



QTech.

QT190 Airless Sprayer.

**USER
MANUAL**

Aristospray

UK & Europe

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CAUTION

This manual contains important warnings and information

PLEASE READ & KEEP FOR FUTURE REFERENCE

VERSION **QT190-03-0619**

**Aristospray**

2b Stephenstown Industrial Park, Balbriggan, County Dublin, Ireland

Declares that the

QTech QT190 Electric Airless Sprayer

is in compliance with the regulations included in:

2006/42/EC Machinery Directive

2014/35/EU Low Voltage Directive

2014/30/EU Electromagnetic Compatibility Directive

The standards applied by the manufacturer are:

EN55014-1:2006+A1; A1:2009+A2:2011

EN55014-1:2017

EN55014-2:2015

EN61000-3-2:2014

EN61000-3-3:2013

Quick check

The information on this page is intended only as a quick guide. It is no way intended as a substitute to the information on the pages following, which the user should be fully acquainted with before using an electric airless sprayer.

SYMPTOM	CHECK OUT	PROCEDURE
Motor won't run	Power switch Pressure control knob Supply plug & cable	Check it's on. Turn pressure control knob clockwise to increase pressure Check plug & cable for loose connections and/or damage
Pump does not cycle	Digital display	Check for error codes , if any showing contact a QTech dealer or technician for advice
Pump won't prime	Prime valve Air in paint Suction filter Suction tube Lower ball Pump leaking paint	Make sure it's in the prime position Open prime valve and purge air from pump Ensure it's not clogged, clean where necessary Tighten if loose Tap the suction tube connection a few times to loosen - if no result check that lower ball and/or seat is not worn or scarred Change packings ; contact a QTech dealer or technician for advice
Insufficient pressure at the gun or sudden loss of pressure	Paint bucket Spray tip Filters Coating being sprayed Hose Prime valve	Check not empty If clogged, reverse tip , aim gun at scrap and pull trigger to clear Check tip for wear, replace where necessary Check all filters are clear of debris, clean or replace Ensure OK for coating/tip combination, change if necessary Check OK for spray, thin where appropriate Check length & diameter compatible with pump & coating Check not obstructed with debris, contact a QTech dealer or technician for advice
Bad quality spray pattern	Pressure setting Spray tip Coating Uneven spray	Increase pressure If clogged, reverse tip , aim gun at scrap and pull trigger to clear Check tip for wear, replace where necessary Too thick Move gun faster, check far enough away from surface and tip size Too thin Move gun slower, check close enough to surface and tip size Check pressure control for wear, contact a QTech dealer or technician for advice

QTech QT190

USE TO SPRAY

Emulsion, interior and exterior
Top coats
Wood preservatives
Most other low viscosity
water or solvent based coatings
Suitable for smooth
coatings only

PERFORMANCE

Flow 1.9 ltr/min
Max tip 0.021"
MWP 207 bar | 3000 psi

SPECIFICATION

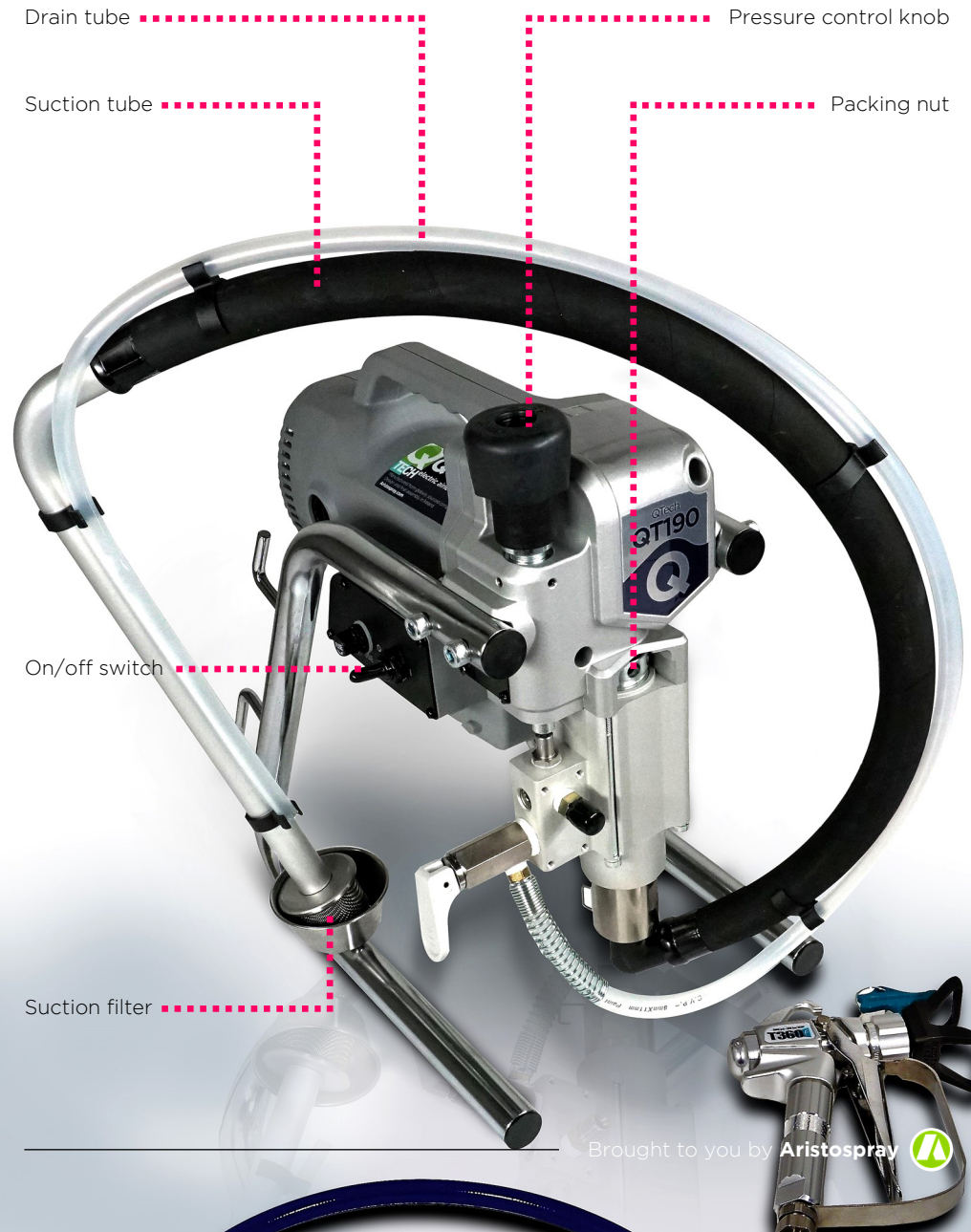
Motor 700 watt
Weight 11.4 kg
Warranty 2 years

SUPPLIED COMPLETE WITH

TriTech T360 airless spray gun
TriTech Contractor 517
airless tip & guard
1/4" x 7.5m textile braided
hose assembly

PRODUCT CODES

110 volt QT190-110
240 volt QT190-220



Please read these instructions carefully before using the equipment

GENERAL SAFETY

WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and / or serious personal injury. The term airless sprayer in all of the warnings listed below refers to your mains-operated (corded) airless sprayer.

WORK AREA

- + Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.
- + Do not operate airless sprayers in explosive atmospheres, such as in the presence of flammable liquid, gases, or dust. Airless sprayers create sparks which may ignite the dust or fumes.
- + Keep bystanders, children, and visitors away while operating a airless sprayer. Distractions can cause you to lose control.

ELECTRICAL SAFETY

- + Airless sprayer plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) airless sprayers. Unmodified plugs and matching outlets will reduce the risk of electric shock. Grounded sprayers must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the sprayer should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
- + Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- + Do not expose airless sprayers to rain or wet conditions. Water entering an airless sprayer will increase the risk of electric shock.
- + Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the airless sprayer. Keep the cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged or entangled cords increase the risk of electric shock.
- + When operating an airless sprayer outdoors, use an outdoor extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

PERSONAL SAFETY

- + Stay alert, watch what you are doing and use common sense when operating an airless sprayer. Do not use while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating airless sprayers may result in serious personal injury.
- + Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- + Avoid accidental starting. Ensure the switch is in the off position before plugging in.
- + Do not overreach. Keep a proper footing and balance at all times. This enables better control of the airless sprayer in unexpected situations.
- + Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.

SERVICE

- + **Have your airless sprayer serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the airless sprayer is maintained. **If the supply cord of this airless sprayer is damaged it must be replaced by a specially prepared cord available through the service organization.**

SPECIFIC SAFETY RULES

HANDLE THIS UNIT AS YOU WOULD A LOADED WEAPON!

Extreme high pressure spray can cause extremely serious injury.

OBSERVE ALL WARNINGS

WARNING: HIGH PRESSURE

Never leave pressurized system unattended. Always follow the Pressure Relief Procedure. Take precautions to avoid high pressure component rupture.

DANGER: INJECTION INJURY

Skin injection by high pressure paint is not a simple cut. It must be treated surgically immediately.

WARNING: FIRE AND EXPLOSION HAZARD

Take all precautions to avoid sources of sparks and ignition when spraying. Keep the machine at least 6 meters away from the spraying operation.

WEAR PROTECTIVE EQUIPMENT AT ALL TIMES

Always use a respirator, eye protection and protective clothing. 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. When starting the motor, 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.

EXPLOSION RISK FROM HALOGENATED HYDROCARBON SOLVENTS

Never use halogenated hydrocarbon solvents in this machine.

Contact with aluminum parts may cause an explosion.

Some of the most common of these solvents are:

Carbontetrachloride

Chlorobenzene

Dichloroethane

Dichloroethyl Ether

Ethylbromide

Ethylchloride

Tetrachloroethane

PREVENT STATIC SPARKING FIRE/EXPLOSIONS

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 spray area. Do not plug in or unplug any electrical cords in the spray area. Doing so can cause sparks which can ignite any vapors still in the air. Follow the coating & solvent manufacturers safety warnings and precautions.

MEDICAL ALERT INJECTION INJURIES

If any fluid appears to penetrate your skin, **GET EMERGENCY MEDICAL CARE AT ONCE. DO NOT TREAT AS AN ORDINARY CUT.** High pressure fluids from spray or leaks are powerful enough to easily penetrate the skin and cause extremely serious injection injury, leading to the possible need for amputation.

- + **NEVER** point the spray gun at anyone or any part of the body.
- + **NEVER** put your hand or fingers over the spray tip. Do not use a rag or any other materials over your fingers. Paint will penetrate through these materials and into the hand.
- + **NEVER** try to stop or deflect leaks with your hand or body.
- + **ALWAYS** have the tip guard in place when spraying.
- + **ALWAYS** lock the gun trigger when you stop spraying.
- + **ALWAYS** remove tip from the gun to clean it.
- + **NEVER** try to "blow back" paint, this is not an air powered sprayer.
- + **ALWAYS** follow the PRESSURE RELIEF PROCEDURE before cleaning or removing the spray tip or servicing any system equipment.
- + Be sure the equipment safety devices are operating properly before each use.
- + Tighten all of the fluid connections before each use.
- + **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 operator's 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 AT ALL TIMES.**

ALWAYS INSPECT SPRAYING AREA

- + Keep the spraying area free from obstructions.
- + Make sure the spraying area has good ventilation to safely remove vapors and mists.
- + **NEVER** keep flammable material in spraying area.
- + **NEVER** spray in vicinity of open flame or other sources of ignition.
- + The spraying area must be at least 6 metres away from spray unit.

SPRAY GUN SAFETY

- + **ALWAYS** set gun safety lock in the "LOCKED" position when not in use and before servicing or cleaning.
- + **NEVER** remove or modify any part of the gun.
- + **ALWAYS REMOVE THE SPRAY TIP** when cleaning.
Flush unit at the **LOWEST POSSIBLE PRESSURE.**
- + **ALWAYS** check operation of all gun safety devices before each use.
- + Be very careful when removing the spray tip or hose from the gun.
A plugged line will contain fluid under pressure. If the tip or line is plugged, follow the pressure relief procedure.

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.

TOXIC FLUID HAZARD

- + **ALWAYS** remove tip guard & tip to clean **AFTER** pump is turned off and the pressure is relieved by following the **PRESSURE RELIEF PROCEDURE**.
- + 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 and dispose of hazardous fluid according to manufacturer, local, state & national guidelines.
- + **ALWAYS** wear protective eyewear, gloves, clothing and respirator as recommended by fluid manufacturer.

HOSES

- + Tighten all of the 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.
- + Only use hoses with 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. Do not allow kinking or crushing of hoses or allow it to vibrate against rough, sharp or hot surfaces.
- + Use only conductive fluid hoses for airless applications. Be sure the gun is grounded through the hose connections. Use only high pressure airless hoses with static wire which are approved for 3000 psi.
- + **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, abrasions, bulging of the 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.**
A high pressure hose is not possible to recouple.

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.** Use only a 3 wire extension cord that has a grounding plug, and a receptacle that will accept the grounding plug on the product. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. If in doubt, use the next heavier gauge.
- 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 **All solvent pails must be conductive metal material and properly grounded.**
Do not place on a non conductive insulating surface unless a ground wire is added to a true earth such as a metal water pipe. ALWAYS ensure fire extinguishing equipment is readily available and properly maintained.

FLUSHING SAFETY

WHEN SPRAYING & CLEANING WITH FLAMMABLE PAINTS AND 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. See **GROUNDING**. Use only high pressure airless hoses approved for 3000 psi which is conductive.
- 3 Remove the spray tip before flushing. Hold the metal part of the gun firmly to the side of a metal pail & use the lowest possible fluid pressure during flushing.
- 4 Never use high pressure in the cleaning process. **USE MINIMUM PRESSURE.**
- 5 Do not smoke in spraying/cleaning area.

NEVER use cleaning solvents with flash points below 60°C/140°F. Some of these are: acetone, benzene, ether, gasoline, naphtha. Consult your supplier if in doubt.

ASSEMBLY

- 1 Attach the hose to the pump and tighten with a wrench.
- 2 Attach the hose to the gun and tighten with a wrench.

OPERATION

1 New sprayer / before you start

Your sprayer was factory tested in an oil solution which was left in the pump. Before using oil-base paint, flush with pump conditioner only. Before using water-base paint flush with pump conditioner, followed by soapy water, then a clean water flush.

2 Changing colours

Flush with a compatible solvent such as pump conditioner or water.

3 Changing from water-base to oil-base paint

Flush with soapy water, and then pump conditioner.

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 and whenever you stop spraying.

- 1 Engage the gun safety latch.
- 2 Turn the unit off and unplug it from the electrical outlet.
- 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.
- 4 Turn the Priming Valve to the open (priming) position to relieve residual fluid pressure.
- 5 Re-engage gun safety latch and close Priming 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.**

FLUSHING

WHEN TO FLUSH

- 1 **Cleanup** (for further instructions see “cleanup” below)
- 2 **Changing from oil-base to water base paint.** Flush with pump conditioner, followed by soapy water, then a clean water flush.
- 3 **Storage.** Always relieve pressure (See pressure relief procedure above) prior to storage or when machine is unattended.
Oil-base paint: Flush with pump conditioner. Ensure that there is no pressure in the unit, then close the priming valve.
Water-base paint: Flush with water, and then pump conditioner.
 For longer term storage fill with pump conditioner.
 Always ensure that there is no pressure in the unit, and close the prime/pressure relief valve for storage.
- 4 **Start-up after storage.** Before using water-base paint, flush with soapy water and then with clean water. When using oil-base paint, flush out the pump conditioner 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.
- 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.
- 4 Turn the Priming Valve to the ‘Open’, priming position.
- 5 Point the gun into the metal pail and hold a metal part of the gun firmly against the pail. **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.** Disengage the gun safety latch and squeeze the gun trigger. Turn the ON/OFF Toggle Switch to the “ON” position and turn Pressure Control Knob clockwise to increase pressure just enough to start the pump.
- 6 Close the priming valve. This will allow solvent to be flushed through the pump, hoses and gun. Allow the unit to operate until clean solvent comes from the gun.
- 7 Release the trigger and engage the gun safety latch.
- 8 Whenever you shut off the sprayer, follow the **PRESSURE RELIEF PROCEDURE.**

SPRAYING

1 Connect the hose and gun.

2 Check the electrical service. Be sure the electrical service matches the rating on the machine's nameplate and that the outlet you use is properly grounded.

3 Fill the packing nut/wet cup with a few drops of QLube Piston Lubricant.

4 Flush the sprayer

- a Prepare the media to be sprayed according to the material manufacturer's recommendations.
- b Place the suction tube into the media container.
- c Prime Valve must be 'Open' in the priming position.
- d When you have ensured that the gun safety latch is engaged, attach tip and safety guard.
- e Turn the power switch to the 'On' position.
- f Allow the pump to prime. After the pump is primed, immediately turn the Prime Valve to the 'Closed' position.
- g Turn Pressure Control Knob to the desired spray pressure.
- h Disengage the gun safety latch and you are ready to spray.

5 Adjusting the pressure

- a Turn the Pressure Control Knob clockwise to increase pressure and counterclockwise to decrease pressure.
- b 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. It will also result in the motor cycling on and off to maintain pressure. This cycling will result in poor and inconsistent spraying results.**
- c If more coverage is needed, use a larger tip rather than increasing the pressure.
- d Check the spray pattern. The tip size and angle determines the pattern width and flow rate. Spray a test pattern and then adjust the pressure to eliminate heavy edges. Use a smaller tip size if the pressure adjustment cannot eliminate heavy edges.
- e While spraying, hold the gun perpendicular, about 25-30cm (10-12 inches) away from the surface. Spray back and forth. Trigger the gun before moving and release the trigger after each stroke. Overlap by 50%.

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

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.

Shutting off the sprayer

- a Whenever you stop spraying, even for a short break, follow the 'Pressure Relief Procedure'.
- b 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, and then fill the pump and hoses with an oil based solvent such as QTector pump conditioner.

SPRAY GUN

Attach spray gun to airless unit and tighten fittings securely. Set the gun safety latch. 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.

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 into the guard housing assembly.
- 4 Guide metal seat into guard housing assembly through retaining nut and 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 housing retaining nut onto the gun.
- 7 Turn guard in the desired position.
- 8 Completely tighten the retaining nut.



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 loosen the retaining nut. The handle will now turn easily.
- 5 Engage gun safety latch and return handle to the spray position.

CLEANING GUN HANDLE FILTER

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. 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 about four hours of operation.

SPRAY TIP SELECTION

Spray tip selection is based on paint viscosity, paint type, and job needs. Generally, use a smaller tip for light viscosities (thin paints), and use a larger tip for heavier viscosities (thicker paints). 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 liters per minute (LPM).

PATTERN WIDTH

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. 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 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. If the tip is the maximum rated size, when it wears, it will exceed the flow rate capacity of the sprayer. If when using maximum capacity tip size the pump cannot keep up, then you know that the tip is worn beyond capacity.

CLEANUP PROCEDURE

- 1 Perform pressure relief procedure.
- 2 Place pickup tube in a bucket of flushing fluid. (Use water for water base paint and pump conditioner for oil base paint).
- 3 Turn the power on. Close priming valve.
- 4 Increase pressure to half. Hold the gun against the paint pail.
Take off the trigger safety. Trigger the gun until flushing fluid appears.
- 5 Move the gun to a waste pail. While holding the gun against the pail, trigger the gun to thoroughly flush the system. Release the trigger and put the trigger safety on.
- 6 Open the priming valve and allow the flushing fluid to circulate for 15 seconds (to clean the drain tube).
- 7 Raise the pickup tube out of the flushing fluid and run the sprayer for 20-30 seconds to drain the fluid.
- 8 Close the priming valve. Trigger the gun into flushing pail to purge the hose.
- 9 Turn the power off.
- 10 Open the priming valve.
- 11 Unplug the sprayer.
- 12 Remove the filters from the pump and gun. Clean and replace.
- 13 If flushing was with water, flush again with pump conditioner to prevent corrosion inside the pump. (For long term storage, mix motor oil into the spirits).
- 14 Clean the exterior of the sprayer with rag soaked in pump conditioner.

DAILY MAINTENANCE

- 1 Keep the displacement pump packing nut/wet cup lubricated with QLube Piston Lubricant at all times. Add a drop of oil with regular use to the top of the pump. This helps protect the rod and the packings.
- 2 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. Over tightening will damage the packings and reduce the packing life.

PACKINGS

The packings are a wearing part. If the pump can no longer maintain pressure, has difficulty priming and paint seeps into the throat of the pump, and tightening the packing nut no longer helps, then the packings will require replacement. This is best entrusted to a qualified repair technician.

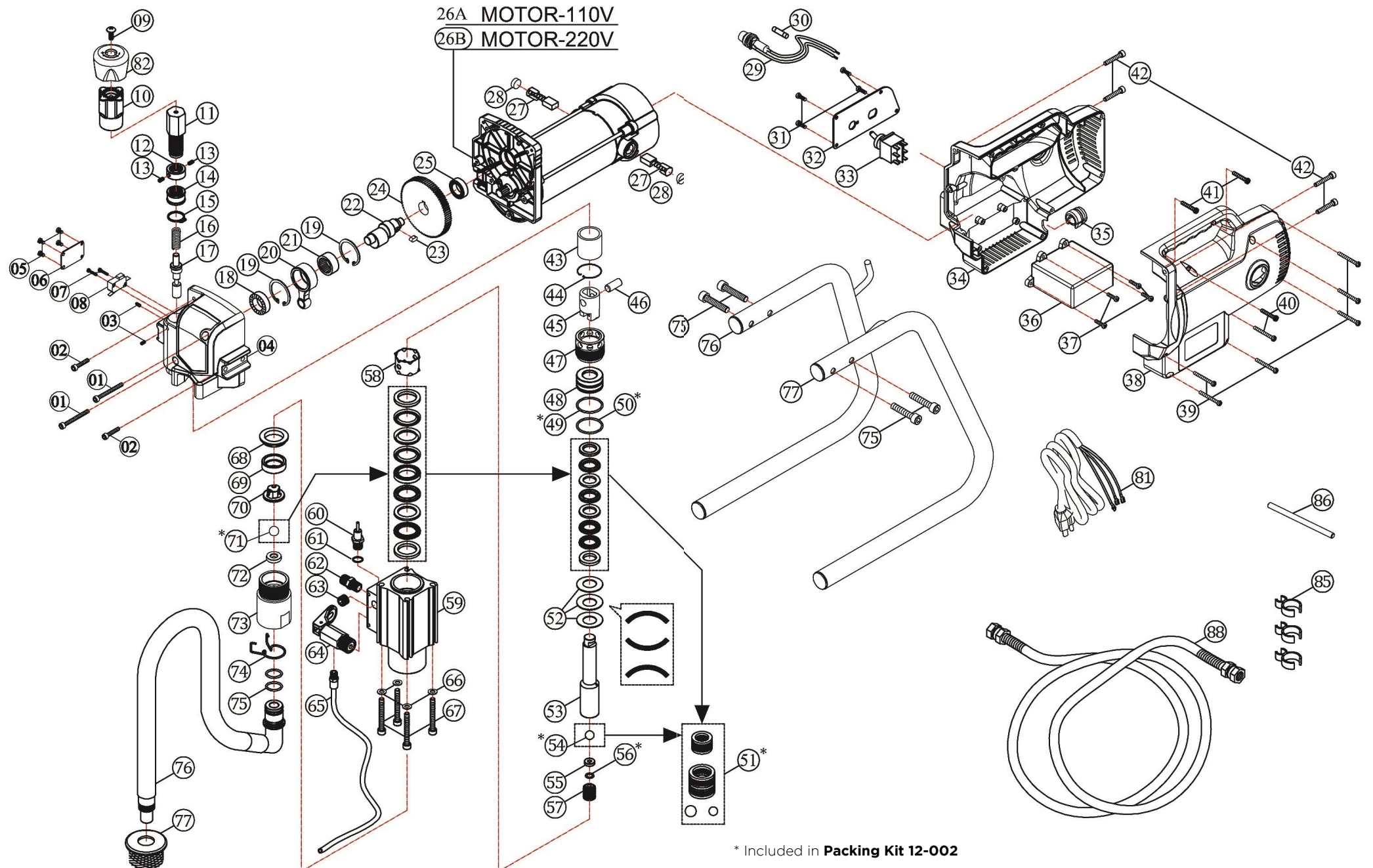
To remove the pump and replace the packings, follow the instructions below:

PUMP REMOVAL

- 1 Remove the suction tube (76) by releasing the hose clip (85) and pulling the hose free.
- 2 Turn the pump until the piston is at its lowest point. To do this, it is necessary to remove the left frame leg (80) and then the 12 screws to remove the left motor housing (38). The motor may then be turned by turning the fan from the rear.
- 3 Loosen and remove the 4 socket cap screws (67).
- 4 Pull the pump forward to disengage the displacement piston (53) from the slot in the bottom of the drive piston (45). (It must be at its lowest point in order to disengage - see 2 above).
- 5 The pump unit may now be lifted away.
- 6 Replacement is the reverse of removal. Grease the junction slot of the drive piston when assembling.

PACKINGS REPLACEMENT

- 1 Loosen the packing nut with the packing bar provided and remove.
- 2 Pull the piston out.
- 3 Remove all parts and clean. Clamp the piston and in the bottom of the piston, remove the ball seat fastener (57) to allow removal of the small ball seat (55), and check ball (54).
- 4 Discard all old packings.
- 5 Soak the new leather packings in W30 oil for at least one hour before assembling.
- 6 Replace the packings, glands, O-rings and check balls with the new parts from the rebuild kit. Strictly follow the exact order and orientation.
- 7 Thread the packing nut loosely. Push the piston up through the pump fluid section. Tighten the packing nut until resistance from the disc springs is felt. Tighten a further 3/4 turn but be careful. Do not over tighten.



ITEM	PRODUCT CODE	DESCRIPTION	QTY
1	12-190-001	SOCKET CAP SCREW M5 x 50	3
2	12-190-002	SOCKET CAP SCREW M5 x 25	1
3	12-190-003	SOCKET CAP SCREW M5 x 6	2
4	12-190-004	CRANK HOUSING	1
5	12-190-005	SCREW M4 x 8	4
6	12-190-006	COVER PLATE 30 x 45 x 1.5	1
7	12-190-007	SCREW M3 x 16	2
8	12-190-008	PRESSURE SWITCH	1
PCA KIT	12-190-009	PRESSURE CONTROL ASSEMBLY 9 - 17 & 82	1
9	INC. IN PCA KIT	SCREW M5 x 15	1
10	INC. IN PCA KIT	PRESSURE ADJUSTOR KNOB	1
11	INC. IN PCA KIT	PRESSURE ADJUSTOR SCREW	1
12	INC. IN PCA KIT	SLEEVE	1
13	INC. IN PCA KIT	SOCKET SET SCREW M4 x 4	2
14	INC. IN PCA KIT	ADJUSTOR SLEEVE	1
15	INC. IN PCA KIT	INTERNAL CIRCLIP IS-17	1
16	INC. IN PCA KIT	SPRING TH14-040	1
17	INC. IN PCA KIT	PRESSURE PISTON	1
18	12-190-010	BALL BEARING 6200-ZZ	1
19	12-190-011	INTERNAL CIRCLIP IR-28	2
20	12-190-012	CONNECTING ROD	1
21	12-190-013	NEEDLE BEARING TLA2212	1
22	12-190-014	CRANK SPINDLE 4.5mm	1
23	12-190-015	PARALLEL KEY 5 x 5 x 10	1
24	12-190-016	CRANK GEAR M1.0 x 86T	1
25	12-190-017	BALL BEARING 6000-ZZ	1
26A	12-190-018	MOTOR UNIT 110V	1
26B	12-190-019	MOTOR UNIT 220V	1
27	12-190-020	CARBON BRUSH 7 x 11	2
28	12-190-021	BRUSH CAP	2
29	12-190-022	FUSE PLATE	1
30A	12-190-023	FUSE 110V	1
30B	12-190-024	FUSE 220V	1
31	12-017	SCREW M4 x 12	4
32	12-190-025	SWITCH PLATE	1
33	12-190-026	POWER SWITCH	1
34	12-190-027	MOTOR HOUSING-RIGHT	1
35	12-190-028	CABLE GLAND SB8R-3	1
36A	12-190-029	ELECTRONICS BOX 110v	1
36B	12-190-030	ELECTRONICS BOX 220v	1
37	12-190-031	SCREW M4 x 14	4
38	12-190-032	MOTOR HOUSING-LEFT	1
39	12-190-033	SCREW M4 x 35	6
40	12-190-034	SCREW M4 x 30	2

ITEM	PRODUCT CODE	DESCRIPTION	QTY
41	12-190-035	SCREW M5 x 25	2
42	12-190-036	SOCKET CAP SCREW M5 x 25	4
43	12-190-050	GUIDE CYLINDER Ø26 x Ø32 x 30	1
44	12-190-051	RETAINING RING IR-32	1
45	12-190-052	DRIVE PISTON	1
46	12-190-053	WRIST PIN-ROD Ø10 x 23.5	1
47	12-018	PACKING NUT	1
48	12-019	SEAL SEAT	1
49	12-012*	O-RING S-31.5	1
50	12-013*	O-RING Ø31.2 x Ø35.1 x 1.8	1
51	12-002	COMPLETE PACKING KIT	1
52	12-009	DISC SPRING	3
53	12-190-054	DISPLACEMENT PISTON	1
54	12-012	CHECK BALL Ø6.35	1
55	12-010	BALL SEAT-SMALL Ø4 x Ø13.8 x 4	1
56	12-011*	O-RING	1
57	12-015	BALL SEAT FASTENER M16 x P1.0	1
58	12-008	PACKING SPACER	1
59	12-190-055	PUMP HOUSING	1
60	12-190-056	PRESSURE ACTUATOR	1
61	12-190-095	SPACER Ø10 x Ø15 x 2	1
62	12-003	OUTPUT NIPPLE PT 1/4" x 1/4"-19PF	1
63	12-190-057	SOCKET PRESSURE PLUG PT 1/4"	1
64	12-190-058	PRIMING VALVE	1
65	12-190-059	DRAIN TUBE PT1/8" x 0.92M	1
66	12-190-060	FLAT WASHER 1/4" x Ø10 x 1	4
67	12-190-061	SOCKET CAP SCREW M6 x 110	4
68	12-190-062	SPACER Ø25.5 x Ø38 x 7	1
69	12-190-063	INNER SPACER Ø22 x Ø32 x 9	1
70	12-007	BALL GUIDE	1
71	12-006	CHECK BALL Ø12.7	1
72	12-190-064	BALL SEAT Ø9 x Ø20 x 5	1
73	12-190-065	GLAND NUT	1
74	12-190-066	HOSE CLIP	1
75	12-190-067	O-RING Ø2.4 x Ø19.8 x Ø24.6	2
76	12-190-068	SUCTION HOSE	1
77	QF0535015B	INLET STRAINER 20 MESH	1
78	12-190-090	SOCKET CAP SCREW M8 x 35	4
79	12-190-091	FRAME	1
80	12-190-092	FRAME LEFT	1
81	12-190-093	POWER SUPPLY CORD	1
85	12-190-094	TUBE HOLDER Ø11 x Ø22	5
86	12-001	PACKING NUT TOMMY BAR	1
88	61475EETD	HIGH PRESSURE HOSE 1/4" x 7.5M 3300 PSI	1

