

LP-5500 Line-Pro

OWNER'S MANUAL



WARNING..Read all instructions carefully before assembling components and operating sprayer. Incorrect procedure could result in damage to the unit, severe personal injury and/or property damage. When spraying flammable materials, sprayer must be placed at least 20 feet from target in a well-ventilated area. Vapours can be ignited by static discharge or electrical sparks and result in severe personal injury. LEMMER airless sprayers generate high fluid pressure. Improper use could result in an injection injury.

LEMMER

VANCOUVER • CALGARY • TORONTO • MONTRÉAL

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INTRODUCTION

We appreciate your decision to purchase a Lemmer professional quality Line Striping system and believe you will find it to be the best unit you ever owned. The LP-5500 Line Pro is a modern piston pump design and engineered to handle the newest water base and hybrid line marking paints. It also uses an electronic controlled heavy duty clutch to maintain a very consistent operating pressure. The stainless steel fluid pump uses spring loaded stacked packings for the highest possible life span.

Your Lemmer airless paint machine is capable of spraying a wide variety of latex, oil-based and alkyd paints, as well as stains, preservatives and other architectural coatings. The material you are spraying will have a direct effect on the amount of pressure required for the optimum pattern and coverage to be obtained. We recommend that before actually beginning your job, you carefully read this manual and practice with the sprayer until you feel comfortable using it.

These Lemmer sprayers are powerful and versatile enough to be used with a variety of accessories (extra lengths of hose, extensions, pressure feed rollers, etc. as shown later in this manual) to make them even more versatile systems. Ask your supplier about the recommended accessories for your particular job.

BEFORE OPERATING THIS UNIT, READ AND FOLLOW ALL SAFETY WARNINGS AND INSTRUCTIONS RELATED TO THE USAGE OF THIS EQUIPMENT ON PAGES 2, 3 & 4. READ, LEARN, AND FOLLOW THE PRESSURE RELIEF PROCEDURE ON PAGE 8 OF THIS MANUAL.

MANUAL NOTATIONS

WARNING - Alerts user to avoid or correct conditions that could cause bodily injury.

CAUTION - Alerts user to avoid or correct conditions that could cause damage to or destruction of equipment.

IMPORTANT - Alerts users to steps or procedures that are essential to proper equipment repair and maintenance.

NOTE - Identifies essential procedures or extra information.

WARNING

**HANDLE THIS UNIT AS YOU WOULD A LOADED FIREARM!
HIGH PRESSURE SPRAY CAN CAUSE EXTREMELY
SERIOUS INJURY. OBSERVE ALL WARNINGS!**

All Service Procedures to be performed by an Authorized LEMMER Service Center **ONLY**.
NO MODIFICATIONS or alterations of any **LEMMER** Equipment or part is allowed.

SAFETY PRECAUTIONS

WARNING

- 1) Injection hazard:** Airless Painting Equipment can cause serious injury if the spray penetrates the skin. Do not point the gun at anyone or any part of the body. The tip guard provides some protection against accidental injection injuries, but is mostly a warning device. Never put your hand, fingers or body over the spray tip. Gloves and clothing do not necessarily offer any protection either. Keep the gun trigger safety lever in locked position when not spraying. Always have the tip guard in place while spraying.
In case of penetration seek medical aid immediately!
Note to physician: Injection into skin is a serious traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected into the bloodstream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable. Be prepared to tell the doctor what fluid was injected.
- 2) This system is capable of producing 3200 PSI.** To avoid rupture and injury, do not operate this pump with components rated less than 3200 PSI working pressure (including but not limited to spray guns, hose and hose connections).
- 3) Do not spray** paints or other **inflammable fluids indoors** which have a flash point below 21 degree C, 70 degree F. Keep spray area well ventilated. Before spraying, turn off all pilot lights and open flames.
- 4) Wear a respirator** which is approved for the product being sprayed.
- 5) Do not use halogenated hydrocarbon solvents** in this system; it contains aluminium parts and may explode. Cleaning agents, coatings, paints, and adhesives may contain halogenated hydrocarbon solvents. Don't take chances, consult your material supplier to be sure. (ex: methylene chloride and 1,1,1 - Trichloréthane)
- 6) Caution:** When a flammable liquid is sprayed there may be **danger of fire or explosion especially in a closed area.**
- 7) Caution: Arcing parts.** Keep the pump at least 20 feet away from explosive vapors.
- 8) Caution: Static electricity** can be developed by airless spraying. Ground unit and object to be sprayed. On electric units, unit power cord must be connected to a grounded outlet. Use only three wire extension cords. Static explosion can occur with ungrounded unit.
- 9) Flush system with spray tip removed.** Always use lowest pressure possible.
- 10) Always follow safety precautions** and warnings printed on paint container.
- 11) Only use spray guns and hoses supplied by Lemmer.** User assumes all risk and liability when using spray guns or hoses not complying with minimum specification and safety devices of Lemmer Spray Systems Ltd.
- 12) Inspect hoses** before each use. Never use a damaged hose. High pressure in hoses with wear, leaks or splits may cause the hose to rupture and cause serious personal injury. Never try to stop or deflect leaks with any part of your body.
- 13) Use extreme caution when cleaning spray tip guard.** **DO NOT** try to wipe off build up around the spray tip before following shut down procedure. Follow the Shut down Procedure, then follow the spray tip manufacturer's instructions for removing and cleaning the spray tip.
- 14) Never attempt to change spray tip** or leave the unit unattended without first shutting off pump, releasing fluid pressure, and locking the trigger safety lock.
- 15) Use extreme caution when changing spray tip.** Follow the Shut down Procedure, then follow the spray tip manufacturer's instructions for changing the spray tip.



ATTENTION

- 1) Risque d'injection** de peinture: Le matériel de pulvérisation sans air peut entraîner de graves blessures s'il y a pénétration de la peau par la peinture. Ne jamais pointer le pistolet vers une personne ou vers soi-même. La garde de la buse limite le risque de blessures accidentelles par injection mais constitue principalement un élément de mise-en-garde. Ne jamais mettre la main, les doigts ou toutes parties du corps contre la buse. Le port de gants et de vêtements n'est pas nécessairement une forme de protection non plus. Laisser le cran de sureté du pistolet en position fermée quand il n'est pas utilisé.
Toujours avoir la garde en place pour peindre.
En cas d'accident, demander immédiatement des soins médicaux.
Note au médecin: La pénétration de peinture dans la peau peut causer de graves blessures. Il est important de traiter la blessure à la chirurgie aussitôt possible. Ne pas retarder le traitement pour rechercher la toxicité. La toxicité peut avoir de graves conséquences quand certains enduits exotiques sont injectés directement dans le système sanguin. Une consultation avec un chirurgien spécialisant en reconstruction de mains serait conseillable. Soyez prêts à décrire au médecin quel liquide a été injecté.
- 2) Ce matériel peut produire une pression de 3200 lbf/po2.** Afin d'éviter des ruptures et des blessures, ne pas utiliser cette pompe avec des éléments dont la pression nominale de service est inférieure à 3200 lbf/po2 (y compris les pulvérisateurs, tuyaux flexibles et raccords).
- 3) Ne jamais pulvériser à l'intérieur un produit inflammable** qui a un point éclair inférieur à 21 degrés C, 70 degrés F. L'endroit où vous peignez doit toujours être bien aéré. Avant de pulvériser s'assurer qu'il n'y a aucune flamme ou pilot (veilleuse) de fournaise en marche dans l'appartement.
- 4) Servez-vous d'un masque respiratoire** qui est certifié pour le produit que vous pulvériser.
- 5) Ne pas utiliser de solvants contenant des hydrocarbures halogénés** avec ce matériel. Il contient des particules d'aluminium et peut exploser. Les agents de nettoyage, enduits, peintures et, adhésifs, peuvent contenir des solvants contenant des hydrocarbures halogénés. Soyez prudents; consultez votre fournisseur pour les informations nécessaires. (ex: méthylène chloride and 1,1,1 - Trichloréthane)
- 6) Attention:** La pulvérisation d'un liquide inflammable **peut entraîner un risque d'incendie ou d'explosion, surtout dans les espaces fermés.**
- 7) Attention: Étincelles électriques.** Ne pas placer la pompe à moins de 6 mètres des vapeurs explosives.
- 8) Attention:** La pression du produit que l'on pulvérise peut produire une **charge électrostatique.** Mettre le matériel et l'objet à pulvériser à la terre. Sur les modèles électriques, le cordon électrique doit être attaché à une prise de courant reliée à terre. Le cordon de rallonge doit être à 3 fils. Des décharges d'électricité statique peuvent se produire si le matériel n'est pas mis à la terre.
- 9) Retirer l'embout de pulvérisation avant de rincer le matériel** tout en utilisant une pression aussi basse que possible.
- 10) Toujours prendre les précautions** nécessaires et observer toutes les consignes de sécurité figurant sur le **pot de peinture.**
- 11) N'utiliser que les pulvérisateurs et les tuyaux flexibles fournis par Lemmer.** Les personnes qui utilisent des pulvérisateurs et des tuyaux flexibles non conformes aux standards d'utilisation et de sécurité minimum du fabricant de la pompe le font à leurs propres risques et seront les seuls responsables.
- 12) Examiner soigneusement** le tuyau avant de s'en servir. Il ne faut jamais utiliser un tuyau endommagé ou avec des fentes. Un tuyau à haute pression qui n'est pas en bon état représente un sérieux danger de blessure à la personne en cas de crevaison soudaine. Il ne faut jamais essayer d'arrêter des fuites de liquide avec n'importe quelle partie de votre corps.
- 13) Il est nécessaire d'exercer beaucoup de précaution pendant le nettoyage de la protection de la buse.** **Ne jamais** essayer d'enlever la peinture qui aurait pu s'accumuler sur la buse avant d'avoir suivi les consignes de sécurité concernant le nettoyage et le remplacement de la buse.
- 14) Ne jamais essayer de changer la buse** ou laisser l'appareil sans surveillance avant d'arrêter le moteur, couper la pression et verrouiller la gâchette du pistolet.
- 15) Le remplacement d'une buse doit être fait avec beaucoup de précaution.** Référez-vous au PROCÉDÉ D'ENTRETIEN.

WARNINGS

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. Have him read the following "NOTE TO PHYSICIAN".

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.

WARNING

HIGH PRESSURE SPRAY CAN CAUSE EXTREMELY SERIOUS INJURY. OBSERVE ALL WARNINGS. THIS SPRAYER IS FOR PROFESSIONAL USE ONLY.

INJECTION HAZARD

FLUIDS UNDER HIGH PRESSURE FROM SPRAY OR LEAKS CAN PENETRATE THE SKIN AND CAUSE EXTREMELY SERIOUS INJURY, INCLUDING THE NEED FOR AMPUTATION.

NEVER point the spray gun towards anyone or at any part of the body.

NEVER put hand or fingers over the spray tip. Do not use rag or other materials over your fingers. Paint will penetrate through material and into the hand.

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

ALWAYS have gun tip guard in place when spraying.

ALWAYS lock gun trigger when you stop spraying.

ALWAYS remove tip from the gun to clean it.

NEVER try to "blow back" paint, it's not an air sprayer.

ALWAYS follow the **PRESSURE RELIEF PROCEDURE**, as shown on page 8, before cleaning or removing the spray tip or servicing any system equipment.

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

ALWAYS tighten all fluid connections before each use.

MEDICAL TREATMENT

If any fluid appears to penetrate your skin, get **EMERGENCY CARE AT ONCE.**

DO NOT TREAT AS A SIMPLE CUT.

- Go to an emergency room immediately.
- Tell the doctor you suspect an injection injury.
- Tell him what kind of material you were spraying with and have him read **NOTE TO PHYSICIAN** above.

GENERAL PRECAUTION

NEVER alter equipment in any manner.

NEVER smoke while in spraying area.

NEVER spray highly flammable materials.

NEVER use around children.

NEVER allow another person to use sprayer unless he is thoroughly instructed on its' safe use and given this operators manual to read.

ALWAYS wear a spray mask, gloves and protective eye wear while spraying.

ALWAYS ensure fire extinguishing equipment is readily available and properly maintained.

NEVER LEAVE SPRAYER UNATTENDED WITH PRESSURE IN THE SYSTEM. FOLLOW PRESSURE RELIEF PROCEDURES ON PAGE 8.

ALWAYS INSPECT SPRAYING AREA

Keep spraying area free from obstructions.

Make sure area has good ventilation to safely remove vapors. **NEVER** keep flammable material in spraying area. **NEVER** spray in vicinity of open flame or other sources of ignition. Spraying area must be at least 20 ft. away from spray unit.

SPRAY GUN SAFETY

ALWAYS set safety lock on the gun in "**LOCKED**" position when not in use and before servicing or cleaning.

DO NOT remove or modify any part of gun.

ALWAYS remove spray tip when cleaning.

Flush unit with **LOWEST POSSIBLE PRESSURE.**

CHECK operation of all gun safety devices before each use. Be very careful when removing the spray tip or hose from gun. A plugged line contains fluid under pressure. If the tip or line is plugged, follow the **PRESSURE RELIEF PROCEDURE** as outlined on page 8.

TIP GUARD

ALWAYS have the tip guard in place on the spray gun while spraying. The tip guard alerts you to the injection hazard and helps prevent 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** before removing the spray tip to clean it.

NEVER wipe off build up around the spray tip.

ALWAYS remove tip & tip guard to clean **AFTER** pump is turned off and the pressure is relieved by following the **PRESSURE RELIEF PROCEDURE.**

WARNINGS CONTINUED ON NEXT PAGE.....

WARNINGS - CONTINUED

ALWAYS INSPECT SPRAYING AREA

Keep clear of moving parts when starting or operating the sprayer. Do not put your fingers into any openings to avoid amputation by moving parts or burns on hot parts. Precaution is the best insurance against an accident.

When starting the engine, maintain a safe distance from moving parts of the equipment.

Before adjusting or servicing any mechanical part of the sprayer, follow the **PRESSURE RELIEF PROCEDURE** on page 8, and remove the ignition cable from the spark plug to prevent accidental starting of sprayer.

HOSES

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 and result in an injection injury or serious bodily injury.

Use only hose that has a spring guard. The spring guard helps protect the hose from kinks or other damage which could result in hose rupture and cause an injection injury.

NEVER use a damaged hose, which can result in hose failure or rupture and cause in injection injury or other serious bodily injury or bodily damage. Before each use, check entire hose for cuts, leaks, abrasion or bulging of cover, or damage or movement of couplings. If any of these conditions exist, replace the hose immediately. Never use tape or any device to try to mend the hose as it cannot contain the high pressure fluid. **NEVER ATTEMPT TO RECOUPLE THE HOSE.** High pressure hose is not recoupleable.

Help prevent damage to the hose by handling and routing it carefully. Do not move the sprayer by pulling it with the hose.

LABELING

Keep all labels on the unit clean and readable. Replacement labels are available from manufacturer.

TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in eyes or on skin, inhaled or swallowed. Know the hazards of the fluid you are using. Store & dispose of hazardous fluids according to manufacturer, local, state & national guidelines.

ALWAYS wear protective eyewear, gloves, clothing and respirator as recommended by fluid manufacturer.

GROUNDING

Ground the sprayer and other components in the system to reduce the risk of static sparking, fire or explosion which can result in serious bodily injury and property damage.

ALWAYS GROUND ALL OF THESE COMPONENTS:

1. Sprayer: Connect a ground wire and clamp (supplied) to a true earth ground.
2. Fluid Hose: use only grounded hoses.
3. Spray gun or dispensing valve: grounding is obtained through connection to a properly grounded fluid hose and pump.
4. Object being sprayed: according to your local code.
5. All solvent pails used when flushing should only be metal pails which are conductive.

Once each week, check electrical resistance of hose (when using multiple hose assemblies, check overall resistance of unpressurized hose must not exceed 29 megohms (max) for any coupled length or combination of hose lengths. If hose exceeds these limits, replace it immediately.

Never exceed 500 Ft. (150 m.) overall combined hose length to assure electrical continuity.

WARNINGS CONTINUED ON NEXT PAGE.....

WARNINGS - CONTINUED

AVOID COMPONENT RUPTURE

This sprayer operates at 3000 psi (205 bar). **ALWAYS** be sure that all components and accessories have a maximum working pressure of at least 3000 psi to avoid rupture which can result in serious bodily injury including injection and property damage.

NEVER leave a pressurized sprayer unattended to avoid accidental operation of it which could result in serious bodily injury.

ALWAYS follow the **PRESSURE RELIEF PROCEDURE** whenever you stop spraying and before adjusting, removing or repairing any part of the sprayer.

NEVER alter or modify any part of the equipment to avoid possible component rupture which could result in serious bodily injury and property damage.

NEVER use weak or damaged or non-conductive paint hose. Do not allow kinking or crushing of hoses or allow it to vibrate against rough or sharp or hot surfaces. Before each use, check hoses for damage and wear and ensure all fluid connections are secure.

REPLACE any damaged hose. **NEVER** use tape or any device to mend the hose.

NEVER attempt to stop any leakage in the line or fittings with your hand or any part of the body. Turn off the unit and release pressure by following **PRESSURE RELIEF PROCEDURE**.

ALWAYS use approved high pressure fittings and replacement parts.

ALWAYS ensure fire extinguishing equipment is readily available and properly maintained.

WARNING

Do not use halogenated solvents in this system. The prime valve, 2 gun manifold and most airless guns have aluminum parts and may explode. Cleaning agents, coatings, paints or adhesives may contain halogenated hydrocarbon solvents. **DON'T TAKE CHANCES!** Consult your material suppliers to be sure. Some of the most common of these solvents are: Carbontetrachloride, Chlorobenzene, Dichloroethane, Dichloroethyl Ether, Ethylbromide, Ethylchloride, Tetrachloroethane. Alternate valves and guns are available if you need to use these solvents.

PREVENT STATIC SPARKED FIRE/ EXPLOSIONS

ALWAYS be sure all equipment and objects being sprayed are properly grounded. **ALWAYS** ground sprayer, paint bucket and object being sprayed. See "grounding" on page 3 for detailed grounding information.

Vapors created when spraying can be ignited by sparks. To reduce the risk of fire, always locate the sprayer at least 20 feet (6 m.) away from the spray area. **DO NOT** plug in or unplug any electrical cords in the spray area, which can create sparks, when there is any chance of igniting vapors still in the air. Follow the coating & solvent manufacturers safety warnings and precautions.

Use only conductive fluid hoses for airless applications. Be sure gun is grounded through hose connections. Check ground continuity in hose & equipment. Overall (end to end) resistance of unpressurized hose must not exceed 29 megohms for any coupled length or combination of hose length. Use only high pressure airless hoses with static wire approved for 3000 psi.

FLUSHING

Reduce the risk of injection injury, static sparking or splashing by following the specific cleaning procedure on page 6 and 8.

ALWAYS follow the **PRESSURE RELIEF PROCEDURE** on page 8.

ALWAYS remove the spray tip before flushing. Hold a metal part of the gun firmly to the side of a metal pail and use the lowest possible fluid pressure during flushing.

NEVER use cleaning solvents with flash points below 140 degrees F. Some of these are: acetone, benzene, ether, gasoline, naphtha. Consult your supplier to be sure.

NEVER SMOKE IN THE SPRAYING/CLEANING AREA.

GAS ENGINE PRECAUTIONS

Place unit 25 feet away from spraying in ventilated area.

NEVER operate in buildings unless exhaust is piped outside.

NEVER allow hose to lay against engine mufflers or hot parts.

NEVER refill fuel tank while engine is hot or is running.

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

WHEN SPRAYING & CLEANING WITH FLAMMABLE PAINTS OR THINNERS:

1. When spraying with flammable liquids, the unit must be located a minimum of 25 feet away from the spraying area in a well ventilated area. Ventilation must be sufficient enough to prevent the accumulation of vapors.
2. To eliminate electrostatic discharge, ground the spray unit, paint bucket and spraying object. Use only high pressure airless hoses approved for 3000 psi which is conductive.
3. Remove spray tip before cleaning gun and hose. Make contact of gun with bucket and spray without the tip in a well ventilated area, into the grounded steel bucket.
4. Never use high pressure in the cleaning process. **USE MINIMUM PRESSURE.**
5. Do not smoke in spraying/cleaning area.

SETTING UP

1. CONNECT THE HOSE AND GUN

- Remove the plastic cap plug from the outlet and screw a conductive or grounded 3000 psi spray hose onto fluid outlet.
- Connect an airless spray gun to the other end of the hose, but do not install the spray tip yet!

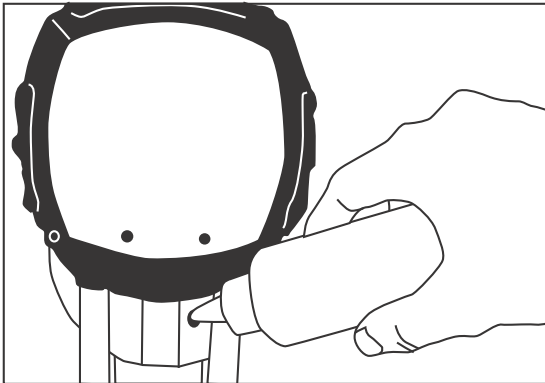
NOTE: Do not use thread sealer on swivel unions as they are made to self seal.

NOTE: The 6' whip hose should always be 3/8".

2. FILL THE PACKING NUT/WET CUP

Fill the Packing Nut/Wet Cup 1/3 full with LEMMER Throat Seal Oil (TSO). **FIG 1 BELOW.**

FIG. 1



3. CHECK THE ENGINE OIL LEVEL

- Unscrew the oil fill plug. The dipstick is attached to the plug.
- Without threading the plug into place, check to be sure the oil is up to the top mark on the dipstick.
- If oil is needed, refer to engine manual.

4. FILL THE FUEL TANK

WARNING: Fuel spilled on a hot surface can cause a fire or explosion and cause serious bodily injury and property damage. Always shut off the engine and let it cool before filling the tank, and carefully follow steps a - c below being sure not to spill any fuel.

- Close the fuel shutoff valve.
- Use only clean, fresh, well-known brands of unleaded regular grade gasoline.
- Remove the fuel cap and fill tank. Be sure the air vent in the fill cap is not plugged so fuel can flow to the carburetor, then replace the cap.

5. FLUSH THE SPRAYER

- Flush sprayer per instructions below.

FLUSHING

1. NEW SPRAYER

Your unit was factory tested in an anti-freeze solution which was left in the pump. Before using oil-base paint, flush with mineral spirits only.

Before using water-base paint flush with mineral spirits, followed by soapy water, then a clean water flush.

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

Oil-base paint: Flush with mineral spirits.

Water-base paint: Flush with water, then mineral spirits and leave the pump, hose and gun filled with mineral spirits.

For longer storage, use mixture of mineral spirits and motor oil (half & half). Shut off the sprayer, follow **PRESSURE RELIEF PROCEDURE** on page 8 to relieve pressure and make sure prime valve is left open.

6. START UP AFTER STORAGE

Before using water-base paint, flush with soapy water and then a clean water flush.

When using oil-base paint, flush out the mineral spirits with the material to be sprayed.

HOW TO FLUSH

1. Be sure the gun safety latch is engaged and there is no spray tip in the gun. Refer to Fig. 2. Refer to your separate instruction manual provided with your gun on its safety features and how to engage safety latch.
2. Pour enough clean, compatible solvent into a large, empty metal pail to fill the pump and hoses.
3. Place the suction tube into the pail or place the pail under the pump.
4. Turn pressure control knob to low. Refer to Fig. 4.
5. Open the prime valve to the open - "Priming Position". This will allow an easy start. Refer to Fig. 3.
6. Turn the engine ON/OFF switch to ON.
7. Move the choke toward the closed position as per Fig.5.
8. Move the throttle lever slightly to the left as per Fig.5.
9. Turn the fuel valve ON as per Fig. 5. Pull the start rope. Pull the engine over against compression stroke and then let the rope rewind slowly into the starter. Pull firmly and rapidly to start the engine. Do NOT drop the rope. Hold on to the handle while rewinding, or the rope may rewind improperly and jam the assembly. If the engine does not start, open the choke a little more. If the engine floods, open the choke all the way and continue cranking.
10. After the engine is warm, gradually close the choke, raise the RPM of engine slightly by moving throttle to the left. Close the prime valve. Refer to Fig. 3
11. Point the gun into the metal pail and hold a metal part of the gun firmly against the pail Refer to fig. 6.
12. Disengage the gun safety latch and squeeze the gun trigger. At the same time, slowly turn the pressure control knob clockwise just enough to move liquid at low pressure.
13. Allow the pump to operate until clean solvent comes from the gun.
14. Release the trigger and engage the gun safety latch.
15. If you are going to start spraying, place the pump or suction tube into the supply container. Release the gun safety latch and trigger the gun into another empty, metal container, holding a metal part of the gun firmly against the metal pail (Fig. 6), forcing the solvent from the pump and hose. When paint starts coming from gun, turn pressure control knob to minimum pressure, place prime valve in prime (open) position and engage the gun safety latch.
16. If you are going to store the sprayer, remove the suction tube or pump from the solvent pail force the solvent from the pump and hose. Engage the gun safety latch and refer to the "Storage" Procedure on page 5. Step 5.
17. Whenever you shut off the sprayer follow the **PRESSURE RELIEF PROCEDURE** warning on page 8.

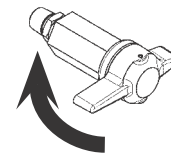
FIG. 2



FIG. 3

PRIME VALVE

CLOSED
(Pressure)



OPEN
(Priming &
Pressure Relief)

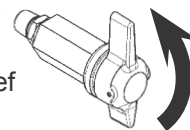


FIG. 4

PRESSURE CONTROL KNOB



FIG. 5

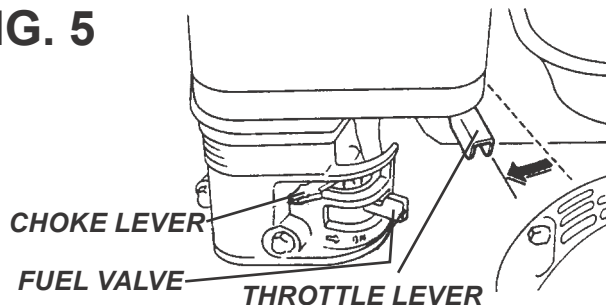


FIG. 6

MAINTAIN FIRM METAL TO METAL CONTACT BETWEEN GUN AND CONTAINER



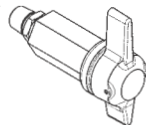
WARNING: To reduce the risk of static sparking, which can cause fire or explosion, always hold a metal part of the gun firmly against the metal pail when flushing. This also reduces splashing. Refer to Fig 6.

STARTING UP

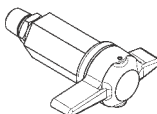
1. LEARN THE FUNCTIONS OF THE CONTROLS.

PRIME/PRESSURE (PR) RELIEF VALVE is used to prime pump and to relieve pressure from gun, hose and tip.

(Prime/PR Valve) Used to relieve pressure from gun, hose & tip and to prime the unit when in **OPEN** position. (It is in open position when there is a wider gap between valve handle and cam body.)



When in **CLOSED** position, there is only a very slight gap between handle & body. When closed the system is pressurized. Handle as a loaded firearm!



PRESSURE CONTROL KNOB is used to adjust pressure. Turn clockwise (CW) to increase pressure and counterclockwise (CCW) to decrease pressure.



2. PREPARE THE MATERIAL

- Prepare the material according to the material manufacturer's recommendations.
- Place the suction tube into the material container.

3. STARTING THE SPRAYER

- Prime/PR Valve must be "OPEN" in the priming position.
- When you have ensured that the gun safety latch is engaged, attach tip and safety guard.
- Turn the engine ON/OFF switch to the "ON" position. Pull rope vigorously until engine starts.
- Turn Pressure Control Knob clockwise to prime the pump.
- After the pump is primed, turn Prime/PR Valve to the "Closed" position.
- Turn Pressure Control Knob to the desired spray pressure.
- Disengage the gun safety latch and you are ready to spray.

4. ADJUSTING THE PRESSURE

- Turn the Pressure Control Knob Clockwise to increase pressure and counterclockwise to decrease pressure.
- Always use the lowest pressure necessary to completely atomize the material.

NOTE: OPERATING THE SPRAYER AT HIGHER PRESSURE THAN NEEDED, WASTES MATERIAL, CAUSES EARLY TIP WEAR, AND SHORTENS SPRAYER LIFE. EXCESS ENGINE RPM WASTES FUEL AND SHORTENS CLUTCH LIFE.

- Use lowest engine speed to allow the clutch to stay engaged while striping, and only disengaging when you stop.
- If more coverage is needed, use a larger tip rather than increasing the pressure.
- Check the spray pattern. The tip size and angle determines the pattern width and flow rate.

WARNING

FOLLOW THE "PRESSURE RELIEF PROCEDURE".

To reduce the risk of injection, never hold your hand, body, fingers or hand in a rag in front of the spray tip when cleaning or checking for a cleared tip. Always point the gun toward the ground or into a waste container when checking to see if the tip is cleared or when using a self-cleaning tip.

WARNING

When you spray into the paint bucket, always use the lowest spray pressure and maintain firm metal to metal contact between gun and container.

WARNING

To stop the unit in an emergency, turn the engine off. Then relieve the fluid pressure in the pump and hose as instructed in the Pressure Relief Procedure.

5. WHEN SHUTTING OFF THE SPRAYER

- Whenever you stop spraying, even for a short break, follow the "Pressure Relief Procedure".
- Clean the tip & gun as recommended in the separate Gun Manual supplied with the gun.
- Flush the sprayer at the end of each work day, if the material you are spraying is water-based, or if it could harden in the sprayer overnight. See "Flushing". Use a compatible solvent to flush, then fill the pump and hoses with an oil based solvent such as mineral spirits.
- For long term shutdown or storage, refer to the "Flushing" section of this manual.

WARNING

Be sure to relieve pressure in the pump after filling with Pump Conditioner.

AVOIDING TIP CLOGS

There is an easy way to keep the outside of the tip clean from material build up:

Every time you stop spraying, for even a minute, lock the gun and submerge it into a small bucket of thinner suitable for the material sprayed.

Thinner will dissolve the buildup of paint on the outside of tip, tip guard and gun much more effectively if the paint doesn't have time to dry out completely.

PRESSURE RELIEF PROCEDURE

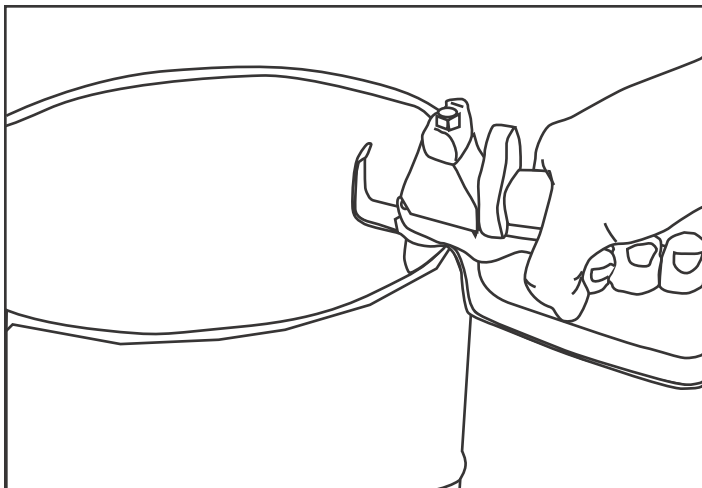


IMPORTANT!

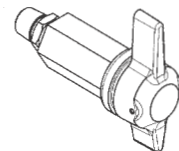
TO AVOID POSSIBLE SERIOUS BODY INJURY, ALWAYS FOLLOW THIS PROCEDURE WHENEVER THE SPRAYER IS SHUT OFF, WHEN CHECKING IT, WHEN INSTALLING, CHANGING OR CLEANING TIPS, WHENEVER YOU STOP SPRAYING, OR WHEN YOU ARE INSTRUCTED TO RELIEVE THE PRESSURE.

1. Engage the gun safety latch. Refer to the separate instruction manual provided with your gun on its safety features and how to engage safety latch.
2. Turn the unit off.
3. Disengage the gun safety latch and trigger the gun to relieve residual fluid pressure.

HOLD METAL PART OF THE GUN IN CONTACT WITH GROUNDED METAL PAIL. USE MINIMUM PRESSURE !



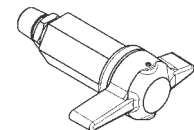
4. Turn Prime/Pressure Relief Valve (PR Valve) to the open (priming) position to relieve residual fluid pressure.



THERE WILL BE A WIDER GAP BETWEEN VALVE HANDLE AND CAM BODY WHEN IN OPEN POSITION. IN THE CLOSED POSITION THERE IS ONLY A VERY SLIGHT GAP.

NOTE: THE VALVE HANDLE CAN MOVE BOTH CLOCKWISE AND COUNTER CLOCKWISE AND CAN FACE DIFFERENT DIRECTIONS.

5. Re-engage gun safety latch and close Prime/Pressure Relief Valve.



If the **SPRAY TIP OR HOSE IS CLOGGED**, follow Step 1 through 5 above. Expect paint splashing into the bucket while relieving pressure during Step 4.

If you suspect that pressure hasn't been relieved due to damaged Prime/Pressure Relief Valve or other reason, engage the gun safety latch and take your unit to an authorized LEMMER Service Center.

DAILY MAINTENANCE

1. Always stop the pump at the bottom of its stroke when you take a break or at the end of the day. This helps keep material from drying on the rod, damaging the packings.
2. Keep the displacement pump packing nut/wet cup 1/3 full of LEMMER Throat Seal Oil at all times. The TSO helps protect the packings and rod.
3. Lubricate Connecting Rod Pin every 3 months.
4. Inspect the packing nut daily. Your paint pump has Airlessco's patented "Triple Life Packing System". Packing life will be extended a minimum of 3 times if the proper packing tightening procedure is followed!

PACKING TIGHTENING PROCEDURE:

Inspect the packing nut daily! If seepage of paint into the packing nut and/ or movement of the piston upward is found (while not spraying), the packing nut should be tightened enough to stop leakage only, but not any tighter. **OVERTIGHTENING WILL DAMAGE THE PACKINGS** and reduce the packing life to the life of other piston pumps.

LINE STRIPING OPERATION

1. CHOOSE THE GUN ARM POSITION

There is a hole in each corner of the striper frame, in which the gun arm can be mounted. In a standard set up, the gun arm would be mounted in the right hand near the single wheel. This allows for an easier visual check for straight line striping and for basic arc striping.

2. CHOOSE THE HANDLEBAR POSITIONS

Choose the handlebar position. The handlebars can be adjusted by loosening the bolts (fig. 19, item 10) and rotating each handlebar to desired heights, then tightening the bolts. Rotating the handlebars all the way forward allows for easy storage of the unit.

3. SETTING UP THE GUNS

- a. Ensure that a striping tip is in the gun.
- b. Pick a tip size for the desired line width.
EXAMPLE: a 317ST tip for a four inch line.
- c. Place gun into the gun holder, so that the top of the taper on the gun handle is flush with the edge of the gun holder.
- d. Set gun height for the desired line width. Adjust height by loosening the small black handle on the gun holder assembly and slide the gun arm to the correct height. Now tighten the handle. This will require some experimentation to find the correct height. It is suggested that tape, or some other method is used to mark the height of commonly used settings.
- e. Attach the swivel heads to the gun if painting curbs or wide stripes.
- f. Angle the guns slightly forward. This allows the spray pressure from the guns to help blow dirt and debris out of the path of the new stripes.

4. CABLE TENSION ADJUSTMENT

Once the handle and gun arm assembly is set up to the preferred position, pressurize the unit and trigger the gun to ensure that it activates and releases correctly. If not, adjust the cable tension as follows:

- a. Locate the adjustment knobs on the base of the gun trigger, where the cable connects to the gun trigger assembly.
- b. Loose the locking nut and move the adjusting screw until the slack has been removed from the cable.
- c. Tighten locking nut and retest gun triggers for proper function.

NOTE: THERE IS AN ADDITIONAL CABLE ADJUSTMENT WHERE THE CABLE ATTACHES TO THE GUN HOLDER ASSEMBLY. USE ONLY IF THE GUN TRIGGER ADJUSTMENT IS INSUFFICIENT.

5. ALIGN SWIVEL WHEEL ASSEMBLY

STRAIGHT LINES

- a. Stripers are factory aligned, but if necessary, loosen the two bolts (fig. 20, item 19) on the swivel wheel assembly, just enough to be able to move the wheel by hand. Align wheel and re-tighten bolts.
- b. Place the turnbuckle over the two mounting nubs on the frame.
- c. Pressurize the unit with water and Pump Conditioner and spray out several lines with the swivel assembly in the locked position. Use the turnbuckle to fine tune the alignment of the wheels, until the stripes are straight.
- d. Tighten the jam nuts on the turnbuckle to affix the turnbuckle length for future reference.
- e. Tighten the ratchet handles.

CURVES AND ARCS

Basically the same as above, except the swivel wheel assembly is set at angle. The swivel assembly can be adjusted to 30 degrees either side of straight ahead. If you have arcs that you paint regularly, purchase additional turnbuckles (136-231) and keep them set to those arc sizes.

6. MISCELLANEOUS OPERATIONS

- a. **CURBS:** Adjust gun to desired height and turn swivel head towards curb.
- b. **WIDE STRIPES:** Install wider fan striping tips and raise the gun height to achieve the desired width line.
- c. **STENCILS:** Install standard spray tip on the outer gun. Remove this gun from the gun holder and spray out the stencils. A second gun and hose can be attached and bolted with a ball valve for stencils.
- d. **STANDARD PAINTING:** Same as stencils, but use additional paint hose as required.

AIRLESS SPRAY GUN OPERATION

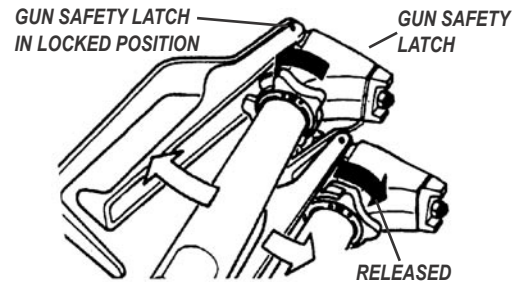
SPRAY

Attach spray gun to airless unit and tighten fittings securely. Set the gun safety latch. (Also may be called gun safety lock, or trigger lock)

* The gun safety latch should always be set when the gun is not being triggered.

Read all warnings and safety precautions supplied with the spray gun and in product manual.

FIG. 7



MAJOR COMPONENTS OF SPRAY GUN AND REVERSIBLE SPRAY TIP

FIG. 8

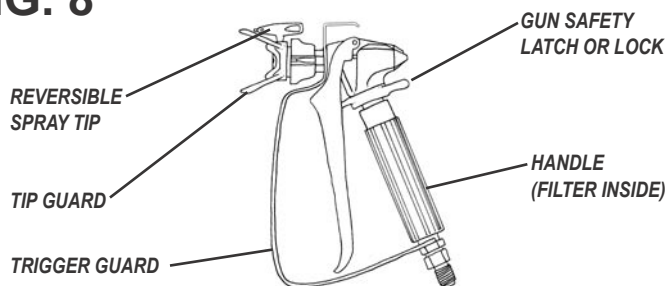
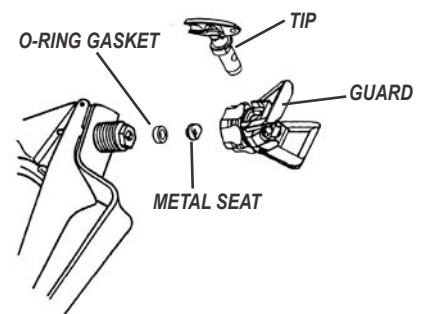


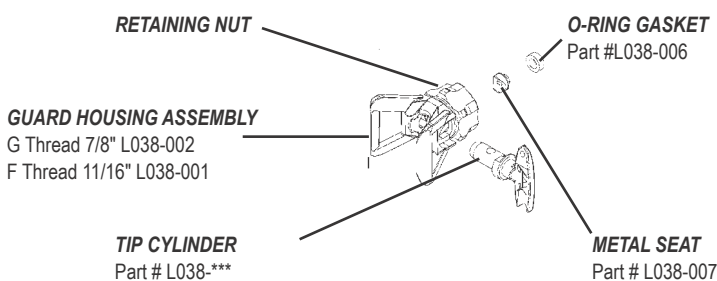
FIG. 9



SPRAY TIP ASSEMBLY

1. Be sure pressure relief procedure is followed before assembling tip and housing to the gun.
2. Lock gun safety latch.
3. Insert TIP cylinder into the GUARD (guard housing assembly).
4. Guide metal seat into GUARD (guard housing assembly) through retaining nut & turn until it seats against the cylinder.
5. Insert O-Ring gasket on metal seat so it fits in the grooves.
6. Finger tighten GUARD retaining nut onto the gun.
7. Turn guard in the desired position.
8. Completely tighten the retaining nut.

FIG. 10

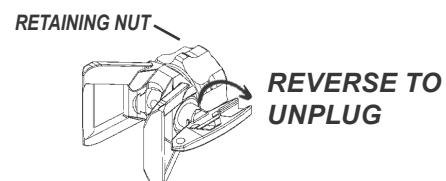


CLEANING FILTER IN GUN HANDLE

To clean the filter, use a brush dipped in an appropriate solvent. Change or clean filters at least once a day. Some types of latex may require a filter change after four hours of operation.

TO REMOVE CLOGS FROM SPRAY TIP

1. Lock gun safety latch.
2. Turn TIP handle 180 degrees.
3. Disengage trigger lock & trigger gun into pail.
4. If the TIP handle appears locked (resists turning), loosen the retaining nut. The handle will now turn easily.
5. Engage gun safety latch & return handle to the spray position.



Spray Position Shown

CLOGGED FLAT TIP

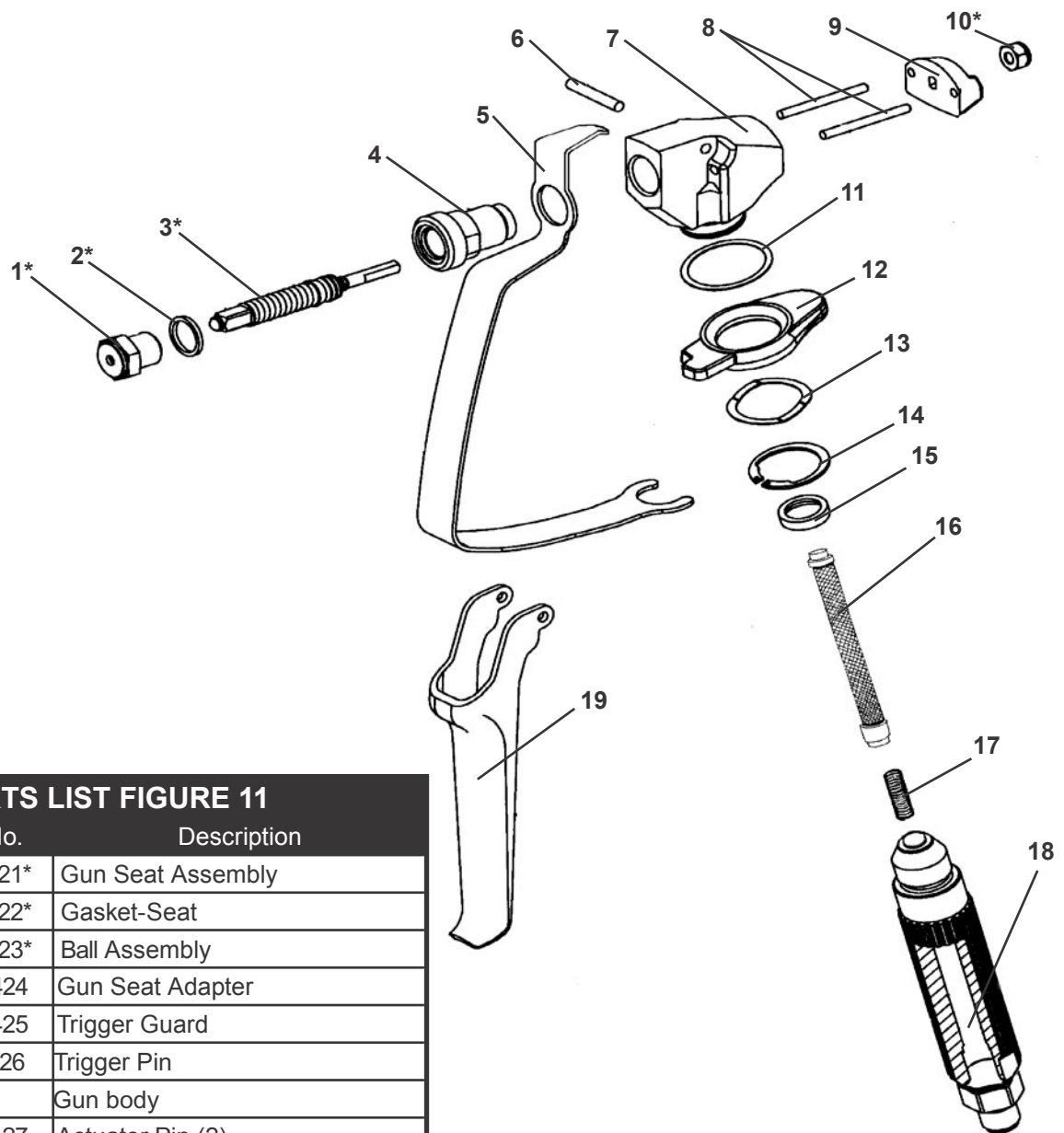
Should the spray tip become clogged, relieve pressure from hose by following the "Pressure Relief Procedure." Secure gun with the safety latch, take off guard, take out the tip, soak in appropriate solvent & clean with a brush. (Do not use a needle or sharp pointed instrument to clean the tip. The tungsten carbide is brittle and can chip.)

CLEANING SPRAY GUN

Immediately after the work is finished, flush the gun out with a solvent. Brush pins with solvent and oil them lightly so they will not collect dried paint.

AIRLESS SPRAY GUN (L032-036)

FIG. 11



PARTS LIST FIGURE 11

Item No.	Part No.	Description
1	L032-421*	Gun Seat Assembly
2	L032-422*	Gasket-Seat
3	L032-423*	Ball Assembly
4	L032-424	Gun Seat Adapter
5	L032-425	Trigger Guard
6	L032-426	Trigger Pin
7		Gun body
8	L032-427	Actuator Pin (2)
9	L032-428	Gun Plate
10	L032-429*	Nut
11	L032-430	Plastic Washer
12	L032-431	Gun Trigger Lock
13	L032-432	Wave Washer
14	L032-433	Retaining Ring
15	L032-434	Handle Seal
16	L032-516	Gun Filter-Coarse
	L032-517	Gun Filter-Fine
17	L032-519	Spring
18	L032-035	Gun Handle Assembly
19	L032-436	Gun Trigger
*	L032-420	Gun Repair Kit

AIRLESS SPRAY TROUBLESHOOTING

DEFECTS	CAUSE	CORRECTION
Coarse spray	Low pressure	Increase the pressure
Excessive fogging (overspray)	High pressure Material too thin	Reduce the pressure to satisfactory pattern distribution Use less thinner
Pattern too wide	Spray angle too large	Use smaller spray angle tip
Pattern too narrow	Spray angle too small	use larger spray angle tip (if coverage is OK, try tip in same nozzle group)
Too much material	Nozzle too large Material too thin Pressure too high	Use smaller nozzle Reduce pressure
Too little material	Nozzle too small	Use next larger nozzle Material too thick
thin distribution in center of pattern "horns"	Worn tip Wrong tip	Change to new tip Use nozzle with narrow spray angle
Thick skin of work	Material too viscous Application too heavy	Thin cautiously Reduce pressure and/or use tip in next smaller nozzle group
Coating fails to close & smooth over	Material too viscous	Thin cautiously
Spray pattern irregular, deflected	Orifice clogged Tip damaged	Clean carefully Replace with new tip
Craters or pock marks, bubbles on work	Solvent balance	Use 1 to 3% "short solvents remainder "long" solvents (this is most likely to happen with material of low viscosity, lacquers, etc.)
Clogged screens	Extraneous material in paint Course pigments Poorly milled pigments (paint pigments glocculate)	Clean screen Use coarse screen if orifice size allows. Use courser screen, larger orifice tips. Obtain ball milled paint. If thinner has been added, test to see if a cover screen. Incompatible drop placed on top of paint mixes or flattens out on the paint mixture & thinners on the surface. If not, try different thinner in fresh batch of paint.

TEST THE PATTERN

GOOD, FULL



SPOTTY PATTERN, INCREASE PRESSURE



LINE STRIPING TIP CHART

NOTE: STRIPING TIPS SHOULD NOT BE USED FOR REGULAR SPRAYING.

TIP for Striping

2-15 L005-300
4-15 L005-301
4-17 L005-303
2-19 L005-304
4-19 L005-305
4-21 L005-306

REVERSIBLE STRIPING TIP SIZE CHART

TIP FOR STRIPING

FAN WIDTH (6" FROM SURFACE)		ORIFICE SIZE (INCHES)				
INCHES	MILLIMETERS	.013	.015	.017	.019	.021
1-2	25-51	113ST	115ST	117ST		
2-4	51-102		215ST	217ST	219ST	221ST
4-6	102-152		315ST	317ST	319ST	321ST
6-8	152-203		415ST	417ST	419ST	421ST
Striping paint		Oil Base	Oil Base	Latex	Latex	Latex

TIP REPLACEMENT

During use, high pressure will cause the orifice to grow larger. This destroys the pattern or will leave tailing or two heavy lines on the outside of the pattern. **REPLACE SPRAY TIP FREQUENTLY!**

FIELD TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Unit doesn't prime	Airleak due to: <ul style="list-style-type: none"> • Loose suction nut • Worn o-rings • Hole in suction hose Stuck or fouled balls	<ul style="list-style-type: none"> • tighten suction nut • replace o-ring on suction seat L045-132 below suction seat • replace suction hose (L045-339) • service outlet valve suction assembly
Unit primes but has poor or no pressure	Pressure set too low Filter(s) are clogged Outlet valve fouled/worn Prime/pressure relief valve bypassing Packings and/or piston worn	<ul style="list-style-type: none"> • turn up pressure • clean or replace gun filter, inlet filter, and/or manifold filter • service outlet valve • clean or replace prime valve • tighten packing nut • repack unit
Unit does not maintain good spraying pressure	Blown spray tip Packings and/or pistons worn Upper seat worn	<ul style="list-style-type: none"> • replace spray tip • repack unit • replace upper seat

SERVICING THE FLUID PUMP

FLUID PUMP DISCONNECT

REFER TO FIGURE 12

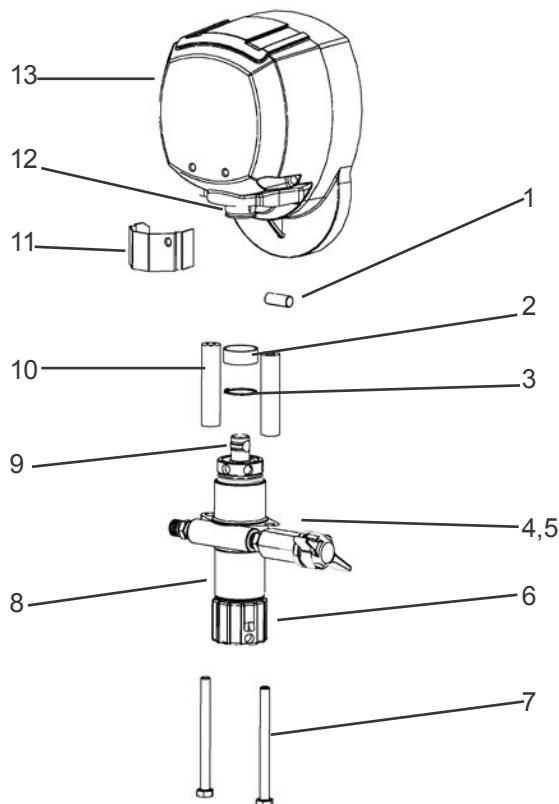
1. Follow the Pressure Relief Procedure on page 8.
2. Flush the material you are spraying out of the machine.
3. Remove the connecting rod shield.
4. Move the piston rod to its lowest position by cycling pump slowly.
5. Turn off the motor.
6. Disconnect sensor by holding it in place with a 7/8" wrench and unscrewing the swivel with a 11/16" wrench.
7. Remove the retaining ring from the connecting rod and slide the sleeve down revealing the connecting rod pin.
8. Remove the suction tube assembly from the fluid pump by unscrewing the suction nut with the packing adjustment tool (189-211).
9. Using a 1/2" wrench unscrew the two bolts from the cover assembly. The fluid pump will be hanging loosely at this point.
10. Remove the connecting rod pin out of the connecting rod, allowing the removal of the fluid pump from the machine.

FLUID PUMP REINSTALL

REFER TO FIGURES 12 & 14

1. Loosen the packing nut and ensure that the piston rod is in its upper position in the fluid pump body. Slip the sleeve & the retaining ring over the piston rod.
2. Push the piston rod up into the connecting rod & align the holes. Insert the connecting rod pin through the connecting rod & piston. Slip the sleeve up over the connecting rod pin and insert the retaining ring into the groove on the connecting rod.
3. Push the two bolts through the tube spacers & screw them into the cover assembly. Using a 1/2" wrench, tighten the two bolts evenly (alternating between them) until you reach 20 ft-lbs.
4. Reassemble lower suction valve assembly by placing the suction seat, O-ring, suction ball & suction ball guide in the suction nut & screw onto fluid pump body.
5. Reconnect sensor to the fluid pump body. Hold sensor with a 7/8" wrench while tightening the swivel with a 11/16" wrench.
6. Start the machine and operate slowly to check the piston rod for binding. Adjust the two bolts, holding the fluid pump body to the cover assembly, if necessary. This will eliminate any binding.
7. Tighten packing nut clockwise until resistance is felt against the Belleville Springs, go 3/4 of a turn more. Put five drops of LEMMER Throat Seal Oil in the packing nut.
8. Run the machine at full pressure for several minutes. Release the pressure by following the Pressure Relief Procedure & readjust the packing nut per step 7 above.
9. Install the connecting rod shield so that the small hole is in the upper right hand corner.

FIG. 12



PARTS LIST FIGURE 12

Item No.	Part No.	Description
1	L045-177	Connecting Rod Pin
2	L045-178	Sleeve
3	L045-179	Retaining Ring
4		Hose Connector
5		Swivel
6	L045-124	Suction Nut
7	L045-182	Bolts
8	L045-130	Fluid Pump Compl (no prime val)
9	L045-115	Piston Rod
10	L045-180	Tube Spacers
11	L045-185	Connection Rod Shield
12	L045-159	Connecting Rod
13	L045-157	Cover Assembly

SERVICING THE OUTLET VALVE

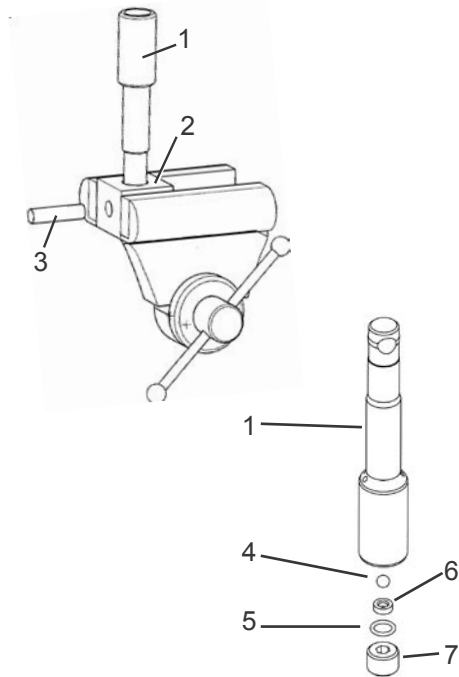
DISASSEMBLY OF THE OUTLET VALVE

1. Disconnect the Fluid Pump following instructions on page 14.
2. Place piston holder in a vise. Slide piston into the holder & lock in place with a 3/8" dowel.
3. Use a 1/4" allen wrench to unscrew the outlet seat retainer from the piston.
4. Remove the outlet seat, O-ring and outlet ball.
5. Inspect outlet ball & seat for wear. Replace as necessary. Ensure seat is right side up.
6. While piston is still locked in the holder, install parts back into the piston in the following order:

BALL, OUTLET SEAT AND O-RING

Before reinstalling the outlet seat support, apply two drops of Loctite No. 242 (blue) on the threads & torque to 20 ft-lbs.

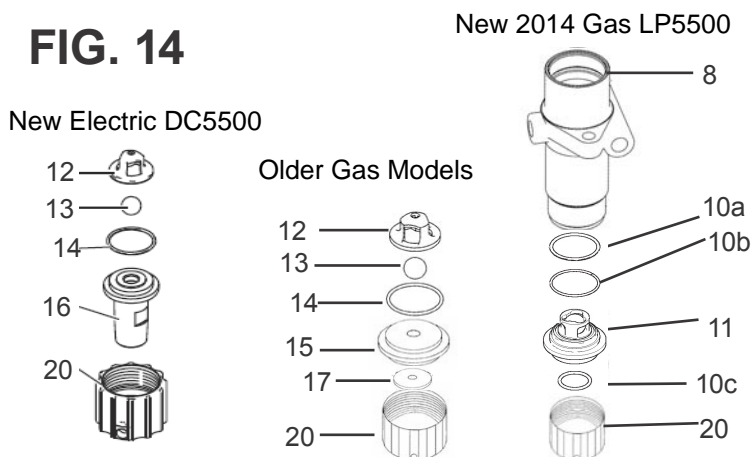
FIG. 13



SERVICING THE INLET ASSEMBLY

1. Un-thread and remove suction nut from the fluid pump body.
2. Remove suction seat, O-ring, suction ball and suction retainer.
3. Clean all parts and inspect them for wear or damage, replacing parts as needed.
4. Clean inside of the fluid pump body.
5. Reassemble lower suction valve assembly by placing the suction seat, O-ring, suction ball & suction ball guide in the suction nut & screw onto fluid pump body.

FIG. 14



PARTS LIST FIGURE 13 & 14

Item No.	Part No.	Description
1	L045-115	Piston with valve
2		Piston Holder
3		Dowel Pin
4	L011-197	Piston Ball
5	L045-118	O-Ring
6	L045-117	Piston Seat
7	L045-119	Piston Seat Retainer
8	L045-143	Fluid Pump Body
10a	L045-132	O-ring kit (a+b+c)
10b	L045-132	O-ring kit (a+b+c)
10c	L045-120	O-ring 5/8x1/16 Viton, gas
	L011-261	O-ring 15.5x2.5 Viton(thicker alt)
11	L045-133	Inlet valve kit (incl #10)
12	L045-121	Ball guide, electric
13	L045-658	Ball, Inlet
14	L045-122	O-ring, Teflon, electric
15	L045-123	Inlet seat, electric
16	L045-134	Inlet valve, DC55, electric
17	L045-348	Suction Nylon Seal (older ver)
20	L045-124	Suction Nut

PACKING REPLACEMENT PROCEDURES












DISASSEMBLY OF THE FLUID PUMP

REFER TO FIGURE 15 & 16

1. Disconnect the Fluid Pump as instructed on page 14.
2. Unscrew & remove the packing nut.
3. Push the piston rod down through the packings & out of the pump.
4. Now push the packing removal tool up through the pump & remove from the top bringing packings, spacer & springs along with it, leaving fluid body empty.
*Make sure all old packings & glands have been removed from fluid pump.
5. Clean inside of fluid body.
6. Disassemble all parts & clean for reassembly. Discard any old packings.
7. Lubricate leather packing in lightweight oil for 10 minutes prior to reassembly.

REASSEMBLY

REFER TO FIGURE 15

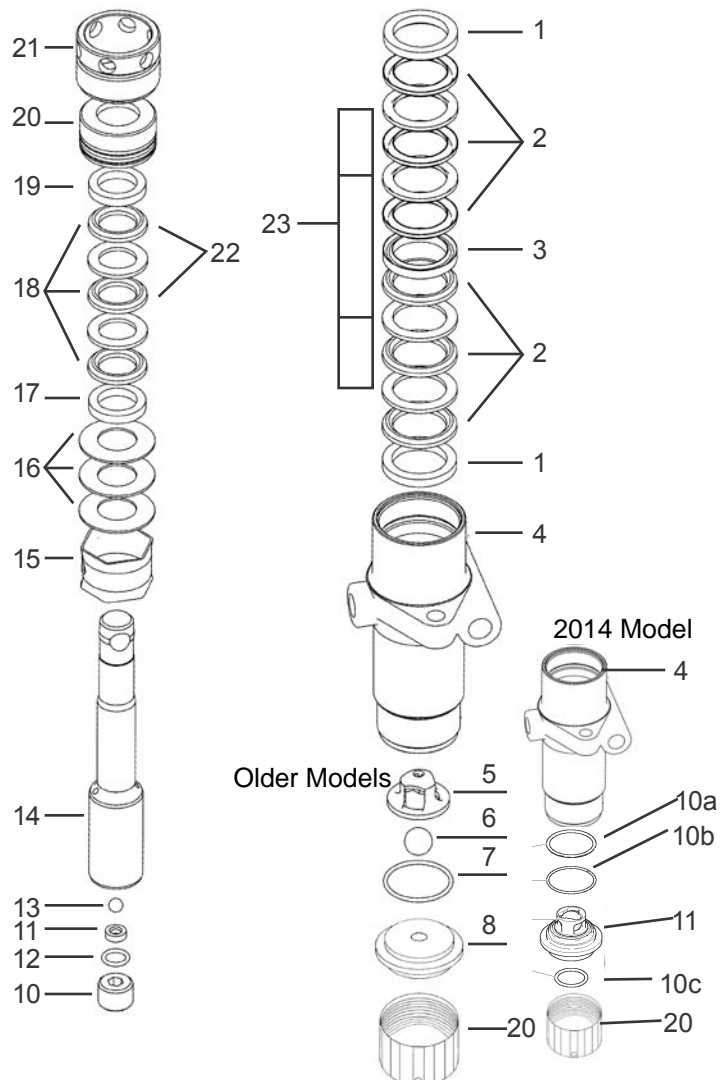
1. Take lower male gland & place it down on the flat side. 
2. Take three of the lower polyethylene packings & two of the leather packings & place onto the male gland in the following order with the inverted side down 
POLYETHYLENE, LEATHER, POLYETHYLENE, LEATHER, POLYETHYLENE.
3. Take the female adaptor, which is inverted on both sides , & place it on top of your assembled lower packings.
4. Follow step 2 with your packings inverted side up. 
5. Take the second lower male gland and place it on top of your assembled packings with the rounded side down. 
6. Take assembled glands & packings (13 pieces) & slide onto the lower half of the piston.
7. Take the spacer & slide over the top of the piston (it doesn't matter which direction it sits, falling onto lower packings).
8. Take three Belleville Springs & slide over the top of the piston in the following order:
 - First spring, curve facing down 
 - Second spring, curve facing up 
 - Third spring, curve facing down 
9. Take the upper male gland & place it rounded side up. 
10. Take three upper polyethylene packings & two leather packings & assemble with inverted side down,  on to the male gland in the following order: polyethylene, leather, polyethylene, leather, polyethylene.
11. Take upper female gland & place on top of assembled upper packings with the inverted side down. 
12. Take assembled upper glands & packings (7 pieces) & slide on over the top of the piston, making sure inverted sides are down.

13. Take the packing holder & replace the white O-ring & the black O-ring with new ones from the packing kit.
14. Slide the packing holder over the top of the upper packings so they fit inside.
15. Lubricate inside of the fluid pump body & the outside of the packings with a light weight oil.
16. Slide assembly into fluid pump body.

TO KEEP PACKINGS SECURED IN CORRECT POSITION, HOLD THE PUMP BODY UPSIDE DOWN & PUSH THE COMPLETED ASSEMBLY UPWARDS INTO THE PUMP BODY. ONCE PLACED INSIDE, TILT PUMP BODY BACK UP TO KEEP ALL PIECES IN.

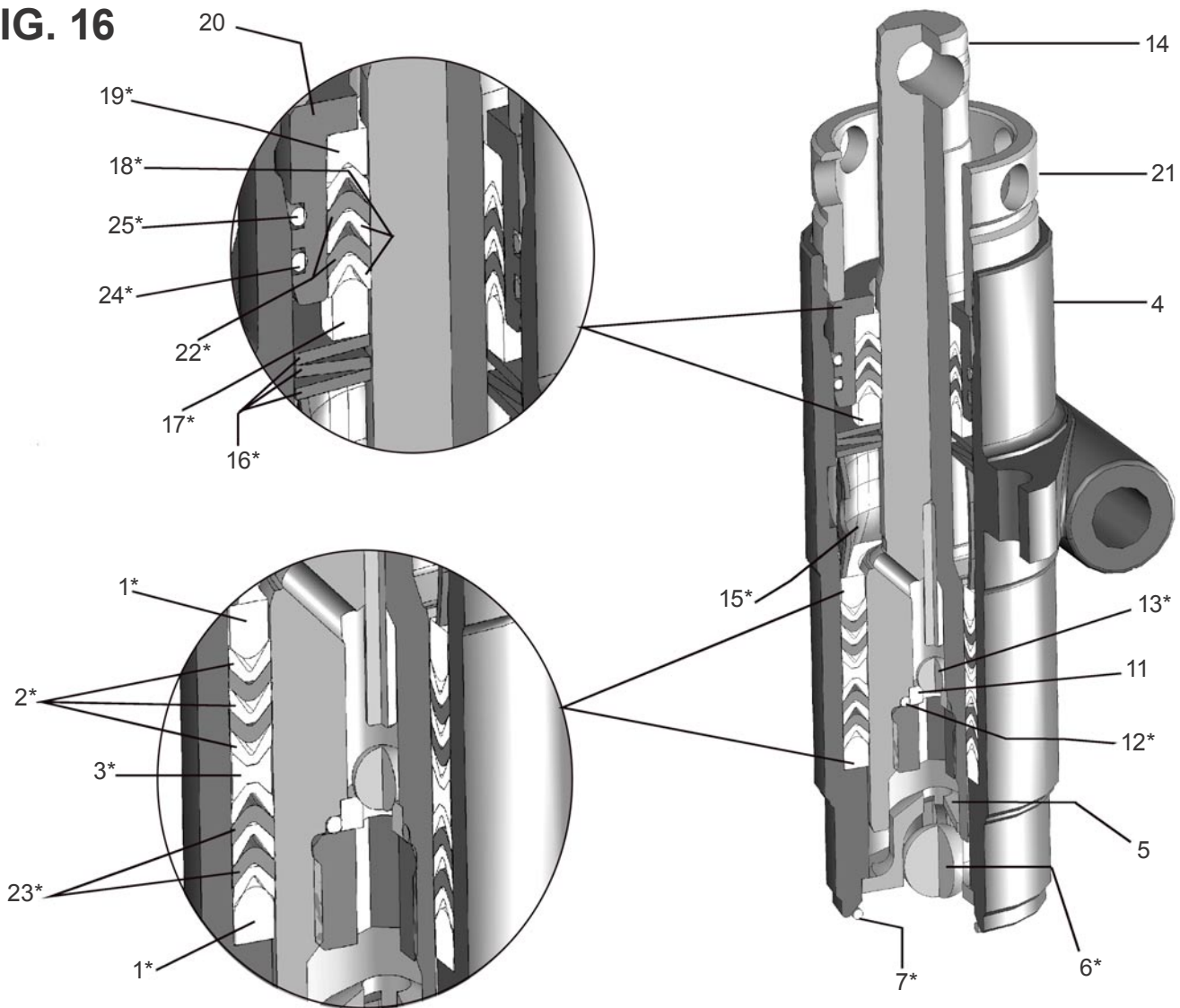
17. Tighten packing nut onto the top of the fluid pump body & tighten until you feel slight resistance against the Belleville Springs. Using the Packing Adjustment Tool, tighten another 3/4 of a turn.
18. Reinstall Fluid Pump as instructed on page 14.

FIG. 15 PARTS LIST ON FOLLOWING PAGE



PACKING REPLACEMENT PROCEDURES

FIG. 16



PARTS LIST FIGURE 15 & 16

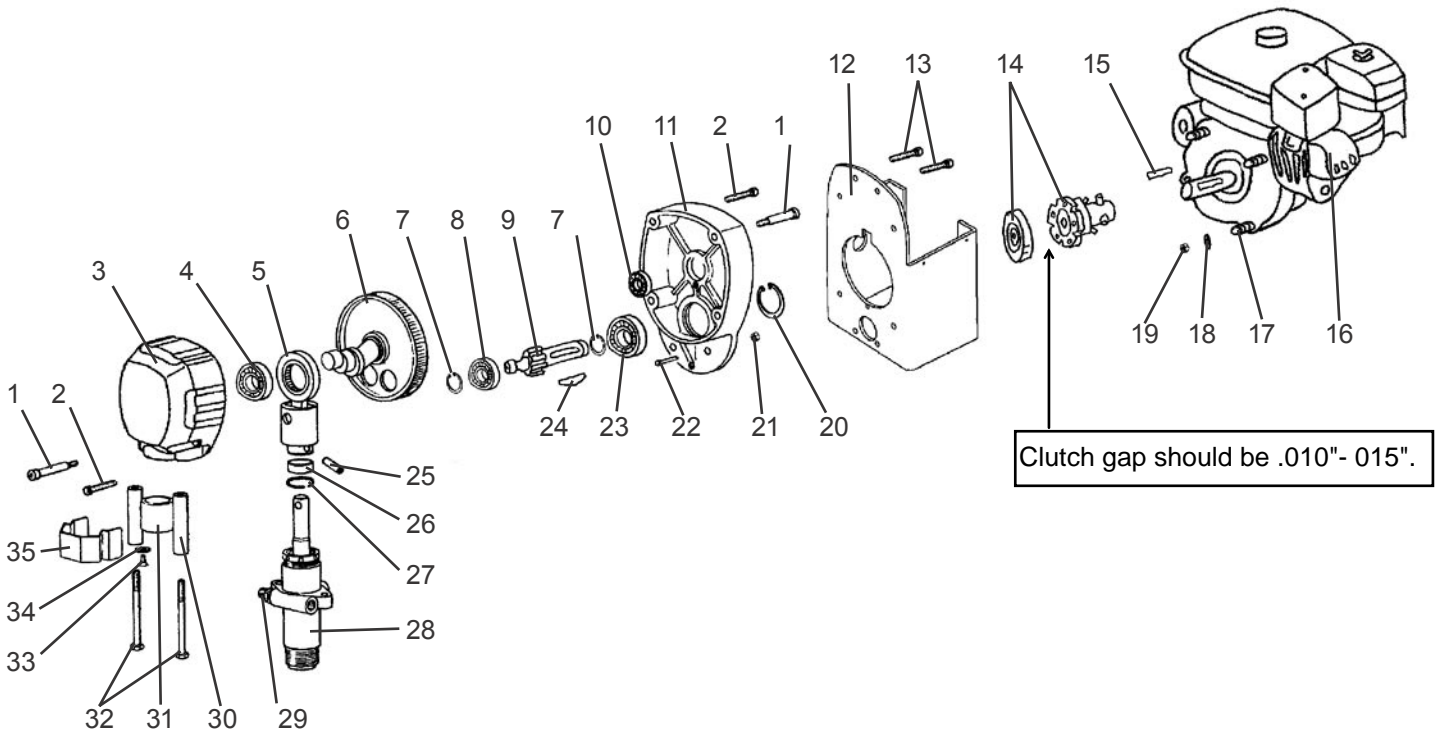
Item No.	Part No.	Description
1	L045-116*	Male Gland
2	L045-141*	Packing Polyethylene
3	L045-142*	Female Adaptor
4	L045-143	Fluid Pump Body
5	L045-121	Suction Ball Guide
6	L045-658*	Suction Ball
7	L045-122*	O-Ring
8	L045-123	Suction Seat
9	L045-124	Suction Nut
10	L045-119	Outlet Seat Retainer
11	L045-117	Outlet Seat
12	L045-118*	O-Ring
13	L011-197*	Outlet Ball

PARTS LIST FIGURE 15 & 16 CONT

Item No.	Part No.	Description
14	L045-115	Piston with valve
15	L045-144*	Spacer
16	L045-145*	Belleville Springs
17	L045-146*	Male Gland
18	L045-147*	Packing Polyethylene
19	L045-148*	Female Gland
20	L045-149	Packing Holder
21	L045-150	Packing Nut
22	L045-151*	Packing Leather
23	L045-152*	Packnig Leather
24	L045-153*	White O-Ring
25	L045-154*	Black O-Ring
*	L045-114	Packing Kit

GEARBOX (L045-186)

FIG. 17

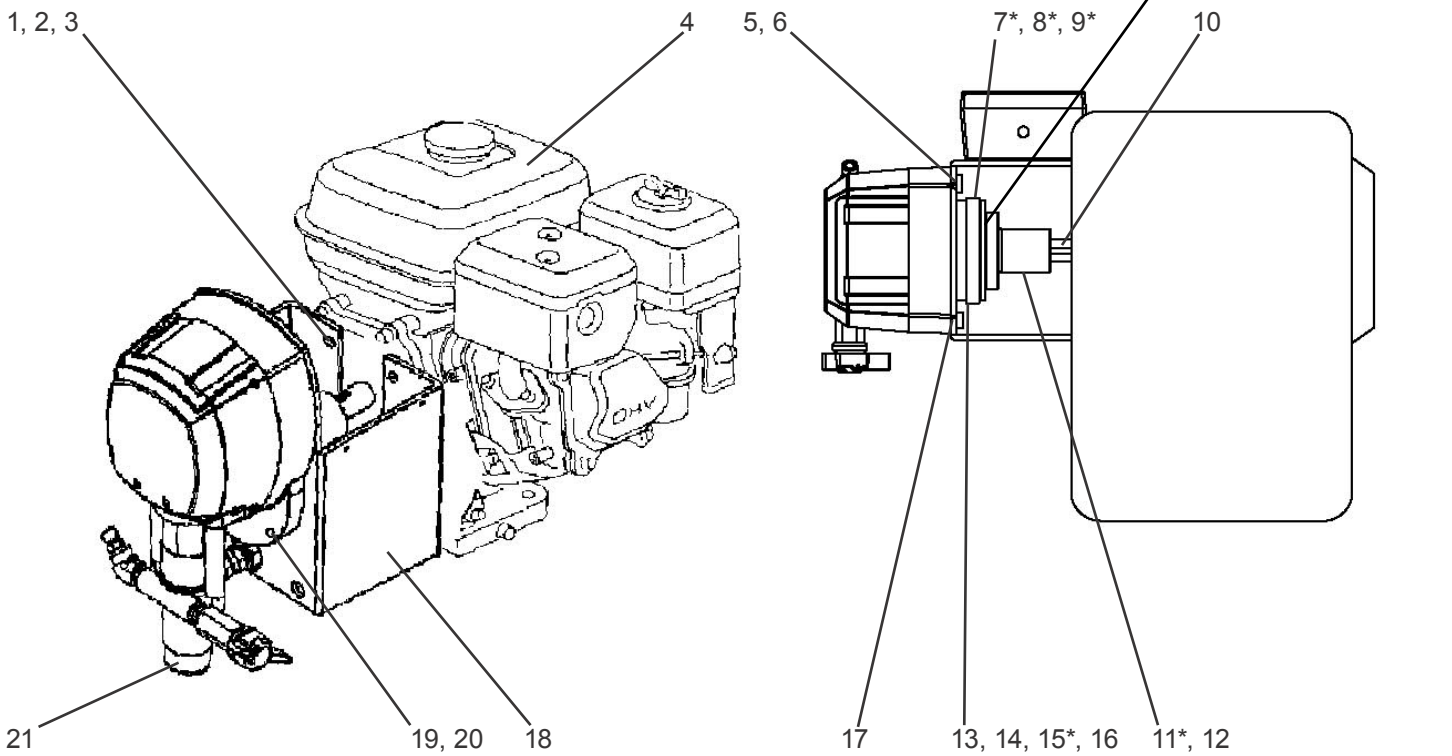


PARTS LIST FIGURE 17		
Item No.	Part No.	Description
1	L045-155	Shoulder Screw (2)
2	L045-156	Screw (2)
3	L045-157	Cover
4	L045-158	Ball Bearing
5	L045-159	Crosshead Assy
6	L045-160	Crank Assy
7	L045-161	Retaining Ring (3)
8	L045-162	Ball Bearing
9	L045-163	Pinion Shaft
10	L045-164	Ball Bearing
11	L045-165	End Bell
12	L045-166	Mounting Box Bracket
13	L045-167	Screw (4)
14	L045-131	Clutch Assy
15	L045-168	Key
16		Motor Honda GX160 (SS400/FS +) Motor Duro 5.5HP (SS3650/FS D)
17	L045-169	Set Screw (4)
18	L045-170	Washer

PARTS LIST FIGURE 17 CONT		
Item No.	Part No.	Description
19	L045-171	Nut (4)
20	L045-172	Retaining Ring
21	L045-173	Nut (2)
22	L045-174	Screw(2)
23	L045-175	Bearing
24	L045-176	Key
25	L045-177	Pin
26	L045-178	Sleeve
27	L045-179	Retaining Spring
28	L045-130	Fluid Pump
29		Hose Connector
30	L045-180	Spacer (2)
31	L045-181	Sleeve Bearing
32	L045-182	Bolt (2)
33	L045-183	Screw (2)
34	L045-184	Washer (2)
35	L045-185	Cover Guard
*		Grease (116)

CLUTCH ASSEMBLY

FIG. 18



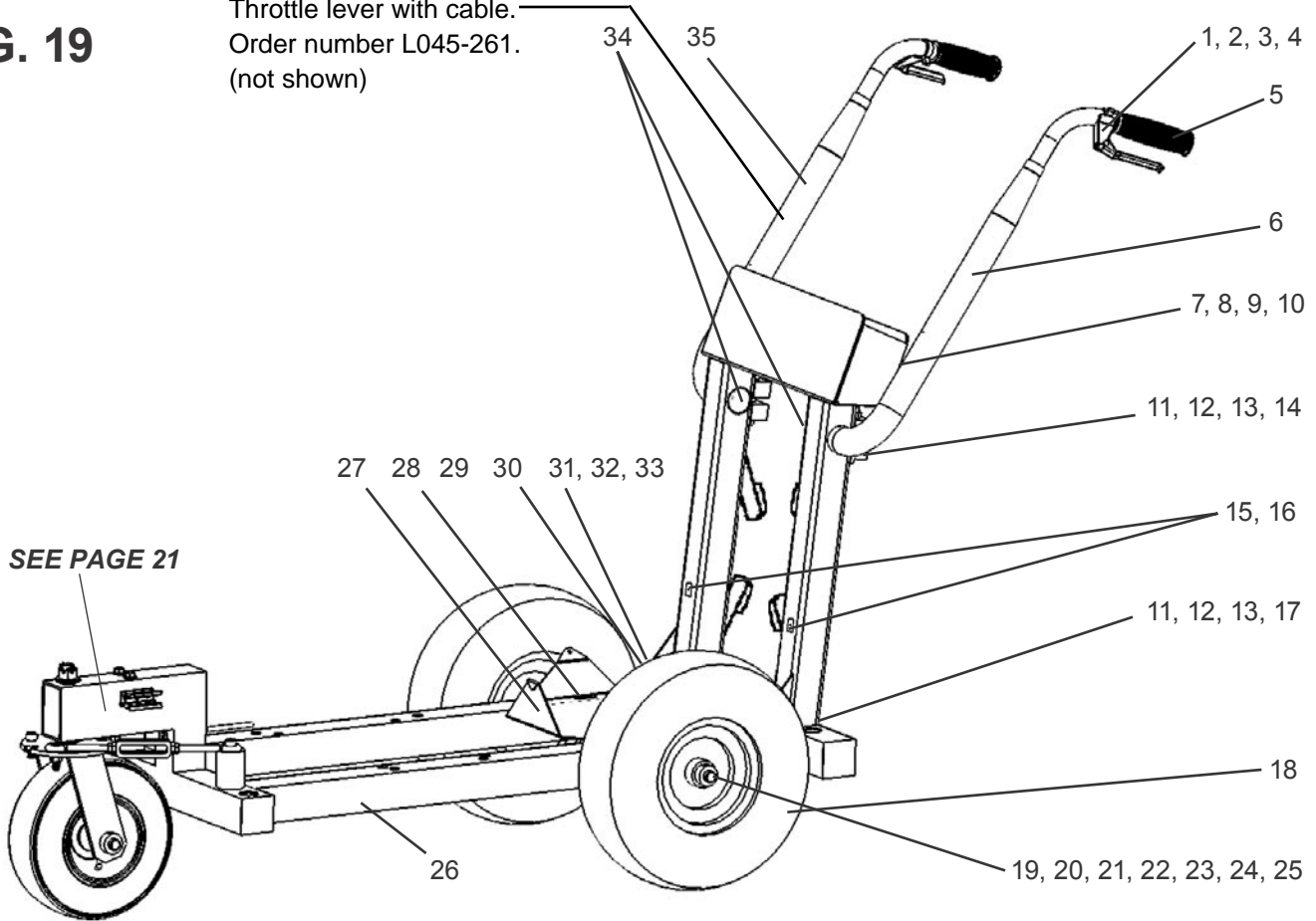
PARTS LIST FIGURE 18		
Item No.	Part No.	Description
1	L045-169	Screw
2	L045-171	Nut
3	L045-170	Lock Washer
4		Motor Duro 4.0HP
5		Nylon Tie
6	L045-188	Mounting Base
7	L045-189*	Locknut
8	L045-190*	Screw
9	L045-191*	Lock Washer
10	L045-168	Key
11	L045-192*	Clutch Adapter

PARTS LIST FIGURE 18 CONT		
Item No.	Part No.	Description
12	L045-193	Bushing
13	L045-161	Retaining Ring
14	L045-176	Key
15	L045-194*	Clutch
16	L045-195	Rubber Extrusion
17	L045-167	Screw
18	L045-166	Mounting Box Bracket
19	L045-173	Nut
20	L045-174	Screw
21	L045-196	Gearbox and Pump Assy
*	L045-131	Clutch Assy

FRAME ASSEMBLY (L045-236)

FIG. 19

Throttle lever with cable.
Order number L045-261.
(not shown)



PARTS LIST FIGURE 19

Item No.	Part No.	Description
1	L045-201	Cable End Lug
2	L045-202	Shrink Tubing (2)
3	L045-203	Cable Insert
4	L045-204	Lever
5	L045-205	Rubber Grip (2)
6	L045-206	Handle Weldment (Left)
7	L045-207	Nut (2)
8	L045-208	Paint Hose Hook (4)
9	L045-209	Washer (4)
10	L045-210	Screw (4)
11	L045-211	Nut (2)
12	L045-212	Washer (2)
13	L045-213	Washer (2)
14	L045-214	Screw (2)
15	L045-215	Two Channel Strap (3)
16	L045-216	Screw (3)
17	L045-217	Rivnut (2)
18	L045-218	13" Wheel

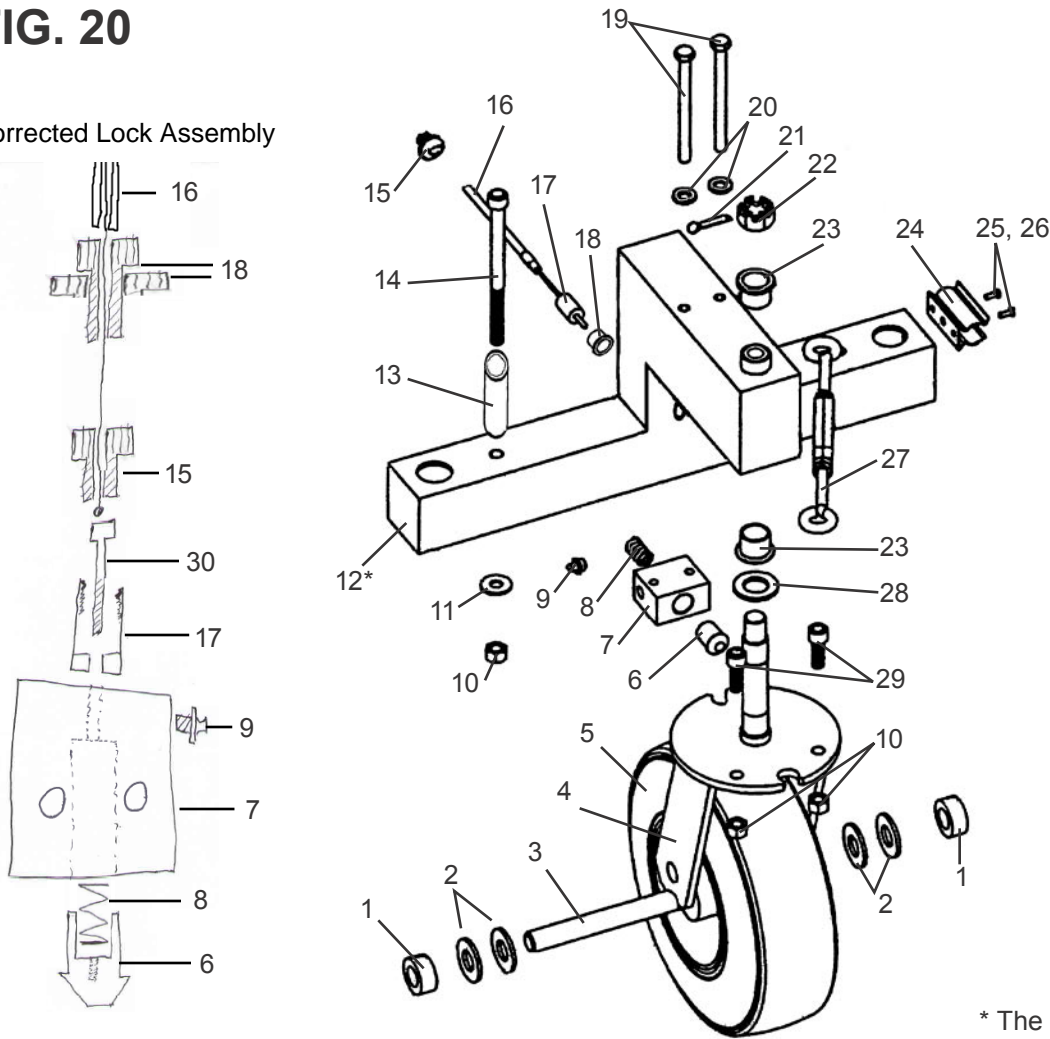
PARTS LIST FIGURE 19 CONT

Item No.	Part No.	Description
19	L045-219	Axle
20	L045-220	Wave Washer (2)
21	L045-221	Spacer (2)
22	L045-222	Chain Sash
23	L045-223	Key Ring
24	L045-224	Set Collar (2)
25	L045-225	Washer (2)
26	L045-226	Frame
27	L045-227	Pail holder
28	L045-228	Screw (3)
29	L045-229	Stop
30	L045-230	Cap
31	L045-231	Lock Nut (4)
32	L045-232	Brake Clamp
33	L045-233	Screw (4)
34	L045-234	Plug (2)
35	L045-235	Handle Weldment (Right)

SWIVEL WHEEL ASSEMBLY

FIG. 20

Corrected Lock Assembly



* The swivel wheel weldment is part of the entire stripper frame weldment.

PARTS LIST FIGURE 20

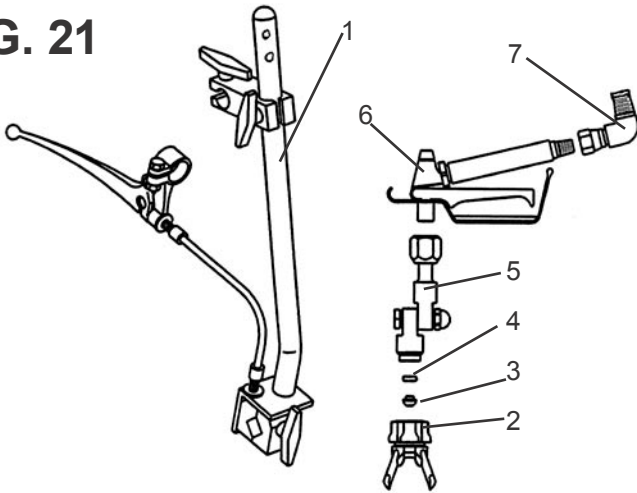
Item No.	Part No.	Description
1	L045-224	Set Collar (2)
2	L045-225	Washer (4)
3	L035-237	Axel
4	L045-238	Swivel Clamp
5	L045-239	Wheel
6	L045-240	Swivlel Lock Pin
7	L045241	Swivel Lock
8	L045-242	Spring
9	L045-243	Grease Fitting
10	L045-244	Nut (4)
11	L045-209	Washer (2)
*12	L045-226	Frame Weldment
13	L045-245	Spacer (2)
14	L045-246	Screw (2)
15	L045-247	Cable Holder

PARTS LIST FIGURE 20 CONT

Item No.	Part No.	Description
16	L045-127	Cable
17	L045-248	Lock End Lug
18	L045-249	Cable Adjustor
19	L045-182	Screw (2)
20	L045-170	Washer (2)
21	L045-250	Cotter Pin
22	L045-251	Hex Castle Nut
23	L045-252	Flanged Bearing (2)
24	L045-253	Spring Clamp
25	L045-254	Washer (2)
26	L045-255	Screw (2)
27	L045-256	Turnbuckle
28	L045-257	Washer
29	L045-258	Screw (2)
30	L045-259	Socket head screw

GUN ASSEMBLY

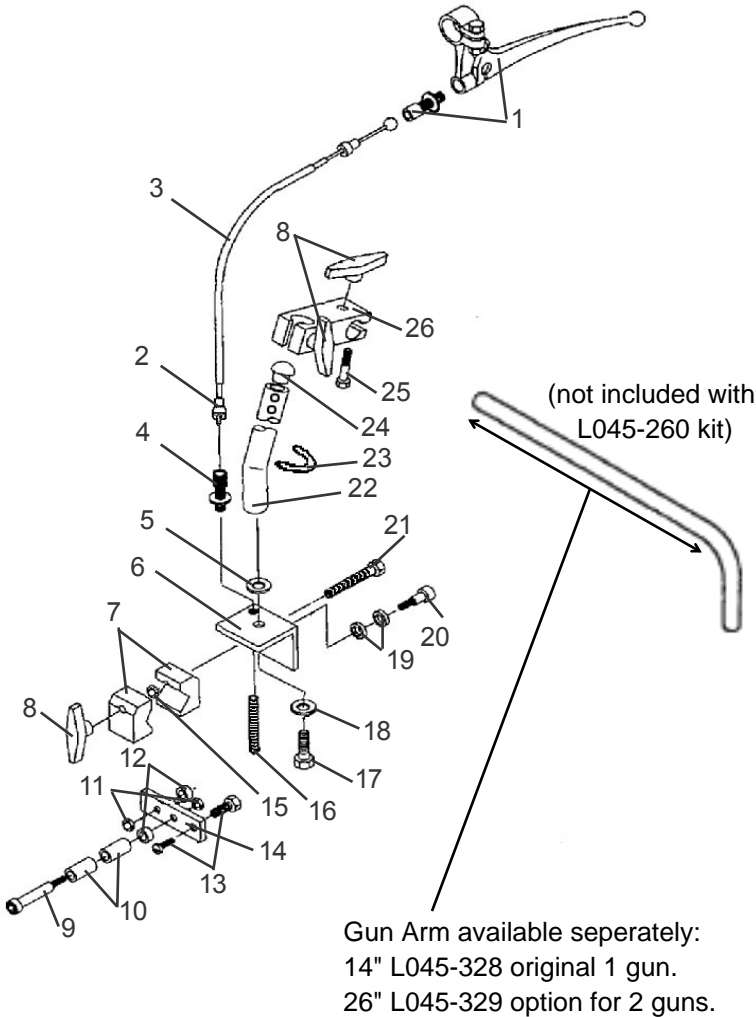
FIG. 21



PARTS LIST FIGURE 21		
Item No.	Part No.	Description
1	L045-260	Gun Holder
2	L038-002	Guard (G Thread)
3*	L038-007	Seal-Metal
4*	L038-008	Seal-Plastic
5		Swivel Assembly (not available)
6	L032-036	Airless Gun
7		Elbow (not available)

GUN HOLDER ASSEMBLY (L045-260)

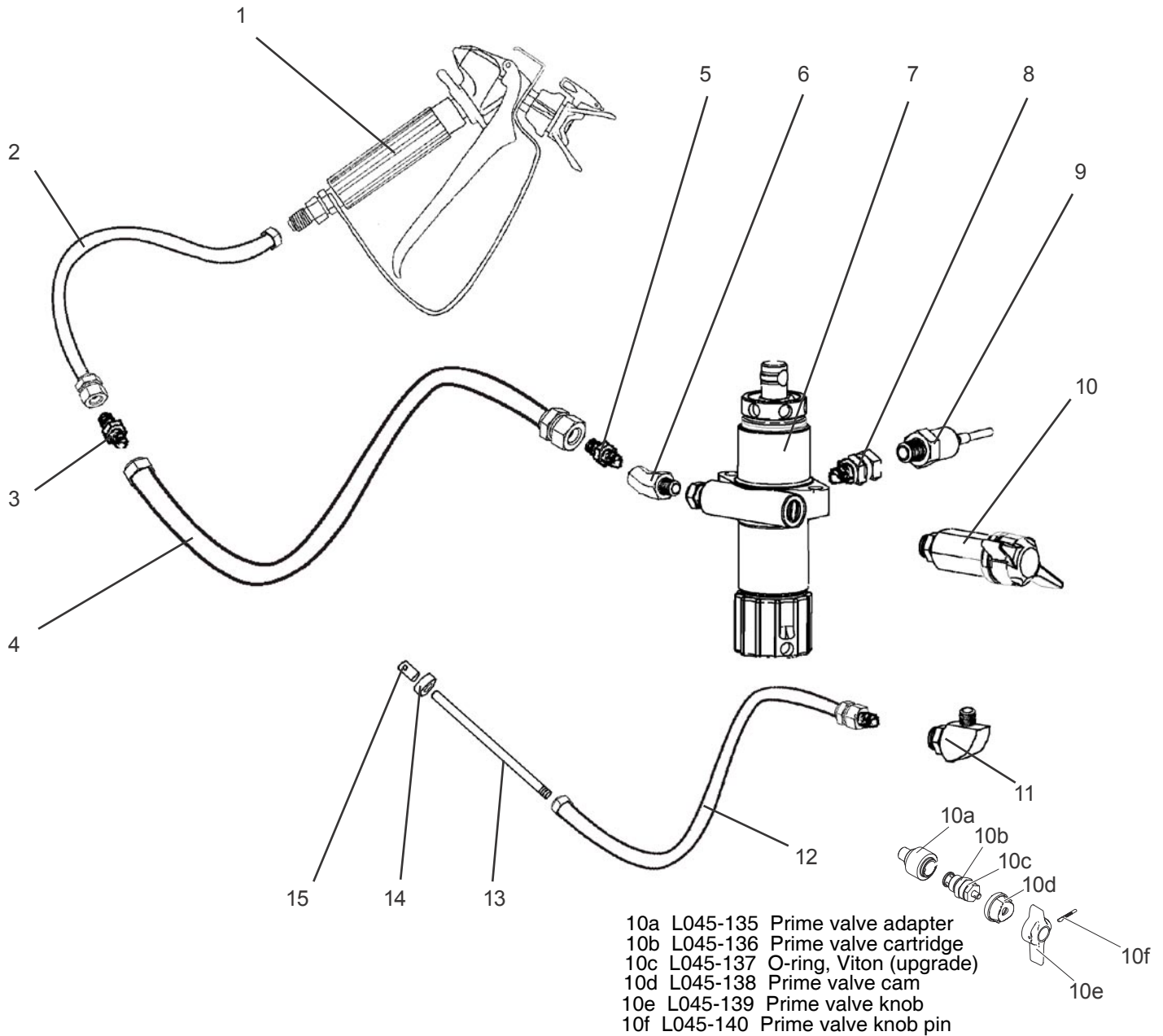
FIG. 22



PARTS LIST FIGURE 22		
Item No.	Part No.	Description
1	L045-262	Lever Assy.
2	L045-203	Cable Insert (2)
3	L045-126	Gun Cable Assy(incl 2xL045-203)
4	L045-249	Cable Adjuster
5	L045-263	Tube Connector
6	L045-264	Bracket
7	L045-265	Clamp (2)
8	L045-266	Knob (3)
9	L045-267	Bolt
10	L045-268	Sleeve Bearing (2)
11	L045-269	Jam Nut (2)
12	L045-270	Spacer (2)
13	L045-271	Wire Swivel Assy.
14	L045-272	Lever
15	L045-273	Nut
16	L045-274	Spring
17	L045-275	Screw
18	L045-276	Lock Washer
19	L045-277	Thrust Washer (2)
20	L045-322	Shoulder Screw
21	L045-323	Screw
22	L045-324	Holder
23	L045-325	Spring Clip
24	L045-326	Ball Guide
25	L045-327	Screw (2)
26	L045-129	Swivel Clam Assy.

PAINT SYSTEM

FIG. 23



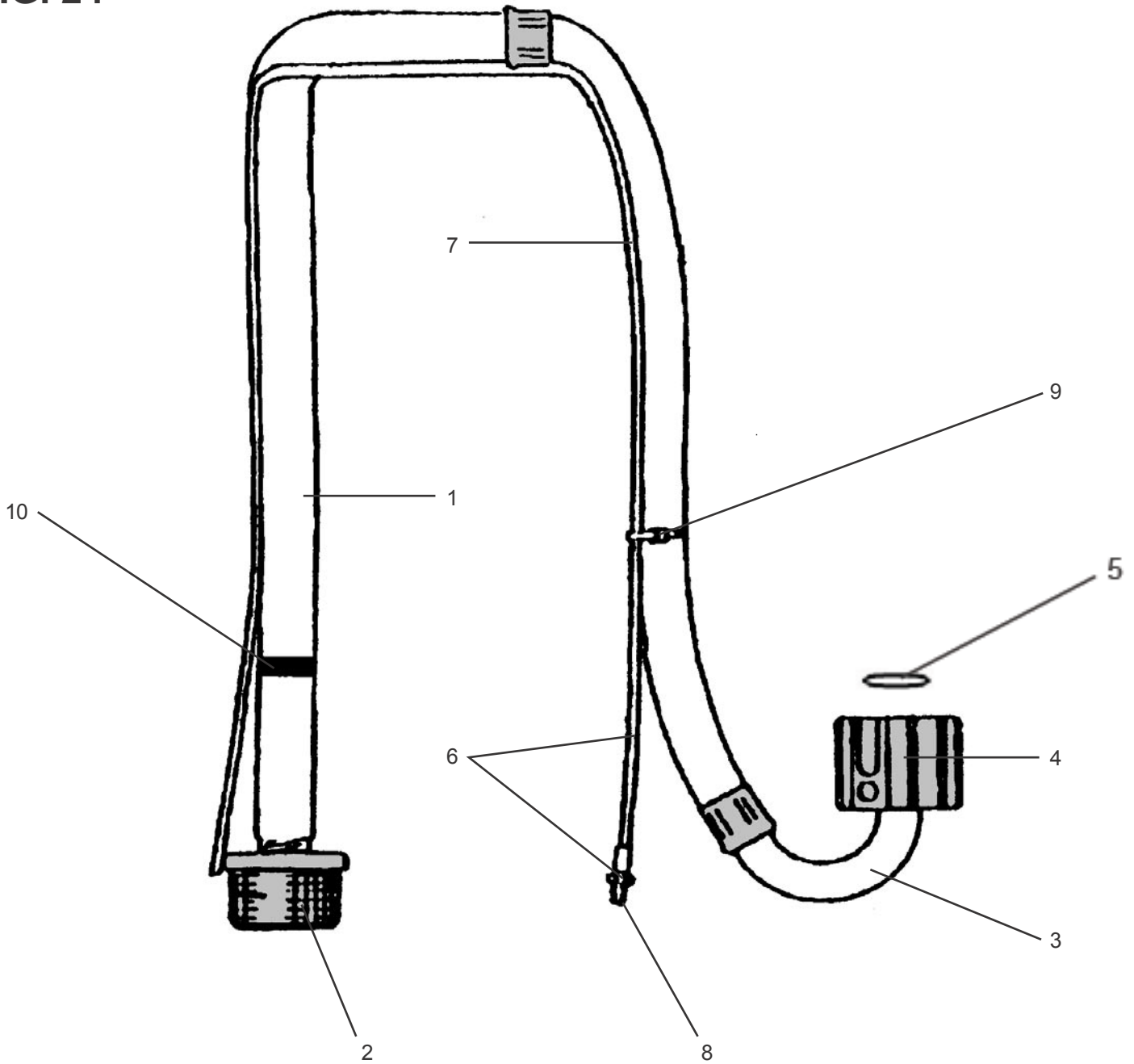
- 10a L045-135 Prime valve adapter
- 10b L045-136 Prime valve cartridge
- 10c L045-137 O-ring, Viton (upgrade)
- 10d L045-138 Prime valve cam
- 10e L045-139 Prime valve knob
- 10f L045-140 Prime valve knob pin

PARTS LIST FIGURE 23		
Item No.	Part No.	Description
1	L032-036	Airless Gun
2	L031-074	Hose 50' x 1/4"
3	L035-005	Nipple 3/8" x 1/4"
4	L045-330	Hose 6' x 3/8"
5	L035-001	Connector
6	L045-331	Elbow 45°
7	L045-130	Fluid Pump
8	L045-332	Swivel

PARTS LIST FIGURE 23 CONT		
Item No.	Part No.	Description
9	L045-128	Sensor
10	L045-125	Prime Valve
11	L045-333	adapter 1/8" x 5/8F (not elbow)
12	L045-334	Hose 4' x 1/4"
13	L045-335	Return Pipe
14	L045-336	Reflector
15	L045-337	Gasket

SUCTION ASSEMBLY (L045-338)

FIG. 24

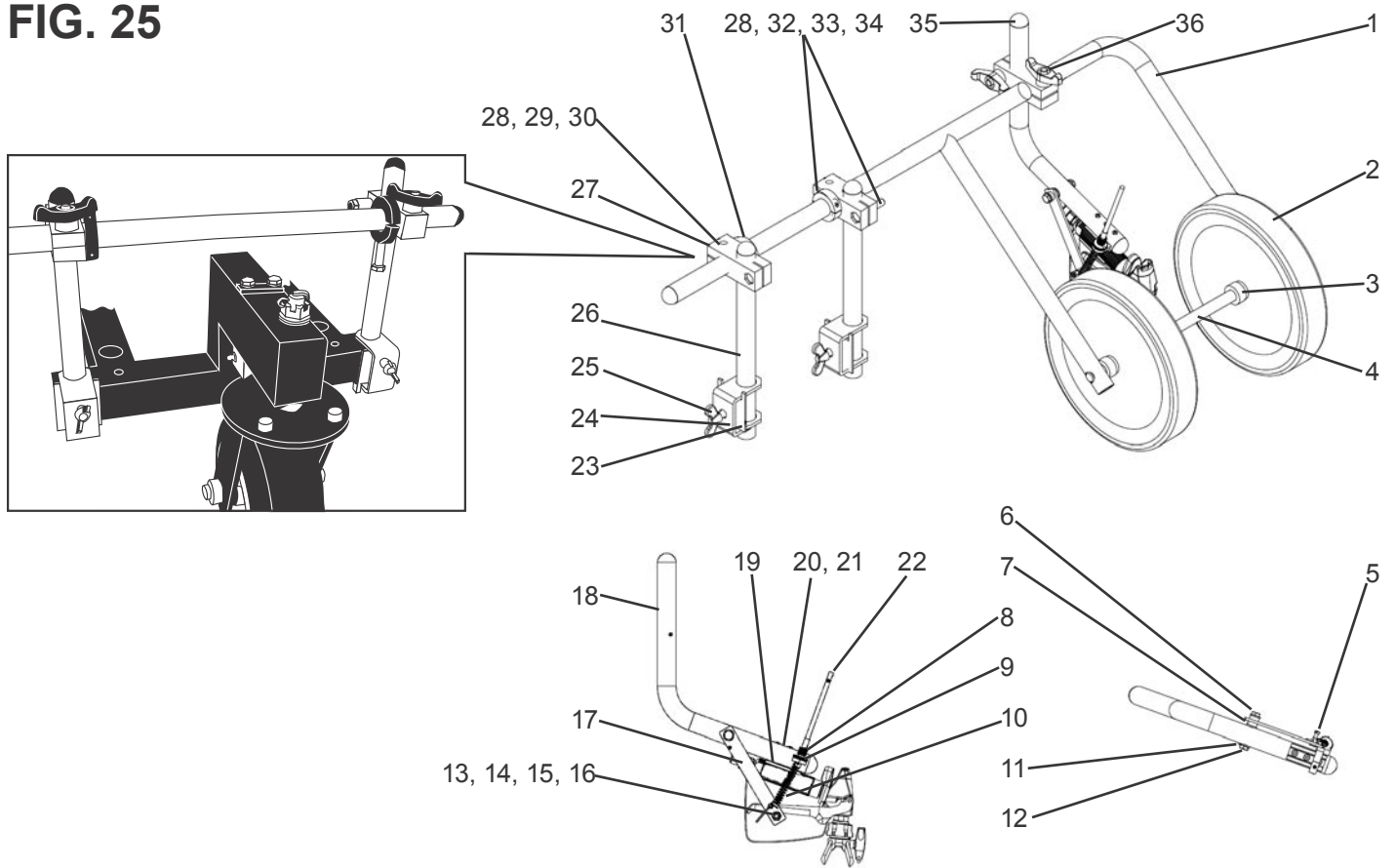


PARTS LIST FIGURE 24		
Item No.	Part No.	Description
1	L045-339	Suction Hose Assy
2	L045-593	Inlet Strainer
3	L045-340	Suction Elbow
4	L045-124	Suction Nut
5	L045-120	Suction Viton O-ring (2014)
	L045-348	Suction Nylon Seal (older ver)

PARTS LIST FIGURE 24 CONT		
Item No.	Part No.	Description
6	L045-341	Bypass Hose Assy
7	L045-342	Bypass Hose
8	L045-343	Fitting
9	L013-512	Nylon Tie
10	L045-344	Spring Clip

DUAL WHEEL FLOATING GUN *special order*

FIG. 25



REPLACEMENT OF ELECTRICAL CONTROL BOARD

1. Remove electrical cover.
2. Disconnect sensor lead from Electrical Board.
3. Disconnect two clutch leads on Electrical Board from leads on clutch.
4. Using a 1/16" allen, loosen set screw in Pressure Control Knob and remove knob.
5. Using a 1/2" nutdriver or 1/2" deep socket, remove nut from pressure control shaft. This will allow removal of electrical control board from frame.
6. Replace Electrical Board Assembly in reverse order. Adjust pressure as per procedure below, "Pressure Calibration on the Electrical Control Board".

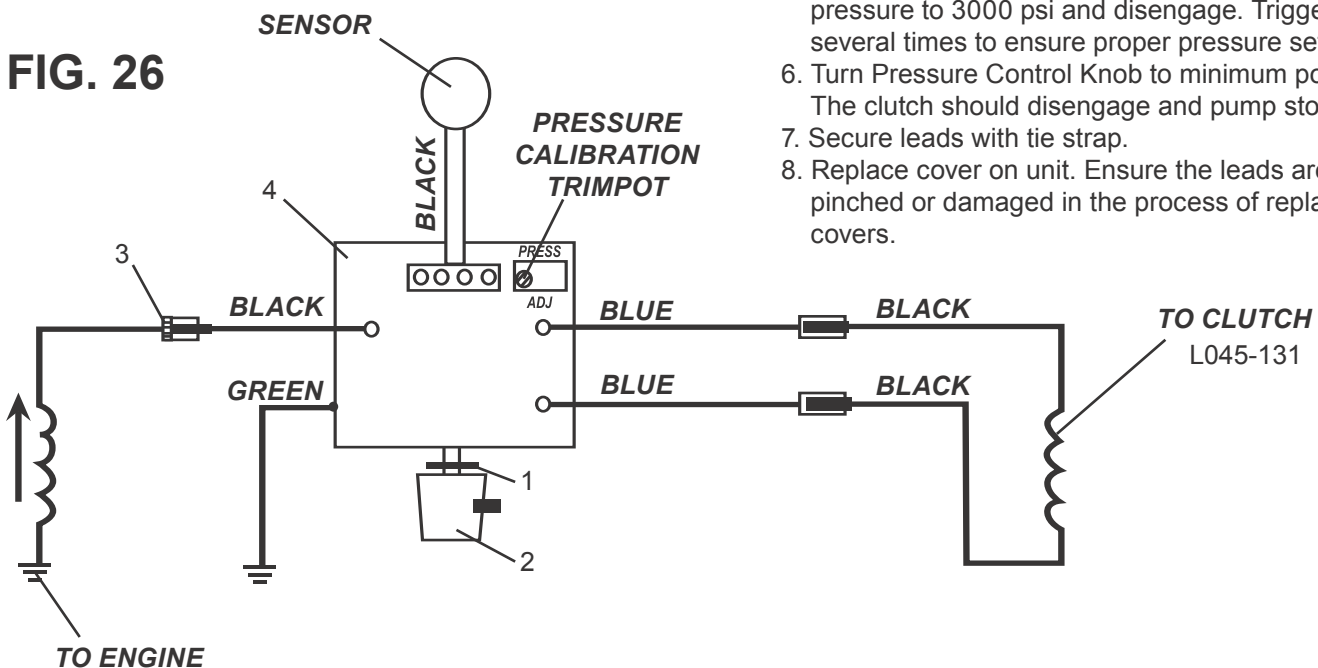
PRESSURE CALIBRATION OF THE ELECTRICAL CONTROL BOARD

1. Turn "Pressure Calibration" Trimpot adjustment on electrical control board in the counter clockwise direction at least 15 revolutions.
2. Connect 5000 psi glycerine pressure guage on outlet of pump between fluid pump & airless hose to monitor Fluid Pump Pressure.
3. Start engine and run at maximum RPM. Turn Prime Valve to the open (Prime) position. Turn Pressure Control Knob to maximum position (fully clockwise).

4. Using an insulated screwdriver, adjust "Pressure Calibration" Trimpot by turning clockwise until the clutch engages. When the clutch engages the pump will commence Priming. When pump is primed, turn the Prime Valve to the Closed (Pressure) Position.

THE PUMP WILL BEGIN TO PRESSURIZE AND THE CLUTCH WILL DISENGAGE AT A LOW PRESSURE. CONTINUE TURNING THE TRIMPOT CLOCKWISE TO INCREASE PRESSURE TO 3000 PSI.

5. Trigger gun. The pressure should drop approximately 350-400 psi, the clutch will engage and build pressure to 3000 psi and disengage. Trigger gun several times to ensure proper pressure setting.
6. Turn Pressure Control Knob to minimum position. The clutch should disengage and pump stop moving.
7. Secure leads with tie strap.
8. Replace cover on unit. Ensure the leads are not pinched or damaged in the process of replacing covers.



PARTS LIST FIGURE 26

Item No.	Description	
1	L045-349	O-Ring
2	L045-350	Knob
3	L045-351	Grommet
4	L045-347	Control Board

ELECTRICAL TROUBLESHOOTING - Clutch Does Not Engage

STEP 1: Ensure that the pressure control knob (POT) is in the maximum (CW) position.

STEP 2: Remove the clutch and electrical box covers.

STEP 3: Check all electrical connections between the engine magneto, sensor, control board and clutch for loose connections or damaged leads.

STEP 4: Disconnect the two leads from the control board (blue) and the clutch assembly (black). Using a multimeter, with the engine at maximum RPM, pressure control knob in the maximum position and the prime valve open (priming) position, test the DC voltage across the boards leads (blue). This voltage must be 13-14 VDC. If the readings are correct, the board, sensor and magneto are okay and the problem is the clutch assembly. If this is the case, proceed to Step 5. If the voltage is outside this range go to Step 7.

STEP 5: Check the spacing between the clutch field and plate. The gap should be a maximum of .015". If the gap is greater than .015" the gap is too wide. If this gap is too wide, loosen the motor side of clutch and adjust between .010-.015.

STEP 6: When the DC voltage from the board is not 13-14 VDC, disconnect the control board lead (black) from the engine magneto lead (pink), located on the side of the engine. With the engine at maximum RPM (3600), pressure control knob in maximum (CW) position and prime valve open (priming), read the AC voltage from the magneto lead to the sprayer frame. This reading should be 19-24 VAC. If outside this range, contact your local small engine repair facility for magneto replacement. If the magneto is producing the proper AC voltage, continue to Step 7.

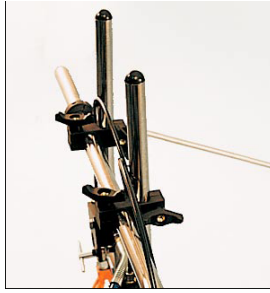
STEP 7: Test the sensor by reading the resistance between the red and black wires. The resistance runs between 1.5-3K ohms. A defective sensor usually shows no resistance (open). If the reading is outside standards, replace the sensor. An alternative method to test the sensor, is to plug a new sensor into the board and see if the clutch will engage. Caution! When using this method, ensure prime/pressure valve is in the prime position. This is important because the sensor plugged into the board is not measuring pressure in the fluid section.

STEP 8: When Steps 6 & 7 have been completed and the magneto and sensor check good, the electrical control board is the only item left, replace the board.

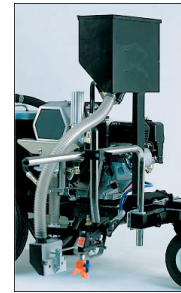
ACCESSORIES & PART KITS FOR THE LEMMER LP-5500 LINE-PRO



High capacity plastic paint bucket
Paint bucket, 12 US Gallons L045-110



Pointer to assist lining up the unit
Pointer kit L045-111



Glass bead kit
Glass bead kit for single gun, 4/6" .. L045-112



Floating spray gun kit
For uneven bumpy surfaces
(Airlessco Patent Pending) L045-113



Easy transport rack
Easy loading rack with ramp L045-198



Pump parts
Piston rod with outlet valve L045-115
Inlet valve seat, ball, & o-rings..... L045-133
Inlet valve o-ring kit (3x).....L045-132



Repair kits
Pump Packing kit with tools L045-114
Prime valve complete L045-125



Control cables
Cable assembly for spray gun L045-126
Cable assembly for swivel wheel L045-127



Pressure sensor kit
Pressure sensor kit L045-128



Gun clamp assembly
Gun clamp assembly L045-129



Oil and Conditioner
Oil, throat seal for upper packings .. L034-125
Conditioner, pump saver solution ... L034-126



Hose protector sleeve
Hose Guard, roll of 1500 feet L034-062

(specifications are subject to change without notice)
(caractéristiques sont sujets à changement sans prévis)

LEMMER PAINT SPRAYING EQUIPMENT LIMITED WARRANTY

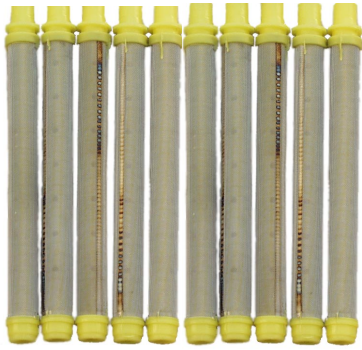
LEMMER Spray Systems Ltd. extends to the original purchaser of its paint spray equipment a limited **one year warranty** from the date of purchase against **defects in material or workmanship** provided that the equipment is installed and operated in accordance with the recommendations and instructions written in the owners manual. LEMMER Spray Systems Ltd. will **repair or replace**, at its option, defective parts without charge if such parts are returned (still intact in the original equipment) with transportation charges **prepaid** to the nearest LEMMER Spray Systems Ltd. outlet. An original **proof of purchase** must be attached.

THIS WARRANTY DOES NOT COVER:

Normal wear and/or defects caused by or related to abrasion, corrosion, abuse, negligence, accident, faulty installation or tampering in a manner which impairs normal operation.

Transportation costs and other incidental, direct, special, or consequential damages or loss.

ACCESSORIES FOR THE LEMMER LP-5500 LINE-PRO



GUN FILTERS (for the L-45, L-50, & L-60)
 Gun filter kit (10 X red) L032-105
 Gun filter kit (10 X yellow) L032-106
 Gun filter kit (10 X white) L032-107



TIP CLEANING BROACH
 Package of 12X L033-021



TIP EXTENSIONS
 1/4 Meter extension with swivel L033-011
 1/2 Meter extension with swivel L033-012
 1 Meter extension with swivel L033-013
 2 Meter extension with swivel L033-014



GAUGE KIT
 General use, 1/4" connections L034-104

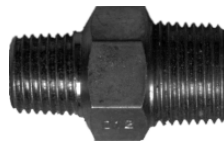


STRAINER BAGS
 1 Gallon strainer bag w/elastic L034-208
 5 Gallon strainer bag w/elastic L034-209



FIBRE BRAID AIRLESS HOSE
 1/4" X 25' Hose L031-073
 1/4" X 50' Hose L031-074

STEEL BRAID AIRLESS HOSE
 3/16" X 3' Whip hose L031-010
 3/16" X 5' Whip hose L031-011
 1/4" X 5' Whip hose L031-020
 1/4" X 25' Hose L031-021
 1/4" X 50' Hose L031-022
 1/4" X 100' Hose L031-023



HOSE CONNECTORS
 1/4"m X 1/4"m L035-001
 3/8"m X 3/8"m L035-002
 1/4"m X 3/8"m L035-005



SPRAY HOODS
 Spray hoods (package of 3) L034-205



RESPIRATOR
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