Outlet in.	
						1 gun	2 guns		npsm(m)	npt(f)
225	2035 (140)	2.75 (10.5)	6.5 (4.8)	47 (13)	2.25 (8.6)	0.050	0.035	1 npsm(m)	3/8	1/2
300	2305 (159)	2.75 (10.5)	9 (6.75)	25 (6)	3.00 (11.4)	0.055	0.037	1-1/4 npt(m)	3/8	1/2
350	2480 (171)	2.75 (10.5)	11 (8.25)	25 (6)	3.50 (13.3)	0.060	0.041	1-1/4 npt(m)	3/8	1/2

Basic Sprayer Wetted Parts:
 zinc and nickel-plated carbon steel, stainless steel,
 PTFE, acetal, chrome plating, leather, V-Max™
 UHMWPE, aluminum, stainless steel, tungsten car-
 bide, ceramic, nylon, aluminum

Dimensions

Model	Weight lb (kg)	Height in. (cm)	Width in. (cm)	Length in. (cm)
225	229 (103)	34 (86.4)	24 (61)	34 (86.4)
300	279 (126)	36 (91.4)	24 (61)	36 (91.4)
350	294 (132)	36 (91.4)	24 (61)	36 (91.4)

Sound Levels*:
 Sound Pressure 96 dB(A)
 Sound Power 110 dB(A)

* Measured at maximum normal load conditions.

Accessories

Must be purchased separately.

GRACO-APPROVED HYDRAULIC OIL

169236 5 Gallons (20 liters)
207428 1 Gallon (3.8 liters)

Graco Information

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

Graco Standard Warranty

Graco warrants all equipment listed in this manual 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 12 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.

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 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, gas engines, 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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ADDITIONAL WARRANTY COVERAGE

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

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

Graco reserves the right to make changes at any time without notice.

Original Instructions. This manual contains English. MM 309379

Graco Headquarters: Minneapolis

International Offices: Belgium, China, Japan, Korea

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