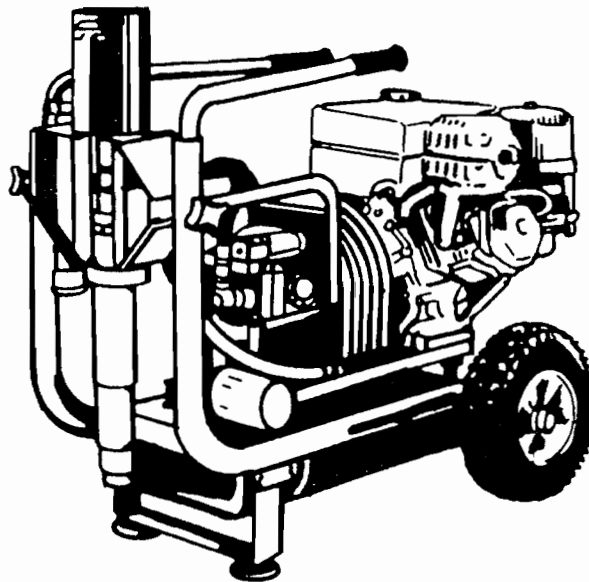


AIRLESSCO BY DUROTECH CO.[®]



MODEL 8100 AND 9100 HIGH OUTPUT CONTRACTOR MODELS



OPERATION MANUAL AND PARTS LIST

AIRLESSCO BY DUROTECH, 5397 Commerce Ave., Moorpark, CA. U.S.A. 93020 Tel: 805-523-0211

Form No. 001-178 Rev. C Nov. 95

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INTRODUCTION

THE AIRLESSCO 8100 AND 9100 are two gas models for the painter who needs the performance to spray materials from latex, enamels and lacquers to elastomerics and blockfillers. At only 210 lbs they are the lightest pump in their range on the market.

Model 8100	Model 9100
2.0 GPM, 0 - 3300 PSI. , Use spray tips up to 0.046 inch., Weighs 210 lbs. 8 HP Honda or Briggs/Stratton Engine	3.0 GPM, 0 - 3300 PSI., Use spray tips up to 0.056 inch., Weighs 210 lbs. 11 HP Honda or Briggs/Stratton Engine.

IMPORTANT WARNING

Handle this unit as you would a loaded firearm. High pressure spray can cause extremely serious injury. Learn and follow the Pressure Relief Procedure on page 6 before operating, before doing any service or maintenance work on the gun or the unit, and whenever you stop spraying.

WARNING - Prior to starting, read, understand and observe all safety precautions and warnings on pages 5, 6 and 7.

FLUSHING GUIDELINES

1. New Sprayer: Your new Airlessco sprayer was factory tested in No. 10 Motor oil which has been 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.

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, than a clean water flush.

5. Storage: Water-base paint: Flush with water, then mineral spirits and leave the pump, hose and gun filled with mineral spirits. For longer storage, use mixture of mineral spirit and motor oil (half and half). Shut off the sprayer, open the fluid bypass valve to relieve pressure and leave open.

Oil-base paint: flush with mineral spirits. Shut off the sprayer, open the fluid bypass valve to relieve pressure and leave 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 and the sprayer is ready to use.

HOW TO FLUSH

FIG. 7

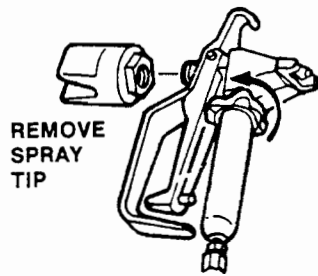


FIG. 9

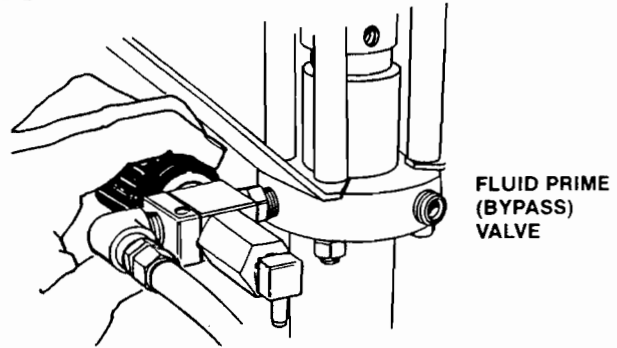


FIG. 8

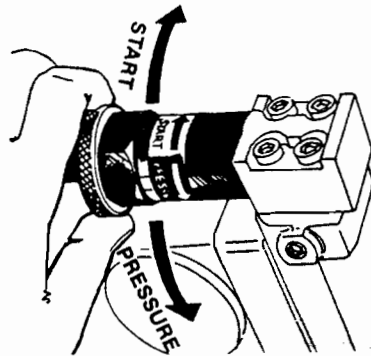


FIG. 10



1. Be sure the gun safety latch is engaged and there is **no spray tip in the gun**. Refer to Fig. 7
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 swivel the pump forward and place the pail under the pump. Then swivel the pump back to lower the pump into the pail.
4. Turn the pressure control knob as marked "start" until all spring tension is relieved. The sprayer is now set at the lowest pressure setting. Refer to Fig. 8
5. Open the fluid prime (bypass) valve to "priming" position. This will allow an easy start. Refer to Fig. 9.
6. Turn the motor (engine) ON/OFF SWITCH to ON.
7. Turn the choke on as per engine manual.
8. Turn the ON/OFF switch to ON. 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 ROPE**. Hold onto 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 does not start, open the choke a little more. If the engine floods, open the choke all the way and continue cranking.
9. After the engine is warm, gradually open the choke lever, close the fluid prime (bypass) valve turning the valve all the way tight to "close". Refer to Fig. 9.

10. Point the gun into the metal pail and hold a metal part of the gun firmly against the pail. Refer to Fig. 10

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 10.

11. Disengage the gun safety latch and squeeze the gun trigger. At the same time, slowly turn the pressure control knob clockwise just enough to start the pump. Refer to Fig. 8
12. Allow the pump to operate until clean solvent comes from the gun.
13. Release the trigger and engage the gun safety latch.
14. 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, and force the solvent from the pump and hose. Engage the gun safety latch until you are ready to prime the pump.
15. If you are going to store the sprayer, remove the suction tube or pump from the solvent pail, holding a metal part of the gun firmly against the metal pail, and force the solvent from the pump and hose. Engage the gun safety latch. Refer to the "Storage Procedure" in the section "How to Flush" on page 1.
16. **Whenever you shut off the sprayer, follow the PRESSURE RELIEF PROCEDURE WARNING on page 6.**

SETTING UP

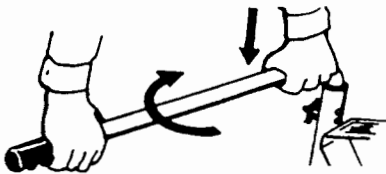
1. Connect the Hose and Gun.

- Remove the plastic cap plug from the outlet tee & screw an accessory, conductive or grounded spray hose onto fluid outlet.
- Connect an accessory spray gun to the other end of the hose.
- Don't use thread sealant on the swiveling nut of hose couplings, and don't install the spray tip yet.

NOTE: Do Not use thread sealer on swivel unions - they are made to self seal.
Use thread seal on TAPERED male threads only.

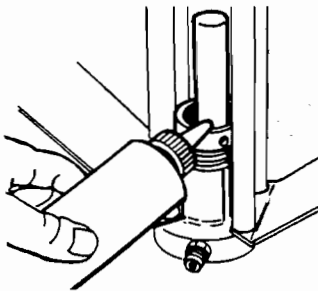
NOTE: To reverse position of handles, push down near pivot point to release detent and then rotate. See Fig.1.

FIG. 1



2. Fill the Packing Nut/Wet Cup 1/3 full with Airlessco Throat Seal Oil (TSO) supplied .Refer to Fig. 3.

FIG. 3.



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.

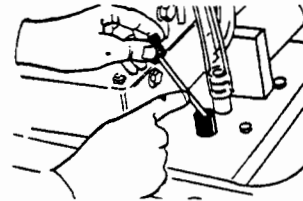
GRADE OF ENGINE OIL CHART	
Season or Temperature	Grade of Oil
Spring, Summer, Autumn	SAE 30
30 degrees F to 0 degrees Winter	SAE 10W-30

4. Priming the Hydraulic Pump

Before starting unit, check oil level, make sure hydraulic suction hose is full. (If hose is empty, follow directions below)

- Check that hydraulic oil is between marks on the dip stick.
- Check all fittings to be sure they are tight.
- Open Hydraulic Ball Valve.
- Pull the starter cord several times (with the engine switched off) until the suction hose is full, then switch on and start. The pump will then self prime.
- Check and add hydraulic oil if necessary.

FIG 4



CAUTION

To prevent damage to the cooling system and hydraulic pump, use ONLY AIRLESSCO HYDRAULIC OIL, Part No. 188-391. Other types of hydraulic oil (as recommended by other airless manufacturers) may damage the hydraulic components.

5. 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. Carefully follow steps a - c below, being sure not to spill any fuel.

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

6. Grounding

WARNING

To reduce the risk of static sparking, fire or explosion which can result in serious bodily injury and property damage, always ground the sprayer and system components, and the object being sprayed as instructed on page 6.

7. Flush the sprayer. See "Flushing Guidelines, pages 1 and 2." Your new pump was factory tested in oil which must be flushed out before using.

OPERATION

1. Prepare the Material

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

2. Starting the Sprayer

- Fluid prime (bypass) valve must be open - in priming position.
- Pressure control knob must be in "start" position until all spring tension is relieved. You will be able to feel it. The sprayer is now set at the lowest pressure setting.
- Open Hydraulic Ball Valve.
- Turn the motor ON/OFF switch to ON.

NOTE: in very cold weather, run the motor for about 15 minutes with the pressure control knob at "start" position before starting the displacement pump to help avoid hydraulic motor stalling.

- Follow the Pressure Relief Warning, Page 6, to shut off the sprayer.

WARNING

To stop the unit in an emergency, turn motor off and open the fluid prime (bypass) valve. Fig.9,Page 2. Then relieve the fluid pressure in the pump and hose as instructed in the Pressure Relief Warning, on page 6.

3. Prime the Pump.

CAUTION

Do not turn motor on without fluid pump having enough fluid so that it can be primed. Running fluid pump dry will decrease life of pump's packings.

- Be sure the gun safety latch is engaged.
- If the engine has not been started, follow the procedure "Starting Sprayer" Step 2 above.
- After engine is running, close hydraulic ball valve, adjust pressure control knob to its' very minimum pressure, just to move the pumps rod very slowly. Fluid prime bypass valve is still open in "priming position". Wait until pump is primed- when fluid is bypassing back into the bucket without air bubbles.
- After the pump is primed, close the fluid prime bypass valve by turning it all the way to "close" position and tighten firmly so that no fluid will bypass.
- Turn the pressure control knob to desired spray pressure.
- Disengage the gun safety lock and you are ready to start spraying.

WARNING

If you spray into the paint bucket, always use lowest spray pressure and maintain firm metal to metal contact between gun and container. See Fig. 10,Pg 2.

4. Adjusting the Pressure

- Turn the pressure control knob to "Pressure" to increase pressure and to "Start" to decrease pressure.
- Always use the lowest pressure necessary to completely atomize the material.

CAUTION

Operating the sprayer at higher pressure than needed wastes material, causes early tip wear and shortens sprayer life.

- 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. Refer to the separate instruction manual received with your gun.

5. Cleaning a Clogged Tip

WARNING

To reduce the risk of injection, NEVER hold your hand body or rag in front of the spray tip when cleaning or checking for a cleared tip. Always point the gun towards the ground or into a waste container.

- Follow the Pressure Relief Procedure on Page 6.
- Clean the front of the top frequently during the day to keep material from building up and clogging the tip - with toothbrush only. To clean, and to clear a tip if it clogs refer to the separate instruction manual received with your gun or nozzle.

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 the gun into small bucket of thinner comparable with the material sprayed. Thinner will dissolve the build up of paint on the outside of tip, tip guard and gun much more effectively if the paint did not have time to dry out completely.

WARNING

Clogged standard (flat) tip - clean only after the tip is removed from the gun.

6. When Shutting Off the Sprayer

- Whenever you stop spraying, even for a short break, follow the **Pressure Relief Procedure on Page 6.**
 - Clean the tip & gun as recommended by your separate gun instruction manual.
 - Flush the sprayer at the end of each day if the material you are spraying is waterbased or it could harden in the sprayer overnight. See Flushing, pages 1 & 2. Use a compatible solvent to flush, then fill the pump and hoses with an oil based solvent such as mineral spirits.
- WARNING * Be sure to relieve pressure in the pump after filling with mineral spirits.**

- For long term shutdown, refer to Page 1 , Step 5.

WARNINGS AND SAFETY PRECAUTIONS

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

WARNING: HIGH PRESSURE SPRAY CAN CAUSE EXTREMELY SERIOUS INJURY, HANDLE AS YOU WOULD A LOADED FIREARM!! LEARN AND FOLLOW PRESSURE RELIEF PROCEDURE. READ AND UNDERSTAND ALL INSTRUCTION MANUALS, TAGS, WARNINGS, USER'S GUIDES AND LABELS ON MACHINE BEFORE OPERATING EQUIPMENT.

Order new labels from Durotech Co. if unreadable.

SAFETY IS THE RESPONSIBILITY OF THOSE WHO OPERATE THIS EQUIPMENT.

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 at anyone or 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 would penetrate through and into the finger.

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

ALWAYS have gun tip guard in place when spraying.

ALWAYS remove tip from the gun to clean it.

NEVER try to "blow back" paint, this is not an air spray sprayer.

ALWAYS follow the **Pressure Relief Procedure**, as shown on Page 6, *before* cleaning or removing the spray tip or servicing any system equipment.

Be sure equipment safety devices are operating properly 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.**

Tell the doctor exactly what fluid was injected. For treatment instructions have your doctor call the **NATIONAL POISON CENTER NETWORK**

(412) 681-6669

GENERAL PRECAUTIONS

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.

ALWAYS wear a suitable face mask 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 AS OUTLINED ON PAGE 6.

ALWAYS INSPECT SPRAYING AREA

Keep spraying area free from obstructions.

Make sure area has good ventilation to safely remove vapors and mists.

Never keep flammable materials 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 6.

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** and then remove the spray tip to clean it.

NEVER wipe off build up around the spray tip. *ALWAYS* remove tip and tip guard to clean after pump is turned off and pressure relieved.

KEEP CLEAR OF MOVING PARTS

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, Page 6, and remove the ignition cable from the spark plug to prevent accidental starting of the sprayer.

NOTE: WARNING CONTINUED ON NEXT PAGE.

WARNINGS AND SAFETY PRECAUTIONS

PRESSURE RELIEF PROCEDURE

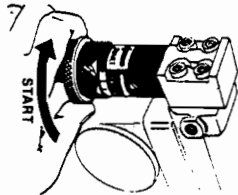
To avoid possible serious body injury, always follow this procedure whenever the sprayer is shut off, when checking or servicing it, when installing, changing or cleaning tips and whenever you stop spraying.

1. Engage gun safety latch.

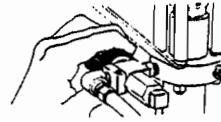


2. Turn engine off.

3. Turn pressure control knob out of the pump as marked "Start".



4. Open Fluid Prime (bypass) valve as marked "OPEN" (priming) to relieve fluid pressure.



5. Disengage safety latch & trigger gun to relieve fluid pressure.



6. Engage gun safety latch.



If the spray tip or hose is clogged, follow Step 1 through 6 above. Expect paint splashing into the bucket while relieving pressure during Step 5. After following all 6 steps above it is safe to remove the tip from the gun to clean.

Always follow the Airlessco recommendations on machine pressure & operating instructions.

HOSES

Use only high pressure airless hoses with static wire approved for 3000 PSI.

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 having 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 an injection injury or other serious bodily injury or property 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 carefully. Do not move the sprayer by pulling it with the hose.

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. For detailed instructions on how to ground, check your local electrical code.

ALWAYS ensure switch is in "OFF" position before plugging unit in.

Always ground all of these components:

1. Sprayer; plug the power supply cord, or extension cord, each equipped with an undamaged three-prong plug, into a properly grounded outlet. **DO NOT USE AN ADAPTER.** Extension cord must have three wires. Extension cord must be a minimum 12 gauge wire and must not exceed 25 ft. length.
2. Air hoses; use only grounded hoses.
3. Fluid hose; use only grounded hoses.
4. Spray gun or dispensing valve; grounding is obtained through connection to a properly grounded fluid hose and pump.
5. Object being sprayed; according to your local code.
6. All solvent pails used when flushing.

Once each week, check electrical resistance of hose (when using multiple hose assemblies, check overall resistance). Overall (end to end) 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.

NOTE: WARNING CONTINUED ON NEXT PAGE

WARNINGS AND SAFETY PRECAUTIONS

AVOID COMPONENT RUPTURE

This sprayer can develop 3000 PSI fluid pressure. 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 & 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 & wear & 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. Airlessco 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 SPARKING, 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 4 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 pg. 7. **ALWAYS** follow the pressure relief procedure on pg. 4. **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

Locate unit 25 feet away from spray area in well ventilated area. **NEVER** operate in closed building unless engine 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.

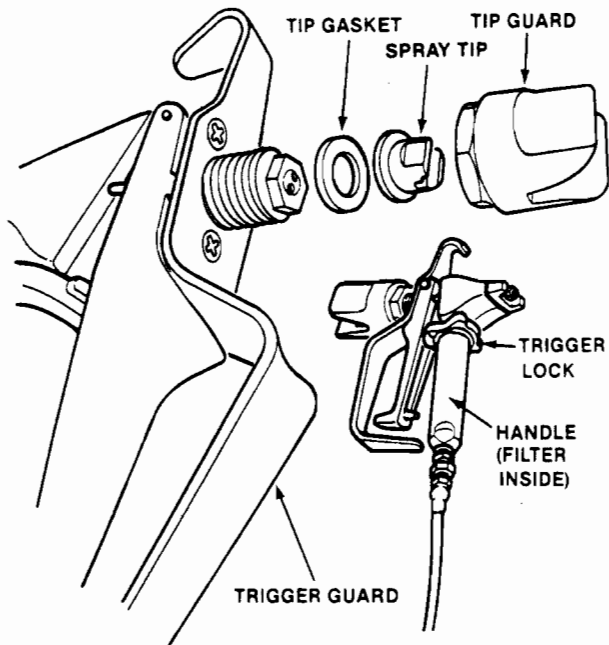
IMPORTANT: United States Government safety standards have been adopted under the Occupational Safety & Health Act. These standards, particularly the General Standards, Part 1910, & the Construction Standards, Part 1926 should be consulted.

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 area.

AIRLESSCO 007 SPRAY GUN

MAJOR COMPONENTS OF SPRAY GUN

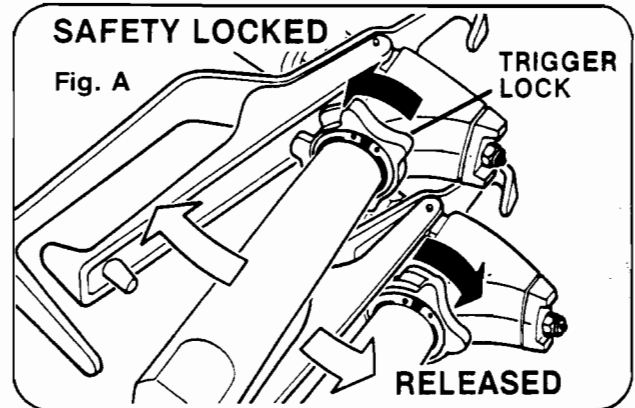


SPRAY GUN

Attach spray gun to whip hose and tighten fittings securely. Set the trigger lock.* Refer to Fig. A.

*The trigger lock should always be set when the gun is not being triggered.

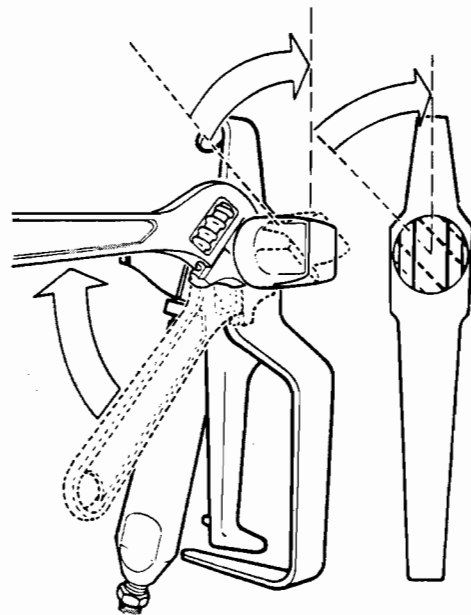
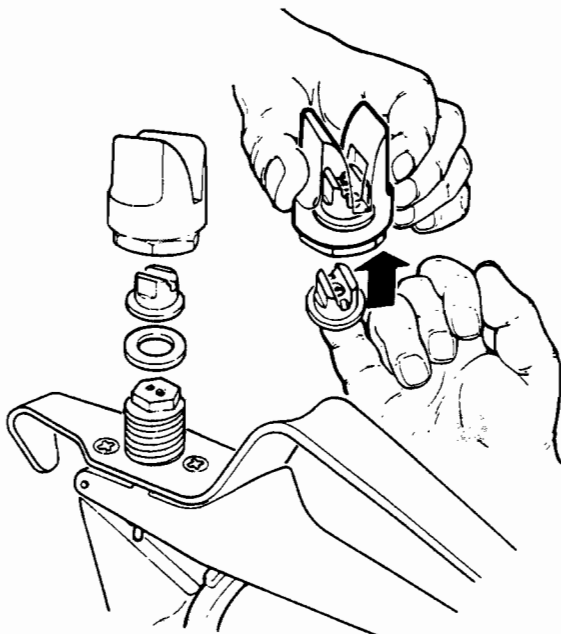
Read all warnings and safety precautions supplied with the spray gun and in product manual.



SPRAY TIP ASSEMBLY

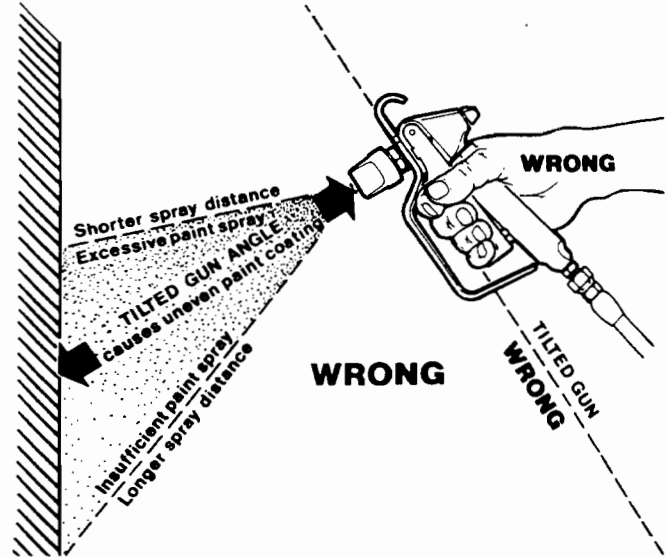
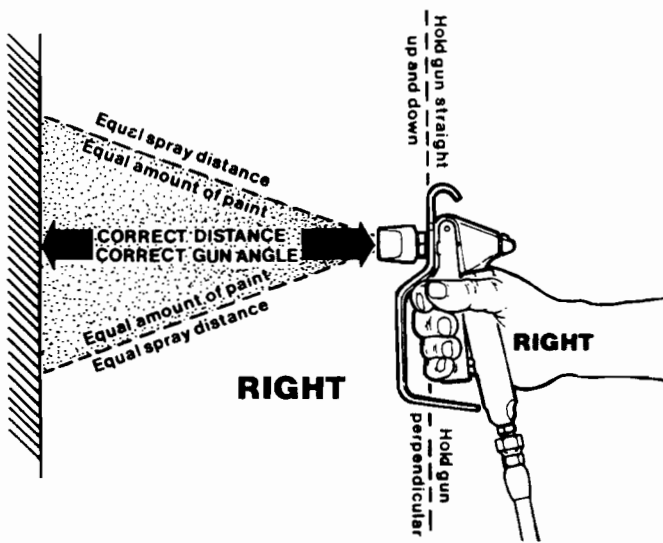
Remove tip guard from spray gun. While holding tip guard upright, slide spray tip into tip guard. Make sure "flats" on spray tip are aligned with "ears" of tip guard. Spray tip is installed properly when "flats" recess into tip guard cavity.

Insert tip guard. Place tip gasket in tip guard behind spray tip. Thread tip guard "assembly" onto spray gun, finger tight with "ears" on a 45° angle to vertical (see figure). When the tip guard nut is wrenched tight, the tip guard "ears" and spray tip pattern will be aligned for vertical spray pattern. (Spray pattern may be adjusted to horizontal if preferred.)

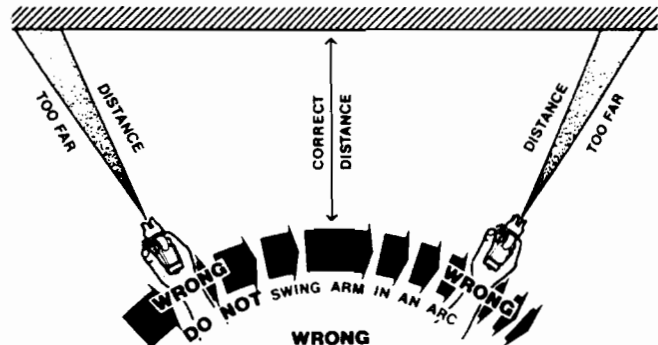
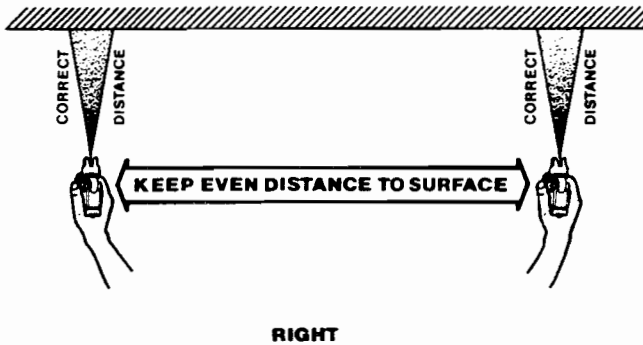


SPRAY TECHNIQUE

Good Spray Gun Technique is at the core of any spray-paint operation. Operator skill and efficiency is as important as good equipment and good paint. Good spray technique is a skill that can be quickly learned by following these simple instructions. If you are not familiar with spraying techniques, we recommend that you study this section of your manual and practice the proper technique on pieces of cardboard or a suitable surface.



Hold the spray gun 12 - 15 inches away from the work surface and keep it perpendicular (straight) to the surface. Move the spray gun parallel to the work and at a right angle to the surface.

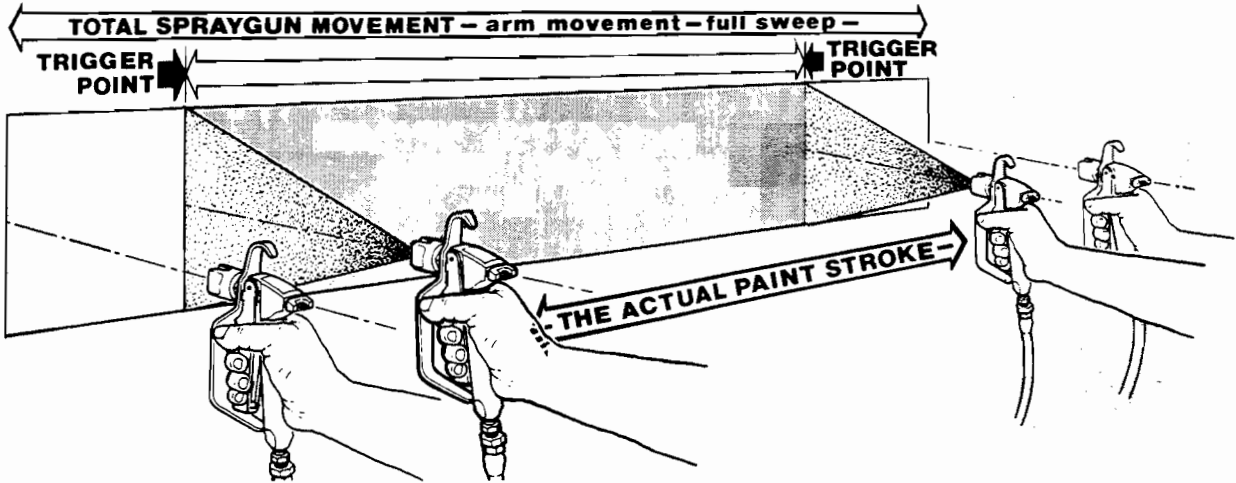


Move the gun at a steady rate in order to apply a good coverage. The wet coat should be just under the thickness at which a run or sag will occur. Slow gun movement or gun held too close will result in an overly wet or thick wet or thick coat coverage that is likely to run or sag.

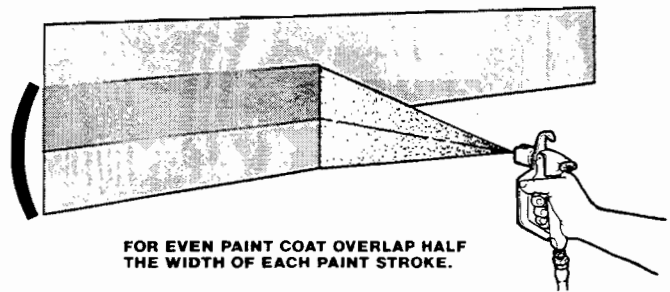
Do not wave the spray gun. This waving is called (arching). Instead, hold the spray gun at a 12 to 15 inch distance perpendicular from the work.

The closer the spray gun is held to the work, the thicker the paint is deposited and the faster the gun must be moved to prevent sags and runs. Holding the gun too far from the work will cause excessive fog, overspray, and a thin and grainy coat.

SPRAY TECHNIQUE

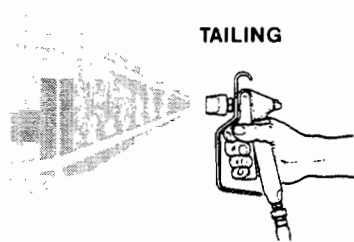


It is important to "trigger" the gun **after** gun movement (arm movement) has started and release trigger (shut gun off) **before** gun movement ends. Gun movement is always longer than actual paint (spray) stroke. In that manner, even blending and uniform paint coat thickness is achieved over the entire surface. When the gun is in motion as the trigger is pulled, it deposits an even amount of paint.

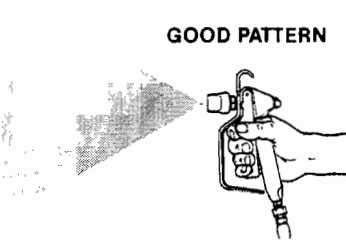


Overlap the previous pass by half the width of the spray pattern. Aim at the bottom of the previous pass.

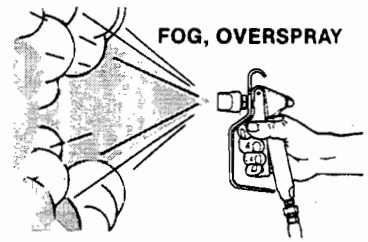
Spray with uniform strokes from left to right and from right to left, holding stroke speed, distance, lapping, and triggering as uniform as possible.



TAILING



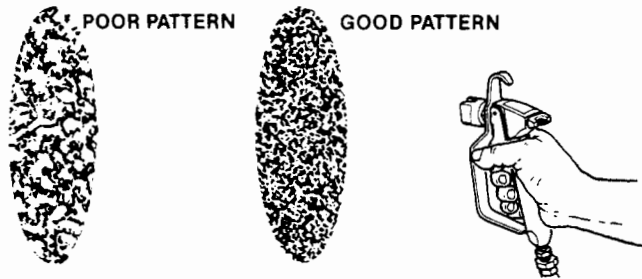
GOOD PATTERN



FOG, OVERSPRAY

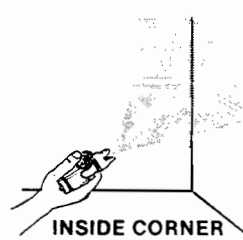
Adjust pressure control knob so that paint is completely atomized from the spray gun. Insufficient pressure will result in "tailing." Too

much pressure will result in excess fog and overspray, excessive tip wear, and increased sprayer wear and tear.

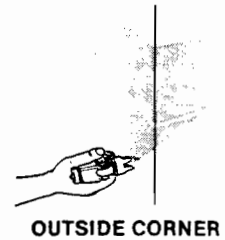


POOR PATTERN

GOOD PATTERN



INSIDE CORNER



OUTSIDE CORNER

Always use the lowest pressure possible to obtain desirable results.

Test the spray pattern on a piece of cardboard or other surface.

"Inside" and "outside" corners can be sprayed.

Aim the spray gun toward the center of the corner. The spray pattern is divided in half, and the edges of the spray pattern on both walls are the same.

AIRLESS SPRAY GUN OPERATION

Defects	Cause	Correction
Coarse spray	Low pressure	Increase the pressure
Excessive fogging (Overspray)	High pressure	Reduce the pressure to satisfactory pattern distribution
	Material too thin	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	Use next smaller nozzle.
	Material too thin	Reduce pressure
	Pressure too high	
Too little material	Nozzle too small	Use next larger nozzle
	Material too thick	
Thin distribution in center of pattern "horns"	Worn tip	Change for new tip
	Wrong tip	Use nozzle with a narrow spray angle
Thick skin on work	Material too viscous	Thin cautiously
	Application too heavy	Reduce pressure and/or use tip in next larger nozzle group
Coating fails to close and smooth over	Material too viscous	Thin cautiously
Spray pattern irregular, deflected	Orifice clogged	Clean carefully
	Tip damaged	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	Clean screen
	Coarse pigments	Use coarse screen if orifice size allows
	Poorly milled pigments (paint pigments glocculate cover screen. Incompatible paint mixture and thinners	Use coarser screen, larger orifice tips. Obtain ball milled paint. If thinner has been added, test to see if a drop placed on top of paint mixes or flattens out on the surface. If not, try different thinner in fresh batch of paint.

TEST THE PATTERN

Good, Full Pattern



Spotty Pattern —
Increase Pressure



SPRAY TIP SELECTION

Spray tip selection is based on paint viscosity, paint type, and job needs. For light viscosities (thin paints), use a smaller tip; for heavier viscosities (thicker paints), use a larger tip size. Spray tip size is based on how many gallons of

paint per minute can be sprayed through the tip. Do not use a tip larger than the maximum pump flow rate or capacity the sprayer can accommodate. Pump flow rate is measured in gallons per minute (GPM).

TIP NUMBER	ORIFICE SIZE	FAN WIDTH	LATEX			OIL BASE		FINE LACQUER & STAINS	STAINS LARGE AREAS	
			FLAT AREAS	LARGE FLAT	TRIMS	SMALL AREAS	LARGE AREAS			
311	.011	6-8"						X		PAINT MUST BE STRAINED
411	.011	8-10"						X		
511	.011	10-12"						X		
413	.013	8-10"				X			X	USE FINE GUN FILTER 120-004F 120-090FX
513	.013	10-12"				X			X	
613	.013	12-14"				X			X	
415	.015	8-10"					X			FOR BETTER RESULTS STRAIN PAINT
515	.015	10-12"	X				X			
615	.015	12-14"	X				X			
317	.017	6-8"			X					USE COARSE GUN FILTER 120-004C 120-090CX
417	.017	8-10"	X							
517	.017	10-12"	X	X						
617	.017	12-14"	X	X						
318	.018	6-8"			X					FOR BETTER RESULTS STRAIN PAINT
418	.018	8-10"	X	X						
518	.018	10-12"	X	X						
618	.018	12-14"	X	X						
521	.021	10-12"		X						FOR BETTER RESULTS STRAIN PAINT
621	.021	12-14"		X						
721	.021	14-16"		X						

PATTERN WIDTH

Thickness of the paint coat per stroke is determined by spray tip "fan width," rate of the spray gun movement, and distance to surface.

SPRAY TIP SELECTION

Two tips having the same tip size, but different pattern widths will deliver the same amount of paint over a different area (wider or narrower strip).

A spray tip with a narrow pattern width makes it easy to spray in tight places.

Use only good quality, high-pressure tungsten carbide spray tips.

LARGER SIZES AVAILABLE

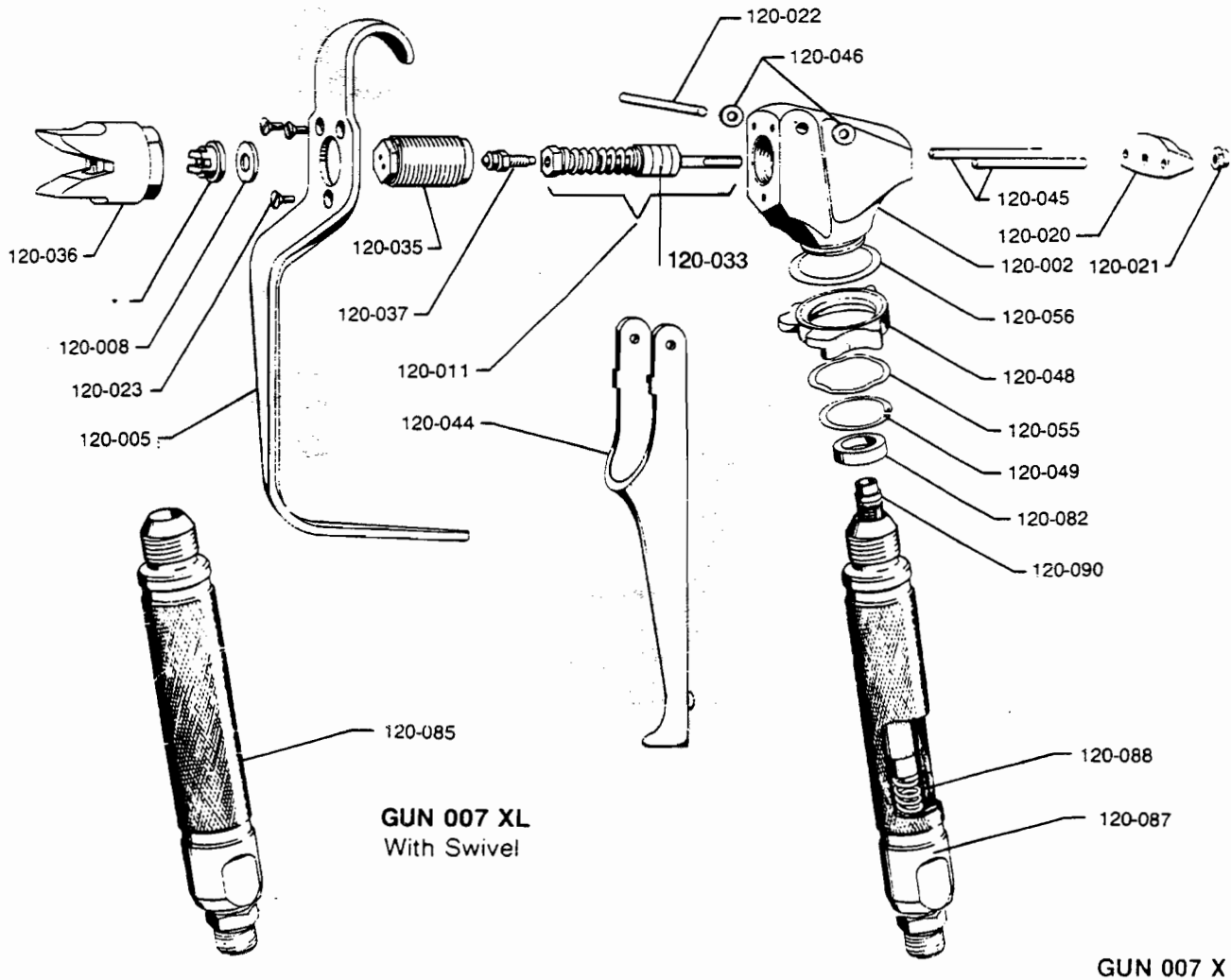
SPRAY TIP REPLACEMENT

During use, especially with latex paint, high pressure will cause the orifice to grow larger. This destroys the pattern.

Replace tips before they become excessively worn. Worn tips waste paint, cause overspray, make cutting-in difficult, and decrease sprayer performance.

Use the chart above for selecting proper spray tips to meet your job needs.

AIRLESSCO 007X & 007XL SPRAY GUNS



GUN 007 XL
With Swivel

GUN 007 X

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
120-001XL	Airlessco 007XL Spray Gun Swivel	120-022	Trigger Pin
120-001X	Airlessco 007X Spray Gun	120-023	Screw
115-019	Connector	120-035	Valve Seat Complete
120-002	Gun Head	120-036	Tip Holder With Guard
120-090 CX	Filter-Complete -Course	120-037	Valve Ball With Holder
120-090 FX	Filter-Complete -Fine	120-044	Trigger
120-005	Guard	120-045	Retainer Pin
120-008	Tip Washer	120-046	Washer
120-011	Valve Spring Unit	120-048	Lock
120-020	Retainer	120-049	Retaining Ring
120-021	Nut	120-055	Wave Washer
120-087	Handle Complete 007X	120-056	Washer
120-085	Handle With Swivel 007XL	120-033	Seals Teflon
		120-082	Seal
		120-088	Spring

*TUNGSTEN CARBIDE SPRAY TIP (SEE SEPARATE LIST)

Subject to change without notice

AIRLESSCO 007X & 007XL SPRAY GUNS

ADJUSTING AIRLESSCO SPRAY GUN

Holding gun with trigger (120-044) locked and pushing trigger against the lock (120-048), adjust nut (120-021) so that retainer (120-020) will move freely back and forth approximately 1/32" to allow valve spring unit (120-011) to seat the valve ball (120-037).

IMPORTANT: Readjust nut (120-021) periodically to allow for wear of valve seat (120-035) and valve ball (120-037), otherwise leakage will occur.

TO REPLACE THE VALVE BALL HOLDER (120-037) KIT #2 - 007

Tip Washers (3) 120-008, Valve Seat (1) 120-035,
Valve Ball Holder (1) 120-037, Seals Tefl.(2) 120-033

DISMANTLING:

1. Unscrew tip holder (120-036) with a 7/8" open end wrench. Remove spray tip and washer (120-008).
2. Unscrew valve seat (120-035) with 1/2" socket wrench.
CAUTION: When removing and replacing valve seat (120-035) hold the trigger (120-044) in the open position so that the valve ball (120-037) is lifted off the valve seat. Failure to lift the ball off the seat will result in a scratched (leaky valve).
3. Unscrew valve ball (120-037) together with the brass part of the assembly (120-011). Do not pull on the parts or the packing may get damaged.
4. Unscrew the valve ball (120-037) from the brass part of assembly (120-011).

REASSEMBLING: is done in reverse sequence. Screw the new valve ball with holder (120-037) into the brass part (120-011). CAUTION: Tighten valve ball and brass part on threaded end of the shaft by hand until you feel a positive stop. Do not tighten with a wrench since this could result in breaking the shaft. NOTE: It is recommended that you change the valve seat (120-035) and valve ball (120-037) at the same time. It is only necessary to replace the seals (120-033) if the gun leaks from the back of the gun.

REPLACING THE VALVE SPRING UNIT (120-011) KIT #3-007

Tip Washers (3) 120-008, Valve Seat (1) 120-035
Valve Ball Holder (1) 120-037, Valve Spring Unit (1) 120-011

1. Repeat dismantling procedure as outlined above under 1 - 3.
2. Unscrew nut (120-021), remove retainer (120-020) with retainer pins (120-045) and push shaft of the valve spring unit (120-011) out of the gun head (120-002).
3. Clean gun head (120-002) bore with solvent and small brush. Do not use any sharp objects to scrape away dried paint, as would cause leakage around the seal. (120-033)
4. Replace either the two seals (120-033) or complete valve spring unit.

REASSEMBLING is done in reverse sequence. CAUTION: When reassembling, install valve spring unit (120-011) with spring loose. Push firmly. Then tighten as above. (Assembly Kit 2-007)

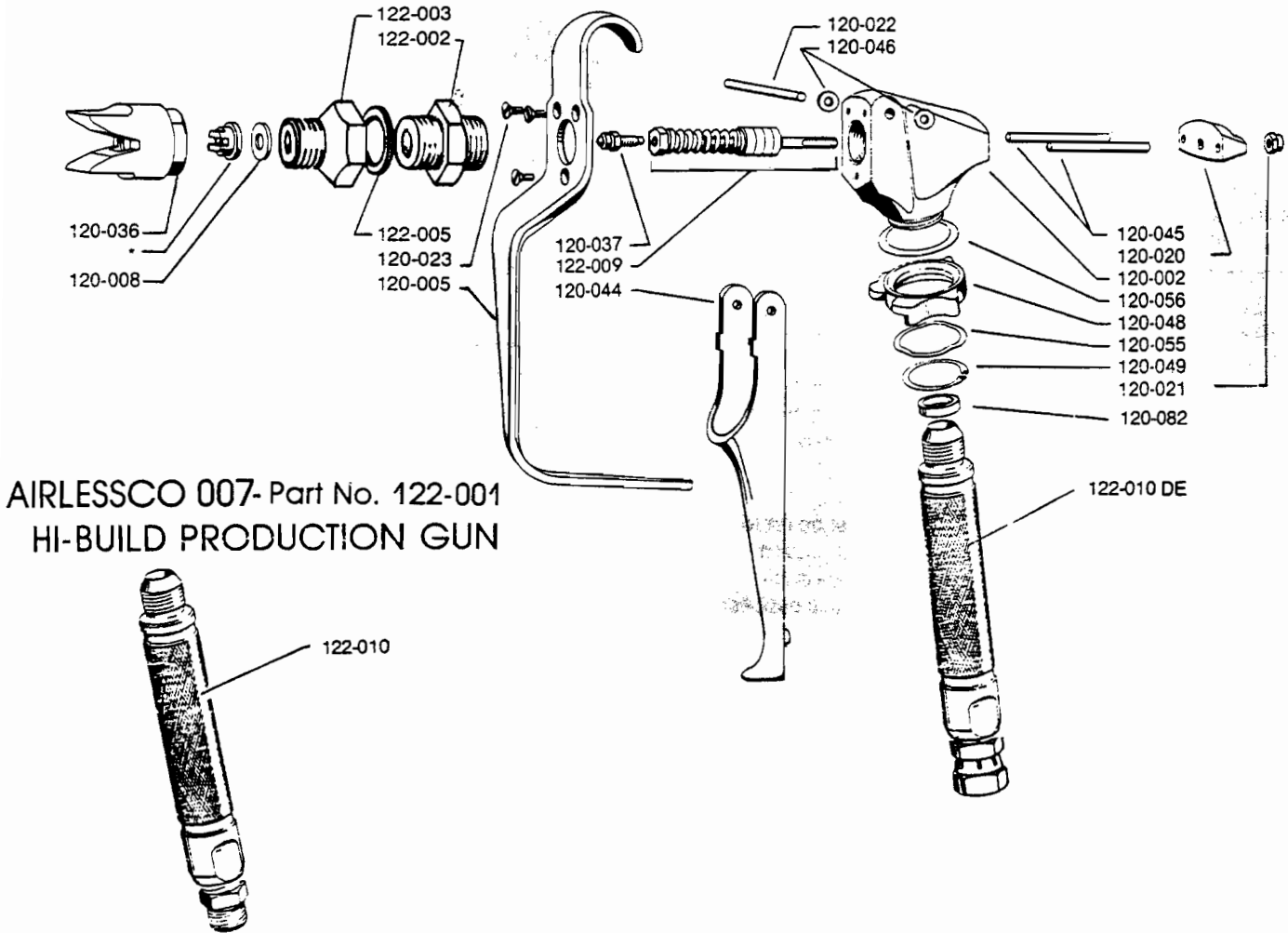
CLEANING 007 SPRAY GUN: Immediately after the work is finished, flush the gun out with a solvent. Brush pins (120-045) with solvent and oil them lightly so they will not collect dried paint.

CLEANING SPRAY TIP: Should the spray tip become clogged, relieve pressure from system by following the pressure relief procedure in the machine manual, secure the gun with safety lock (120-048) take off tip holder (120-036), take out the tip, soak in appropriate solvent and clean with a soft brush. (Do not use a needle or sharp pointed instrument to clean the tip. The hard tungsten carbide is brittle and can chip.)

CLEANING THE FILTER: 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.

AIRLESSCO 007 HI BUILD PRODUCTION GUN

Part No. 122-001 DE



AIRLESSCO 007-Part No. 122-001
HI-BUILD PRODUCTION GUN

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
122-001DE	Airlessco 007 Hi Build Gun	120-022	Trigger Pin
122-001	Airlessco 007 Hi Build Gun	120-023	Screw
120-002	Gun Head	122-003	Valve Seat Complete
122-005	Washer	120-036	Tip Holder with guard
122-002	Adapter	120-037	Valve Ball with Holder
120-005	Guard	120-044	Trigger
120-008	Tip Washer	120-045	Retainer Pin
122-009	Valve Spring Unit	120-046	Washer
120-020	Retainer	120-048	Lock
120-021	Nut	120-049	Retaining Ring
120-082	Seal	120-055	Wave Washer
122-010DE	Handle complete 3/8 NPSF	120-056	Washer
122-010	Handle complete 3/8 NPSM		

* Tungsten Carbide Spray Tip - see separate list.

REGULAR MAINTENANCE

READ PAGE 25 & 26 FOR ADDITIONAL EQUIPMENT CARE & MAINTENANCE.

1. Always stop the pump at the bottom of its' stroke when you take a break and at the end of the day. This helps keep material from drying on the rod and damaging the packings.
2. Keep the displacement pump packing packing nut/wet cup 1/3 full of TSO at all times The TSO helps protect the packings and rod. (#188-187-6oz.)
3. Inspect the packing nut daily. It should be tight enough to stop leakage, but no tighter. Overtightening will damage the packings.
6. Replace the return line filter after every 500 hours of operation or every six months, whichever comes first. A clogged or worn out filter reduces filter capability and will damage the hydraulic pump.
7. Change the hydraulic oil after every 2000 hours of operation or every 12 months, whichever comes first. For continuous operation in temperatures above 85 F. (30 C), change the oil after every 1000 hours or six months of use. Refer to Step 8 below for procedure.

CAUTION

Proper engine and hydraulic oil level is important to prevent costly damage to the sprayer. Check it as often as recommended in Steps 4 and 5 below.

4. Check the hydraulic oil level daily. The oil must be up to the top mark on the dipstick. Use only Airlessco Hydraulic Oil Part No. 188-391.
5. Check the engine oil level daily. The oil must be up to the top mark of the dipstick with the fill cap unthreaded. The engine should not use more than one ounce of oil per hour of operation. Consult the engine manual supplied for additional recommended maintenance.

CAUTION

Cleanliness is essential when servicing the hydraulic system. Use special care to avoid getting dust or dirt into the hydraulic system to prevent damage to the hydraulic components.

8. To change the hydraulic fluid:
 - a. Follow the pressure relief procedure on page 6.
 - b. Place hose of any simple gasoline transfer pump into oil fill opening of the tank. Pump all oil out of the tank.
 - c. Replace Return Filter, Part No. 188-020.
 - d. Inspect the inlet filter by pulling on both ends of hydraulic suction line. Clean or replace.
 - e. Pour in four gallons (15 liters) of Airlessco Hydraulic Oil ,Part No. 188-391, through the oil fill opening. Refer to Page 3, Fig. 4.
 - f. REPRIME as per Step 4, Page 3.

TROUBLESHOOTING

READ PAGE 25 FOR "QUESTIONS MOST ASKED"

PROBLEM	CAUSE	SOLUTION
The engine doesn't work properly.		Consult the engine manual supplied.
There is spitting from the gun.	The fluid supply is low or empty.	Refill the supply container.
	Air entrained in the fluid pump or hose.	Check for loose connections on the siphon assembly, tighten, then reprime the pump.
Paint leaks into the wet cup.	The wet cup is loose.	Tighten just enough to stop leakage.
	The throat packings are worn or damaged.	Replace the packings. See Page 20, 21
The engine operates, but the paint pump doesn't.	The pressure setting is too low.	Increase the pressure. See Page 4.
	The hydraulic motor has stalled in down position	Shut off the sprayer and add fluid immediately. See page 3.
		Check hydraulic fluid level. Try to push piston in the upper position.
	The displacement is seized by dried paint.	Service the Pump. See Pages 18, 19, 20.
	Hydraulic Ball Valve Open	Close Valve.

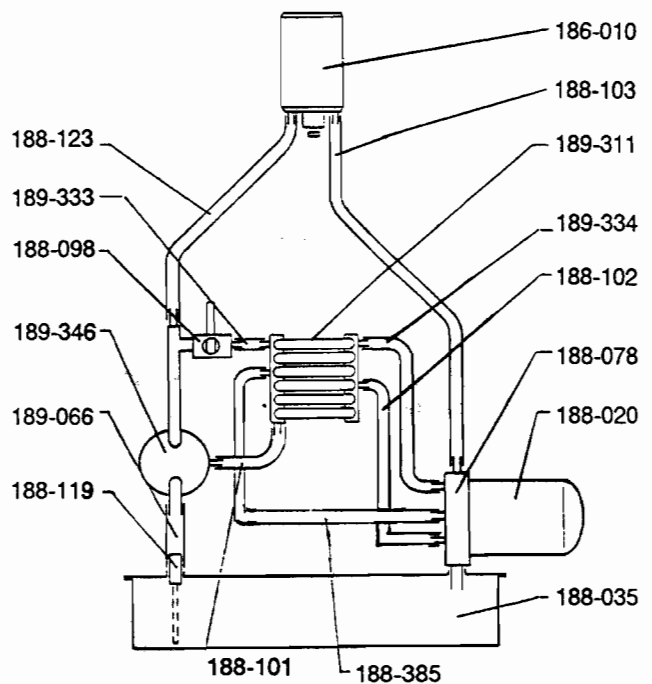
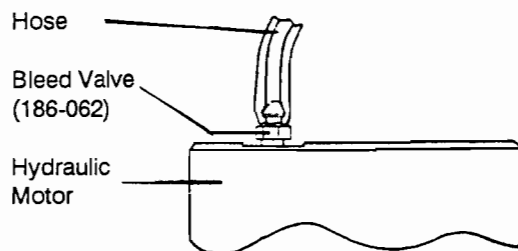
TROUBLESHOOTING CONTINUED

PROBLEM	CAUSE	SOLUTION
The engine operates, but the paint pump doesn't.	The hydraulic suction assembly is not connected properly.	Push the assembly into the tank and pump & check nut tightness. Inspect the O-rings.
	The hydraulic pump is worn or damaged.	Replace the pump. See page 19.
	The hydraulic motor is worn or damaged.	Replace - use Exchange Program of hydraulic motor. See page 19.
There is excessive leakage around the hydraulic motor piston rod.	The piston rod or seal is worn or damaged.	Use exchange program of hydraulic motor. See page 19.
The engine and displacement pump operates, but paint pressure is too low or none.	The pressure setting is too low.	Increase the pressure. See page 4 Step 4.
	The tip or tip filter is clogged.	Remove the top and/or filter and clean them.
	The fluid displacement pump outlet filter (if used) is clogged.	Clean the filter.
	There is a large pressure drop in the fluid hose.	Use a large diameter hose.
The displacement pump operates, but the output is too low on the downstroke or on both strokes.	Hydraulic Ball Valve defective or open.	Close valve. Check valve for leakage.
The displacement pump operates, but the output is too low on the upstrokes.	The lower check valve (ball & seat) is not seating properly.	Service the lower check valve. (ball & seat) . See page 18.
	The upper check valve is not seating properly. The lower packings are worn or damaged.	Service the upper check valve. (ball & seat) See page 18. Replace the packings. See page 20.
Hydraulic Motor stopped.	Pressure setting too low.	Increase the pressure.
	Low oil level - lost prime.	Add oil and reprime.
	Oil contamination	Override (bleed) hydraulic motor to return to up position.

OVERRIDING THE HYDRAULIC SYSTEM

1. Follow Pressure Relief Procedure on page 6.
2. Check hydraulic oil level.
3. Check that hydraulic pump is primed.
4. If not primed, follow instruction 4 , page 3.
5. Start gas engine or switch on the electric motor.
6. Run a hose from the bleed valve (Fig.12 below) to the hydraulic tank.
7. Loosen the bleed valve 1/2 turn, oil will flow through the hose, allowing the pump to move to the top position.
8. Close the bleed valve. This will allow the piston to move down. Pump will now operate as normal.

FIG. 12



SERVICING UPPER AND LOWER CHECK VALVES - MODEL 8100 & 9100

LOWER CHECK VALVE (SEE FIG. 18)

1. Screw the intake valve nut (189-018) out of the pump housing (189-005) containing intake seat support (189-017).
2. Remove the intake seat (189-019), O-ring (189-035T), intake ball (189-063) and retainer (189-026).
3. Clean all parts and inspect them for wear or damage, replacing part as needed. Old "O"rings should be replaced with new ones.

NOTE: O-rings are available in the following materials:
 VITON for waterbase paint - letter V after part number.
 TEFLON for other fluids - letter T.

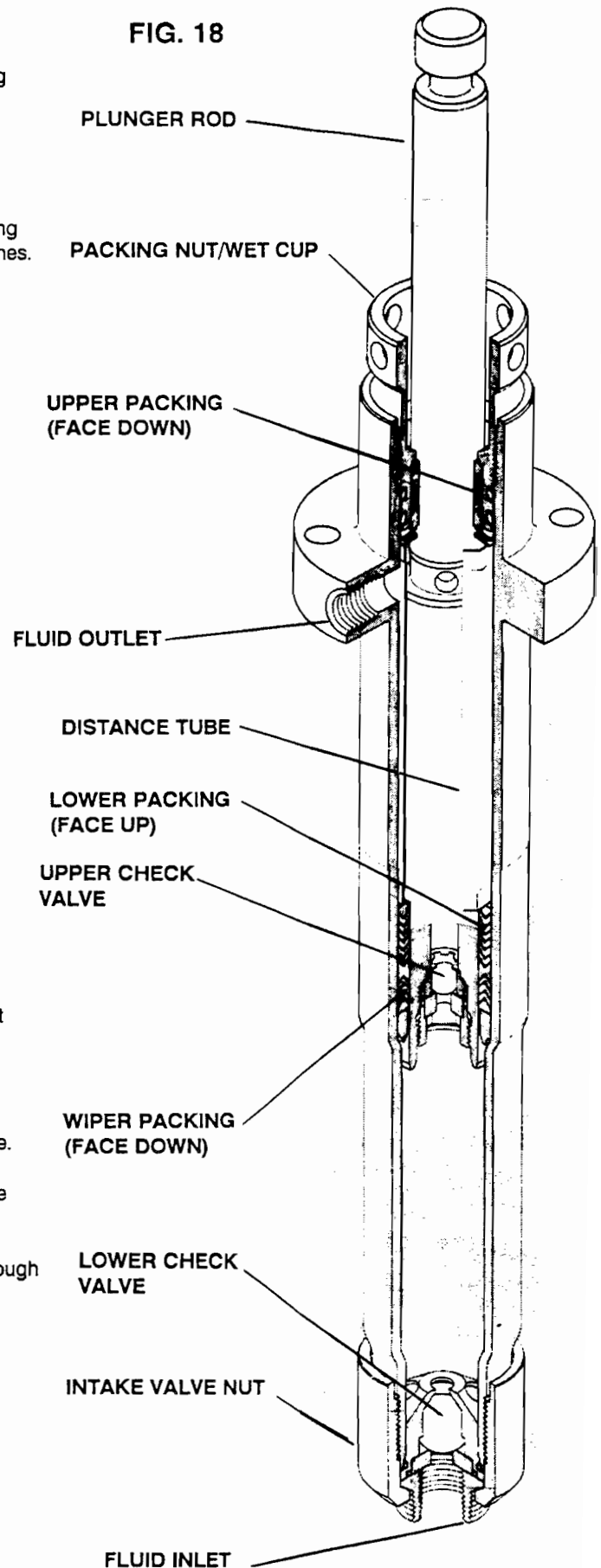
4. Clean inside of pump housing (189-005).
5. Reassemble the valve and screw it into the pump housing if no further pump service is needed.

PLUNGER ROD, UPPER CHECK VALVE (SEE FIG. 18)

1. Stop plunger (displacement rod) in middle of its' stroke. Remove retaining ring (189-048).
2. Slip the sleeve (189-047) off the coupling halves (189-046) and remove both coupling halves. This will disconnect fluid pump from hydraulic motor (186-010).
3. Screw the intake valve nut (189-018) out of the pump and remove lower check valve.
4. Loosen the packing nut and push the plunger-rod down and out of the housing.
5. Remove the rod holder from the pump and place in a vise. Slide the rod into the holder and lock in place with a 1/4" pin. Push the pin through the holder and the rod. Screw the seat support (189-021) together with upper seat (187-065), O-ring (189-036T), ball (187-020) and retainer (189-022) out of the plunger rod (189-011).
6. Clean all parts and inspect them carefully for wear or damage. Inspect the outside of the plunger-rod for scoring or wear. Replace these parts if needed. A worn plunger-rod will cause premature wear of packings.

NOTE: Plunger-rod can be replaced more economically through "Exchange Program".

FIG. 18



SERVICING HYDRAULIC MOTOR AND FLUID PUMP

CAUTION: Check everything in the Troubleshooting Chart before disassembling the sprayer. *Check the hydraulic fluid level often. Do not allow it to become low.

FLUID PUMP AND HYDRAULIC MOTOR - DISCONNECT

1. Flush out the material you are spraying, if possible.
2. Follow the Pressure Relief Procedure on Page 6. Stop the pump in the middle of down stroke.
3. Remove the suction tube and fluid hose (if so equipped) from the fluid pump.
4. Slip the sleeve of the coupling down and remove both coupling halves. This will disconnect fluid pump from hydraulic motor.
5. Unscrew the four tie rod locknuts.
6. Pull the pump and/or hydraulic motor off the tie rods.

FLUID PUMP AND HYDRAULIC MOTOR RE-INSTALL

1. Loosen the packing set collar and extend plunger-rod fully out of the fluid pump. Slip sleeve (189-047) over the plunger-rod.
2. Pivot hydraulic motor (186-010) to vertical position and make sure that spacer tubes (188-047) are in place.
3. Connect hydraulic motor rod with fluid pump by installing coupling halves (189-046). Slide sleeve (189-047) over coupling halves. Secure with retaining ring (189-048).
4. Secure the fluid pump housing to the tie rods (188-066) and screw locknuts with washers on loosely.
5. Tighten the tie rod locknuts evenly and lightly crosswise and retighten to 30-40 ft. lb.

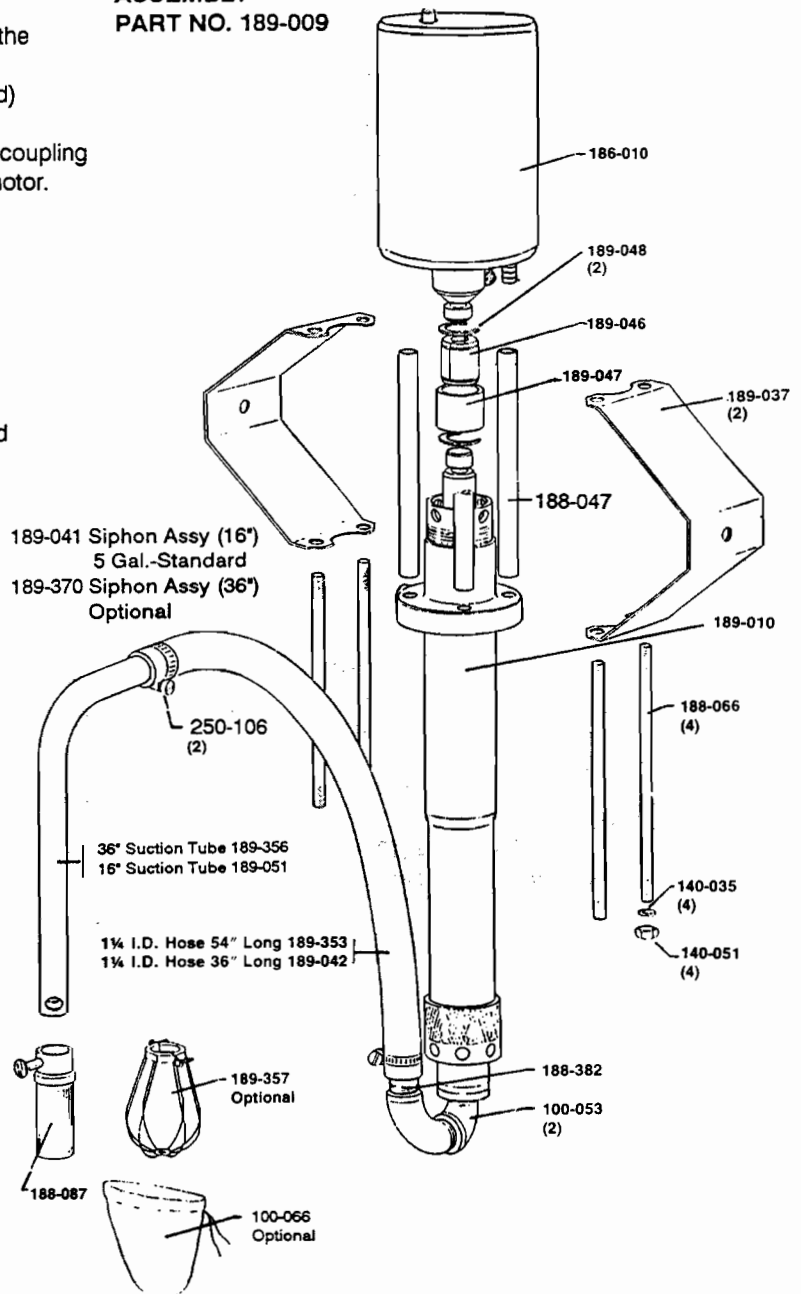
NOTE: After all the rod locknuts are tight, the alignment of both rods should allow easy assembly of the coupling. If any binding, loosen and retighten all the rod locknuts to improve the alignment. Misalignment causes premature wear of seal and packings.

6. Tighten the packing set collar, just tight enough to stop leakage, but no tighter. Fill the wet cup of the set collar 1/3 full with TSO.
7. Start the pump and operate it slowly (at low engine speed) to check the tie rod for binding. Adjust tie rod locknuts if necessary to eliminate binding.

REPLACEMENT OF HYDRAULIC PUMP

1. Disconnect all hoses from hydraulic pump.
2. Remove engine & coupling from hydraulic pump shaft.
3. Remove bolts (9/16 hex) holding hydraulic pump.
4. Remove set screws from the front of the pump.
5. Replace pump.
6. Replace coupling.
7. Change hydraulic fluid and filter.
8. Connect all hoses.
9. Prime hydraulic pump by quickly switching the motor ON & OFF or pulling starter cord.
10. Turn volume control screw (socket set screw on front of pump) full in (1/4 Allen Wrench and 3/4 Open Wrench).

PAINT PUMP AND HYDRAULIC MOTOR ASSEMBLY PART NO. 189-009



11. Prepare sprayer for flush and follow page 2 (How to Flush) steps 1 to 8.
12. DON'T CLOSE FLUID BYPASS VALVE.
13. Turn the pressure valve all the way tight to "pressure" position.
14. Turn volume control screw counterclockwise until paint piston reaches speed of:

Model 6100 electric	50 cycles
Model 6100 gas	80 cycles
Model 8100 gas	62 cycles
Model 9100 gas	90 cycles

Tighten jam nut. (Oil leakage on set screw during this procedure is inevitable.)

V-PACKING REPLACEMENT - MODELS 8100 & 9100

V-PACKING REPLACEMENT KIT #189-376 SEVERE DUTY (Leather & Teflon) (shown below)
 Also available all Teflon V-Packing Kit #189-355

DISASSEMBLY

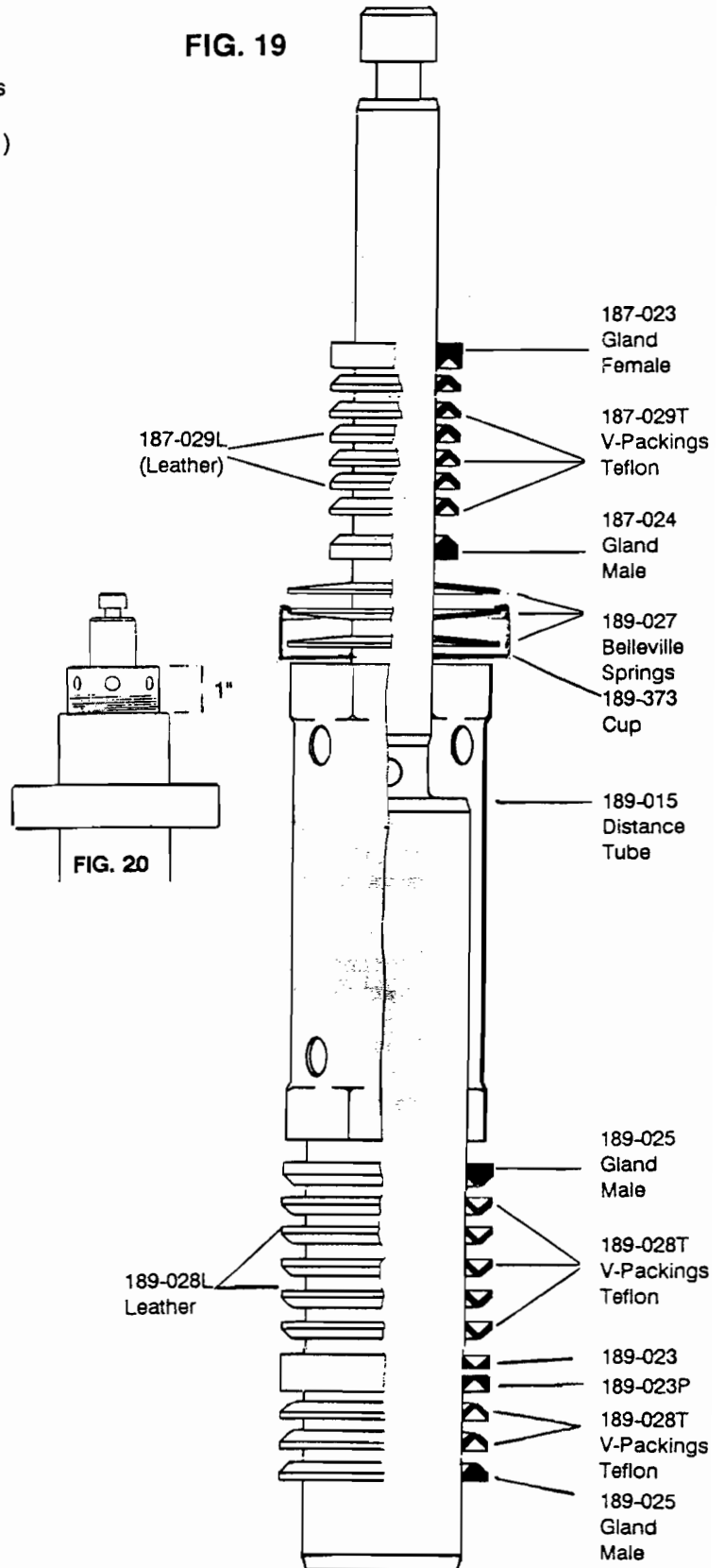
1. Remove the fluid pump as per Fluid Pump Instructions on page 19.
2. Unscrew and remove the lower check valve (page 18.)
3. Unscrew the packing nut (189-012). Push the plunger rod through the packings & out of the pump. Wrap masking tape around the bottom of the piston. Now push the piston back through the pump and remove through the top. The packings and glands will be removed with the piston rod leaving the pump casing (189-005) empty. For easier packing removal, use Airlessco Packing Removal Tool - Part No. 189-213. Disassemble and clean all parts for reassembly. Discard old packings.

REASSEMBLY

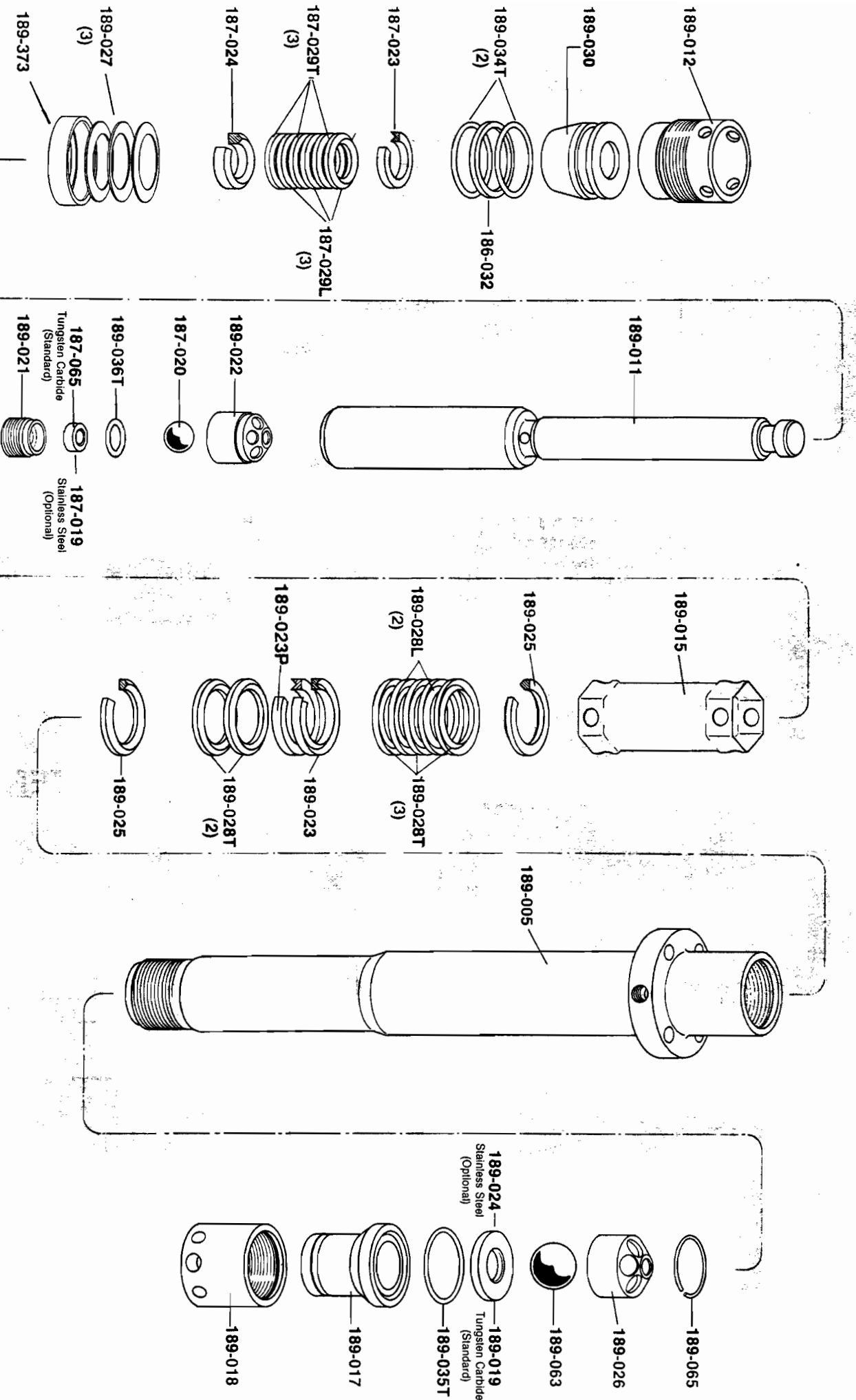
1. Lubricate packings & O-rings with grease. Remove masking tape from piston. Reassemble as per Fig. 19 in this order:
 - a. Lower Male Gland (189-025)
 - b. Two new V Packings face down (189-028T)
 - c. Two female adaptors (189-023, 189-023P)
 - d. Five V-Packings face up (189-028T & 189-028L in order shown)
 - e. Upper Male Gland (189-025)
 - f. Slide on Distance Tube (189-015)
 - g. Belleville Springs (189-027) & Cup (189-373)
 - h. Slide on upper male gland with bevel facing up (187-024)
 - i. Six V-Packings faced down (187-029T & 187-029L)
 - j. Female Gland (187-023)
 - k. Slide on V-Packing Holder (189-030) and Packing Nut (189-012)
4. Slide complete assembly into the pump casing (189-005). Tighten the packing nut (189-012) to dimension 1" (25mm) as shown on Fig. 20 before running the machine. For easier installation use Airlessco Tool Part No. 189-214.
5. Install the lower check valve & tighten intake valve nut. (189-018)
6. Connect the pump to the hydraulic motor and lubricate packing with throat seal oil (188-392). Run pump at pressure & check packing for leakage.

IMPORTANT: Do not retighten packing unless it is leaking. If it leaks, tighten packing nut just enough to stop leaking. Overtightening of packing reduces packing life.

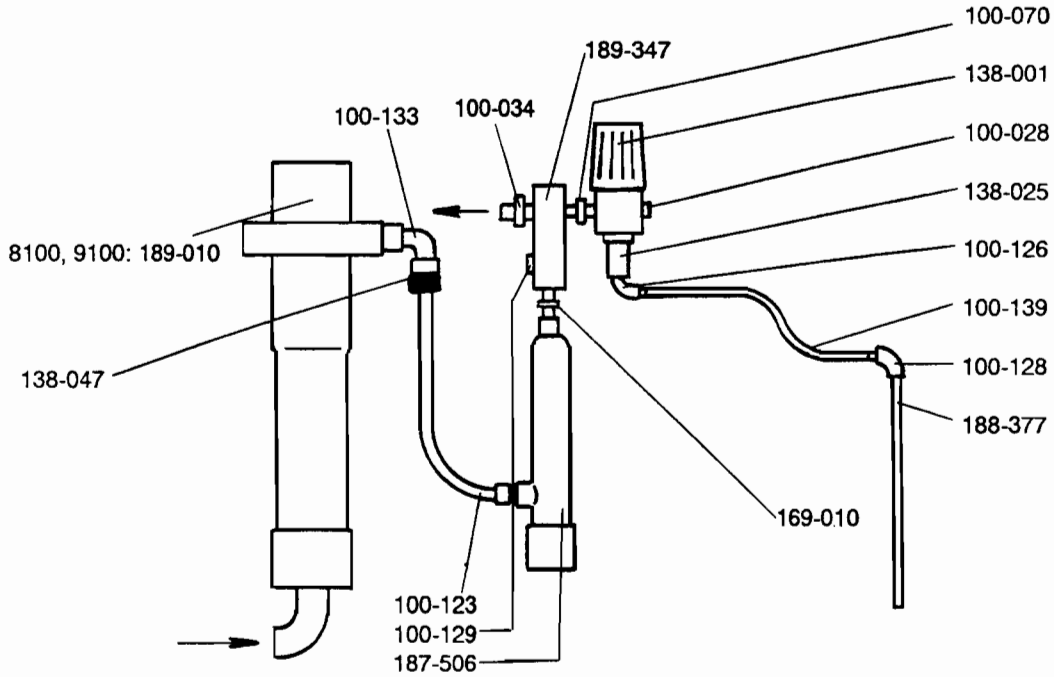
FIG. 19



FLUID PUMP 189-010



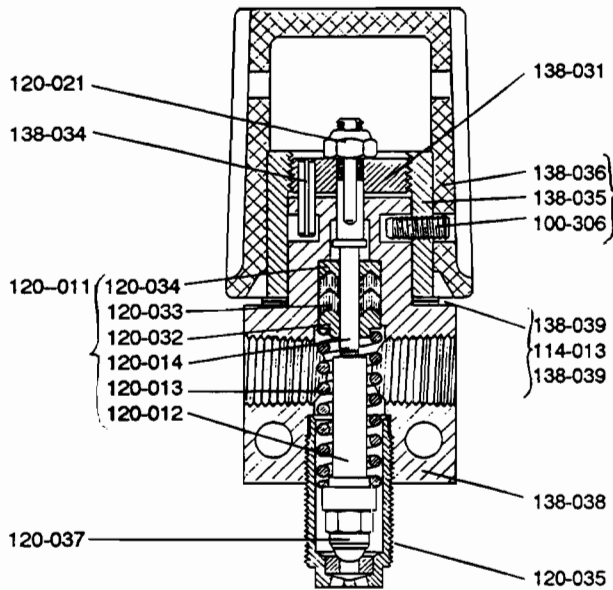
PAIN T SYSTEM 8100, 9100



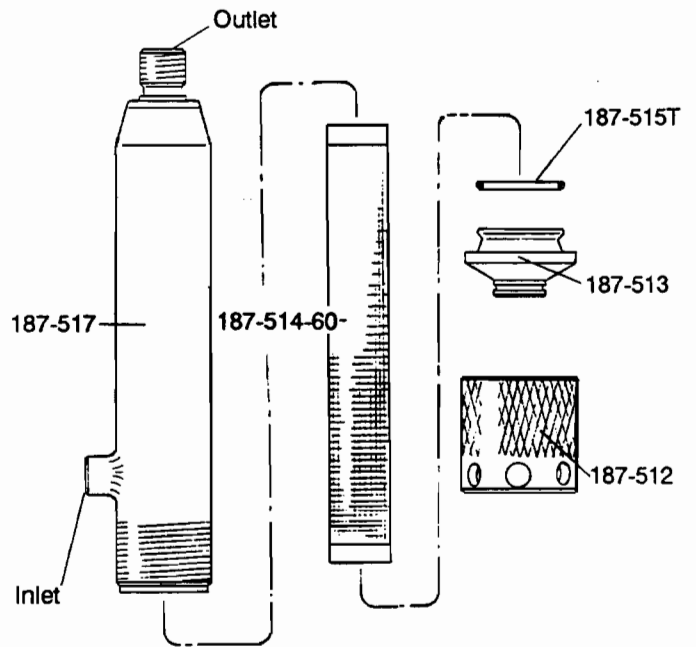
MARATHON VALVE

PART NO. 138-001

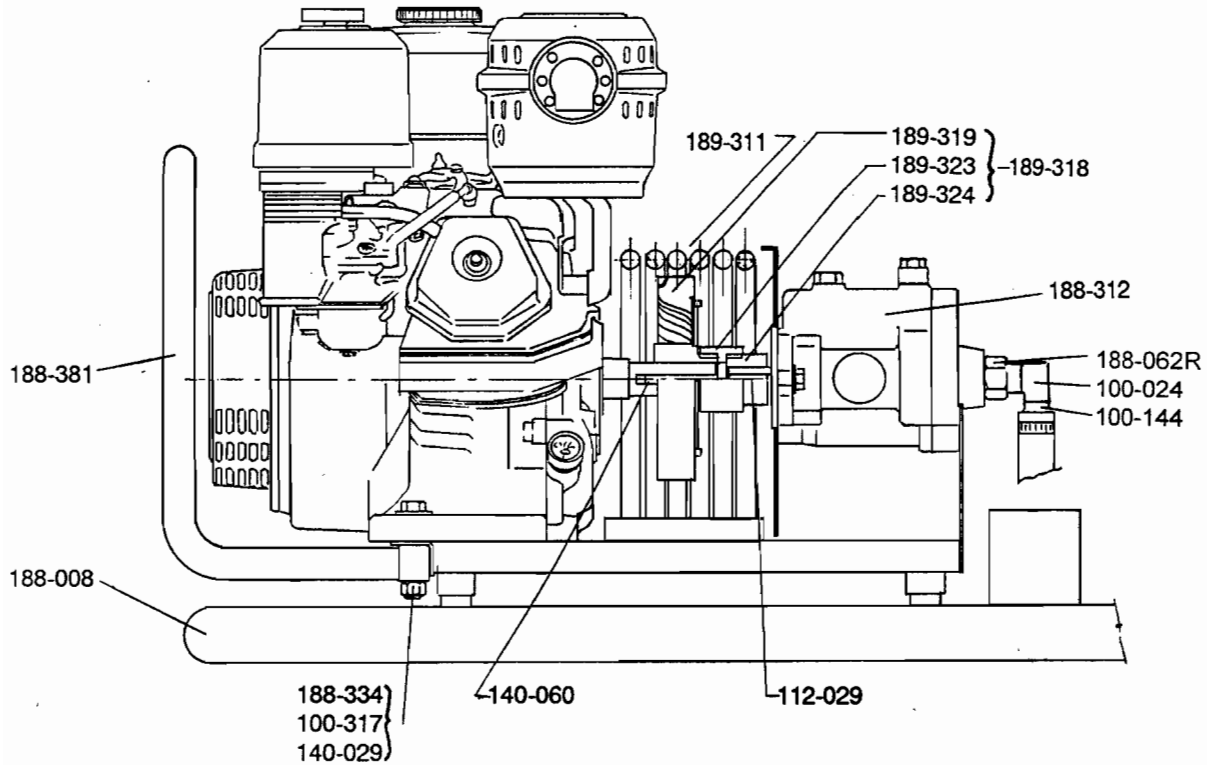
The MARATHON VALVE is being used as a high pressure relief valve. Turn the handle fully counterclockwise to open the valve and relieve pressure. Turn clockwise to close the valve and supply pressure to the gun.



HIGH PRESSURE FILTER

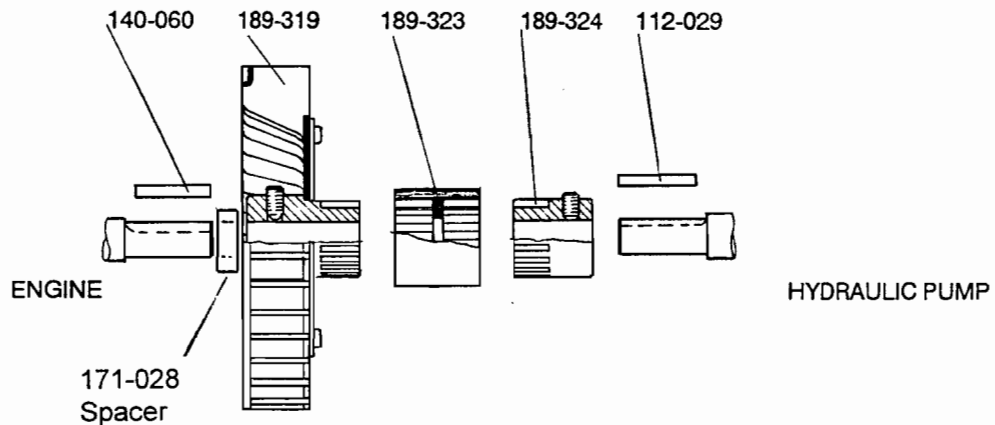


GASOLINE ENGINE AND PUMP ASSEMBLY

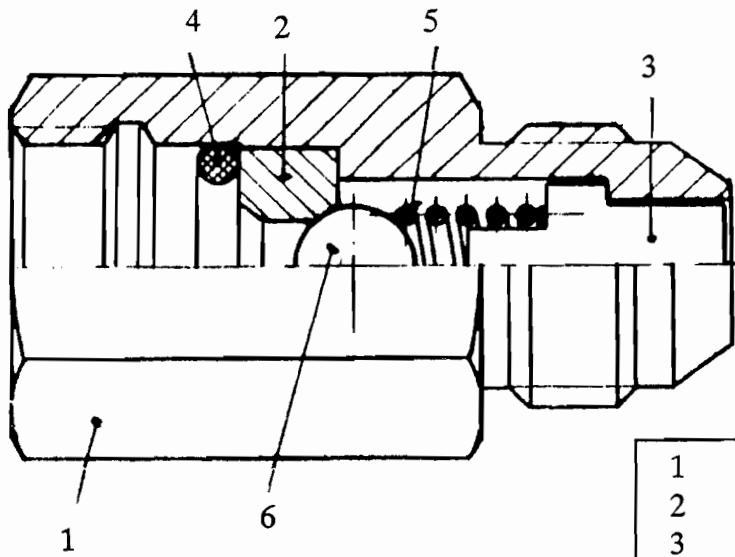


PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
100-317	Nut 5/16 - 18	189-311	Cooler
112-029	Key 3/16 x 1.5L	189-318	Coupling Fan Ass'y
140-029	Washer	189-319	Fan
140-060	Key 1/4 x 1.5L	189-323	Sleeve
188-008	Frame Assy	189-324	Hub
188-334	Screw 5/16 x 2.75 L.	189-346	Hydraulic Pump
188-381	Guard - Engine		

COUPLING AND FAN



T.C. CHECK VALVE - #138-047



1	138-048	Body -Valve
2	187-044TC	T.C. Seat
3	138-049	Plate
4	201-006V	O-Ring
5	138-050	Spring
6	115-022	T.C. Ball 5/16

QUESTIONS MOST ASKED

1. What kind of oil is used?
 - a. Engines: All Honda engines on piston pumps use 10/40 Wt.
 - b. Hydraulic Oil: Airlessco Part No. (1Gal) 188-391 or Tellus 46.

2. What is the Stroke Rate of the Pump ?
 - a. 6100 Electric - 46 to 50
 - b. 6100 Gas - 76 - 80
 - c. 8100 - 62
 - d. 9100 - 90

3. How do I reset the Hydraulic Motor ?
 - a. Page 17 in 6100 Manual #001-136
 - b. Page 17 in 8100/9100 Manual #001-178

4. How do I test the unit?
 - a. Consult Airlessco Repair Chart #001-117B
 - b. Or contact Airlessco Service Department for instruction.

5. Machine screams when under pressure ?
 - a. O-Ring in suction nut worn. Part #188-067 - Quantity 2 required.
 - b. Filter Assy in tank worn. Part #188-119, Assy Only.
 - c. Hydraulic pump is damaged. Part #188-312 Replacement Pump.

6. Machine strokes slowly but has max. stall pressure.
 - a. O-rings suction nut, should be changed once a year. Part #188-067, Qty:2
 - b. Stroke rate is off.

7. Machine stalls at lower pressures.
 - a. Pressure adjustment is incorrect.
 - b. Leaking upper or lower seats. (check stall up and down stroke)
 - c. Hydraulic motor internal bypass- listen for hissing coming from the hydr. motor under pressure.
 - d. Contact Airlessco service dept. for additional instruction.

8. Engine is laboring under pressure.
 - a. Check hydraulic bypass valve.
 - b. Check hydraulic motor for hissing sound. (Internal bypass may exist.)

NOTES:

