

Speeflo[®]

Owner's Manual

For professional use only

Do not use this equipment before reading this manual!

PowerTwin 5500DI




Model Number 449-500

NOTE: This manual contains important warnings and instructions. Please read and retain for reference.

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WARNING: The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

U.S. Patents: 3,936,002; 4,220,286; 4,457,472; 4,508,268; 4,494,697; 4,500,119; 4,626,004; 4,611,758; 4,744,571; 4,728,213; 4,768,932; 4,755,638; 4,768,929; 4,840,543; 4,908,538; 5,074,467; 5,425,506

PowrTwin 5500DI

Congratulations on having selected the finest airless sprayer available in the world. Speeflo piston pumps are tireless workhorses - so tough they are virtually indestructible, even under the most severe service. Speeflo designs and builds equipment with superior quality and reliability. Equipment that will last for years with minimal maintenance and downtime. This equipment will make you money year after year. We thank you for your purchase and welcome you to our large and growing family of Speeflo users.

The unique ability of this PowrTwin 5500DI to operate with either gas or electric power provides you with the flexibility to work indoors or outside where no electricity is available.

Hydraulic drive makes possible the longest stroke and slowest cycling pumps in the industry which translates into low maintenance and longer life. Electric units operate quietly with no motor starting and stopping.

The PowrTwin 5500DI is equipped with Speeflo's exclusive and patented Severe Service 500™ fluid pump. This technology will give you significantly longer rod, cylinder, and packing life than any other sprayer built in the world. This double ball piston pump employs a dependable and durable time-tested design. All pumps use an exclusive thick hard chrome plating on rod and cylinder parts. This patented plating process is harder than nitralloy, stainless steel, or hard chrome used by any other paint pump manufacturer and much more abrasion resistant. Highly polished parts reduce friction, extend packing life, and avoid damage from corrosion and abrasion. More than 100,000 of these pumps are in operation around the world.

PowrTwin 5500DI offers other cost saving features:

- Freeze-proof pressure control
- Choice of power — gas, electric, or both
- Tungsten carbide valve seats
- Self-adjusting packings
- Exclusive hand-tight swivel foot valve
- Large capacity inline paint filter
- "Floating Ball" pressure bleed valve

You have made an excellent choice. We know you will be pleased with your new PowrTwin 5500DI. Thanks again for selecting Speeflo. We appreciate your business.

Specifications

Gas Powered Units

Delivery (GPM) (LPM)	2.0 7.5
Cycle Rate (Gallon) (Liter)	55 14.5
Cycles per Minute (Maximum)	110
Maximum Tip Size - 1 Gun Maximum Tip Size - 2 Guns Maximum Tip Size - 3 Guns	.043" .033" .023"
Pressure Range (psi) Pressure Range (bar)	400 - 3300 28 - 228
Power	Honda 5.5 hp, 4-Stroke, Single Cylinder, Overhead Valve Engine With Oil Alert
Fuel Capacity	0.97 US Gallons (Approximately 3.5 hours run time)
Halogenated Solvent Compatible	Yes
Weight	159 Lbs. (72 Kg.)
Inlet Paint Filter	10 Mesh "Rock Catcher"
Outlet Paint Filter	5 Mesh, 18 in. ²
Pump Inlet	3/4" NPT(F)
Pump Outlet	1/2" NPT(F) to Paint Filter
Paint Filter Hose Connections	(1) - 1/4" NPSM(M) (1) - 3/8" NPT(F) Plugged
Dimensions	31" H (787 mm) x 34" L (864 mm) x 23" W (584 mm)
Fluid Pump Wetted Parts	Electroless nickel plated ductile iron, electroless nickel plated carbon steel, proprietary Severe Service 500™ hard chrome anti-wear surface, stainless steel, tungsten carbide, PTFE, thiokol impregnated leather, ultra high molecular weight polyethylene.

Electric Units

	AC - Electric	DC - Electric
Delivery (GPM) (LPM)	1.50 5.70	1.25 4.70
Cycle Rate (Gallon) (Liter)	55 14.5	
Cycles per Minute (Maximum)	83	68
Maximum Tip Size - 1 Gun Maximum Tip Size - 2 Guns Maximum Tip Size - 3 Guns	.041" .029" .021"	.036" .026" .019"
Pressure Range (psi) Pressure Range (bar)	400 - 3300 28 - 228	
Power	3 HP Baldor TEFC Motor 230V, 60 Hz, 12.5 AMP 230V, 50 Hz, 12.9 AMP Overload Protected	2 HP DC Motor 115V, 15.5 AMP 230V, 9 AMP Overload Protected
Halogenated Solvent Compatible	Yes	
Weight	178 Lbs. (80.7 Kg.)	
Inlet Paint Filter	10 Mesh "Rock Catcher"	
Outlet Paint Filter	5 Mesh, 18 in. ²	
Pump Inlet	3/4" NPT(F)	
Pump Outlet	1/2" NPT(F) to Paint Filter	
Paint Filter Hose Connections	(1) - 1/4" NPSM(M) (1) - 3/8" NPT(F) Plugged	
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⚠ WARNING

DO NOT use this equipment to spray water or acid.

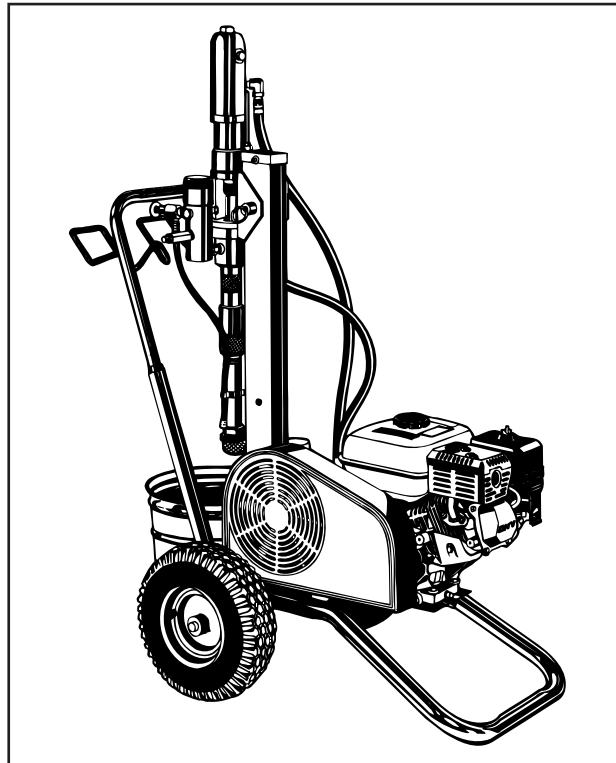
⚠ CAUTION

Do not lift by cart handle when loading or unloading.

Warning Labels

Your sprayer has the English language Warning Label shown on Page 5 in the location indicated below. If you require this label in French, German, or Spanish, or require additional English labels, order directly from Speeflo free of charge. Call toll free 1-800-526-5362.

PART #	LANGUAGE
313-771 313-784	English
313-1306 313-1307	Spanish
313-785 313-786	French
313-787 313-788	German



Gasoline Engine Safety/Warnings

1. Honda engines are designed to give safe and dependable service if operated according to instructions. Read and understand the Honda Owner's Manual before operating the engine. Failure to do so could result in personal injury or equipment damage.
2. To prevent fire hazards and to provide adequate ventilation, keep the engine at least 1 meter (3 feet) away from buildings and other equipment during operation. Do not place flammable objects close to the engine.
3. Children and pets must be kept away from the area of operation due to a possibility of burns from hot engine components or injury from any equipment the engine may be used to operate.
4. Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
5. Gasoline is extremely flammable and is explosive under certain conditions.
6. Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the refueling area or where gasoline is stored.
7. Do not overfill the fuel tank. After refueling, make sure the tank cap is closed properly and securely.
8. Be careful not to spill fuel when refueling. Fuel vapor or spilled fuel may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
9. Never run the engine in an enclosed or confined area. Exhaust contains poisonous carbon monoxide gas; exposure may cause loss of consciousness and may lead to death.
10. The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. To avoid severe burns or fire hazards, let the engine cool before transporting it or storing it indoors.
11. Never ship/transport unit with gasoline in tank.

DO NOT USE EQUIPMENT BEFORE READING THIS SECTION

WARNING

HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY

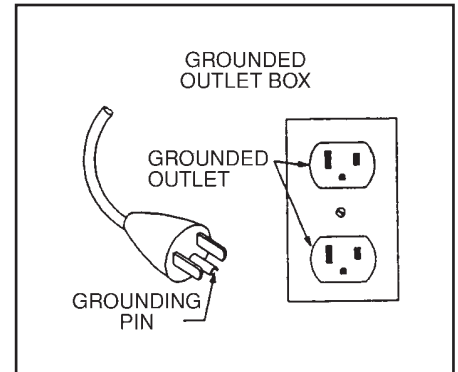
Maximum Working Pressure 3300 psi, 228 bar

An airless spray gun requires that fluid be introduced to it at very high pressure. Fluids under high pressure, from spray or leaks, can penetrate the skin and inject substantial quantities of toxic fluid into the body. If not promptly and properly treated, the injury can cause tissue death or gangrene and may result in serious, permanent disability or amputation of the wounded part. Therefore, extreme caution must be exercised when using any airless spray equipment. **IF YOU ARE INJECTED, SEE A PHYSICIAN IMMEDIATELY! DO NOT TREAT AS A SIMPLE CUT!**

NOTE TO PHYSICIAN: Injection into the skin is a serious, traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream. Consultation with a plastic surgeon or a reconstructive hand surgeon may be advised.

1. Handle the spray gun carefully. Keep clear of the nozzle. NEVER point the gun at yourself or anyone else. NEVER permit any part of your body to come in contact with the fluid stream of either the gun or any hose leak. ALWAYS keep the gun trigger safety lever in a locked position when not spraying. ALWAYS use a tip safety guard.
2. NEVER attempt to force the flow of fluid backward through the gun with your finger, hand or hand-held object against the gun nozzle. THIS IS NOT AN AIR SPRAY GUN.
3. NEVER attempt to remove tip, disassemble or repair equipment without first doing the following:
PRESSURE RELEASE PROCEDURE
 - A. Set trigger lock in the locked position.
 - B. Shut off pump and unplug electrical cord.
 - C. Release fluid pressure from entire system and trigger gun.
 - D. Reset trigger lock in the locked position.
4. Before flushing system, always remove spray tip and adjust fluid pressure to lowest possible setting.
5. Tighten all fluid connections before each use. NEVER exceed 3300 psi with this unit. Make sure that all accessory hoses, connections, swivels and so forth can withstand the high pressures which develop. NEVER exceed the pressure rating of any component in the system.
6. The paint hose can develop leaks from wear, kinking, abuse, etc. A leak is capable of injecting fluid into the skin, therefore the paint hose should be inspected before each use. NEVER attempt to plug a hose with any part of your body, adhesive tape or any other makeshift device. Do not attempt to repair a spray hose. Instead, replace it with a new grounded hose. Use only with hoses that have spring guards.
7. Be sure that the airless equipment being used and the object being sprayed are properly grounded to prevent static discharge or sparks which could cause fire or explosion. Warning: ALWAYS hold the gun against metal container when flushing system with tip removed, to prevent static discharge. CAUTION: To reduce the risk of electrical shock, do not expose to rain. Store indoors.
8. ALWAYS keep the working area around the pump well ventilated. Additionally, the pump itself should be a minimum of 25' (7.5m) from the spray area. If these instructions are not followed, there is the possibility of fire or explosion with certain materials. ALWAYS follow the coating or solvent manufacturer's safety precautions and warnings. Never spray flammable material near open flames, pilot lights or any source of ignition.
9. ALWAYS wear spray masks and protective eyewear while spraying. Additional personal protective equipment may be required depending on the type of material being sprayed and conditions of ventilation. Always contact supplier of material being sprayed for recommendation.
10. Keep all extension poles clear of electrical wires.
11. NEVER alter or modify any part of this equipment; doing so could cause it to malfunction.
12. NEVER leave equipment unattended. Keep away from children or anyone not familiar with the operation of airless equipment.

GROUNDING INSTRUCTIONS: This product should be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.



DANGER: Improper installation of the grounding plug can result in a risk of electric shock.

If repair or replacement of the cord or plug is necessary, do not connect the grounding wire to either flat blade terminal. The wire with insulation having an outer surface that is green (with or without yellow stripes) is the grounding wire. Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the product is properly grounded. Do not modify the plug provided; if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

- This product is for use on a nominal 120-volt circuit and has a grounding plug that looks like the plug illustrated below.
- Make sure that the product is connected to an outlet having the same configuration as the plug. No adapter should be used with this product.

EXTENSION CORDS: Use only a 3-wire extension cord that has a 3-slot receptacle that will accept the plug on the pump. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current this pump will draw.

For lengths less than:	Use extension gauge:
50 ft.	14 AWG
100 ft.	12 AWG
150 ft.	10 AWG

An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

NO USE EL EQUIPO ANTES DE LEER ESTA SECCION

⚠ ADVERTENCIA

LA ROCIADURA A PRESION ALTA PUEDE CAUSAR LESION GRAVE. Presión de Trabajo Máxima 3300 libras por pulgada cuadrada (psi), 228 bar

Una pistola rociadora sin aire requiere que se le introduzca líquido a presión muy alta. Los líquidos bajo presión alta, de la rociadura o de las fugas, pueden penetrar en la piel e inyectar en el cuerpo cantidades considerables de líquido tóxico. Si no se atiende rápida y apropiadamente, la lesión puede causar muerte del tejido o gangrena, y puede resultar en incapacidad seria y permanente o en la amputación de la parte lesionada. Por lo tanto, hay que emplear precauciones estrictas al usar cualquier equipo de rociadura sin aire. SI USTED HA ESTADO EXPUESTO A LA PENETRACION DE TOXICOS POR INYECCION, CONSULTE INMEDIATAMENTE AL MEDICO. ¡NO TRATE LA HERIDA COMO SI FUERA UNA MERA CORTADURA!

NOTA PARA EL MEDICO: La penetración de tóxicos en la piel es una herida seria y traumática. Es importante tratar la herida quirúrgicamente lo más pronto posible. No demore el tratamiento para investigar la toxicidad. La toxicidad es asunto serio cuando se trata de la penetración de ciertos revestimientos tóxicos en la corriente sanguínea. Puede que sea necesaria la consulta con un cirujano plástico o un cirujano especialista en la reconstrucción de la mano.

1. Maneje la pistola de rociadura con cuidado. Manténgase alejado de la boquilla. JAMAS apunte la pistola hacia usted u otra persona. NUNCA permita que parte alguna de su cuerpo se ponga en contacto con el chorro de líquido de la pistola o de alguna fuga de la manguera. SIEMPRE mantenga trabado el seguro de la pistola mientras no esté rociando. SIEMPRE utilice el protector de seguridad de la boquilla.
2. JAMAS intente forzar el flujo del líquido por la pistola hacia atrás con el dedo, la mano o un objeto sostenido con la mano contra la boquilla de la pistola, ya que NO SE TRATA DE UNA PISTOLA DE ROCIADURA DE AIRE.
3. JAMAS intente quitar la boquilla ni desarmar o reparar el equipo sin haber cumplido antes con los pasos siguientes:

PROCEDIMIENTO DE DESCOMPRESION

- A. Coloque el seguro de la pistola en posición trabada.
 - B. Apague la bomba y desconecte también el cable de electricidad.
 - C. Descargue la presión del líquido de todo el sistema y de la pistola.
 - D. Vuelva a trabar el seguro.
4. Antes de lavar el sistema, siempre quite la boquilla de rociadura y ajuste la presión del líquido al valor más bajo posible.
 5. Ajuste todas las conexiones antes de cada uso. JAMAS supere 3300 libras por pulgada cuadrada con esta unidad. Asegúrese de que todas las mangueras, conexiones, articulaciones giratorias y

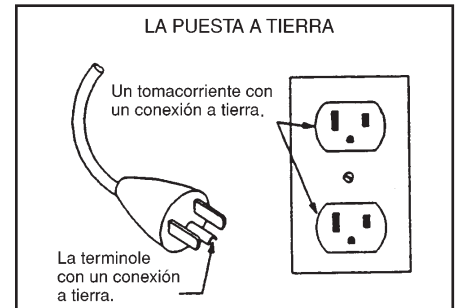
demás elementos accesorios estén en condiciones de tolerar las altas presiones que se presentan. JAMAS exceda la clasificación de presión de cualquier componente del sistema.

6. **ADVERTENCIA:** La manguera de pintura puede presentar fugas como resultado del desgaste, retorcimiento, abuso, etc. Las fugas pueden inyectar líquido a través de la piel, por lo que la manguera de pintura debe ser inspeccionada antes de cada uso. JAMAS intente obturar la manguera con una parte de su cuerpo o con tela adhesiva o cualquier otro elemento improvisado. No intente reparar una manguera de rociadura; en cambio reemplácela con una manguera nueva conectada a tierra. Utilice solamente mangueras con protector de resorte.
7. Asegúrese de que el equipo sin aire que esté empleando y el objeto que se intenta rociar estén correctamente conectados a tierra para evitar descargas estáticas o chispas que podrían ocasionar incendio o explosión. **ADVERTENCIA:** Sostenga SIEMPRE la pistola contra el receptáculo de metal al limpiar el sistema con la boquilla desprendida, para evitar la descarga estática. **ADVERTENCIA:** Para reducir riesgo de descarga eléctrica, no exponer a la lluvia.
8. SIEMPRE mantenga el lugar de trabajo alrededor de la bomba bien ventilado. Además, la bomba en sí debe estar ubicada a no menos de 7,6 m de la operación de rociadura. Si no se observan estas instrucciones, existe el riesgo de incendio o explosión con ciertos materiales. SIEMPRE observe las precauciones y advertencias de los fabricantes sobre revestimientos y solventes. Nunca rocíe material inflamable cerca de llamas expuestas, llamas piloto o cualquier fuente de ignición.
9. SIEMPRE use máscaras apropiadas y anteojos de protección durante la operación de rociadura. Según el tipo de material que se está rociando y las condiciones de ventilación puede ser necesario usar equipo personal protector adicional. Siempre comuníquese con el proveedor del material para conseguir recomendaciones.
10. Mantenga todas las varas de extensión fuera del alcance de cables eléctricos.
11. JAMAS altere o modifique parte alguna de este equipo, ya que ello puede causar deficiencias de funcionamiento.
12. JAMAS deje al equipo solo. Manténgalo fuera del alcance de los niños o de cualquier persona no familiarizada con la operación de equipo sin aire. JAMAS use una manguera de menos de 15,2 m con esta unidad. Almacenar bajo techo.

INSTRUCCIONES PARA LA PUESTA A TIERRA

Este producto debe conectarse a tierra. En caso de corto circuito, la conexión a tierra proporciona una vía de escape para la corriente eléctrica y reduce el riesgo de

choques eléctricos. El producto está dotado de un cable provisto de un alambre y de un enchufe de puesta a tierra. El enchufe debe enchufarse en un tomacorriente debidamente instalado y dotado de conexión a tierra, de acuerdo con las estipulaciones de los códigos y ordenanzas locales.



PELIGRO: La instalación incorrecta del enchufe de puesta a tierra podría crear el riesgo de choque eléctrico.

Si es necesario reparar o re-emplazar el cordón o el enchufe, no conecte el alambre de puesta a tierra a ninguna de las dos terminales de cuchilla plana. El alambre con aislamiento exterior verde, con o sin rayas amarillas, es el alambre de puesta a tierra. Consulte a un electricista o técnico competente si no comprende bien las instrucciones para la conexión a tierra o si tiene dudas de que el producto está conectado a tierra correctamente. No modifique el enchufe que viene con el producto; si no encaja en el tomacorriente, pida a un electricista competente que instale el tomacorriente apropiado.

- Este producto ha sido diseñado para usarse en un circuito de tensión nominal de 120 voltios y está dotado de un enchufe de puesta a tierra semejante a la ilustrada más adelante.
- Asegúrese de que el producto esté enchufado en un tomacorriente que tenga la misma configuración del enchufe. No debe usarse ningún adaptador.

CORDON DE EXTENSION — Use sólo un cordón de extensión trifilar que tenga un enchufe de puesta a tierra con tres cuchillas, y un receptáculo con tres ranuras que acepte el enchufe que viene con el producto. Cerciórese de que el cordón de extensión esté en buen estado. Al usar un cordón de extensión, cerciórese de que sea suficientemente grueso para transportar la corriente que su producto usará.

Para tramos de menos de:	Use cordones de calibre:
15,2 m	14 AWG
30,4 m	12 AWG
45,7 m	10 AWG

Un cordón demasiado corto provocará una caída de la tensión, ocasionando una pérdida de potencia y recalentamiento. Si tiene dudas, use un calibre más grueso. Cuanto más pequeño sea el número de calibre, más grueso será el cable.

NE PAS UTILISER LE MATERIEL AVANT D'AVOIR LU CETTE SECTION

⚠ AVERTISSEMENT

LES PULVERISATEURS A HAUTE PRESSION PEUVENT PROVOQUER DE SERIEUSES LESIONS

Pression de travail maximale: 3300 psi – 228 bar

Le liquide introduit dans un pistolet pulvérisateur sans air doit l'être à pression extrêmement élevée. Les liquides à haute pression, en provenance du pulvérisateur ou d'une fuite quelconque, sont capables de pénétrer la peau et d'injecter d'importantes quantités de liquide toxique dans l'organisme. Si elle n'est pas traitée promptement et avec toute l'attention voulue, la lésion causée de la sorte peut provoquer la nécrose des tissus ou la gangrène et donner lieu à de sérieux handicaps permanents, voire à l'amputation du membre atteint. Une prudence extrême s'impose donc lors de l'utilisation de matériel de pulvérisation sans air. **EN CAS D'INJECTION, CONSULTEZ UN MEDECIN IMMEDIATEMENT. NE TRAITEZ PAS LA BLESSURE COMME S'IL S'AGISSAIT D'UNE SIMPLE COUPURE!**

REMARQUE A L'INTENTION DU MEDECIN: Une injection pénétrant la peau constitue une lésion traumatique grave qu'il est important de traiter chirurgicalement aussitôt que possible. Ne perdez pas de temps à rechercher la toxicité de l'injection. Il s'agit là d'un risque à envisager en cas d'injection directe dans le circuit sanguin de certains revêtements exotiques. La consultation d'un chirurgien plasticien ou d'un spécialiste de la chirurgie reconstructive de la main peut être conseillée.

1. Maniez le pistolet avec soin. Maintenez-vous à l'écart de la buse. N'en dirigez JAMAIS la buse vers aucune partie de votre corps ou vers aucune autre personne. Ne laissez JAMAIS aucune partie de votre corps entrer en contact avec le flux de liquide s'échappant du pistolet ou d'une fuite quelconque au niveau du flexible. Verrouillez TOUJOURS le levier de sûreté de la détente lorsque vous n'êtes pas occupé à pulvériser. Veillez à TOUJOURS utiliser un dispositif de sûreté à la buse du pistolet.
2. N'essayez JAMAIS de refouler le flux de liquide dans le pistolet au moyen de votre doigt, de votre main ou d'un objet maintenu contre la buse du pistolet. **CET APPAREIL N'EST PAS UN PISTOLET PULVERISATEUR A AIR.** N'utilisez aucune pièce de matériel sans air avec une pompe non équipée d'une soupape de surpression.
3. N'essayez JAMAIS d'enlever la buse, de démonter ou de réparer l'appareil avant d'avoir accompli la procédure suivante :

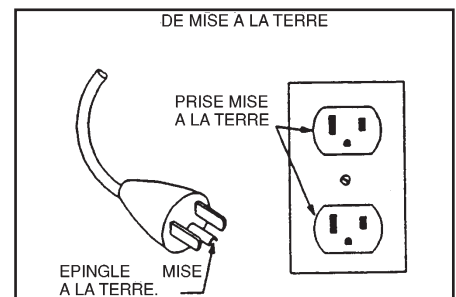
PROCEDURE DE DELESTAGE DE PRESSION

- A. Verrouillez la sûreté de la détente.
- B. Arrêtez la pompe et débranchez le cordon électrique.
- C. Délestage la pression dans tout le système et appuyez sur la détente du pistolet.
- D. Reverrouillez la sûreté de la détente.

4. Avant de procéder au rinçage du système, enlevez toujours la buse de pulvérisation et réglez la pression au niveau le plus faible possible.

5. Serrez bien tous les raccords du système hydrodynamique avant chaque emploi. Ne dépassez JAMAIS, avec cet appareil, une pression de 3300 psi. Assurez-vous que tous les flexibles accessoires, raccords, articulations, etc. sont bien capables de résister aux hautes pressions prévues. Ne dépassez JAMAIS la capacité de pression nominale d'aucun composant du système. **DANGER** : Afin de réduire tout risque d'électrocution, n'exposez pas à la pluie.
6. Des fuites risquent de se produire le long du flexible de peinture sous l'effet de l'usure, des torsions, des rudes traitements, etc. auxquels il est éventuellement soumis. Les injections de liquide dans la peau sont possibles par la voie de telles fuites. Il est donc important d'inspecter le flexible avant chaque usage. N'essayez JAMAIS d'obturer une fuite à l'aide de votre doigt ou de tout autre membre de votre corps, de ruban adhésif ou de tout autre moyen de fortune. N'essayez pas non plus de réparer un flexible de pulvérisation ; remplacez-le plutôt par un nouveau flexible mis à la terre. Veillez à n'utiliser que les flexibles munis de dispositifs de sécurité à ressort.
7. Assurez-vous que le matériel sans air utilisé et que l'objet à peindre sont adéquatement mis à la terre, de façon à éviter toute décharge d'électricité statique ou toute étincelle susceptible de provoquer un incendie ou une explosion. **ATTENTION** : Tenez TOUJOURS le pistolet contre un récipient en métal lors du rinçage du système, après en avoir ôté la buse. Ne vaporisez JAMAIS de substances inflammables à proximité de flammes nues, lampes témoin ni d'aucune source d'allumage. Rangez à l'intérieur.
8. Le moteur électrique de cet appareil n'est pas protégé contre les explosions. Il est donc essentiel d'assurer une bonne ventilation de la zone de travail et des alentours de la pompe. Il est également important de maintenir la pompe à une distance minimale de 7,6 m de la zone de pulvérisation. Certains matériaux présentent, à défaut de suivre ces consignes, un risque d'incendie ou d'explosion. Suivez TOUJOURS les précautions et avertissements du fabricant de chaque solvant ou revêtement utilisé.
9. Portez TOUJOURS un masque et des lunettes de protection lors de vos travaux de pulvérisation. D'autres articles de protection personnelle peuvent être nécessaires suivant le type de produit pulvérisé et les conditions d'aération. Demandez toujours ses recommandations à votre fournisseur.
10. Maintenez toutes les tiges de rallonge à distance des fils électriques.
11. N'altérez ou ne modifiez JAMAIS une partie quelconque de cet appareil, ce qui pourrait causer des défaillances.
12. Ne laissez JAMAIS le matériel sans surveillance. Gardez-le hors de portée des enfants et de toute personne inexpérimentée quant à l'usage de matériel sans air.

INSTRUCTIONS DE MISE A LA TERRE : Ce produit doit être mis à la terre. Dans l'hypothèse d'un court-circuit électrique, la mise à la terre réduit le risque de chocs électriques en assurant un fil de fuite pour le courant électrique. Ce produit est pourvu d'un cordon possédant un fil de terre avec fiche appropriée de mise à la terre. La fiche doit être branchée sur une prise qui est posée et mise à la terre adéquatement conformément à tous les codes et règlements locaux.



DANGER: La pose inappropriée de la fiche de terre peut provoquer un risque de chocs électriques.

Si le cordon ou la fiche doit être réparé ou remplacé, ne raccordez pas le fil de terre à l'une ou l'autre borne à lame plate. Le fil possédant une isolation dont la surface extérieure est verte (avec ou sans rayures jaunes) est le fil de terre. Consultez un électricien ou un technicien de service compétent si vous ne comprenez pas parfaitement les instructions de mise à la terre ou si vous ne pouvez affirmer avec certitude que le produit est dûment mis à la terre. Ne modifiez pas la fiche fournie ; si elle ne rentre pas dans la prise, faites poser la prise appropriée par un électricien compétent.

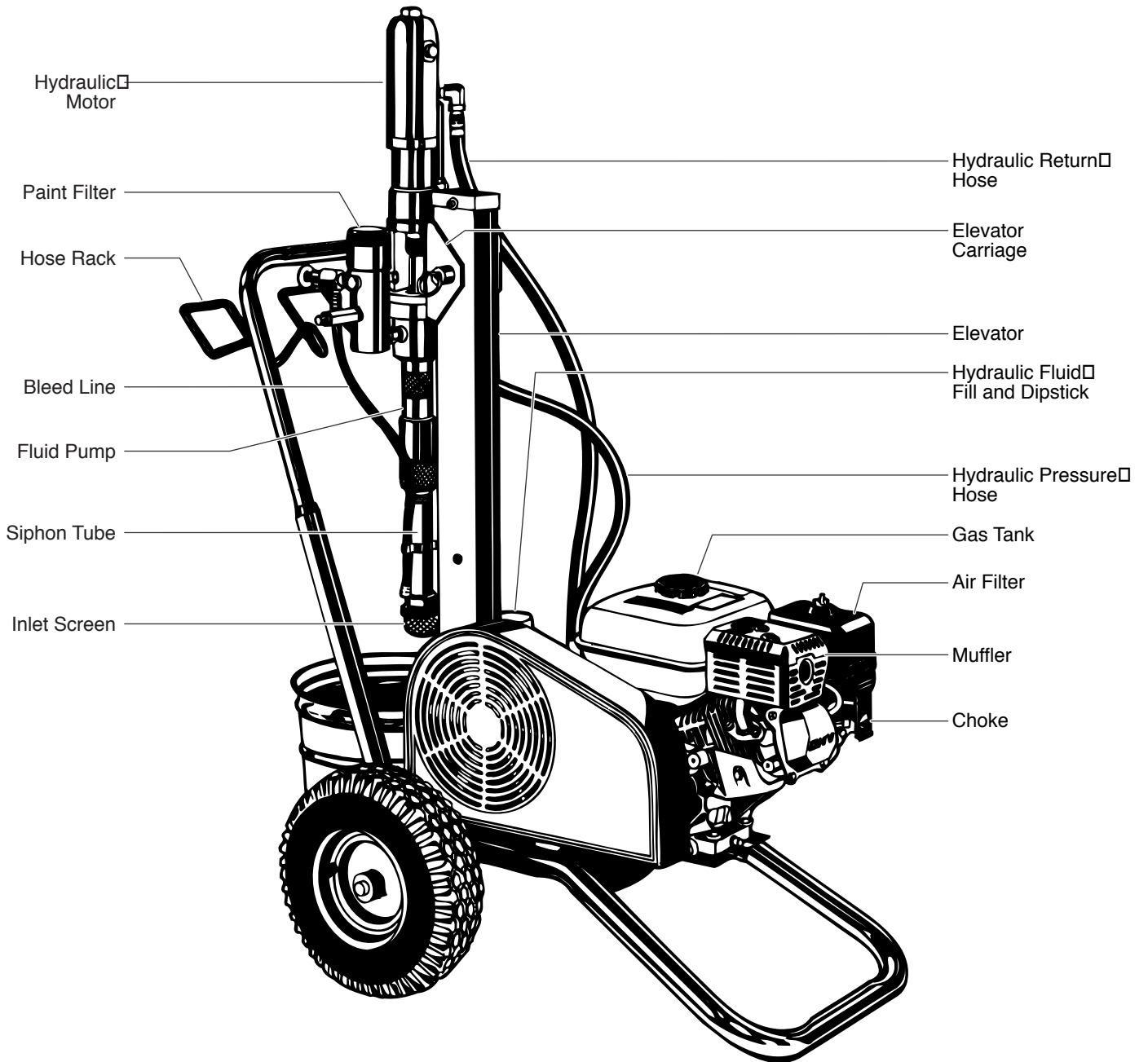
- Ce produit est destiné à être utilisé sur un circuit à tension nominale de 120 volts et a une fiche de terre qui ressemble à la fiche illustrée ci-après.
- S'assurer que le produit est branché sur une prise ayant la même configuration que la fiche. Aucun adaptateur ne doit être utilisé avec ce produit.

CORDONS DE RALLONGE - Utilisez uniquement un cordon de rallonge à trois fils pourvu d'une fiche de mise à la terre à trois lames, et une prise à trois fentes qui acceptera la fiche de la pompe. Assurez-vous que votre cordon de rallonge est en bon état. Lorsque vous utilisez un cordon de rallonge, veillez à en utiliser un suffisamment puissant pour transporter le courant que consommera cette pompe.

Pour les longueurs de moins de	Utilisez une rallongede calibre
15,2 m	14 AWG
30,4 m	12 AWG
45,7 m	10 AWG

Un cordon sous-calibré provoquera une chute de tension secteur ayant pour conséquences une perte de puissance et une surchauffe. En cas de doute, utilisez le calibre immédiatement plus puissant. Plus le numéro de calibre est bas, plus le cordon est puissant.

Operating Components



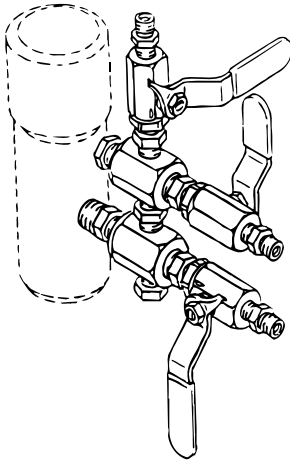
Set Up

WARNING

Read, understand, and follow all warnings before starting or operating this sprayer.

Required tools: Crescent Wrench

1. One Gun Operation - Attach the gun and hose. Always use a spray hose at least 50 feet long. Do not use PTFE or thread sealant on this assembly. Do not install the spray tip at this time.
2. Two Gun Operation - Remove the plug from the second gun outlet. Connect a hose and a gun to the outlet.
3. Multiple Gun Operation - The PowrTwin 5500DI is engineered to handle up to 3 guns with .023" tips. When using more than two guns, make sure the second gun hookup outlet is plugged. Connect the multiple gun manifold to the single gun outlet. These manifolds are for either 2, 3, or 4-guns and have shut off valves. Connect a hose and gun to each outlet.



4. Fill the wet-cup 1/2 full with Speeflo's Piston Lube (P/N 700-925) supplied by the factory. This extends packing life.
5. Electric Models - Use a 20 amp service outlet. Always locate the AC electric model within 10 to 15 feet of the service outlet. Use a short electric cable and a long paint hose. Any extension cord will create some voltage drop. For both AC and DC models, if an extension cord is necessary, use only grounded 3 wire # 12 wire.
If the unit is being operated in an area that is overloaded by other appliances or low voltage conditions, it is important to start the unit "unloaded." Tip the electric motor forward so that the belt is loosened and the motor starts without full load. This reduces the amperage draw on starting and may avoid kicking out the circuit breaker.
6. Be sure the PowrTwin system is grounded. All Speeflo units are equipped with a grounding lug. A grounding cable (not supplied) should be used to connect the unit to a true earth ground. Check your local electrical regulations for detailed grounding instructions. See the Accessories and Service Kits section near the back of this manual for ordering information.
8. Strain all paints with Speeflo 5 gallon Nylon Strainer (P/N 160-524) or Speeflo 1 gallon Nylon Strainer (P/N 160-124) to assure trouble free operation and freedom from frequent cleaning of inlet screen and gun strainer.

WARNING

Proper grounding is important. This applies to both gas and electric powered models. The passage of some materials through the nylon fluid hose will build up a static electric charge, which if discharged, could ignite solvent vapors present and create an explosion.

Fueling

WARNING

Gasoline is extremely flammable and is explosive under certain conditions.

- ALWAYS turn the engine off before refueling.
- Refuel in a well-ventilated area.
- Do not smoke or allow flames or sparks in the refueling area or where gasoline is stored.
- Do not overfill the fuel tank. After refueling, make sure the tank cap is closed properly and securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.
- Keep out of the reach of children.

Specifications

- Use automotive gasoline that has a pump octane number of 86 or higher, or that has a research octane number of 91 or higher.
- Unleaded fuel produces fewer engine and spark plug deposits and extends the life of exhaust system components.
- Never use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt, dust or water in the fuel tank. Use of a lower octane gasoline can cause persistent "pinging" or heavy "spark knock" (a metallic rapping noise) which, if severe, can lead to engine damage.

NOTE: If "spark knock" or "pinging" occurs at a steady engine speed under normal load, change brands of gasoline. If spark knock or pinging persists, consult your authorized Honda dealer. Failure to do so is considered misuse, and damage caused by misuse is not covered by Honda's Limited Warranty.

Occasionally you may experience light spark knock while operating under heavy loads. This is no cause for concern, it simply means your engine is operating efficiently.

Gasolines Containing Alcohol

If you decide to use a gasoline containing alcohol (gasohol), be sure its octane rating is at least as high as that recommended by the engine manufacturer. There are two types of "gasohol": one containing ethanol, and the other containing methanol. Do not use gasohol that contains more than 10% ethanol. Do not use gasoline containing methanol (methyl or wood alcohol) that does not also contain co-solvents and corrosion inhibitors for methanol. Never use gasoline containing more than 5% methanol, even if it has co-solvents and corrosion inhibitors.

NOTE: Fuel system damage or engine performance problems resulting from the use of fuels that contain alcohol is not covered under the warranty. The engine manufacturer cannot endorse the use of fuels containing methanol since evidence of their suitability is incomplete at this time.

Before buying gasoline from an unfamiliar station, try to find out if the gasoline contains alcohol. If it does, confirm the type and percentage of alcohol used. If you notice any undesirable operating characteristics while using a gasoline that contains alcohol, or one that you think contains alcohol, switch to a gasoline that you know does not contain alcohol.

Operation

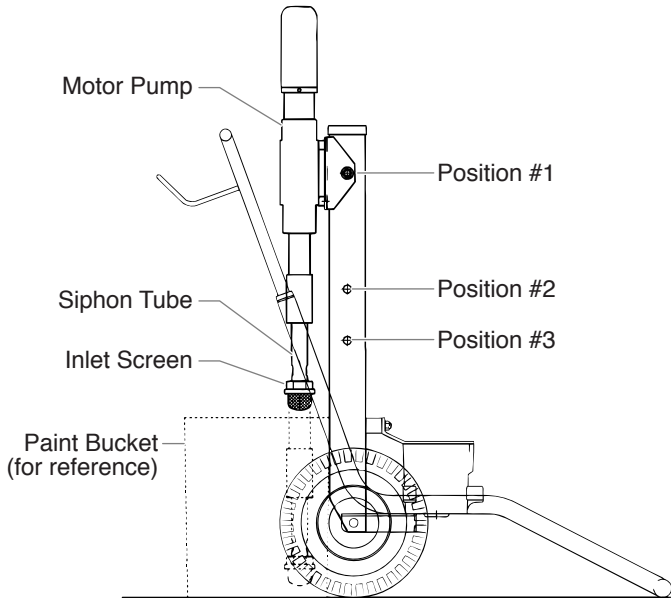
Operating the Elevator Carriage

The elevator carriage lowers the motor pump and siphon tube assembly into the paint bucket. The carriage has three positions:

- #1: Raise the elevator carriage to position #1 to allow placing of the paint bucket underneath the motor pump and siphon tube assembly.
- #2: Secure the elevator carriage in position #2 when transporting the unit. Position #2 can also be used for partial submersion of the siphon tube into the paint bucket.
- #3: Lower the elevator carriage to position #3 for complete submersion of the siphon tube into the paint bucket.

CAUTION

Do not tilt the cart back or attempt to move the sprayer when the elevator carriage is in position #3. This may damage the inlet screen and siphon tube.

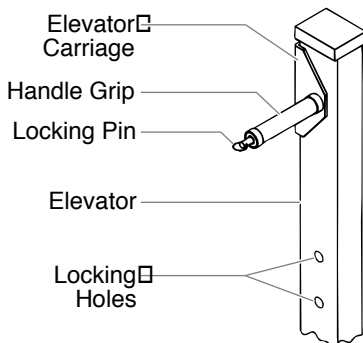


CAUTION

The elevator carriage is under a spring load when it is in position #3 and may move up very fast after releasing the locking pin. Keep head clear of the area directly above the elevator carriage.

Use the following procedure to raise and lower the elevator carriage.

1. Holding the handle grip with one hand, pull the locking pin out of the locking hole on the elevator with the other hand. This allows the elevator carriage to move up and down.



2. Let go of the locking pin once it is free of the locking hole.
3. Move the elevator carriage to the desired position. The locking pin is spring loaded and will automatically engage the locking hole on the elevator at the new position.

Startup

1. Areas must be well ventilated to prevent hazardous operation with volatile solvents or exhaust fumes.

WARNING

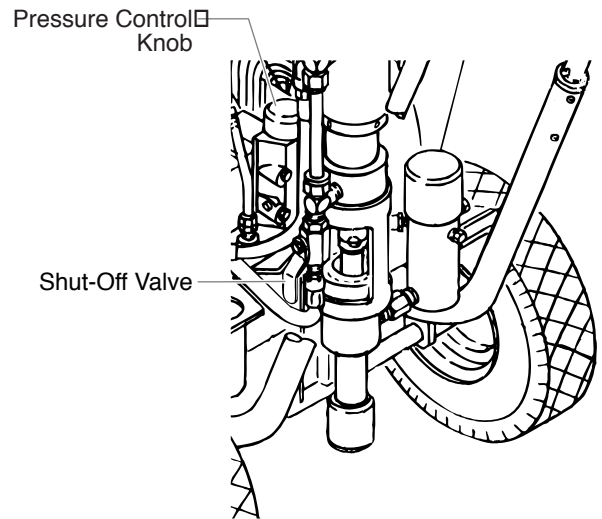
If lacquer or other flammable materials are to be sprayed, ALWAYS locate the unit outside the immediate spraying area. Failure to do so may cause an explosion.

2. Locate the unit outside the immediate spraying area to avoid clogged air intake of the engine or electric motor with overspray.
3. Before starting the unit, check oil levels.
 - a. The hydraulic fluid level should read "Full" on the dipstick. CHECK IT REGULARLY. See "Hydraulic System" in the Maintenance section of this manual for changing or adding hydraulic fluid. Do not overfill. Use only Speeflo Coolflo™ Hydraulic Fluid (P/N 430-361).
 - b. The gasoline engine oil level is determined by the manufacturer. Check the manufacturer's service manual supplied.

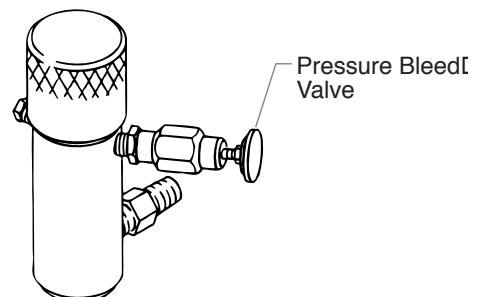
CAUTION

Use of Speeflo's Coolflo™ Hydraulic Fluid is mandatory in the PowrTwin 5500DI hydraulic system. Do not use any other hydraulic fluid. Use of any other hydraulic fluid may seriously damage hydraulic system and will void warranty.

4. Open the orange handle shut-off valve located on the hydraulic pressure hose. Handle should be in line with hose. The figure below shows the handle in the open position.



5. Turn the pressure control knob counterclockwise (as viewed from top) to its lowest pressure setting.
6. Open the pressure bleed valve by turning it counterclockwise. This relieves pressure.



- a. Your new sprayer was tested at the factory with mineral spirits. You must clean the system before spraying to avoid contamination of the sprayed material.
If you are spraying a water based latex, flush with warm, soapy water followed by a clean water rinse. If you are using any other coating, flush with warm, soapy water followed by a solvent. Check with the material manufacturer for a compatible solvent. Place siphon tube assembly into proper solvent or water.
 - b. Place waste container below bleed line.
 - c. Start engine or electric motor. Turn the pressure control adjustment knob clockwise (increasing pressure) until pump cycles evenly and solvent flows freely from bleed line.
 - d. Close the pressure bleed valve by turning it clockwise. This allows the system to pressurize. Hold the gun trigger open, without spray tip attached, until the fluid flows smoothly.
7. Repeat above starting procedure with paint material. Lock gun trigger and attach spray tip. Refer to the spray gun's Technical Data Sheet or Owner's Manual for tip installation and selection of the proper tip size.
 8. Test spray pattern. Operate the pump at the lowest hydraulic pressure which provides good atomization. See the Troubleshooting section in this manual if you are not getting the proper pattern.
 9. Operating pressure is adjustable from 400 to 3300 psi (228 bar) by turning the pressure control knob clockwise. Do not turn the knob clockwise more than necessary to provide satisfactory atomization. Excess pressure wears out spray tips.
 10. When restarting the unit, reduce the pressure at the pressure control adjustment knob and the pressure bleed valve.

Color Change/Clean Out/Flushing

⚠ WARNING

Special cleanup instructions for use with flammable solvents:

- Always flush spray gun at least one hose length from spray pump.
- If collecting flushed solvents in a one gallon metal container, place it into an empty five gallon metal container, then flush solvents.
- Area must be free of flammable vapors.
- Follow all cleanup instructions.

Pressure Relief Procedure

⚠ WARNING

Always reduce pressure when you are cleaning a clogged tip, changing a tip, servicing any part of the system, or shutting down. Follow the steps below:

1. Engage the gun trigger lock.
2. Shut off the power source.
3. Close the orange handle shut-off ball valve on the hydraulic pressure hose.
4. Open the pressure bleed valve by turning it counterclockwise at least three full turns.
5. Disengage the gun trigger lock and hold trigger open until flow of material stops.
6. Be certain to hold a metal part of the gun firmly to the side of a grounded metal container.

Cleaning a Clogged Tip

1. Follow the "Pressure Relief Procedure" above.
2. If tip clogs, rotate tip handle 180° until arrow on handle is facing the opposite of spray direction and clicks in reverse position.
3. Trigger gun once so that the pressure can blow the clog out. NEVER use the tip in the reverse position for more than ONE trigger pull at a time. This procedure can be repeated until the tip is free of clogging.

⚠ WARNING

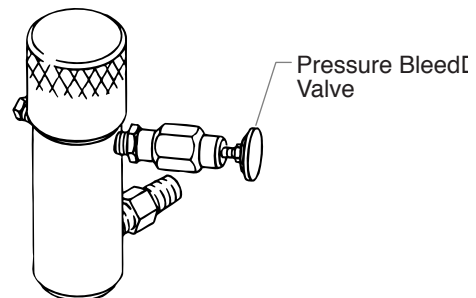
The flow from the spray tip is at very high pressure. Contact with any body part may be dangerous. Do not place finger on gun outlet. Do not point the gun at any person. Never operate the spray gun without the proper tip guard.

Color Change/Clean Out

⚠ CAUTION

Use only compatible solvents when cleaning out oil based enamels, lacquers, coal tar, and epoxies. Check with the fluid manufacturer for the recommended solvent.

1. Reduce pressure by turning the pressure control knob and the pressure bleed valve on the bleed line counterclockwise. Follow the "Pressure Relief Procedure" above. The pressure bleed valve should be turned counterclockwise at least three full turns.



2. Pull siphon tube out of material container.
3. Remove spray tip from gun. Hold gun trigger open until material flow stops.
4. Put siphon tube into wash solvent or water as applicable, and operate pump slowly at low pressure until solvent flows freely from pressure bleed valve line.
5. Close pressure bleed valve and hold gun trigger open until solvent flows freely from gun. If solvent is not too dirty, recirculate it by flowing gun stream back into solvent container. Use additional clean solvent and repeat procedure if necessary.
6. Check gun strainer screen and pump outlet filter screen daily. Use 50 mesh screens with spray tip size .015 and larger. Use 100 mesh screens with spray tip sizes .013 and smaller.
7. Replace paint filter cap to maximum clockwise rotation. The filter cover should be hand removable after the first or second use with new PTFE o-ring.
IMPORTANT: O-Ring must have PTFE backup washer to seal properly.
8. If unit has been spraying a water soluble material, flush with water and then repeat procedure with mineral spirits or Varsol solvent.
9. Wash spray tip in solvent. Blow tip clean with air pressure directed through the tip in the reverse direction.

Maintenance

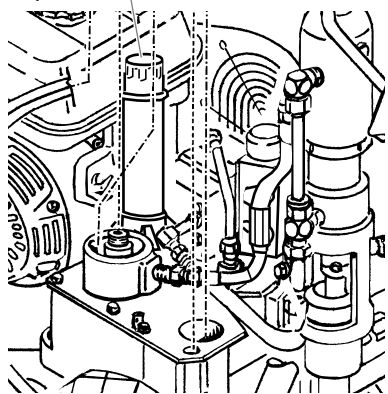
Hydraulic System

⚠ CAUTION

Use of Speeflo's Coolflo™ Hydraulic Fluid is mandatory in the PowrTwin 5500DI hydraulic system. Do not use any other hydraulic fluid. Use of any other hydraulic fluid may seriously damage hydraulic system and will void warranty.

1. Check the hydraulic fluid daily. It should read "Full" on the dipstick. If it is low, add only Speeflo Coolflo™ Hydraulic Fluid (P/N 430-361). Never add or change hydraulic fluid except in a clean dust free area. Contamination of the hydraulic fluid will shorten hydraulic pump life and may void warranty.

Hydraulic Fluid
Fill and Dipstick



2. Change the hydraulic fluid every six months. Drain old fluid from tank and fill with 5 quarts of Speeflo Coolflo™ Hydraulic Fluid. Start operation of the system at just enough pressure to operate the fluid pump. Run the system at this low pressure for at least 5 minutes. This removes air from the system. Check the fluid level after this procedure.
3. The hydraulic system has an external replaceable hydraulic filter. Change the filter every six months.
4. The hydraulic pump should not be serviced in the field. If service on the hydraulic pump is required, it must be returned to Speeflo.

General Fluid Pump Maintenance

If the paint pump is going to be out of service for an extended period of time, it is recommended that following cleanup a kerosene and oil mixture be introduced as a preservative. Packings may tend to dry out from lack of use. This is particularly true of the upper packing set for which upper packing lubricant, Piston Lube (P/N 700-925), is recommended in normal usage. A sample of Lubrisolv accompanies each new unit. Do not substitute water or paint solvent for Lubrisolv. Ordinary oil may contaminate the paint material and is not recommended.

If the paint pump has been out of service for an extended period of time, it may be necessary to prime the suction by pouring some of the paint solvent into the inlet siphon tube to restart. It is extremely important that the threads on the inlet siphon hose coupling are properly sealed. Any air leakage will produce erratic operation of pump and may damage the system. The up and the down strokes should be approximately equal in time. That is, one should not be faster than the other. A fast up or down stroke may indicate air in the system or malfunctioning valve or seats. See the Troubleshooting section.

Hydraulic Motor and Fluid Pump Service

See the Hydraulic Motor Service Instructions section near the back of this manual for maintenance and service instructions on the reciprocating hydraulic motor.

See the Fluid Pump Service Instructions section near the back of this manual for maintenance and service instructions on the fluid pump.

Basic Engine Maintenance

- For detailed engine maintenance and technical specifications refer to the separate Honda engine manual.
- All service to the engine should be performed by an authorized Honda Power Equipment dealer. To locate a dealer in your area, look in the Yellow Pages of your telephone directory under Gasoline Engines, Garden & Lawn Equipment & Supplies, Lawnmowers, etc.
- The Honda engine is warranted exclusively by American Honda Motor Co., Inc.
- Use a premium quality motor oil certified to meet or exceed U.S. Automotive requirement SG.SF/CC.CD. SAE 10W30 is recommended for general all temperature use. Other viscosities may be required in other climates.
- Use only a (NGK) BP6ES or BPR6E spark plug. Gap the plug to 0.028 to 0.031 In. (0.7 to 0.8 mm) Always use a spark plug wrench.

DAILY: Check engine oil level. Fill as necessary. Check gasoline level. Fill as necessary.

⚠ WARNING

Always follow the fueling procedure outlined earlier in this manual.

FIRST 20 HOURS: Change engine oil.

EVERY 100 HOURS: Change engine oil.

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

Engine Operation and Service

1. Clean and oil air filter pad on gasoline engine every 25 hours or once weekly. Do not permit the air intake screen around the fly wheel of the gas engine to load up with paint or trash. Clean it regularly. The service life and efficiency of the gas engine model depends upon keeping the gasoline engine running properly. Change the oil in the engine every 100 hours. Failure to observe this may result in engine overheating. Consult the engine manufacturer's service manual provided.
2. To conserve fuel, service life, and efficiency of the unit always operate the gasoline engine at the lowest RPM at which it runs smoothly without laboring and delivers the amount required for the particular painting operation. Higher RPM does not produce higher working pressure. The gasoline engine is connected to the hydraulic pump by a pulley combination designed to produce full paint delivery of 2.0 GPM at 3600 RPM.
3. The warranty on gasoline engines or electric motors is limited to the original manufacturer.

⚠ WARNING

If electric motor overloads and stops running, IMMEDIATELY turn the motor off and follow the Pressure Relief Procedure outlined earlier in this manual. Wait until the motor cools (approximately 30 minutes). Then push in the bubble top, manual reset button, turn the motor on and pressurize the system.

For CSA approved units only:

The ON / OFF switch is also the RESET!

Troubleshooting Airless Gun

PROBLEM	PROBABLE CAUSE	REMEDY
Spitting gun	<ol style="list-style-type: none"> 1. Air in system 2. Dirty gun 3. Needle assembly out of adjustment 4. Broken or chipped seat 	<ol style="list-style-type: none"> 1. Inspect connections for air leaks 2. Disassemble and clean 3. Inspect and adjust 4. Inspect and replace
Gun will not shut off	<ol style="list-style-type: none"> 1. Worn or broken needle & seat 2. Needle assembly out of adjustment 3. Dirty gun 	<ol style="list-style-type: none"> 1. Replace 2. Adjust 3. Clean
Gun does not spray	<ol style="list-style-type: none"> 1. No paint 2. Plugged filter or tip 3. Broken needle in gun 	<ol style="list-style-type: none"> 1. Check fluid supply 2. Clean 3. Replace

Airless Tip Selection

Tips are selected by the orifice size and fan width. The proper selection is determined by the fan width required for a specific job and by the orifice size that will supply the desired amount of fluid and accomplish proper atomization.

For light viscosity fluids, smaller orifice tips generally are desired. For heavier viscosity materials, larger orifice tips are preferred. Please refer to the chart below.


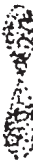



NOTE: Do not exceed the pump's recommended tip size.

The following chart indicates the most common sizes and the appropriate materials to be sprayed:

.011 - .013	Lacquers & Stains	100 Mesh Filter
.015 - .019	Oil & Latex	50 Mesh Filter
.021 - .026	Heavy Bodied Latex & Blockfillers	5 Mesh Filter

Fan widths measuring 8" to 12" (20 to 30 cm) are most preferred because they offer more control while spraying and are less likely to plug.

Troubleshooting Guide: Spray Patterns

CONDITION	POSSIBLE CAUSE	CORRECTION
<p>TAILS</p> 	<p>Inadequate fluid delivery.</p>	<p>Fluid not atomizing correctly. Increase fluid pressure. Change to smaller tip orifice size. Reduce fluid viscosity. Reduce hose length.</p> <p>Clean gun and filter(s). Reduce number of guns using pump.</p>
<p>HOUR GLASS</p> 	<p>Inadequate fluid delivery.</p>	<p>Same as above.</p>
<p>DISTORTED</p> 	<p>Plugged or worn nozzle tip.</p>	<p>Clean or replace nozzle tip.</p>
<p>PATTERN EXPANDING & CONTRACTING (SURGE)</p> 	<p>Suction leak. Pulsating fluid delivery</p>	<p>Inspect for suction hose leak.</p> <p>Change to a smaller tip orifice size.</p> <p>Install pulsation dampener in system or drain existing one. Reduce number of guns using pump.</p> <p>Remove restrictions in system; clean tip screen if filter is used.</p>
<p>ROUND PATTERN</p> 	<p>Worn tip. Fluid too heavy for tip.</p>	<p>Replace tip.</p> <p>Increase pressure. Thin material. Change nozzle tip.</p>

Troubleshooting Guide: Hydraulic Motors

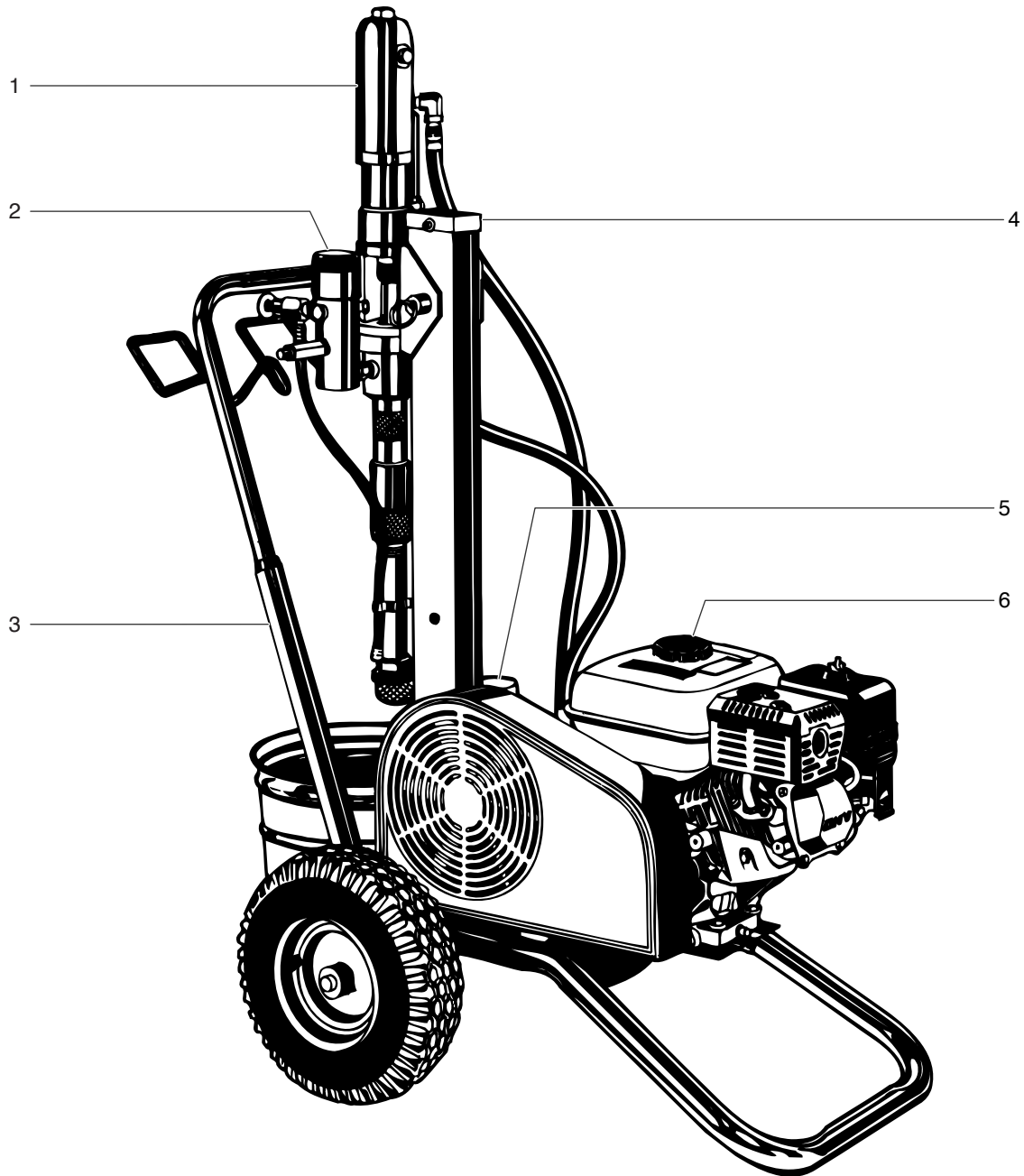
CONDITION	POSSIBLE CAUSE	CORRECTION
Oil motor stalls at bottom. (No unusual heat problems.)	Fluid pump piston seat unthreaded.	If connecting rod is okay, remove cylinder head plug and pop valve down. Replace plug and start machine. If machine cycles up and stops at bottom again, then problem is piston seat on fluid pump. Check piston seat. Repair or replace as necessary. If piston seat is okay and problem does not change, check oil motor.
	Valve sticking or oil motor trip rod shifter assembly separated.	Remove valve and check for scratches and rough movement when sliding it up and down. Replace valve and spool in this condition. Check trip rod for possible separation. and spool in this condition. Check trip rod for possible separation.
Oil motor stalls at top. (No unusual heat problems)	Valve sticking.	Remove valve and check for scratches and rough movement when sliding it up and down. Replace valve and spool in this condition.
	Broken spring retainer (valve rod assembly)	Replace valve rod assembly.
	Broken spring or valve rod.	Replace valve rod assembly.
	Air in hydraulic motor.	Reset Valve. Purge Air, generally accomplished by low pressure cycling of motor/pump assembly for 5 - 10 minutes. Check for causes of air introduction. <ul style="list-style-type: none"> • Loose fittings in tank. • Loose fittings on hydraulic pump. • Loose hose connections. • Low oil in reservoir.
	Air in fluid pump.	Stall at top can occur randomly when fluid pump picks up air. Reset valve. Avoid air in the fluid pump.
Low pressure (okay on down stroke, sluggish on up. stroke - high heat) Note: Engine labors on upstroke, idles back at stall on the down stroke.	Blown piston seal.	Before dismantling oil motor, start machine. With pump cycling under pressure, touch the hydraulic cylinder and the head to see if cylinder or head gets hotter. This will help determine if piston seal is blown or piston nut is broken. If heat is on the head, check the O-Rings on spool valve.
	Cracked piston.	Dismantle oil motor and check piston seals cylinder bore and piston nut. Pay special attention to piston nut. It can be cracked and not show externally.
Low pressure (both strokes - high heat) Note: Engine labors at stall on both strokes	Blown center O-Rings on spool valve.	Before dismantling oil motor, start machine. With pump cycling under pressure, touch the head to see if the head becomes hotter. This will help determine if center O-Ring is blown on spool valve. If hot, remove and replace O-Ring.
	Bad hydraulic pump.	Replace hydraulic pump.

Troubleshooting Guide: Fluid Sections

CONDITION	POSSIBLE CAUSE	CORRECTION
Pump delivers on upstroke only or goes up slowly and down fast. (Commonly called downstroke dive.)	Lower foot valve ball is not seating due to trash or wear.	Remove foot valve assembly. Clean and inspect. Test foot valve by filling with water; if ball fails to seal the seat, replace ball.
	Material too viscous to siphon.	Thin material - contact manufacturer for proper thinning procedures.
	Air leaking in on siphon side or damaged siphon hose. Siphon may be too small for heavy material	Tighten all connections between pump and paint container. If damaged, replace. Switch to larger diameter siphon set.
Pump delivers on down stroke only .or goes up fast and down slowly	Upper ball is not seating due to trash or wear.	Check upper seat and ball with water. If ball fails to seal, replace seat.
	Lower packing set is worn.	Replace packing set if worn.
Pump moves up and down fast, delivering material.	Material container is empty or material is too thick to flow through siphon hose	Refill with new material. If too thick, remove siphon hose and immerse pump or not add thinner to material. Change to bigger siphon set. Open bleed valve to . remove air and restart pump.
	Bottom ball stuck to foot valve seat.	Remove foot valve. Clean ball and seat.
	Siphon hose is kinked or loose.	Straighten.
Pump moves up and down slowly when spray gun is shut off.	Loose connections. Bleed valve is open partially or bleed valve is worn. Lower packing seat is worn.	Check all connections between pump and gun. Tighten as necessary. If material is flowing from bleed hose, close bleed valve or replace if necessary. Should none of the above be evident, replace lower packing.
	Upper and/or lower ball not seating.	Reseat balls by cleaning.
Not enough fluid pressure at gun.	Spray tip is worn.	Replace.
	Outlet filter or gun filter is clogged	Clean or replace filter.
	Low voltage and/or inadequate amperage.	Check electrical service. Correct as required.
	Hose size or length is too small or too long.	Increase hose size to minimize pressure drop through hose and/or reduce hose length.
Pump chatters on up or down stroke	Solvent has caused upper packing to swell.	Replace packing.

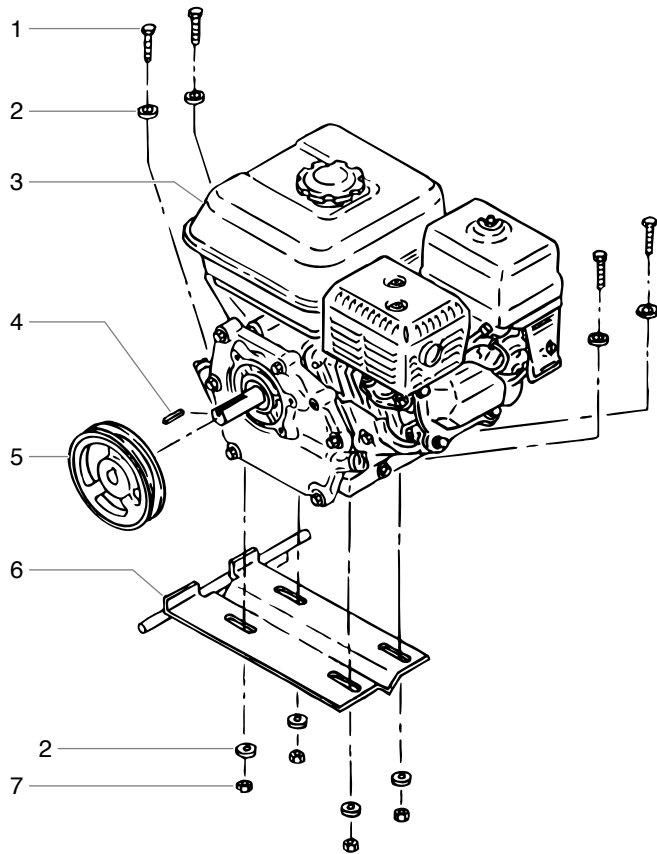
Parts Lists, Drawings, and Service Instructions

Major Components — Gas Models



<u>Item</u>	<u>Part #</u>	<u>Description</u>
1	449-050	Motor/Pump Assembly
2	930-511	Filter Assembly, Outlet Manifold
3	451-050	Cart Assembly
4	451-060	Elevator
5	-----	Hydraulic System
6	506-130	Convertokit, 5.5 HP, Honda, Gasoline

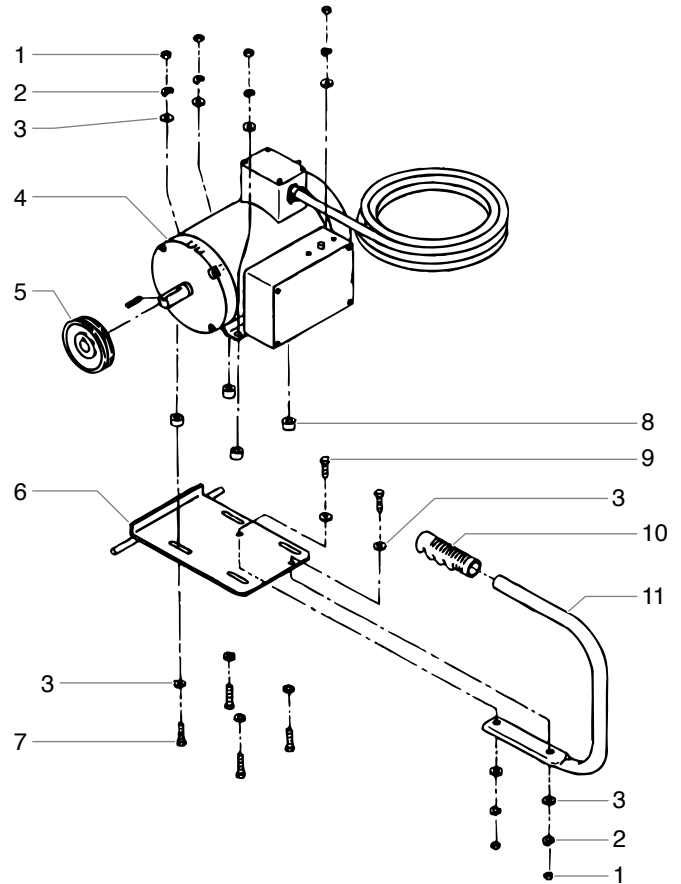
Gas Convertokits (P/N 506-130)



Item	Part #	Description	Quantity
1	860-552	Screw	4
2	860-004	Flat washer	8
3	980-331	Engine, gas 5.5 HP, Honda	1
4	980-307	Key	1
5	980-106	Pulley	1
6	449-103	Mounting plate, gas eng.	1
7	860-502	Stop nut	4
8	449-181	Belt, "V" (not shown)	*

*Not part of this assembly

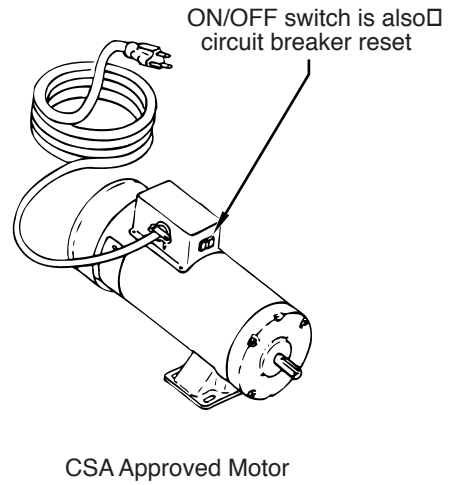
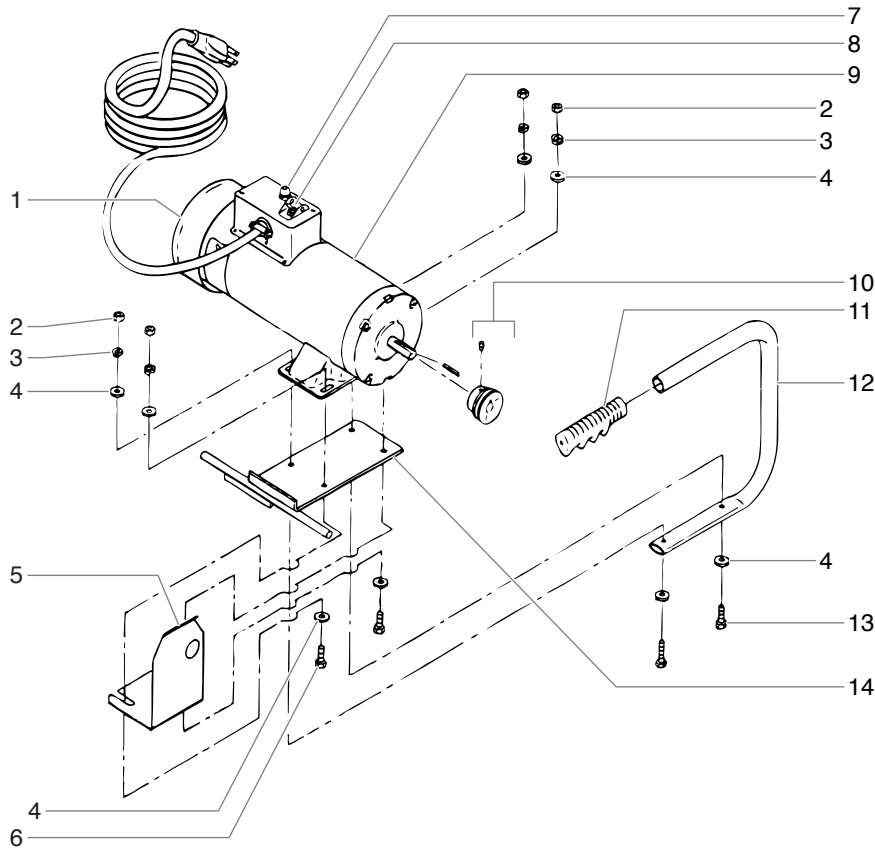
AC – Electric Convertokit



Item	Part #	Description	506-249 Qty.	506-248 Qty.
1	860-501	Stop nut.....	6	6
2	860-002	Lock washer	6	6
3	860-004	Flat washer	12	12
4	978-382	Motor, electric, 3 HP 60 Cycle, 220 V.....	1	
	978-374	Motor, electric, 3 HP 50 Cycle, 220 V.....		1
5	449-180	Pulley	1	
	449-178	Pulley		1
6	449-121	Mounting plate, elec. motor, 3 HP	1	1
7	860-552	Screw, HH	4	4
8	590-411	Spacer	4	4
9	860-544	Screw, HH	2	2
10	590-068	Handle grip.....	1	1
11	335-017	Handle	1	1
12	449-181	Belt, "V" (not shown)	*	*

*Not part of this assembly

DC — Electric Convertokits



Item	Part #	Description	506-211	506-205	506-210
			115V Qty.	CSA, 115V Qty.	220V Qty.
1	506-259	Cover	1	1	1
2	860-501	Nut stop	4	4	4
3	860-002	Lock washer.....	4	4	4
4	860-004	Flat washer	8	8	8
5	449-192	Motor shaft shield		1	
6	860-535	Screw	2	2	2
7	506-257	Circuit breaker reset	1		1
8	506-260	ON/OFF switch	1		1
	506-261	ON/OFF switch, CSA approved		1	
9	978-350	Motor, DC-Electric, 2 HP, 50 / 60 Hz, 115 V.....	1		
	978-384	Motor, DC-Electric, 2 HP, 50 / 60 Hz, 115 V CSA approved		1	
	978-351	Motor, DC-Electric, 2 HP, 50 / 60 Hz, 220 V			1
10	977-228	Pulley	1		1
	977-225	Pulley		1	
	590-068	Handle grip	1	1	1
12	335-017	Handle	1	1	1
13	860-552	Screw	2	2	2
14	449-170	Mount plate	1	1	1
15	506-255	Rectify (not shown)	1	1	1
16	506-258	Fan (not shown)	1	1	1
17	449-181	Belt (not shown)	*	*	*
18	747-951	Decal identification kit (French, not shown)		1	

*Not part of this assembly

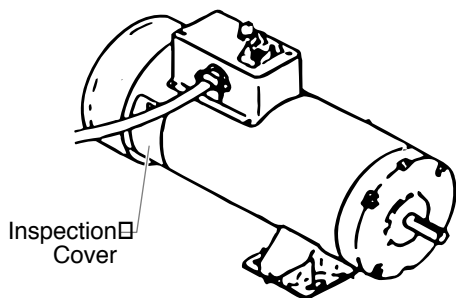
Electric Convertokits Service Instructions

WARNING

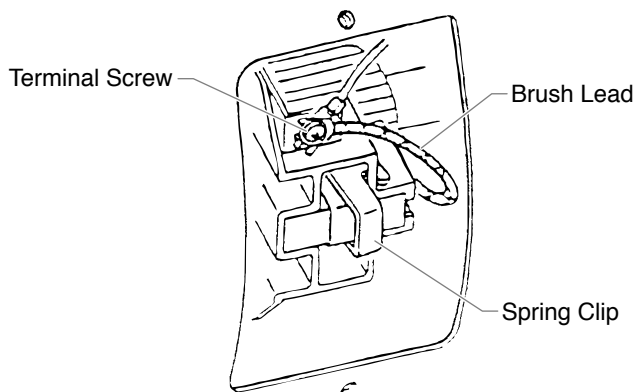
Before servicing the electric motor, follow the Pressure Relief Procedure in the Safety Warnings section of this manual. Once you have completed this procedure, unplug the power supply cord. Failure to reduce pressure can result in serious injury. Observe all warnings.

NOTE: Brushes should be replaced when they are worn to less than 1/2 inch. Check and replace both brushes at the same time. Brush Repair Kit, Part No. 978-050, consists of: 2 brushes, 2 springs, and 2 clips.

1. Remove both inspection covers on motor.

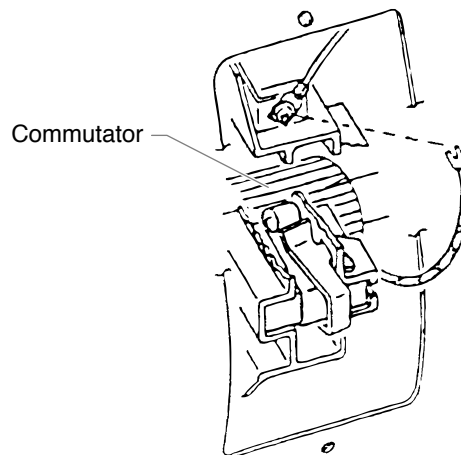


2. Push in the spring clip to unhook it, then pull it out..

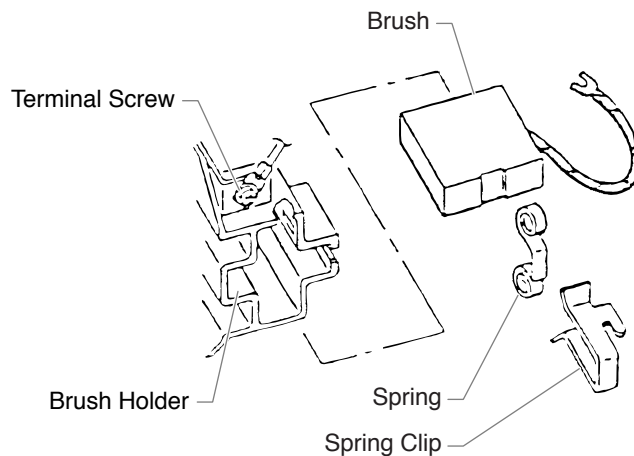


3. Loosen the terminal screw. Pull the brush lead away, but leave the motor lead in place. Remove the brush and spring.

4. Inspect the commutator for burning, excessive pitting or gouging. A black color on the commutator is normal.

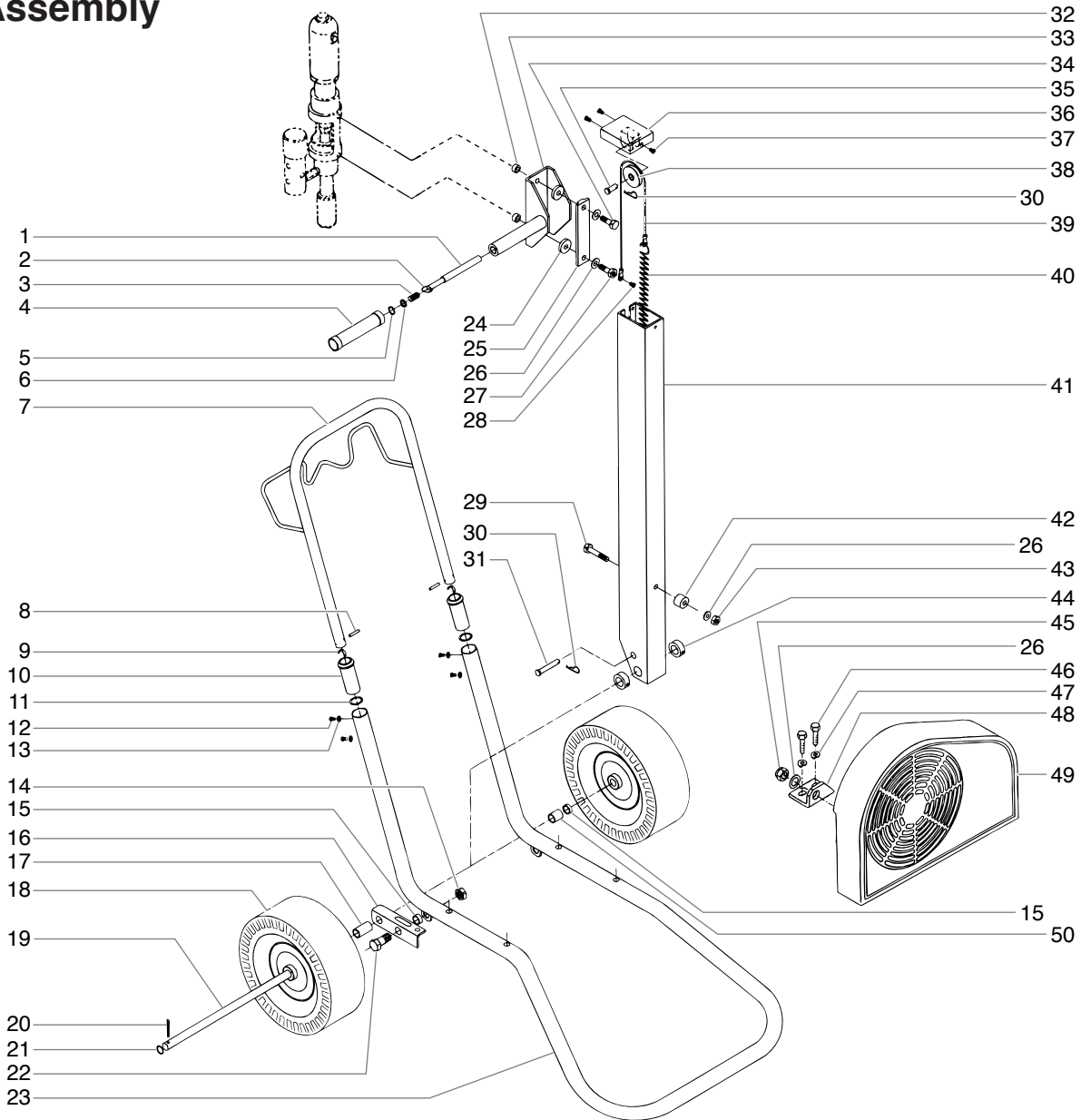


5. Install the new brush so its lead slides in the long slot of the brush holder. Push the terminal under the terminal screw washer. Ensure the motor lead is still connected at the screw. Tighten the screw.



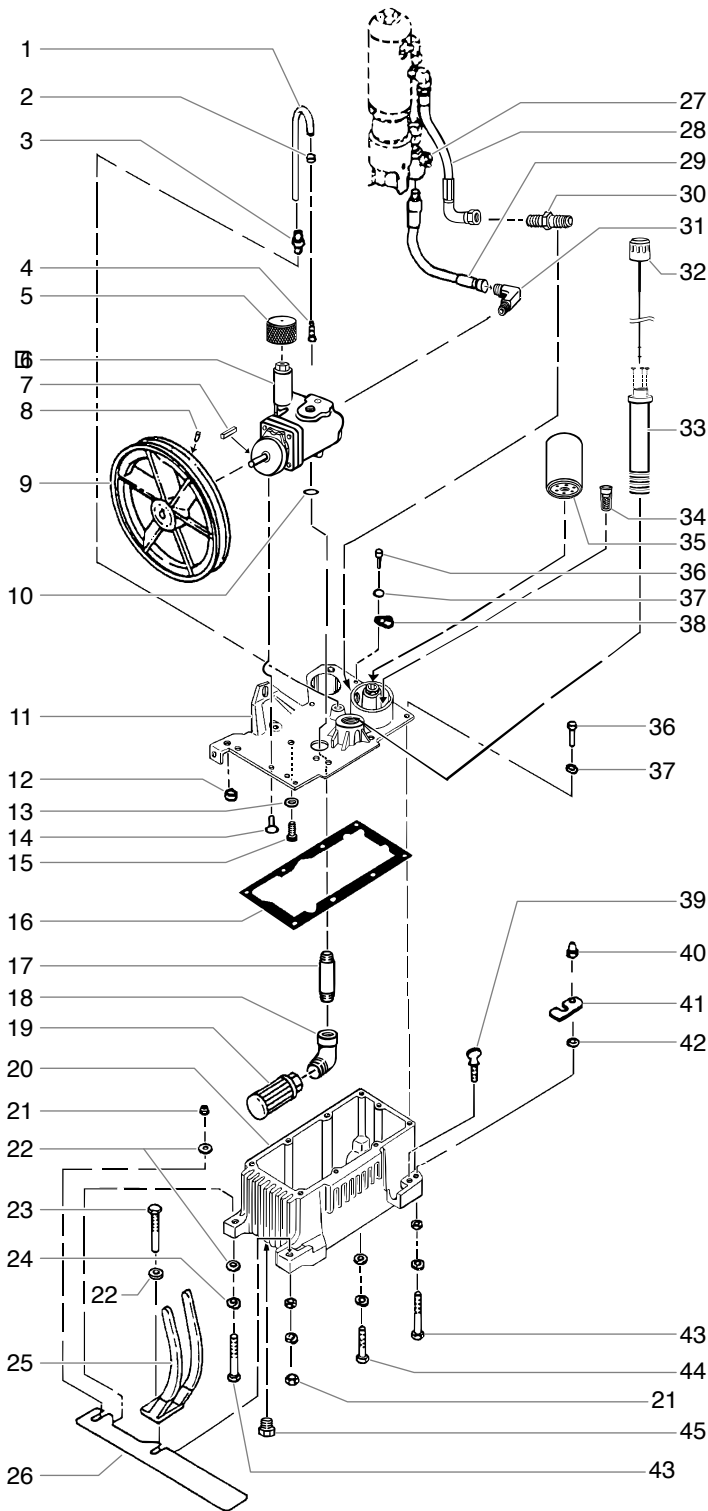
6. Place the spring on the brush as shown above. Push in and hook the spring clip. Repeat this procedure for the other side. Reinstall the inspection covers.

Cart Assembly



Item	Part #	Description	Quantity	Item	Part #	Description	Quantity
1	451-007	Lockpin	1	26	862-001	Washer	4
2	745-141	Pull ring	1	27	451-042	Fastener	1
3	451-036	Spring	1	28	700-784	Screw	1
4	451-074	Handle grip	1	29	862-472	Screw	1
5	451-075	Snap ring	1	30	451-041	Pin	2
6	451-073	Guide	1	31	451-039	Pin	1
7	590-502	Handle	1	32	449-052	Spacer	2
8	590-508	Roll pin	2	33	451-003	Elevator carriage	1
9	590-507	Snap button	2	34	862-460	Screw	1
10	590-504	Sleeve	2	35	451-038	Pin	1
11	590-506	Washer	2	36	451-006	Support	1
12	856-921	Screw	4	37	700-784	Screw	4
13	856-002	Washer	4	38	451-004	Pulley	1
14	451-083	Nut	2	39	451-005	Cable	1
15	335-552	Spacer	3	40	451-037	Spring	1
16	451-048	Bracket, left side	1	41	451-001	Elevator	1
	451-049	Bracket, right side	1	42	451-080	Spacer	1
17	449-145	Spacer	1	43	862-410	Nut	1
18	670-109	Wheel	2	44	451-081	Collar	2
19	590-503	Axle	1	45	862-411	Nut	1
20	570-010	Cotter pin	2	46	858-636	Screw	2
21	870-004	Washer	2	47	858-002	Washer	2
22	451-082	Bolt	2	48	449-187	Clip	1
23	590-525	Frame	1	49	785-007	Belt guard assembly	1
24	451-035	Guide	2	50	335-563	Spacer	1
25	451-084	Elevator slide	1				

Hydraulic System

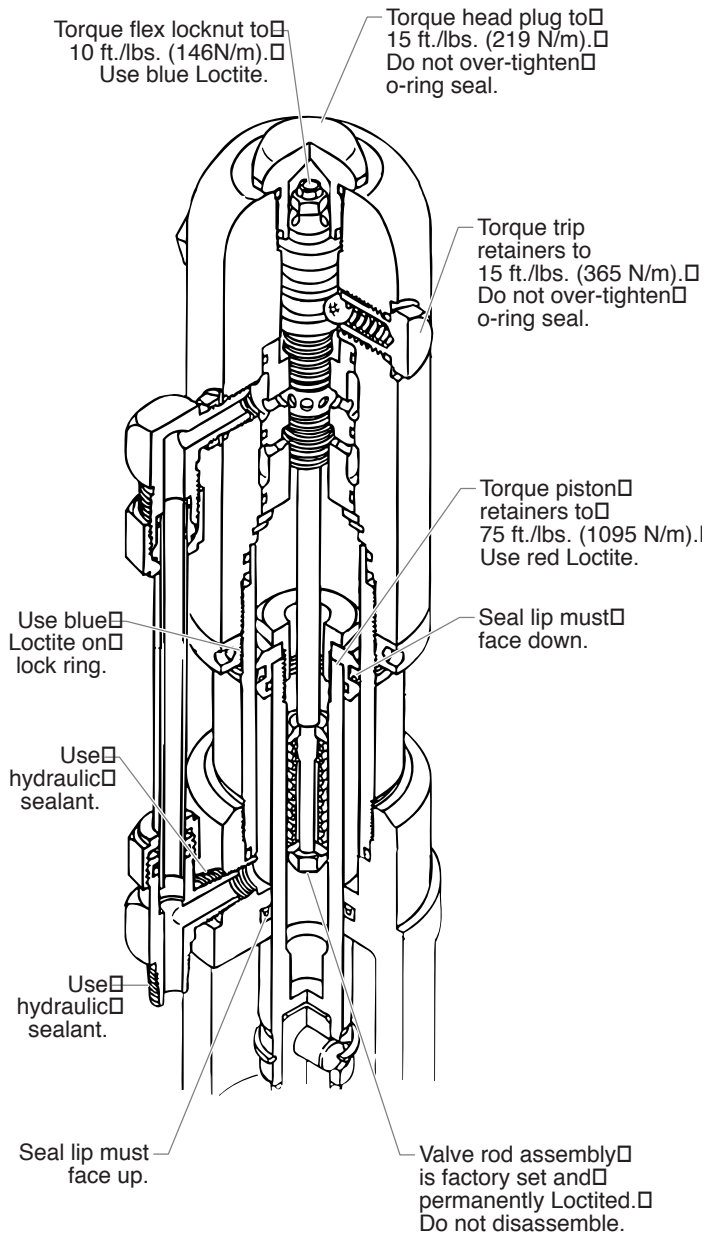


Item	Part #	Description	Quantity
1	420-250	Tubing, PTFE.....	1
2	449-126	Hose clamp	1
3	431-042	Tube connector	1
4	192-228	Elbow	1
5	448-243	Pressure adjustment knob	1
6	449-752	Hydraulic pump	1
7	448-494	Key, pump (.125 x .125 x 1).....	1
8	860-520	Set screw	1
9	449-195	Pulley/fan assembly	1
10	325-031	O-ring	1
11	449-616	Tank cover.....	1
12	858-609	Clinch nut.....	1
13	859-001	Washer	2
14	858-621	Socket screw.....	2
15	858-624	Screw	2
16	449-605	Tank gasket.....	1
17	112-208	Nipple.....	1
18	472-500	Elbow, street	1
19	448-208	Inlet screen	1
20	449-602	Hydraulic tank	1
21	862-411	Flex lock nut.....	2
22	862-001	Flat washer	6
23	862-496	Tap bolt	1
24	862-002	Lock washer.....	4
25	449-176	Belt guard brace.....	1
26	449-191	Shield (for model 449-709 only).....	1
27	941-555	Ball valve.....	1
28	451-028	Return hose assembly	1
29	451-027	Pressure hose assembly.....	1
30	451-029	Fitting	1
31	192-051	Elbow	1
32	449-626	Filler cap w/ dipstick.....	1
33	449-614	Tube assembly.....	1
34	449-609	Hydraulic By-Pass.....	1
35	449-610	Hydraulic filter	1
36	858-636	Screw, HH.....	8
37	858-002	Lock washer.....	10
38	101-205	Ground lug	1
39	862-438	Thumb screw	1
40	862-402	Acorn nut.....	1
41	449-107	Mounting plate retainer	1
42	449-135	Spacer	1
43	862-493	Screw, HH.....	2
44	862-480	Screw, HH.....	1
45	227-027	Plug.....	1

Torque and Sealant Guide

Item	Description
3	Use Hydraulic Sealant
9	Use Blue Loctite on threads
14	Use Blue Loctite on threads
14	Torque to 8 FT/LBS (117 N/m)
15	Torque to 8 FT/LBS (117 N/m)
17	Use Hydraulic Sealant
18	Use Hydraulic Sealant
19	Use Hydraulic Sealant
23	Torque to 15 FT/LBS (219 N/m)
30	Use Hydraulic Sealant
35	Torque to 20 FT/LBS (293 N/m)
42	Torque to 15 FT/LBS (219 N/m)
43	Torque to 15 FT/LBS (219 N/m)

Hydraulic Motor



Hydraulic Motor Service Instructions

Disassembly

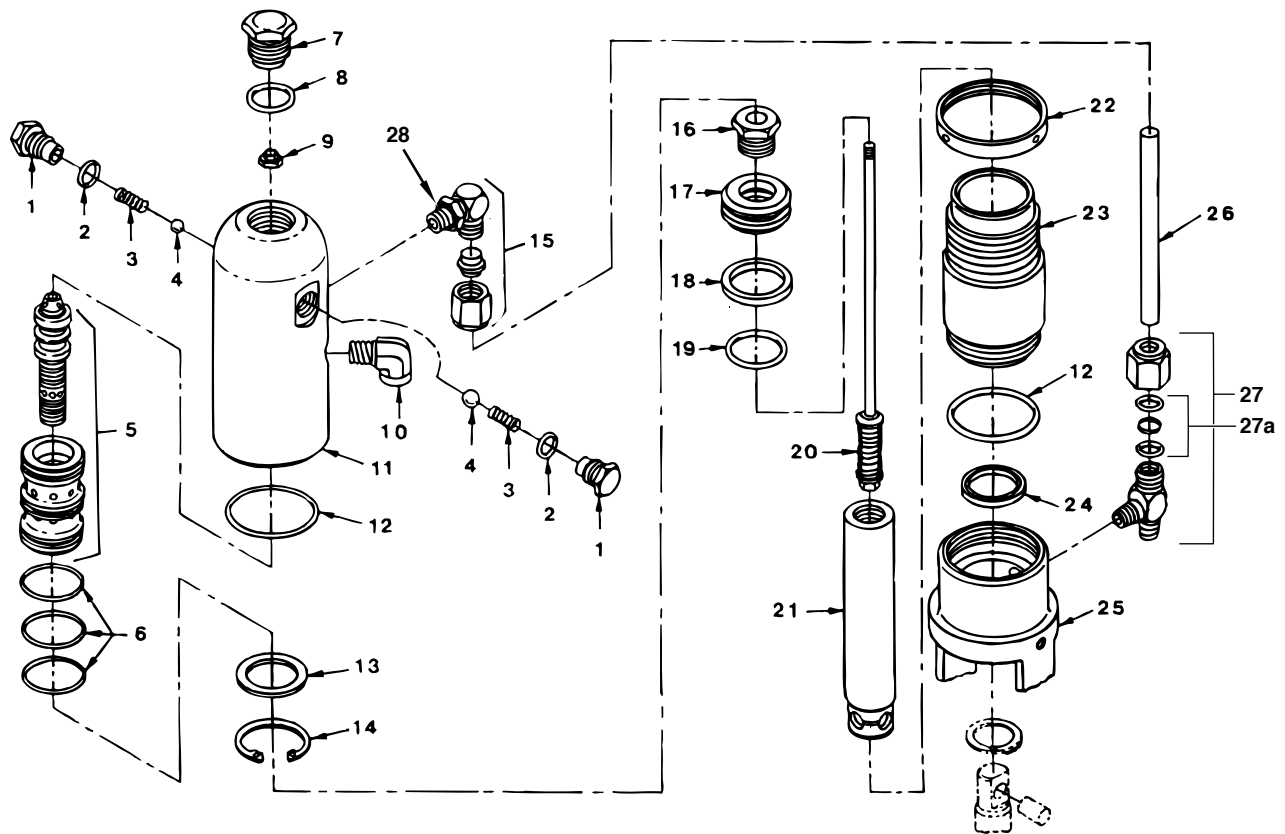
1. Disconnect the high pressure hose line from the elbow (31, in Hydraulic System parts list) on the back of the rotary pump.
2. Remove the two mounting screws (27 and 34, in Cart Assembly parts list), and two lock washers (26, in Cart Assembly parts list) that attach the motor pump assembly to the frame.
3. Place the motor pump assembly in a vise, holding it securely by the motor pump block (25, in Hydraulic Motor parts list).

Disassembly of Hydraulic Motor

Disassembly of the hydraulic motor must be carried out in an absolutely clean area. Any dust or metallic particles left in the motor or entering it on reassembly may damage the critical parts and affect its service life and warranty. If the hydraulic motor is operable, start the machine and place the piston rod (21) in its top position. The numbers in parentheses refer to the Hydraulic Motor parts list on the following page.

1. Remove cylinder head plug (7).
2. Loosen lock ring (22) with a spanner wrench and unthread tube retaining nut on tee (27). Loosen tube retaining nut on elbow (15). Slide the nut down. Push motor tube (26) into tee (27) far enough to clear elbow (15). Slowly unthread cylinder head (11) and lift it just high enough above the cylinder (23) to reach the valve rod assembly (20) with vise grip pliers.
3. The piston rod (21) should be near the top of its stroke for disassembly. It may be necessary to use a wood or nylon driver to push the piston rod up to its top position.
4. Grip the valve rod securely with vise grip pliers and then remove the FlexLoc nut (9) from the top of the valve rod assembly (20). Be careful that spool (5) does not fall. The cylinder head (11) can now be lifted off. Unthread the cylinder (23) from the motor pump block (25). Note: An extra lock ring (22) can be used to jam the two lock rings together on the cylinder and a pipe wrench can be used to unthread the cylinder (23) from the motor pump block (25).
5. To remove connecting rod pin (2, in Fluid Pump parts list), slide the ring up with a small screwdriver, and then push the connecting rod pin out (see illustration on pg. 24).
6. Remove the piston rod assembly from the motor pump block (25).
7. Remove rod seal (24), being extremely careful not to scratch the seal groove in the motor pump block (25).
8. Place the piston retainer screw (16) on the piston rod assembly in a vise. Slide a long bar through the hole at the base of the piston rod for leverage, and unthread the piston rod from the piston retainer screw.
9. Remove piston (17) and lift out valve rod assembly (20).
10. Remove piston seal (18) and o-ring (19).
11. Remove trip retainers (1), trip springs (3), and balls (4) from cylinder head (11). Remove o-rings (2) from trip retainers (1).
12. Remove retaining ring (14) and sleeve retainer (13). Gently tap spool/sleeve set (5) out of cylinder head (11) using a wood or nylon rod.
13. Inspect piston rod (21) and cylinder (23) for wear, scratches, and dents. Replace if damaged.
14. Inspect spool valve (5) for wear. Replace if necessary. spool valve should move smoothly and freely with no force by holding in a vertical position. If it does not, it can cause the motor to stall.

NOTE: Reassembly of this motor should be carried out in a clean, dust free area only. It is recommended that a full "Motor Service Kit, Minor" (P/N 235-050) be on hand. All parts should be inspected for absolute cleanliness. Any particles of dust or metal will affect the service life of the sealed motor and hydraulic system.



Item	Part #	Description	Quantity
1	235-018	Trip retainer.....	2
2	141-007	O-ring.....	2
3	325-005	Trip spring,.....	2
4	569-016	Ball, SS.....	2
5	441-908	Spool / sleeve set.....	1
6	441-152	O-ring.....	3
7	235-030	Cylinder head plug.....	1
8	441-217	O-ring.....	1
9	858-811	Flex lock nut.....	1
10	818-002	Street elbow, 90°.....	1
11	235-112	Cylinder head.....	1
12	431-032	O-ring.....	2
13	431-053	Sleeve retainer.....	1
14	431-054	Retainer ring.....	1
15	192-000	Elbow.....	1
16	235-022	Piston retainer screw.....	1
17	235-014	Piston.....	1
18	235-027	Piston seal.....	1
19	235-026	O-ring.....	1
20	235-021	Valve rod assembly.....	1
21	235-948	Piston rod.....	1
22	235-001	Lock ring.....	1
23	235-007	Cylinder.....	1
24	235-028	Rod seal.....	1
25	235-929	Motor pump block.....	1
26	235-029	Motor tube.....	1
27	197-031	Tee.....	1
27a	431-019	O-ring kit.....	1
28	700-499	O-ring.....	1

Reassembly of Hydraulic Motor

1. Separate spool/sleeve set (5). Place o-rings (6) onto sleeve. Lubricate o-rings with hydraulic oil. Gently push the sleeve into cylinder head (11) with the flatter side of the sleeve facing out. Use a nylon rod to tap sleeve down until it reaches its full depth. Do not use any other type of tool that might damage or leave particles or residue on the sleeve. Install the spool through the top of the cylinder head, down into the sleeve.

CAUTION

Do not use Piston Lube pump packing lubricant. It is a solvent and will severely damage seals and O-Rings of the hydraulic motor.

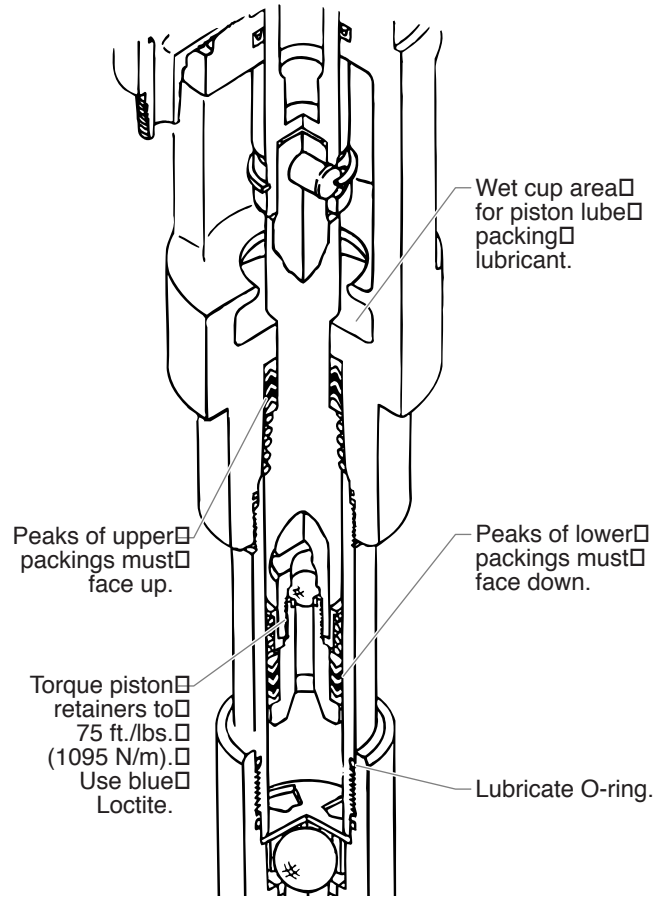
2. Install o-rings (2) on trip retainers (1). Install trip retainer balls (4) followed by springs (3) which, when installed, will hold spool/sleeve set (5) in proper place for assembly.
3. Install sleeve retainer (13) followed by snap ring (14) into cylinder head (11), which will hold valve sleeve in place. Install o-ring (12) in the o-ring groove of the cylinder head.
4. Replace lower seal (24) in motor block (25). Be sure the open portion of the seal is facing upward (V). This seal requires no special tool.
5. Place piston rod (21) in vise. Inspect valve rod assembly (20) for any damage. Make sure the lock nut at the bottom of the valve rod assembly (20) is secure. DO NOT remove. Then, place into piston rod (21) as illustrated. Install o-ring (19), lubricating it well and replacing piston (17) onto piston rod (21). Put one drop of blue Loctite on the piston retainer screw (16). Tighten piston retainer screw until piston is locked into place. Check valve rod assembly (20) for normal spring action at this time.
6. Install piston seal (18) with lips facing downward. Carefully install piston seal (18). Expand the ring and stretch it sufficiently for installation.
7. With motor pump block (25) still in vise, install lower seal (24) by pushing it towards its groove with a properly sized blunt rod. Then complete installation with the fingers. No tool is necessary. Do not twist the seal.

- Pre-lubricate the piston and valve rod assembly with Coolflo™ hydraulic fluid (P/N 430-361). Install piston rod (21) into motor pump block (25) with a gently pushing and rotating motion to work the piston rod in through the seal (24).

NOTE: Inspect the bottom of piston rod (21) for nicks or sharp areas that could damage the piston seal during installation through the pump block (25).

- Replace the connecting rod pin and retainer ring. See illustration below.
- Install o-ring (12) on cylinder wall. Lubricate ring and inner wall. With the piston rod held firmly, the cylinder should be gently driven over the piston seal with a rubber mallet. Tightly thread the cylinder into motor pump block (25).
- Raise piston rod (21) to top position and thread lock ring (22) all the way up on upper threads of cylinder (23).
- Pull valve rod assembly (20) up as far as it will travel and grasp it with vise grip pliers. Then install cylinder head (11), already assembled, over valve rod until the top threads of the valve rod pass through the top of the spool/sleeve set (5). The valve rod threads must be clean and free of oil. Place one drop of blue Loctite on threads of flex lock nut (9) and thread nut onto valve rod to full tight position (do not over-tighten) while holding valve rod below with vise grip pliers.
- Thread cylinder head (11) down onto the cylinder (23) and then back off just enough to reassemble hydraulic fittings and motor tube (26). Tighten lock ring with spanner wrench to hold cylinder head in position.
- The tee assembly (27) and the elbow (15) use an o-ring (27a) to seal on the outer diameter (O.D.) of the motor tube (26). The O.D. of the motor tube should be free of scratches or sharp edges. The lock nuts on these fittings first should be hand tightened, then wrench tightened another half turn.
- Install o-ring (8) onto cylinder head plug (7). Tighten.

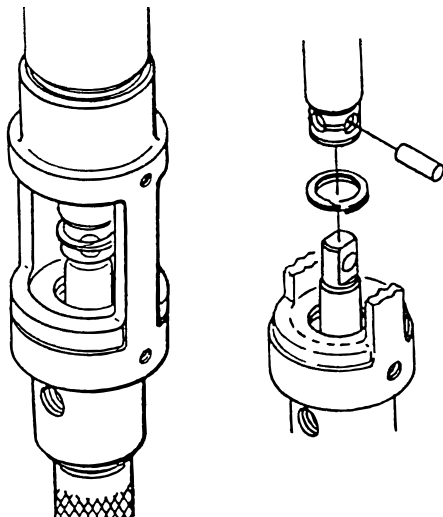
Fluid Pump



Motor Service Kit, Minor (P/N 235-050)

Item	Part #	Description	Quantity
2	141-007	O-ring	2
3	325-005	Trip spring	2
4	569-016	Ball, SS	2
6	441-152	O-ring	3
8	441-217	O-ring	1
9	858-811	Flex lock nut	1
12	431-032	O-ring	2
18	235-027	Piston seal	1
19	235-026	O-ring	1
24	235-028	Rod seal.....	1

Connecting Pin Arrangement



Fluid Pump Service Instructions

IMPORTANT: USE OF NON-SPEEFLO MANUFACTURED SERVICE PARTS MAY VOID WARRANTY. ASK FOR ORIGINAL PARTS MADE BY SPEEFLO FOR BEST SERVICES. The 143 Series Pump should receive a routine servicing after approximately 1,000 hours of use. Earlier servicing is required if there is excessive leakage from the top packing or if pump strokes become faster on one stroke or the other. The use of Speeflo Piston Lube (P/N 700-925) is recommended as an upper packing lubricant. DO NOT SUBSTITUTE OIL, WATER, OR SOLVENT for an upper packing lubricant.

Disassembly

1. Remove siphon tube assembly. Unthread foot valve (15) and pump cylinder (11) with strap wrench.
2. Slide the retainer ring (1) up with a small screwdriver, then push the connecting pin (2) out.
3. Pull displacement rod (6) through the lower cavity of the pump block.
4. Remove the pump block, PTFE o-ring (3), upper packing spring (5), and upper packing set (4).
5. Hold displacement rod (6) in a vise by the flats at the top of the rod and remove piston seat (10) with a wrench while holding the displacement rod horizontal with wooden support, if necessary. Remove ball (9), lower packing set (4), lower packing spring (8), and spring retainer (7).
6. Remove ball cage (13), PTFE o-ring (3), and ball (14).
7. Replace connecting pin (2) and retainer ring (1).
8. Remove o-ring (12) from pump cylinder (11)

Reassembly

NOTE: Use PTFE tape on all threaded pipe connections.

1. Place ball (14) into foot valve (15), followed by ball cage (13).
2. Insert PTFE o-ring (3) into lower groove of foot valve (15).
3. Place lower packing set (4) onto piston seat (10) with the peak of the "V" packings pointing down toward the foot valve.

NOTE: Packings must be soaked in oil before installation.

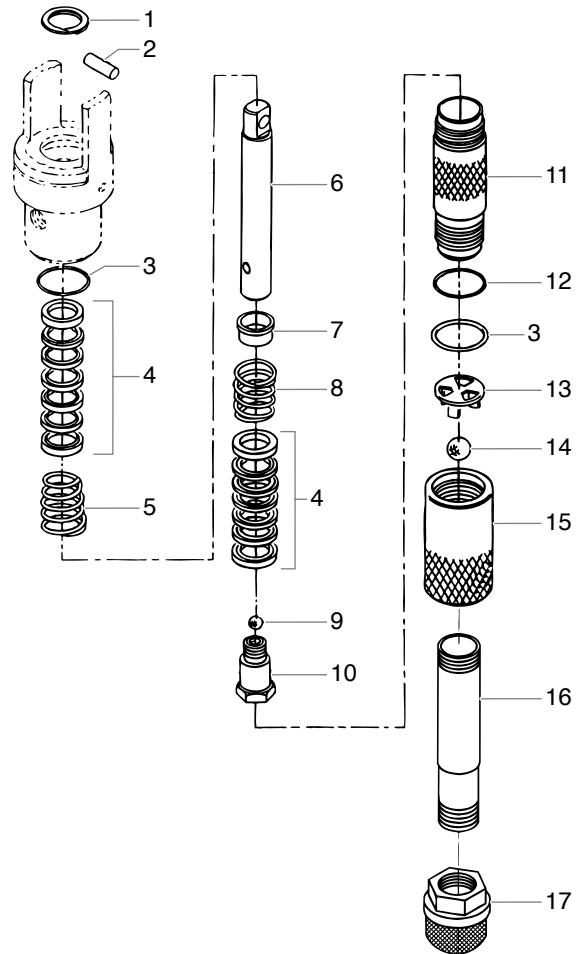
4. Clean the threads on piston seat (10) and coat the threads with blue Loctite. Make sure no Loctite is on the seat.
5. Place ball (9) onto piston seat (10).
6. Place lower packing spring (8) onto piston seat (10), followed by spring retainer (7).
7. Screw displacement rod (6) and piston seat (10) together. Tighten in a vise to 75 ft./lbs.
8. Insert PTFE o-ring (3) into upper groove of pump block.
9. Insert upper packing set (4) into pump block with the peak of the "V" packings pointing up toward the motor.

NOTE: Packings must be soaked in oil before installation.

10. Place upper packing spring (5) into the pump block with the small tapered end facing up toward the pump block.
11. Insert displacement rod (6) up through the upper packings in the pump block.
12. Align the holes in displacement rod (6) and the hydraulic piston rod and insert connecting pin (2).
13. Thread the short threads of pump cylinder (11) into the pump block and tighten with a strap wrench.
14. Place o-ring (12) onto the top groove of pump cylinder (11).
15. Thread foot valve (15) onto pump cylinder (11) and tighten with a strap wrench.

NOTE: It is not necessary to over-tighten the foot valve. O-ring seals perform sealing function without excessive tightening. Full thread engagement is sufficient.

For siphon tube attachment, it is critically important that the threads of the siphon tube fit snugly into the foot valve with the tube PTFE taped and sealed to prevent air leakage.



Item	Part #	Description	Quantity
	235-929	Pump block	1
		(See item 25 On Hydraulic Motor Assembly)	
1	143-019	Retainer ring	1
2	143-120	Connecting pin	1
3	145-031	O-Ring, PTFE	2
4	138-153	Packing set, leather/UHMWPE/steel ..	2
5	142-004	Packing spring, SS	1
6	143-117	Displacement rod, Severe Service 500 ...	1
7	138-001	Spring retainer	1
8	142-003	Packing spring, SS	1
9	138-225	Ball, SS	1
10	143-945	Piston seat	1
11	143-822	Pump cylinder, Severe Service 500	1
12	140-009	O-ring	1
13	145-032	Ball cage, SS	1
14	920-103	Ball, SS	1
15	451-040	Foot valve assembly	1
16	451-043	Siphon down tube	1
17	710-046	Inlet screen	1

Pump Service Kit, Major (P/N 143-500)

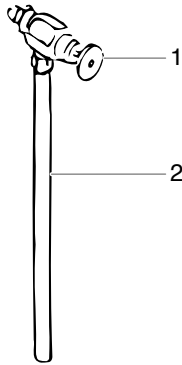
Item	Part #	Description	Quantity
	143-050	Service Kit, Minor, Pump	1
6	143-117	Displacement rod	1
11	143-822	Pump cylinder	1

Pump Service Kit, Minor (P/N 143-050)

Item	Part #	Description	Quantity
1	143-019	Retainer ring	1
3	145-031	O-Ring, PTFE	2
4	138-153	Packing set, leather/UHMWPE/steel	2
9	138-225	Ball, SS	1
12	140-009	O-ring	1
14	920-103	Ball, SS	1
	426-051	Sealant, Loctite	1

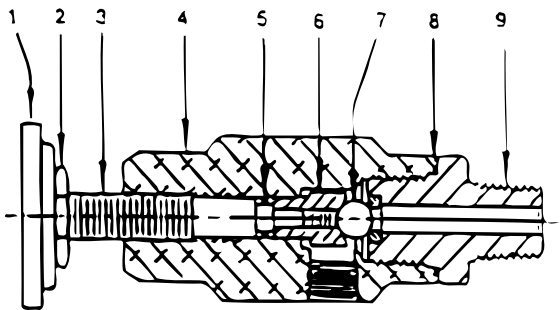
Inlet Accessories

Bleed Line Assembly with Valve



Item	Part #	Description	Quantity
1	944-620	Bleed valve	1
2	702-239	Bleed line	1

Bleed Valve Assembly (P/N 944-620)



Item	Part #	Description	Quantity
1	944-005	Knob	1
2	860-721	Nut, Lock.....	1
3	944-023	Valve Stem.....	1
5	944-004	O-Ring	1
6	944-026	Valve Stem Stop	1
7	569-170	Ball, T.C.	1
8	945-003	Gasket, Copper.....	1
9	944-904	Valve Seat.....	1

Service Instructions

The 944-620 Series Bleed Valve has a tungsten carbide valve seat and should not require frequent replacement. The tungsten carbide ball, in normal service, will last a long time because it rotates and wears evenly. If there is leakage, replace the ball.



Open the adjustment knob, to full counterclockwise position before unthreading valve seat, from valve body. If the valve stem is rotated inwardly with the ball removed, the PTFE o-ring may require replacement. If there has been leakage from the valve stem, the PTFE o-ring should be replaced

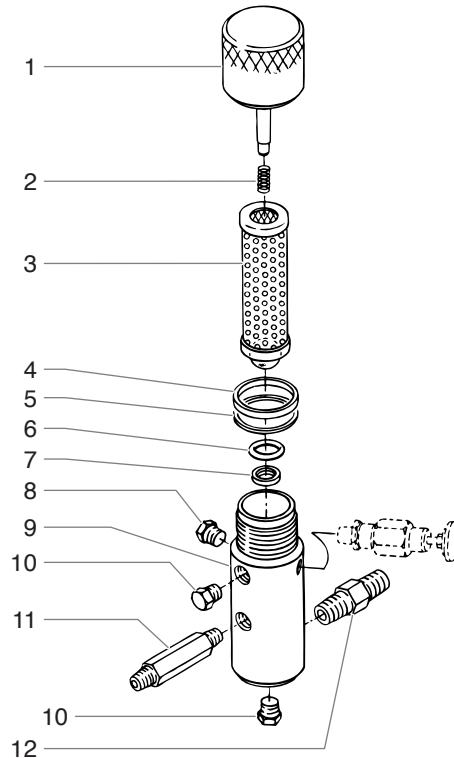
NOTE: The valve stem stop must be unthreaded from the valve stem with a socket screwdriver, then the valve stem can be threaded out of the valve body.



All non-moving threads must be assembled with Speeflo Loctite Sealant (P/N 426-051).

Outlet Accessories

930 Outlet Manifold Filter Assembly with Check Valve



Item	Part #	Description	930-511 Qty.	930-517 Qty.	930-518 Qty.
1	930-937	Filter cap assembly	1	1	1
2	930-020	Spring	1	1	1
3	930-005	Filter element, 5 M, w/ball	1		
	930-006	Filter element, 50 M, w/ball		1	
	930-007	Filter element, 100 M, w/ball			1
4	920-006	Gasket, PTFE (thick).....	1	1	1
5	920-070	Gasket, PTFE (thin)	1	1	1
6	891-193	O-ring, PTFE.....	1	1	1
7	180-909	Seat, tungsten carbide ..	1	1	1
8	227-027	Pipe plug	1	1	1
9	451-045	Filter body.....	1	1	1
10	227-033	Pipe plug	2	2	2
11	808-555	Hex nipple	1	1	1
12	814-006	Hex nipple	1	1	1

Filter Service Kit (P/N 930-050)

Item	Part #	Description	Quantity
2	930-020	Spring	1
4	920-006	Gasket, PTFE.....	1
5	920-070	Gasket, PTFE.....	1
6	891-193	O-ring, PTFE	1

Specifications

Maximum Working Pressure.....	5000 psi (345 bar)
Filter Area.....	18 In2 (116 cm2)
Outlet Ports	(1) 1/4" NPT(F) for bleed valve (1) 3/8" NPT(F) with 1/4 NPSM(M) hose connection (1) 3/8" NPT(F) plugged for additional gun hookup.
Wetted Parts	Carbon steel with electroless nickel and cadmium plating, stainless steel, tungsten carbide, PTFE

Operation

The 930 Series Outlet Manifold Filter has a built in spring actuated check valve. It uses a replaceable filter element with a stainless steel check ball permanently trapped inside the element. The element is available in the following screen sizes:

Part #	Mesh	Typical Applications
930-005	5	Heavy materials, high builds, block filters, elastomerics, multicolors, etc.
930-006	50*	Conventional architectural and protective coatings
930-007	100	Lacquers, stains, fine finishes

The filter cap has a long stem which acts as a spring guide and controls ball travel within the filter element. The filter body has a replaceable tungsten carbide seat which is secured by a PTFE o-ring.

The incorporation of this spring loaded check valve into the filter manifold greatly reduces hydraulic shock at stroke changeover and reduces opportunity for hydraulic stalls. Always use the 930 Series Filter Element / Check Ball in the PowrTwin 5500DI System. Do not use 920 Series filter elements. Do not run the system without a 930 Series filter element/check ball. When using heavy high viscosity materials, use the 5-mesh filter element/check ball.

Cleaning

Clean filter regularly. Dirty or clogged filters can greatly reduce filtering ability and cause a number of system problems including poor spray patterns, clogged spray tips, etc.

To clean the filter, shutoff system and relieve all system pressure. See the Pressure Relief Procedure on Page 12.

Remove filter cap with spring guide (1) and spring (2). Pull filter element with check ball (3) straight out of filter body (8). Thoroughly clean inside filter body (8) filter element with check ball (3) and filter cap with spring guide (1) with appropriate solvent. Use care in handling parts as dirt, debris, scratches or nicks may prevent o-rings or gaskets from sealing.

The 930 Series Filter Elements filter from the inside out. Be certain to clean the screen element thoroughly on the inside. Soak in solvent to loosen hardened paint. etc. or replace.

Service

NOTE: Inspect all parts thoroughly.

1. Inspect ball trapped inside filter element (3). If ball has pressure cuts or scratches, replace filter element.
2. If ball is cut, remove PTFE o-ring (6) with an o-ring pick and remove Tungsten carbide seat (7). Check carbide seat for nicks or grooves. If seat is nicked or grooved replace.
3. Removal of the PTFE o-ring (6) for seat (7) inspection will damage the o-ring and require replacement.
4. Remove the spring (2) from the filter cap (1). Measure the length of the spring, uncompressed. If it measures less than 3/4" from end to end, replace. Push spring back onto spring guide until it "snaps" in place.
5. Inspect the PTFE gaskets (4, 5) and o-ring for deformity, nicks, cuts, etc. Replace as required.

Reassembly

After inspecting and cleaning all parts, reassemble the filter assembly.

NOTE: The PTFE o-ring (6) and PTFE gaskets (4, 5) are packaged in the Filter Service Kit (P/N 930-050).

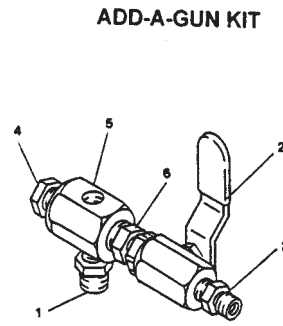
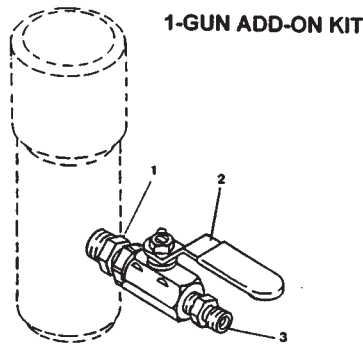
1. Place Tungsten carbide seat (7) in filter body, using care to place the beveled side up.
2. Place PTFE o-ring (6) in groove on the outer diameter of the Tungsten carbide seat (7).
3. Place filter element/check ball (3) back in filter body (8).

NOTE: The top and bottom of the filter element/check ball are identical.

4. Place spring (2) back onto spring guide in filter cap (1). Push spring onto guide rod until it "snaps" in place.
5. Place thin PTFE gasket (5) onto step at top of the filter body (8).
6. Place thick PTFE gasket (4) onto top of the gasket (5).
7. Tighten filter cap (1) onto filter body (8). This will engage o-ring (6) against Tungsten carbide seat (7).

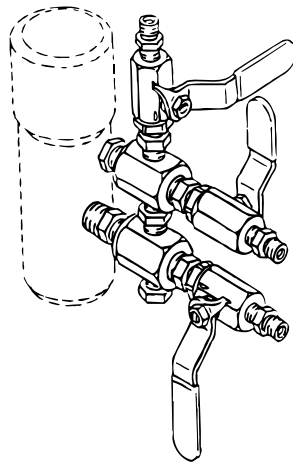
Gun Manifold Assemblies (Optional)

Single Gun Add-On Manifold Assemblies



Item	Part #	Description	975-111 1 Gun Add-On 1/4"	975-311 1 Gun Add-On 3/8"	975-200 Add-A-Gun Kit 1/4"	975-300 Add-A-Gun kit 3/8"
1	814-002	Nipple, Hex	1	1	1	
	814-004	Nipple, Hex		1		1
2	940-553	Valve, Ball	1		1	
	941-555	Valve, Ball		1		1
3	227-006	Nipple, Hex	1		1	
	808-555	Nipple, Hex		1		1
4	227-033	Plug, Pipe			1	1
5	970-100	Block, Manifold			1	1
6	814-004	Nipple, Hex			1	1

Multiple Gun Add-On Manifold Assemblies



3 Gun Manifold Assembly

Part #	Description	975-212 2 Gun 1/4"	975-213 3 Gun 1/4"	975-214 4 Gun 1/4"	975-312 2-GUN 3/8"	975-313 3-GUN 3/8"	975-314 4-GUN 3/8"
975-111	1 Gun Add-On, 1/4"	1	1	1			
975-311	1 Gun Add-On, 3/8"				1	1	1
975-200	Add-A-Gun Kit, 1/4"	1	2	3			
975-300	Add-A-Gun Kit, 3/8"				1	2	3

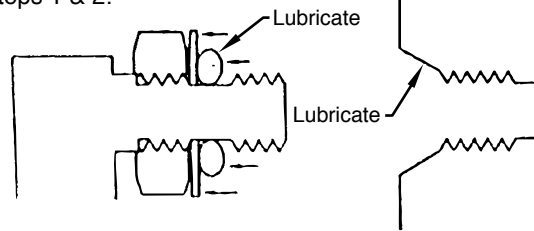
Accessories and Service Kits

These items may be purchased separately from your local Speeflo distributor.

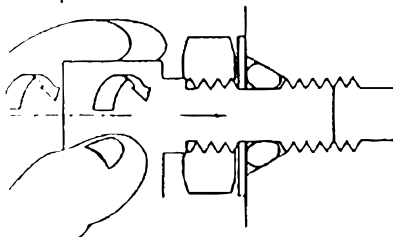
Part #	Description
103-807	5 Gal. Siphon Hose Assembly with Rock Catcher 1" x 4-1/2"
103-808	55 Gal. Siphon Hose Assembly with Rock Catcher 1" x 6-1/2'
103-627	Rock Catcher
930-005	Paint Filter Element, 5 Mesh (for multicolors and heavy materials)
930-006	Paint Filter Element, 50 Mesh (for latex and normal architectural materials)
930-007	Paint Filter Elements, 100 Mesh (for stains, lacquers and fine materials)
520-050	SGX-20 G, T, and 1/4" Hose Kit
520-051	SGX-20 G, T, and 3/8" Hose Kit
101-208	Grounding Clamp
101-212	Grounding Wire, 12 Gauge x 25'
700-925	Piston Lube
430-362	Coolflo™ Hydraulic Fluid, 1 Quart
430-361	Coolflo™ Hydraulic Fluid, 1 Gallon
143-050	Service Kit for Powrtwin 5500 Fluid Pump
930-050	Service Kit for Paint Filter
944-050	Service Kit for Bleed Valve
975-212	2-Gun Manifold with Ball Valves, 1/4"
975-213	3-Gun Manifold with Ball Valves, 1/4"
975-312	2-Gun Manifold with Ball Valves, 3/8"
975-313	3-Gun Manifold with Ball Valves, 3/8"

SAE O-Ring Fitting Installation

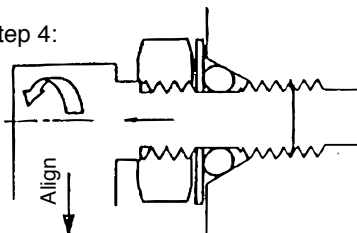
Steps 1 & 2:



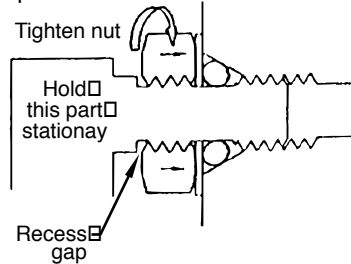
Step 3:



Step 4:



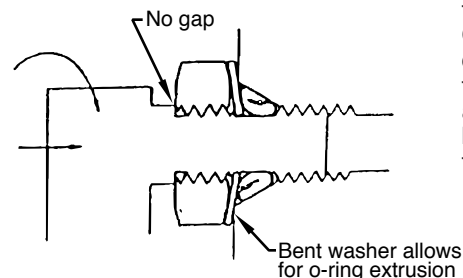
Step 5:



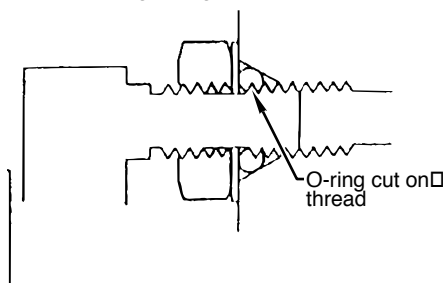
1. Pull washer and o-ring back as far as possible.
2. Lubricate o-ring and entrance port.
3. Screw fitting in until washer pushes o-ring into entrance and sits flat against port. (Do not tighten! - only do this step hand tight to compress o-ring into port!)
4. Back fitting out no more than one complete turn to align as required.

Cautions:

Avoid screwing fitting in too far.



Avoid leaving fitting too far out.



5. Torque nut wrench tight holding backup on fitting. This should expose a recess gap behind the nut which can act as an indicator that the fitting is assembled correctly. (This is a feature for a specific version of this fitting only - which screws into the cylinder head. Other fittings, as the ones which attach to the hydraulic pump, assemble the same but may not have the indicator.)

Notes

Notes

Limited Warranty

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