# Lafferty Equipment Manufacturing, LLC
# Installation & Operation Instructions

## Model # 977886-20 · DART™ EP-LM Spray System With 20 Gallon Level Master™

## REQUIREMENTS

**Chemical Concentrate**

**Water**

| | |
|---|---|
| Temperature | up to 160°F |
| Pressure | 35 to 125 PSI |
| Supply Line | 1/2" |
| **Hose** | 3/4" ID x 40' |
| **Nozzle** | #180193SS |
| **Electric** | 120V / 20A |

**See Separate Instructions for:**

| | |
|---|---|
| Level Master™ | 989304 |

## OPTIONS

**Drum & Tote Stick Lengths & Seal Materials**

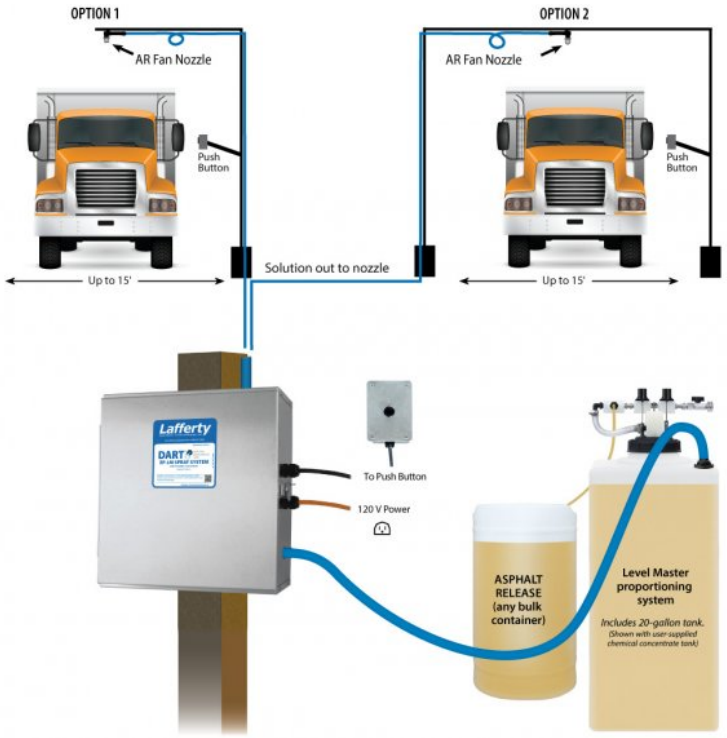
| | |
|---|---|
| Drum Stick, 33" (Viton or EPDM) | # 491643 / 491643-E |
| Drum Stick, 48" (Viton or EPDM) | # 491648 / 491648-E |
| Drum Stick, 54" (Viton or EPDM) | # 491645 / 491645-E |
| Tote Stick, 33" (Viton or EPDM) | # 491653 / 491653-E |
| Tote Stick, 48" (Viton or EPDM) | # 491654 / 491654-E |
| Tote Stick, 54" (Viton or EPDM) | # 491656 / 491656-E |

## WEIGHT & DIMENSIONS

**Single Package**

| | |
|---|---|
| Shipping Weight | 177 lbs. |
| Shipping Dimensions | 48" x 40" x 49" |

**Ships on a pallet**




DART™ DRIVE THRU ASPHALT RELEASE, TIMED

Lafferty® EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

www.laffertyequipment.com
501-851-2820

**WARNING!** READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

## OVERVIEW

The *DART*™ EP-LM Spray System is a push button activated, time delayed, asphalt release applicator that mounts to a user-supplied drive-though arch for spraying asphalt release agent onto truck beds. This system uses an electric pump to draw ready-to-use chemical solution from the included 20 Gallon Level Master™ tank, which maintains a constant supply of solution. When the system is activated, a delay timer allows the driver to position the truck under the spray nozzle before applying release agent. When run time expires, the system shuts down and resets.

## SAFETY & OPERATIONAL PRECAUTIONS

- **See Additional Safety Instructions included with the Electrical Control Box**
- **Always consider electrical shock hazard when working with and handling electrical equipment. If uncertain, consult an Electrician. Electrical wiring should only be done by a qualified Electrician per Local and State Electrical Codes.**
- For proper performance do NOT modify, substitute nozzle, hose diameter or length.
- Manufacturer assumes no liability for the use or misuse of this unit.
- Wear protective clothing, gloves and eye wear when working with chemicals.
- Always direct the discharge away from people and electrical devices.
- Follow the chemical manufacturer's safe handling instructions.
- NEVER mix chemicals without first consulting chemical manufacturer.
- Operate the electric pump according to the limitations specified on the data label.
- Do not use with flammable or hazardous fluids not compatible with stainless steel.

## TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

1. Mount the unit to a solid, secure surface within 15' of the drive lane. This is a centrifugal pump that needs a flooded suction and will need to be primed the first time it is used and each time it runs dry. Mount close to and not higher than the chemical tank. The chemical tank needs to gravity feed to the pump.
2. Do NOT connect to electricity yet.
3. Construct the mounting pole or arch, then mount the nozzle assembly as shown in the illustration on page 1. To prevent dripping after each cycle leave a loop in the hose to make the nozzle higher than the bottom of the loop.
4. Mount the push button activation control box at a location of your choice, prior to the mounting pole/arch.
5. Connect the 3/4" suction tube to the hose barb. Secure all tubes with the clamps – do not over-tighten. Immerse suction tube into a container of water for initial testing.
6. Make sure the system is not plugged in to a power source. Remove control box cover. The box contains two timers (Delay & Run).
   **Delay Timer:** This timer allows you to set the time to the approximate number of seconds needed from the time the remote button is pushed until the truck bed is positioned underneath the nozzle. Set the timer by pushing the combination of dip switches that will equal the total number of seconds you need for the delay.
   **Run Timer**: This timer controls the maximum amount of time the sprayer will operate for. Set the timer by pushing the combination of dip switches that equal the total number of seconds you need the system to spray.
7. Replace the control box cover.
8. Plug power cord into 120 VAC outlet on dedicated 20A breaker.

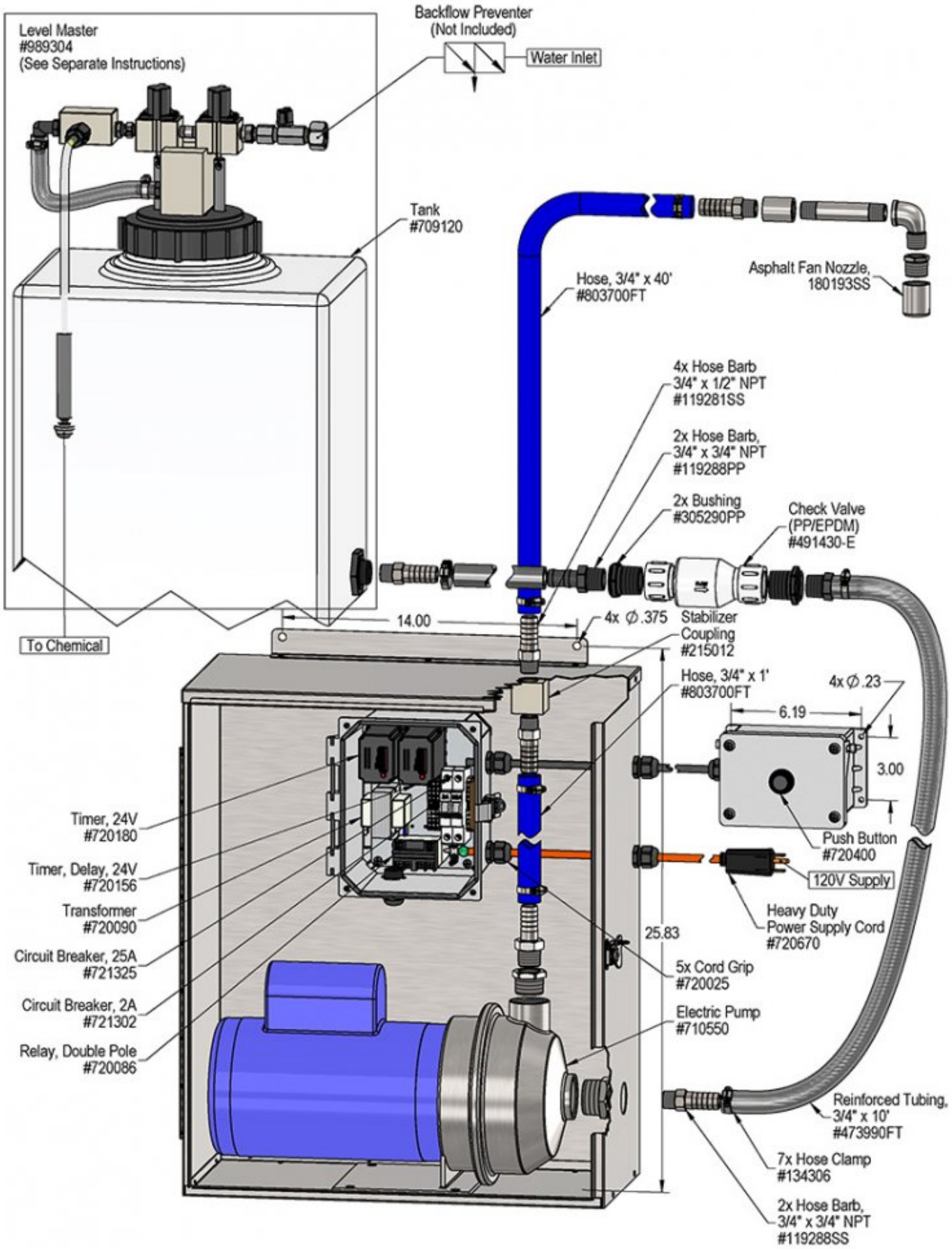
**TO TEST**

1. The pump may take a few seconds to prime, fill the suction tube with water to help the pump prime the first time.
2. Perform "test runs" with water only and make any necessary timer and nozzle adjustments.
3. After several successful test runs have been made you are ready to operate.
4. Connect the suction tube from the chemical tank to the pump.

*See separate instructions for systems that include a Level Master to dilute chemical.*

## TO OPERATE

1. Once adjustments have been made to timers. Push the button and drive the first truck through. Make final adjustments as needed.
2. The unit is ready for operation.


Level Master
#989304
(See Separate Instructions)
Backflow Preventer
(Not Included)
Water Inlet
Tank
#709120
Hose, 3/4" x 40'
#803700FT
Asphalt Fan Nozzle,
180193SS
4x Hose Barb
3/4" x 1/2" NPT
#119281SS
2x Hose Barb,
3/4" x 3/4" NPT
#119288PP
2x Bushing
#305290PP
Check Valve
(PP/EPDM)
#491430-E
14.00
4x Ø.375
Stabilizer
Coupling
#215012
To Chemical
Hose, 3/4" x 1'
#803700FT
4x Ø.23
6.19
3.00
Push Button
#720400
120V Supply
Heavy Duty
Power Supply Cord
#720670
25.83
5x Cord Grip
#720025
Electric Pump
#710550
Timer, 24V
#720180
Timer, Delay, 24V
#720156
Transformer
#720090
Circuit Breaker, 25A
#721325
Circuit Breaker, 2A
#721302
Relay, Double Pole
#720086
Reinforced Tubing,
3/4" x 10'
#473990FT
7x Hose Clamp
#134306
2x Hose Barb,
3/4" x 3/4" NPT
#119288SS

# Troubleshooting Guide

| Problem | Possible Cause / Solution | |
|---|---|---|
| | Startup | Maintenance |
| A) Pump will not run or pump. | 1,2,3,4,5 | 6,7,8 |
| B) Pump runs with no output. | 2,3 | 6,7,8 |
| C) Unit will not draw chemical. | 2,3 | |
| D) Suction tube will not stay primed. | 7 | 8 |
| E) Unit comes on and runs continuously. | 4,5 | |
| G) Asphalt continues to stick to truck. | | 6 |

## Possible Cause / Solution

### Startup

1. **Problem with pump.**
   - Refer to pump manual.
2. **Suction hose not immersed or connected to chemical solution or depleted.**
   - Immerse tube, tighten connection or replenish.
3. **Discharge hose kinked.**
4. **Timer not set properly or malfunctioned.**
   - See Timer Adjustment on page 2 or replace timer.
5. **Electrical problems**
   - Have a qualified electrician check electrical connections.
   - Ensure circuit breaker in control box has not been tripped.
   - Ensure main outlet breaker has not been tripped. See requirements.

### Maintenance

6. **Chemical supply blocked, or chemical concentration too weak or empty.**
   - Clean or replace chemical strainer.
   - Increase chemical concentration.
   - Replenish chemical supply
   - Ensure chemical tank can gravity feed pump
7. **Vacuum leak in suction hose.**
   - Tighten the clamps and check the barbs.
8. **Check valve between chemical tank and pump stuck or failed (if applicable to your unit)**
   - Clean or replace check valve

PREVENTIVE MAINTENANCE: When the unit will be out of service for extended periods, place chemical tube(s) in water and flush the chemical out of the unit to help prevent chemical from drying out and causing build-up. Periodically check and clean chemical strainer and replace if missing.