INSTRUCTIONS-PARTS LIST

GRACO

307-111
Rev W
SUPERSEDES V
4/00

This manual contains **IMPORTANT WARNINGS** and **INSTRUCTIONS**
READ AND RETAIN FOR REFERENCE

ELECTRIC-HYDRAULIC AIRLESS PAINT SPRAYER

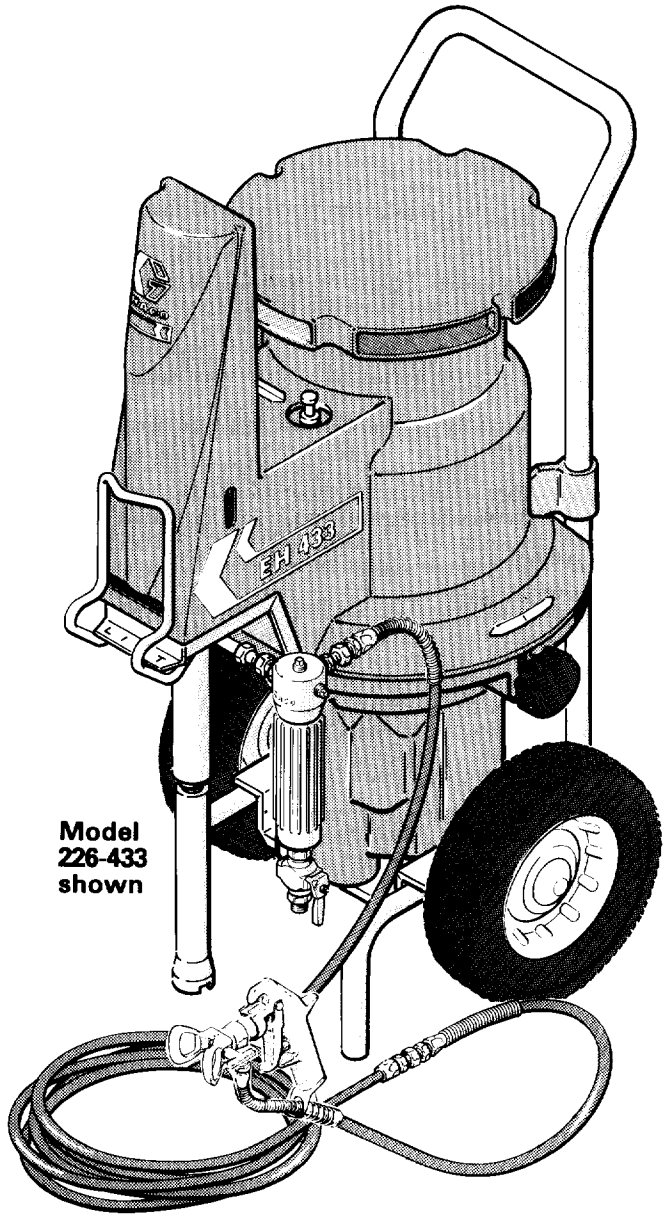
EH 433 GT HYDRA-SPRAY®

3000 psi (210 bar) MAXIMUM WORKING PRESSURE
Provides 1 GPM at 1000 PSI (70 bar)

Model 231-004, Series A
Basic Sprayer, with 60 Hz Motor

Model 226-433
Includes Model 231-004 Sprayer, Hose, Gun, RAC™ IV Dripless™ Tip Guard and SwitchTip™ Spray Tip

Model 226-432
Includes Sprayer, Hose, Gun, RAC™ IV DripLess™ Tip Guard and SwitchTip™ Spray Tip



Model 226-433 shown

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WARNING

Hazard of Using Fluids Containing Halogenated Hydrocarbons
Never use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious bodily injury and/or substantial property damage.

Consult your fluid suppliers to ensure that the fluids being used are compatible with aluminum and zinc parts.

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1444

WARNING

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 in 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.

Spray Tip Safety

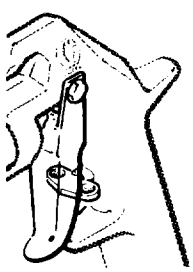
Use extreme caution when cleaning or changing spray tips. If the spray tip clogs while spraying, engage the gun safety latch immediately. ALWAYS follow the **Pressure Relief Procedure** and then remove the spray tip to clean it.

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

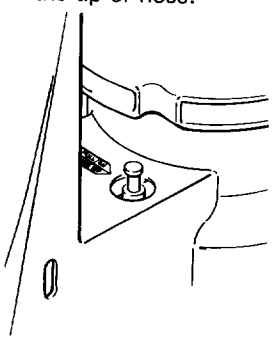
Pressure Relief Procedure

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. (5) Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure. (6) Engage the gun safety latch. (7) Open the drain valve, having a container ready to catch the drainage. (8) Leave the drain valve open until you are ready to spray again.

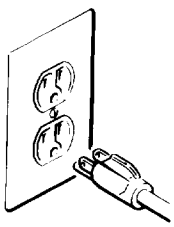
If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip or hose.



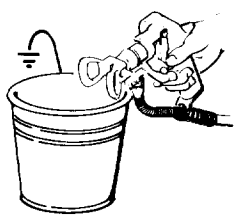
ENGAGE SAFETY



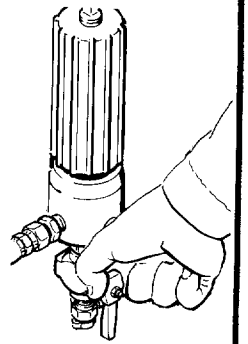
TURN SWITCH TO OFF



UNPLUG CORD



DISENGAGE SAFETY AND TRIGGER GUN; ENGAGE SAFETY AGAIN



OPEN DRAIN VALVE

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, 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.

Read and follow the fluid and solvent manufacturer's literature regarding the use of protective clothing and equipment.

System Pressure

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

Fluid and Solvent Compatibility

BE SURE that all fluids and solvents used are chemically compatible with the wetted parts shown in the Technical Data on the back cover. Always read the fluid and solvent manufacturer's literature before using them in this sprayer.

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. 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 air and 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 high velocity 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. 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. Always plug the sprayer into an outlet at least 20 feet (6 m) away from the sprayer and the spray area. Do not plug in or unplug any power supply cords in the spray area when there is any chance of igniting fumes still in the air.

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:* plug the power supply cord, or extension cord, each equipped with an undamaged three-prong plug, into a properly grounded outlet. Do not use an adapter. All extension cords must have three wires and be rated for 15 amps.
2. *Fluid hoses:* use only grounded hoses with a maximum of 500 feet (150 m) combined hose length to ensure grounding continuity. Refer to **Hose Grounding Continuity.**
3. *Spray gun:* obtain grounding through connection to a properly grounded fluid hose and sprayer.
4. *Supply container:* according to local code.
5. *Object being sprayed:* 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 9 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.

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. Unplug the sprayer, and follow the **Pressure Relief Procedure** on page 2, before checking or servicing any part of the sprayer to prevent it from starting accidentally.

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 générales 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'intérieur du corps et entraîner des blessures très graves, voir même une amputation. Même sans être sous pression, le fluide éclaboussant ou entrant dans les yeux peut aussi entraîner 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 appare 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 médicaux

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 médecin: *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 securité 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 pulvériser, 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 Fig. 3.

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 projeté *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

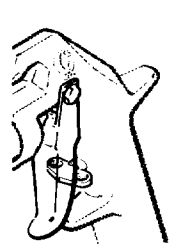
Faire extrêmement attention à l'occasion du nettoyage ou du remplacement des ajutages du pulvérisateur. Si l'ajutage se bouche pendant la pulvérisation, mettre immédiatement le verrou de sécurité du pistolet. TOUJOURS bien observer la **Marche à Suivre pour Détendre la Pression** puis enlever l'ajutage 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 complètement 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 ou de la réparation d'une pièce de l'appareil de pulvérisation, à l'occasion de l'installation, du nettoyage ou du remplacement des ajutages et d'une manière générale à chaque arrêt. 1) Engager le verrou de sécurité du pistolet. 2) Mettre l'interrupteur Marche-Arrêt sur ARRET ("OFF"). 3) Débrancher le cordon d'alimentation. 4) Désengager le verrou de sécurité du pistolet. 5) En maintenant une partie métallique du pistolet fermement appuyée contre le côté d'un seau en métal, appuyer sur la gachette du pistolet pour libérer la pression. 6) Engager le verrou de sécurité du pistolet. 7) Ouvrir le robinet de purge en prenant soin d'avoir un récipient prêt à récupérer le liquide. 8) Laisser le robinet be purge ouvert jusqu'à ce que le pulvérisateur soit de nouveau prêt à être utilisé.

Si l'on soupconne que l'ajutage du pulvérisateur ou le tuvau est complètement bouché, ou que la pression n'a pas été complètement libérée après avoir procédé aux opérations ci-dessus, desserrer TRES LENTEMENT l'écrou de retenue de la protection de l'ajutage ou le raccord du bout du tuyau et libérer progressivement la pression, puis terminer le desserrage. On peut maintenant déboucher l'ajutage ou le tuyau.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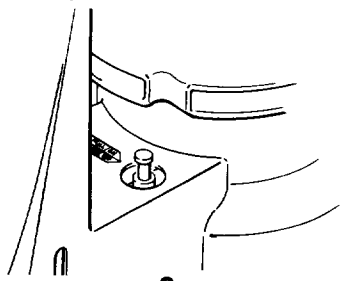
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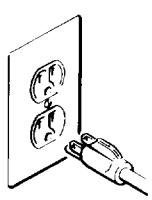
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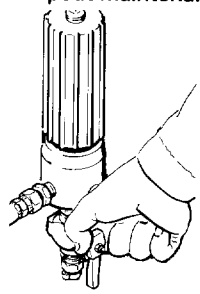
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RISQUES EN CAS DE MAUVAISE UTILISATION DU MATERIEL

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'autres blessures sérieuses, un incendie, une explosion ou d'autres dégâts.

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

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

Pression

Ce pulvérisateur peut produire une *PRESSION MAXIMUM DE TRAVAIL 210 bar (3000 lb/po.^{2}).* S'assurer que tous les éléments du pulvérisateur et ses accessoires sont concus pour résister à la pression maximum de travail de ce pulvérisateur. NE PAS dépasser 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 "Données techniques", au dos de la couverture. Toujours lire soigneusement les documents et brochures du fabricant des fluides et solvants utilisés avant de s'en servir dans ce pulvérisateur.

MESURES DE SECURITE 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 2 BOUTS! Les spirales de protection contribuent à éviter 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 desserré ou produire un jet à haute pression s'échappant par le raccord.

NE JAMAIS utiliser un tuyau endommagé. Avant chaque utilisation, vérifier entièrement chaque tuyau pour déceler les coupures, fuites, abrasions, boursouflures de l'enveloppe ou toute autre détérioration ou jeu des raccords. Si l'on constate l'une de ces détériorations, il faut remplacer le tuyau immédiatement. NE PAS essayer de refaire le raccord d'un tuyau haute pression ni de réparer le tuyau avec du ruban adhésif 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 limites de résistance maximum. Utilisez un mètre de résistance de la gamme appropriée pour votre tuyau et vérifiez la résistance. Si celle-ci dépasse les limites 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 système. Lisez aussi **LES RISQUES D'INCENDIE OU D'EXPLOSION** ci-dessus.

RISQUES D'INCENDIE OU D'EXPLOSION

De l'électricité statique est produite par le passage du fluide à grande vitesse dans la pompe et dans les tuyaux. Si toutes les pièces 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 cordon d'alimentation. Les étincelles sont suffisantes pour allumer les vapeurs de solvants et le fluide pulvérisé, les fines particules de poussière ainsi que d'autres substances inflammables, quand on pulvérise à l'intérieur ou à l'extérieur, et elles peuvent causer un incendie ou une explosion, 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 cordon d'alimentation quel qu'il soit dans la zone où se fait la pulvérisation quand il y a 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 un léger choc électrique lors de l'utilisation de cet équipement, ARRETEZ IMMEDIATEMENT DE PULVERISER. Vérifiez que tout le système est correctement mis à la masse. Ne le réutilisez pas avant d'avoir identifié le problème et de l'avoir 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 détail des instructions de mise à la terre dans la région 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 cordon 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 prévues 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 déjà convenablement reliés à la terre.

4. *Récipient d'alimentation:* observer le code ou les réglementations locales.

5. *Objets, matériel ou surfaces recevant 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 seaux métalliques* conducteurs de l'électricite. Ne pas mettre le seau sur une surface non conductrice comme sur du papier ou du carton car cela interromprait la continuité le la mise à la terre.

7. *Pour conserver la continuité de la mise à la terre quand on rince le matériel ou quand on libère 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 étincelles d'électricité statique ou aux éclaboussures, observer la marche à suivre pour le rincage donnée à la page 9 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 PRESION PUEDE CAUSAR GRAVES LESIONES.
SOLO PARA USO PROFESIONAL. RESPETE LOS AVISOS DE ADVERTENCIA.
Lea y entienda todo el manual de instrucciones antes de manejar el equipo.

PELIGRO DE INYECCION 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 pistola mientras se está pulverizando.

SIEMPRE seguir el **procedimiento de descarga de presión,** dado más abjo, *antes* de limpiar o sacar la boquilla o de dar servicio a 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 estàn funcionando bien antes de cada uso.

Tratamiento médico
Si pareciera que un poco de fluido penetró la piel, conseguir **TRATAMIENTO MEDICO 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 sanguíneo. Sería conveniente consultar a un especialista en cirugía plástica o reconstructiva de las manos.

Aparatos de seguridad de la pistola pulverizadora
Asegurar que todos los aparatos protectores de la pistola están funcionando bien antes de cada uso. No sacar ni modificar ninguna pieza de la pistola pues podría causar el malfuncionamiento 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 funcionamiento 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 él. 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.

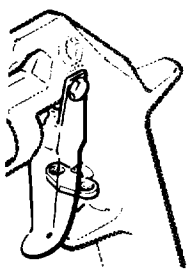
Protector de la boquilla
SIEMPRE tener el protector de la boquilla colocado en la pistola mientras se está pulverizando. Este protector llama la atención contra el peligro de inyección y ayuda a reducir, pero no evita, la colocación accidental de los dedos o cualquier otra parte del cuerpo cerca de la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

Procedimiento de descarga de presión
Para reducir el riesgo de sufrir graves lesiones corporales, incluyendo inyección o lesiones causadas por piezas 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 eléctrico. (4) Desenganchar el pestillo de la pistola. (5) Sujetar una parte metálica de la pistola bien firme contra un balde de metal, y disparar la pistola para descargar la presión. (6) Enganchar el pestillo de la pistola. (7) Abrir la válvula de drenaje y tener listo un reclipiente para recibir la pintura. (8) Dejar la válvula de drenaje abierta hasta que se esté 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.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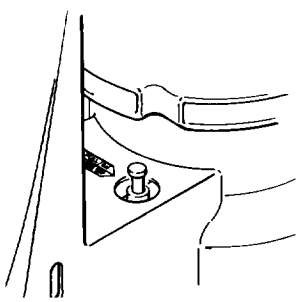
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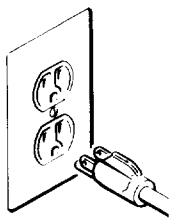
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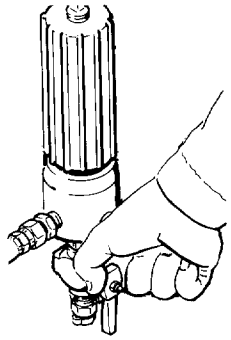
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PELIGRO POR MAL USO DEL EQUIPO

Seguridad general

Cualquier mal uso del equipo pulverizador o los accesorios, tal como sobrepresurización, modificación de piezás, uso de materiales y productos químicos incompatibles, o utilización de piezas 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 ninguna pieza de este equipo; el hacerlo podría causar una avería.

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

Presión del sistema

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

Compatibilidad de fluido

ASEGURAR que todos los fluidos y solventes usados son químicamente compatibles con las piezas mojadas ilustradas en la hoja de datos técnicos en la contratapa. Siempre leer las instrucciones del fabricante del fluido y solvente antes de usarlos en esta pulverizadora.

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 allí puede causar una lesión 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 podrían 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 él escape un chorro a alta presión.

NUNCA usar una manguera que está dañada. Siempre, revisarla en busca de cortaduras, escapes, abrasión, cubierta abultada, o acoplamientos sueltos o dañados. Si llegara a encontrarse cualquiera de estas condiciones, reemplazar de inmediato la manguera. NO intentar reacoplar una manguera de alta presión o enmendarla con cinta adhesiva u otro material 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 puesta a tierra de la manguera

La continuidad del circuito de puesta a tierra apropiado es esencial para mantener conectado a tierra el sistema pulverizador. Es indispensable revisar la resistencia eléctrica maxima 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 maxima, 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 apropiada para comprobar la resistencia; si excede los límites recomendados, reemplazarla de inmediato. Es muy arriesgado tener una manguera sin puesta a tierra o con la puesta a tierra en malas condiciones. 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 al enchufar o desenchufar el cordón eléctrico. Estas chispas pueden inflamar los vapores de los solventes y el chorro de fluido pulverizado, partículas de polvo y otras sustancias inflamables, sea al aire libre o bajo techo, lo que podría causar una explosión o incendio y graves lesiones corporales y daños a la propiedad. Enchufar siempre la pulverizadora a un tomacorriente que se encuentre a por lo menos 6 m (20 pies) de la máquina y del área que se va a rociar. No enchufar o desenchufar ningún cordón eléctrico en el lugar donde se está rociando cuando todavía exista la posibilidad de que queden vapores inflamables en el aire.

Si ocurre una chispa de electricidad estática o incluso un ligero choque eléctrico 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 solucionado el problema.

Puesta a tierra

Para reducir el riesgo de chispas estáticas, conectar a tierra la pulverizadora y todo el otro equipo de pulverizar que se use o se encuentre en el lugar que se va a rociar. CONSULTAR el código eléctrico de la localidad para las instrucciones sobre las conexiones a tierra exigidas para la zona y tipo de equipo. ASEGURAR de conectar a tierra todo este equipo pulverizador:

1. *Pulverizadora:* enchufar el cordón eléctrico, o cable extensor, cada uno con un enchuf de tres patas en buen estado, a un tomacorriente con puesta a tierra apropiado. No usar un adaptador. Totos los cables extensores tienen que tener tres hilos y una capacidad de 15 amperios.

2. *Mangueras para fluidos:* usar solamente mangueras con puesta a tierra de una longitud combinada de 150 m (500 pies), para asegurar buena continuidad a tierra. Referirse también al párrafo sobre **continuidad a tierra de la manguera.**

3. *Pistola:* hacer la puesta 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 código 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 interrumpe la continuidad a tierra.

7. *Para mantener 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

Reducir el riesgo de lesiones por inyección, chispas eléctricas o salpicaduras, siguiendo el procedimiento de lavado específico dado en la página 9 de este manual. Seguir el **procedimiento de descarga de presión** en la página 6, y quitar la *boquilla rociadora antes de lavar.* Apoyar una parte metálica de la pistola bien firme contra el costado de un *balde de metal* , usar la presión más baja posible de fluido durante el lavado.

PELIGRO DE LAS PIEZAS MOVILES

Las piezas en movimiento pueden pinchar o amputar dedos u otras partes del cuerpo. MANTENERSE ALEJADO de las piezas en movimiento durante el arranque o funcionamiento de la pulverizadora. Desenchufar la pulverizadora y descargar la presión antes de revisar o dar servicio a cualquier parte de la pulverizadora, para impedir que arranque inesperadamente.

IMPORTANT

Se han adoptado las normas de seguridad del gobierno de los Estados Unidos de Norteamérica bajo el Acta de Seguridad y Salud Ocupacional. Deberán consultarse estas normas, en especial las Generales, Parte 1910, y las Normas de Construcción, Parte 1926.

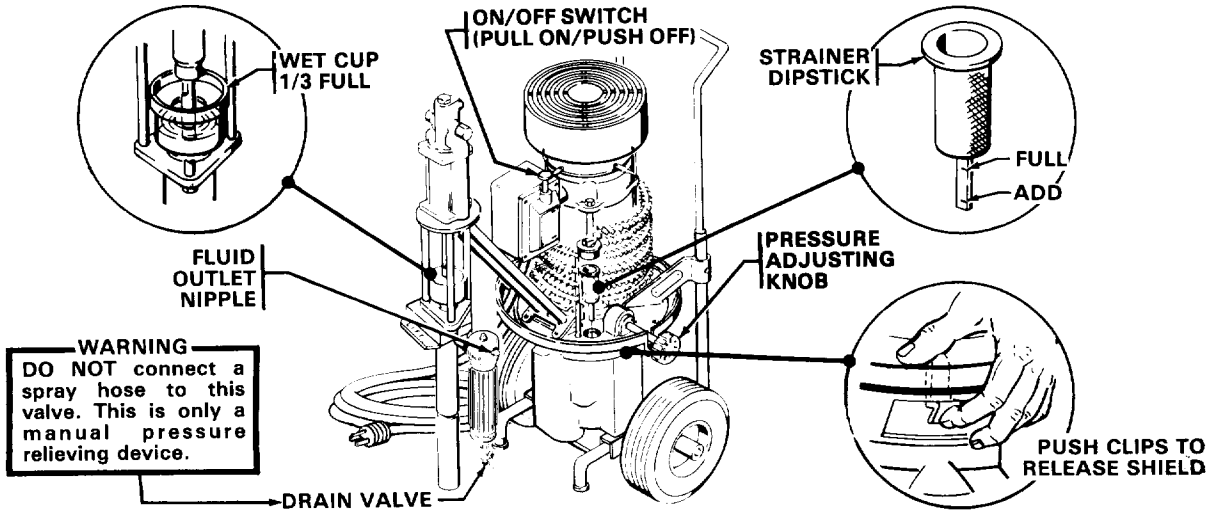


Fig 1

1. **Check Hydraulic Fluid** (Refer to Fig 1.)
   a. Push in on the two spring clips and lift the shield off of the sprayer.

   b. Remove the expander plug from the sump fill hole and lift the strainer/dipstick out of the hole. Using a *clean, lint-free* cloth, wipe the dipstick clean, replace it in the sump hole, then remove it and check the fluid level. The fluid level should be between the ADD and FULL marks on the dipstick.

   c. If the fluid level is at or below the ADD mark, replace the strainer/dipstick in the sump hole and add approved hydraulic fluid through the hole as necessary to bring the level to the FULL mark. See Accessories on page 22 for approved hydraulic fluid. 1-3/4 pints will raise the level from ADD to FULL.

2. **Connect Hose and Gun** (Refer to Fig 1.)
   a. Remove the plastic cap plug from the filter outlet nipple and tightly screw the 50 ft (15.2 m) fluid hose onto the nipple.

   b. Tightly connect the whip hose between the fluid hose and the gun inlet connection.

   c. Don't use thread sealant, and don't install the spray tip yet!

3. **Fill Packing Nut/Wet-Cup** (See Fig 1.)
   a. Push in on the two spring clips and remove the sprayer shield.

   b. Fill the packing nut/wet-cup 1/3 full with Graco Throat Seal Liquid (TSL), supplied. Install the sprayer shield.

WARNING

NEVER operate the sprayer without the shield installed. The shield encloses the fan and other moving parts which can cause serious bodily injury, including amputation. The shield also contains important WARNING information.

Operating the sprayer without the shield in place may cause it to overheat.

4. **Check Electrical Service**
   a. Model 226-433 requires 115 volt, 60 HzAC, 20 amp electric service and is equipped with a NEMA No. 5-20P plug for 115 volt, 20 amp power. Since the unit draws nearly 20 amps, it must be used on a separate circuit with no other loads.

NOTE: A licensed electrician can rewire the 226-433 for 230 volt service if necessary. See the wiring diagram on page 17.

Model 226-432 requires 230 volt, 50 HzAC, 15 amp electric service. This unit has no plug because of differing electrical codes in various parts of the world. Have a licensed electrician install a plug conforming to local code.

   b. Use an extension cord which has 3 wires of a minimum 12 gauge size, and a maximum length of 50 ft (15 m). Longer lengths may affect sprayer performance.

5. **Plug in the Sprayer**
   a. Be sure the ON/OFF switch is OFF. Refer to Fig 1. Then plug the cord into a grounded electrical outlet at least 20 ft (6 m) away from the spray area.

WARNING

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

6. **Flush the pump** to remove the lightweight oil which was left in to protect pump parts after factory testing. *See "Flushing Guidelines"* on page 9 for flushing procedure.

7. **Prepare the paint** according to the manufacturer's recommendations.
   a. Remove any skin that may have formed.

   b. Stir the paint to dissolve hard pigments.

   c. Strain the paint through a fine nylon mesh bag (available at most paint dealers) to remove particles that could clog the filter or spray tip. *This is probably the most important step toward trouble-free spray painting.*

FLUSHING GUIDELINES

When to Flush

1. **New Sprayer.** The Sprayer is factory tested in lightweight oil which is left in to protect pump parts.
   Before using water-base paint, flush with mineral spirits, followed by soapy water, and then a clean water flush.
   Before using oil-base paint, flush with mineral spirits only.
2. **Changing Colors.** Flush with a compatible solvent such as mineral spirits or water.
3. **Changing from water-base to oil-base paint.** Flush with soapy water, then mineral spirits.
4. **Changing from oil-base to water-base paint.** Flush with mineral spirits, followed by soapy water, then a clean water flush.
5. **Storage.**
   Water-base paint: flush with water, then mineral spirits and leave the pump, hose and gun filled with mineral spirits. Shutoff and unplug the sprayer, open the drain valve to relieve pressure and leave open.
   Oil-base paint: flush with mineral spirits. Shutoff and unplug the sprayer, open the drain valve to relieve pressure and leave open.
6. **Startup after storage.**
   Before using water-base paint, flush out mineral spirits with soapy water and then a clean water flush.
   When using oil-base paint, flush out the mineral spirits with the fluid to be sprayed and the sprayer is ready to use.

How to Flush

1. Engage the gun safety latch, turn the ON/OFF switch to OFF, release the gun safety, trigger the gun to relieve pressure, engage the gun safety and open the filter drain valve. See Fig 2.
2. Remove the filter bowl and screen; see manual 307-273 supplied. Clean the screen separately and install the bowl without the screen.

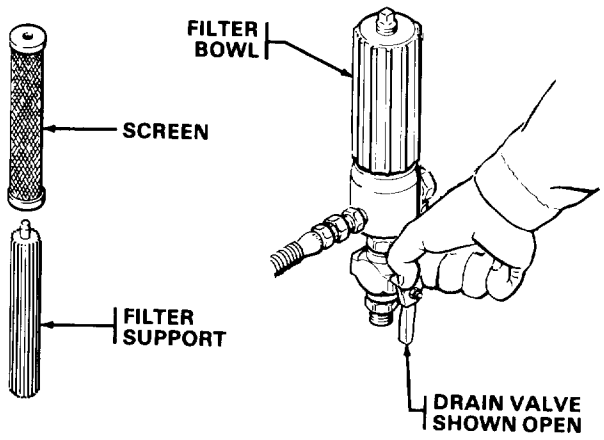


Fig 2

3. Close the filter drain valve.
4. Pour one-half gallon (2 liters) of compatible solvent into a bare metal pail. Put the suction tube in the pail.

WARNING

To reduce the risk of splashing of fluid in the eyes or on the skin and static sparking (which can cause fire or explosion), always remove the spray tip from the gun, and hold a metal part of the gun firmly to the side of a grounded metal pail when flushing.

5. Disengage the gun safety latch.
6. Point the spray gun into a grounded metal waste container and with a metal part of the gun firmly touching the metal container, squeeze the gun trigger. ***This procedure helps avoid splashing and static sparking (which can cause fire or explosion).*** With the gun triggered, turn the ON/OFF switch to ON and slowly turn the pressure adjusting knob clockwise ***just until*** the sprayer starts. Keep the gun triggered until clean solvent comes from the nozzle. Release the trigger and engage the gun safety latch. See Fig 3.

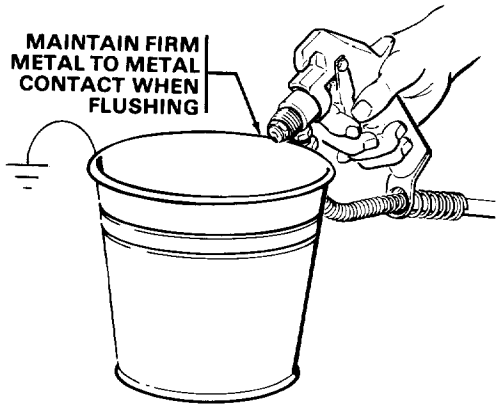


Fig 3

7. Check all fluid connections for leaks. If any leak, follow the **Pressure Relief Procedure Warning** on page 2. Now tighten the connections, start the sprayer, and recheck the connections for leaks.
8. Remove the suction tube from the pail. Disengage the gun safety and trigger the gun to force solvent from the hose. ***Do not let the pump run dry for more than 30 seconds to avoid damaging the pump.*** Then turn ON/OFF switch to OFF and engage the gun safety latch.
9. Unplug the power supply cord. Open the drain valve and leave open until you are ready to use the sprayer again. Unscrew the filter bowl and reinstall the clean screen. Reinstall the bowl, hand tight only.
10. If you have flushed with mineral spirits and are going to use a water-base paint, flush with soapy water followed by a clean water flush. Then repeat Step 1.

WARNING

Pressure Relief Procedure
To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, 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.
5. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
6. Engage the gun safety latch.
7. Open the drain valve, having a container ready to catch the drainage.
8. Leave the drain valve open until you are ready to spray again.

If you suspect 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 and relieve pressure gradually, then loosen completely. Now clear the tip or hose.

1. **Prime the Sprayer with Paint.**
   a. Close the filter drain valve.
   b. Don't install the spray tip yet!
   c. Put the suction tube into the paint container.
   d. Turn the pressure adjusting knob all the way counterclockwise to lower the pressure setting. Refer to Fig 1.
   e. Disengage the gun safety latch.
   f. Aim the gun into a grounded metal container and hold a metal part of the gun firmly against the container. See Fig 4. Squeeze the trigger and hold it open, turn the ON/OFF switch to ON, 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 fluid flows freely from the gun. Release the trigger and engage the safety.

   NOTE: If the pump is hard to prime, place a container under the drain valve and open it. When fluid comes from the valve, close it. Then disengage the gun safety and proceed as in Step 1f, above.

   g. Check all fluid connections for leaks. If any are found, follow the **Pressure Relief Procedure Warning**, above, before tightening connections.

2. **Install the Spray Tip and Tip Guard**

WARNING

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 prevent the risk of accidentally placing your fingers or any part of your body close to the spray tip.

   a. Be sure the gun safety latch is engaged.
   b. Install the spray tip. If using the Reverse-A-Clean IV, refer to manual 307-848, supplied with the gun.

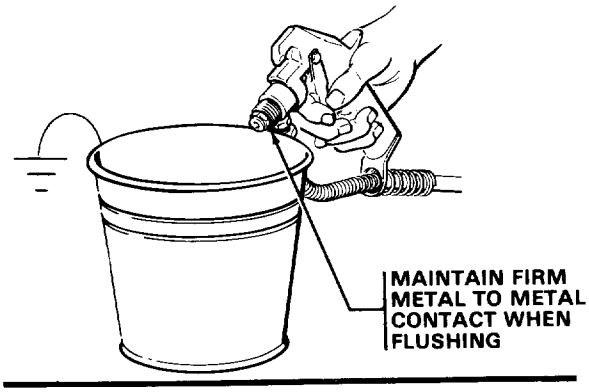


Fig 4

3. **Adjusting the Spray Pattern** (Refer to Fig 5)
   a. Increase the pressure adjusting knob setting just until spray from the gun is completely atomized. To avoid excessive overspray and fogging, and to decrease tip wear and extend the life of the sprayer, always use the lowest possible pressure needed to get the desired results.
   b. If more coverage is needed, use a larger tip rather than increasing the pressure.
   c. Test the spray pattern. To adjust the direction of the spray pattern, engage the gun safety and loosen the retaining nut. Position the guard horizontally for a horizontal pattern or vertically for a vertical pattern. Then tighten the retaining nut.

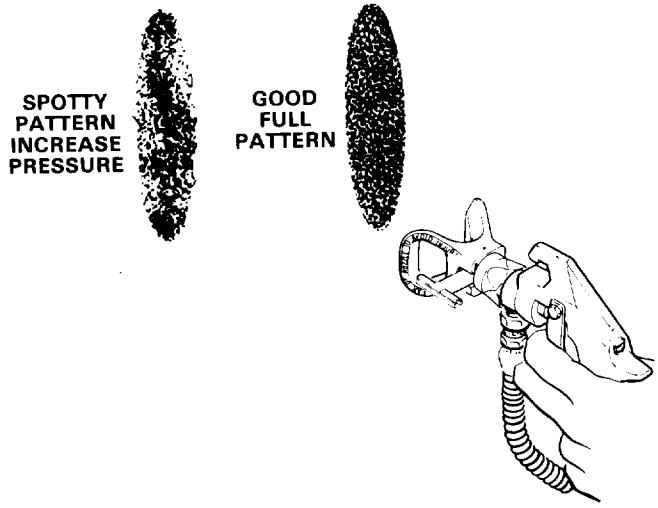


Fig 5

4. **Cleaning a Clogged Tip**

WARNING

To reduce the risk of serious bodily injury from fluid injection, use extreme caution when cleaning or changing spray tips. If the spray tip clogs while spraying, engage the gun safety latch immediately. Then follow the procedure below.

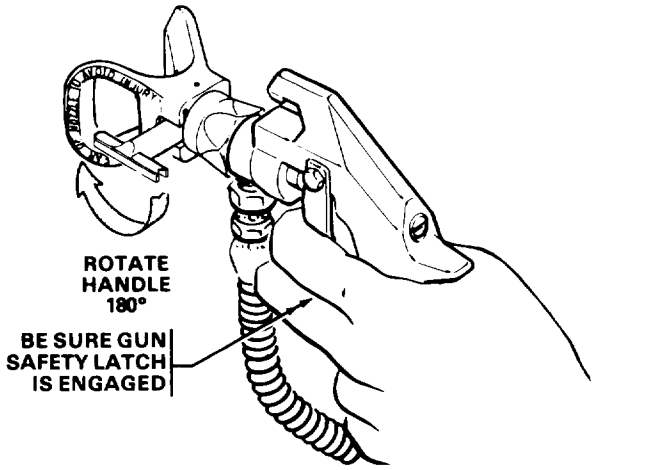
NEVER wipe off build-up around the spray tip until pressure is fully relieved and the gun safety latch is engaged.

a. Clean the front of the tip frequently during the day's operation. *First,* follow the **Pressure Relief Procedure Warning** on page 10. Then use a solvent-soaked brush to keep fluid from building up and clogging the tip.

b. If the spray tip does clog, release the gun trigger and engage the gun safety latch.

c. *Model 226-433 and 226-432 only*
Rotate the RAC IV handle 180°. See Fig 6. Disengage the gun safety and trigger the gun into a grounded waste container. Engage the gun safety again. Return the handle to the original position.

Model 231-004 only
VERY SLOWLY loosen the tip guard retaining nut or hose end coupling, and relieve pressure gradually, then loosen completely. Clear the tip or hose, then reassemble.



d. Disengage the gun safety, and resume spraying.

e. *If the tip is still clogged,* engage the gun safety, shutoff and unplug the sprayer, and open the drain valve to relieve pressure. Remove the spray tip and clean it.

Model 226-433 and 226-432 only
Instructions for cleaning the RAC IV are given in manual 307-848.

MAINTENANCE

1. **Check the packing nut/wet-cup daily.** First follow the **Pressure Relief Procedure Warning** on page 10. Be sure the wet-cup is 1/3 full of TSL at all times to help prevent fluid buildup on the piston rod and premature wear of packings. The packing nut should be tight enough to stop leakage, but no tighter. Overtightening may cause binding and excessive packing wear. Use a 1/4 in. diameter rod to adjust the nut.

NOTE: Normal seepage of hydraulic fluid past the hydraulic motor piston rod wiper will gradually fill the wet-cup. Check the wet-cup every eight hours to prevent overflow.

2. **Clean the fluid filter often** and whenever the sprayer is stored. First follow the **Pressure Relief Procedure Warning** on page 10. Refer to manual 307-273, supplied, for the cleaning procedure.

3. **Flush the sprayer at the end of each work day** and fill it with mineral spirits to help prevent pump corrosion and freezing. See "Flushing Guidelines" on page 9.

CAUTION

To help prevent pump corrosion and to avoid freezing, never leave water in the sprayer. Freezing can seriously damage the pump.

4. **For very short shutoff periods,** leave the suction tube in the paint, follow the **Pressure Relief Procedure Warning** on page 10, and clean the spray tip.

5. **Coil the hose** around the hose brackets when storing the sprayer, even for overnight, to help protect hose from damage.

WARNING

To reduce the risk of component rupture which can cause serious bodily injury, NEVER use worn or damaged hoses. Refer to the **Hose Safety Warning** on page 3.

6. **Check the hydraulic fluid level** occasionally. Add fluid as necessary to keep the fluid level between the ADD and FULL marks on the dipstick. Refer to page 8.

7. **Change the hydraulic fluid** every 2000 hours of operation or every 12 months, whichever comes first. Also clean the hydraulic pump intake filter and replace the disposable filter in the return line. *First,* follow the **Pressure Relief Procedure Warning** on page 10, then remove the sprayer shield and follow the instructions under "Replacing the Electric Motor" on page 16 to get at the filters, remove the old hydraulic fluid and clean the sump.

Maintenance continued on page 12.

8. Relieve fluid pressure when not using the sprayer to avoid the pump stalling out at the top of its stroke. If the pump stalls, follow the **Pressure Relief Procedure Warning** on page 10, remove the plug from the top of the hydraulic motor and push the spool all the way down. See Fig 7. Replace the plug and restart the sprayer.

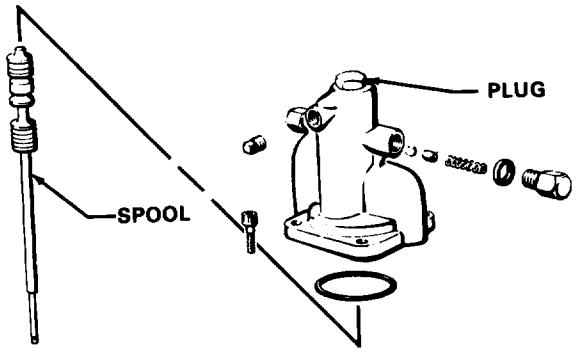


Fig 7

9. Periodically, or if the electric motor is overheating, unplug the unit, follow the **Pressure Relief Procedure Warning** on page 10, remove the shield and clean all paint, dirt, dust, etc., off the shield, fan blades, motor and cooling fins.

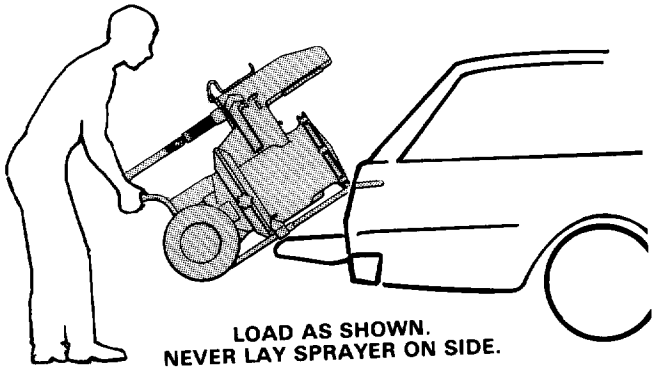


Fig 8

10. To transport the sprayer, empty the wet-cup, or reduce the level of Throat Seal Liquid (TSL) to 1/3 full or less, and stuff a rag into the wet-cup. Load the sprayer as shown in Fig 8. To avoid leakage of hydraulic fluid, never lay sprayer on its side.

WARNING

Pressure Relief Procedure
To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, 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.
5. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
6. Engage the gun safety latch.
7. Open the drain valve, having a container ready to catch the drainage.
8. Leave the drain valve open until you are ready to spray again.

If you suspect 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 and relieve pressure gradually, then loosen completely. Now clear the tip or hose.

TROUBLESHOOTING GUIDE

WARNING

Follow the **Pressure Relief Procedure Warning** above, before performing any troubleshooting procedures or service on the sprayer.

NOTE: Check all possible solutions before disassembling the sprayer.

PROBLEM	CAUSE	SOLUTION
Electric motor won't run or stops while spraying	Sprayer unplugged or fuse blown	Check, replace
	Defective switch or electric motor	Replace
	Overheating switch has opened	Unplug sprayer*
Electric motor runs but pump won't work	Hydraulic motor stalled	Refer to step 8 under Maintenance on page 11
	Pressure setting too low	Increase
	Outlet filter dirty or plugged	Clean
	Tip plugged	Reverse to clear or remove and clean
	Hydraulic fluid low	Check, add fluid**
	Hydraulic pump worn or damaged	Check, replace
	Hydraulic motor worn or damaged	Service (see 306-980)
	Displacement rod seized by dried fluid	Service
Pump runs but output low	Piston ball not seating	Service
	Piston packings worn or damaged	Replace
	Intake valve ball not seating	Service
Excessive leakage around hydraulic motor piston rod wiper	Worn or damaged piston rod or seal	Replace (see 306-980)

Troubleshooting Guide continued on page 14.

TROUBLESHOOTING GUIDE (CONT.)

PROBLEM	CAUSE	SOLUTION
Fluid leaks into wet-cup	Throat packings worn or damaged	Replace
Excessive surge at spray gun	Outlet filter dirty or plugged	Clean
	Tip plugged	Reverse to clear or remove and clean
	Spray tip too big or worn	Change tip
Insufficient atomization of fluid	Pressure setting too low	Increase
	Outlet filter dirty or plugged	Clean
	Hydraulic fluid low	Check, add fluid**
	Hydraulic pump worn or damaged	Check, replace
	Hydraulic motor worn or damaged	Service (see 306-980)
	Spray tip too big or worn	Change tip
	Pressure drop in hose	Use larger hose
Fluid coating too thick	Spray tip too big or worn	Change tip
Tails or fingers in spray pattern	Pressure setting too low	Increase
	Outlet filter dirty or plugged	Clean
	Hydraulic fluid low	Check, add fluid**
	Hydraulic pump worn or damaged	Check, replace
	Hydraulic motor worn or damaged	Service (see 306-980)
	Spray tip too big or worn	Change tip
	Fluid supply low or exhausted	Check, refill
Spitting from spray gun	Fluid supply low or exhausted	Check, refill
Static sparking from spray gun	Sprayer or workpiece not grounded	Stop spraying immediately. Check for proper grounding as described on page 3.
Gun will not spray	Drain valve open	Close
	Hose or tip clogged	Perform the **Pressure Relief Procedure Warning** on page 13, then clear the clog or clean the tip

*The electric motor has an overheating protection switch which will automatically reset on cooling. If it opens, unplug the sprayer and let it cool for 2 to 20 minutes. Try to correct the cause of the overheating.

**When adding hydraulic fluid to the sump, use only Graco approved fluid. See ACCESSORIES on page 22.

WARNING

To reduce the risk of serious bodily injury, including fluid injection, splashing of fluid in the eyes or on the skin, injury from moving parts or electric shock, always follow the **Pressure Relief Procedure Warning** on page 13 before performing any of the following service procedures.

Removing the Hydraulic Motor

1. Unscrew the three tie rod nuts (13) and pull the displacement pump (84) down off the rods. This will also pull the hydraulic motor piston down.
2. Remove the cotter pin (15) from the hydraulic motor's piston rod. See Fig 9.
3. Rotate the displacement pump to unscrew the displacement rod (103) from the motor piston. If necessary, use a wrench on the flats of the displacement rod to unscrew it.
4. Unscrew the three tie rods (68) and remove the hydraulic motor.
5. Refer to manual 306-980 (supplied) for hydraulic motor parts and service information. When reassembling, be sure the motor and its support are absolutely clean.

Displacement Pump Disassembly

1. Screw the extension tube (80) or union off the displacement pump intake valve housing (99). Remove the retaining ring (78) and strainer (79) from the extension tube and put them in a container of clean solvent.
2. Screw the intake valve housing (99) out of the pump housing (101). Remove the pin (93), retainer (95), o-ring (94), guide (97) and ball (86). See Fig 9. Put the parts in solvent to soak. Inspect the ball seat on the intake valve housing for wear or damage, and replace the housing if any is present.
3. Remove the shield (119) and hydraulic motor (104), and disconnect the displacement rod (103) as explained under "Removing the Hydraulic Motor".
4. Loosen the packing nut (102). Push the displacement rod (103) down and pull it and the piston out the bottom of the housing (101). See Fig 9.

NOTE: If the displacement rod (103) is seized by dried fluid, remove the packing nut (102), fill the packing cavity with solvent and let it soak to free the rod.

5. Screw the piston stud (100) out of the displacement rod and remove the ball (85), packing retainer (91), male gland (98), three leather packings (88), Teflon® packing (92), and female gland (96). Clean all parts with solvent and replace if worn or damaged. Inspect the ball seat on the piston stud for wear or damage and replace the stud if any is present.
6. Screw the packing nut (102) out of the pump housing (101). Remove the female gland (96), Teflon® packing (92), three leather packings (88) and male gland (98) from the housing. Clean all parts with solvent and replace if worn or damaged.

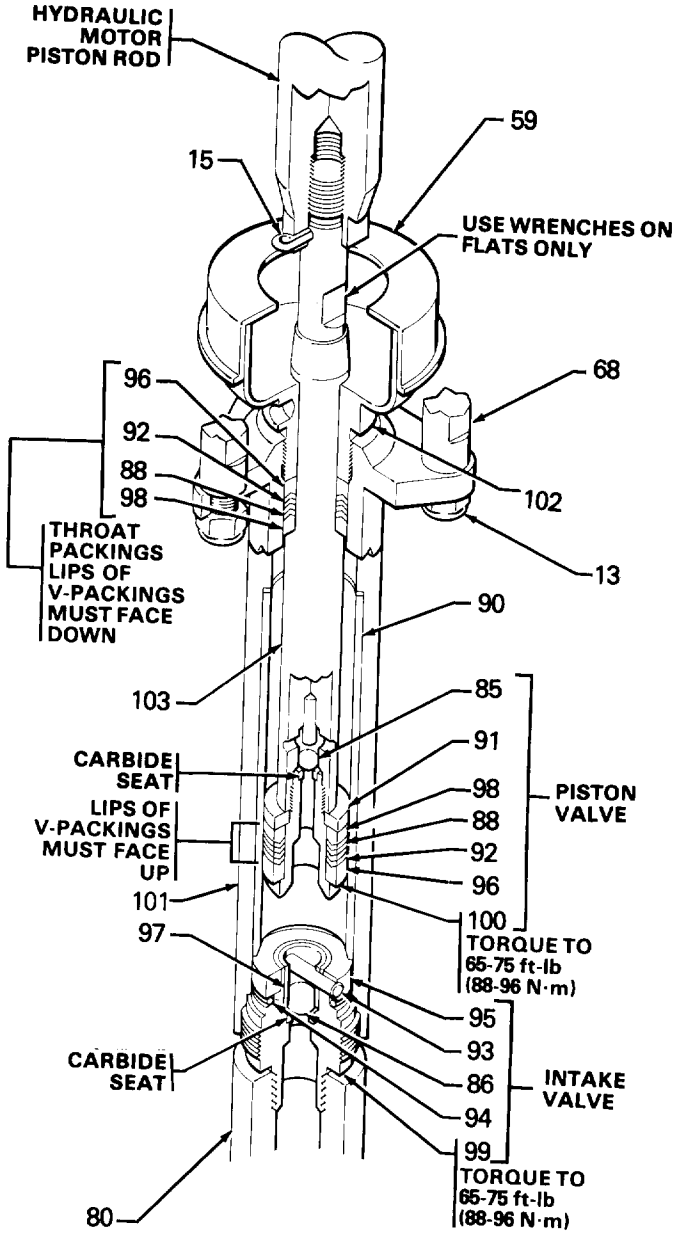


Fig 9

7. Inspect the outer surface of the displacement rod (103) and the inner surface of the insert sleeve (90) in the housing (101) for scratches or scoring which could damage the packings and cause the pump to leak. To check, run a finger over the surface or hold the part up to the light at an angle. If the sleeve (90) needs replacement, contact your Graco representative. The new sleeve must be installed with the tapered end down.

Displacement Pump Reassembly

NOTE: 1. Repair Kit 208-919 is available. For the best results, use all the parts in the kit, even if the old parts look good. Parts included in the kit are marked in the text with a double asterisk, for example (85**).

2. Lubricate all packings before installing them in the pump. Make certain that the lips of the v-packings are facing against the fluid pressure.

1. Install the male gland (98**) in the pump housing (101). With the lips facing down against fluid pressure, install the three leather packings (88**) and the Teflon® packing (92**), then the female gland (96**). Screw the packing nut into the housing loosely.

2. Install the female gland (96**) on the piston stud (100). With the lips facing up against fluid pressure, install the Teflon® packing (92**) and the three leather packings (88**), then the male gland (98**), packing retainer (91), and ball (85**). Screw the piston stud into the displacement rod (103) and torque to 55-75 ft-lb (75-96 N·m).

3. Lubricate the displacement rod (103) and sleeve (90). Slide the displacement rod up into the pump housing (101) from the bottom until it protrudes from the packing nut (102). Tighten the packing nut enough to prevent leaking, but no tighter.

4. Screw the displacement rod (103) into the hydraulic motor piston. Install the cotter pin (15) in the motor piston.

5. Screw the three tie rod nuts (13) onto the tie rods to reattach the displacement pump to the hydraulic motor. Torque the nuts to 15-25 ft-lb (20-34 N·m).

6. Install the ball (86**), guide (97), o-ring (94**), and retainer (95) in the intake valve housing. Line up the holes and insert the pin (93). Screw the intake valve into the pump housing (101) and torque to 65-75 ft-lb (88-96 N·m).

7. Install the strainer (79) and retaining ring (78) in the extension tube (80), if used. Torque the tube into the pump housing (101) at 65-75 ft-lb (88-96 N·m).

Replacing the Electric Motor

If the electric motor (63) won't run and the circuit, on-off switch and fuse are good, follow the **Pressure Relief Procedure Warning** on page 13, disconnect the plug from the electrical outlet, and proceed as follows:

1. Remove the shield (14). Remove the four screws (9) and washers (17) holding the upper fan guard (82) to the motor and remove the guard. Loosen the fan blade setscrew and pull the fan (26) off the motor.

2. Take off the switch box cover (34) and disconnect the electric cord wires. Take care not to scratch the smooth mating surfaces of the switch box (65) and cover (34).

3. Drive out the two spring pins (16) holding the support mounting (44) and handle (75) to the cart frame (74) and pull the handle out of the frame. See Fig 10. Hook onto the switch box conduit with a hoist and lift the unit about 6 in. (150 mm) off the floor, then pull the cart frame down out of the support mounting and move it out of the way.

4. Remove the eight screws (4), washers (3) and nuts (2) holding the reservoir mounting. Raise the unit high enough for the reservoir (66) to clear, then pull the reservoir down off the unit and pour out the hydraulic fluid. Carefully lower the unit and tilt it back until the arms of the support mounting (44) are resting on the floor. Put the cart handle (75) through the arms with the bent part facing up, to support the unit. See Fig 11. Hold the hook on the switch box as you lower the unit to make sure it doesn't slip off.

5. Remove the four electric motor mounting screws (7), hold the motor (63) by the shaft and switch box (65), then rock it from side to side to free it from the support mounting, and carefully pull it out of the cooling coils (46). See Fig 11.

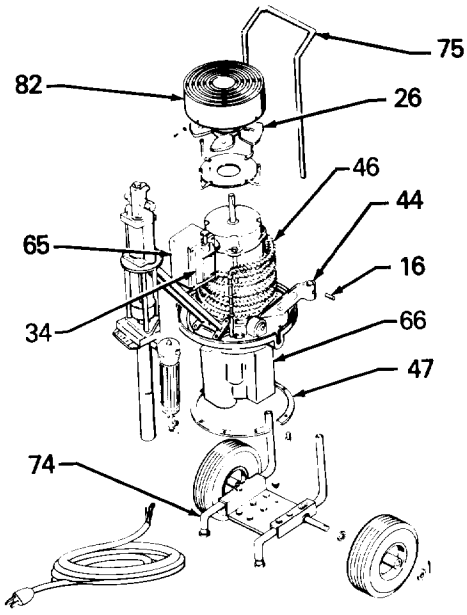


Fig 10

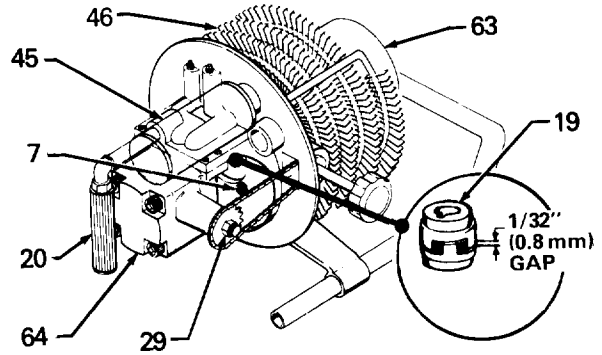


Fig 11

6. Screw the switch box (65) and nipple (11) out of the motor. Take the coupling off the motor shaft and reinstall on the new motor. When installing the nipple and switch box, be sure to engage the threads at least five full turns. Carefully slide the new motor through the cooling coils (46), force it into the support mounting and screw the mounting screws in tightly. Set the gap between the two coupling halves at 0.31 in. (0.8 mm), then tighten the coupling setscrew securely.

7. Clean the reservoir (66) of sediment and reassemble the unit using a new gasket (47). Pour hydaulic fluid back into the reservoir through the fill hole filter (55).

Replacing the Hydraulic Pump

1. Unplug the unit, follow the **Pressure Relief Procedure Warning** on page 13, remove the shield (114) and disassemble the unit as explained under **"Replacing the Electric Motor".**

2. Loosen the setscrew in the coupling half (19) and push the coupling against the hydraulic pump. See Fig 12. Take out the four screws (1) and washers (22) and remove the hydraulic pump. Discard the o-ring seals.

3. Remove the adjusting sprocket retaining nut (29) and pull the sprocket off the adjusting nut.

4. Apply light grease to the o-rings and put them in place on the pump mounting. Put the coupling half on the shaft of the new pump and leave it loose. See Fig 12.

5. Carefully put the pump in place on the mounting so you don't disturb the o-ring seals. Screw the mounting screws in tightly. Push the coupling half into the other coupling half until there is a 0.31 in. (0.8 mm) clearance between them, then tighten the coupling setscrew firmly.

6. Put the adjusting chain onto the sprocket, onto the adjusting nut, then screw the retaining nut onto the stud and tighten until snug, then back off 1/12 to 1/8 turn.

7. Clean the reservoir of sediment. Reassemble the unit and pour hydraulic fluid into the reservoir. Check the fluid level and add fluid as necessary.

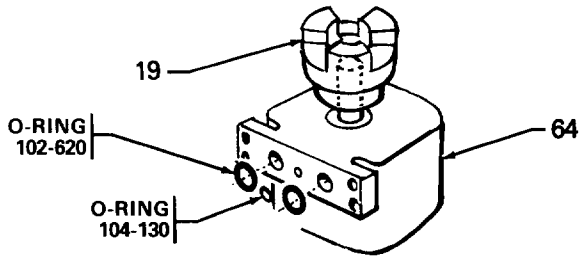


Fig 12

Electric Motor Wiring Diagram

NOTE: Model 226-433 is wired for 115 volt service. It can be rewired for 230 volt service.

Model 226-432 is wired for 230 volt service. If you wish to rewire for 115 volt service, first check your local electrical code. Model 226-432 will draw 22 amps if rewired for 115 volt service.

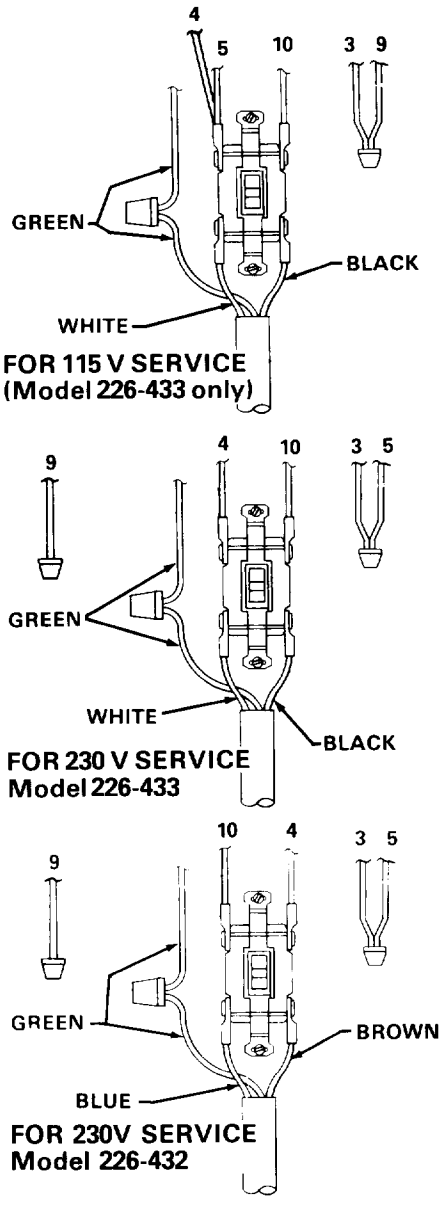
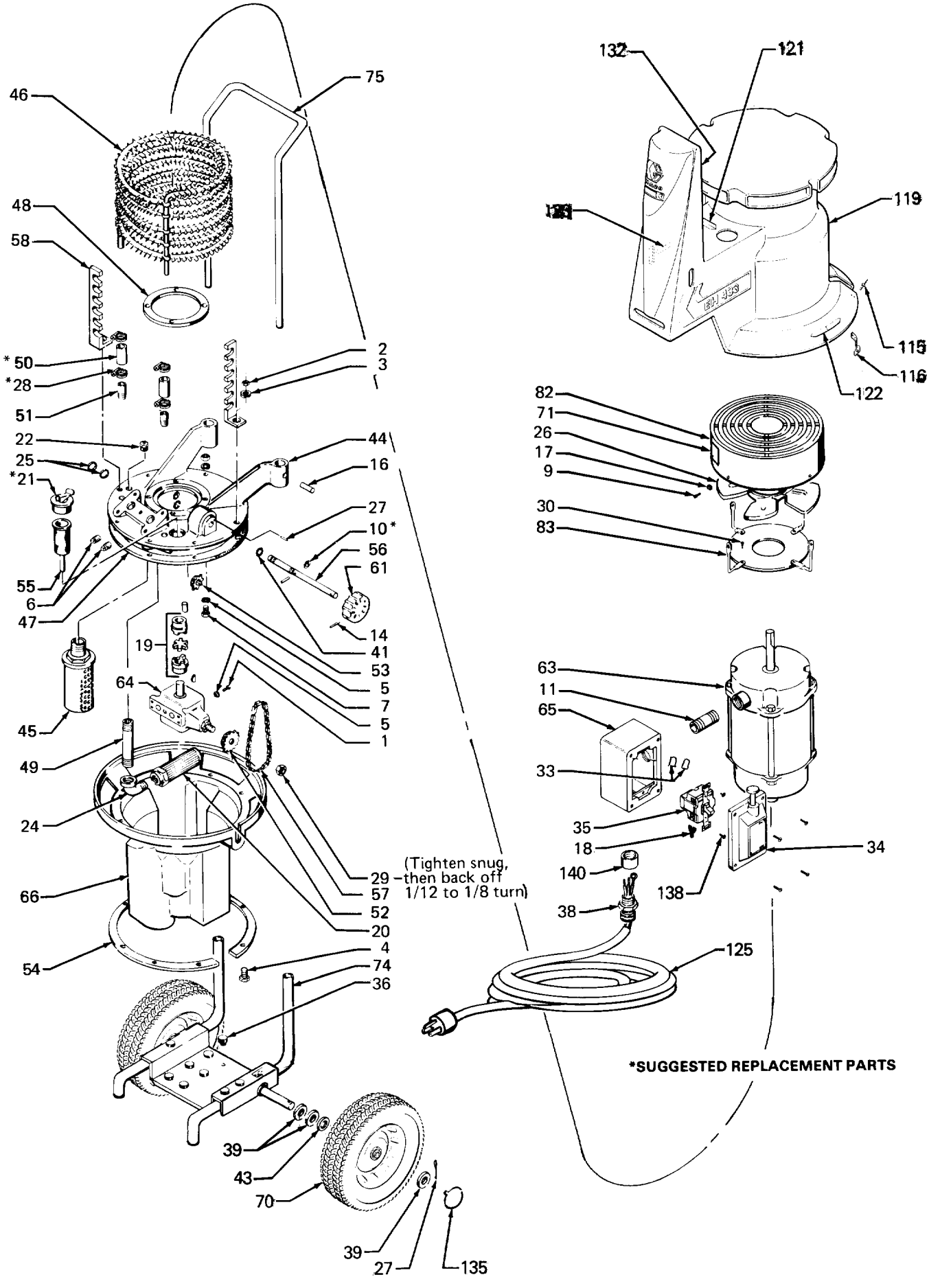
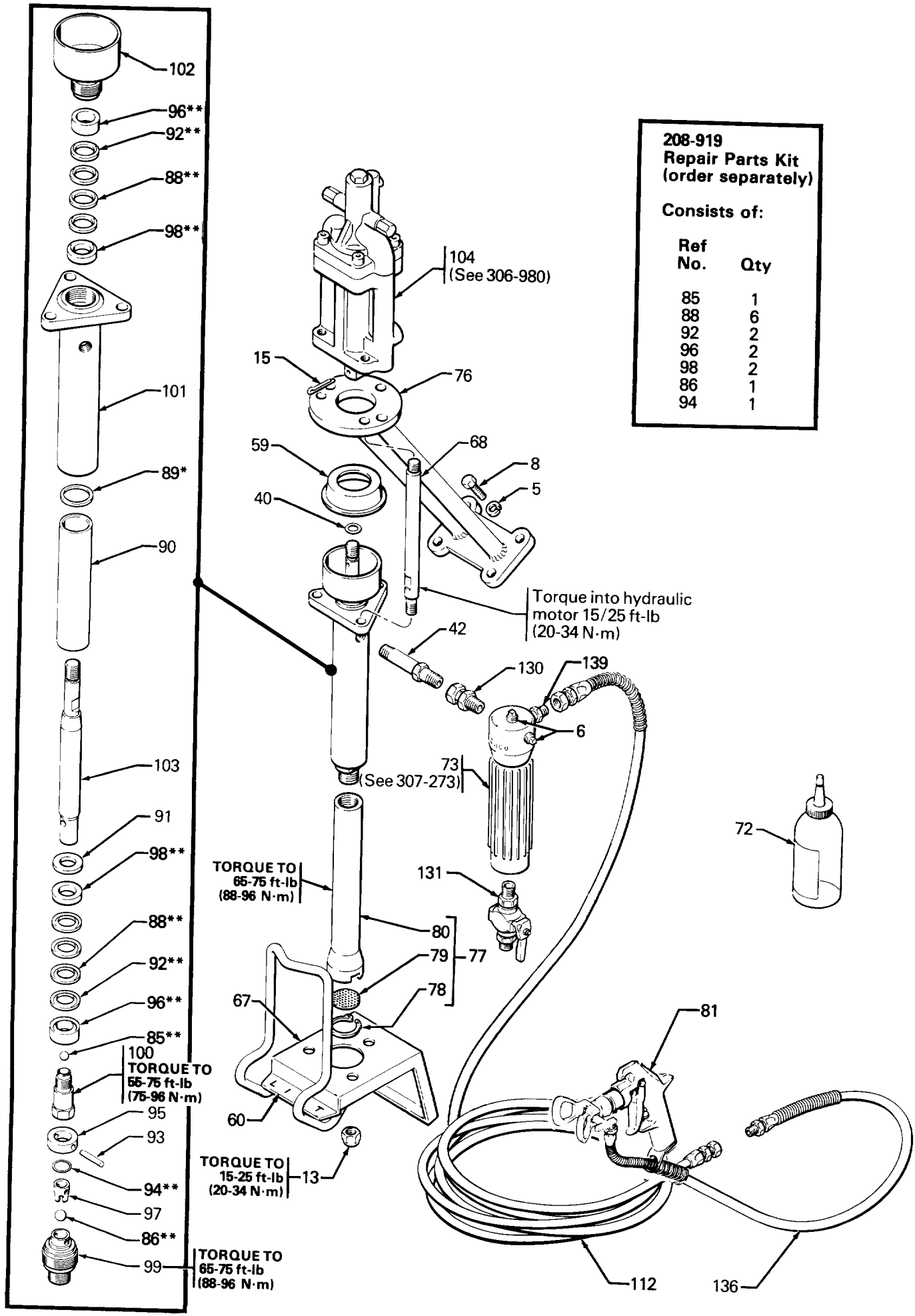


Fig 13

PARTS DRAWING



*SUGGESTED REPLACEMENT PARTS



208-919
Repair Parts Kit
(order separately)

Consists of:

Ref No.	Qty
85	1
88	6
92	2
96	2
98	2
86	1
94	1

PARTS LIST

Model 226-432
EH 433 Airless Paint Sprayer (50 Hz)
With Hose and Gun
Includes items 1-140

Model 231-004 Series A
EH 433 Airless Paint Sprayer (60 Hz)
Includes items 1-80, 82-104, 114-135, 138, 139

REF NO.	PART NO.	DESCRIPTION	QTY
1	100-004	CAPSCREW, hex hd; 3/8-16 x 1-1/4"	4
2	100-015	NUT, hex mach; 1/4-20	8
3	100-016	LOCKWASHER, spring; 1/4 screw sz	8
4	100-021	CAPSCREW, hex hd; 1/4-20 x 1"	8
5	100-133	LOCKWASHER, spring; 3/8 screw sz	13
6	100-509	PLUG, pipe; 1/4 npt	4
7	100-659	SCREW, soc hd cap; 3/8-16 x 1"	4
8	100-680	CAPSCREW, hex hd; 3/8-16 x 7/8"	5
9	100-933	SCREW, type"f"self tap; 8-32 x 3/4"	4
10	*101-166	RING, retaining	2
11	101-407	NIPPLE, pipe; 3/4 npt x 3"	1
12	*101-545	PIN, cotter; 1/8 dia x 1"	2
13	101-566	LOCKNUT, hex; nylon insert, 3/8-16	3
14	101-831	PIN, spring; 3/16 dia x 3/4"	2
15	101-946	PIN, cotter; 1/8 dia x 1-1/2"	1
16	*102-039	PIN, spring; 1/4 dia x 1-1/2"	2
17	102-063	LOCKWASHER,spring; ext tooth,No.8	4
18	102-276	TERMINAL, forked	4
19	106-129	COUPLING, flexible	1
20	102-405	STRAINER, wire cloth	1
21	*102-505	PLUG, expander; 1-7/8 dia hole sz	1
22	104-157	VALVE, vent; hyd. reservoir	1
23	102-556	RIVET, blind	2
24	102-617	ELBOW, 90° street	1
25	102-620	PACKING, o-ring; nitrile rubber	2
26	102-654	FAN	1
27	101-154	PIN	1
28	103-126	CLAMP, hose	4
29	103-179	LOCKNUT, 5/8-11	1
30	105-967	SCREW, type AB self tap; 10-16 x 1/2"	4
33	103-760	CONNECTOR, wire; pressure type	2 or 3
34	108-591	COVER, switch box (mntg screws incl.)	1
35	103-850	SWITCH (mntg screws incl.)	1
36	103-867	BUMPER, rubber	9
38	102-467	CONNECTOR, cable (*Models 231-004 and 226-433 only*)	1
	108-295	BUSHING, strain relief (*Model 226-432 only*)	1
39	154-636	WASHER, flat	6
40	154-771	PACKING, o-ring; nitrile rubber	1
41	155-685	PACKING, o-ring; nitrile rubber	2
42	160-790	NIPPLE, adapter; 3/8 npt x 3-5/8"	1
43	176-364	WASHER, flat	2
44	167-725	MOUNTING, support	1
45	*167-748	FILTER, hydraulic	1
46	167-777	COIL, cooling	1
47	167-778	GASKET, mounting to sump	1
48	176-132	GASKET, motor to mounting	1
49	167-780	NIPPLE, pipe; alum.,3/4 npt x 4"	1
50	*167-781	HOSE, rubber; 3/8 ID x 2-1/4"	2
51	167-782	ADAPTER, straight	2
52	167-784	SPROCKET, chain; hydr. pump	1
53	167-785	SPROCKET, chain; adj. shaft	1
54	167-789	SUPPORT, sump	2
55	167-799	FILTER, fill hole, w/gauge rod	1
56	167-803	SHAFT, shouldered; valve adj.	1
57	167-814	CHAIN, roller	1
58	167-816	SUPPORT, cooling coil	2
59	167-817	COVER, plastic snap-on	1
60	167-820	DECAL, "Lift"	1
61	167-907	KNOB, valve, adjustment	1

Model 226-433
EH 433 Airless Paint Sprayer (60 Hz)
With Hose and Gun
Includes items 1-112, 114-139

REF NO.	PART NO.	DESCRIPTION	QTY
63	170-792	MOTOR, elec.; 230 V, UL listed, 50 HzAC,1.5 hp; incl.(1)167-885 3/16 sq key,1/2"lg (Model 226-432 only)	1
		OR	
	170-793	MOTOR, elec.; 115 V, UL listed, 60 HzAC, 1.5 hp; incl.(1)167-685 3/16 sq key,1/2"lg (Model 231-004 & 226-433 only)	1
64	170-794	PUMP, hyd.; 1500 rpm, 900 PSI (63 bar)max., 4 gpm max.; incl.(1)102-639 no. 4 key,(2)102-620 &(1)104-130 o-rings(Model 226-432 only)	1
		OR	
	170-795	PUMP, hyd.; 1800 rpm, 900 PSI (63 bar)max., 4 gpm max.; incl.(1)102-639 no. 4 key,(2)102-620 &(1)104-130 o-rings (Model 231-004 & 226-433 only)	1
65	181-945	BOX, switch	1
66	170-951	RESERVOIR, hydraulic fluid	1
67	214-907	SUPPORT, pump	1
68	170-958	ROD, tie	3
70	179-811	WHEEL, semi-pneumatic	2
71	171-001	LABEL, warning	1
72	206-994	THROAT SEAL LIQUID(TSL), 8 oz	1
73	216-062	OUTLET MANIFOLD and FILTER, See 307-273 for parts	1
74	214-908	FRAME, cart	1
75	167-801	HANDLE, cart	1
76	207-797	SUPPORT, motor	1
77	214-904	SUCTION KIT, Incl. items 78-80	1
78	102-616	. RING, retaining	1
79	167-759	. STRAINER	1
80	176-365	. TUBE, suction	1
81	220-956	"Flex" SPRAY GUN, See 307-633 for parts (Model 226-433 only)	1
	220-954	"Silver" SPRAY GUN , See 307-046 for parts (Model 226-432 only)	1
82	208-914	GUARD, fan; top	1
83	208-915	GUARD, fan; bottom	1
84	208-916	DISPLACEMENT PUMP ASSY Includes items 85-103	1
85	**100-065	. BALL, chrome alloy; 5/16" dia	1
86	**100-084	. BALL, chrome alloy; 1/2" dia	1
88	**164-477	. V-PACKING, leather	6
89	*164-480	. GASKET, Teflon®	1
90	164-481	. SLEEVE, housing	1
91	164-484	. RETAINER, piston packing	1
92	**164-862	. V-PACKING, Teflon®	2
93	165-049	. PIN, ball stop	1
94	**165-052	. PACKING, o-ring; Teflon®	1
95	165-279	. RETAINER, o-ring	1
96	**165-895	. GLAND, packing; female	2
97	170-257	. GUIDE, ball	1
98	**171-146	. GLAND, packing; male	2
99	205-981	. HOUSING, intake valve	1
100	206-345	. SEAT, piston valve	1

PARTS LIST

REF NO.	PART NO.	DESCRIPTION	QTY
101	207-420	. HOUSING, displacement pump	1
102	207-731	. NUT, packing; w/lubricant pump	1
103	210-041	. DISPLACEMENT ROD	1
104	208-918	HYDRAULIC MOTOR, See 306-980 for parts	1
112	210-540	HOSE, static free nylon, 1/4 ID; cpld 1/4 npsm(f) swivel, 25 ft (7.6 m) lg; (Model 226-432 only)	1
	210-541	HOSE, static free nylon; 1/4 ID; cpld 1/4 npsm(f) swivel, 50 ft (15 m) lg; (Model 226-433 only)	1
113	204-940	SWIVEL (see 306-861 for parts) (Model 226-432 only)	1
114	214-682	SHIELD Assy; Includes items 115-123, 132-134	1
115	102-472	. RIVET, blind	4
116	167-786	. CLIP, spring tension	2
119	*176-115	. SHIELD	1
121	170-965	. LABEL, instruction	1
122	170-967	. LABEL, instruction	1
123	170-968	. LABEL, instruction	1
125	170-973	CORD SET(Model 231-004 & 226-433 Only)	1
	181-944	CORD SET(Model 226-432 Only)	1
130	155-665	UNION, str. adptr; 3/8 npt(m) x 3/8 npsm(f) swivel	1
131	210-659	BALL VALVE Assy(See 306-861 for parts)	1
132	176-375	LABEL, Warning (part of ref no.114 & 127)	1
135	104-811	CAP, hub	2
136	214-701	HOSE, whip end;static free nylon,3/16 ID, cpld 1/4 npt (m) x 1/4 npsm (f), swivel, 36" (914 mm) long *(Models 226-432 and 226-433 only)*	1
138	100-032	SCREW, slotted head; 6-32 x 1/4"	2
139	162-453	NIPPLE, 1/4 npsm	1
140	107-219	BUSHING (Model 226-432 only)	1

306 & 307 Numbers in description refer to separate instruction manuals.

**Recommended "tool box" spare parts. Keep on hand to reduce down time.*

***Supplied in repair kit 208-919.*

HOW TO ORDER REPLACEMENT PARTS

1. To be sure you receive the correct replacement parts, kit or accessories, always give all of the information requested in the chart below.
2. Check the parts list to identify the correct part number; ***do not use the ref. no. when ordering.***
3. Order all parts from your nearest Graco distributor.

6 digit PART NUMBER	QTY	PART DESCRIPTION

SERVICE INFORMATION

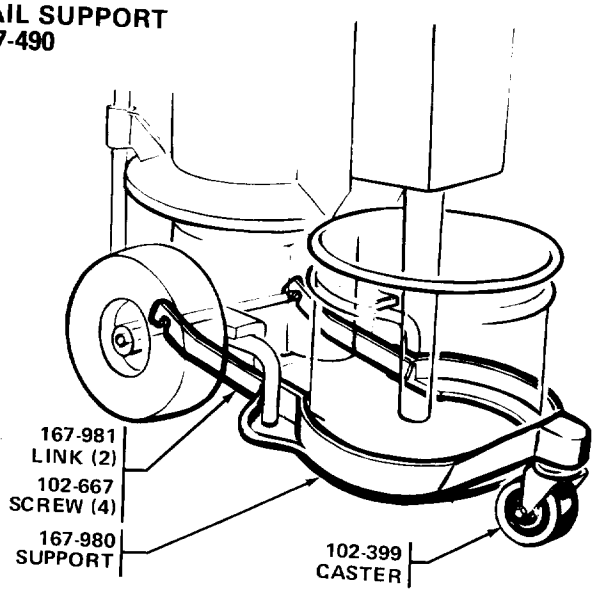
Listed below by the assembly changed are OLD, NEW, DELETED and ADDED parts.

ASSEMBLY CHANGED	PART STATUS	REF NO.	PART NO.	NAME
226-432 Sprayer	OLD		208-664	Gun
	NEW	81	220-954	Gun
	DELETED	126	216-xxx	Tip
	DELETED	137	216-101	Kit
	ADDED	140	107-219	Bushing
226-433 Sprayer	OLD		218-132	Gun
	NEW	81	220-956	Gun
	DELETED	126	216-xxx	Tip
	DELETED	137	216-101	Kit
	ADDED	140	107-219	Bushing

INTERCHANGEABILITY NOTE: NEW parts replace OLD parts listed directly above them.

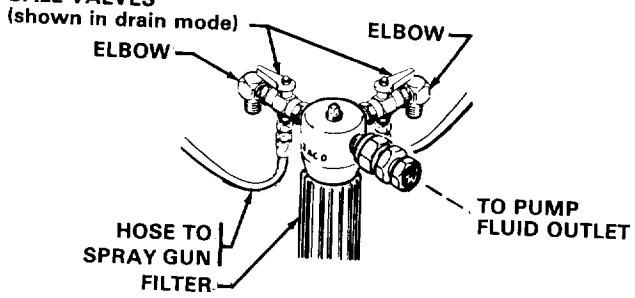
ACCESSORIES (must be purchased separately)

PAIL SUPPORT 207-490



BALL VALVE 214-711

5000 PSI (350 bar) MAXIMUM WORKING PRESSURE



TWO SPRAY GUN HOOKUP

Each line in a two gun system must have a shutoff valve so one gun can be isolated for servicing while the other is in operation and a drain valve to relieve line pressure if gun tip becomes clogged. Ball valve no. 214-711 is recommended for both purposes. We also recommend using elbow no. 100-840 to direct outlet flow from drain valve in a safe direction to a waste container.

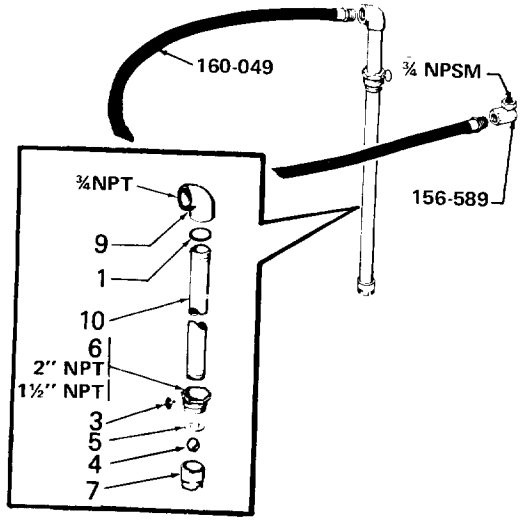
In the drain mode, ball valve handle is turned away from elbow (marked DRAIN on housing); in operating mode, handle is turned toward elbow (marked CIRC on housing).

ELBOW 100-840

1/4 npt(f) x 1/4 npt(m)

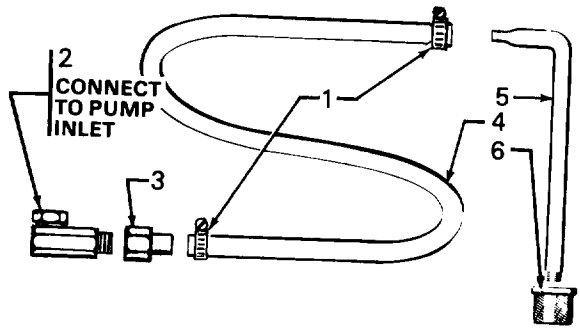
1 GAL. (3.8 liter) HYDRAULIC FLUID (approved type) 207-428

55-GAL. (200 liter)SUCTION TUBE 207-485



REF NO.	PART NO.	DESCRIPTION	QTY
1	156-593	PACKING, o-ring	1
2	214-961	HOSE, coupled	1
3	100-220	SCREW	1
4	100-279	BALL	1
5	159-100	STOP, ball	1
6	176-684	ADAPTER, bung	1
7	159-101	HOUSING, intake valve	1
8	156-589	UNION, adapter	1
9	156-591	ELBOW, adapter	1
10	156-592	TUBE, riser	1

5 GAL. (19 liter) SUCTION TUBE KIT 208-920



REF NO.	PART NO.	DESCRIPTION	QTY
1	101-818	CLAMP, hose	1
2	160-327	UNION, 90° swivel; 3/4 npt(m x f)	1
3	170-705	ADAPTER, intake	1
4	170-706	HOSE, 1" ID x 48"; nylon tube	1
5	170-957	TUBE, suction	1
6	181-072	STRAINER	1

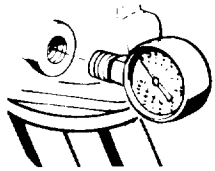
STATIC FREE FLUID HOSE, Nylon

3000 psi (210 bar) MAXIMUM WORKING PRESSURE

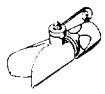
Part No.	ID	Length	Thd. Size
210-540	1/4"(6.4 mm)	25 ft(7.6 m)	1/4 npsm(f)
210-541	1/4"(6.4 mm)	50 ft(15.2 m)	1/4 npsm(f)
214-703	3/8"(9.5 mm)	25 ft(9.5 m)	3/8 npt(m)
214-705	3/8"(9.5 mm)	50 ft(15.2 m)	3/8 npt(m)

ACCESSORIES Cont. (Must be purchased separately)

5000 LB FLUID GAUGE 102-814
Install to read pressure in hydraulic fluid system.
KEEP DIRT OUT OF SYSTEM



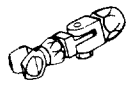
SELECT-A-FAN (with tips) 206-310
3000 psi (210 bar) MAXIMUM WORKING PRESSURE
Fits the fan pattern to both wide and narrow surfaces and clears a clogged tip.



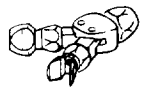
GRACO THROAT SEAL LIQUID—TSL
Non-evaporation solvent for wet-cup.

206-995 1 qt (0.95 liter)
206-996 1 gal (3.8 liter)

DIRECTIONAL ADAPTER (less tips) 206-235
Adjustable 180° swiveling nozzle permits changing the spray pattern direction to satisfy work piece demands.



DUAL ADAPTER (less tips) 206-236
Two spray tips controlled by one spray gun—used where one tip does not provide sufficiently wide spray pattern or work piece demands two spray patterns angled in opposite directions.



TECHNICAL DATA

Electric motor	:	1 1/2 hp, 1725 rpm, 115/230 volt, 60 HzAC (Model 231-004 & 226-433) or 50 HzAC (Model 226-432), single phase with automatic reset thermal overload. UL listed.
Electric cord	:	No. 12 ga, 3 wire, 10 ft (3 m) long — use 12 ga. (min.) 3 wire extension cord.
Hydraulic pump	:	4 gpm (15 l/min) max. volume; 600-900 psi (41-62 bar) pressure range.
Hydraulic fluid sump	:	1 gal. (3.8 l) operating level with fill strainer dipstick.
Hydraulic pump suction filter	:	100 mesh monel wire cloth with 16 mesh monel wire cloth backup; reusable type.
Hydraulic oil return filter	:	400 sq. in. (2580 cm^2) surface area; 25 micron filtration, disposable type.
Paint filter	:	60 mesh, 18 sq. in. (116 cm^2) stainless steel screen with 3/8 npt(f) inlet and 1/4 npt(f) outlets; reusable type.
Paint pump	:	3000 psi (210 bar) max pressure; 1 gpm (3.8 l/min) output at 1000 psi (70 bar) 60 cycles per gallon; 80 cycles per minute maximum recommended speed for continuous operation.
Wetted parts	:	Nitralloy, Rubber Impregnated Leather, Teflon® , Chrome or Zinc Plated Steel, Stainless Steel, Chrome Alloy Steel, Tungsten Carbide, Bronze, Aluminum, Viton®
Overall dimensions	:	40" (101 cm) high, 21" (53 cm) wide, 27 1/2" (69 cm) deep.
Weight	:	145 lb (66 kg)
Noise level	:	Does not exceed 85 dBAs (3 ft from machine).
Electrical requirements	:	115 V, 20 amp circuit 230 V, 15 amp circuit

Recommended portable generator: 5000 watt.

Teflon® and Viton® are registered trademarks of the Du Pont Company.

THE GRACO WARRANTY AND DISCLAIMERS

WARRANTY

Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective for examination by Graco to verify the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the 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 GRACO'S LIABILITY EXCEED THE AMOUNT OF THE PURCHASE PRICE. ANY ACTION FOR BREACH OF WARRANTY MUST BE BROUGHT WITHIN TWO (2) YEARS OF THE DATE OF SALE.

EQUIPMENT NOT COVERED BY GRACO WARRANTY

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ACCESSORIES, EQUIPMENT, MATERIALS, OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motor, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

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