OWNER'S MANUAL

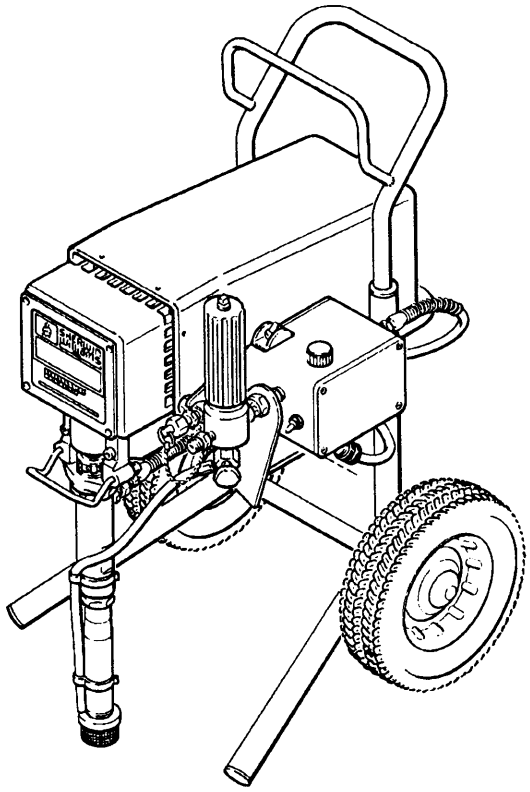
820–098 Rev A

This manual contains Important Warnings and Instructions. Read the manual and keep it for reference.

ULTIMATE® 1500 AIRLESS PAINT SPRAYER

3000 psi (210 bar) MAXIMUM WORKING PRESSURE

Model 820–115, Series A
Basic sprayer on Upright cart without hose or gun



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NOTE: This is an example of the DANGER label on your sprayer. This label is available in other languages, free of charge. See page 26 to order.

⚠ DANGER ⚠			
	FIRE AND EXPLOSION HAZARD		**SKIN INJECTION HAZARD**
Spray painting, flushing or cleaning equipment with flammable liquids in confined areas can result in fire or explosion. **Use outdoors or in extremely well ventilated areas. Ground equipment, hoses, containers and objects being sprayed.** **Avoid all ignition sources such as static electricity from plastic drop cloths, open flames such as pilot lights, hot objects such as cigarettes, arcs from connecting or disconnecting power cords or turning light switches on and off.** **Failure to follow this warning can result in death or serious injury.**		**Liquids can be injected into the body by high pressure airless spray or leaks - especially hose leaks.** **Keep body clear of the nozzle. Never stop leaks with any part of the body. Drain all pressure before removing parts.Avoid accidental triggering of gun by always setting safety latch when not spraying.** **Never spray without a tip guard.** **In case of accidental skin injection, seek immediate "Surgical Treatment".** **Failure to follow this warning can result in amputation or serious injury.**	
READ AND UNDERSTAND ALL LABELS AND INSTRUCTION MANUALS BEFORE USE			

The SHERWIN-WILLIAMS COMPANY, CLEVELAND, OHIO 44115

SAFETY WARNINGS

HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY.
FOR PROFESSIONAL USE ONLY. OBSERVE ALL WARNINGS
Read and understand all instruction manuals before operating equipment.

FLUID INJECTION HAZARD

General Safety

This equipment generates very high fluid pressure. Spray from the gun, leaks or ruptured components can inject fluid through your skin and into your body and cause extremely serious bodily injury, including the need for amputation. Also, fluid injected or splashed into the eyes or on the skin can cause serious damage.

NEVER point the spray gun at anyone or at any part of the body. NEVER put hand or fingers over the spray tip. NEVER try to "blow back" paint; this is NOT an air spray system.

ALWAYS have the tip guard in place on the spray gun when spraying.

ALWAYS follow the **Pressure Relief Procedure**, below, before cleaning or removing the spray tip or servicing any system equipment.

NEVER try to stop or deflect leaks with your hand or body.

Be sure equipment safety devices are operating properly before each use.

Medical Alert--Airless Spray Wounds

If any fluid appears to penetrate your skin, get **EMERGENCY MEDICAL CARE AT ONCE. DO NOT TREAT AS A SIMPLE CUT**. Tell the doctor exactly what fluid was injected.

Note to Physician: *Injection into the skin is a 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 blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.*

Spray Gun Safety Devices

Be sure all gun safety devices are operating properly before each use. Do not remove or modify any part of the gun; this can cause a malfunction and result in serious bodily injury.

Safety Latch

Whenever you stop spraying, even for a moment, always set the gun safety latch in the closed or "safe" position, making the gun inoperative. Failure to set the safety latch can result in accidental triggering of the gun.

Diffuser

The gun diffuser breaks up spray and reduces the risk of fluid injection when the tip is not installed. Check diffuser operation regularly. Follow the **Pressure Relief Procedure**, below, then remove the spray tip. Aim the gun into a metal pail, holding the gun firmly to the pail. Using the lowest possible pressure, trigger the gun. If the fluid emitted *is not* diffused into an irregular stream, replace the diffuser immediately.

Tip Guard

ALWAYS have the tip guard in place on the spray gun while spraying. The tip guard alerts you to the fluid injection hazard and helps reduce, but does not prevent, the risk of accidentally placing your fingers or any part of your body close to the spray tip.

Trigger Guard

Always have the trigger guard in place on the gun when spraying to reduce the risk of accidentally triggering the gun if it is dropped or bumped.

Spray Tip Safety

Use extreme caution when cleaning or changing spray tips. If the spray tip clogs while spraying, engage the gun safety latch immediately. ALWAYS follow the **Pressure Relief Procedure** and then remove the spray tip to clean it.

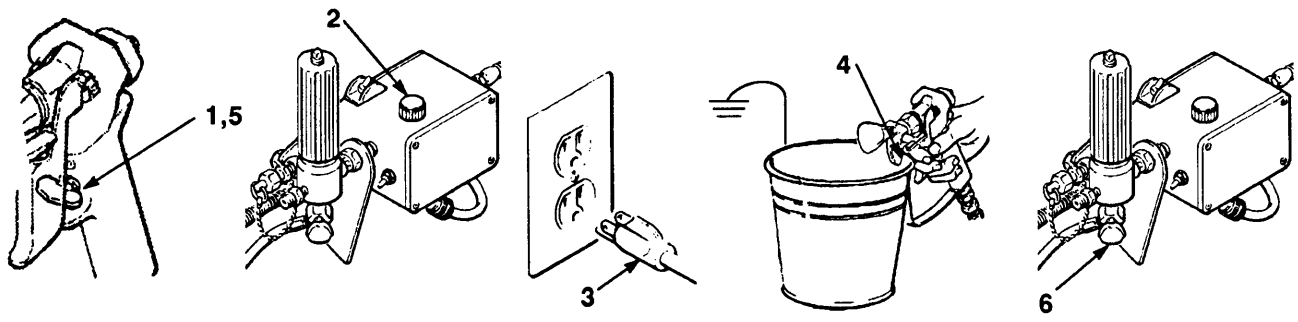
NEVER wipe off build-up around the spray tip until pressure is fully relieved and the gun safety latch is engaged.

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection, splashing fluid or solvent in the eyes or on the skin, or injury from moving parts or electric shock, always follow this procedure whenever you shut off the sprayer, when checking or servicing any part of the spray system, when installing, cleaning or changing spray tips, and whenever you stop spraying.

1. Engage the gun safety latch.
2. Turn the ON/OFF switch to OFF.
3. Unplug the power supply cord.
4. Disengage the gun safety latch. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
5. Engage the gun safety latch.
6. Open the pressure drain valve, having a container ready to catch the drainage. Leave the valve open until you are ready to spray again.

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



MOVING PARTS HAZARD

Moving parts can pinch or amputate your fingers or other body parts. KEEP CLEAR of moving parts when starting or operating the sprayer. Follow the **Pressure Relief Procedure** on page 2 before checking or servicing any part of the sprayer, to prevent it from starting accidentally.

EQUIPMENT MISUSE HAZARD

General Safety

Any misuse of the spray equipment or accessories, such as overpressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause them to rupture and result in fluid injection, splashing in the eyes or on the skin, or other serious bodily injury, or fire, explosion or property damage.

NEVER alter or modify any part of this equipment; doing so could cause it to malfunction.

CHECK all spray equipment regularly and repair or replace worn or damaged parts immediately.

Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

System Pressure

This sprayer can develop 3000 psi (210 bar) MAXIMUM WORKING PRESSURE. Be sure that all spray equipment and accessories used are rated to withstand this pressure. DO NOT exceed the maximum working pressure of any component or accessory used in the system.

Fluid and Solvent Compatibility

All chemicals used in the sprayer must be compatible with the wetted parts shown in the **TECHNICAL DATA** on page 26. Consult your chemical supplier to ensure compatibility.

Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment, which contains aluminum and/or zinc parts. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious bodily injury and/or substantial property damage.

HOSE SAFETY

High pressure fluid in the hoses can be very dangerous. If the hose develops a leak, split or rupture due to any kind of wear, damage or misuse, the high pressure spray emitted from it can cause a fluid injection injury or other serious bodily injury or property damage.

ALL FLUID HOSES MUST HAVE SPRING GUARDS ON BOTH ENDS! The spring guards help protect the hose from kinks or bends at or close to the coupling which can result in hose rupture.

TIGHTEN all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.

NEVER use a damaged hose. Before each use, check the entire hose for cuts, leaks, abrasion, bulging cover, or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately. DO NOT try to recouple high pressure hose or mend it with tape or any other device. A repaired hose cannot contain the high pressure fluid.

HANDLE AND ROUTE HOSES CAREFULLY. Do not pull on hoses to move equipment. Keep hoses clear of moving parts and hot surfaces of the pump and gas engine. Do not use fluids or solvents which are not compatible with the inner tube and cover of the hose. DO NOT expose Graco hose to temperatures above 180° F (82° C) or below -40° F (-40° C).

Hose Grounding Continuity

Proper hose grounding continuity is essential to maintaining a grounded spray system. Check the electrical resistance of your fluid hoses at least once a week. If your hose does not have a tag on it which specifies the maximum electrical resistance, contact the hose supplier or manufacturer for the maximum resistance limits. Use a resistance meter in the appropriate range for your hose to check the resistance. If the resistance exceeds the recommended limits, replace it immediately. An ungrounded or poorly grounded hose can make your system hazardous. Also read **FIRE OR EXPLOSION HAZARD.**

FIRE OR EXPLOSION HAZARD

Static electricity is created by the flow of fluid through the pump and hose. If every part of the spray equipment is not properly grounded, sparking may occur, and the system may become hazardous. Sparking may also occur when plugging in or unplugging a power supply cord or using a gasoline engine. Sparks can ignite fumes from solvents and the fluid being sprayed, dust particles and other flammable substances, whether you are spraying indoors or outdoors, and can cause a fire or explosion and serious bodily injury and property damage.

If you experience any static sparking or even a slight shock while using this equipment, **STOP SPRAYING IMMEDIATELY.** Check the entire system for proper grounding. Do not use the system again until the problem has been identified and corrected.

Grounding

To reduce the risk of static sparking, ground the sprayer and all other spray equipment used or located in the spray area. CHECK your local electrical code for detailed grounding instructions for your area and type of equipment. BE SURE to ground all of this spray equipment:

1. *Sprayer:* connect a ground wire and clamp (supplied) to a true earth ground.
2. *Fluid hoses:* use only grounded hoses with a maximum of 500 ft (150 m) combined hose length to ensure grounding continuity. See **Hose Grounding Continuity.**
3. *Spray gun:* obtain grounding through connection to a properly grounded fluid hose and sprayer.
4. *Object being sprayed:* according to local code.
5. *Fluid supply container:* according to local code.
6. *All solvent pails used when flushing,* according to local code. Use only metal pails, which are conductive. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.
7. *To maintain grounding continuity when flushing or relieving pressure,* always hold a metal part of the gun firmly to the side of a grounded metal pail, then trigger the gun.

Flushing Safety

Reduce the risk of fluid injection injury, static sparking, or splashing by following the flushing procedure given on page 11 of this manual. Follow the **Pressure Relief Procedure** on page 2, and remove the spray tip before flushing. Hold a metal part of the gun firmly to the side of a grounded metal pail and use the lowest possible fluid pressure during flushing.

IMPORTANT

United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards - particularly the General Standards, Part 1910, and the Construction Standards, Part 1926 - should be consulted.

AVERTISSEMENT

La pulvérisation à haute pression peut causer des blessures très graves.
Réservé exclusivement à l'usage professionnel. Observer toutes les consignes de sécurité.
Bien lire et bien comprendre tous les manuels d'instructions avant d'utiliser le matériel.

RISQUES D'INJECTION

Consignes generales de sécurité

Cet appareil produit un fluide à très haute pression. Le fluide pulvérisé par le pistolet ou le fluide sous pression provenant de fuites ou de ruptures peut pénétrer sous la peau ou à l'interieur du corps et entrainer des blessures très graves, voir même une amputation. Même sans être sous pression, le fluide éclaboussant ou entrant dans les yeux peut aussi entrainer des blessures graves.

NE JAMAIS pointer le pistolet vers quelqu'un ou vers une partie quelconque du corps. NE JAMAIS mettre la main ou les doigts sur l'ajutage du pulvérisateur. NE JAMAIS essayer de "refouler" la peinture. Cet appareil N'est PAS un compresseur pneumatique.

TOUJOURS garder la protection de l'ajutage en place sur le pistolet pendant la pulvérisation.

TOUJOURS observer la **March à Suivre pour Détendre la Pression** donnée plus loin, avant de nettoyer ou d'enlever l'ajutage du pulvérisateur, ou d'effectuer un travail quelconque sur une partie de l'appareil.

NE JAMAIS essayer d'arrêter ou de dévier les fuites avec la main ou le corps.

Avant chaque utilisation, bien s'assurer que les dispositifs de sécurité fonctionnent correctement.

Soins medicaux

En cas de pénétration de fluide sous la peau: **DEMANDER IMMEDIATEMENT DES SOINS MEDICAUX D'URGENCE.** NE PAS SOIGNER CETTE BLESSURE COMME UNE SIMPLE COUPURE.

Avis au medecin: La pénétration des fluides sous la peau est un traumatisme. **Il est important de traiter chirurgicalement cette blessure immédiatement.** Ne pas retarder le traitement pour effectuer des recherches sur la toxicité. Certains revêtements exotiques sont dangereusement toxiques quand ils sont injectés directement dans le sang. Il est souhaitable de consulter un chirurgien esthétique ou un chirurgien spécialisé dans la reconstruction des mains.

Dispositifs de sécurité du pistolet

Avant chaque utilisation, bien s'assure que tous les dispositifs de sécurité du pistolet fonctionnent correctement. Ne pas enlever ni modifier une partie quelconque du pistolet; ceci risquerait d'entraîner un mauvais fonctionnement et des blessures graves.

Verrou de sécurité

A chaque fois que l'on s'arrête de pulvérisér, même s'il s'agit d'un court instant, toujours mettre le verrou de sécurité du pistolet sur la position "fermée" ou "sécurité" ("safe") pour empêcher le pistolet de fonctionner. Si le verrou de sécurité n'est pas mis, le pistolet peut se déclencher accidentellement. Voir la figure, ci-dessus.

Diffuser

Le diffuseur du pistolet sert à diviser le jet et à réduire les risques d'injection accidentelle quand l'ajutage n'est pas en place. Vérifier le fonctionnement du diffuseur régulièrement. Pour cette vérification, détendre la pression en observant la **Marche à Suivre pour Détendre la Pression** donnée plus loin puis enlever l'ajutage du pulvérisateur. Pointer le pistolet dans un seau en métal, en le maintenant fermement contre le seau. Puis, en utilisant la pression la plus faible possible, appuyer sur la gachette du pistolet. Si le fluide projete *n'est pas* diffusé sous forme de jet irrégulier, remplacer immédiatement le diffuseur.

Protection de l'ajutage

TOUJOURS maintenir la protection de l'ajutage en place sur le pistolet du pulvérisateur pendant la pulvérisation. La protection de l'ajutage attire l'attention sur les risques d'injection et contribue à réduire, mais n'évite pas le risque, que les doigts ou une partie quelconque du corps ne passent accidentellement à proximité immédiate de l'ajutage du pulvérisateur.

Consignes de sécurité concernant l'ajutage du pulvérisateur

Faire extremement attention à l'occasion du nettoyage ou du remplacement des ajutages du pulvérisateur. Si l'ajutage se bouche pendant la pulvérisation, mettre immédiatement le verrou de sécurité du pistolet. TOUJOURS bien observer la **Marche à Suivre pour Détendre la Pression** puis enlever l'ajutage du pulvérisateur pour le nettoyer.

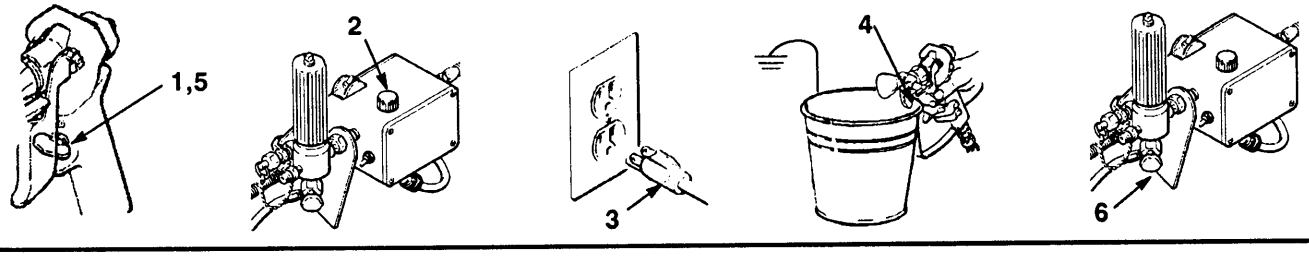
NE JAMAIS essuyer ce qui s'est accumulé autour de l'ajutage du pulvérisateur avant que la pression ne soit completement tombée et que le verrou de sécurité du pistolet ne soit engagé.

Marche à Suivre pour Détendre la Pression

Pour réduire les risques de blessures graves, y compris les blessures par injection de fluide ou celles causées par des éclaboussures dans les yeux ou sur la peau, des pièces en mouvement ou par électrocution, toujours bien observer cette marche à suivre à chaque fois que l'on arrête le pulvérisateur, à l'occasion de la vérification, du reglage ou du nettoyage du systeme ou lors du changement des ajutages.

1. Engager le verrou de sécurité du pistolet.
2. Basculer l'interrupteur de commande de pression sur ARRET (OFF).
3. Debrancher le cordón d'alimentation.
4. Désengager le verrou de sécurité du pistolet. Tout en maintenant une partie métallique du pistolet fermement appuyée contre le côté d'un seau en métal, actionner le pistolet pour libérer la pression.
5. Engager le verrou de sécurité du pistolet.
6. Ouvrir la soupape de sécurité et la laisser ouverte jusqu'a ce que l'on soit pret à se servir de nouveau du pulvérisateur. Débrancher le fil de la bougie.

Si l'on soupçonne que le tuyau ou l'ajutage du est complètement bouche, ou que la pression n'a pas été complètement libérée après avoir procede aux operations ci-dessus, desserrer très LENTEMENT un raccord du bout du tuyau ou l'écrou de retenue de la protection de l'ajutage et libérer progressivement la pression.



RISQUES EN CAS DE MAUVAISE UTILISATION DU MATERIEL

Consignes générales de sécurité

Toute utilisation anormale de l'appareil de pulvérisation ou des accessoires comme, par exemple, la mise sous une pression excessive, les modifications de pièces, l'utilisation de produits chimiques et de matières incompatibles et l'utilisation de pièces usées ou abîmées peut causer des dégâts à l'appareil ou des ruptures de pièces et entraîner une injection de liquide ou d'autrès blessures sérieuses, un incendie, une explosión ou d'autrès dégâts.

NE JAMAIS alterer ou modifier une piece de cet appareil; ceci risquerait d'entraîner son mauvais fonctionnement.

Vérifier régulièrement tout l'appareil de pulvérisation et ses equipements et réparer ou remplacer immédiatement les pièces usées ou abîmées.

Pression

Ce pulvérisateur peut produire une PRESSION MAXIMUM DE TRAVAIL 210 bar (3000 lb/po2). S'assurer que tous les éléments du pulvérisateur et ses accessoires sont conçus pour résister à la pression maximum de travail de ce pulvérisateur. NE PAS depasser la pression maximum de travail d'aucun des éléments ou accessoires utilisés avec cet appareil.

Compatibilité chimique des corps

BIEN S'ASSURER que tous les corps des solvants utilisés sont chimiquement compatibles avec les parties mouillées indiquées dans les **Technical Data**, a page 26. Toujours lire soigneusement les documents et brochures du fabricant des fluides et solvants utilisés avant de s'en servir dans ce pulvérisateur.

MESURES DE SÉCURITÉ CONCERNANT LES TUYAUX FLEXIBLES

Le fluide à haute pression circulant dans les tuyaux peut être très dangereux. En cas de fuite sur le tuyau, de fissure, déchirure ou rupture à la suite de l'usure, de dégâts ou d'une mauvaise utilisation, les projections de fluide haute pression qui en proviennent peuvent entraîner des blessures graves par pénétration sous la peau ou par contact, ainsi que des dégâts matériels.

TOUS LES TUYAUX FLEXIBLES DOIVENT AVOIR DES RESSORTS SPIRALE DE PROTECTION AUX BOUTS! Les spirales de protection contribuent à eviter la formation de pliures, de boucles ou de nœuds sur les tuyaux qui pourraient entraîner la rupture du tuyau à l'endroit du raccord ou à son voisinagé.

SERRER FERMEMENT tous les raccords avant chaque utilisation. Le fluide sous pression peut faire sauter un raccord desserre ou produire un jet à haute pression s'échappant par le raccord.

NE JAMAIS utiliser un tuyau endommagé. NE PAS essayer de refaire le raccord d'un tuyau haute pression ni de réparer le tuyau avec du ruban adhesif ou par tout autre moyen. Un tuyau réparé ne peut pas résister au fluide sous pression.

MANIPULER LES TUYAUX AVEC PRECAUTION ET CHOISIR SOIGNEUSEMENT LEUR CHEMIN. Ne pas déplacer le fluide en tirant sur le tuyau. Ne pas utiliser de fluides ou de solvants qui ne sont pas compatibles avec l'enveloppe intérieure ou extérieure du tuyau. NE PAS exposer le tuyau à des températures supérieures à 82° C (180° F) ou inférieures à -40° C (-40° F).

Continuité de la mise à la terre des tuyaux

Une bonne continuité de la mise à la terre des tuyaux est essentielle pour maintenir la mise à la terre de l'ensemble de vaporisation. Vérifiez la résistance électrique de vos tuyaux à fluides et à air, au moins une fois par semaine. Si votre tuyau ne comporte pas d'étiquette qui précise la résistance électrique maximum, prenez contact avec le fournisseur de tuyaux ou la fabricant pour avoir les límites de résistance maximum. Utilisez un mètre de résistance de la gamme appropriée pour votre tuyau et vérifiez la résistance. Si celle-ci dépasse les límites recommandées, remplacez le tuyau immédiatement. Un tuyau sans mise à la terre ou avec une mise à la terre incorrecte peut entraîner des risques pour votre systeme. Lisez aussi **LES RISQUES D'INCENDIE OU D'EXPLOSIÓN** ci-dessus.

RISQUES D'INCENDIE OU D'EXPLOSIÓN

De l'électricité statique est produite par le passage du fluide à grande vitesse dans la pompe et dans les tuyaux. Si toutes les pieeces de l'appareil de pulvérisation ne sont pas convenablement reliées à la masse ou à la terre, des étincelles peuvent se produire et l'appareil risque d'être dangereux. Des étincelles peuvent également se produire à l'occasion du branchement ou du débranchement du cordón d'alimentation. Les étincelles sont suffisantes pour allumer les vapeurs de solvants et le fluide pulvérisé, les fines particules de poussieère ainsi que d'autrès substances inflammables, quand on pulvérisé à l'intérieur ou à l'extérieur, et elles peuvent causer un incendie ou une explosión, ainsi que des blessures graves et des dégâts matériels. Toujours brancher le pulvérisateur dans une prise se trouvant à au moins 6 m (20 pieds) de l'appareil et de l'endroit où se fait la pulvérisation. Ne pas brancher ou débrancher un cordón d'alimenations quel qui'il soit dans la zone où se fait la pulvérisation quand il y à le moindre risque que des vapeurs encore présentes dans l'air prennent feu.

S'il se produit des étincelles d'électricité statique, ou si vous ressentez la moindre décharge, ARRÊTEZ IMMÉDIATEMENT LA PULVÉRISATION. Vérifiez que le système entier est bien mis à laterre. Ne vous servez pas du systeeme avant que le problème soit identifié et corrigé.

Mise à la terre ou à la masse

Pour réduire les risques de production d'étincelles d'électricité statique, le pulvérisateur et tous les équipements utilisés ou se trouvant dans la zone de pulvérisation doivent être reliés à la terre ou à la masse. Pour connaître le detail des instructions de mise à la terre dans la region et le type particulier d'équipement, CONSULTER le code ou les réglementations électriques locales. S'ASSURER que tous les équipements de pulvérisation suivants sont bien reliés à la terre:

1. *Pulvérisateur:* Brancher le cordón d'alimentation ou la rallonge qui doivent être équipés d'une prise à 3 fiches en bon état, dans une prise de courant convenablement mise à la terre. Ne pas utiliser d'adaptateur. Toutes les rallonges doivent avoir 3 fils et être prevues pour 15 ampères.
2. *Tuyaux flexibles:* Afin d'assurer la continuité de la mise à la terre, n'utiliser que des tuyaux comportant une mise à la terre et ayant une longueur maximum combinée de 150 m (1500 pieds). Se reporter également au paragraphe **Continuité du circuit de mise à la terre des tuyaux.**
3. *Pistolet*: Réaliser la mise à la terre en le raccordant à un tuyau flexible et à un pulvérisateur dèjá convenablement reliés à la terre.
4. *Récipient d'alimentation:* observer le code ou les réglementations locales.
5. *Objets, matériel ou surfaces reçevant la pulvérisation:* observer le code ou les réglementations locales.
6. *Tous les seaux de solvants* utilisés pour le rinçage: observer le code ou les réglementations locales. N'utiliser que des saux métalliques conducteurs de l'électricité. Ne pas mettre le seau sur une surface non conductrice comme sur du papier ou du carton car cela interromprait la continuité de la mise à la terre.
7. *Pour conserver la continuité de la mise à la terre quand on rince le matériel ou quand on libére la pression*, toujours maintenir une partie métallique du pistolet fermement appuyée contre le côté d'un seau en métal puis appuyer sur la détente du pistolet.

Mesures de sécurité concernant le Rincage

Pour réduire les risques de blessures par pénétration de la peau et les risques dûs aux etincelles d'electricite statique ou aux éclaboussures, observer la marche à suivre pour le rincage donnée à la page 11 de ce manuel. Observer la "Marche à Suivre pour Détendre la Pression" donnée à la page 4 en *enlever l'ajutage du pulvérisateur avant le rincage*. Maintenir une partie métallique du pistolet fermement appuyée contre le côté d'un seau en métal et utiliser la pression la plus faible possible pendant le rincage.

ADVERTENCIA

EL ROCIADO a ALTA PRESIÓN PUEDE CAUSAR GRAVES LESIONES.
SOLO PARA USO PROFESIONAL. RESPETE LOS AVISOS DE ADVERTENCIA.
Lea y entienda todo el manual de instrucciónes antes de manejar el equipo.

PELIGRO DE INYECCIÓN DE FLUIDO

Seguridad general

Este equipo genera un fluido a una presión muy alta. El rociado de la pistola, los escapes de fluido o roturas de los componentes pueden inyectar fluido en la piel y el cuerpo y causar lesiones extremadamente graves, incluyendo a veces la necesidad de amputación. También, el fluido inyectado o salpicado en los ojos puede causar graves daños.

NUNCA apuntar la pistola hacia alguien o alguna parte del cuerpo. NUNCA colocar la mano o los dedos encima de la boquilla. NUNCA tratar de "hacer retornar la pintura"; este NO es un sistema de rociado de aire.

SIEMPRE tener colocado el protector de la boquilla en la pistolamientras se está pulverizando.

SIEMPRE seguir el procedimiento de descarga de presión, dado másabjo, antes de limpiar o sacar la boquilla o de dar servicioa cualiquier equipo del sistema.

NUNCA tratar de parar o desviar los escapes con la mano o el cuerpo.

Asegurar que todos los aparatos de seguridad del equipo están funciónando bien antes de cada uso.

Tratamiento médico

Si pareciera que un poco de fluido penetró la piel, conseguir **TRATAMIENTO médico DE URGENCIA DE INMEDIATO. NO TRATAR LA HERIDA COMO UN SIMPLE CORTE.** Decir al médico exactamente cua fluido fue.

Aviso al médico: Si se llega a inyectar este fluido en la piel se causa una lesión traumática. **Es importante tratar quirúrgicamente la lesión a la brevedad posible.** No demorar el tratamiento para investigar la toxicidad. La toxicidad es algo de suma importancia en algunas pinturas exóticas cuando se inyectan directamente al torrente sanguineo. Sirá conveniente consultar a un especialista en cirugia plástica o reconstructiva de las manos.

Aparatos de seguridad de la pistola pulverizadora

Asegurar que todos los aparatos protectores de la pistola están funciónando bien antes de cada uso. No sacar ni modificar ningúna pieza de la pistola pues podria causar el malfunciónamiento de la misma con las consiguientes lesiones personales.

Pestillo de seguridad

Cada vez que se deje de pulverizar, aunque sea por un breve momento, siempre colocar el pestillo de seguridad en la posición "cerrada" lo que deja la pistola inoperante. El no hacerlo puede llevar al disparo imprevisto de la pistola.

Difusor

El difusor de la pistola dispersa el chorro pulverizado y reduce el riesgo de inyección cuando no está instalada la boquilla. Revisar con regularidad el funciónamiento del difusor. Seguir el **procedimiento de descarga de presión**, dado más abajo, y después sacar la boquilla. Apuntar la pistola a un balde metálico, sosteniéndola bien firme contra el. Utilizando la presión más bajo posible, disparar la pistola. Si el fluido emitido no sale disperso en un chorro irregular, reemplazar de inmediato el difusor.

Protector de la boquilla

SIEMPRE tener el protector de la boquilla colocado en la pistola mientras se está pulverizando. Este protector llama la atención contra el peligro de inyección y ayuda a reducir, pero no evita, la colocación accidental de los dedos o cualquier otra parte del cuerpo cerca de la boquilla.

Seguridad de la boquilla pulverizadora

Tener mucho cuidado al limpiar o cambiar las boquillas. Si llegara a obstruirse mientras está pulverizando, enganchar el pestillo de la pistola de inmediato. SIEMPRE seguir el **procedimiento de descarga de presión** y después sacar la boquilla para limpiarla.

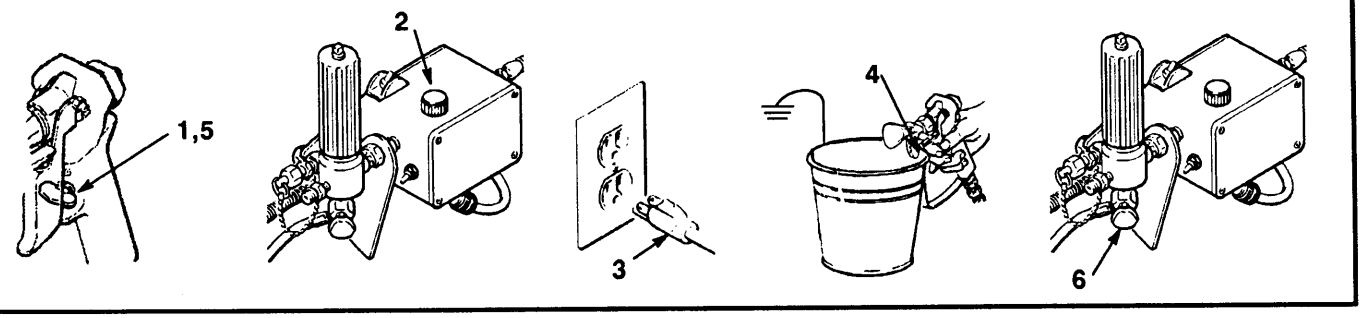
NUNCA limpiar la acumulación de pintura alrededor de la boquilla antes de que se haya descargado por completo la presión y el pestillo este enganchado.

Procedimiento de descarga de presión

Para reducir el riesgo de sufrir graves lesiones corporales, incluyendo inyección o lesiones causadas por piezás en movimiento o choque eléctrico, siempre seguir este procedimiento al apagar la máquina pulverizadora, al revisar o dar servicio a cualquier parte del sistema de pulverización, al instalar, limpiar o cambiar las boquillas, y cada vez que se deja de pulverizar.

1. Enganchar el pestillo de la pistola.
2. Mover el interruptor eléctrico (ON/OFF) a la posición OFF (apagado).
3. Desenchufar el cordón electrico.
4. Desenganchar el pestillo de la pistola. Sujetar una parte metálica de la pistola bien firme contra un balde de metal, y disparar la pistola para descargar la presión.
5. Enganchar el pestillo de la pistola.
6. Abrir la válvula de presión y tener listo un reclipiente para recibir la pintura. Dejar la válvula de alivio de presión abierta hasta que se este nuevamente listo para pulverizar.

Si se sospecha que la boquilla o la manguera está completamente obstruida, o que no se ha descargado por completo la presión después de haber seguido el procedimiento anterior, aflojar MUY LENTAMENTE la tuerca de retención del protector de la boquilla o acoplamiento de la punta de la manguera y descargar gradualmente la presión, después, aflojarlo por completo. Luego, despejar la boquilla o la manguera.



PELIGRO POR MAL USO DEL EQUIPO

Seguridad general

Cualquier mal uso del equipo pulverizador o los accesorios, tal como sobre presurización, modificación de piezás, uso de matériales y productos quimicos incompatibles, o utilización de piezás dañadas o desgastadas, puede hacen que se rompan y causen la inyección de fluido u otras lesiones corporales graves, incendio, explosión o dañon a la propiedad.

NUNCA alterar o modificar ningúna pieza de este equipo; el hacerlo podria causar una avería.

REVISAR con regularidad el equipo pulverizador y reparar o reemplazar de inmediato las piezás dañadas o desgastadas.

Presión del sistema

está pulverizadora puede desarrollar 210 barías (3000 psi) de presión DE TRABAJO MÁXIMA. Asegurar que todo el equipo pulverizador y sus accesorios tienen la capacidad para aguantar la presión máxima de trabajo de está pulverizadora. NO exceder la presión máxima de trabajo de ningún componente o accesorio de este sistema.

Compatibilidad de fluido

Siempre leer las instrucciónes del fabricante del fluido y solvente antes de usarlos en está pulverizadora, dadas en la página 26.

Siempre usar gafas, guantes, vestimetas protectora y un respiradero, tal como recomiendan los fabricantes del fluido y del solvente.

SEGURIDAD EN EL USO DE LAS MANGUERAS

El fluido que escapa a alta presión por las mangueras puede ser muy peligroso. Si en la manguera se desarrolla un escape, una rotura o rajadura debido a cualquier tipo de desgaste, daño o maltrato, el chorro a alta presión emitido por alli puede causar una lesion por inyección u otras lesiones corporales graves o daños a la propiedad.

¡TODAS LAS MANGUERAS PARA FLUIDOS TIENEN QUE TENER GUARDAS DE RESORTE EN AMBOS EXTREMOS! Estas protegen las mangueras contra dobleces o retorceduras en los acoplamientos o cerca de ellos, los que podrian traducirse en roturas de la manguera.

Antes de usarlas, APRETAR bien firmes todas las conexiones. El fluido a alta presión puede desalojar un acoplamiento suelto o dejar que por el escape un chorro a alta presión.

NUNCA usar una manguera que está dañada. Siempre, revisarla en busca de cortaduras, escapes, abrasion, cubierta abultada, o acoplamientos sueltos o dañados. Si llegara a encontrarse cualquiera de estás condiciónes, reemplazar de inmediato la manguera. NO intentar racoplar una manguera de alta presión o enmendarla con cinta adhesiva u otro matérial similar. Una manguera que ha sido remendada no aguante el fluido a alta presión.

MANEJAR Y PASAR CUIDADOSAMENTE LAS MANGUERAS. No tirar de las mangueras para mover el equipo. No usar fluidos o solventes que sean incompatibles con el tubo interno y la cubierta dela manguera. NO exponer las mangueras a temperaturas sobre 82° C (180° F) o bajo -40° C (-40° F).

Continuidad del circuito de puestá a tierra de la manguera

La continuidad del circuito de puestá a tierra apropiado es esencial para mantener conectado a tierra el sistema pulverizador. Es indispensable revisar la resistencia eléctrica máxima de las mangueras de aire y de fluido por lo menos una vez a la semana. Si la manguera no tiene una etiqueta en la cual se especifica la resistencia eléctrica, ponerse en contacto con el proveedor o fabricante de la manguera para la información sobre los límites de resistencia. Usar un metro de resistencia en la gama apropiade para comprobar la resistencia; si excede los límites recomendados, reemplazarla de inmediato. Es muy arriesgado tener una manguera sin puestá a tierra o con la puestá a tierra en malas condiciónes. Leer también la información sobre **RIESGO DE INCENDIO O EXPLOSION**, más arriba.

PELIGRO DE INCENDIO O EXPLOSION

El flujo a alta velocidad del fluido al pasar por la bomba y manguera crea electricidad estática. Si todas las partes del equipo pulverizador no tienen buena tierra, pueden ocurrir chispas, convirtiendo al sistema en algo peligroso. También, pueden producirse chispas a enchufar o desenchufar el cordón electrico o al usar un motor de gasolina. estás chispas pueden inflamar los vapores de los solventes y el chorro de fluido pulverizado, particulas de polvo y otras sustancias in flamables, sea al aire libre o bajo techo, lo que podria causar una explosión o incendio y graves lesiones corporales y daños al a propiedad. Enchufar siempre la pulverizadora a un tomacorriente que se encuentre a por lo menos 6 m (20 pies) de la maquina y del area que se va a rociar. No enchufar o desenchufar ningún cordón electrico en el lugar donde se está rociando cuando todavia exista la posibilidad de que queden vapores inflamables en el aire.

Si ocurre una chispa de electricidad estática o incluso un ligero choque electrico mientras se usa el equipo, DEJAR DE PULVERIZAR DE INMEDIATO. Revisar todo el sistema en busca de una tierra apropiada. No usar de nuevo el sistema hasta haber identificado y soluciónado el problema.

Peusta a tierra

Para reducir el reisgo de chispas estáticas, conectar a tierra la pulverisadora y todo el otro equipo de pulverisar que se use o se encuentre en el lugar que se va a rociar. CONSULTAR el codigo electrico de la localidad para las instrucciónes sobre las conexiones a tierra exigidas para la zona y tipo de equipo. ASEGURAR de conectar a tierra todo este equipo pulverisador:

1. *Pulverizadora:* enchufar el cordón electrico, o cable extensor, cada uno un enchuf de très patas en buen estádo, a un tomacorreinte con puesat a tierra aporpiado. No usar un adaptador. Totos los cables extensores tienen que tener très hilos y una capacidad de 15 amperios.
2. *Mangueras para fluidos:* usar solamente mangueras con puestá a tierra de una longitud combinada de 150 m (500 pies), para asequrar buena continuidad a tierra. Referirse también al párrafo sobre **continuidad a tierra de la manugeura.**
3. *Pistola:* hace la puestá a tierra conectándola a una manguera de fluido y pulverizadora bien conectadas a tierra.
4. *Suministrar un recipiente:* de acuerdo al código de la localidad.
5. *Objeto que se está rociando:* de conformidad con el codigo local.
6. *Todos los baldes de solvente* usados durante el lavado, de conformidad con el código local. Usar *solamente baldes de metal,* que sean conductivos. no colocar el balde en una superficie no conductiva, como papel o cartón, que interumpe la continuidad a tierra.
7. *Para mantenar la continuidad a tierra durante el lavado o descarga de presión,* siempre apoyar una parte metálica de la pistola bien firme contra el costado del *balde de metal,* después apretar el gatillo.

Seguridad durante el lavado

Para reducir el riesgo de que se inyecte o salpique fluido en la piel, o que ocurra una descarga de electricidad estática, siempre seguir las INSTRUCCIÓNES PARA EL LAVADO, dadas en la página 11. Seguir el **procedimiento de descarga de presión** en la págna 6, y quita la *boquilla rociadora antes de lavar.* Apoyar una parte metalica de la pistola bien firme contra el costado de un *balde de metal* y usar le presión más baja posible de fluido durante el lavado.

SETUP

1. **Prepare the paint.** Remove any skin that may have formed. Stir the paint thoroughly. Strain the paint through a fine nylon mesh bag to remove particles that could clog the filter, if used, or the spray tip.

WARNING

To reduce the risk of serious bodily injury caused by static sparking, fluid injection or over-pressurization and rupture of the hose or gun, all hoses must be electrically conductive, the gun must have a tip guard, and each part must be rated for at least 3000 psi (210 bar) Working Pressure.

NOTE: Don't use thread sealant, and don't install the spray tip yet!

2. **Connect the hoses and gun.** Use a 1/4 in. ID, 50 ft. (15 m) long (minimum) main hose. For more flexible gun movement, install a 3/16 in. ID, 3 ft. (0.9 m) hose between the main hose and the gun. Remove the cap from the outlet nipple. Screw the gun and hose assembly onto the nipple.

3. **Two gun hookup.** Remove the cap from the 1/4 npsm(m) secondary hose outlet. Install a hose and gun assembly as described in Step 2.

CAUTION

To avoid damaging the pressure control, which may result in poor equipment performance and component damage, follow these precautions:

1. Always use grounded, flexible spray hose at least 50 ft. long.
2. Never use a wire braid hose as it is too rigid to act as a pulsation dampener.
3. Never install any shutoff device between the filter and the main hose. *See Fig 1.*
4. Always use the main filter outlet for one gun operation. Never plug this outlet.

4. **Fill the packing nut/wet-cup** 1/3 full with Throat Seal Liquid (TSL), supplied.

WARNING

Proper electrical grounding is essential to reduce the risk of fire or explosion which can result in serious bodily injury and property damage. See the warning section **FIRE OR EXPLOSION HAZARD** on page 3 for more detailed grounding instructions.

5. **Check the electrical service.**
   a. The electrical service must be 120 V, 60 HzAC, 15 Amp (minimum). The outlet must be grounded.
   b. Do not remove the grounding prong of the power supply cord, and do not use an adapter.
   c. Extension cord specifications: 15 Amps, 3 wires, grounding type. (Long lengths reduce sprayer performance.)

6. **Plug in the sprayer.** Be sure the ON/OFF switch is OFF. Plug the cord into a grounded electrical outlet located at least 20 ft. (6 m) away from the spray area.

7. **Flush the pump** to remove the oil left in to protect pump parts after factory testing. See the **FLUSHING GUIDELINES** on page 11.

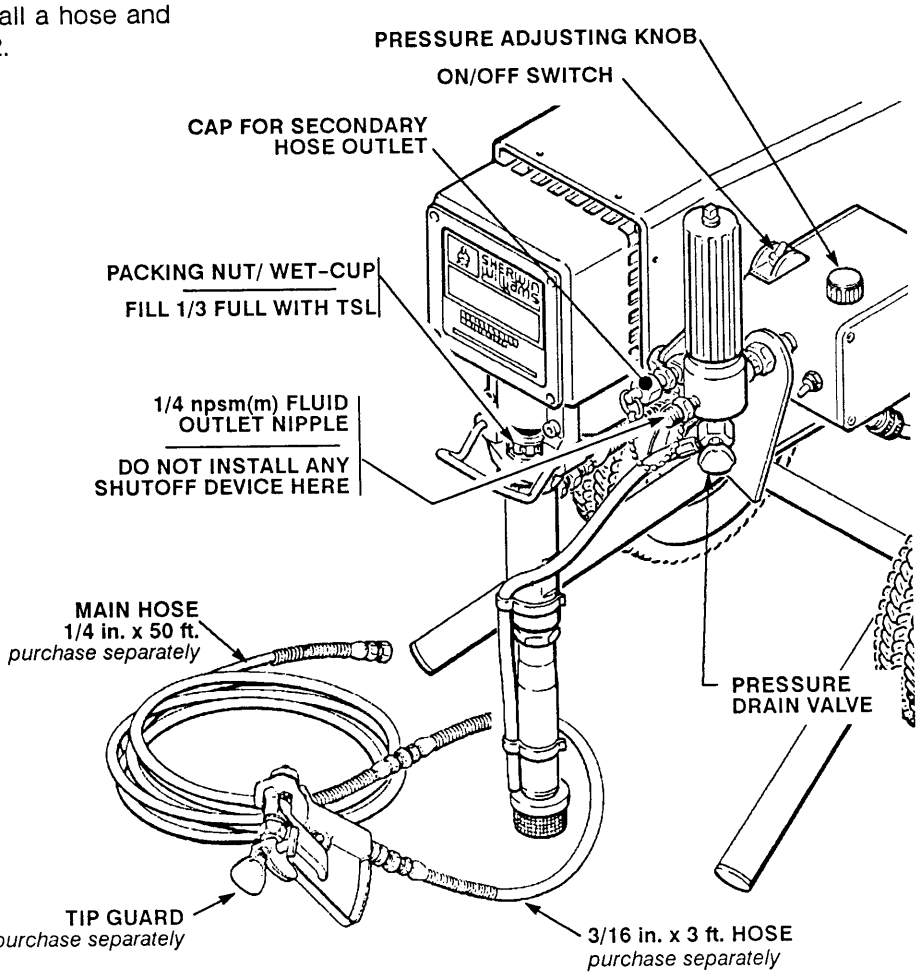


Fig 1

WARNING

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection, splashing fluid or solvent in the eyes or on the skin, or injury from moving parts or electric shock, always follow this procedure whenever you shut off the sprayer, when checking or servicing any part of the spray system, when installing, cleaning or changing spray tips, and whenever you stop spraying.

1. Engage the gun safety latch.
2. Turn the ON/OFF switch to OFF.
3. Unplug the sprayer.
4. Disengage the gun safety latch. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
5. Engage the gun safety latch.
6. Open the pressure drain valve, having a container ready to catch the drainage. Leave the valve open until you are ready to spray again.

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

Startup

Use this startup procedure to help ensure the sprayer is ready to operate and that you start it safely.

NOTE: Flush the sprayer if this is a first-time startup. See page 11.

NOTE: See Fig 4 except where noted.

1. **Close the pressure drain valve.** If a secondary hose is not used, be sure the nipple is tightly plugged with the cap provided.
2. **Don't install the spray tip until the pump is primed!**
3. **Put the suction tube into the paint container.**
4. **Lower the pressure setting** by turning the pressure adjusting knob all the way counterclockwise.
5. **Disengage the gun safety latch.**

CAUTION

Do not run the pump without fluid in it for more than 30 seconds to avoid damage to the displacement pump packings. If the pump does not prime easily, follow the **NOTE** after Step 6.

6. **To prime the pump**, hold a metal part of the gun firmly against a grounded metal pail. *See Fig 2.* Hold the trigger open, turn ON the sprayer, and slowly increase the pressure setting until the sprayer starts. Keep the gun triggered until all air is forced out of the system and the paint flows freely from the gun. Release the trigger and engage the gun safety latch.

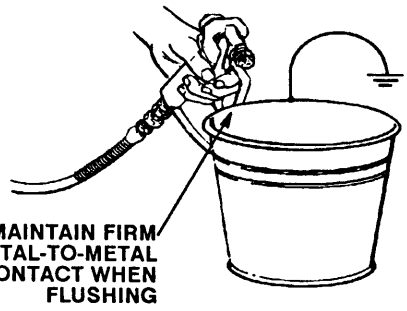


Fig 2

NOTE: If the pump is hard to prime, open the drain valve. When fluid comes from the valve, close it. Disengage the gun safety latch and repeat Step 6.

7. **Check all fluid connections for leaks**. Relieve the fluid pressure before tightening connections.
8. **Install the spray tip and tip guard.** Engage the gun safety latch. Install the spray tip according to the instructions supplied with it.
9. **Adjust the spray pattern.**
   a. Increase the pressure slowly just until spray from the gun is completely atomized. Use the lowest possible pressure needed to get the desired results. This reduces overspray and fogging, decreases tip wear and extends sprayer life.
   b. If more coverage is needed, use a larger tip rather than increasing the pressure.
   c. Test the spray pattern. First engage the gun safety latch. Adjust the spray tip pattern according to the instructions supplied with the gun or tip.

Cleaning a Clogged Tip

WARNING

To reduce the risk of serious bodily injury from from fluid injection;

NEVER operate the spray gun with the tip guard removed.

DO NOT hold your hand, body, or a rag in front of the spray tip when cleaning or checking for a clog. Always point the gun toward the ground or into a pail.

DO NOT try to "blow back" paint; this is NOT an air spray sprayer.

1. Clean the front of the tip frequently. Relieve fluid pressure first.
2. Follow the cleaning instructions given in your separate gun or spray tip instruction manual.

SHUTDOWN AND CARE

NOTE: The **Pressure Relief Procedure** is given on page 9.

1. **Keep the packing nut/wet-cup 1/3 full of TSL** at all times to help prevent fluid buildup on the piston rod and premature wear of packings. Relieve pressure before adding TSL.
2. **Keep the packing nut just tight enough to stop leakage.** *See Fig 4.* Overtightening causes binding and excessive packing wear. Use a round punch or brass rod and light hammer to adjust the nut.
3. **Clean the fluid filter often**, if one is used, and whenever the sprayer is stored. Relieve pressure before cleaning the filter. Refer to the **FLUSHING GUIDELINES** on page 11 or manual 307-273 for cleaning.
4. **Lubricate the bearing housing after every 100 hours of operation**. Relieve the pressure. Remove the front cover. Fill the bearing housing cavity with SAE 10 non-detergent oil. *See Fig 3.*
5. **For very short shutoff periods,** leave the suction tube in the paint, relieve pressure, and clean the spray tip.
6. **Flush the sprayer at the end of each work day** and fill it with mineral spirits to help prevent pump corrosion and freezing. See page 11.

CAUTION

To prevent pump corrosion, and to reduce the chance of fluid freezing in the pump or pressure control in cold weather, never leave water or any type of paint in the sprayer when it is not in use. Freezing can seriously damage the sprayer or result in a loss of pressure or stalling.

7. **Coil the hose and hang it on the hose rack** when storing it, even for overnight, to help protect the hose from kinking, abrasion, coupling damage, etc.

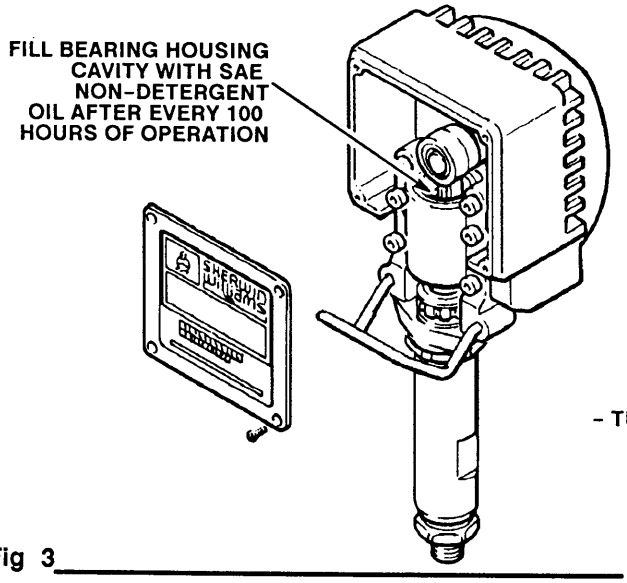


Fig 3

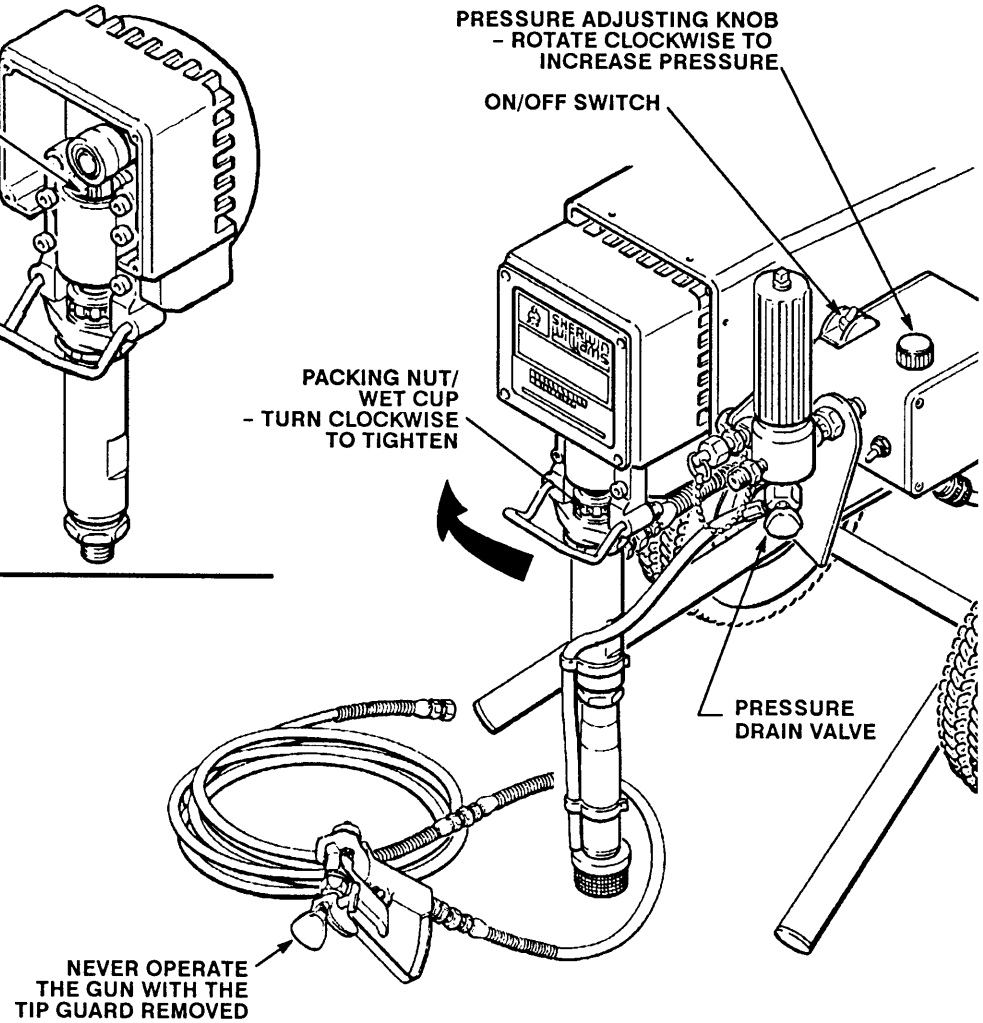


Fig 4

FLUSHING GUIDELINES

When to Flush

1. **New Sprayer.** The sprayer was factory tested in lightweight oil which was left in to protect pump parts.

   Before using water-base paint, flush with mineral spirits, then warm, soapy water, and then clean water.

   Before using oil-base paint, flush with mineral spirits.

2. **Changing Colors.** Flush with a compatible solvent.

3. **Changing from water-base to oil-base paint.** Flush with warm, soapy water, then mineral spirits.

4. **Changing from oil-base to water-base paint.** Flush with mineral spirits, then warm, soapy water, and then clean water.

5. **Storage.** Flush as indicated below, shut off the sprayer, open the pressure drain valve to relieve pressure and leave it open.

   Water-base paint: flush with water, then mineral spirits. Leave the system filled with mineral spirits.

   Oil-base paint: flush with mineral spirits.

CAUTION

NEVER allow water to freeze in the pressure control. Doing so prevents the sprayer from being started and causes serious damage to the pressure control. Pump the water out with mineral spirits.

6. **Startup after storage.** Before using water-base paint, flush out mineral spirits with soapy water and then clean water. When using oil-base paint, flush out the mineral spirits with the paint to be sprayed.

How to Flush

1. Relieve pressure.

2. Remove the filter bowl and screen; see manual 307-273. Clean the screen separately and install the bowl without the screen to flush it. *See Fig 5.*

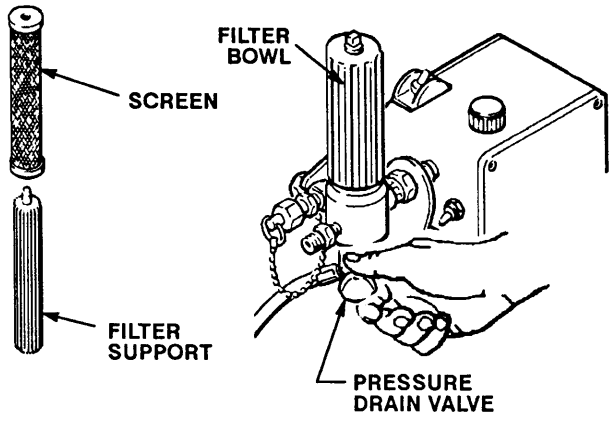


Fig 5

3. Close the pressure drain valve.

4. Pour one-half gallon of compatible solvent into a grounded metal pail. Put the suction tube in the pail.

5. Remove the spray tip from the gun, if it is installed.

6. Turn the pressure adjusting knob all the way counterclockwise to lower the pressure setting.

WARNING

To reduce the risk of static sparking and splashing when flushing, always remove the spray tip from the gun, and hold a metal part of the gun firmly to the side of grounded metal pail.

7. Hold a metal part of the gun firmly against a metal pail. *See Fig 6.* Hold the trigger open, turn on the sprayer, and slowly increase the pressure just until the sprayer starts. Keep the gun triggered until all air is forced out of the system and the solvent flows freely from the gun. Release the trigger and engage the gun safety latch.

NOTE: If the pump is hard to prime, place a container under the pressure drain valve and open it. When fluid comes from the valve, close it. Proceed as in Step 7.

8. Remove the suction tube from the pail. Disengage the gun safety latch and trigger the gun to force solvent from the hose. Do not run the pump dry for more than 30 seconds to avoid damaging the pump packings! Relieve pressure.

9. Leave the pressure drain valve open until you are ready to use the sprayer again. If the screen was removed, unscrew the filter bowl and reinstall the clean screen. Reinstall the bowl, hand tight only.

10. If you flushed with mineral spirits and are going to use a water-base paint, flush with soapy water and then clean water. Relieve pressure.

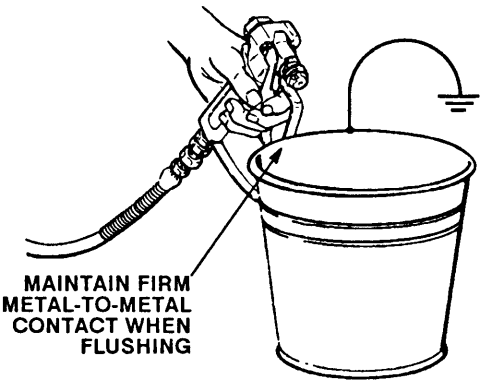


Fig 6

TROUBLESHOOTING GUIDE

WARNING

Pressure Relief Procedure
To reduce the risk of serious bodily injury, including fluid injection, injury from splashing fluid or solvent in the eyes or on the skin, moving parts or electric shock, always follow this procedure whenever you shut off the sprayer, when checking or servicing any part of the spray system, when installing, cleaning or changing spray tips, and whenever you stop spraying.

1. Engage the gun safety latch.
2. Turn the ON/OFF switch to OFF.
3. Unplug the power supply cord.
4. Disengage the gun safety latch. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.
5. Engage the gun safety latch.
6. Open the pressure drain valve, having a container ready to catch the drainage. Leave the pressure drain valve open until you are ready to spray again.

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

Check everything in the guide before disassembling the sprayer.

TYPE OF PROBLEM	WHAT TO CHECK *If check is OK, go to next check*	WHAT TO DO *When check is not OK refer to this column*
Building circuit breaker opens	Check all electrical wiring for damaged insulation.	Replace any damaged wiring.
	Check for other electrical appliances on the circuit.	Shutdown other electrical appliances on the circuit.
	Check position of 15-20 (Lo-High) amp switch.	Put switch in the 15 (Lo) amp position.
Sprayer circuit breaker opens	Check for locked motor rotor. Unplug cord and try to turn fan blades with a screwdriver.	Repair gear train or pump, if damaged. Thaw the sprayer, if frozen; See NOTE 1. Replace the pressure control, if damaged.
	Check for shorted motor. Use ohmmeter to check for shorts between motor leads or between motor leads and motor frame.	Inspect for damage to motor brush leads. Replace motor, if necessary.
	Check electrical supply with voltmeter. Meter should read 105 - 125 VAC.	Connect to outlet of correct voltage.
Sprayer will not run	Check the pressure control knob setting. The motor will not run if it is at the minimum setting (fully counterclockwise).	Slowly increase the pressure setting to see if the motor starts.
	Check for a clogged spray tip. Refer to the separate gun or tip instruction manual.	Relieve pressure, refer to the separate gun or tip instruction manual for tip cleaning.
	Check extension cord for visible damage. Use a volt meter or test lamp at extension cord outlet to check.	Replace extension cord.
	Check sprayer power supply cord for visible damage such as broken insulation or wires.	Replace power supply cord.
	Check electrical supply with volt meter. Meter should read 105-125 VAC.	Reset building circuit breaker; replace building fuse. Try another outlet.
	Check for motor damage. Remove drive housing assembly (18). See page 18. Try to rotate fan by hand.	Replace motor (1) if fan won't turn.
Poor spray pattern	Check for worn spray tip.	Relieve pressure and then replace the tip. See the separate gun or tip manual.

NOTE 1: Thaw the sprayer if water or water-based paint has frozen in it, by placing it in a warm area. Do not try to start the sprayer until it has thawed completely. If paint hardened (dried) in the sprayer, replace the pump packings. See page 20.

TYPE OF PROBLEM	WHAT TO CHECK *If check is OK, go to next check*	WHAT TO DO *When check is not OK refer to this column*
Motor runs and pump strokes, but output is low or there is no output	Check extension cord size and length.	Replace cord with a larger size, grounding type extension cord.
	Check paint supply.	Refill and reprime pump.
	Check for clogged intake strainer.	Remove and clean, then reinstall.
	Check for loose suction tube or fittings.	Tighten; use thread sealant or sealing tape on threads if necessary.
	Check for worn spray tip.	Follow **Pressure Relief Procedure Warning** then replace tip. See your separate gun or tip manual.
	Check motor brushes: check for loose leads and terminals, minimum 1/2" brush length, broken or misaligned springs, or brushes binding in holders. See page 14.	Replace parts as needed See page 14.
	Check motor armature for shorts by using an armature tester (growler).	Replace motor. See page 18.
	Check to see if pump continues to stroke when gun trigger is released. With pump on adn primed, trigger gun momentarily, then release and engage safety latch. Relieve pressure, turn off and unplug sprayer.	Service pump. See pages 20-22.
	Check to see if intake valve ball and piston ball are seating properly. See page 20.	Remove intake valve and clean. Check balls and seats for nicks; replace if necessary. See page 20. Strain paint before using to remove particles that could clog the pump.
	Check for leaking around throat packing nut which may indicate worn or damaged packings. See page 20.	Replace packings. See page 20. Also check piston valve seat for hardened paint or nicks and replace if necessary. Tighten the packing nut/wet-cup.
Motor runs but pump does not stroke	Check displacement pump connecting rod pin (20). See page 22.	Replace pin, if missing. Be sure retainer spring (35) is fully in groove all around connecting rod. See page 22.
	Check for frozen or hardened paint in the pump (39).	Thaw. See NOTE 1. Plug in sprayer and turn on. Slowly increase pressure setting to see if motor starts.
	Be sure crank in drive housing rotates; plug in sprayer and turn on briefly to check. Turn off and unplug sprayer.	Check drive housing assembly for damage and replace if necessary. See page 17.
Motor is hot and runs intermittently	Determine if sprayer was operated at high pressure with small tips, which causes low motor RPM and excessive heat build up.	Decrease pressure setting or increase tip size.
	Be sure ambient temperature where sprayer is located is no more than 90°F and sprayer is not located in direct sun.	Move sprayer to shaded, cooler area, if possible.
	Determine if was sprayer turned on, pressurized, but not operating for long periods of time.	Turn off sprayer whenever you stop spraying for a while and relieve fluid pressure.

MOTOR BRUSH REPLACEMENT

NOTE: Replace the brushes when they have worn to less than 1/2 in. *See Fig 9.* The brushes wear differently on each side of the motor, so check them both and replace both at the same time. Brush Repair Kit 820-536 and spring clip 820-594 are available.

WARNING

Follow the **Pressure Relief Procedure Warning** on page 12 to reduce the risk of a fluid injection injury, splashing in the eyes or on the skin, injury from moving parts, or electric shock.

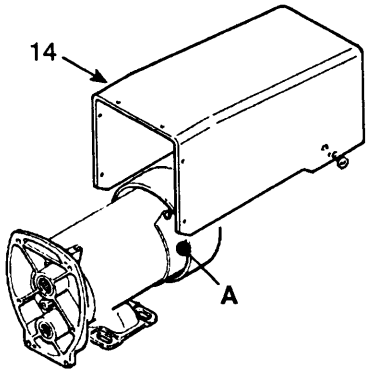


Fig 7

1. Remove the motor cover (14) and both inspection covers and gaskets (A). *See Fig 7.*
2. Push in the spring clip to unhook it, and then pull it out. *See Fig 8.*
3. *Loosen* the terminal screw. Pull the brush lead away, leaving the motor lead in place. Remove the brush and spring. *See Fig 9.*
4. Inspect the commutator for excessive pitting, burning or gouging. A black color on the commutator is normal. Have the commutator resurfaced by a qualified motor repair shop if the brushes seem to wear too fast.
5. Install the new brush so its lead is in the long slot of the holder. Slide the terminal under the terminal screw washer. Make sure the motor lead is still connected the at the screw. Tighten the screw. *See Fig 10.*
6. Place the spring on the brush as shown in Fig 10.
7. Push in and hook the spring clip. *See Fig 10.*
8. Repeat for the other side.

CAUTION

Do not run the sprayer dry for more than 30 seconds while checking the brushes to avoid damaging the displacement pump.

9. Reinstall the remaining parts.

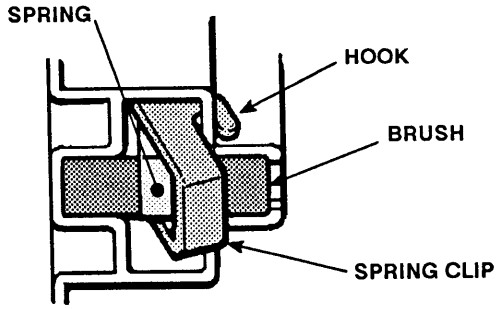


Fig 8

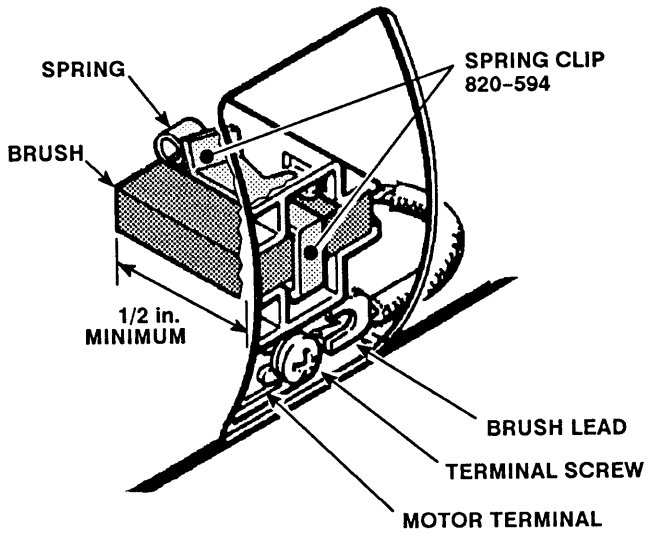


Fig 9

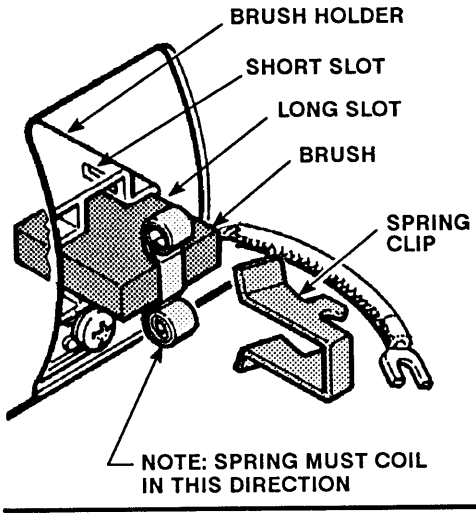


Fig 10

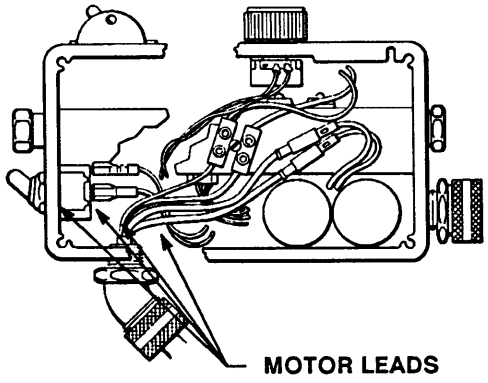
WARNING

Follow the **Pressure Relief Procedure Warning** on page 12 to reduce the risk of a fluid injection injury, splashing in the eyes or on the skin, injury from moving parts, or electric shock.

PRESSURE CONTROL

NOTE: Refer to Fig 11 for this procedure.

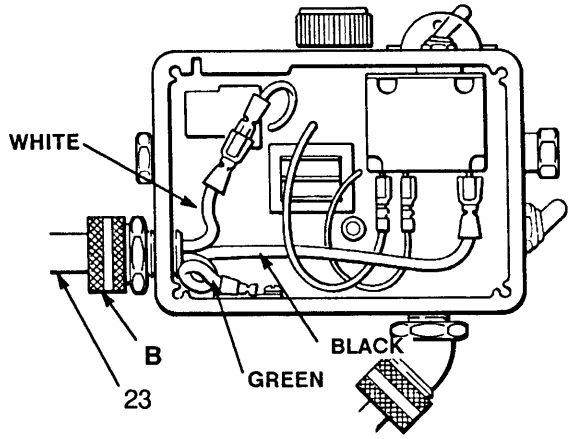
1. Disconnect the hose (47) at the pressure control.
2. Loosen the filter bracket nuts (28). Remove the fluid filter.
3. Remove the pressure control cover (36). Disconnect the four motor leads.
4. Unscrew the connector (A). Pull the wires out of the pressure control, one at a time.
5. Remove the pressure control mounting screws (37). Remove the pressure control. Remove the back plate (16) and install it on the new control.
6. Install the new pressure control.



FRONT VIEW OF PRESSURE CONTROL

POWER SUPPLY CORD

1. Remove the back pressure control plate (16). *See fig 11.*
2. Remove the pressure control cover (36). Disconnect the power supply cord leads. *See Fig 11.*
3. Loosen the strain relief bushing (B). Remove the power supply cord (23). *See Fig 12.*
4. Install the new cord.



BACK VIEW OF PRESSURE CONTROL

Fig 12

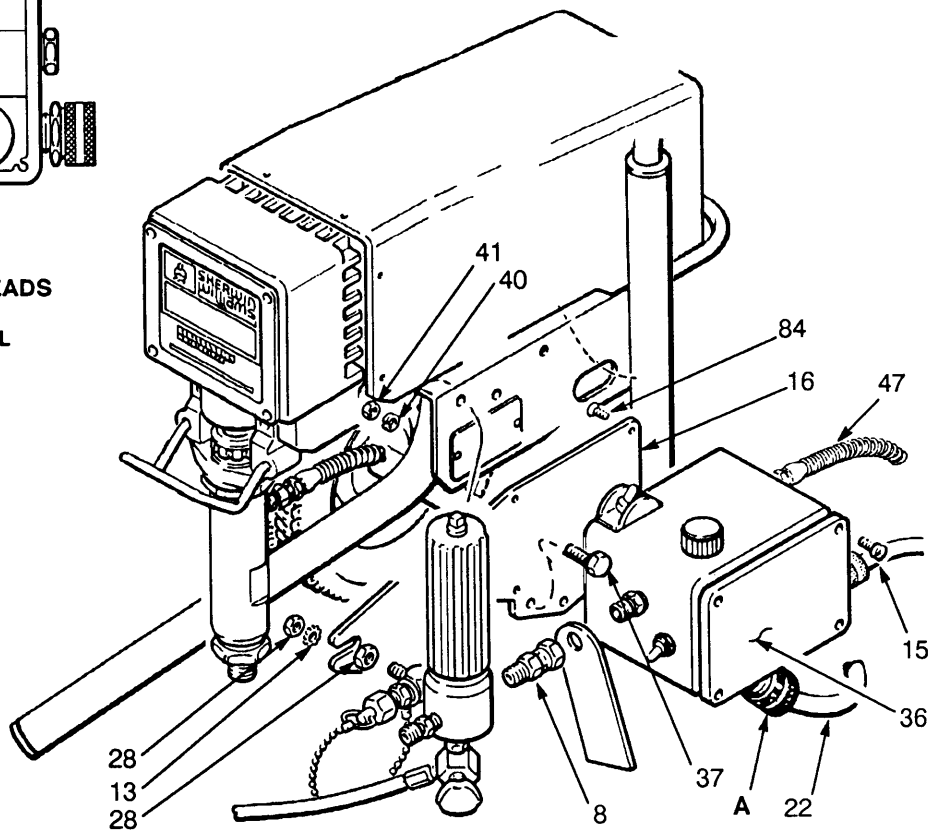


Fig 11

BEARING HOUSING & CONNECTING ROD REPLACEMENT

WARNING

Before doing this procedure, follow the **Pressure Relief Procedure Warning** on page 12 to reduce the risk of a fluid injection injury, splashing in the eyes or in the skin, injury from moving parts or electric shock. *Unplug the sprayer!*

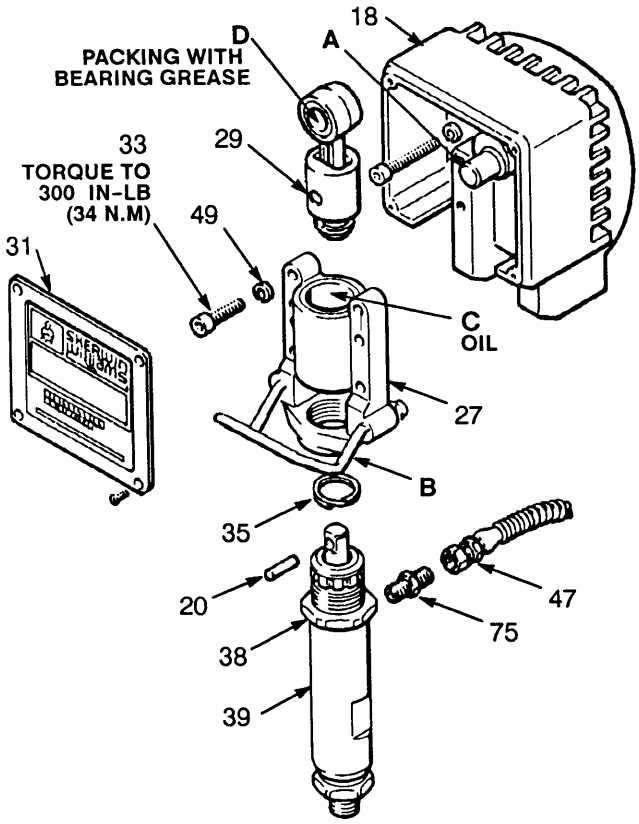


Fig 13

NOTE: Stop the sprayer at the bottom of its stroke to get the crank (A) in its lowest position.To lower the crank manually, carefully rotate the blades of the fan with a screwdriver.

1. Remove the pump. See page 22.
2. Remove the front cover (31). Remove the bearing housing screws (33).
3. Lightly tap the lower rear of the bearing housing (27) with a plastic mallet to loosen it from the drive housing (18). Pull the bearing housing and the connecting rod assembly (29) straight off the drive housing.
4. Remove the pail bracket assembly (B) and reinstall it on the new bearing housing.
5. Inspect the crank (A). Replace the drive housing if the crank is worn excessively.
6. Evenly lubricate the inside of the bronze bearing (C) with high quality motor oil. Liberally pack the roller bearing (D) with bearing grease.
7. Assemble the connecting rod (29) and bearing housing (27).
8. Clean the mating surfaces of the bearing and drive housings.
9. Align the connecting rod with the crank (A) and carefully align the locating pins in the drive housing with the holes in the bearing housing (27). Push the bearing housing onto the drive housing or tap it into place with a plastic mallet.

CAUTION

DO NOT use the bearing housing screws (33) to try to align or seat the bearing housing; the bearing and drive housing will not align properly and will result in premature bearing wear.

10. Install the screws (33) and lockwashers (49) in the bearing housing. Tighten the screws evenly to 300 in-lb (34 N.m).
11. Reinstall all parts. See page 22 to install the pump.

DRIVE HOUSING REPLACEMENT

WARNING

Before doing this procedure, follow the **Pressure Relief Procedure Warning** on page 12 to reduce the risk of a fluid injection injury, splashing in the eyes or in the skin, injury from moving parts or electric shock. *Unplug the sprayer!*

NOTE: Refer to Fig 14 for this procedure.

1. Remove the front cover (31). Remove the motor shield (14).
2. Remove the screws (33) from the bearing housing.
3. Lightly tap the lower rear of the bearing housing (27) with a plastic mallet to loosen it from the drive housing (18). Then pull the bearing housing and connecting rod assembly straight off the drive housing.
4. Remove the screws (51) from the recess of the drive housing (18).
5. Remove the screws (30) from the lower rear of the motor front end bell (A).
6. Remove the screws (21) from the upper rear of the motor front end bell (A).
7. Tap the drive housing (18) with a plastic mallet to loosen it from the motor front end bell (A), and then pull it straight off.

CAUTION

DO NOT allow the gear cluster (9) to fall when removing the drive housing (18). It is easily damaged if dropped. The gear may stay engaged in either the front end bell or the drive housing.

DO NOT lose the thrust balls (10) located at each end of the gear cluster (9) or allow them to fall between gears. The ball, which is heavily covered with grease, usually stays in the shaft recesses, but could be dislodged. If caught between gears and not removed, the balls will seriously damage the drive housing. If the balls are not in place, the bearings will wear prematurely.

8. Liberally apply bearing grease to the gear cluster (9). Use approximately 6 oz. of the grease supplied with the drive housing replacement kit. Check to be sure the thrust balls (10) are in place.
9. Place the bronze-colored washer (18b) THEN the silver-colored washer (18a) on the shaft protruding from the big gear in the drive housing (18). Align the gears and push the new drive housing straight onto the front end bell and locating pins.
10. Starting at Step 7 and working backwards, continue to reassemble the sprayer.

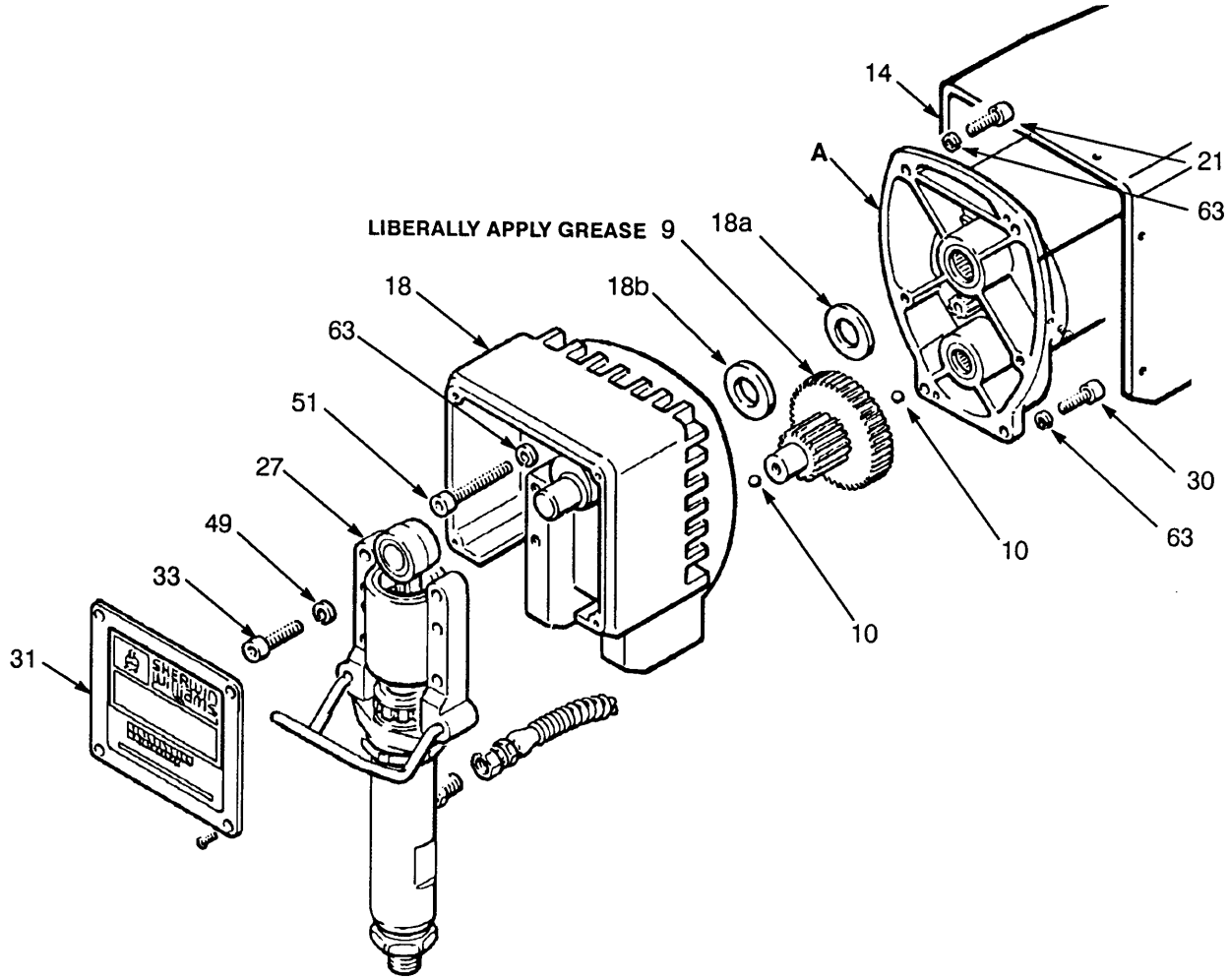


Fig 14

MOTOR REPLACEMENT

WARNING

Before doing this procedure, follow the **Pressure Relief Procedure Warning** on page 12 to reduce the risk of a fluid injection injury, splashing in the eyes or in the skin, injury from moving parts or electric shock. *Unplug the sprayer!*

NOTE: Refer to Fig 15 unless otherwise instructed.

1. Remove the motor shield (14).
2. Remove the pressure control cover (36). Disconnect the four motor leads.
3. Loosen the connector (A) at the pressure control (43).
4. Swing the conduit (22) away from the pressure control elbow.
5. Pull the motor leads through the elbow, one at a time.

CAUTION

Always pull the motor leads one at a time to avoid loosening the terminals, which could result in a bad connection and poor sprayer performance.

6. Loosen the connector (54) at the motor and pull the conduit (22) away from the motor. Pull the leads through the conduit, one at a time.
7. Unscrew the connector from the motor.
8. Pull the wires through the connector, one at a time.
9. Remove the front cover (31).
10. Remove the screws (51) from the recess of the drive housing (18).
11. Remove the screws (30) from the lower rear of the motor front end bell (C).
12. Remove the screws (21) and from the upper rear of the motor front end bell (C).
13. Use a plastic mallet to gently tap the displacement pump (39) from the rear to loosen the drive housing (18) from the motor front end bell (C). Pull the drive housing away from the end bell.

CAUTION

DO NOT allow the gear cluster (9) to fall when removing the drive housing (18). It is easily damaged if dropped. The cluster may stay engaged in either the front end bell or the drive housing.

DO NOT lose the thrust balls (10) located at each end of the gear cluster (9) or allow them to fall between gears. The ball, which is heavily covered with grease, usually stays in the gear recesses, but could be dislodged. If caught between gears and not removed, the balls will seriously damage the drive housing. If the balls are not in place, the bearings will wear prematurely.

14. Remove the screws (37) holding the motor to the frame. Lift off the motor.
15. Place the new motor on the frame and align the frame mounting holes. Tightly install the screws (37) and related hardware.
16. Liberally grease the gear cluster (9) and pinion gear (B) and pack all bearings in the motor front end bell. Check to be sure the thrust balls (10) are in place.
17. Place the bronze-colored washer (18b) and THEN the silver-colored washer (18a) on the shaft protruding from the big gear in the drive housing (18).
18. Align the gears and push the drive housing (18) straight onto the motor front end bell (C) and locating pins.
19. Starting at Step 12 and working backwards, continue to reassemble the sprayer.

NOTE: Use a turning motion on the conduit (22) when feeding wires through it.

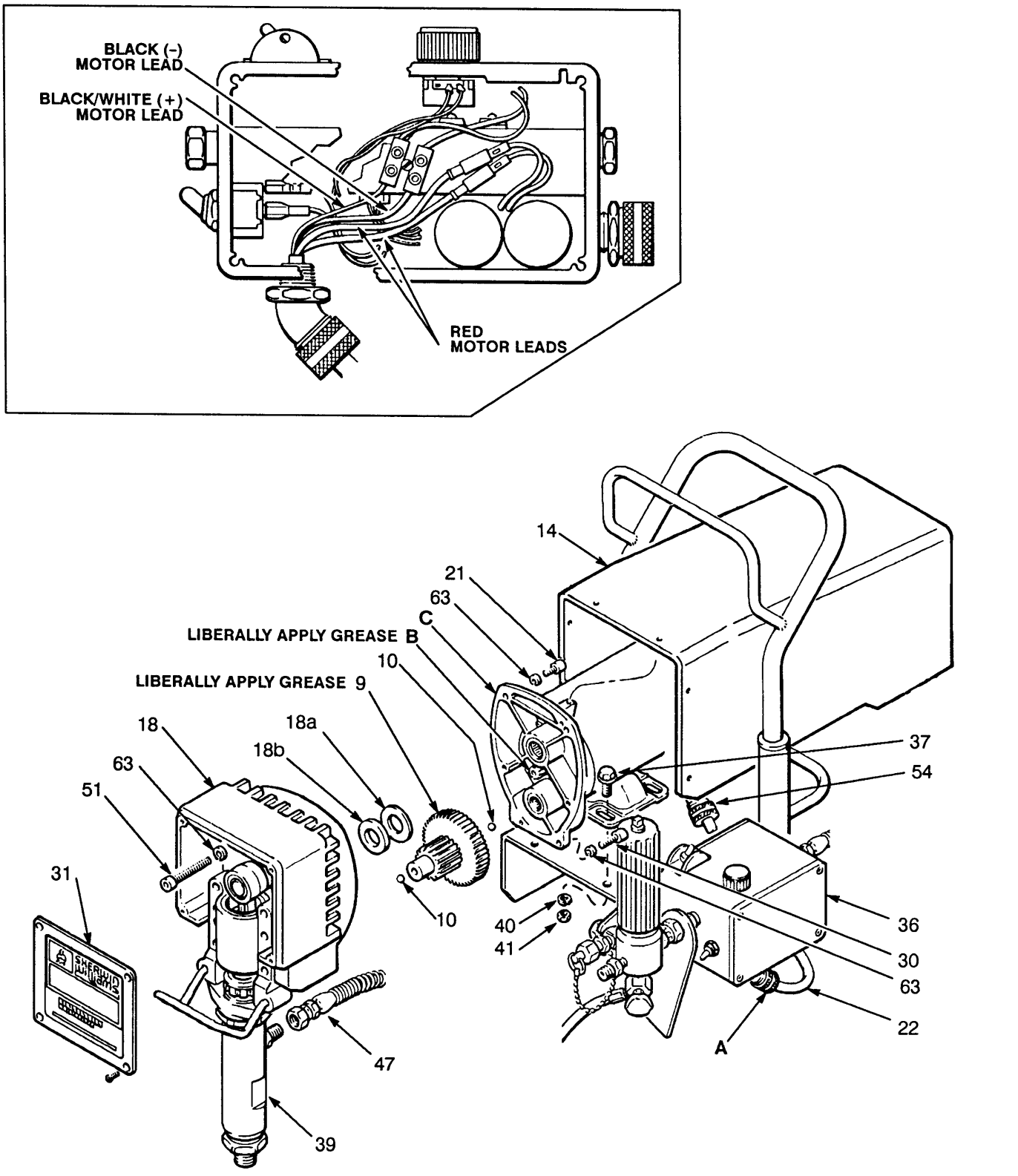

BLACK (-)
MOTOR LEAD
BLACK/WHITE (+)
MOTOR LEAD
RED
MOTOR LEADS
LIBERALLY APPLY GREASE
LIBERALLY APPLY GREASE
14
21
63
C
B
10
9
18
18a
18b
63
51
31
37
54
36
30
63
22
A
40
41
10
47
39

Fig 15

WARNING

Before doing this procedure, follow the **Pressure Relief Procedure Warning** on page 12 to reduce the risk of a fluid injection injury, splashing in the eyes or on the skin, injury from moving parts or electric shock. *Unplug the sprayer!*

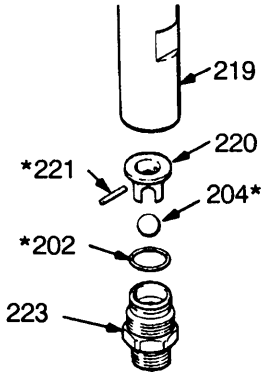


Fig 16

NOTE: Packing Repair kit 820-672 is available. Reference numbers marked with an asterisk indicated parts included in the kit.

Disassembling the Pump

1. Remove the pump. See page 22.
2. Unscrew the intake valve (223) from the cylinder (219). Remove the o-ring (202), ball guide (220), stop pin (221) and ball (204) from the valve. *See Fig 16.*
3. Clean and inspect the parts for wear or damage, replacing parts as needed. Always use the new o-ring included in the Repair Kit. If no further service is needed, reassemble the intake valve.
4. Remove the packing nut (216) and plug (205). *See Fig 21.*
5. Use a plastic mallet to tap the piston rod (224) down, then pull the rod out the bottom of the cylinder.
6. Remove the throat packings (207, 213) and glands (208, 209). *See Fig 21.*

NOTE: Whenever you disassemble the pump for cleaning or repair, remove the sleeve. A special sleeve removal tool is available. Order Part No. 820-673. Do not use any other type of tool.

WARNING

Always use the special sleeve removal tool to remove the sleeve. Other removal methods could cause the pump to rupture, resulting in serious bodily injury. If the sleeve cannot be removed easily using the tool, return the sleeve and cylinder to your Graco distributor for removal.

7. Screw the large nut (B) of the tool into the top of the cylinder (219). Screw down the rod (A) to push the sleeve out. Remove the tool. *See Fig 17.*

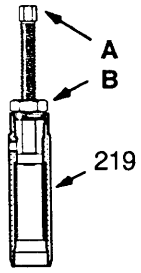


Fig 17

8. Clamp the flats of the piston rod in a vise. Loosen the retaining nut (211). Unscrew the piston valve (222) from the rod. Remove all parts from the piston valve (222). *See Fig 18.*

Reassembling the Pump

NOTE: Alternate leather and plastic packings as shown in Fig 21. The lips of the throat "V" packings must face down, against pressure. The lips of the piston "V" packings must face up, against pressure. The lips of the U-cup seal (203) face down. Incorrect installation damages the packings and results in pump leaking.

NOTE: Soak leather packings in oil before using them.

1. Check the outside of the piston rod (224) and the inside of the sleeve (218) for scoring or scratches. If these parts are damaged, new packings will not seal properly. Replace these parts if needed.
2. Stack the backup washer (214), seal (203*), female gland (215*), alternate the packings (212*,206*), and then male gland (210*) onto the piston valve (222). *See Fig 21.*
3. Tighten the packing retaining nut (211) onto the piston valve (222) to 4 in-lb (0.35 N.m)

   Note the alignment of the piston (222) to the packing retainer nut (211). Maintain this alignment through Steps 4 - 7.
4. Place the ball (225) on the piston valve (222). *See Fig 18.*
5. Apply one drop of adhesive, supplied, to the threads of the piston valve. Then hand tighten the valve assembly into the piston rod just until the nut (211) contacts the rod. *See Fig 18 .*
6. Place the flats at the top of the rod in a vise.

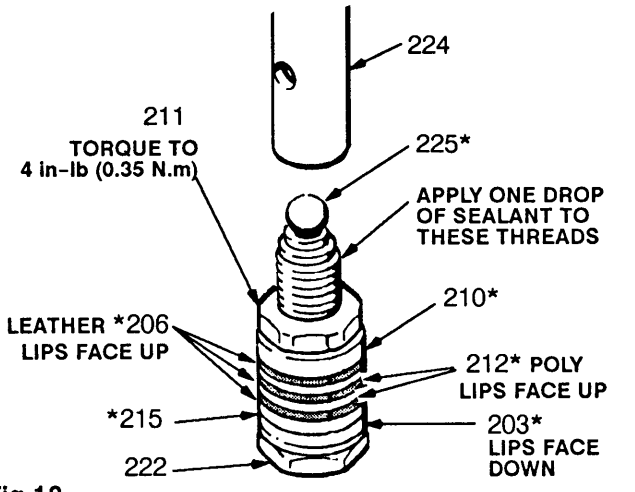


Fig 18

CAUTION

Step 6 is critical. Follow the procedure carefully to avoid damaging the packings by overtightening.

7. Use a wrench to **CAREFULLY** tighten the nut (211) against the piston rod to 19 ft-lb (26 N.m). *See Fig 19.*

   Use two wrenches to maintain the alignment mentioned in Step 3, above.

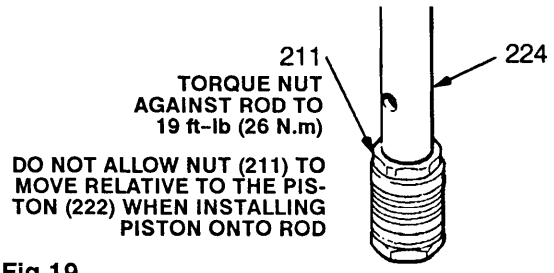


Fig 19

8. One at a time stack the male gland (208*), alternate the packings (213*,207*), and then install the female gland (209), into the top of the cylinder (219). *See Fig 21.*
9. Install the packing nut (216) and plug (205), but leave loose for now. *See Fig 21.*
10. Coat the piston rod and packings with oil. Carefully slide the assembly **INTO THE TOP OF THE SLEEVE** (218).

NOTE: The tapered end of the sleeve is the bottom of it. *See Fig 20.*

11. Coat a new o-ring (217*) with oil and place it firmly in the cylinder groove. *See Fig 21.*
12. Slide the sleeve/piston rod assembly **INTO THE BOTTOM OF THE CYLINDER** (219). This is to prevent packing damage during reassembly. *See Fig 20.*
13. Place flats of the intake valve (223) in a vise. Install a new o-ring (202*). Screw the cylinder on to the valve. Torque to 110 ft-lb (146 N.m). *See Fig 21.*
14. Screw down the cylinder locknut (38) until it is finger tight at the bottom of the external cylinder threads.
15. Install the pump. See page 22.

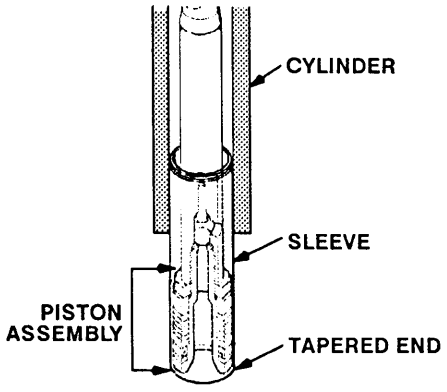


Fig 20

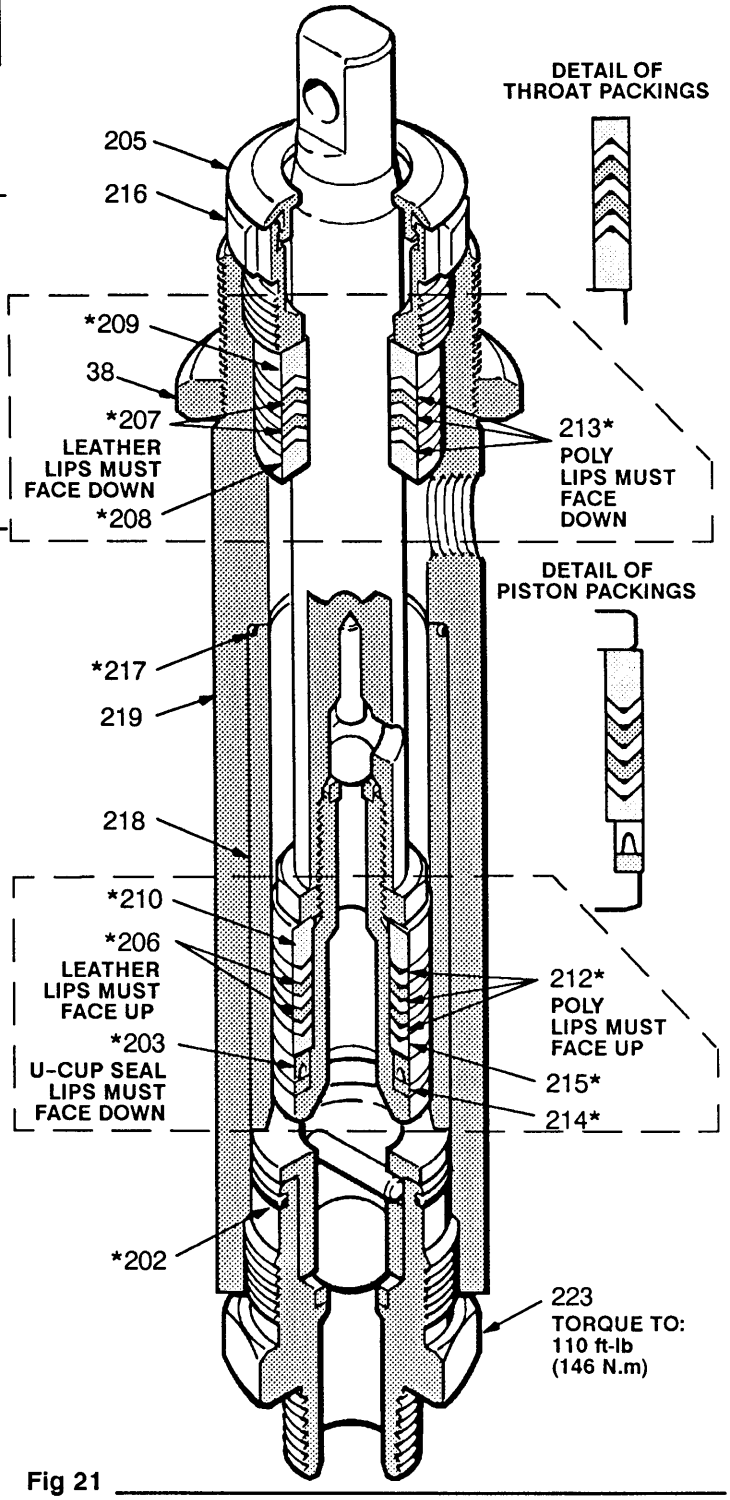


Fig 21

WARNING

Before doing this procedure, follow the **Pressure Relief Procedure Warning** on page 12 to reduce the risk of a fluid injection injury, splashing in the eyes or on the skin, injury from moving parts or electric shock. *Unplug the sprayer!*

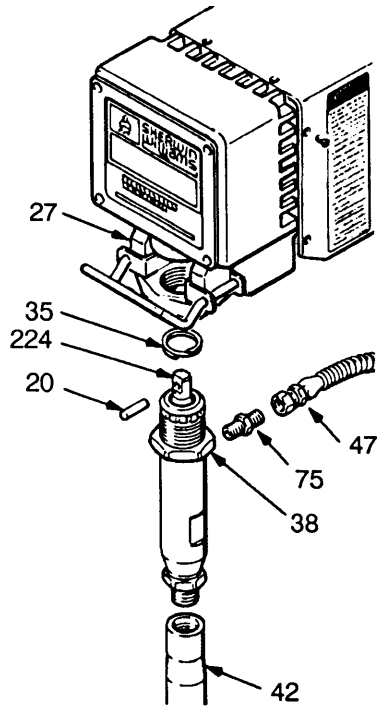


Fig 22

Removing the Pump *See Fig 22.*

1. Flush the pump and relieve pressure . Stop the pump with the piston rod (224) in its lowest position, or rotate the blades of the motor fan with a screwdriver to lower the rod.
2. Hold the pump intake valve (223) firmly with a wrench and remove the suction tube (42).
3. Remove the hose (47) at the pump.
4. Push the retaining spring (35) up. Push out the pin (20).
5. Loosen the locknut (38) and unscrew the pump from the bearing housing (27).

Installing the Pump

1. Screw the displacement pump about 3/4 of the way into the bearing housing (27). Hold the pin (20) up to the pin hole in the connecting rod assembly (29) and continue screwing in the pump until the pin slides easily into the hole. Back off the pump until the top threads of the pump cylinder are flush with the face of the bearing housing and the outlet nipple (75) is straight back. Push the retaining spring (35) into the groove all the way around the connecting rod. Tighten the locknut (38) very tight-about 70 ft-lb (97 N.m)-with a 2 in. open-end wrench and a light hammer. See Fig 23.

WARNING

Be sure the retaining spring (35) is firmly in the groove of the connecting rod, all the way around, to prevent it from working loose due to vibration. See Fig 23.

If the pin works loose, it or other parts could break off due to the force of the pumping action. These parts could be projected through the air and result in serious bodily injury or property damage, including damage to the pump, connecting rod or bearing housing.

CAUTION

If the locknut (38) loosens during operation, the threads of the bearing housing (27) will be damaged. Be sure to tighten the locknut firmly.

2. Tighten the packing nut (216) just enough to stop leakage, but no tighter. Fill the wet-cup/packing nut 1/3 full with TSL.

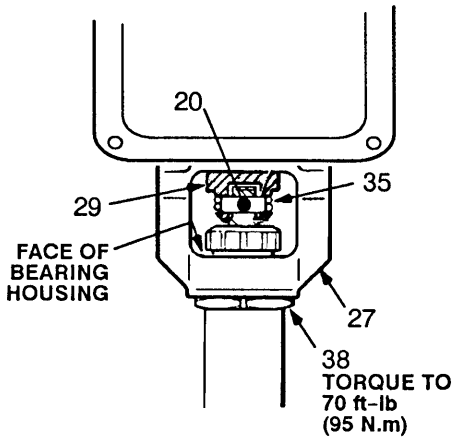


Fig 23

PARTS DRAWING & LIST - DISPLACEMENT PUMP

Model 820-636 Series A

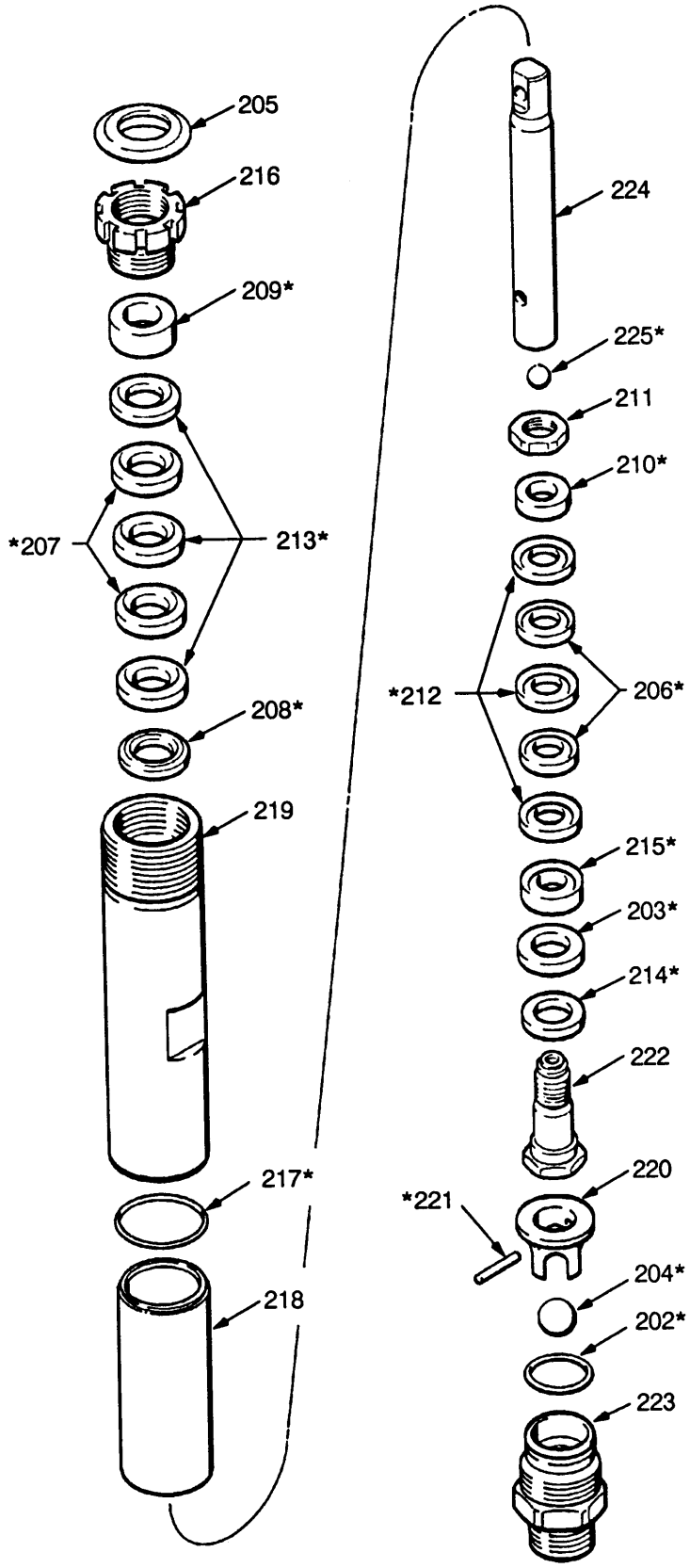
Sleeved Displacement Pump

Includes items 202 to 225

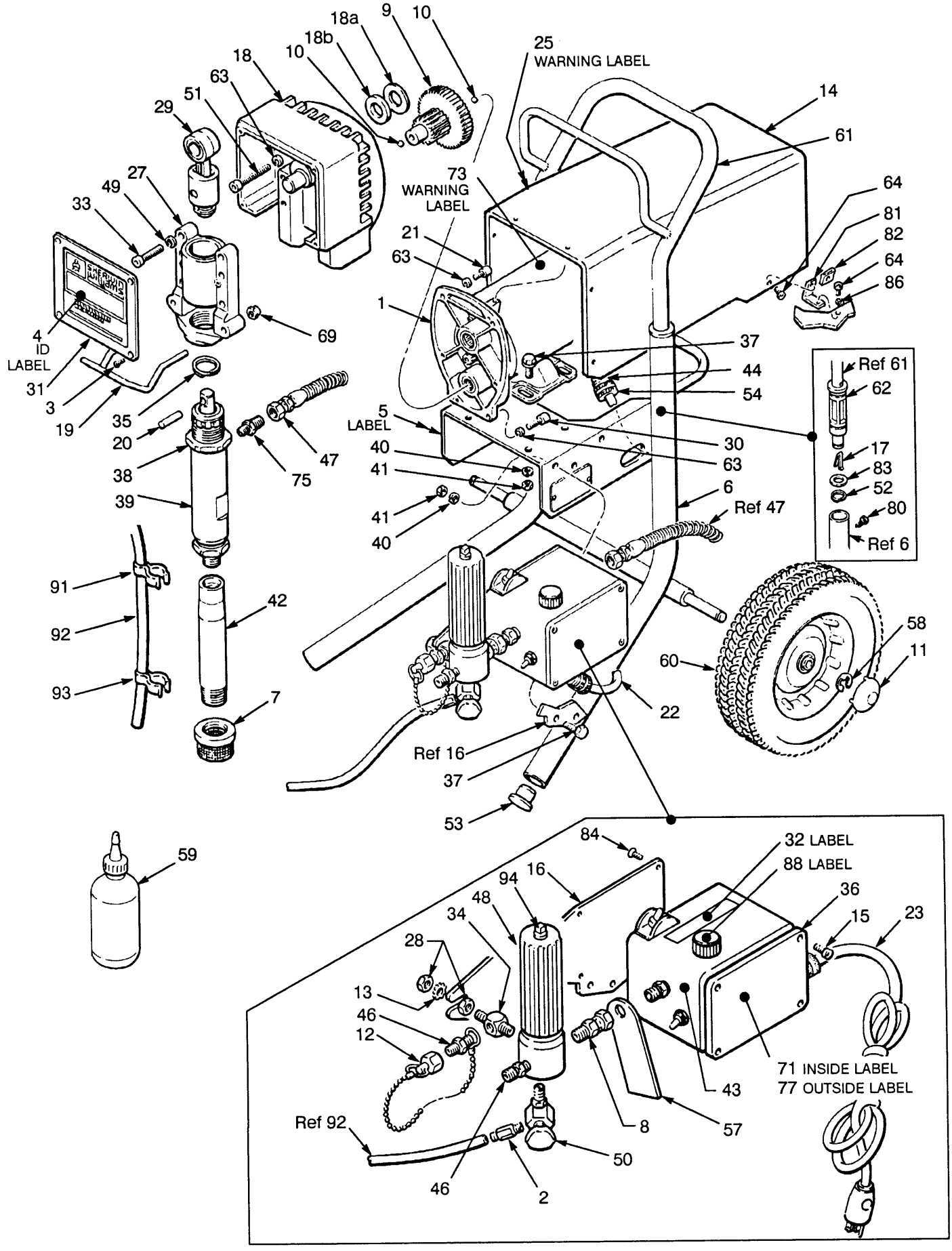
REF NO.	PART NO.	DESCRIPTION	QTY
202	820-648*	SEAL, sleeve	1
203	820-649*	SEAL, u-cup, polyurethane	1
204	820-650*	BALL; sst	1
205	820-651	PLUG	1
206	820-652*	V-PACKING, leather	2
207	820-653*	V-PACKING, leather	2
208	820-654*	GLAND, male	1
209	820-655*	GLAND, female	1
210	820-656*	GLAND, male	1
211	820-657	NUT, hex, retaining	1
212	820-658*	V-PACKING, polyethylene	3
213	820-659*	V-PACKING, polyethylene	3
214	820-660*	WASHER, backup	1
215	820-661*	GLAND, female	1
216	820-662	NUT, packing	1
217	820-663*	O-RING, Teflon®	1
218	820-664	SLEEVE, cylinder	1
219	820-665	CYLINDER	1
220	820-666	GUIDE, ball	1
221	820-667*	PIN, ball stop	1
222	820-668	VALVE, piston	1
223	820-669	VALVE, intake	1
224	820-670	ROD, piston	1
225	820-671*	BALL	1

***Supplied in Repair Kit 820-672.**
Must be purchased separately.

Sleeve Removal Tool 820-673
Required for removing a pump sleeve.
Must be purchased separately.



PARTS DRAWING



PARTS DRAWING - SPRAYER

Ultimate® 1500 Sprayers with Upright Cart

Model 820-115, Series A

Includes items 1-94
Basic Sprayer

REF NO.	PART NO.	DESCRIPTION	QTY
1	820-622	MOTOR KIT	1
2	820-579	CONNECTOR	1
3	820-307	SCREW, ovalhead, 8-32 unc-2a x .375"	4
4	820-095	LABEL, identification, front cover	1
5	185-955†	LABEL, DANGER, French	1
6	820-623	CART	1
7	820-422	STRAINER	1
8	820-624	UNION, adapter; 3/8" npsm x 3/8 npt(m)	1
9	820-625	GEAR REDUCER	1
10	820-457	BALL, steel; 1/4" dia.	2
11	820-263	HUBCAP	2
12	820-498	CAP, for secondary hose outlet	1
13	820-585	LOCKWASHER, ext. tooth, 7/16"	1
14	820-096	MOTOR SHIELD KIT	1
15	820-560	SCREW, mach, pnh; 10-24 type C x 0.5"	4
16	820-626	BRACKET, mounting	1
17	820-396	BUTTON, snap	2
18	820-097	DRIVE HOUSING KIT *includes items 18a and 18b*	1
18a	820-678	.BEARING, thrust	1
18b	820-677	.SPACER	1
19	820-581	HANGER, pail	1
20	820-627	PIN, straight, 3/8 x 1.125"	1
21	820-316	SCREW, socket head, no. 1/4-20 x 75"	2
22	820-628	CONDUIT, electrical *specify length when ordering*	14 in.
23	820-629	POWER SUPPLY CORD	1
24	820-577	TERMINAL, female *inside pressure control*	2
25	185-953†	LABEL, DANGER	1
26	820-264	WASHER, wheel	2
27	820-630	BEARING HOUSING KIT	1
28	820-584	NUT, jam; 7/16"	2
29	820-631	CONNECTING ROD KIT	1
30	820-500	SCREW, socket head, no. 1/4-20 x 1"	2
31	820-632	COVER, housing	1
32	178-035†	LABEL, WARNING	1
33	820-561	CAPSCREW, sch; 3/8-16 x 1.5"	4
34	820-633	ADAPTER, elbow, special; 1/4-18 npt(m x f)	1
35	820-634	SPRING, retaining	1
36	820-552	COVER, pressure control	1
37	820-675	SCREW, hex head, 5/16-18 x .75, with washer	7
38	820-635	NUT, HEX, 1 13/16 unc-2b	1
39	820-636	DISPLACEMENT PUMP *see parts on page 24*	1
40	820-258	LOCKWASHER, spring; 5/16"	7
41	820-267	NUT, heavy hex; 5/16-18 unc-2a	7
42	820-637	TUBE, suction	1
43		PRESSURE CONTROL KIT	1
	820-638	*NEW*	
	820-639	*REBUILT*	1
44	820-640	LOCKRING	1
45	820-640	LOCKRING	1
46	820-421	NIPPLE, hex; 1/4 npsm x 1/4 npt, 1-3/16" long	2
47	820-641	HOSE, 3/8 npsm(f) x 14.5"	1
48	820-586	FLUID FILTER *see manual 307-273 for parts includes one each of item 46 and 94*	1
49	820-315	LOCKWASHER, spring; 3/8"	4
50	820-578	PRESSURE DRAIN VALVE	1
51	820-642	CAPSCREW, sch; 1/4-20 x 3"	2
52	820-562	RING, retaining	2
53	820-558	PLUG, tubing	2
54	820-643	CONNECTOR	1
57	820-319†	TAG, WARNING	1
58	820-469	RING, retaining	2
59	820-619	THROAT SEAL LIQUID 8 oz. (0.27 liter)	1
60	820-265	WHEEL	2
61	820-644	HANDLE, CART	1
62	820-569	SLEEVE, cart handle	2
63	820-273	LOCKWASHER, spring, 1/4"	6
64	820-590	SCREW, mach, pnh; 8-32 x .375"	10
69	820-592	NUT, retainer	2
71	177-762†	LABEL, WARNING	1
73	185-951†	LABEL, DANGER, English	1
74	110-619†	LABEL, WARNING	1
75	820-645	ADAPTER; 3/8 npsm x 1/4 npt	1
77	820-084	LABEL, ID, pressure control	1
79	820-557	WASHER, plain, 5/16"	4
80	820-559	SCREW, mach, pnh; 10-24 x .25"	3
81	820-588	BRACKET	2
82	820-587	NUT	2
83	820-564	WASHER, flat; 7/8" ID	2
84	820-325	SCREW, flat hd; 10-24 x .375"	4
86	820-589	LOCKWASHER, #10	2
87	820-431	BUSHING, strain relief	1
88	820-646	LABEL, control knob	1
89	820-424	SCREW, mach, pnh; 8-32 x .312" *inside pressure control*	1
90	820-448	LOCKWASHER, internal, No. 8 *inside pressure control*	1
91	820-647	CLIP, spring	1
92	820-346	HOSE, return	1
93	820-488	CLIP, spring	1
94	820-676	PLUG	1

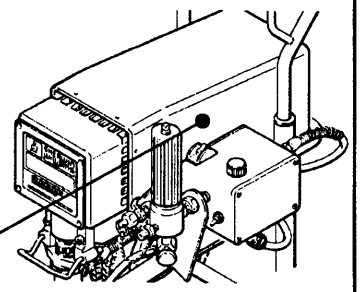
† *Extra warning tags and labels available free.*

ACCESSORIES

DANGER LABELS
The English language DANGER label shown on page 1 and the same label in French are on your sprayer. If you have painters who do not read English or French, order one of the following labels to apply to your sprayer. The drawing below shows the best placement of these labels for good visibility. Order the labels directly from Graco, free of charge.

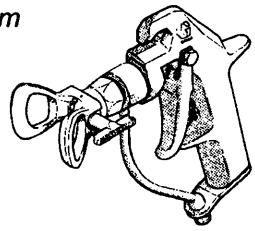
Toll Free: 1-800-328-0211

French	**185-956**
Spanish	**185-961**
German	**186-041**
Greek	**186-045**
Korean	**186-049**
English	**185-593**



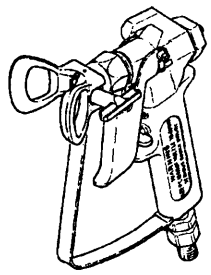
SPRAY GUN 820-076
5000 psi (350 bar) Maximum Working Pressure

Includes two guns.



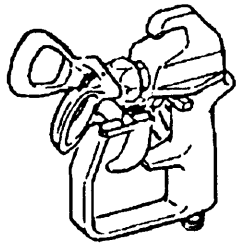
SPRAY GUN 820-077
5000 psi (350 bar) Maximum Working Pressure

Has filter in handle.
Includes two guns.



SPRAY GUN 820-078
3600 psi (248 bar) Maximum Working Pressure

Includes two guns.



TECHNICAL DATA

Power Requirements	120 VAC, 60Hz, 1 phase, 18 amp minimum or 3500 Watt generator
Working Pressure Range	0–3000 psi (0 – 210 bar)
Cycles/Gallon (liter)	104 (27.5)
Maximum Delivery	1.25 gpm (4.75 lpm)
Tip size	one gun to 0.035 tip; two guns to 0.025 tip *with latex at 2000 psi (138 bar)*
Power Cord	No. 12 AWG, 3 wire, 10' (3 m)
Inlet Paint Strainer	16 mesh (1190 micron) Stainless Steel Screen, reusable
Outlet Paint Filter	60 mesh (250 micron) Stainless Steel Screen, reusable
Pump Inlet Size	3/4 npt(m) with 30° ID chamfer
Fluid Outlet Size	1/4 npsm from fluid filter
Wetted Parts:	
Displacement Pump	Carbon Steel, Polyurethane, Polyethylene, Teflon®, Delrin®, Teflon®, Leather
Filter	Aluminum, Carbon Steel, Stainless Steel

NOTE: Teflon® and Delrin® are registered trademarkss of the DuPont Co.

DIMENSIONS

Weight (dry w/o packaging)	125 lb (56.8 Kg)
Height	32 in. (813 mm)
Length	24.25 in. (616 mm)
Width	22.5 in. (572 mm)

THE SHERWIN-WILLIAMS ULTIMATE® WARRANTY AND DISCLAIMERS

The Sherwin-Williams Company warrants the Ultimate sprayers to be free from defects in material and workmanship on the date of sale to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, The Sherwin-Williams Company will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven defective, with the exception of defects in parts of the drive train/gear box on which will be repaired or replaced for forty-eight months from the date of sale and the electric motor (excluding brush replacement) or pressure control assembly which will be repaired or replaced for twenty-four months from date of sale. This warranty applies only when the equipment is installed, operated and maintained in accordance with The Sherwin-Williams' Company written recommendations.

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

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Sherwin-Williams sales/service outlet for verification of the claimed defect. If the claimed defect is verified, The Sherwin-Williams Company will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

Disclaimers and Limitations. The terms of this warranty constitute purchaser's sole and exclusive remedy and are in lieu of any other warranties (express or implied), including warranty of merchantability or warranty of fitness for a particular purpose, and of any non-contractual liabilities, including product liabilities based on negligence or strict liability. Every form of liability for direct special or consequential damages or loss is expressly excluded and denied. In no case shall The Sherwin-Williams Company liability exceed the amount of the purchase price.

The SHERWIN-WILLIAMS COMPANY, 101 PROSPECT AVENUE, CLEVELAND, OH 44115
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