

**REPAIR –  
RÉPARATION –  
REPARAÇÃO –  
REPARACIÓN**

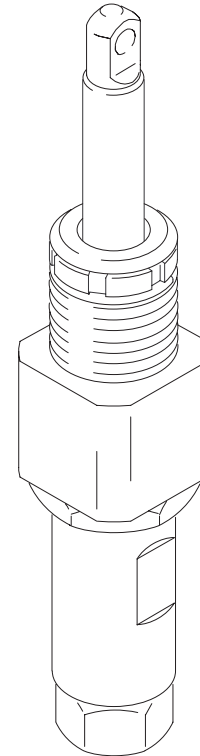


**309060**

Rev. A  
Rév. A

**190ES™ Displacement Pump  
Bas de pompe 190ES™  
Pistão de bombagem 190ES™  
Base de bomba 190ES™**

*3000 psi (207 bar, 20.7 MPa) Maximum Working Pressure  
Pression de service maximum 3000 psi (207 bar, 20.7 MPa)  
Pressão máxima de trabalho de 3000 psi (207 bar, 20.7 MPa)  
Presión máxima de funcionamiento de 3000 psi (207 bar, 20.7 MPa)*



05963

**243187**

## ⚠ WARNING

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

**To help prevent a fire and explosion:**

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



## ⚠ MISE EN GARDE

**Risques d'incendie et d'explosion:** les vapeurs de solvant et de peinture peuvent s'enflammer ou causer une explosion.

**Pour empêcher tout incendie et explosion:**

- N'utiliser ce matériel que dans des locaux extrêmement bien aérés.
- Éliminer toutes les sources de feu, comme les veilleuses, cigarettes et les arcs statiques provenant de bâches en plastique. Ne pas brancher ou débrancher de cordon électrique ou allumer ou éteindre la lumière sur un site de pulvérisation.
- Raccorder le pulvérisateur, l'objet à peindre et les seaux de peinture et de solvant à la terre.
- Appuyer le pistolet contre le côté du seau mis à la terre quand on pulvérise dans le seau.
- N'utiliser que des flexibles de peinture conducteurs sans air.
- Ne jamais utiliser de trichloroéthane-1,1,1, de chlorure de méthylène, d'autres solvants à base d'hydrocarbures halogénés ni de fluides contenant de tels solvants dans une unité sous pression en aluminium. Cela pourrait provoquer une réaction chimique avec risque d'explosion.

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

**To help prevent injection, always:**

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

If high pressure fluid pierces your skin, the injury might look like "just a cut". But it is a serious wound! Get immediate medical attention.



**Risques d'injection et d'explosion:** une pulvérisation ou des fuites à haute pression peuvent provoquer une injection de produit dans le corps.

**Pour éviter toute injection, toujours:**

- Verrouiller la gâchette à chaque arrêt de la pulvérisation.
- Se tenir à l'écart de la buse et des fuites.
- Ne jamais se servir du pistolet pour pulvériser sans un garde-buse.
- Effectuer une **DÉCOMPRESSION** à chaque arrêt de la pulvérisation ou avant tout entretien.
- Ne pas utiliser d'éléments prévus pour une pression inférieure à la *pression de service maximum du pulvérisateur*.
- Ne jamais permettre à des enfants d'utiliser cet appareil.

Si du liquide sous haute pression est injecté sous la peau, la blessure peut avoir l'apparence "d'une simple coupure", mais c'est en fait une blessure sérieuse! Consulter un médecin immédiatement.

## ⚠ ADVERTÊNCIA

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

**Para ajudar a evitar incêndio e explosão:**

- Utilize em áreas extremamente bem ventiladas.
- Elimine todas as fontes de ignição, tais como luzes piloto, cigarros e arcs estáticos de plásticos de protecção. Não ligue nem desligue os cabos de alimentação nem as luzes numa área de pulverização.
- Ponha em contacto com a terra o equipamento, o objecto a ser pintado e os baldes de tinta e de solventes.
- Segure a pistola firmemente apoiando-a na parede do balde em contacto com a terra, quando estiver a descarregar para dentro do mesmo.
- Utilize apenas tubos flexíveis condutores para pintura a alta pressão.
- Não utilize 1,1,1-tricloroetano, cloreto de metileno, outros solventes de hidrocarbonetos halogenados ou líquidos contendo tais solventes em equipamento de alumínio pressurizado. Tal utilização poderá resultar numa reacção química, com possibilidade de explosão.



## ⚠ ADVERTENCIA

**Perigo de incendio y explosión:** Los vapores de disolvente o de pintura pueden incendiarse o explotar.

**Para ayudar a evitar que se produzca un incendio o una explosión:**

- Utilice en una zona extremadamente bien ventilada.
- Elimine toda fuente de ignición; como las luces piloto, los cigarrillos y los arcs estáticos procedentes de cubiertas de plástico. No enchufe ni desenchufe aparatos en las tomas de corrientes de la zona de pulverización.
- Conecte a tierra el pulverizador, el objeto que esté pintando y los cubos de disolvente.
- Sujete firmemente la pistola contra el lado de un recipiente conectado a tierra mientras dispara la pistola hacia el interior del mismo.
- Utilice únicamente mangueras de pintura sin aire, conductoras eléctricamente.
- No utilice nunca 1,1,1-tricloroetano, cloruro de metileno, otros disolventes de hidrocarburo halogenado o fluidos que contengan tales disolventes en una bomba a presión de aluminio. El uso de estas sustancias puede provocar una seria reacción química con riesgos de explosión.

**Perigo de injeção de líquidos e de alta pressão:** a pulverização ou fugas a alta pressão podem injectar líquido na pele humana.

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

- Engate o trinco de segurança do gatilho quando não estiver a pulverizar.
- Mantenha-se afastado do bico e de eventuais fugas.
- Nunca pulverize sem protecção no bico.
- **ALIVIE A PRESSÃO** se parar de pintar e antes de iniciar a manutenção do equipamento.
- Não utilize componentes com uma pressão de serviço inferior à da *Pressão Máxima de Trabalho* do equipamento.
- Nunca permita que crianças utilizem esta unidade.

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

**Perigo de inyección de fluido y de alta presión:** La pulverización o las fugas a alta presión pueden inyectar fluido en el cuerpo.

**Para ayudar a evitar la inyección, siempre:**

- Enganche el seguro del gatillo cuando no esté pulverizando.
- Manténgase alejado de la boquilla y de las fugas.
- No pulverice sin una protección en la boquilla.
- Siga el procedimiento de **DESCOMPRESIÓN** si deja de pulverizar o al comenzar la revisión del pulverizador.
- No use componentes cuya presión nominal sea menor que la *Presión máxima de funcionamiento del pulverizador*.
- Nunca permita que los niños utilicen esta unidad.

Si el fluido a alta presión penetra la piel, la herida puede parecer "un simple corte". ¡Pero se trata de una herida grave! Consiga inmediatamente atención médica.

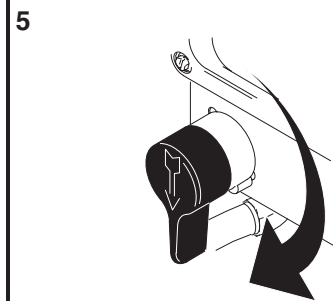
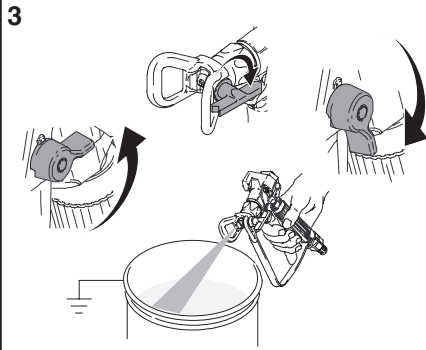
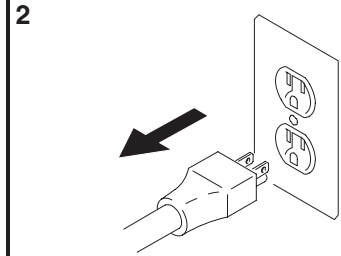
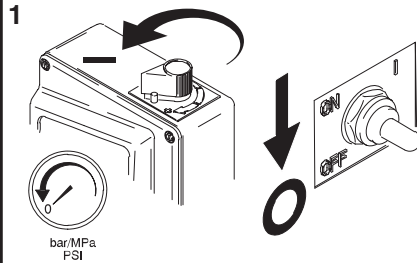
**PRESSURE RELIEF / DÉCOMPRESSION / DESCOMPRESSÃO / DESCOMPRESIÓN**



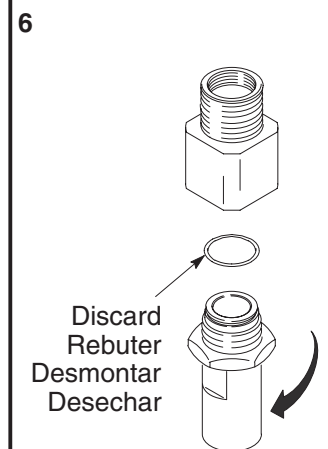
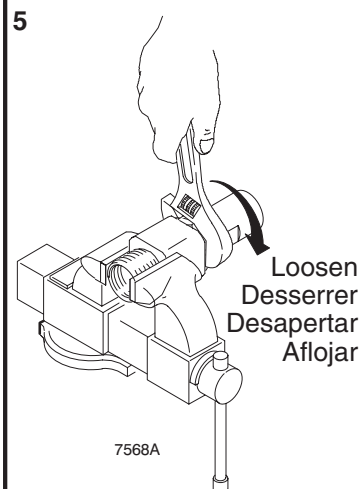
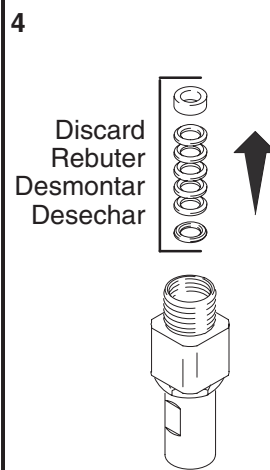
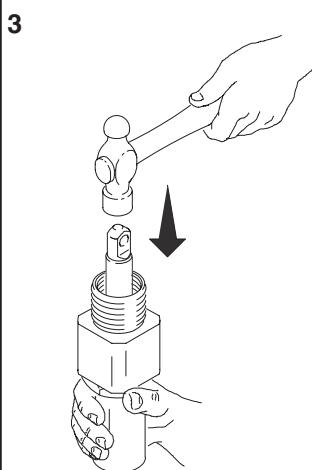
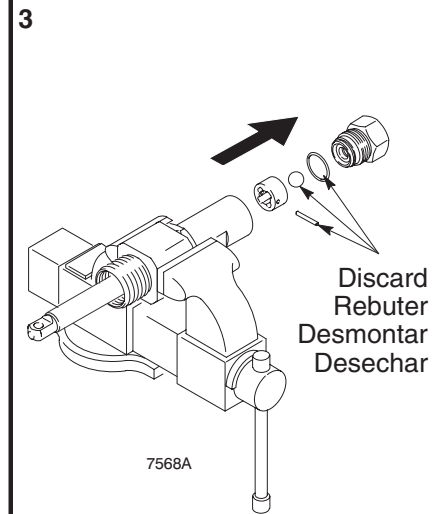
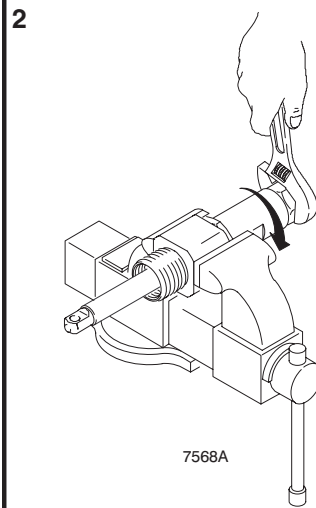
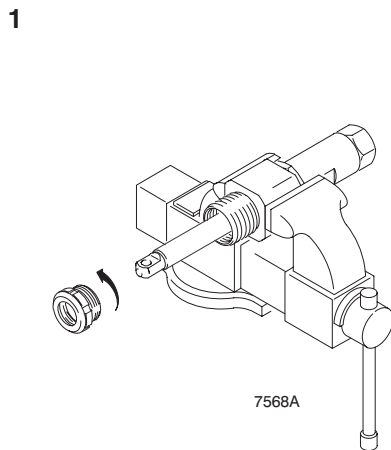
Follow 1–5 when you stop spraying.  
Effectuer les opérations 1–5 lors d'un arrêt de la pulvérisation.

Siga os passos de 1–5 quando parar de pintar.

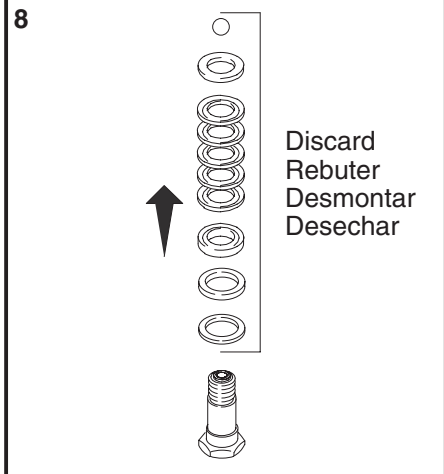
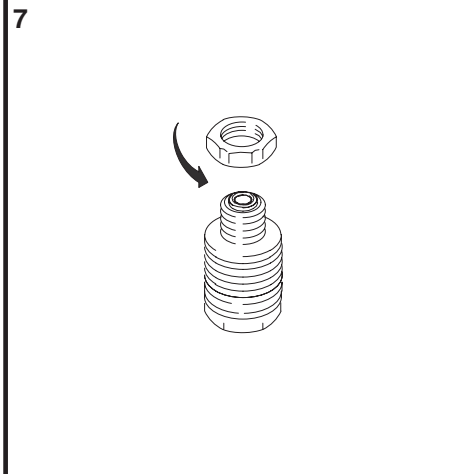
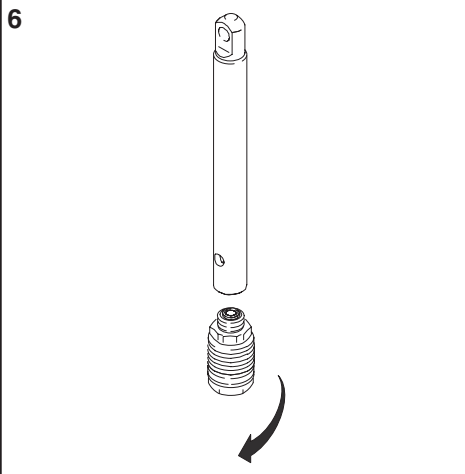
Cuando deje de pulverizar, siga los pasos 1–5.



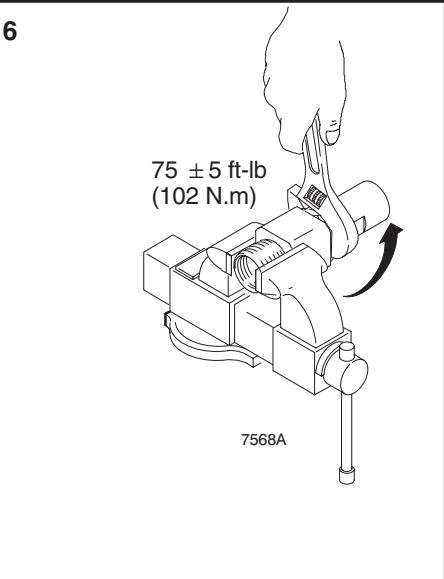
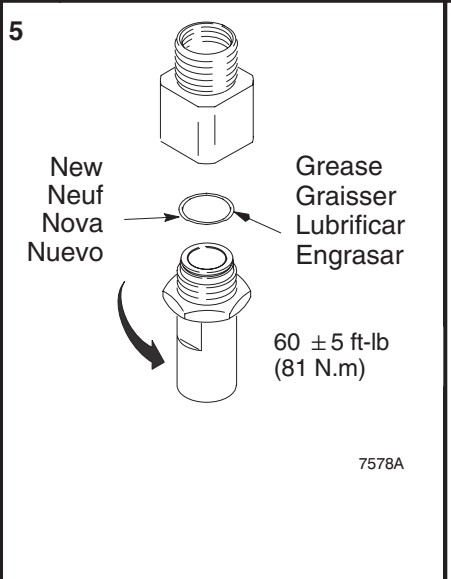
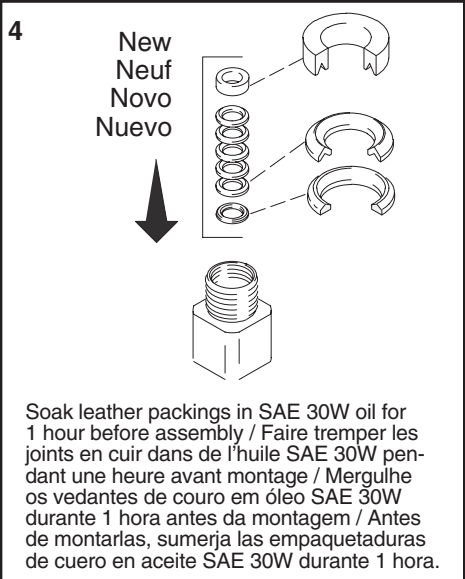
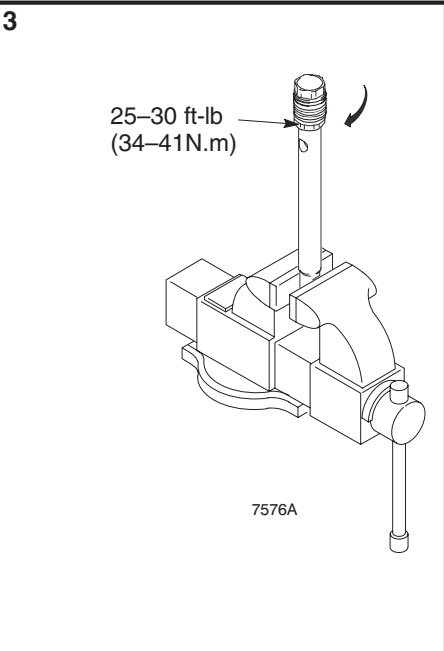
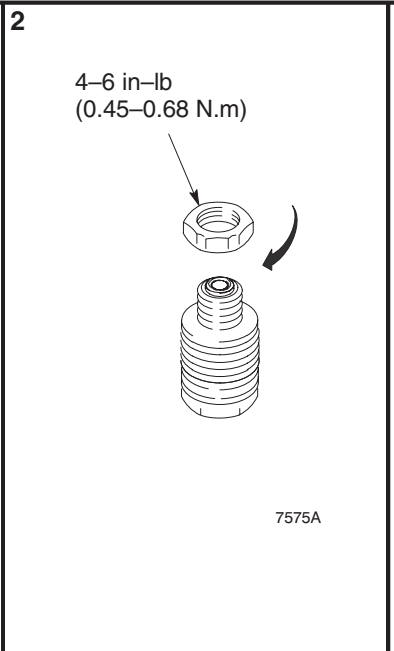
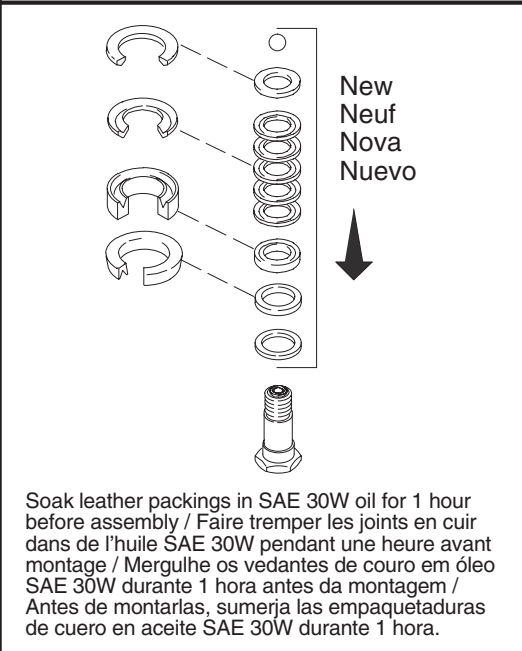
**DISASSEMBLE / DÉMONTAGE / DESMONTAGEM / DESARMADO**



# DISASSEMBLE / DÉMONTAGE / DESMONTAGEM / DESARMADO



# ASSEMBLE / MONTAGE / MONTAGEM / ARMADO

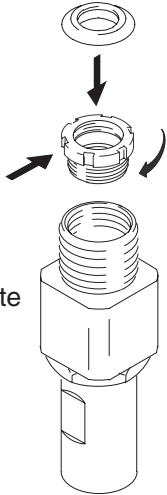


## ASSEMBLE / MONTER / MONTAGEM / ARMADO

7

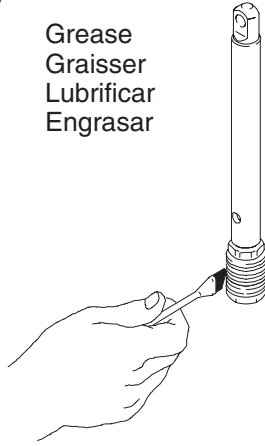
Install loosely  
Monter sans serrer  
Apertar ligeiramente

Instale, pero sin apretar



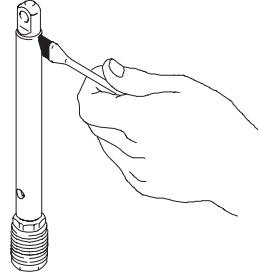
8

Grease  
Graisser  
Lubrificar  
Engrasar

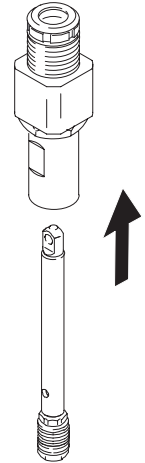


9

Grease Top 2 in.  
Graisser le haut sur 2 in.  
Lubrificar 2 pol. da parte superior  
Engrasar las 2 pulg. superiores

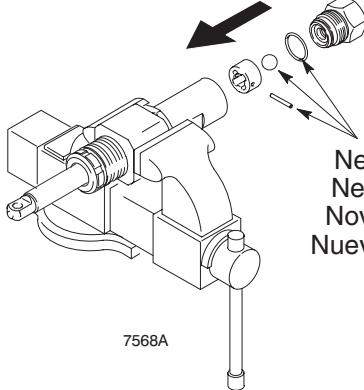


10



11

Screw in packing nut until it stops against packings; then continue tightening 1/4-1/2 turn / Visser l'écrou de presse-étoupe jusqu'à ce qu'il soit en butée contre les joints; serrer encore de 1/4-1/2 tour / Aperte a porca de vedação até que esta encoste bem aos vedantes; depois, continue a apertar 1/4-1/2 de volta / Enrosque la tuerca prensaestopas hasta que tropiece contra las empaquetaduras; después siga apretando 1/4-1/2 de vuelta.

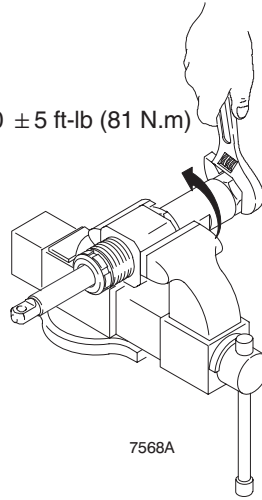


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New  
Neuf  
Nova  
Nuevo

12

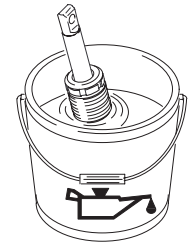
60 ± 5 ft-lb (81 N.m)



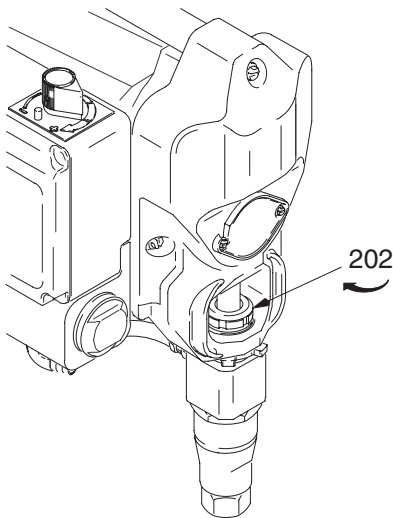
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13

Storage / Entreposage  
Armazenamento / Almacenamiento



## THROAT PACKING ADJUSTMENT / RÉGLAGE DU PRESSE-ÉTOUPE / AJUSTE DE APERTO DOS EMPANQUES / AJUSTE DE LAS EMPAQUETADURAS DEL CUELLO



When pump begins to leak after much use. Then tighten packing nut (202) down until leakage stops or lessens. This allows approximately 100 gallons of additional operation before a repacking is required.

Quand la pompe commencer à fuir après une longue période d'utilisation, resserrer l'écrou de presse-étoupe (202) jusqu'à ce que la fuite soit résorbée ou réduite. Cela permet de prolonger le fonctionnement de 376 litres environ avant de changer les joints.

Quando a bomba começar a apresentar fugas após uma utilização intensiva, aperte a porca de vedação (202) até que a fuga pare ou diminua. Isto permite aproximadamente 376 litros de utilização adicional antes que seja necessária uma nova vedação.

Quando la bomba comienza a presentar fugas después de funcionar durante mucho tiempo. En tal caso, apriete la tuerca prensaestopas (202) hasta que las fugas desaparezcan o disminuyan. Esto permite que pueda seguir bombeando aproximadamente 376 litros antes de que sea necesario volver a poner nuevas empaquetaduras.

# Parts / Pièces / Peças / Piezas

Model 243187, Series A / Modèle 243187, série A / Modelo 243187, série A / Modelo 243187, serie A  
Includes items 101 to 126 / Comprenant les rep. 101 à 126 / Inclui os itens 101 a 126 / Incluye los ítems 101 a 126

Ref.No.	Part No.	Description	Qty
101	243179	DISPLACEMENT ROD	1
102	180656	PLUG	1
103	193047	PACKING NUT	1
104	243180	PUMP MANIFOLD	1
105	187614	JAM NUT, 1-3/8-18 unef-2b	1
106	176757*	GLAND, female, throat	1
107	176997*	V-PACKING, UHMW polyethylene, throat	3
108	176755*	V-PACKING, leather, throat	2
109	176754*	GLAND, male, throat	1
110	176750*	GLAND, male, piston	1
111	176749*	V-PACKING, leather, piston	2
112	176882*	V-PACKING, UHMW polyethylene, piston	3
113	180073*	GLAND, female, piston	1
114	105522*	PACKING, u-cup, polyurethane	1
115	186652*	WASHER, backup, steel	1
116	235557	PISTON VALVE	1
117	105444*	BALL, 5/16", piston	1
118	108526*	PACKING, o-ring, PTFE	1
119	235708	CYLINDER, pump	1
120	224966	INLET VALVE	1
121	105445*	INLET BALL, 1/2"	1
122	111603*	PACKING, o-ring, PTFE	1
123	176760	BALL GUIDE	1
124	176759*	BALL STOP PIN	1
125	176751	NUT, hex, 1/2-20 unef-2b	1
126	070289*	SEALANT (not shown)	1

\*Supplied in Repair Kit 243091 / Fourni avec le kit de réparation 243091 / Fornecido no kit de reparacão 243091 / Suministrado en el kit de reparación 243091

## Technical Data Caractéristiques techniques Dados técnicos Características técnicas

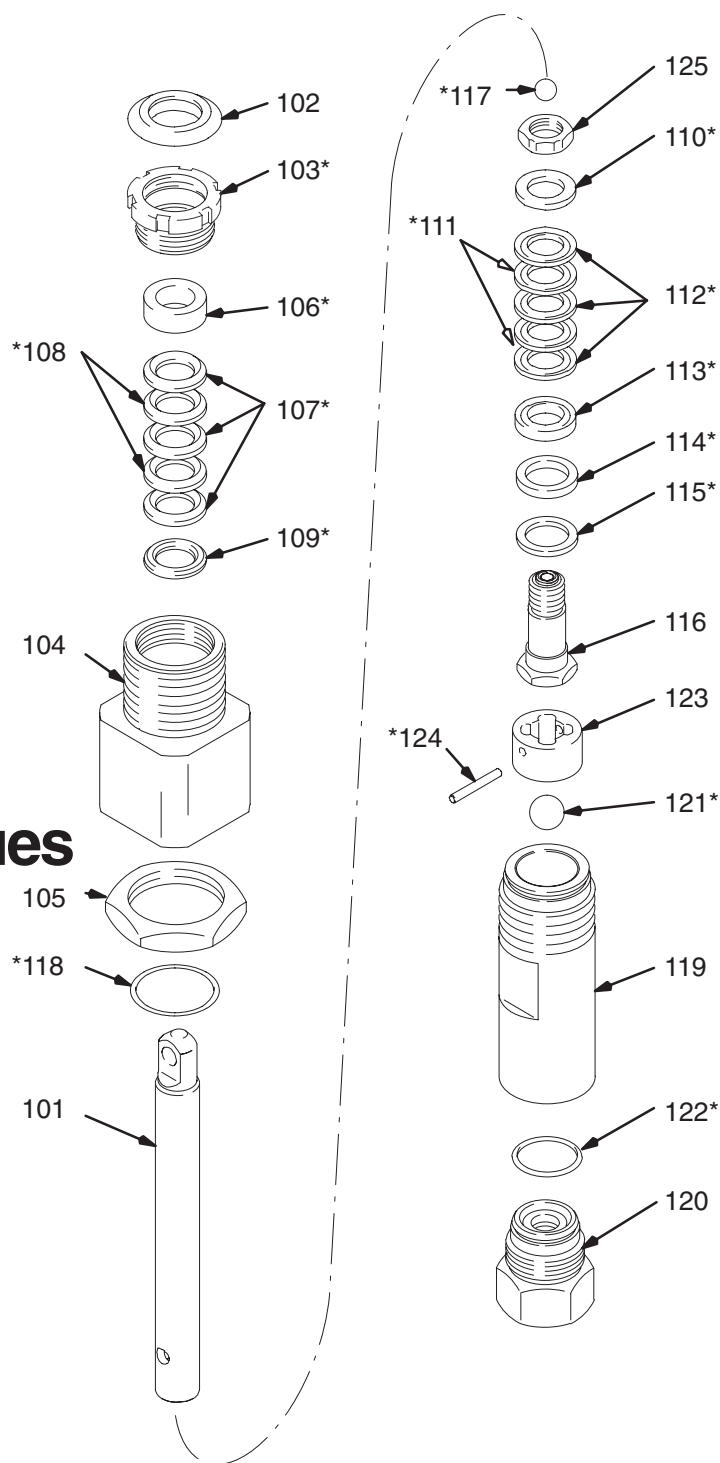
Maximum working pressure / Pression de service maximum Pressão máxima de trabalho / Presión máxima de trabajo	3000 psi (207 bar, 20.7 MPa)
Fluid inlet size / Entrée produit / Dimensão da entrada de líquido / Tamaño de la entrada de fluido	3/4 npt(f)
Fluid outlet size / Sortie produit / Dimensão da saída de líquido / Tamaño de la salida de fluido	1/4 npt(f)
Wetted parts	stainless steel, PTFE®, leather, polyurethane, zinc-plated carbon steel, tungsten carbide, chrome plating, UHMWPE, Delrin®, polyethylene
Pièces en contact avec le produit	acier inox, PTFE®, cuir, polyuréthane, acier au carbone galvanisé, carbure de tungstène, revêtement chromé, UHMWPE, Delrin®, polyéthylène
Peças em contacto com o produto	aço inoxidável, PTFE®, couro, poliuretano, aço carbono zincado, carboneto de tungstênio, cromagem, UHMWPE, Delrin®, polietileno
Piezas húmedas	acero inoxidable, PTFE®, cuero, poliuretano, acero al carbono revestido de zinc, carburo de tungsteno, cromado, UHMWPE, Delrin®, polietileno

NOTE: Delrin® and PTFE®

REMARQUE: Delrin® et PTFE® sont des marques déposées de la société  
Loctite Company.

NOTA: Delrin® e PTFE® são marcas registradas da  
NOTA: Delrin® y PTFE® son marcas registradas de

Company. Loctite® é uma marca registrada da Loctite Company.  
Company. Loctite® es una marca registrada de Loctite Company.



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Loctite® is a registered trademark of the Loctite Company.

Company. Loctite® est une marque déposée de la société



# Graco Standard Warranty

## Garantie Graco standard

## Garantia Standard da Graco

## Garantía estándar de Graco

Graco warrants all equipment referenced in this document which is manufactured by Graco 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. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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

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

**THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

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

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

### **FOR GRACO BRAZILIAN/CANADIAN/COLUMBIAN CUSTOMERS**

The Parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English.

### **À L'ATTENTION DES CLIENTS BRÉSILIENS/CANADIENS/COLOMBIENS DE GRACO**

Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

### **PARA CLIENTES BRASILEIROS/CANADIANOS/COLOMBIANOS DA GRACO**

As partes confirmam que solicitaram que o presente documento, assim como todos os demais documentos, notas e processos legais inseridos, atribuídos ou instituídos de acordo com o mesmo ou relacionados directa ou indirectamente com este documento, fossem redigidos em inglês.

### **PARA LOS CLIENTES EN BRASIL/CANADÁ/COLOMBIA**

Las partes reconocen haber convenido que el presente documento, así como todos los documentos, notificaciones y procedimientos judiciales emprendidos, presentados o establecidos que tengan que ver con estas garantías directa o indirectamente, estarán redactados en inglés.

**ADDITIONAL WARRANTY COVERAGE / AVENANT DE GARANTIE / COBERTURA DE GARANTIA  
ADICIONAL / COBERTURA ADICIONAL DE LA GARANTÍA**

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

Graco accorde une garantie étendue et se porte garant des produits décrits dans le "Programme de garantie d'équipements des fournisseurs Graco".

A Graco fornece prorrogação de garantia e garantia de desgaste para os produtos descritos no "Graco Contractor Equipment Warranty Program" (Programa de garantia de equipamento Contractor da Graco).

Graco proporciona una garantía extendida y una garantía que cubre el desgaste de los productos descritos en el "Programa de Garantía del Equipo Contractor de Graco".

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**POUR PASSER COMMANDE OU DEMANDER UNE PRESTATION D'ENTRETIEN**, contactez votre distributeur Graco.

**PARA EFECTUAR ENCOMENDAS OU PARA ASSISTÊNCIA TÉCNICA**, contacte o seu distribuidor da Graco.

**PARA REMITIR UN PEDIDO O SOLICITAR SERVICIO**, póngase en contacto con el distribuidor de Graco.

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