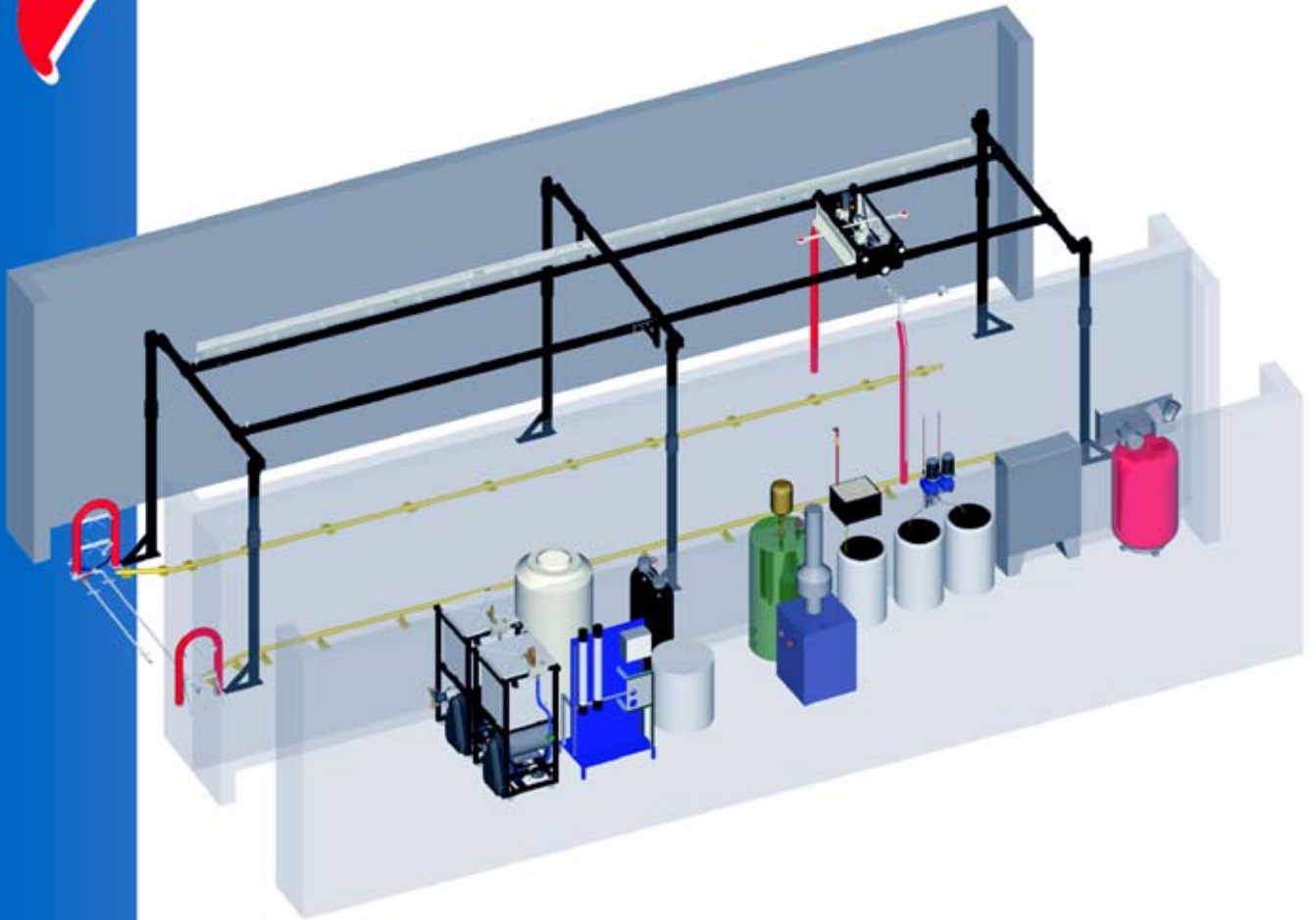


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MAX[®]



Operation

Document Revision 5.0

 Belanger[®]



Belanger Equipment Owners Manual

VMax®: Operation

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Chapter 1

Introduction



Chapter REV 01

OPERATION

Chapter 1: Introduction

Operational Warning

Formulations containing the chemicals listed below are particularly dangerous and **should not be used** even at low concentrations:

- Hydrofluoric Acid
- Ammonium Bi-flouride
- Bromic Acid
- Muriatic Acid
- Sulfonic Acid
- Phosphoric Acid
- Hydrogen Cyanide
- Hydrochloric Acid
- Chlorinated Solvents

Belanger, Inc., does not endorse or condone the use of chemicals that are potentially dangerous to human health, the environment or property. Belanger recognizes that it is the right and sole decision of the end user operators of our equipment as to the type and dilution ratio of the chemicals used in their facilities. We strongly recommend that the end user does not select products containing any of the chemicals listed above as an ingredient in the wash solutions. The chemicals listed above are potentially dangerous to human health, and have a detrimental, deteriorating effect on the equipment and the facility. Be advised that a portion of, or all of your warranty will be voided if you determine to use any of the chemicals listed above as an ingredient in the wash solutions in conjunction with your Belanger automatic car wash equipment:

Limitation (4), of Paragraph (8), Limited Warranty, of the Belanger Terms and Conditions of Sales describes the potential limitation of warranty due to your chemical selection:

(4) This warranty shall be void for all equipment failures and premature component wear caused by the use of corrosive chemicals in the wash process. The following list includes some, but not all, of the particularly corrosive chemicals that if used in conjunction with Belanger equipment will void the warranty: Hydrofluoric Acid, Ammonium Bi-flouride, Bromic Acid, Muriatic Acid, Sulfonic Acid, Phosphoric Acid, Hydrogen Cyanide, Hydrochloric Acid, and Chlorinated Solvents. The Purchaser also agrees to accept the responsibility and liability for the selection and use of any chemicals listed above; however, should the end user decide to use formulations containing any of the above ingredients, the end user should institute a comprehensive training program and implement detailed operational parameters within their organization for the proper handling and treatment of such products to minimize the potential dangers involved. Consult your chemical supplier for assistance in establishing operational guidelines in the use of their products. MSDS (Material Safety Data Sheet) should be obtained from the chemical supplier before using any chemical formulation.

Important Safety Information

This section introduces the hazard and safety precautions associated with installing, maintaining or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task may be found. Electrical shock could occur and cause death or serious injury if these safe service procedures are not followed.

Safety Symbols and Signal Words

Alert Symbol

This safety alert symbol is used in this manual and on warning labels to alert you to precautions, which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.



Signal Words

The signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions that follow must be followed to prevent death, injury or damage to the equipment.

	DANGER
This signal word is used to alert you to a hazard or unsafe practice which WILL RESULT IN DEATH OR SERIOUS INJURY	

	WARNING
This alerts you to a hazard or unsafe practice which COULD RESULT IN DEATH OR SERIOUS INJURY	

	CAUTION
This signal word designates a hazard or unsafe practice, which MAY RESULT IN MINOR INJURY	

CAUTION	
When used by it self, CAUTION designates a hazard or unsafe practice which MAY RESULT IN PROPERTY OR EQUIPMENT DAMAGE	

Before You Begin

Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain or service this equipment.

Read the Manual

Read, understand and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand the procedure, call a Belanger, Inc. representative at 248-349-7010. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

IMPORTANT Safety Information – MUST READ

Safety Warnings



DANGER

DISCONNECT MAIN POWER SUPPLY PRIOR TO SERVICING OR MAINTAINING EQUIPMENT

Belanger recommends that all workers observe the OSHA (U.S. Department of Labor Occupational Safety & Health Administration) Lockout / Tagout procedure prior to performing service or maintenance on machinery and equipment. Doing so will prevent unexpected energization, startup, or release of hazardous energy while maintenance and servicing activities are being performed.



WARNING

BE SURE TO OBSERVE OPERATING ENVELOPE. EQUIPMENT MAY START UNEXPECTEDLY. OVERHEAD, ROTATING AND/OR MOVING COMPONENTS COULD RESULT IN SERIOUS INJURY OR DEATH.



WARNING

BE AWARE OF FOREIGN OBJECTS IN THE AREA SURROUNDING A ROTATING PIECE OF EQUIPMENT. OBJECTS MAY BECOME TANGLED WITH EQUIPMENT AND COULD RESULT IN SERIOUS INJURY OR DEATH.



CAUTION

BE AWARE OF HAZARDS ASSOCIATED WITH EQUIPMENT INSTALLED ON THE FLOOR THAT MAY BE A TRIP HAZARD.

It is imperative to your safety and the safety of others to always follow safe work procedures.



OPERATION

Chapter 1 Introduction

Document Overview

This document is written in sections. The first section is a System Overview. It will identify the components of the user interface and the buttons on the keypads. There will be places in this document that will ask you to jump from one section to another and then back to where you left off. There was no way around this.

The second section is an Initial Startup Procedure. This section is to be followed very closely as it will make sure NO critical mistakes are made and No critical steps are left out of the initial startup sequence. Either occurrence can cause damage to the system and/or vehicles.

The third section covers programming whereas it will explain how to set up the various packages and modify machine functions.

Trouble Shooting follows the Programming section. Here you can diagnose machine malfunctions and apply the prescribed fix.

The last section is the Appendix. This section will cover subjects with a greater amount of detail.



OPERATION

Chapter 1 Introduction

Warranty Information

Belanger Incorporated Limited Warranty

LIMITED WARRANTY: Seller warrants to the original purchaser that the goods sold hereunder, which are fabricated exclusively by Seller, shall be free from defects in workmanship and material under normal use and service for a period of one year from the date of shipment. Seller warrants to the original purchaser that the goods sold hereunder, which are not exclusively manufactured by Seller, shall be free from defects in workmanship and material under normal use and service for a period of 90 days from the date of shipment. This warranty is subject to the following limitations: (1) Labor to repair or replace parts is warranted to Purchaser during normal business hours through an authorized distributor or value added reseller (VAR) of Seller, or direct with Seller, for 90 calendar days from date of invoice. Labor warranty excludes all claims for warranty on labor that are determined to be nuisance service calls, misuse, lack of operational training, neglect, improper installation, repair, alteration, act of God, or accident from third party damage. Seller reserves the sole right to make determinations on the above stated limitation. All labor and service provided beyond the expiration of the labor warranty period shall be charged to the Purchaser at the rates established by the local authorized distributor or value added reseller (VAR) or direct with Seller; (2) Defective parts will be repaired or replaced through an authorized distributor or value added reseller (VAR) of Seller, or direct with Seller. This warranty does not apply to damage resulting from accident, misuse, abuse, negligence or normal wear and tear to the depreciable parts. Purchaser agrees to submit to and assist Seller or its authorized distributor or value added reseller (VAR) in conducting in-warranty inspections of the machinery and equipment including inspection of any part claimed to be defective by the Purchaser; (3) This warranty shall be void if the factory specifications for operation and maintenance are not followed, or if other than factory authorized erection, alterations or modifications are made to any parts or equipment; (4) This warranty shall be void for all equipment failures and premature component wear caused by the use of corrosive chemicals in the wash process. The following list includes some, but not all, of the particularly corrosive chemicals that if used in conjunction with Seller's equipment will void the warranty: Hydrofluoric Acid, Ammonium Bi-flouride, Bromic Acid, Muriatic Acid, Sulfonic Acid, Phosphoric Acid, Hydrogen Cyanide, Hydrochloric Acid, and Chlorinated Solvents. The Purchaser also agrees to accept the responsibility and liability for the selection and use of any chemicals listed above; (5) This warranty shall be void for all equipment failures and premature component wear caused by the use of reclaim water in the wash process; specifically, failure of high pressure valves, high pressure pumps, nozzles, and un-loader valves; (6) Seller makes no warranty, express or implied, with respect to the design or operation of any entire system, in which Seller's goods sold hereunder are mere components. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHETHER STATUTORY OR OTHERWISE, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE; (7) In no event shall Seller be liable for any incidental, special, consequential or exemplary damages resulting from the furnishing, performance or use of any goods or services sold pursuant hereto, whether due to a breach of contract, breach of warranty, the negligence of Seller or to otherwise; not for loss of business; inconvenience, or property damage of any kind; or for any service not expressly provided herein related to or arising from the equipment or goods sold. This limitation of liability extends to any damages resulting in any way from purchaser's use of any engineering recommendations, sales representations, technical assistance, advice or data supplied by Seller to purchaser in connection with the goods or services supplied, other than that information contained in Seller's manuals, pursuant to this acknowledgment. This limitation of liability additionally extends to any damages of whatever nature resulting in any way from the purchaser's selection and use of any chemicals not manufactured exclusively by seller but used with the purchased goods. All warranties either express, implied, or statutory, pertaining to Seller's machinery, parts, and equipment are fully set forth herein. This limited warranty applies to the original purchaser only and is not transferable. No addition to or modification of any of the provisions of the above stated Limited Warranty shall be binding upon the Seller, unless made in writing and signed by a duly authorized employee of Seller.

Copyright © 2001 by Belanger, Inc. All rights reserved. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system, except as may be expressly permitted by the 1976 Copyright Act. Revised as of 5-30-01. Belanger reserves the right to change or modify the Belanger Inc. Limited Warranty without notice.



OPERATION

Chapter 1 Introduction

Warranty Information

Spot Free (RO): New Wave Industries, Ltd. Limited Warranty

NEW WAVE INDUSTRIES, LTD. warrants to the original purchaser only, that all PUR-CLEAN REVERSE OSMOSIS Models and PUR-CLEAN MOBILE PRESSURE WASHER SYSTEMS will be free of defects in materials and/or workmanship for a period of (1) one year (spiral wound membranes (6) six months) from the date of delivery to the original customer, provided the enclosed instructions for operation, maintenance and care have been strictly complied with and the validation page has been sent to and received by NEW WAVE INDUSTRIES, LTD.

This warranty is expressly limited to the repair or replacement of the defective component.

Excluded from warranty are hoses, guns, hose reel spindles, gauges, un-loaders, and pump seals.

This warranty does not extend to damages to person(s) or property or liabilities incidental, consequential or contingent.

Purchaser shall notify NEW WAVE INDUSTRIES, LTD. in writing or by telephone should any defect appear or should any damage occur to the unit(s) for notification of valid warranty claim.

NEW WAVE INDUSTRIES, LTD. will issue a Returned Goods Authorization (RGA) number for defective parts (see RGA Policies and Procedures on the next page).

There are no other warranties expressed or implied.

OPERATION

Chapter 1 Introduction

Warranty Information

Spot Free (RO): New Wave Industries, Ltd. Returned Goods Authorization (RGA) Policy and Procedure

Policy

- All returns must be authorized by NEW WAVE INDUSTRIES, LTD. (Service Department) with a Returned Goods Authorization (RGA) form prior to return.
- All returned goods must be received by NEW WAVE INDUSTRIES, LTD. within 30 days or you will not receive credit. All goods not received within 30 days will not receive credit.
- Credit is contingent upon a credit evaluation inspection.
- Customer must prepay freight.

Procedure

- Contact New Wave's Service Department and give original invoice number and date of order to request an RGA.
- New Wave's Service Department will issue an RGA form and send it via fax or mail.
- Include the RGA form inside the package and clearly write the RGA number on the outside of the package.
- Customer must prepay freight.
- When returned parts are received by NEW WAVE INDUSTRIES, LTD., credit for the parts is contingent upon credit evaluation inspection and warranty terms.
- If the customer wants to place an order for the part(s) during the return process, then the customer is agreeing to purchase the replacement part(s) and pay the invoice when received. If the returned part(s) is found to be a warranty item NEW WAVE INDUSTRIES, LTD. will issue a credit redeemable in parts.
- If New Wave Industries, LTD. sends a part that was not ordered by the customer, the customer needs to get an RGA number from NEW WAVE INDUSTRIES, LTD.
- Include the RGA number clearly on the outside of the box and the part(s) to be returned.
- NEW WAVE INDUSTRIES, LTD. will issue a call tag to the customer for pickup of the wrong part(s) and ship it back to New Wave's factory, at New Wave's expense.
- NEW WAVE INDUSTRIES, LTD. will pay standard ground freight for warranty replacement parts. If the distributor/customer requires overnight/second day air delivery, shipping will be at customer's expense.



Chapter 2

E-1032 Programming and Large Vehicle Wash Operation

Chapter REV 01

OPERATION

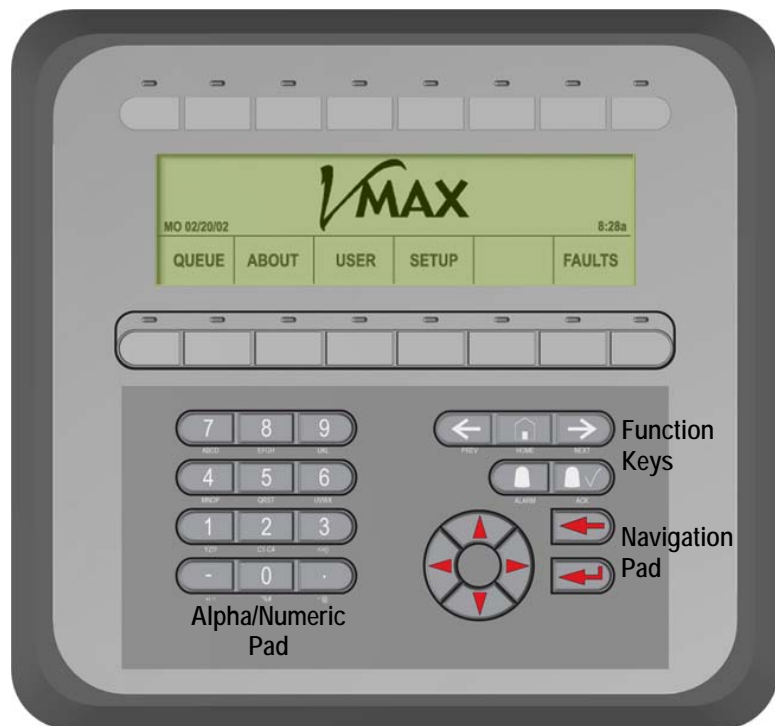
Chapter 2: E-1032 Interface

Component Overview

The E-1032 is only an interface between a person and the controller. It does not control the machine or store any data. It can be used to setup, reset, debug, load packages, etc. This machine allows the user 4 different packages that are completely independent of one another. The packages can run passes in any order and at speeds from 25/30% to 100%.

E-1032 Interface Module

The following will explain the face and functions of the E-1032 Operator Interface for the Large Vehicle Wash. The image below shows the keys on the keypad with a brief description of their function(s). Each function will be covered in greater detail later in this document.





OPERATION

Chapter 2 E-1032 Interface

Package Setup Overview

This section explains in detail how to Setup Packages, how the different applications work and how to program these into the system. Please read and understand all of the functions of the Large Vehicle Wash and the E-1032 prior to programming. The following concepts should be fully understood:

- Chemical application speed on the front, middle and rear of the vehicle will alter chemical usage; cleaning, cycle time and chemical soak time.
- If chemical usage is high, you can reduce the chemical pump setting and the water together to maintain a consistent concentration and reduce chemical use. You can also increase the chemical application speeds on the front, middle and rear for reduced chemical use and faster cycle time.
- If chemical usage is correct, you MAY want to increase the water and chemical along with the chemical application speeds. This will reduce the cycle time to wash a vehicle while applying the same amount of chemicals per vehicle.
- Changing the water and chemicals changes the fill time settings. Higher pump speeds fill the lines faster and require less fill times. Foam air pressure will need to be compensated. This also changes fill times.
- For most systems it is better to tweak in one package then to use the same settings for chemicals in the other packages.

Speed Adjustment

With the exception of Presoak return speed, the speeds can be independently controlled for front, middle and rear of each pass. The return speed is adjustable, but only one speed for all parts. Independent control of separate parts of the vehicle allows a pass to apply more chemical in needed areas, and less chemical where it is not needed.

Presoak 1 and Presoak 2

These applications profile the vehicle from front to back, and then return to the front or vise-versa. Chemical will always be applied on initial vehicle profiling but can be turned off for the return profiling. Toggle between CHEMICAL and RAPID RETURN. If chemical return is selected, FRONT/MIDDLE/BACK speeds will be used for speeds of return. If Rapid Return is selected, Return Speed will be used. These applications utilize the Variable Procon™ Pump 3 and foam air. Using the Rapid Return creates equal soak time for all parts of the vehicle. Using Chemical Return allows more chemical coverage when necessary. Speeds can be adjusted for more or less coverage for different parts of the vehicle.

OPERATION

Chapter 2 E-1032 Interface

Package Setup Overview

Return Speeds (RS)

Return speeds are settings in the Presoak passes. They are the speeds at which the machine will move back after applying the Presoak. A slow return speed is required if a large soak time is desired. Dwell time can be set for longer soak times but they cause the machine to remain in a motionless state while chemical is setting (Dwelling) on the vehicle. When possible, using Return Speed is a better way of controlling Soak Time.

Note: Longer vehicles have longer soak time when return is used.

Windshield

Usable by Presoak 1 and 2 as well as Named 1 through 3. When used upper in Carriage nozzles will dispense chemical at the front of the vehicle to get better coverage on the windshield of vehicles with long hoods. To activate, toggle the application to "Y" under the "W" of Package Setup screen (see corresponding screen for more information). The distance that the fluid is dispensed is set in the MISC 1 screen.

Named 1 through 3

These applications profile the vehicle from front to back or vise-versa. They utilize Variable (Procon™) Pump 3 and Foam Air. When necessary, they can use the same chemical pumps as Presoak 1 or Presoak 2. To do this, tie the output of named 1, 2 or 3 to the desired Presoak output and rename the application to match. Applications 1 through 3 each have their own output. These applications are faster than Presoak 1 and 2 if the Soak Time required is minimal. If vehicles are long, it may be better to use these applications instead of returning if equal Soak Time can be omitted. The Foamer Output and/or Pump 3 can be omitted for custom applications.

See Application Setup 1 for description of Fill, Purge, Dwell, Air and Pump 3. All of these will effect how Named 1 through 3 operates. Also see App. Setup 1 for changing names.

Named 4 through 6

These applications profile the vehicle from front to back or vise-versa. They utilize the two main pumps. The pumps can be any of the following: both ON, Pump 1 only ON, Pump 2 only ON or both OFF. They are good for Medium Pressure Rinse, Waxes, Spot-Free (RO), etc. Be careful to program the correct pump to turn on when installing options onto a Pumping Station. When reclaim or Reverse Osmosis (RO) is used on these applications water purge settings should be at a minimum of 1 second.

See Application Setup 2 for description of Fill, Air Purge, Pump 1, Pump 2, Reclaim and Water Purge. All of these will effect how Named 4 through 6 operates. Also see App. Setup 2 for changing names.



OPERATION

Chapter 2 E-1032 Interface

Package Setup Overview

Dryer

This option can be selected or deselected by toggling between YES and NO. When toggled to YES, the Dryer will come ON at the end of the package for the duration entered into Time Selection field (in seconds). Each package has its own Dryer control selection and time setting.

Note: *The Dryer will turn off early if Dryer Shutdown input turns on then off again.*

Prepping Consideration

The following two inputs have been provided to assist in vehicle prep and brushing hard to get areas.

Wash Pause

This can be turned ON prior to the vehicle pulling into the bay to prevent the wash from starting once the vehicle gets into position. This will allow time for prep of this vehicle while it is in position. It can be turned ON at any point during a pass and the wash will pause after the pass is completed.

Rocker Force

Turn this on to force Rocker ON.

Typical scenario of using these two inputs:

- *Enter Package, apply Bug Spray to the front and chemicals to the rims and tires*
- *Force Rocker ON and pull vehicle forward until the Stop Light turns on*
- *Spray chemical on the back of the vehicle, brush it and then use high- pressure to remove it*
- *Turn off the Wash Pause, let the machine run Presoak 1 and start Presoak 2*
- *Turn ON Wash Pause while Presoak 2 is running, machine will pause after Presoak 2 is complete*
- *Brush between the cab and the trailer, rims and tires, remove bugs from the front and other areas*
- *Turn OFF Pause and let the cycle finish*

OPERATION

Chapter 2 E-1032 Interface

Loading Overview

Treadle Operation (See MISC 1 Screen for Selection)

Treadle Loading

Beginning of Cycle - Vehicle will NOT be considered in wash position until Exit-Treadle Door is in the down position.

During Cycle – Once vehicle is in Wash Position, it will remain considered in Wash Position if either or both Treadle Doors are in the down position.

End of Cycle – Vehicle exchange will begin to evaluate Sonar and Bypass Timers after both Treadle Doors are in the up position. The system looks at Sonar Units and Bypass Timers to determine when it is OK to signal the next vehicle to enter the bay.

Photo Eye Operation

Photo Eye Loading

Beginning of Cycle - Vehicle will be considered in position when Enter-Treadle Photo Eye is broken and Exit-Treadle Photo Eye is not broken.

During Cycle - Vehicle is latched into position until an unexpected "End of Travel Limit" occurs or both Sonar Units see the floor. Once unlatched, vehicle will be considered in position when Enter-Treadle Photo Eye is broken and Exit-Treadle Photo Eye is not broken except when machine is in the process of washing the front of the vehicle. When the machine is at the front of the vehicle, Exit-Treadle Photo Eye is allowed to be broken.

End of Cycle – Vehicle exchange will begin to evaluate Sonar and Bypass Timers after Exit-Treadle Photo Eye has been broken. The system looks at Sonar Units and Bypass Timers to determine when it is OK to signal the next vehicle to enter the bay.

Light Operation

GO (Outside)

ON when Loader has value and bay does not have vehicle in cycle. Will turn OFF two seconds after the vehicle breaks the Entrance Photo Eye. Light will begin to flash in 60 seconds if vehicle does not enter Photo Eye.

WAIT (Outside)

Will turn ON 4 seconds after vehicle enters Photo Eye. Also will turn ON if machine must HOME to prepare for entering vehicle. The light will turn ON and remain ON for 10 seconds after a fault occurs.

PULL FORWARD (Inside)

Beginning of Cycle - Light will turn ON when vehicle enters bay Entrance Photo Eye and will remain ON until vehicle is in position to wash (on the Treadle).

Will begin to flash in 60 seconds if vehicle has not pulled forward to wash position.

During Cycle - Light will turn ON if vehicle moves too much toward the entrance of wash position.

End of Cycle - Light will turn ON when wash is over and "normally" will remain ON until vehicle is no longer seen by either Sonar Unit.



OPERATION

Chapter 2 E-1032 Interface

Loading Overview

STOP (Inside)

ON when wash cycle is in progress and vehicle is in wash position. Will turn OFF when wash is over.

BACK UP (Inside)

ON if vehicle moves toward exit of wash position during the wash cycle.

Auto Reset Overview

Auto Reset Enabled

The system will evaluate the inputs and determine if it is OK to Self-Reset. The system can only Self-Reset twice daily. After the third fault the system will shut down until someone can inspect it. If the correct criteria cannot be met within 3 minutes, the system will not Self-Reset. Auto Reset will work only if a Fault occurred while the machine was in cycle. If a Fault occurs while the machine is at rest, the Fault will not be reset automatically.

Criteria for Self-Reset

- **Drive Faults and Carriage Home Faults:** If there are no Breakaways or Jams, the system will Reset.
- **Any Jam:** If there are no Breakaways and both Sonar Units see the floor, the system will Reset.
- **Any Breakaway:** If Breakaway condition is removed, the system will Reset.
- **Any Low-Level:** One second after all Low-Level conditions are removed, the system will Reset.

OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

This section will give a description of each screen that you will encounter during the programming of the Large Vehicle Wash. The navigation of the screens will always be stated as starting from the MAIN screen.

Main Screen

Pressing the corresponding function keys will shift screen to desired locations.



Queue - Enter packages into the Queue and view QUEUE/LOADER/WASH.

About – View the software version number.

User – Non-Password section intended for normal Operator / Chemical personnel etc.:

- Monitor Speeds
- Monitor Inputs
- Monitor Outputs
- Force
- Jog
- Homing

Setup – Password protected section for setting up the wash and viewing the wash data:

- Package Setup
- Application Setup
- Pager Setup
- Miscellaneous
- Wash Data

Faults – Displays Fault status and allows Reset of machine.

Wash Paused – Displays If ON, wash has been paused and will not complete cycle until the Input is turned OFF.

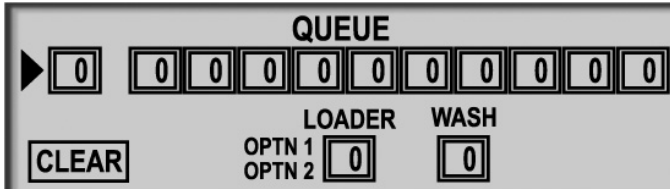
OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Queue

The Queue keeps track of the packages that vehicles will receive. It can keep track of up to 10 vehicles at a time. Package selections can be entered into the "Queue" from the screen ONLY. The POS will enter selections directly into the Loader.



Screen Key:

- The row of boxes displays the ten packages in QUEUE, 0 if not present
- The box on the upper left is where you will enter the next available package
- "Loader" shows the wash that is being evaluated to load
- "Wash" shows the vehicle that has entered through the Photo Eye or has reached wash position
- OPTN 1 and OPTN 2 will be displayed if that Option is activated for loading vehicle

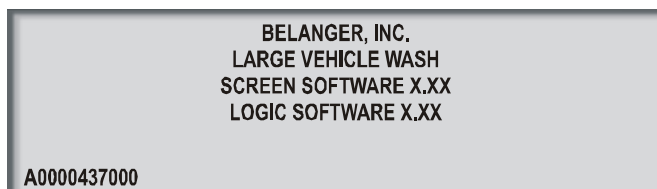
Values entered into the Queue will be inserted to the right of the last position entered. If package is the first entered into Queue, it will be inserted into the left most position. As washes are used, the Queue will shift all packages to the left one place until all washes are shifted into the Loader.

Note: POS will NOT use QUEUE; it will insert selections directly into the Loader.

When the system is ready to accept another vehicle into the wash, the Loader will be shifted into wash if the enter Photo Eye is broken or vehicle is in wash position.

About

This screen shows the current software version running on your machine.



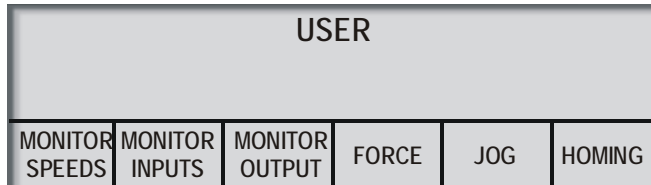
OPERATION

Chapter 2 E-1032 Interface

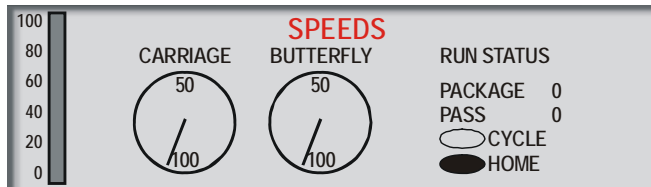
Programming / Operation

User

Non-Password section intended for normal operator, chemical personnel, etc.



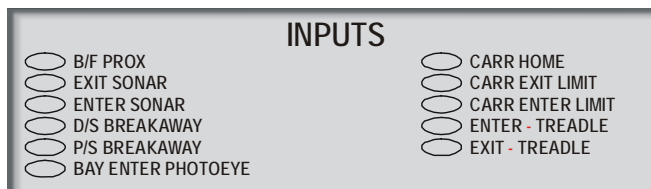
Monitor Speeds



Screen Key:

- The "Bar" indicator on the left displays the Pump 3 percentage (Procon™ Pump)
- The two "Speedometer" type gauges indicate variable speed in percentage
- The column on the right shows the Cycle Run status

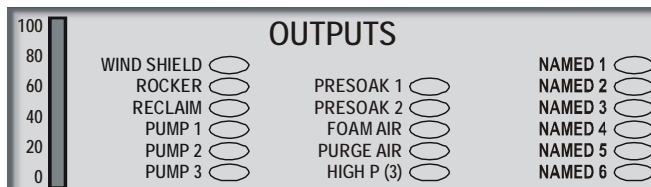
Monitor Inputs



Screen Key:

- The "Ovals" are ON/OFF indicators. A filled oval indicates that an Input is ON

Monitor Outputs



Screen Key:

- The Bar indicator on the left displays the Pump 3 percentage (Procon™ Pump)
- The "Ovals" are ON/OFF indicators. A filled oval indicates that Output is ON

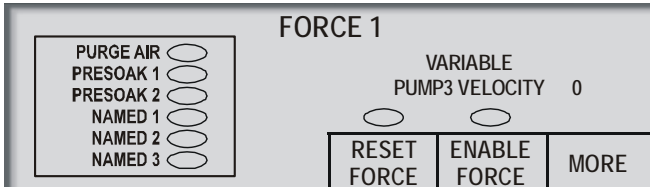
OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

User

Force



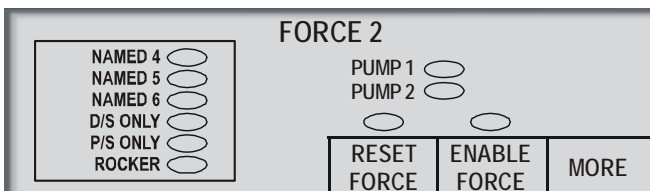
Screen Key:

- The "Pump 3 Velocity" field is stated in percentage (Range 50% to 100%, Procon™ Pump)
- The "Ovals" are ON/OFF indicators. A filled oval indicates that function is forced ON

Pressing the MORE key moves to the FORCE 2 screen.

To Force an application ON or OFF, go the desired Force screen, press the ENABLE FORCE key, then select application to be forced and issue a Pump Speed if necessary. Once enabled, you can select multiple applications simultaneously. To remove the Force, press the RESET FORCE key. This will reset all applications that have been forced. Individual applications can be toggled off individually.

Note: Forcing outputs is recommended instead of using switches on Output Cards.



Screen Key:

- The "Ovals" are ON/OFF indicators. A filled oval indicates that function is forced ON
- Pump 1 and 2 are independent of function selected

Pressing the MORE key moves to the FORCE 1 screen.

Functions forced on the FORCE 2 screen do not have associated Pump Speeds but they do have Pump selections. Make sure proper Pump is forced per function.

CAUTION

Do Not simultaneously force functions from two different Force screens.

OPERATION

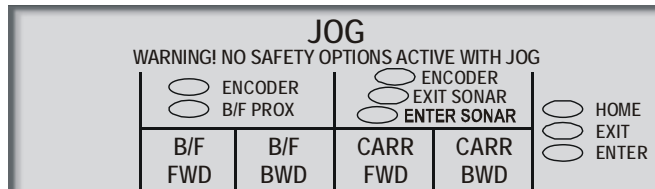
Chapter 2 E-1032 Interface

Programming / Operation

User

Jog

This screen allows you to manually Jog the Carriage and Butterfly Motion. Pressing and holding the corresponding function key will Jog the axis in the desired direction. The axis will Jog at 15% speed. Jog operation continues under fault conditions.

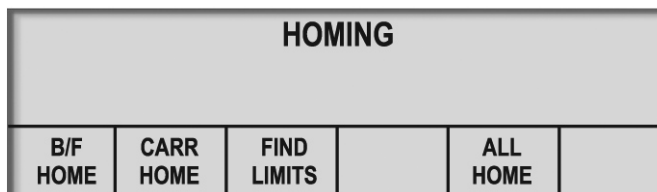


Screen Key:

- The "Ovals" are ON/OFF indicators. A filled oval indicates that an Input is ON
- **CAUTION: No limit controls are active during JOG**
- **DO NOT JOG BEYOND TRAVEL RANGE.**

Homing

This screen allows you to Home the individual axes or the entire machine and instruct the machine to find its limits.



Press the corresponding function key to perform the desired Homing sequence.

Pressing the FIND LIMITS function key will make the machine locate its end limits if machine is in the HOME position. This MUST be performed during machine setup.

OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Setup

This section is password protected. All of the Setup settings are adjusted in this area. Wash Data viewing and Clearing are also located in this area.

SETUP					
PACKAGE SETUP	APP. SETUP		PAGER SETUP	MISC	WASH DATA

Package Setup

Pressing the PACKAGE SETUP key will take you to the following screen. This screen provides access to setup packages 1 through 4. To setup a particular package, press the corresponding function key.

PACKAGE SETUP 1-4 OPTION SETUP 1 & 2					
PACKAGE ONE	PACKAGE TWO	PACKAGE THREE	PACKAGE FOUR	OPTION 1 & 2	

Press the PACKAGE ONE key to move to its Setup screen. On this screen, enter the desired values for each field.

PACKAGE ONE	PASS	SPEED %			PUMP	W	RETURN SPEED
		FR	MID	BK			
PRESOAK1	1	40	40	40	80	N	CHEM 30
PRESOAK2	0	40	40	40	80	N	CHEM 30
NAMED 1	0	40	40	40	80	N	
NAMED 2	0	40	40	40	80	N	
NAMED 3	0	40	40	40	80	N	
MORE							

Screen Key:

Columns described from left to right

- Application name (see Application Setup for name change)
- The pass order that applications will take place
- Motion speed at the front of a vehicle (25 % - 100%)
- Motion speed at the middle of a vehicle (stated in %)
- Motion speed at the rear of a vehicle (stated in %)
- Pump speed (stated in %)
- Windshield YES / NO
- Chemical or Rapid Return
- Rapid Return motion speed (30 % - 100%)

When you are done with this screen, press the MORE key to move to the second screen associated with this package.

Named applications may be named from the Application Setup screens.

Pass Order is the order in which applications will be performed in that package. Care MUST be taken not to use the same number twice in Pass Order.

OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Setup

Package Setup

PACKAGE ONE	PASS	SPEED %			
		FR	MID	BK	
SPOT FREE	0	40	40	40	ROCKER NO 0
WAX	0	40	40	40	DRYER NO 60
NAMED 6	0	40	40	40	MAX LENGTH NO 63
HP RINSE	2	40	40	40	MIN LENGTH 0
HP RINSE	0	40	40	40	EXIT OFFSET 0
HP RINSE	3	40	40	40	

Screen Key:

Columns described from left to right

- Application name
- The vehicle pass order that a function will take place
- Motion speed at the front of a vehicle (25 % - 100%)
- Motion speed at the middle of a vehicle (stated in %)
- Motion speed at the rear of a vehicle (stated in %)
- Rocker toggle YES / NO and Max Time
- Dryer toggle YES / NO and Max Time
- Max length YES / NO and Inches
- Packages Minimum Car Length
- Exit offset for Package

All packages are programmed in the same fashion.

Note: *Each package has two screens that are used together to setup a given package.*

Named 4 – 6 may be named from the Application Setup screen.

Pass Order is the order in which applications will be performed in that package. Care MUST be taken not to use the same number twice in Pass Order.

Rocker – Toggles between YES/NO to select a Rocker for that package. The number displayed is the maximum Rocker time. Rocker will turn OFF before max time if vehicle reaches the Wash Position. Rocker will also turn OFF before max time if bay enter Photo Eye sees back across for the number of seconds that the “Rocker Off Delay” is set for.

Dryer – Toggles between YES/NO to select a Dryer for that package. The number displayed is the maximum Dryer time. Dryer will turn OFF before max time if Dryer Shutdown input turns ON then OFF again while the Dryer is ON.

Min Length – This is the minimum length that the system will begin to evaluate the Entrance Sonar while sizing the rear of the vehicle. Use this setting for vehicles that allow the Sonar to see the floor before rear of vehicle. *Example: Tractor-Trailer.*

Max Length – Toggles between YES/NO to select a Max Length for that package. This setting is typically for the “Cab Only” feature. Typically set at approximately 12 inches longer than the longest vehicle the package will wash. Normal settings are 300 for Cab Only.

OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Setup


Option Setup

OPTION 1			OPTION 2		
DRYER	NO		DRYER	NO	
MAX LENGTH	NO	0	MAX LENGTH	NO	0
MIN LENGTH	NO	0	MIN LENGTH	NO	0
EXIT OFFSET	NO	0	EXIT OFFSET	NO	0

Screen Key:

Columns described from left to right

- YES/NO to select that change when the Option used
- Data settings to the right are what the data settings will be changed to instead of data of that Package

Each function can be toggled between YES/NO using the  key. Toggling to YES enables that change whenever the Option is selected.

Dryer Yes – When toggled to YES will select Dryer for the vehicle that gets the Option

Max Length/Min Length/Exit Offset – When Selecting YES, this will change data to the data entered in the Option field for the vehicle that gets the Option.

Exit Offset – Moves the front of the machine farther from the corners during profiling. If the machine is striking the front mirrors of the vehicle, increase the value until the machine misses the mirrors (setting range: 1 to 20).

OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Setup

Application Setup

This screen is for setting up applications that use the Variable Pump 3 (Procon™ Pump) and Foam Air.

APPLICATION SETUP 1					
	FILL	PURGE	DWELL	AIR	PUMP 3
PRESOAK 1	8.0	3.0	0.0	ON	ON
PRESOAK 2	8.0	3.0	0.0	ON	ON
NAMED 1	8.0	3.0	0.0	ON	ON
NAMED 2	8.0	3.0	0.0	OFF	ON
NAMED 3	8.0	3.0	0.0	ON	ON

Screen Key:

- All times are stated in seconds
- NAMED 1-3 can have their names changes on this screen

Pressing the MORE key will move to the Application Setup 2 screen.

Fill – The amount of time it takes for that fluid to come out of the nozzles at pressure. If motion starts before fluid reaches pressure, increase the fill time. If motion is delayed too much after dispensing begins, reduce fill time.

Purge – Will turn OFF applications output, Pump 3 and Air for the selected amount of seconds sooner while turning ON the Purge Air. Although the settings can be adjusted to 10 seconds, the true maximum time is the time it takes to perform the Butterfly motion. Slowing down the Butterfly speed (front or rear) may increase maximum allowable Purge Time when necessary.

Dwell – This will delay the next application from beginning to dispense or move until the selected number of seconds has expired.

Air – Turns Foam Air ON or OFF during this application (not changeable for Presoak).

Pump 3 – Turns Pump 3 ON or OFF during this application (not changeable for Presoak).

Named 1 – 3 - can be changed by placing the cursor over name to be changed and pressing the ENTER key. Now use the alpha/numeric pad to enter letters. Press the keys repeatedly without delay until your desired letter appears, the stop and that letter will be input. Use the orange arrow keys to get to the desired position if it is not automatically done for you. "SPACE" is acquired by pressing the "period" key twice.



OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Setup

Application Setup

This screen is for setting up applications that use either or both of the main pumps.

APPLICATION SETUP 2						
	FILL	AIR PURGE	PUMP 1	PUMP 2	RCLM	WATER PURGE
NAMED 4	6.0	0.0	NO	NO	NO	0.0
NAMED 5	6.0	0.0	NO	NO	NO	0.0
NAMED 6	6.0	0.0	NO	NO	NO	0.0
HIGH PRESS	4.0	0.0	YES	YES	NO	9.0
HIGH P (3)	0.0	0.0	NO	NO	NO	4.0
ROCKER			NO	NO	NO	

Screen Key:

- All times are stated in seconds
- NAMED 4-6 can have their names changes on this screen

Press the PREVIOUS key on the keypad to return to the Application Setup 1 screen.

Fill – The amount of time it takes for fluid to come out of the nozzles at pressure. If motion starts before fluid reaches pressure, increase the fill time. If motion is delayed too much after dispensing begins, reduce fill time.

Air Purge – This will purge lines after motion stops. The next pass is delayed while purging is in progress.

Pump 1– Turns Pump 1 ON/OFF with that application (not changeable for High Pressure).

Pump 2 – Turns Pump 2 ON/OFF with that application (not changeable for High Pressure).

Reclaim –Select if Reclaim is used with that application.

Water Purge – Will turn off applications output selected amount of seconds early. This setting is for clearing out pump and possibly the lines. Although the setting can be adjusted to 4 seconds, the real maximum time is the time to perform butterfly in motion. Slowing down the butterfly speed (front or rear) may increase maximum allowable water Purge Time if necessary. For use with RO or Reclaim Water.

Named 1 – 3 Change – See Application Setup 1

OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Setup

Pager Setup

Call Out - This is the number that will be called in the event of a Fault. The number can be long distance (11 digits) or local (7 or 10 digits). 7 or 10 will still be displayed on the screen even if the long distance option is selected. In this case, the call will still function as 11 digits.

Numeric Message Activator - This is a number that will be sent out to shift called system into numeric message mode instead of voice mail.

Max Pages - This function determines the number of times the system will send out a page.

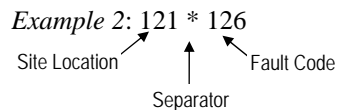
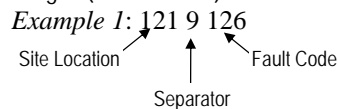
Site # - The first three digits of the code is the Site Number. The last four digits is the error code.

Code Delay - This is the amount of time in seconds that it takes to be able to send out a numeric message or send activator. In other words, the time it takes for a called system to pick up, broadcast its message and be ready to accept information from the Vector.

Delay Page - Here you can set a delay period before the system will page. This allows time for someone at the site to correct a problem before you are notified.

PAGER SETUP	
CALL OUT # 1-000-000-0000	
NUMERIC MESSAGE ACTIVATOR IS, 0	
03 MAX PAGES	SEPARATOR
111 SITE #	LONG DISTANCE
30 CODE DELAY	LOCAL DIAL LENGTH 7
005 DELAY PAGE	SERVICE PAGING/WASH STATUS

Separator - This function will allow you to choose between an "Asterisk" (*) or the number "9" to separate the first three digits (Site Number) and the Fault Code. Most pagers use the number 9 as a separator.



Long Distance - If the Long Distance function is chosen, the telephone number will automatically be 11 digits.

Local Dial Length - If Local is selected, there can be either 7 or 10 digits in the phone number.

Note: Modem dial-out function does not support the number 9 to access outside line.

OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Setup

Misc 1



Screen Key:

- Photo Eye / Treadle loading: toggle chooses loading type
- E-Stop Fault enable and disable
- Auto Reset enable and disable
- Windshield distance
- Exit door output time
- End of cycle Purge Time stated in seconds
- Rocker Off Delay stated in seconds
- Toggle to High Power Mode or Low Power Mode
- CR1 is Wash in Use or Wash Done toggle

Pressing the MORE key will move to the MISC 2 screen.

Pressing the MODEM key will move to a screen that allows you to clear the RS-232 port or setup modem communication. This section is unnecessary unless the factory is trying to dial in.

Loading – Toggles Photo Eye and Treadle style of loading (See Loading Overview).

E-Stop Fault – Enables or Disables E-Stop timing out and faulting.

Auto Reset – Enables or disables Auto Reset (See Auto Reset Overview).

Windshield Distance – The number of inches the Windshield Valve will be open when used (See Package Setup Overview). This process begins after the Manifold Arms have completed their butterfly-out motion when applying from front-to-back.

Exit Door Output Time – Time that output will turn ON and stay on at the end of cycle (in seconds).

Empty Bay Purge Time - This is the time in seconds that the system will purge lines with air after the vehicle has pulled out of bay. This option will not be activated if another vehicle is pulling into bay. This is the end of cycle purge.

Rocker Off Delay – Number of second's the system will wait to turn OFF Rocker after the Photo Eye sees back across.

Power Mode – Low power will delay Loading Lights and cycle ability to turn ON Rockers or Main Pumps while the Dryer is ON.

Wash In Use – Toggles between Wash In Use and Wash Done style of operation of Output 22.

Time and Date can be set in the lower left side of this screen.

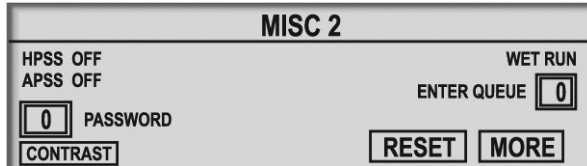
OPERATION

Chapter 2 E-1032 Interface

Programming / Operation

Setup

Misc 2



Pressing the MORE key returns you to the MISC 1 screen

HPSS – High Pressure Sonar Simulate: When turned ON system will not use the Sonar during High Pressure.

APSS – All Pass Sonar Simulate: When turned ON system will not use the Sonar after the first pass.

Wet Run – Is the default setting but this can be toggled to Dry Run for testing. Dry Run, Enter Queue and Reset are all on this screen to work together for testing the machine.

To use, enter Wash In Queue. Wait to see if machine self-homes itself. If the self-home function starts, waits until it is done, switch to Dry Run. To repeat without moving vehicle from the Wash Position, press RESET before running the next vehicle. Remember to switch back to Dry Run for each vehicle to be run dry.

Password - when a number is entered it will be necessary to match that number to get to your Setup screen. The operator will be prompted to enter a password when attempting to enter Setup section. Once prompted, the password must be typed in. Press ENTER, and then press the DONE key.

Note: *It is recommended that enclosure is locked by pad lock when not using operator interface.*

OPERATION

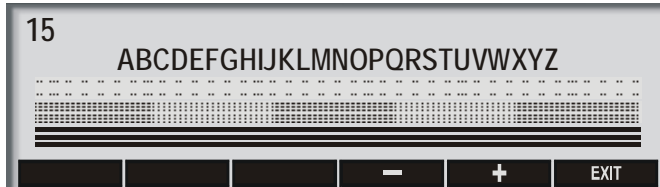
Chapter 2 E-1032 Interface

Programming / Operation

Setup

Misc 2

Contrast - Switches to the Contrast Adjustment screen (shown below). Use the + or – keys to lighten or darken the screen.



Screen Key:

- The number in the upper left corner shows the contrast's numerical setting

Note: *The screen should be slightly dark in hot weather and slightly lighter in colder weather. Adjusting otherwise may cause the screen to become unreadable when climate changes are extreme.*

Wash Data

WASH COUNT			
PACKAGE 1	18	PACKAGE 3	0
PACKAGE 2	0	PACKAGE 4	0
RESET	TOTAL	18 CYCLES	18

This screen shows accumulated washes for packages 1-4 and the total of all 4.

Pressing the RESET on this screen will zero out the posted accumulated number for packages 1-4 and the total. This RESET is completely different than the RESET on the Fault screen.

The Cycles Accumulated display is non-resettable.

OPERATION

Chapter 2 E-1032 Interface

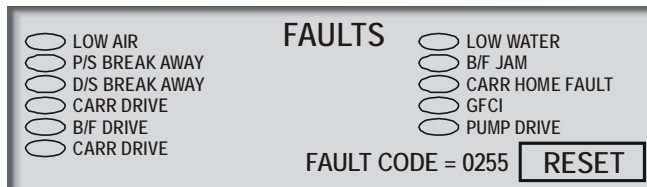
Programming / Operation

Faults

This screen indicates the current Fault status of the system. The oval next to a particular Fault will be filled in if that Fault is active.

This screen also displays a numerical Fault status of the system. This is the four digit error code that will be sent to a pager when the Fault occurs.

Note: Status 255 is for "System OK".



Screen Key:

- The "Ovals" indicate an On/Off condition
- A filled Oval states a function is ON

Reset

This function can be obtained by pressing the RESET key from the Fault screen of the E-1032 or by wiring input to x36. This function is explained more below.

If vehicle is NOT on the Treadle, the RESET key will:

- Reset machine
- Home all three axis'
- Prepare for next cycle

Holding the RESET button until motion begins will also trigger the above. Regardless of Treadle.

If vehicle IS on the Treadle, the RESET key will:

- Reset machine
- Home all three axis'
- Run cycle that was running when system faulted or when button was pressed, does not accept next vehicles package

Note: Red LED will appear on the E-1032 when a Fault is active.



Belanger, Inc. * P.O. Box 5470 * Northville, MI 48167
Customer Service Phone (248) 374-4700 * Fax (248) 380-9681



VMax®: Operation
1MANUL804

ALASKA WASH SUPPORT

11101 Old Seward Hwy Anchorage, AK 99515

Location: AnchorRIDES

Date: 2-26-2020

Address: 3600 Dr. Martin Luther King Jr. Ave.

Bay: AnchorRIDES

City, State, Zip: Anchorage, AK 99507

Belanger V-Max Combined Maintenance Task Checklist

	Maintenance Task Description	Initial When Completed
Wash Bay General		
1	Log the wash data cycle count	
2.	Check fault screen for trends, areas requiring servicing, and document the findings	
3.	Record number of vehicles since last oil change or note when last change was done.	
4.	Confirm setup and document the settings	
5.	Inspect all floor anchors.	
6.	Inspect all fasteners and anchors on the frame and other components.	
7.	Clean all rails of any dirt, oil, or film, to prevent tire slippage.	
8.	Check signage bulbs	
9.	Inspect and clean photo eyes	
10.	Inspect all water lines	
11.	Inspect and clean dryer inlet screens	
Carriage Assembly		
12.	Check integrity of all knuckle assembly shear-pins for fatigue. Be sure the edges of the grooves are not worn or rounded.	
13.	Check knuckle bolts for tightness	
14.	Check that the snap-rings are secured in position of shear-pin groove.	
15.	Inspect all the rollers for wear.	
16.	Check tire pressures: carriage tires @ 90psi	
17.	Inspect all hoses for rubbing, wear, or leaks.	
18.	Inspect and clean all spray nozzles	
19.	Annual Task - Replace the shear-pins on the knuckle assemblies	
20.	Annual Task - Replace the nozzles in the manifolds and spin cleans	
21.	Annual Task - After the first 20,000 vehicles, change the oil in the two gearboxes located in the carriage assembly. Flush out the case and refill to the proper level as follows using only synthetic lube such as the following: • Mobil SCH 629 or SCH 634 • Chevron Tegra 460: • LVW 45125: every 40,000 vehicles • LVW 75140: every 30,000 vehicles.	
Pump Stands (Tasks are to be completed on both pump stands)		
22.	Apply Lock-Out / Tag-Out. Remove the belt guard; inspect the belt for proper tension and wear	
23.	Check the oil level and quality in the Cat HP pump.	

24.	Check water inlet screens in the large tank	
25.	Verify all nozzles are clean. Run a vehicle; inspect the pressure gauge on the pumping station during the high-pressure passes. The pressure should be within 150 PSI of original	
26.	Annual Task - after the first 2,000 vehicles, change the oil change the oil every 10,000 vehicles.	

Water Softener

27.	Check for leaks.	
28.	Record salt level and add salt if necessary.	
29.	Test and document water hardness.	

R.O. Unit

30.	Check for leaks	
31.	Check the product flow and pressure reading of the unit. Unit may need to be adjusted. If unable to get within factory specifications, the membrane should be cleaned.	
32.	Back flush the carbon tank.	
33.	Clean the water stabilizer.	
34.	Check and record total dissolved solids (TDS)	
35.	Annual Task - Replace the pre-filter on the incoming water line.	
36.	Annual Task - Clean membrane if flow/pressure are not within factory specs	
37.	Annual Task - Change out carbon tank	

Boiler System

38.	Check for leaks	
39.	Confirm temperature setting is at 140° F.	
40.	Oil recirculation pump as required by boiler manufacturer	

Compressed Air System

41.	Check for leaks	
42.	Check and record main pressure regulator setting	
43.	Check and record pneumatic manifold regulator setting	
44.	Drain air compressor	
45.	Clean pneumatic manifold water separator	
46.	Clean pneumatic manifold coalescent filter	

Air Doors

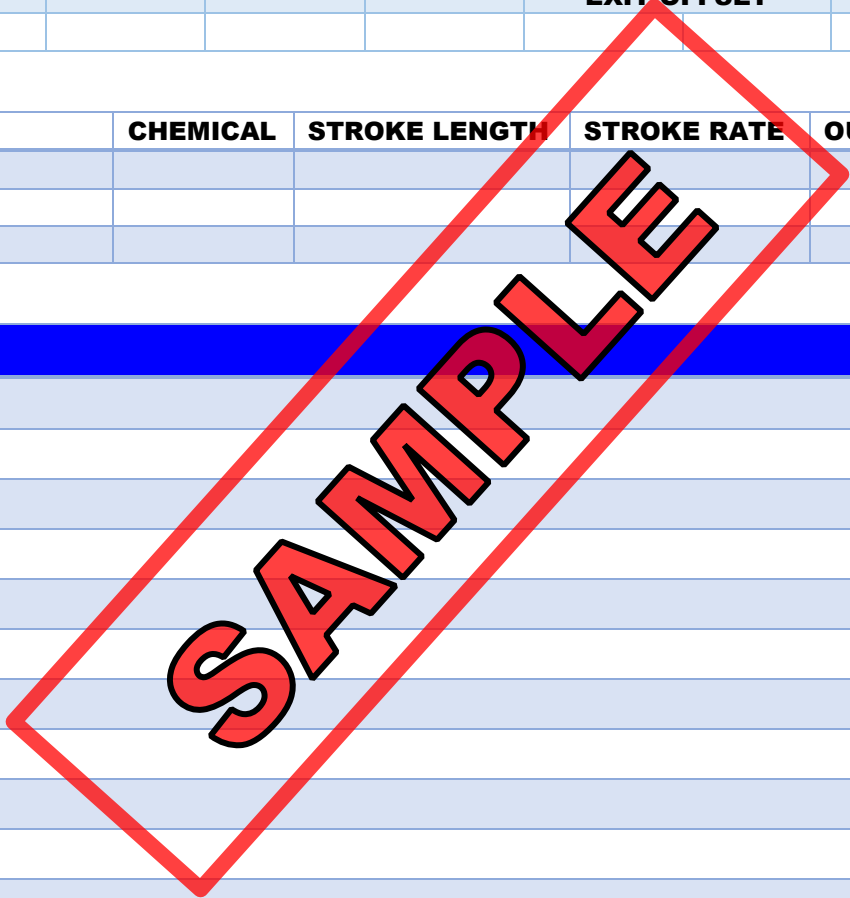
47.	Check air door operation (front and back) and air-pressure levels / gauge operation.	
48.	Inspect door hinges for secure attachment, rollers for wear, and weight strap for damage.	
49.	Grease Air Door Bearings (3 per door)	
50.	Drain off any condensate in air traps and regulators	
51.	Lubricate air door internal piston	
52.	Inspect air supply lubricators (if equipped) and refill when at 1/4 capacity.	
53.	Test door safety eyes for proper operation	
33.	Clean and lubricate exterior of Magnaglide assembly using 10-weight oil	

Package Number	SPEED %					
	PASS	MID	BK	PUMP	W	CHEM / RAPID
PRESOAK 1						CHEM / RAPID
PRESOAK 2						
1.						
2.						
3.						
4.						
5.				ROCKER	YES/NO	
6.				DRYER	YES/NO	
HP RINSE				MIN LENGTH		
HP RINSE				EXIT OFFSET		
HP RINSE						

FUNCTION	CHEMICAL	STROKE LENGTH	STROKE RATE	OUNCES	TITRATION
PRESOAK 1					
PRESOAK 2					
DRYING AGENT					

Notes:

Notes area with horizontal lines for text entry.



ALASKA WASH SUPPORT

"The Car Wash Service Professionals"

11101 Old Seward Hwy
Anchorage, AK 99515
Ph: (907) 336-8404 / (907) 223-7826



Municipality of Anchorage - AnchorRIDES

3600 Dr. Martin Luther King Jr. Ave.
Attn: Paris Butler
Anchorage, AK 99507
(907) 343-6331

INVOICE DATE:	QUOTE
INVOICE NUMBER:	QUOTE
CUSTOMER PO#:	QUOTE
CUSTOMER E-MAIL:	paris.butler@anchorageak.gov

SERVICE REPRESENTATIVE	JOB SITE	PAYMENT TERMS	INVOICE DUE DATE
Julio Picon	AnchorRIDES	Net 30 Days	

QTY	Maintenance Task Description	UNIT PRICE	EXTENDED TOTAL
1	1GEABX963 - Belanger 25:1 ratio, 1,5" output .875 shaft gearbox used on the "butterfly" for the V-Max.	\$ 1,986.00	\$ 1,986.00
1	1GASKT825 - Belanger Blue Garlock Gasket Set	\$ 12.50	\$ 12.50
2	6100 - Belanger Driven Bearing (Upper Butterfly Arm Bearing)	\$ 185.50	\$ 371.00
1	1SHAFT860 - Belanger V-Max Butterfly Drive Shaft	\$ 726.00	\$ 726.00
1	1RSRVR102 - Belanger gear box oil sight glass assembly	\$ 34.00	\$ 34.00
8	Labor - In-Town Rate	\$ 120.00	\$ 960.00
	This quote is based on information provided by Mr. Butler stating that the lower butterfly arm bearings had recently been replaced. Replacing the drive shaft, while not specified during the site inspection discussion is recommended based on previous experience with the Belanger butterfly arm system. Repairs are estimated to be conducted within 7 days ARO. Quote includes 2nd Day Air freight and is thus FOB Anchorage.		

Please make payment out to **Alaska Wash Support, LLC**

Contact us:

Payment / Billing Questions:

Nirvair Khalsa, AWS Accounting (907) 227-5237 / nkkspirit@gmail.com

Vicky Bacarisas, AWS Office Manager (907) 336-8404

Service / Parts / Scheduling:

Julio Picon (907) 223-7826

Don Gerhart (907) 903-9479

SUB-TOTAL	\$ 4,089.50
FREIGHT	\$ 401.00
SALES TAX	\$ -
TOTAL	\$ 4,490.50

THANK YOU FOR YOUR BUSINESS!