



Light Touch & High-Pressure Wash Equipment Overview

Bumper Blasters

1) Description

- a) Uses high-pressure water to clean the bumpers of vehicles without the use of friction materials. Can be used in a touch-free wash or in conjunction with friction equipment to get better cleaning in hard-to-reach areas.
- b) Uses multiple high-pressure nozzles mounted on manifolds that oscillate to increase cleaning zone in the front/rear bumper areas.
- c) A hydraulic motor is used to oscillate the manifolds.
- d) Greaseless **UHMW plastic bearings** are used to reduce maintenance.



2) Adjustments

- a) Water Pressure to Nozzles
 - (1) Is adjusted at the HP bypass valve on the water pump station to approximately 800PSI.
- b) Oscillating Speed Adjustment
 - (1) The oscillating speed of the manifold can be adjusted at the flow control valve on the hydraulic power pack.
 - (2) Speed should be set to 60-70 RPM as viewed at the hydraulic motor shaft.
- c) Tracking Speed Adjustment
 - (1) Each manifold has two air pressure regulators on the air manifold to control tracking. Each should be set to 60PSI.
 - (2) Each manifold has
 - (a) A flow-control valve on the reservoir to regulate how fast the manifold tracks the vehicle as it passes.
 - (b) A flow-control valve on the air cylinder to control how quickly it returns to the ready position.
 - (c) The manifolds should be adjusted to track the grill/bumper area of the oncoming car as it approaches.
 - (d) As the vehicle passes over the manifold, it should return to the ready position for the next vehicle.

3) Preventive Maintenance Requirements



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a) DAILY

- (1) During Opening Checks, check for leaks around hydraulic hoses and fittings. Repair any hydraulic leaks immediately.
- (2) Operational Checks
 - (a) Check for leaks around hoses and fittings. Repair any serious water or air leaks immediately.
 - (b) General examination of operation, listening for any unusual noises.
 - (c) Observe fluid level in reservoir. If low, add fluid or if contaminated, drain, and replace.

b) WEEKLY

- (1) Check all nozzles for wear and replace if necessary.
- (2) Perform a close inspection of operating mechanisms and hoses for problems.
- (3) Spray lubricant on cylinder rod ends and clevises.

c) MONTHLY

- (1) Inspect all UHMW bearings for wear, and replace if necessary.
- (2) Inspect all hardware and fittings for tightness and clean the entire assembly thoroughly.

b) Mirror Blasters

1) Description

- a) A high-pressure accessory designed to provide cleaning to the side-view mirrors.

b) Styles

(1) Octopus Mirror Blaster

- (a) Wider spray pattern for various heights of different makes and models.
- (b) Increase nozzle capacity (8) and maximize water flow to completely flush mirror housing.
- (c) Includes fully adjustable passenger and driver manifolds.
- (d) Easily attaches to an existing arch frame.

(2) Mirror Blaster

- (a) Consists of three turbo nozzles on a manifold mounted on each side of the vehicle.





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- (b) Includes fully adjustable passenger and driver manifolds.
- (c) Easily attaches to an existing arch frame.

2) Adjustment

- a) The only adjustment is to the aim of the nozzles to accomplish the desired cleaning.

3) Preventive Maintenance Requirements

a) **DAILY**

(1) Operational Checks

- (a) Check for leaks around hoses and fittings. Repair any serious water leaks immediately.
- (b) General examination of operation, listening for any unusual noises.

b) **WEEKLY**

- (a) Check all nozzles for wear and replace if necessary.
- (b) Perform a close inspection of operating mechanisms and hoses for problems.

c) **Wheel Cleaners**

1) Description

- a) Uses high pressure to concentrate cleaning on the wheels.

2) Styles

a) **Pivoting Spinner**

- (1) Designed with four Zero Degree Plus nozzles and one fifteen degree V-Jet nozzle on a manifold that spins when the water pressure is applied.
- (2) The assembly pivots to extend the cleaning time to concentrate on the wheels.

b) **Stationary**

- (1) Does not pivot to track wheel.

c) **Pivoting Wheel Turbo Blaster**

- (1) Uses three turbo nozzles to clean the center of the wheels without having a spinning manifold.





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- (2) The assembly pivots to extend the concentrated cleaning time on the wheels.

3) Adjustments

a) Water Pressure to Nozzles

- (1) Is adjusted at the HP bypass valve on the water pump station to approximately 800PSI.

b) Rotating Speed Adjustment (Spinning Units Only)

- (1) Speed is preset to 60-70 RPM by the fixed angle of the nozzles.

c) Tracking Speed Adjustment (Pivoting Units Only)

- (1) Each manifold has two air pressure regulators on the air manifold to control tracking. Each should be set to 60PSI.
- (2) Each manifold has a flow-control valve on the reservoir to regulate how fast the manifold tracks the vehicle as it passes and a flow control valve on the air cylinder to control how quickly it returns to the ready position, facing the tunnel entrance.

(a) The manifolds should be aimed at the oncoming car as it approaches the cleaner.

(b) As the front wheel/tire area comes into target range the tracking speed should keep the wheel cleaner aimed at the wheel/tire area as it passes.

(c) When the front wheel/tire area is out of target range, the manifold should return to the ready position prior to the rear wheel/tire area entering target range.

(d) As the rear wheel/tire area comes into target range the tracking speed should keep the wheel cleaner aimed at the wheel/tire area as it passes.

(e) As the wheel/tire area passes beyond target range the manifold should return to the ready position for the next vehicle.

4) Preventive Maintenance Requirements

a) **DAILY**

(1) Operational Checks

- a) Check for leaks around hoses and fittings. Repair any serious water or air leaks immediately.
- b) General examination of operation, listening for any unusual noises.



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b) WEEKLY

- (1) Check all nozzles for wear and replace if necessary.
- (2) Perform a close inspection of operating mechanisms and hoses for problems.
- (3) Spray lubricant on cylinder rod ends and clevises.

c) MONTHLY

- (1) Inspect all UHMW bearings for wear. Replace if necessary.
- (2) Inspecting all hardware and fittings for tightness and clean the entire assembly thoroughly.

d) Pendulums



1) Description

- a) Uses high pressure water to thoroughly clean all rim sizes. Can be used in a touch-free car wash or in conjunction with the tire brush and chemical tire applicator to loosen even the toughest road grime and break-dust.
- b) Simple mechanical design offers minimal maintenance and automatically adjusts to any chain speed.
- c) Tracks both front and back wheels for four and a half to five feet.
- d) Minimal computer controls minimize operational errors.
- e) Spring loaded rubber stops are used to allow the pendulum to return home quickly without damage to the equipment.



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2) Options

a) Mirror Blaster

- (1) Mirror blaster manifold can be attached for cleaning the hard to reach side-view mirrors.
- (2) Turns on when the mirrors come into the target range and tracks the mirrors until they are out of the target range.
- (3) When the mirrors are no longer in the target range the manifold turns off.

3) Adjustments

a) Water pressure to nozzles is adjusted at the HP bypass valve on the water pump station to approximately 800PSI.

b) Adjust the air pressure to the minimum amount required to get the pusher arm to return home.

c) Oscillating Speed Adjustment (optional Omni Top)

- (1) The oscillating speed of the manifold can be adjusted at the flow control on the hydraulic power pack.
- (2) Speed should be set to 60-70 RPM as viewed at the hydraulic motor shaft.

d) Tracking Speed Adjustment (optional Omni Top)

- (3) The manifold has two air pressure regulators on the air manifold to control tracking. Each should be set to 60PSI.
- (4) The manifold has a brass flow control valve on the reservoir to regulate how fast the manifold tracks the vehicle as it passes and a black plastic flow control valve on the air cylinder to control how quickly it returns to the ready position, facing the tunnel entrance.

4) Preventive Maintenance Requirements

a) **DAILY**

- (1) Check spray pattern from nozzles and clean any dirty nozzles.

b) Operational Checks

- (1) Check for leaks around hoses and fittings. Repair any serious water or air leaks immediately.
- (2) General examination of operation, listening for any unusual noises.
- (3) Observe retract operation. It should be smooth and retract completely.



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2) WEEKLY

- (1) Check all nozzles for wear and replace if necessary.
- (2) Perform a close inspection of operating mechanisms and hoses for problems.
- (3) Spray lubricant on cylinder rod ends and clevises.

3) MONTHLY

- (1) Inspect all UHMW bearings for wear. Replace if necessary.
- (2) Inspect all hardware and fittings for tightness and clean the entire assembly thoroughly.
- (3) Grease all pivot point bearings.

e) Hydraulic Power Packs

1) Description

- a) Power packs supply the hydraulic fluid that is used to power most motors throughout the tunnel.
- b) Each power pack is designed to supply a given amount of fluid measured in GPM. For long term reliability and maintenance cost control, each power pack should be sized for the load that will be placed on it.
- c) Each has a pressure-compensated flow control which will allow adjustment of GPM, which controls the motor speed.
- d) Each also has a **pressure relief adjustment** to control how much torque is available at motor to prevent damage to vehicles and equipment.
- e) The oil reservoir contains a sight glass to check oil levels, a temperature gauge, and a low level switch to prevent the pump from running with low oil in the reservoir.
- f) A fiberglass oil filter is placed on the **return line** to filter oil returning from the motors. **Fiberglass** is used to facilitate the use of water based hydraulic fluid.
- g) Since the conveyor is powered by one of these power packs, it is suggested that a backup unit is in place for maximum up time.

2) Adjustments





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a) Flow Control

- (1) The flow control valve is used to set the speed of the associated brush manifold, or other equipment. This setting will vary with each application.

b) Bypass Control

- (1) The bypass control is used to adjust the amount of torque the associated equipment is able to apply. This setting will vary with each application.

3) Preventive Maintenance Requirements

a) **DAILY**

(1) Opening Checks

- (a) Check for leaks around hoses and fittings. Repair any hydraulic leaks immediately.
- (b) Check hydraulic fluid level in the power pack reservoir. Refill, as necessary, with a non-detergent, non-foaming ISO32 grade hydraulic fluid.

(2) Operational Checks

- (a) Check fluid temperature on tank sight gauge at mid-day. Oil temperature should not exceed 160 degrees Fahrenheit.
- (b) General examination of general operation, listening for any unusual noises.

b) **WEEKLY**

- (1) Perform a close inspection of operating mechanisms and hoses for problems.

c) **MONTHLY**

- (1) Inspecting all hardware and fittings for tightness and clean the entire assembly thoroughly.

d) **SEMI-ANNUALLY**

- (1) Change the return line to the fiberglass filter.

e) **ANNUALLY** (only applies if electrically driven)

- (1) Have a licensed electrician measure and record, full load current readings from each of the three legs of each of the three phase electric motors.
 - (a) If the differential of current load exceeds 10% between the legs, or the balanced load current of all three legs has increased over 10% since the most recent measurements, order a replacement motor.



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- (b) Record readings in the annual log.
- (2) Grease all electric motors per manufacturers specifications.

f) High-Pressure Water Pump Stations

2) Description

- a) Delivers up to 1,000PSI high-pressure water to all touch-free components in the tunnel.
- b) The pump on each station is oversized to ensure long life and reduced maintenance.
- c) **In line strainer** prevents objects from damaging the pump and clogging nozzles.
- d) Reservoir is equipped with 1" automatic fill valves that can deliver 70 GPM to keep the tank full.
- e) Overflow manifold will prevent the motor from getting wet if reservoir is overfilled.
- f) Available in 10, 20, and 30 GPM sizes and 1 or 2 pumps per station.

3) Adjustments

a) Water Pressure

- (1) The water pressure supplied to the associated equipment can be adjusted with the valve and gauge on the pump head.
- (2) To adjust, loosen the jam nut on the valve. Adjust to desired pressure and tighten the jam nut to prevent drifting.

4) Preventive Maintenance Requirements

a) DAILY

(1) Operational Checks

- (a) Check for leaks around hoses and fittings. Repair any serious water or air leaks immediately.
- (b) General examination of general operation, listening for any unusual noises.
- (c) Check pressure gauge. It should come up to pressure and remain steady.

b) WEEKLY





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- (1) Clean all filters and strainers. (Daily if reclaim water is used)
- (2) Perform a close inspection of operating mechanisms and hoses for problems.
- (3) Check lubricant level in pump crankcase and refill if necessary.

c) MONTHLY

- (1) Inspecting all hardware and fittings for tightness and clean the entire assembly thoroughly.
- (2) Check drive belts for wear or damage. Replace as a set if necessary.
- (3) Clean sediment and dirt from storage/solution tanks.

d) ANNUALLY

- (1) Drain and refill the pump crankcase with oil recommended by pump manufacturer.
- (2) Have a licensed electrician measure and record, full load current readings from each of the three legs of each of the three phase electric motors.
 - (a) If the differential of current load exceeds 10% between the legs, or the balanced load current of all three legs has increased over 10% since the most recent measurements, order a replacement motor.
 - (b) Record readings in the annual log.
- (3) Grease all electric motors per manufacturers specifications.