

Monogram Systems
1500 Glenn Curtiss, Carson, CA 90746-4012

TOILET ASSEMBLY

Part Number

15900-013

15900-017

15900-020

**COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST**

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Feb 28/95

Revision 2: Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900 Series

TO: Holders of Toilet Assembly (PN 15900-013/-017/-020) Operation and Component Maintenance Manual, No. 38-31-09 dated Feb 23/04

REVISION NO. 2 DATED Feb 23/04

HIGHLIGHTS

Pages which have been revised or added are outlined below together with the highlights of this revision. This is a **COMPLETE** reissue. Please remove and discard affected pages and initial and date the RECORD OF REVISIONS page.

Chapter-Section-Unit/Page No.	Description of Change	Effectivity
38-31-09		All models.
Title Page	Revised to incorporate new configuration PN 15900-020.	
Record of Revisions Page	Add revision 2 and the issued date.	
List of Effective Pages	Revised to reflect this revision.	
Page INTRO-1	Revised.	
Pages: 302, 303, 305, 306	Revised text pages to reflect this revision	
Pages: 501, 503	Revised text and Figure 501 to reflect this revision.	
Pages: 702, 703, 705, 709, 711, 712	Revised pages to reflect this revision.	
Pages: 1007, 1010, 1015, 1016	Revised pages to reflect this revision.	
Pages: 1016.1, 1016.2, 1023.1, 1023.2, 1029.1, 1029.2	Added pages to reflect this revision.	
Pages: 1019, 1020, 1021, 1022, 1023	Revised pages to incorporate new configuration PN 15900-020.	
Page : 1028	Revised IPL Figure 3 to reflect this revision.	
Page: 1029	Revised page to incorporate new configuration PN 4650-31.	
Pages: 1033, 1033, 1034	Revised pages to incorporate new configuration PN 13503-110.	

38-31-09

Page HLT-1
Feb 23/04

COMPONENT MAINTENANCE MANUAL

BASIC PN 15900

[illegible]Page RR-1
Feb 23/04

COMPONENT MAINTENANCE MANUAL

BASIC PN 15900

[illegible]

Page RTR-1
May 17/02

COMPONENT MAINTENANCE MANUAL

BASIC PN 15900

[illegible]

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

LIST OF EFFECTIVE PAGES

<u>SUBJECT</u>	<u>PAGE</u>	<u>DATE</u>	<u>SUBJECT</u>	<u>PAGE</u>	<u>DATE</u>
Title Page	T-1	Feb 23/04	Cleaning	401	May 17/02
Record of Revisions	RR-1	Feb 23/04		402	May 17/02
				403	May 17/02
				404	Blank
Record of Temporary Revisions	RTR-1	May 17/02	Check	501	Feb 23/04
				502	May 17/02
				503	Feb 23/04
				504	May 17/02
Service Bulletin List	SBL-1	May 17/02	Repair	601	May 17/02
				602	May 17/02
List of Effective Pages	LEP-1	Feb 23/04		603	May 17/02
	LEP-2	Feb 23/04		604	Blank
Table of Contents	TC-1	May 17/02	Assembly	701	May 17/02
				702	Feb 23/04
				703	Feb 23/04
				704	May 17/02
Introduction	INTRO-1	Feb 23/04		705	Feb 23/04
				706	Feb 23/04
Description and Operation	1	May 17/02		707	Feb 23/04
	2	May 17/02		708	May 17/02
	3	May 17/02		709	Feb 23/04
	4	May 17/02		710	May 17/02
				711	Feb 23/04
Testing and Trouble-shooting	101	May 17/02		712	Feb 23/04
	102	May 17/02			
	103	May 17/02	Fits and	801	May 17/02
	104	May 17/02	Clearances	802	Blank
	105	May 17/02			
	106	Blank	Special Tools, Fixtures and Equipment	901	May 17/02
Disassembly	301	May 17/02		902	Blank
	302	Feb 23/04			
	303	Feb 23/04			
	304	Feb 23/04			
	305	Feb 23/04			
	306	Feb 23/04			

38-31-09

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

LIST OF EFFECTIVE PAGES

<u>SUBJECT</u>	<u>PAGE</u>	<u>DATE</u>
Illustrated Parts List	1001	May 17/02
	1002	May 17/02
	1003	May 17/02
	1004	May 17/02
	1005	May 17/02
	1006	Feb 23/04
	1007	Feb 23/04
	1008	May 17/02
	1009	May 17/02
	1010	Feb 23/04
	1011	Feb 23/04
	1012	Feb 23/04
	1013	Feb 23/04
	1014	Feb 23/04
	1015	Feb 23/04
	1016	Feb 23/04
	1016.1	Feb 23/04
	1016.2	Blank
	1017	May 17/02
	1018	May 17/02
	1019	Feb 23/04
	1020	Feb 23/04
	1021	Feb 23/04
	1022	Feb 23/04
	1023	Feb 23/04
	1023.1	Feb 23/04
	1023.2	Blank
	1024	May 17/02
	1025	Feb 23/04
	1026	May 17/02
	1023	May 17/02
	1028	Feb 23/04
	1029	Feb 23/04
	1029.1	Feb 23/04
	1029.2	Blank
	1030	May 17/02
	1031	May 17/02
	1032	May 17/02
	1033	Feb 23/04
	1034	Feb 23/04

38-31-09

Page LEP-2
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

TABLE OF CONTENTS

<u>SUBJECT</u>	<u>PAGE</u>
Introduction	INTRO-1
Description and Operation	1
Testing and Troubleshooting	101
Disassembly	301
Cleaning	401
Check	501
Repair	601
Assembly (Including Storage)	701
Fits and Clearances	801
Special Tools, Fixtures and Equipment	901
Illustrated Parts List	1001

38-31-09

Page TC-1
May 17/02

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

INTRODUCTION

1. General

This document is issued to provide instructions for maintaining, troubleshooting, testing and repairing Toilet Assembly, PN 15900-013/-017/-020 manufactured by Monogram Systems.

2. Product Support Services

Contact Monogram Systems for repair services, technical documents, replacement parts, and other support services.

Monogram Systems
1500 Glenn Curtiss
Carson, CA 90746-4012, USA
Telephone: (310) 884-7000
Fax: (310) 884-7300

3. Layout of Manual

The information in this manual is divided into sections in accordance with Air Transportation Association, Specification 100 to enable maintenance personnel to troubleshoot, test, disassemble, clean, check, repair and assemble the toilet assembly and major components. An illustrated parts list is provided to locate, identify and requisition parts.

4. Revision Service

To insure that coverage contained in this handbook will reflect changes in maintenance concepts and procedures, revised information is provided to the customer through a letter of transmittal advising pages to be removed and added by the revision. The letter includes a highlights page that identifies the reason of each change and indicates the effectivity of the change and the service bulletin involved.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

DESCRIPTION AND OPERATION

1. General

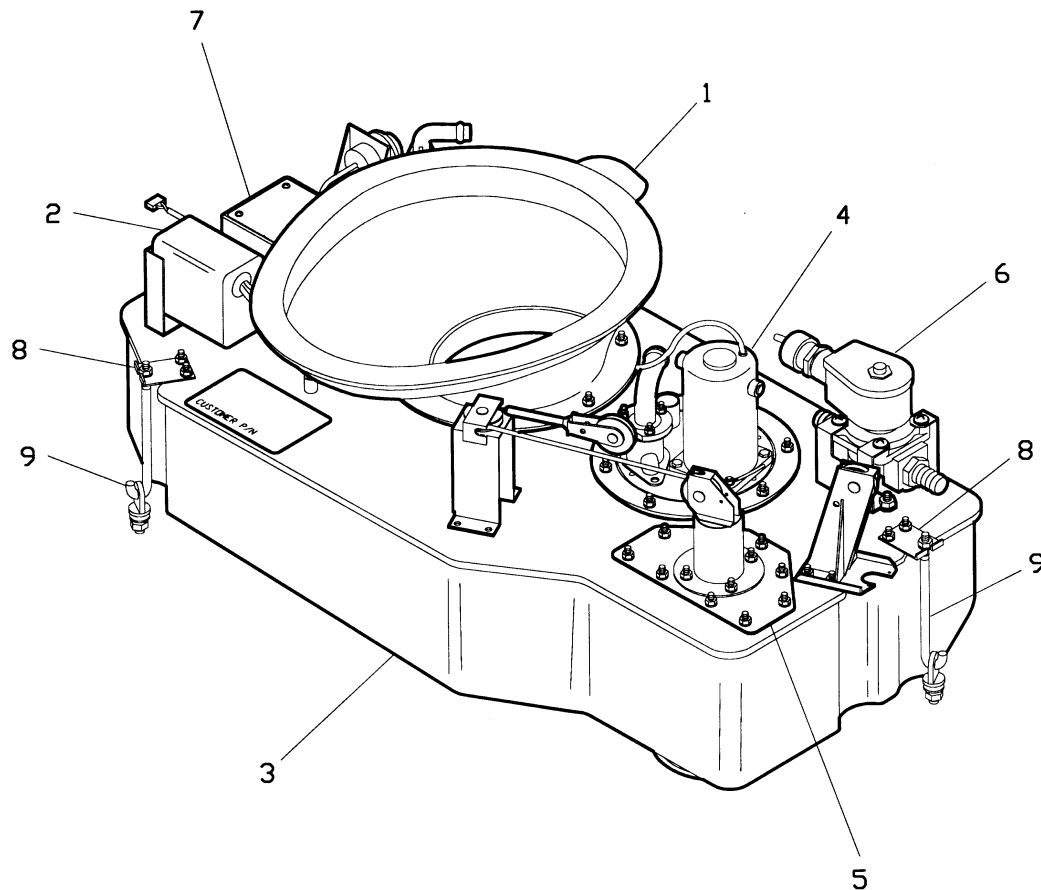
- A. The flushing toilet assembly covered in this manual is a separable assembly of the toilet installation and is capable of receiving, temporarily storing and during ground servicing, disposing of waste. Refer to Table 1, Leading Particulars for general specifications of the toilet assembly.

2. Description

- A. The toilet assembly (ref. Figure 1) basically consists of the toilet bowl (1), timer (2), tank and top assembly (3), motor-pump-filter unit (4), drain valve assembly (5), solenoid valve assembly (6), liquid level transmitter (7), tie down bracket (8) and hold down rod (9).
- B. The toilet bowl assembly, made of polished stainless steel, is mounted on top of the tank and top assembly. The timer assembly, a solid-state electronic device used to control sequence and timing of flushing operation, is also located on the top of the tank. The tank and top assembly, a Kevlar tank with molded-in structure reinforcement and top is the reservoir for flushing fluid and waste. The motor-pump-filter assembly (MPFA) consists of a DC Motor Assembly, static TEF coated perforated filter, pump impeller and rotating spray nozzle housing. The MPFA is mounted on the tank with filter submerged in the flushing fluid. The springloaded, cable actuated drain valve assembly seals the toilet to prevent leakage of stored fluid and waste and to permit draining and cleaning of the toilet during ground servicing. The solenoid valve assembly controls the admission of cleansing and charging fluid. The liquid level transmitter is a solid state electronic device capable of sensing two discrete points of fill on the toilet tank and transmitting an electronic signal for precharge level or full-tank level. The level sensors are located on an inside wall of the tank and the transmitter is mounted on the top of the tank.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900



- | | |
|-------------------------------|-----------------------------|
| 1. Bowl Assembly | 6. Solenoid Valve Assembly |
| 2. Timer | 7. Liquid Level Transmitter |
| 3. Tank and Top Assembly | 8. Tie Down Bracket |
| 4. Motor-Pump-Filter Assembly | 9. Holddown Rod |
| 5. Drain Valve Assembly | |

Typical Toilet Assembly
Figure 1

38-31-09

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3. Operation

- A. The operation of the toilet begins with the initiation of the flush cycle. The electric motor of the motor-pump-filter unit assembly is energized for approximately 10 seconds. Throughout the flush cycle, flushing fluid is drawn through the filter by the pump and discharged into the toilet bowl in a swirling action to wash waste into the tank assembly.
- B. Toilet Assemblies must be serviced after each scheduled flight by emptying, flushing, and recharging the tanks with fluid containing a dye-deodorant-disinfectant-chemical-water solution. Draining, cleaning and filling of the toilet assemblies is controlled from the aircraft toilet ground servicing panel. During toilet tank draining and cleaning, the tank drain valve is opened. The drain valve is a plunger type valve that is spring loaded to the closed position. A pull force of approximately 35 pounds (15,91 Kg) is required to open the valve. During tank cleaning and filling, fresh water is pumped into the toilet tank from an aircraft lavatory servicing vehicle. The water enters the toilet tank through an inlet fitting of the solenoid valve assembly, before going into the rotating spray nozzle via hose connection to the pump inlet. The rotating spray nozzle is part of the motor-pump-filter assembly. The pressurized fluid is jettisoned through spray nozzle openings and cleanses the inside of the filter basket and tank side walls at same time precharge fluid is added. After the cleaning operation the Liquid Level Transmitter will indicate when the fluid reaches the proper pre-charge level.

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Table 1
Leading Particulars

Use	Toilet Facilities
Electrical Power Rating	+28 VDC, 5 AMPS Nom.
Fluid Pump Capacity (Nominal)	10.0 \pm 1 GPM (37,85 \pm 3,79 LPM)
Flushing Cycle (Nominal)	10 \pm 2 Seconds
Tank Capacity	5.3 Gal (20,06 Liters)
Usable Capacity	2.8 Gal (10,60 Liters)
Priming Precharge	1.0 Gal (3,79 Liters)

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TESTING AND TROUBLESHOOTING

1. Testing

- A. Place complete toilet assembly over sink or drain opening. Arrange with toilet drain valve opening above sink or drain.
- B. Connect 28 VDC Power to the toilet. See the wiring diagram (Figure 101) for connection.
- C. Connect a variable pressure water source to the water inlet fitting.
- D. Rinse Test
 - (1) Introduce the water source at 60 psi(g) to the tank. Check and ensure that solenoid valve is open.
 - (2) Observe pump spray nozzle for free rotation and adequate rinsing of the toilet tank.
 - (3) Remove the water source and disconnect the power source.
 - (4) Check and ensure that the solenoid valve is closed. Check for leaks around the inlet fitting, antisiphon valve and pump exterior.
- E. Motor Pump and Timer Test
 - (1) Connect the pump and timer to a regulated power supply that conforms to specified voltage and current requirements.
 - (2) Depress pushbutton switch and note toilet function. Cycle duration shall be 10 ± 2 seconds. The swirl pattern should be consistent and vigorous, washing the complete inner surface of the bowl.
 - (3) Repeat flush cycle 3 to 4 times.
 - (4) Measure current surge and running current drain (5 amps nominal).
 - (5) Inspect for leaks around inlet tube and antisiphon valve.
 - (6) Drain toilet.

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F. Bowl Flushing Test

- (1) Fill the toilet tank to the specified precharge level (see Leading Particulars).
- (2) Upon flushing the toilet it should be observed that the bowl is completely wetted and water action is vigorous without excessive splashing.
- (3) Repeat flushing operation four times to confirm adequate bowl coverage and water action.
- (4) Drain toilet.

G. Liquid Level Sensor Test

- (1) Connect the liquid level sensor to the appropriate test harness.
- (2) Fill the toilet tank to the precharge level.
- (3) Ensure that the precharge indicator light is on.
- (4) Continue filling the toilet tank to the full level as indicated in the drawing.
- (5) Ensure that the full indicator light is on, and the solenoid valve is shut off.

H. Leak Test

- (1) Cap the tank vent. Fill the toilet through the bowl aperture until the water level is approximately one inch below the bowl flush ring.
- (2) Remove any air trapped within the tank.
- (3) Allow the toilet to remain in this condition for one hour after which there shall be no evidence of leakage from any of the toilet components, including the toilet tank, tank top, gaskets and fitting.

I. Disconnect water supply.

J. Disconnect power supply.

K. Drain all water from tank and remove all water from components.

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2. Troubleshooting

- A. The troubleshooting information given in Table 101 deals with problems encountered during testing of the toilet assembly. Before performing troubleshooting remedies, check all wiring and electrical connections, pressurized hose connections and drain piping for general condition. Repair/replace as required.

Table 101

Troubleshooting

TROUBLE	PROBABLE CAUSE	CORRECTIVE ACTION
Toilet tank does not rinse during servicing.	Solenoid valve assembly held closed.	Replace LLT. Replace solenoid valve assembly. Check power to solenoid valve assembly and aircraft wiring.
Spray nozzle will not rotate, motor and pump operative.	Spray nozzle clogged or not installed properly.	Clean and install parts properly (refer to DISASSEMBLY and ASSEMBLY).
Toilet tank floods during servicing.	Solenoid valve assembly stuck open.	Replace LLT. Replace solenoid valve assembly. Check aircraft wiring of LLT and solenoid valve assembly.
Solenoid valve assembly leaking.	Faulty or leaky solenoid valve assembly.	Replace solenoid valve assembly.
Toilet will not flush (motor-pump-filter does not operate).	Motor-pump-filter inoperative. Faulty timer. Faulty LLT. Faulty solenoid valve assembly. Faulty wiring.	Replace motor-pump-filter assembly. Replace timer. Replace LLT. Replace solenoid valve assembly. Check aircraft wiring.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

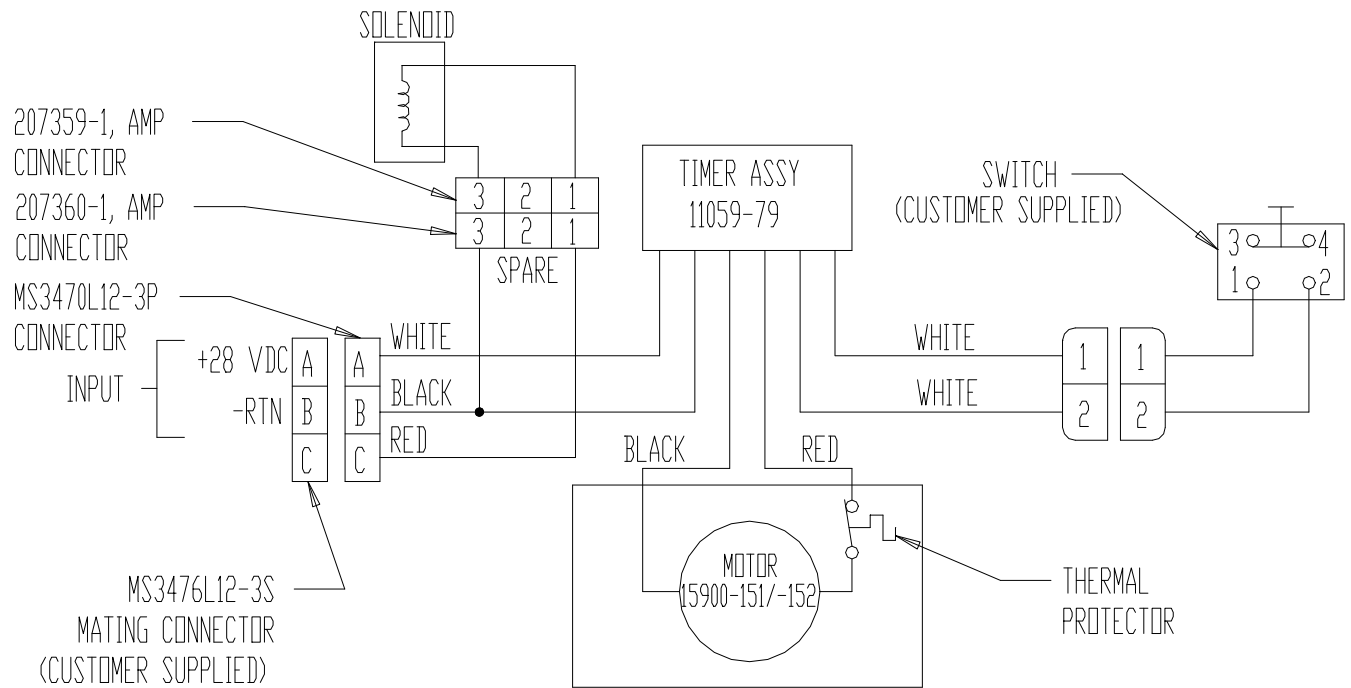
Table 101

Troubleshooting (cont)

TROUBLE	PROBABLE CAUSE	CORRECTIVE ACTION
Toilet will not flush (motor-pump-filter running).	Foreign object obstruction of flushing fluid passages.	Inspect discharge tube.
Pump inoperative.	Sheared pump drive shaft.	Replace drive shaft coupling.
Motor-Pump-Filter noisy.	Improperly assembled or damaged motor-pump-filter assy.	Replace motor-pump-filter unit assy.
Motor runs continuously or excessively long.	Malfunction in timer assembly.	Replace timer.
Leakage from tank drain.	Drain valve not sealed.	Inspect drain outlet valve seat area of tank for cracks, chips and scratches. Replace drain valve assy.

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WIRING DIAGRAM
Figure 101

38-31-09

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DISASSEMBLY

1. General

NOTE: See TESTING AND TROUBLESHOOTING, to establish the condition of component or most probable cause of its malfunction. This is to determine the extent of disassembly required without completely tearing down and rebuilding the components.

- A. Disassembly instructions given herein presume that complete overhaul of the toilet assembly is to be accomplished. Disassembly instructions cover disassembly only as far as practicable; however, these instructions enable disassembly to provide adequate access for inspection and cleaning. In some instances, partial equipment overhaul, or overhaul of individual sub-assemblies only, may be required. In this event, disassembly shall be conducted only to the extent necessary to accomplish removal and installation of affected assemblies.
- B. Prior to initiating disassembly operations, personnel shall carefully read all instructions and study illustrations applicable to the equipment undergoing overhaul. The toilet assembly shall be in a clean condition, free of contamination and residue, before disassembly is begun. Refer to CLEANING if additional cleaning is required.
- C. The disassembly procedures presented here provide instruction and sequence for the removal of major components and most detail parts.
- D. Each of the following paragraphs describes disassembly of the toilet assembly or a component assembly. The part number of each assembly, to which the procedure applies along with the corresponding exploded illustration figure, is noted in the paragraph heading.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

2. Procedure

A. Toilet Assembly, PN 15900-013/-017/-020 (refer to IPL Figure 1)

- (1) If damaged or illegible, remove decal (5).

NOTE: Nut (25), washer (30) and eye bolt (35) are attached to the aircraft structure and should not be removed.

- (2) The toilet assembly is held in position in the aircraft with rod (20). Remove toilet assembly from aircraft as follows: loosen nuts (10), washers (15 or -15A) and swing rods (20) away from the tank and top assembly (535, -535A or -535B).

- (3) Remove flush hose (40) by removing clamps (45).

- (4) Disconnect grounding strap (50).

- (5) Remove bowl assembly (55) by removing nuts (60) and washers (65 or -65A).

- (6) Remove restrictor (70).

- (7) Inspect bowl gasket (75), remove and discard if necessary.

- (8) Remove fill line hose (100) by removing clamps (105).

- (9) Remove motor-pump-filter assembly (110 or -110A) by removing nuts (115) and washers (120 or -120A).

- (10) Remove solenoid valve assembly (125 or -125A) by removing nuts (130) and washers (135 or -135A).

NOTE: If damaged or defective, contact pins (140), connectors (145 and 150), hose adaptors (155) and mounting brackets (160) may be removed from solenoid valve (165).

- (11) Remove vent fitting (185) and gasket (200) by removing nuts (190) and washers (195 or -195A).

- (12) Remove pulley (205) by removing cotter pin (215), clevis pin (210) and washer (220 or -220A).

- (13) Remove pulley bracket (225) by removing nuts (230) and washers (235 or -235A).

- (14) Remove pulleys (255) by removing cotter pins (245), clevis pins (240 and 260), washers (250 or -250A) and roll pin (275).

38-31-09

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- (15) Remove pulley bracket (305 or –305A) by removing washers (310 or –310A) and nuts (315).
- (16) Remove drain valve assembly (320 or –320A), support bracket (585) and gasket (335) by removing nuts (325) and washers (330 or –330A).
- (17) Remove clamps (340) by removing spacers (354), nuts (345 and 347) and washers (350 or –350A and 352 or –352A).
- (18) Remove connector bracket (355) by removing nuts (360) and washers (365 or –365A).
- (19) Remove timer connector from bracket (355) by removing screws (370), nuts (380) and washers (375 or –375A).
- (20) Remove timer assembly (385) and gasket (400) by removing screws (390) and washers (395 or –395A). Discard gasket.
- (21) Remove timer bracket (405) by removing nuts (410) and washers (415 or –415A).
- (22) Remove tie-down brackets (420) by removing nuts (425) and washers (430 or –430A).
- (23) Remove ground strap (435) by removing nut (455), washers (445 or –445A and 450) and stud (440).
- (24) Remove liquid level transmitter (460 or –460A) by removing screws (465) and washers (470 and 475 or –475A).
- (25) Remove gasket (480), mounting plate (485) and O-ring (495) by removing screws (490). Discard gasket and O-ring.

NOTE: The details of the tank and top assembly (535, -535A or –535B), items (540) through (575), are set in potting compound or epoxy and should not be disassembled.

- (26) Remove and disassemble seat assembly (510 or –510A) as follows:
 - (a) Remove hinge (520) by removing screws (515).
 - (b) Remove bumpers (525) from seat (530 or –530A).
- (27) Remove O-ring (500) from tank and top assembly (535, -535A or –535B).

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B. Motor-Pump-Filter Assembly, PN 3511-007 or 3512-007 (refer to IPL Figure 2)

- (1) Remove decal (5) if necessary.
- (2) Remove motor and adapter assembly (10 or –10A) by removing lock nut (15), washers (20 or –20A), stud (25) and bolts (30).
- (3) Remove motor assembly (35 or –35A) from adapter plate (50) by removing screws (40).
- (4) Remove nameplate (45), if illegible.
- (5) Remove seals (55).
- (6) Remove filter basket (60) by removing nut (65) and washer (70 or –70A).
- (7) Remove impeller housing plate (75) by removing screws (80), washers (85) and nuts (90).
- (8) Remove retaining ring (95), thrust washer (100), impeller (105) and thrust washer (110).
- (9) Remove impeller housing (115).
- (10) Remove drive shaft assembly (120).
- (11) Remove spray nozzle (135) by removing cotter pin (125) and washers (130).
- (12) Remove antisiphon housing (140) by removing screws (145), washers (150) and nuts (155), remove gasket (160).
- (13) Remove flapper (165).
- (14) Remove nuts (170) and washers (175) to remove gasket (180), retention washer (185) and inlet tube (190).
- (15) Remove frame assembly (195) by removing screws (200), washers (205) and nuts (210).
- (16) Remove gasket (220).
- (17) Remove mounting plate (215).

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

C. Drain Valve Assembly, PN 4650-24 or 4650-31 (refer to IPL Figure 3.)

- (1) Remove cotter pins (10 or –10A and 40), washers (15 or –15A and 35), clevis pin (20), drilled pin (30) and pulley (5).
- (2) Remove cable assembly (45) by removing nut (50) and washer (55 or –55A) from the bottom of the valve.

WARNING: COVER ASSEMBLY (60) IS SPRING LOADED IN INSTALLED CONDITION. EXERCISE CARE WHILE REMOVING TO AVOID POSSIBLE INJURY.

- (3) Remove cover assembly (60) from housing (-85 or 85A) by removing nuts (65) and washers (70 or –70A).
- (4) Remove boot (130) and doubler (135) from the stem assembly (120 or –120A) by removing the screw (140) and spirolox (125) from the stem assembly (120 or –120A).
- (5) Remove spirolox (80) from stem assembly (120 or –120A) by telescoping the stem assembly into housing (-85 or 85A).
- (6) Remove spring (75).
- (7) Remove O-rings (90) from housing (-85 or 85A).
- (8) Remove nut (95) to remove plate (100), seal (105), seal plug (115) and support plate (110).

D. Timer Assembly, PN 11059-79 (refer to IPL Figure 4)

- (1) Remove timer plate assembly (5) from timer enclosure (80) by removing screws (10).
- (2) Remove PC Board (15) by removing nuts (20), washers (25), lock washer (30), terminal lug (35) and screws (40).
- (3) If necessary, remove disconnects (45), connector (50), clamp (55), plug (60), pins (65), plug (85), sockets (90) and grommet (70).
- (4) If required, remove decal (75).

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

- E. Liquid Level Transmitter Assembly, PN 13503-106 or 13503-110 (refer to IPL Figure 5.)
- (1) Remove case by removing lockwire, screws (10) and washers (15).
 - (2) Remove supports (20).
 - (3) Remove lug (25) ground wire assembly from case (5) by removing screw (30), nylon washer (35) and nut (40).
 - (4) Remove connector (45) by removing screws (50), flat washers (55 or –55A), lock washers (60), nuts (65) and gasket (67).
 - (5) Disconnect connector plug (120) from receptacle (70).
 - (6) Remove ground wire assembly from harness of light driver PC board (130), by cutting twine ties.
 - (7) Remove and discard seal (75).
 - (8) Remove mounting plate (80) by removing screws (85) and nylon washers (90).
 - (9) Remove washers (95 or –95A).
 - (10) Remove grommets (100).
 - (11) Remove lug (105).
 - (12) Remove spacers (110 and 115).
 - (13) Separate sensor PC board (125 or –125A) from light driver PC board (130 or –130A).
 - (14) If needed, remove and replace schematic decal (135) and nameplate (140).

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CLEANING

1. General

Thorough cleaning is an essential prelude to inspection for determining the existence, extent and exact location of defects. If the toilet assembly requires additional cleaning, use the procedure as described in paragraph 3, and refer to the following List of Materials, Table 401.

2. List of Materials

Table 401

Cleaning Materials

ITEM	IDENTIFICATION	SOURCE
Disinfectant	Lysol	Sterling Drug, Inc. Lehn and Fink Product Division Montvale, New Jersey
Soap	Soap, Antimicrobial	Commercially available
Trichloroethylene	Federal Specification O-T-634	Any government approved source

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3. Procedure

A. Toilet Assembly

- (1) Support the toilet tank drain outlet over a suitable waste receptacle or drain.

WARNING: A FACE GUARD AND GLOVES SHOULD BE WORN DURING ALL STEAM CLEANING FOR PROTECTION FROM SPLASHBACK.

- (2) Clean the external and internal surfaces of the bowl assembly using either a solution of hot, soapy water and strong disinfectant or a steam cleaner.
- (3) Remove the bowl assembly and the separator assembly (refer to DISASSEMBLY).
- (4) Open the drain valve to the fully compressed position by pulling on the valve cable assembly and clamp or otherwise secure the cable assembly in this position. Do not crimp the cable.

CAUTION: EXERCISE CARE TO AVOID PROLONGED APPLICATION OF STEAM TO ANY PLASTIC SURFACES.

- (5) Steam clean all interior surfaces of the tank, back flush through the flushing motor pump outlet channel, which is exposed when the bowl is removed, and through the vent and flushing openings.
- (6) Drain all liquid from the tank assembly.
- (7) Dry all surfaces of the tank and internal components with dry, compressed air.

CAUTION: DO NOT USE HYDROCARBON SOLVENTS, CHEMICAL SOLVENTS OF THE ETHER OR FLUORIDE FAMILY, ACETONE, METHYL- ETHYL-KETONE, OR RELATED SOLVENTS ON ANY KEVLAR OR PLASTIC PARTS. DO NOT USE ABRASIVE OR SCOURING CLEANSER ON ANY METAL, FIBERGLASS OR PLASTIC PARTS.

- (8) If additional cleaning of subassemblies and detail parts is required after removal from the tank assembly, use a soap, disinfectant, and hot water solution and a stiff-bristled brush.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

B. Motor-Pump-Filter Assembly

- (1) Use a soft bristle brush to dislodge solid wastes and lubricants.

CAUTION: DO NOT PERMIT SOLVENT ON STATOR OR ROTOR WINDINGS, OR THE ELECTRICAL LEADS, AS SOLVENT TENDS TO PRECIPITATE DETERIORATION OF WIRE INSULATION.

- (2) Remove adhesives and sealants by carefully scraping residue from surface and wiping surface with cloth moistened with solvent.
- (3) Remove dust and dirt from the housing and stator assembly and the rotor assembly with dry, compressed air.
- (4) Dry all parts with dry, compressed air after cleaning.

C. Drain Valve Assembly

The valve assembly may be cleaned by immersing and scrubbing the unit in a solution of soap and water or five tablespoons of liquid disinfectant to each gallon (3,78 liter) of water. Rinse thoroughly with hot water and dry using compressed air.

D. Timer Assembly

Because the timer is sealed when installed, minimal internal cleaning should be required unless the assembly is contaminated during disassembly and subsequent overhaul procedures. Blow dust or other foreign particles from internal parts. If necessary, use a soft-bristled brush to dislodge stubborn particles.

E. Liquid Level Transmitter

Because the transmitter is sealed when installed, minimal internal cleaning should be required unless the assembly is contaminated during disassembly and subsequent overhaul procedures. Blow dust or other foreign particles from internal parts. If necessary, use a soft-bristled brush to dislodge stubborn particles.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

CHECK

1. General

- A. The complete assembly and component subassemblies shall be visually inspected using a strong light and preferably some means of magnification. When inspecting for damage to interior details of an assembly, an inspection mirror shall be used so that all surfaces are made visible.
- B. All parts shall be visually examined for nicks, cracks, cuts, fraying, dents, distortion, chafing, scoring, excessive wear, loose or missing mounting rings and screws, stripped or crossed threads and other defects that could impair function of the toilet. Parts made of rubber or neoprene shall be replaced at each overhaul; therefore, inspection of rubber packings, seals, mushroom valve and gaskets is unnecessary.
- C. To conduct an electrical check of transmitter assembly PN 13503-106 or 13503-110 refer to schematic diagram in Figure 501.
- D. Refer to schematic diagram, Figure 502 to check continuity of electrical wiring on Timer PN 11059-79.
- E. Conduct a detailed inspection of parts and assemblies in accordance with the requirements of Inspection and Check, Table 501.

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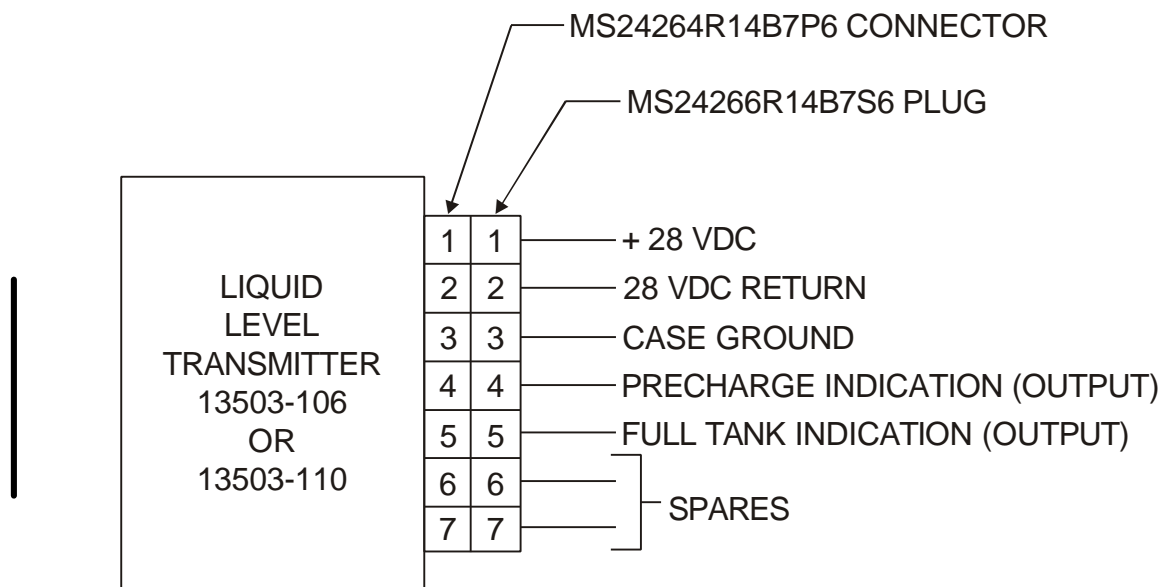
Table 501

Inspection and Check

PART	INSPECT FOR
Top and Tank Assembly	Deformation, delamination, cracks, nicks, scratches, loose mounting plates, broken, stripped, or otherwise damaged threads, cracked, nicked, scratched or deformed drain outlet seat.
Stator and rotor windings and electrical cable	Damaged or deteriorated insulation, broken wires, chafing and scoring broken electrical leads.
Spray nozzle, impeller housing cover plates and mushroom valve	Cracks, nicks, cuts, distortion, chafing, scoring, and excessive wear.
Pump drive shaft and coupling	Chipped, cracked or broken coupling and bent shafts.
Impeller	Cracks, nicks, distortion, erosion.
Pulley	Bearing freedom and smoothness, nicks and chips.
Cable Assembly	Fraying, kinks, broken strands and ball swagging.
Cover Assembly	Bending, deformation and broken spot welds.
Housing Assembly	Bending, deformation, dents and stripped threads.
Valve Stem Assembly	Bending, deformation, dents, nicks, scratches, chafing, scoring and stripped threads.
Springs	Distortion, cracks and dimensions
Electrical Connectors	Evidence of arcing or burning, broken or bent pins, foreign material in connector.

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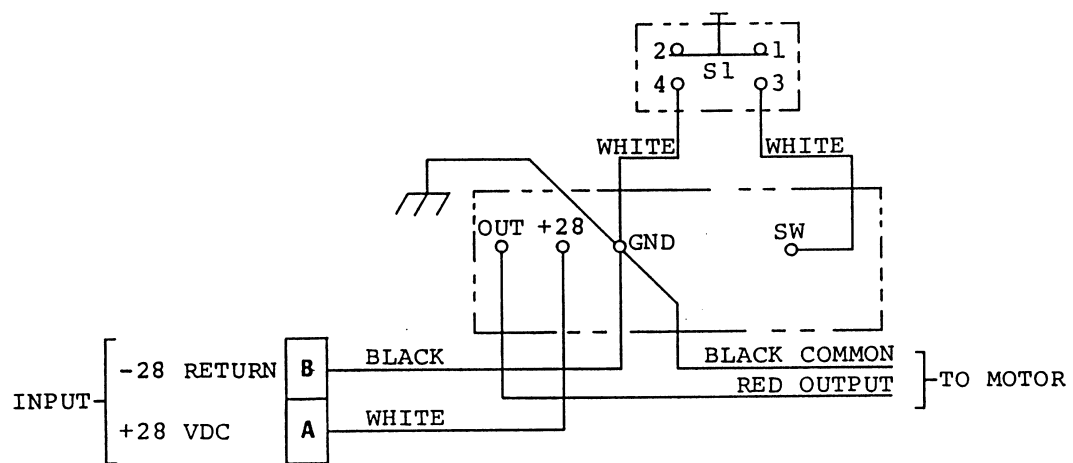
Transmitter Schematic Diagram
Figure 501

38-31-09

Page 503
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900



Electrical Schematic
Figure 502

38-31-09

Page 504
May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

REPAIR

1. General

Except for permissible repairs outlined in this section, repair of the top and tank assembly, detail parts and subassemblies is not considered practicable; parts that do not meet inspection requirements shall be replaced. In addition to permissible repairs and replacements of defective parts, certain parts replacement shall be routine at each overhaul regardless of apparent condition of the part. All nuts, washers, gaskets and O-rings removed during disassembly procedure shall be replaced regardless of apparent condition.

NOTE: Replace all damaged or otherwise illegible part number identification.

2. List of Materials

NOTE: Equivalent substitutes may be used for listed items.

Table 601

Repair Materials

ITEM	IDENTIFICATION	SOURCE
Aluminum Oxide Abrasive Cloth	Federal Specification P-C-451; Grade 600	Commercially Available
Primer	MIL-P-23377, Class 1	Commercially Available
Epoxy, Enamel	MIL-C-22750, Color No. 16307 per Fed. Std 595	Commercially Available
Paint	Gull Gray Gloss Lacquer Color Number 32251 Specification MIL-L-7178	Any Government Approved Source

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

3. Procedure

A. Top and Tank Assembly

Due to structural considerations, cracks, fractures, delamination and ruptures of the top and tank assembly necessitates replacement or factory repair.

B. Motor-Pump-Filter Assembly

(1) Motor Assembly

Brush holder cap and Brush assembly are the only replaceable parts within the motor assembly.

(2) Refinish

Refinish exterior painted surfaces of the motor assembly as follows:

- (a) Sand all chipped, loose paint and corroded areas of the motor assembly.
- (b) Paint all exposed areas of motor assembly with one coat of epoxy primer and a coat of epoxy enamel.

(3) Replace all damaged or otherwise illegible nameplate identification or decals.

C. Drain Valve Assembly

- (1) Deburring and chasing of stud threads and threaded fittings is acceptable as long as no more than two consecutive threads are damaged.
- (2) Dimpled mounting plate holes may be flattened as long as hole diameter deformation does not occur.
- (3) Part number identification removed or otherwise destroyed shall be re-applied.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

D. Timer Assembly

- (1) Except for permissible repairs described in this section, repair of the timer assembly is not considered practicable. Replace all parts that do not meet CHECK requirements.
- (2) Repair damage to painted surfaces of case and mounting plate as follows (refer to Table 601 for repair materials).
 - (a) Lightly sand the damaged area with aluminum oxide abrasive cloth, Federal Specification P-C-451, Grade 600, or finer, making certain to feather edge of sanded area into surrounding painted area.
 - (b) Apply a primer coat, Specification MIL-P-23377 to exposed metal surfaces.
 - (c) When dry, lightly sand primer as in step (a).
 - (d) Apply a finish coat of Gull Gray Gloss Lacquer, Color No. 32251, Specification MIL-L-7178.
 - (e) Repair electrical wiring in accordance with standard shop practices.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

ASSEMBLY

1. General

- A. Assembly instructions given herein assume the following: disassembly has been accomplished to the extent covered in DISASSEMBLY. All new parts are identical in fit and function to the parts they replace.
- B. If a unit has been subject to a partial overhaul only, disregard those instructions that are not applicable. The assembly instructions detailed in the following paragraphs apply equally to those assemblies listed in the paragraph heading unless reference is made in the instructions to a specific assembly for assemblies. Where two or more details may be installed at a particular location, the key index numbers of the parts, as assigned in the Illustrated Parts List, are included parenthetically after the part description. Hardware items like bolts, washers, nuts and parts made of rubber, removed during disassembly, should be replaced with new parts.
- C. Each of the following sections describes procedures and materials for assembly of a major assembly or a component assembly. The part number of each assembly to which the procedure applies, along with the corresponding exploded illustration figure, is listed in the paragraph heading.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

2. Assembly Instructions

A. Toilet Assembly, PN 15900-013/-017/-020 (refer to IPL Figure 1)

(1) List of Materials

NOTE: Equivalent substitutes may be used for listed items

ITEM	IDENTIFICATION	SOURCE
Adhesive	No. 1357	Minnesota Mining & Manufacturing. Co. Adhesive Division St. Paul, MN 55101

(2) Procedures

- (a) Install O-ring (500) on tank and top assembly (535, -535A or -535B).
- (b) Assemble and install seat assembly (510 or -510A) as follows:
 - 1 Install hinge (520) with screws (515).
 - 2 Install bumpers (525) to seat (530 or -530A).
- (c) Install transmitter mounting plate (485), new gasket (480) and new O-ring (495) on tank and top assembly (535) with screws (490).
- (d) Install liquid level transmitter (460 or -460A) with screws (465) and washers (470 and 475 or -475A).
- (e) Install ground strap (435) and grounding stud (440) with nut (455) and washers (445 or -445A and 450).
- (f) Install tie down brackets (420) with nuts (425) and washers (430 or -430A).
- (g) Install timer bracket (405) with nuts (410) and washers (415 or -415A).
- (h) Install timer assembly (385) and new gasket (400) to timer bracket (405) with screws (390) and washers (395 or -395A).
- (i) Install timer connector to bracket (355) with screws (370), washers (375 or -375A) and nuts (380).
- (j) Install connector bracket (355) with nuts (360) and washers (365 or -365A).

38-31-09

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

- (k) Install clamps (340) with spacers (354), nuts (345 and 347) and washers (350 or –350A and 352 or –352A).
- (l) Install drain valve assembly (320 or –320A) support bracket (585) and gasket (335) with nuts (325) and washers (330 or –330A).
- (m) Install pulley bracket (305 or –305A) with washers (310 or –310A) and nuts (315).
- (n) Install pulleys (255) with cotter pins (245), clevis pins (240 and 260), washers (250 or –250A) and roll pin (275).
- (o) Install pulley bracket (225) with nuts (230) and washers (235 or –235A).
- (p) Install pulley (205) with cotter pin (215), clevis pin (210) and washer (220 or –220A).
- (q) Install vent fitting (185) and gasket (200) with nuts (190) and washers (195 or –195A).
- (r) If removed during disassembly, install contact pins (140), connectors (145 and 150), adaptor hose (155) and mounting brackets (160) on solenoid valve (165).
- (s) Install solenoid valve assembly (125) with nuts (130) and washers (135 or –135A).
- (t) Install motor-pump-filter assembly (110 or –110A), secure with washers (120 or –120A) and nuts (115).
- (u) Install fill line hose (100) with clamps (105).
- (v) Position bowl gasket (75) on the tank and top assembly.
- (w) Install restrictor (70).
- (x) Install bowl assembly (55) with washers (65 or –65A) and nuts (60).
- (y) Connect grounding strap (50).
- (z) Install flush hose (40) and secure with clamps (45).
- (aa) If removed at disassembly, replace decal (5).

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(3) Storage Instructions

When the toilet assembly is to be stored after overhaul, all openings shall be sealed and, if possible, replaced into the original shipping container. If a shipping container is not available, a wooden framework may be built around the toilet assembly; the whole structure should be covered and sealed with plastic sheeting. Toilet assembly shall not be stored exposed to the sunlight or at temperatures below 0°F (-17,78°C) or over 170°F (+76,67°C) for prolonged periods. Stored toilet assembly shall be clearly marked with part number and date of overhaul.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

B. Motor-Pump-Filter Assembly, PN 3511-007 or 3512-007 (refer to IPL Figure 2)

(1) List of Materials

NOTE: Equivalent substitutes may be used for listed items.

ITEM	IDENTIFICATION	SOURCE
Lubricant	Lubriplate 105	Fiske Bros., Refining Company Newark, NJ 73219
Sealant Adhesive	PS 890, CLASS B	Courtaulds Aerospace Glendale, CA
Lockwire	MS20995C32	Any government approved source

(2) Procedure

- (a) Apply a uniform film of sealant, PS 890, CLASS B to periphery of the frame assembly (195). Install mounting plate (215) on frame assembly, using screws (200), washers (205) and nuts (210).
- (b) Install flapper (165) by pulling installation tail through hole in antisiphon housing (140). Trim tail .010 - .030 from bulb if new flapper is being used.
- (c) Position retention washer in place on inlet tube (190) and install both with gasket (180) on antisiphon housing (140), using washers (175) and nuts (170).
- (d) Install antisiphon housing (140) with gasket (160) on mounting plate (215), using screws (145), washers (150) and nuts (155).

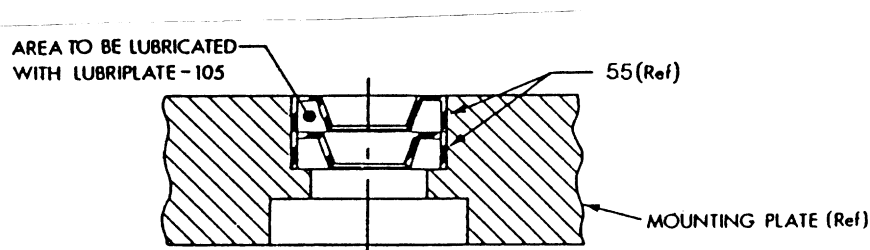
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- (e) Install spray nozzle (135) with washers (130) on each side, securing it with cotter pin (125).
- (f) Position drive shaft assembly (120) with washer (110) on impeller housing (115).
- (g) Install washer (110), impeller (105), washer (100) and retaining ring (95) on drive shaft assembly (120).

NOTE: Add washers (110) as required to provide full engagement of motor drive shaft. Impeller (105) must have a minimum clearance of .005 inch (0,13 mm) between impeller and its housing (115).

- (h) Install impeller housing plate (75) with impeller housing (115), using screws (80), washers (85) and nuts (90) to frame assembly (195).
- (i) Install filter basket (60), using washer (70 or -70A) and nut (65).
- (j) Install seals (55), applying lubricant (Lubriplate 105) as shown in Figure 701.



CROSS SECTION OF MOUNTING PLATE

Figure 701

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

- (k) Install nameplate (45), if removed.
- (l) Install motor assembly (35 or -35A) on adapter plate (50), using screws (40).
- (m) Install motor and adapter assembly (10 or -10A) on mounting plate (215) by inserting motor shaft into drive shaft coupling (see Figure 702), secure with nut (15), washers (20 or -20A), stud (25) and bolts (30). Lockwire in accordance with MS33540, double twist method.

NOTE: Motor Shaft should make full contact with drive shaft coupling.

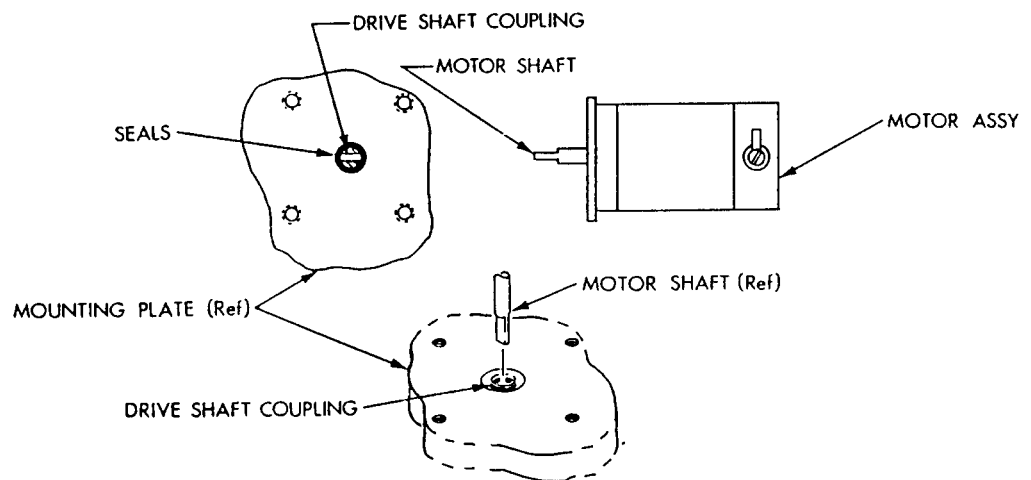


Figure 702

- (n) Install decal (5), if removed.

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(3) Storage Instructions

When the motor-pump-filter assembly is to be stored after overhaul, it should be placed in the original shipping container. If the original container is not available, wrap the assembly with barrier material (refer to Table 701) and place in suitable container. The part number, serial number and date of overhaul shall be clearly marked on the outside of the carton.

NOTE: Equivalent substitutes may be used for items listed.

Table 701
STORAGE MATERIALS

ITEM	IDENTIFICATION	SOURCE
Barrier Material	Military Specification MIL-B-121	Any government approved source

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

C. Drain Valve Assembly, PN 4650-24 or 4650-31 (refer to IPL Figure 3)

(1) List of Materials

NOTE: Equivalent substitutes may be used for listed items

ITEM	IDENTIFICATION	SOURCE
Lubricant	No. 33	Dow Corning

(2) Procedure

- (a) Install plate support (110), seal plug (115), seal (105) and plate (100) on valve stem assembly (120 or –120A), secure with nut (95).
- (b) Install O-rings (90).
- (c) Apply silicone grease (Dow Corning 33) to grooves in base of housing (-85 or 85A.)
- (d) Install boot (130) into valve stem assembly (120 or –120A) with screw (140) and doubler (135).
- (e) Install spirolox (125) in the grooves of valve stem assembly (120 or –120A).
- (f) Install housing (-85 or 85A) over the valve stem assembly (120 or –120A) until valve assembly projects above the mounting plate of the housing assembly. Install spirolox (80) in groove of valve stem assembly (120 or –120A).
- (g) Slide spring (75) into valve stem assembly (120 or –120A).
- (h) Supporting the housing (-85 or –185A) by the mounting plate, compress spring (75) by pushing cover (60) into position on four mounting studs of the housing assembly.
- (i) Install washers (70 or –70A) and nuts (65) to secure cover (60) to the housing (-85 or –85A).
- (j) Insert loose end of cable (45) through the top of pulley slot to bottom of valve stem assembly (120 or –120A). Tighten cable (45) using nut (50) and washer (55 or –55A).
- (k) Install pulley (5), using clevis pin (20), washers (15 and 35), drilled pin (30) and cotter pins (10 and 40).

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

D. Timer Assembly, PN 11059-79 (refer to IPL Figure 4)

(1) Procedures

- (a) If removed during disassembly, install identification decal (75).
- (b) Install grommet (70), sockets (90), plug (85), pins (65), plug (60), clamp (55), connector (50) and disconnect (45).
- (c) Install PC Board assembly (15), using screws (40), terminal lug (35), lock washer (30), washers (25) and nuts (20).
- (d) Install timer plate (5) in timer enclosure (80) using screws (10).

(2) Storage Instructions

(a) List of Materials

NOTE: Equivalent substitutes may be used for listed items

ITEM	IDENTIFICATION	SOURCE
Bag	Plastic	Commercially available
Barrier Material	MIL-B-121	Any Source

(b) Instructions

If the timer is to be stored after overhaul, seal in a plastic bag, wrap with barrier material and place in a cardboard carton. Mark part number and date of overhaul on outside of carton.

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

E. Liquid Level Transmitter Assembly, PN 13503-106 or 13503-110 (refer to Figure 5)

(1) List of Materials

NOTE: Equivalent substitutes may be used.

ITEM	IDENTIFICATION	SOURCE
Sealant	No. 404 & Grade C per MIL-S-22473	Loctite Company 300 N. Mountain Road Newington, CT 06111
Safety Wire	MS20995C20 per MS35540	Commercially available
Twine	.06 Wide Nylon per MIL-T-713	Commercially available

(2) Procedure

- (a) Assemble sensor PC board (125 or –125A) to light driver PC board (130 or –130A) by aligning guide pins and pressing assemblies together.
- (b) Install grommets (100) on banana plugs of sensor PC board (125 or –125A) with spongy side of grommet adjacent to PC board.
- (c) Assemble mounting plate (80) on sensor PC board (125 or –125A) with tab on base indexed in hole in PC board. Use screws (85), nylon washers (90), washers (95 or –95A), ground wire lug (105), spacers (110 and 115) and threaded supports (20) to secure mounting plate (80) to PC boards. Use Loctite, Grade C, sealant on threads of screws (85).
- (d) Install ground wire assembly into the harness on light driver PC board (130 or –130A) using lacing twine on wire bundle.
- (e) Connect plug (120) of light driver PC board (130 or –130A) wire bundle to receptacle (70) of case (5). Turn retaining ring to lock plug to receptacle.

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

- (f) Install connector (45) using screws (50), washers (55 or –55A and 60), nuts (65) and gasket (67).
 - (g) Install ground lug (25) to case (5) using screw (30), nylon washer (35) and nut (40).
 - (h) Apply Loctite Sealant No. 404 to groove of seal (75) and install on case (5). No gap is permissible at ends of seal.
 - (i) Install case (5) using screws (10) and nylon washers (15). If removed during disassembly, replace decal (135) and/or nameplate (140).
 - (j) Safety wire screws (10) upon completion of assembly.
- (3) Storage Instructions
- (a) Place protective plastic caps over electrical connectors (EP10 and EP 12 dust covers or equivalent).
 - (b) Place LLT together with a small envelope of desiccant in a polyethylene bag.
 - (c) Seal bag vapor tight.
 - (d) Label bag with LLT part number and date of overhaul.

NOTE: LLT contains no cure dated items. Packaged LLT may be stored indefinitely.

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FITS AND CLEARANCES

Not Applicable

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

SPECIAL TOOLS, FIXTURES AND EQUIPMENT

None

38-31-09

Page 901/902

May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

ILLUSTRATED PARTS LIST

INTRODUCTION

1. Purpose

This section lists, describes and illustrates all component assemblies, subassemblies and detail parts of the toilet assembly. Parts listed are considered to be replaceable for reasons of wear, age or excessive abuse.

2. Scope of Information

A. Assembly Relationship

Each assembly listed is followed immediately by a listing of its component parts, properly indented to show their relationship to the assembly. Parts are listed in general order of disassembly, with the exception of attaching parts which are listed immediately following the item which they attach and which precede the components, if any, of that assembly. Item numbers in the parts list are keyed to corresponding item numbers in the accompanying exploded view illustration.

B. How to Identify a Part

- (1) **WHEN THE PART NUMBER IS NOT KNOWN:** Review the illustrations and identify the part by appearance or location. Note the item number in the exploded view and check the corresponding item number in the accompanying parts list to find the part number, description and quantity for that application.
- (2) **WHEN THE PART NUMBER IS KNOWN:** Turn to the Numerical Index and locate the part number. Figure and item numbers of the illustration where the part appears are listed in the column to the right of the part number. The corresponding item number in the accompanying parts list will give part number, description, assembly relationship and quantity required for that particular application.

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

C. Effectivity

The applicability of a particular part of its primary assembly is indicated by a code letter or letters in the "USAGE CODE" Column of the PARTS LIST. Normally, when four or less primary assemblies (initial entries) are broken down in an individual list, the code letters assigned to each primary assembly are listed opposite an individual part to indicate its applicability. When five or more primary assemblies are broken down, a double alphabetical letter is included in the "USAGE CODE" Column and an explanation of the code letters used is included as the final entry of the list. If no entry is made in the "USAGE CODE" Column, the individual part is common to all primary assemblies listed.

D. Abbreviations

Abbreviations used in the parts list section are as follows:

AR	As Required
ASSY	Assembly
CH	Chapter
CMM	Component Maintenance Manual
Corp	Corporation
FIG.	Figure
FRO	Future Replacement Order
LLT	Liquid Level Transmitter
NHA	Next Higher Assembly
No.	Number
OM	Overhaul Manual
PN	Part Number
REQ	Required
RF	Reference
REPLD	Replaced The part in the part number column is replaced by and interchangeable with the item number shown in the notation.
REPLS	Replaces The part in the part number column replaces and is interchangeable with the item number shown in the notation.

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

SUPSD BY	Superseded by The part in the part number column is replaced by and is not interchangeable with the item number shown in the notation.
SUPSDS	Supersedes The part in the part number column replaces and is not interchangeable with the item number shown in the notation.
SB	Service Bulletin
Sect.	Section
SN	Serial Number
SUBS	Subsequent
TTL	Total
V	Vendor

E. Symbols

- *** Designates the end of each group of attaching parts.
- A dash before an item indicates the item is not illustrated or does not have a leader and assigned index number on the exploded view illustration.

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

3. Vendor's Code

Vendor's parts used in the equipment that are not altered are listed by the vendor's part number, vendor's description of the part and vendor's code listed in parentheses following the description. Vendor's code symbols used in this publication are taken from Federal Supply Code of Manufacturers Cataloging Handbook H4-1 and consists of the applicable code symbol preceded by the letter "V". Where no code exists, vendor's full name and address is listed in the parts list, immediately following the description of the part. Following is a numerically arranged list of vendor codes. The code identification for Monogram Systems has not been included in the parts list. The absence of a code (or contractor's name and address) following a part description means that the item is a Monogram part, except for standard AN, MS or NAS hardware.

<u>CODE</u>	<u>VENDOR'S NAME AND ADDRESS</u>
V00779	AMP 2800 Fulling Mill Harrisburg, PA 17105
V12143	Bendix Corporation The Electrical Components Division Santa Ana Plant 1001 S. Grand Avenue Santa Ana, CA 92701
V27695	Devries International 1645 Reynolds Avenue Irvine, CA 92714
V40720	Global Fasteners 3050 S. Country Club, Suite 7 Mesa, AZ 85210
V59730	Thomas and Betts Corporation Highway 218 S. Iowa City, IA 52240
V6K880	Precision Bearings and Supply Company 2635 S. Fairfax Avenue Culver City, CA 90230
V76599	Murray Corporation Greater Baltimore Industrial Park Cockeysville, MD 21030

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

<u>CODE</u>	<u>VENDOR'S NAME AND ADDRESS</u>
V80756	Ramsey Corporation P. O. Box 513 St. Louis, MO 63166
V81312	Winchester Electronics Division of Litton Industries P. O. Box 136 West Hartford, CT 06107
V81872	Olympic Plastics Company Subsidiary of Intercontinental Diamond Corporation 5800 West Jefferson Boulevard Los Angeles, CA 90016
V83259	Parker-Hannifin Corporation O-Seal Division 10567 Jefferson Boulevard Culver City, CA 90230
V86928	Seastrom Manufacturing Company 701 Sonora Avenue Glendale, CA 91201

4. Numerical Index

All parts listed in the Illustrated Parts List are listed in the Numerical Parts List Index and are arranged in alphabetical order by noun preceding the numbered parts. The arranged sequence of each numbered part begins at the extreme left hand position and continues left to right (one position at a time) until the location of each part number is determined. Letters "A" through "Z" are followed by numerals "0" through "9". In the second column and in all succeeding positions, the order of precedence is:

First, a space (blank column) or a dash "-"; if present, the letter "A" through "Z", then numerals "0" through "9". The letter "O" is treated as the numeral "0". All parts are listed with total quantities per unit and with reference to figure and item numbers indicating the location(s) of these parts.

38-31-09

Page 1005
May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
025-050-012			2	55	2
0701-195			1	155	2
1-480698-0			4	60	1
10-101949-14			5	67	1
11059-1			4	80	1
11059-12-33			4	15	1
11059-12-36			4	5	1
11059-79			1	385	1
			4	-1	RF
13451-033			1	485	1
13451-036			1	480	1
13503-001-00			5	140	1
13503-002			5	80	1
13503-009			5	110	4
13503-010			5	115	4
13503-011			5	20	4
13503-012			5	100	4
13503-018			5	75	1
13503-019			5	45	1
R 13503-036			5	5	1
R 13503-106			1	460	1
			5	-1	RF

- ITEM NOT ILLUSTRATED

38-31-09

Page 1006
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
13503-107			5	135	1
13503-108			5	125	1
13503-109			5	130	1
R 13503-110			1	-460A	1
			5	-1A	RF
R 13503-111			5	-125A	1
R 13503-112			5	-130A	1
13505-005			1	540	4
13507-001			1	5	1
14100-019			2	190	1
1412-4			5	25	1
			5	105	1
1488-6			1	560	2
15900-013			1	-1	RF
15900-017			1	-1	RF
15900-020			1	-1	RF
15900-151			2	35	1
15900-152			2	-35A	1
15900-154			1	165	1
15900-155			1	125	1
15900-156			1	160	2
15900-180			1	535	1

- ITEM NOT ILLUSTRATED

38-31-09

Page 1007
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

	PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
R	15900-186			1	-535A	1
R	15900-194			1	-535B	1
R	15900-199			1	-125A	1
R	15900-226			1	585	1
	16004-027-13			1	100	1
	16004-027-17			1	40	1
	16006-006			2	105	1
	16006-031			2	160	1
	16006-032			2	185	1
	16006-033			2	180	1
	16202-020			2	165	1
	17000-298			1	400	1
	2-034S604-70			1	495	1
	2-114E515-80			3	90	1
	207359-1			1	145	1
	207360-1			4	85	1
	2317-2			1	70	1
	2333-7			2	5	1
				2	45	1
				4	75	1

- ITEM NOT ILLUSTRATED

38-31-09

Page 1008
May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
2393-21			1	525	2
2435-14-18			1	435	1
2435-14-23			1	50	1
2520			1	150	1
340121020			2	100	AR
350690-1			4	65	2
3509-1			2	220	1
3511-007			1	110	1
			2	-1	RF
R 3512-007			1	-110A	RF
			2	-1A	RF
3514-003			2	195	1
3515-003			2	60	1
3516-001			2	215	1
3516-005			2	50	1
3516-009			2	140	1
3516-011			2	135	1
3516-013			2	10	1
R 3516-019			2	-10A	1

- ITEM NOT ILLUSTRATED

38-31-09

Page 1009
May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
3752-21			1	354	2
4313			1	200	1
4514			1	530	1
4520-2			1	510	1
4521-11			1	-510A	1
4521-11-1			1	-530A	1
4521-11-2			1	-527	1
4631-58-12			3	45	1
4631-72			1	405	1
4631-73			1	355	1
4631-81			1	420	3
4631-82			1	305	1
4631-84			1	225	1
4631-85			1	35	3
4631-88			1	520	1
4631-124			1	-305A	1
4637-10			1	20	3
4648			1	75	1
4650-24			1	320	1
			3	-1	RF
R 4650-31			1	-320A	1
			3	-1A	RF

- ITEM NOT ILLUSTRATED

38-31-09

Page 1010
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

	PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
R	4651-8			3	-85	1
R	4651-13			3	85A	1
	4670-1			1	335	1
	4672-1			3	100	1
	4673			3	110	1
	4676-14			3	120	1
R	4676-16			3	-120A	1
	4678-7			3	60	1
	4682-3			3	75	1
	(SUPSD BY 4682-5)					
	4682-5			3	-75A	1
	(SUPSDS 4682-3)					
	4687			1	185	1
	4698-14			1	55	1
	4801-11			3	105	1
	4801-12			3	115	1
R	4802-50			3	130	1
R	4802-53			3	135	1
	4811-174-1			3	30	1
	4812-105			2	115	1
	4812-107			2	130	2
	4812-174-11			2	120	1
	4812-25			1	440	1
				2	25	1
	4812-31			2	110	AR

- ITEM NOT ILLUSTRATED

38-31-09

Page 1011

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
R 4812-94-13			2	75	1
5411-23			4	35	1
5610-10-32			5	15	4
			5	35	1
			5	90	4
600-015-10			1	-580	6
66103-3			1	140	2
66105-3			4	90	2
860832			1	-517	5
99-022-094-0500			1	275	1
AD18-183			4	45	2
AN507C632R5			1	515	5
AN507C832R10			4	10	2
AN960C10L			1	15	3
			1	65	7
			1	135	4
			1	220	2
			1	250	2
			1	310	4
			1	350	2
			1	445	4
			1	475	3
			1	570	2
			2	20	6
			3	15	1
			3	55	1
AN960C2L			3	35	1
AN960C4			4	25	3

- ITEM NOT ILLUSTRATED

38-31-09

Page 1012
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
AN960C4L			1	375	4
			5	55	4
AN960C6			3	70	4
			5	95	3
AN960C6L			1	195	4
			1	330	9
			1	395	4
AN960C8			2	175	3
AN960C8L			1	120	8
			1	235	4
			1	352	1
			1	365	2
			1	415	2
			1	430	6
			2	70	1
CK05BX102K			1	550	1
C10DK3			1	340	3
H6SS			1	105	2
H8SS			1	45	2
M10PLSN			5	120	1
M10SLRN			5	70	1
MS16624-4025			2	95	1
R MS24626-20			3	140	4
MS24566-1B			1	205	1
			1	255	2
			3	5	1
R MS24665-148			1	215	2
			1	245	2
			3	10	1

- ITEM NOT ILLUSTRATED

38-31-09

Page 1013

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
MS24665-18			3	40	1
MS24665-87			2	125	1
MS24693C269			1	490	4
MS24693C30			2	200	5
MS24693C46			1	-515A	5
MS29513-343			1	500	2
MS3416-12EN			4	55	1
MS3470L12-3P			4	50	1
MS35275-217			5	10	4
MS35333-70			4	30	1
MS35338-135			5	60	4
MS35338-138			1	450	1
			1	470	3
MS35489-4			4	70	1
MS35649-44			5	40	1
			5	65	4
MS35649-264			1	545	1

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38-31-09

Page 1014
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
MS35650-304			1	565	1
MS51957-13			5	30	1
			5	50	4
MS51957-15			1	370	4
			4	40	2
MS51957-21			5	85	4
MS51957-27			2	40	4
MS51957-28			1	390	4
MS51957-49			2	145	2
MS51957-53			2	80	6
MS51958-60			1	465	3
MS9463-08			1	210	2
			1	240	1
			3	20	1
MS9463-09			1	260	1
R NAS1149CN416R			1	-375A	4
			5	-55A	4
R NAS1149CN616R			1	-195A	4
			1	-330A	9
			1	-395A	4
R NAS1149CN632R			3	-70A	4
			5	-95A	3
R NAS1149CN816R			1	-120A	8
			1	-235A	4
			1	-352A	1
			1	-365A	2
			1	-415A	2
			1	-430A	6
			2	-70A	1

- ITEM NOT ILLUSTRATED

38-31-09

Page 1015

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

	PART NUMBER	AIRLINE PART NUMBER	CH-SECT-UNIT	FIG.	ITEM	TTL REQ.
R	NAS1149C0332R			1	-15A	3
				1	-65A	7
				1	-135A	4
				1	-220A	2
				1	-250A	2
				1	-310A	4
				1	-350A	2
				1	-445A	4
				1	-475A	3
				1	-570A	2
				2	-20A	6
				3	-15A	1
				3	-55A	1
	NAS1291C04M			1	380	4
	NAS1291C06M			2	210	5
	NAS1291C08M			2	90	6
				2	155	2
				2	170	3
	NAS501-3H4A			2	30	3
	NAS620C6			2	205	5
	NAS620C8			2	85	12
				2	150	4
	NAS679C04M			4	20	2
	NAS679C06M			1	190	4
				1	325	9
				3	65	4
	NAS679C08M			1	115	8
				1	230	4
				1	347	1
				1	360	2
				1	410	2
				1	425	6
				2	65	1

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38-31-09

Page 1016
Feb 23/04

COMPONENT MAINTENANCE MANUAL

BASIC PN 15900

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38-31-09

Page 1616.1
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

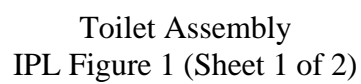
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38-31-09

Page 1616.2
Feb 23/04

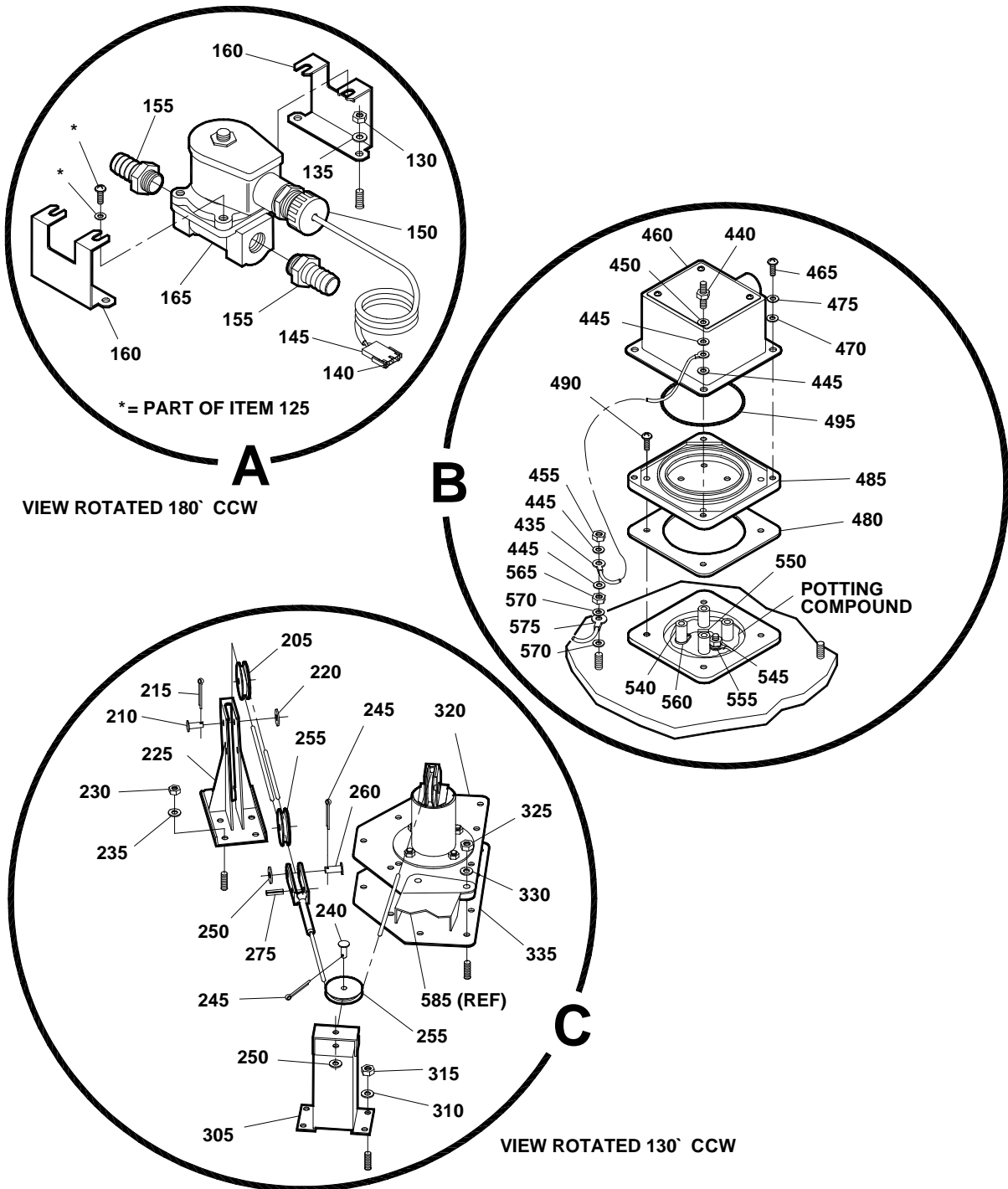
COMPONENT MAINTENANCE MANUAL

BASIC PN 15900

Page 1017
May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900



Toilet Assembly
IPL Figure 1 (Sheet 2 of 2)

38-31-09

Page 1018
May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
1					
-1	15900-013		TOILET ASSEMBLY	A	RF
-1A	15900-017		TOILET ASSEMBLY	B	RF
-1B	15900-020		TOILET ASSEMBLY	C	RF
5	13507-001		. DECAL, IDENTIFICATION		1
10	NAS679C3M		. NUT		3
15	AN960C10L		. WASHER (REPLD BY ITEM -15A)		3
-15A	NAS1149C0332R		. WASHER (REPLS ITEM 15)		3
20	4637-10		. ROD, HOLD DOWN *		3
25	NAS679C3M		. NUT		3
30	Z4NM5		. WASHER, NYLON (V6K880) (TRUE PN Z4-N-M5) *		6
35	4631-85		. BOLT, EYE *		3
40	16004-027-17		. HOSE		1
45	H8SS		ATTACHING PARTS . CLAMP (V76599) * * *		2
50	2435-14-23		. STRAP, GROUNDING		1
55	4698-14		. BOWL ASSEMBLY		1
60	NAS679C3M		ATTACHING PARTS . NUT		6
65	AN960C10L		. WASHER (REPLD BY ITEM -65A)		7
-65A	NAS1149C0332R		. WASHER (REPLS ITEM 65) * * *		7
70	2317-2		. RESTRICTOR, SPLASH		1
75	4648		. GASKET, BOWL		1
100	16004-027-13		. HOSE		1
105	H6SS		ATTACHING PARTS . CLAMP (V76599) * * *		2
110	3511-007		. MOTOR-PUMP-FILTER ASSY (SEE IPL FIGURE 2 FOR DETAILS)	A,C	1
-110A	3512-007		. MOTOR-PUMP-FILTER ASSY (SEE IPL FIGURE 2 FOR DETAILS)	B	1

- ITEM NOT ILLUSTRATED

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38-31-09

Page 1019

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
1					
			ATTACHING PARTS		
	115	NAS679C08M	. NUT		8
R	120	AN960C8L	. WASHER (REPLD BY ITEM -120A)		8
R	-120A	NAS1149CN816R	. WASHER (REPLS ITEM 120) * * *		8
	125	15900-155	. SOLENOID VALVE ASSY	A,B	1
	-125A	15900-199	. SOLENOID VALVE ASSY	C	1
			ATTACHING PARTS		
	130	NAS679C3M	. NUT		4
R	135	AN960C10L	. WASHER (REPLD BY ITEM -135A)		4
R	-135A	NAS1149C0332R	. WASHER (REPLS ITEM 135) * * *		4
	140	66103-3	. . PIN, CONTACT (V00779)		2
	145	207359-1	. . CONNECTOR, RECEPTACLE (V00779)		1
	150	2520	. . CONNECTOR, STRAIN RELIEF (V59730)		1
	155	0701-195	. . ADAPTER, HOSE (V06090)		2
	160	15900-156	. . BRACKET, SOLENOID VALVE MOUNTING		2
	165	15900-154	. . SOLENOID VALVE		1
	185	4687	. FITTING, VENT		1
			ATTACHING PARTS		
	190	NAS679C06M	. NUT		4
R	195	AN960C6L	. WASHER (REPLD BY ITEM -195A)		4
R	-195A	NAS1149CN616R	. WASHER (REPLS ITEM 195) * * *		4
	200	4313	. GASKET, VENT		1
	205	MS24566-1B	. PULLEY		1
	210	MS9463-08	. CLEVIS PIN		2
	215	MS24665-148	. COTTER PIN		2
R	220	AN960C10L	. WASHER (REPLD BY ITEM -220A)		2
R	-220A	NAS1149C0332R	. WASHER (REPLS ITEM 220)		2
	225	4631-84	. BRACKET, PULLEY		1

- ITEM NOT ILLUSTRATED

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38-31-09

Page 1020

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
1					
			ATTACHING PARTS		
	230	NAS679C08M	. NUT		4
R	235	AN960C8L	. WASHER (REPLD BY ITEM -235A)		4
R	-235A	NAS1149CN816R	. WASHER (REPLS ITEM 235)		4
	240	MS9463-08	. CLEVIS PIN		1
	245	MS24665-148	. COTTER PIN		2
R	250	AN960C10L	. WASHER (REPLD BY ITEM -250A)		2
R	-250A	NAS1149C0332R	. WASHER (REPLS ITEM 250)		2
	255	MS24566-1B	. PULLEY * * *		2
	260	MS9463-09	. CLEVIS PIN		1
	275	99-022-094-0500	. PIN, ROLL (V40720)		1
	305	4631-82	. BRACKET, PULLEY	A,B	1
	-305A	4631-124	. BRACKET, PULLEY	C	1
			ATTACHING PARTS		
R	310	AN960C10L	. WASHER (REPLD BY ITEM -310A)		4
R	-310A	NAS1149C0332R	. WASHER (REPLS ITEM 310)		4
	315	NAS679C3M	. NUT * * *		4
R	320	4650-24	. DRAIN VALVE ASSY (SEE IPL FIGURE 3 FOR DETAILS)	AA	1
R	-320A	4650-31	. DRAIN VALVE ASSY (SEE IPL FIGURE 3 FOR DETAILS)	AB	1
			ATTACHING PARTS		
	325	NAS679C06M	. NUT		9
R	330	AN960C6L	. WASHER (REPLD BY ITEM -330A)		9
R	-330A	NAS1149CN616R	. WASHER (REPLS ITEM 330) * * *		9
	335	4670-1	. GASKET, DRAIN VALVE		1
	340	C10DK3	. CLAMP (V81872) (TRUE PN C10DK-3)		3

- ITEM NOT ILLUSTRATED

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38-31-09

Page 1021

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
1			ATTACHING PARTS		
	345	NAS679C3M	. NUT		2
	347	NAS679C08M	. NUT		1
R	350	AN960C10L	. WASHER (REPLD BY ITEM -350A)		2
R	-350A	NAS1149C0332R	. WASHER (REPLS ITEM 350)		2
R	352	AN960C8L	. WASHER (REPLD BY ITEM -352A)		1
R	-352A	NAS1149CN816R	. WASHER (REPLS ITEM 352)		1
	354	3752-21	. SPACER		2

	355	4631-73	. BRACKET, CONNECTOR		1
			ATTACHING PARTS		
	360	NAS679C08M	. NUT		2
R	365	AN960C8L	. WASHER (REPLD BY ITEM -365A)		2
R	-365A	MS1149CN816R	. WASHER (REPLS ITEM 365)		2
			* * *		
	370	MS51957-15	. SCREW		4
R	375	AN960C4L	. WASHER (REPLD BY ITEM -375A)		4
R	-375A	NAS1149CN416R	. WASHER (REPLS ITEM 375)		4
	380	NAS1291C04M	. NUT		4
	385	11059-79	. TIMER ASSY (SEE IPL FIGURE 4 FOR DETAILS)		1
			ATTACHING PARTS		
	390	MS51957-28	. SCREW		4
R	395	AN960C6L	. WASHER (REPLD BY ITEM -395A)		4
R	-395A	NAS1149CN616R	. WASHER (REPLS ITEM 395)		4
			* * *		
	400	17000-298	. GASKET		1
	405	4631-72	. BRACKET, TIMER		1
			ATTACHING PARTS		
	410	NAS679C08M	. NUT		2
R	415	AN960C8L	. WASHER (REPLD BY ITEM -415A)		2
R	-415A	NAS1149CN816R	. WASHER (REPLS ITEM 415)		2
			* * *		

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38-31-09

Page 1022

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
1					
	420	4631-81	. BRACKET, TIE DOWN		3
			ATTACHING PARTS		
	425	NAS679C08M	. NUT		6
R	430	AN960C8L	. WASHER (REPLD BY ITEM -430A)		6
R	-430A	NAS1149CN816R	. WASHER (REPLS ITEM 430) * * *		6
	435	2435-14-18	. STRAP, GROUNDING		1
	440	4812-25	. STUD, GROUNDING		1
			ATTACHING PARTS		
R	445	AN960C10L	. WASHER (REPLD BY ITEM -445A)		4
R	-445A	NAS1149C0332R	. WASHER (REPLS ITEM 445)		4
	450	MS35338-138	. WASHER		1
	455	NAS679C3M	. NUT * * *		1
R	460	13503-106	. TRANSMITTER, LIQUID LEVEL (REPLD BY ITEM -460A) (SEE IPL FIGURE 5 FOR DETAILS)	AC	1
R	-460A	13503-110	. TRANSMITTER, LIQUID LEVEL (REPLS ITEM 460) (SEE IPL FIGURE 5 FOR DETAILS)	AD	1
			ATTACHING PARTS		
	465	MS51958-60	. SCREW		3
	470	MS35338-138	. WASHER		3
R	475	AN960C10L	. WASHER (REPLD BY ITEM -475A)		3
R	-475A	NAS1149C0332R	. WASHER (REPLS ITEM 475) * * *		3
	480	13451-036	. GASKET		1
	485	13451-033	. PLATE, MOUNTING		1
			ATTACHING PARTS		
	490	MS24693C269	. SCREW * * *		4

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38-31-09

Page 1023

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
1					
495	2-034S604-70		. O-RING (V02697)		1
500	MS29513-343*		. O-RING (V02697)		2
510	4520-2*		. SEAT ASSY	A	1
-510A	4521-11*		. SEAT ASSY	B,C	1
515	AN507C632R5		. . SCREW	A	5
-515A	MS24693C-46		. . SCREW	B,C	5
-517	860832		. . INSERT	B,C	5
520	4631-88		. . HINGE	A	1
525	2393-21		. . BUMPER	A	2
-527	4521-11-2		. . BLOCK	B,C	1
530	4514		. . SEAT	A	1
-530A	4521-11-1		. . SEAT ASSY M/F (4806-22-10)	B,C	1
535	15900-180		. TANK AND TOP ASSY	A	1
-535A	15900-186		. TANK AND TOP ASSY	B	1
-535B	15900-194		. TANK AND TOP ASSY	C	1
540	13505-005		. . CONTACT		4
545	MS35649-264		. . NUT		1
550	CK05BX102K		. . CAPACITOR		1
555	PT8-6R		. . TERMINAL (V06383)		1
560	1488-6		. . LUG (V83330)		2
565	MS35650-304		. . NUT		1
R 570	AN960C10L		. . WASHER (REPLD BY ITEM -570A)		2
R -570A	NAS1149C0332R		. . WASHER (REPLS ITEM 570)		2
575	P18-10R		. . TERMINAL (V06383)		1
-580	TY24M		. CABLE TIE (V59730)	B,C	AR
585	15900-226		. BRACKET, SUPPORT	B	1

- ITEM NOT ILLUSTRATED

* SHIPPED LOOSE WITH FINAL ASSEMBLY

38-31-09

Page 1023.1

Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

USAGE CODE LIST

A = 15900-013
B = 15900-017
C = 15900-020

AA = 15900-017 (SN 001 THRU 083),
15900-020 (SN 001 THRU 049)

AB = 15900-017 (SN 084 AND SUBS),
15900-020 (SN 050 AND SUBS)

AC = 15900-020 (SN 001 THRU 067)

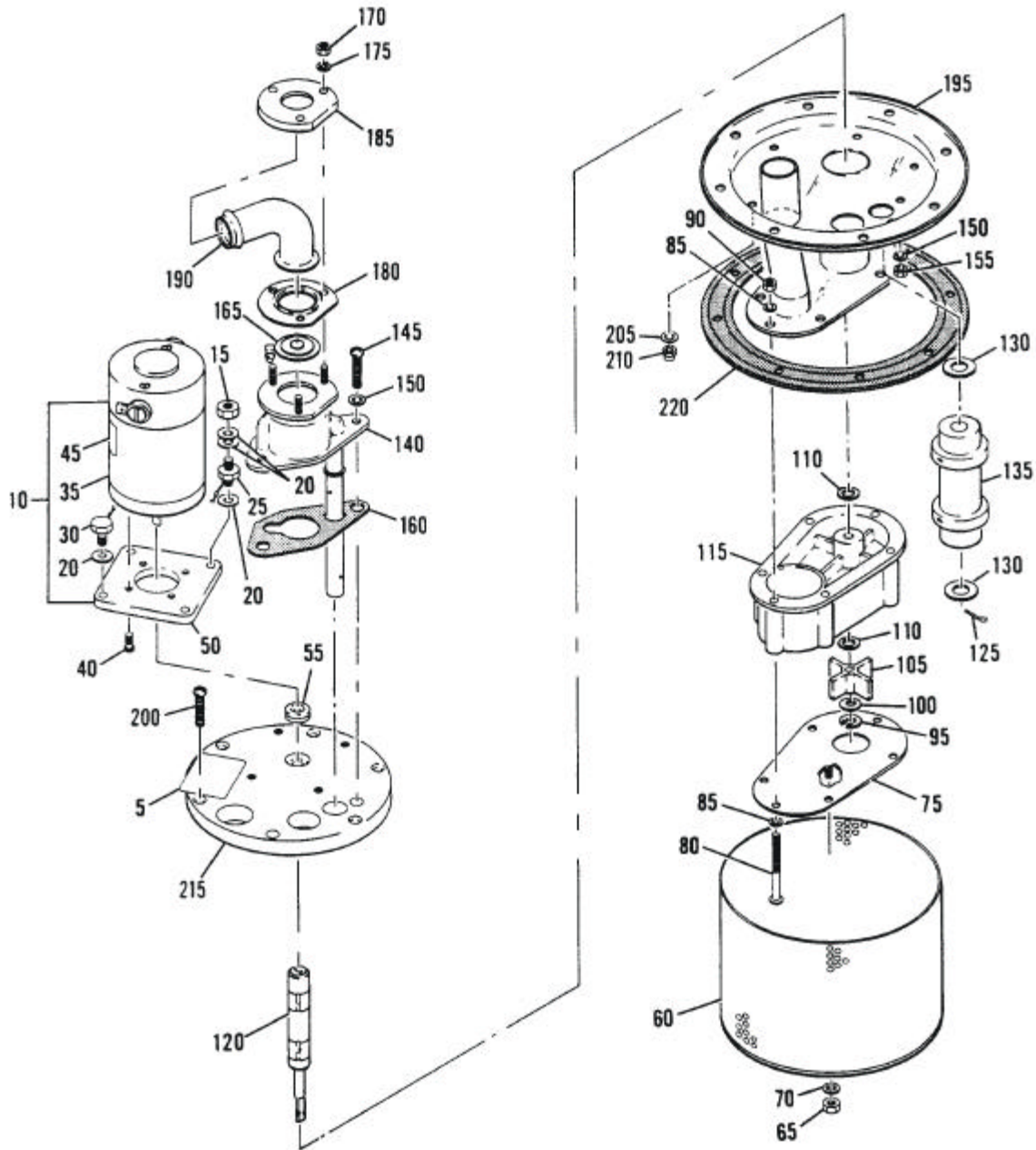
AD = 15900-020 (SN 068 AND SUBS)

38-31-09

Page 1023.2
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900



Motor -Pump-Filter Assy
IPL Figure 2

38-31-09

Page 1024
May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
2					
-1	3511-007		MOTOR-PUMP-FILTER ASSY (SEE IPL FIG. 1 FOR NHA)	A	RF
-1A	3512-007		MOTOR-PUMP-FILTER ASSY (SEE IPL FIG. 1 FOR NHA)	B	RF
5	2333-7		. DECAL		1
10	3516-013		. MOTOR AND ADAPTER ASSY	A	1
-10A	3516-019		. MOTOR AND ADAPTER ASSY	B	1
			. ATTACHING PARTS		
15	NAS679C3M		. NUT		1
20	AN960C10L		. WASHER (REPLD BY ITEM -20A)		6
-20A	NAS1149C0332R		. WASHER (REPLS ITEM 20)		6
25	4812-25		. STUD		1
30	NAS501-3H4A		. BOLT ***		3
35	15900-151		. . MOTOR ASSY	A	1
-35A	15900-152		. . MOTOR ASSY	B	1
			. ATTACHING PARTS		
40	MS51957-27		. . SCREW ***		4
45	2333-7		. . NAMEPLATE		1
50	3516-005		. . PLATE, ADAPTER		1
55	025-050-012		. SEAL (V27695)		2
60	3515-003		. BASKET, FILTER		1
			. ATTACHING PARTS		
65	NAS679C08M		. NUT		1
70	AN960C8L		. WASHER (REPLD BY ITEM -70A)		1
-70A	NAS1149CN816R		. WASHER (REPLS ITEM 70) ***		1
75	4812-94-13		. PLATE, IMPELLER HOUSING		1
			. ATTACHING PARTS		
80	MS51957-53		. SCREW		6
85	NAS620C8		. WASHER		12
90	NAS1291C08M		. NUT ***		6

- ITEM NOT ILLUSTRATED

38-31-09

Page 1025
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
2					
95	MS16624-4025		. RING, RETAINING		1
100	340121020		. WASHER, THRUST (V86928)		AR
105	16006-006		. IMPELLER		1
110	4812-31		. WASHER, THRUST		AR
115	4812-105		. HOUSING, IMPELLER		1
120	4812-174-11		. DRIVE SHAFT ASSY		1
125	MS24665-87		. PIN, COTTER		1
130	4812-107		. WASHER		2
135	3516-011		. SPRAY NOZZLE		1
140	3516-009		. HOUSING, ANTISIPHON		1
			ATTACHING PARTS		
145	MS51957-49		. SCREW		2
150	NAS620C8		. WASHER		4
155	NAS1291C08M		. NUT		2

160	16006-031		. GASKET		1
165	16202-020		. FLAPPER		1
170	NAS1291C08M		. NUT		3
175	AN960C8		. WASHER		3
180	16006-033		. GASKET		1
185	16006-032		. WASHER, RETENTION		1
190	14100-019		. TUBE, INLET		1
195	3514-003		. FRAME ASSY		1
			ATTACHING PARTS		
200	MS24693C30		. SCREW		5
205	NAS620C6		. WASHER		5
210	NAS1291C06M		. NUT		5

215	3516-001		. PLATE, MOUNTING		1
220	3509-1		. GASKET, MOUNTING PLATE *		1

- ITEM NOT ILLUSTRATED

* SHIPPED LOOSE WITH FINAL ASSEMBLY

38-31-09

Page 1026

May 17/02

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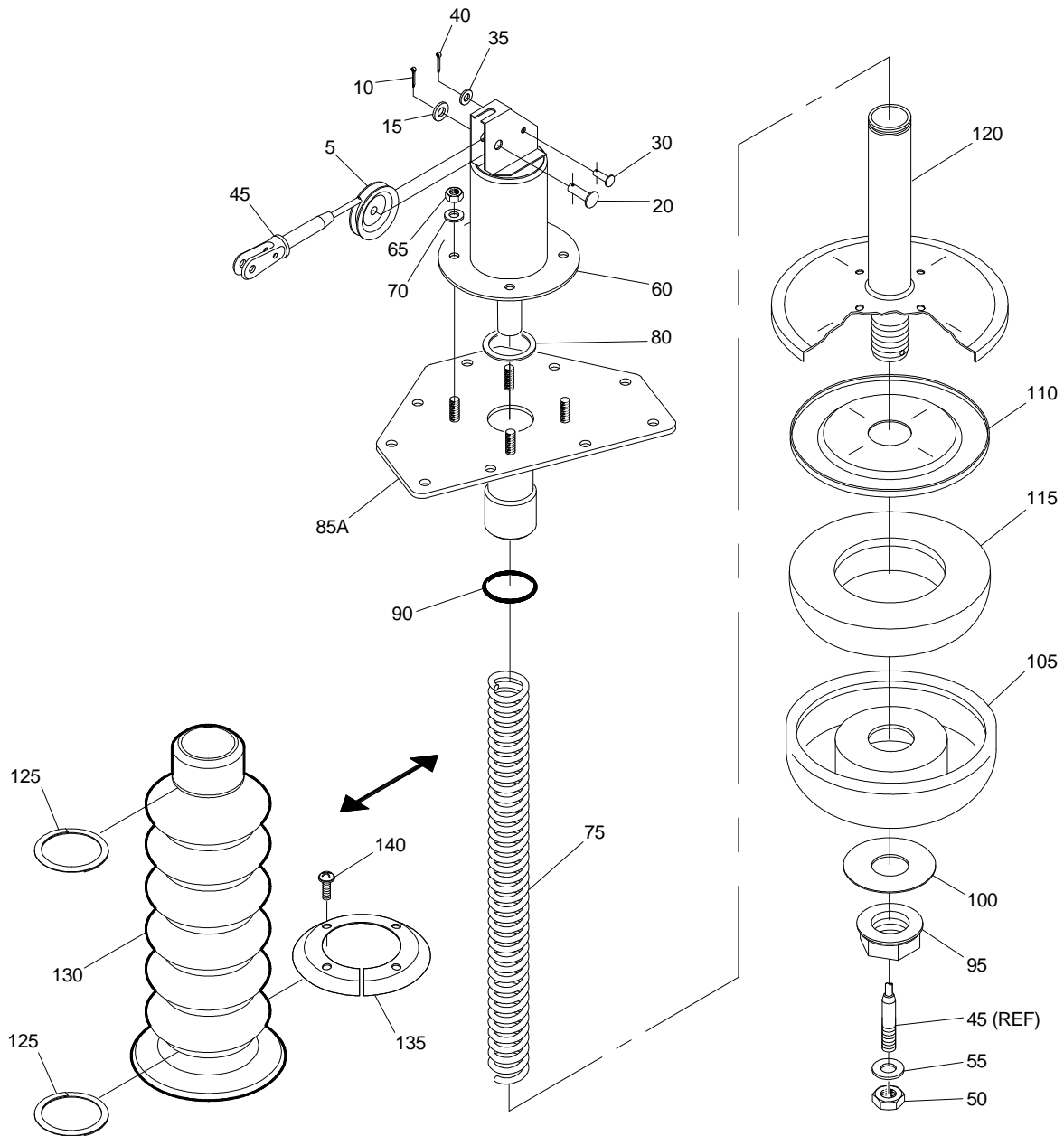
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38-31-09

Page 1027
May 17/02

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900



Drain Valve Assembly
IPL Figure 3

38-31-09

Page 1028
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
3					
R -1	4650-24		DRAIN VALVE ASSY (REPLD BY ITEM -1A) (SEE IPL FIG. 1 FOR NHA)	A	RF
R -1A	4650-31		DRAIN VALVE ASSY (REPLS ITEM 1) (SEE IPL FIG. 1 FOR NHA)	B	RF
5	MS24566-1B		. PULLEY		1
			ATTACHING PARTS		
R 10	MS24665-148		. PIN, COTTER	A	1
R -10A	MS24665-151		. PIN, COTTER	B	1
R 15	AN960C10L		. WASHER (REPLD BY ITEM 15A)	A	1
R -15A	NAS1149C0332R		. WASHER		1
20	MS9463-08		. PIN, CLEVIS ***		1
30	4811-174-1		. PIN, DRILLED	A	1
35	AN960C2L		. WASHER	A	1
40	MS24665-18		. PIN, COTTER	A	1
45	4631-58-12		. CABLE		1
			ATTACHING PARTS		
50	NAS679C3M		. NUT		1
R 55	AN960C10L		. WASHER (REPLD BY ITEM 55A)	A	1
R -55A	NAS1149C0332R		. WASHER ***		1
60	4678-7		. COVER		1
			ATTACHING PARTS		
65	NAS679C06M		. NUT		4
R 70	AN960C6		. WASHER, FLAT (REPLD BY ITEM 70A)	A	4
R -70A	NAS1149CN632R		. WASHER, FLAT ***		4

- ITEM NOT ILLUSTRATED

38-31-09

Page 1029
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
3					
	75	4682-3	. SPRING (SUPSD BY ITEM -75A)		1
	-75A	4682-5	. SPRING (SUPSDS ITEM 75)		1
	80	RS62S	. SPIROLOX (V80756) (TRUE PN RS-62-S)		1
R	85	4651-8	. HOUSING	A	1
R	-85A	4651-13	. HOUSING	B	1
	90	2-114E515-80	. O-RING (V02697)		1
	95	NAS679C6M	. NUT		1
	100	4672-1	. PLATE		1
	105	4801-11	. SEAL		1
	110	4673	. PLATE, SUPPORT		1
	115	4801-12	. PLUG, SEAL		1
R	120	4676-14	. VALVE STEM ASSY	A	1
R	-120A	4676-16	. VALVE STEM ASSY	B	1
R	125	RSN112S	. SPIROLOX (TRUE PN RSN-112S)	B	2
R	130	4802-50	. BOOT, BELLOWS	B	1
R	135	4802-53	. RING, DOUBLER	B	1
R	140	MS24626-20	ATTACHING PARTS . SCREW, SELF-TAPPING * * *	B	4

- ITEM NOT ILLUSTRATED

38-31-09

Page 1029.1
Feb 23/04

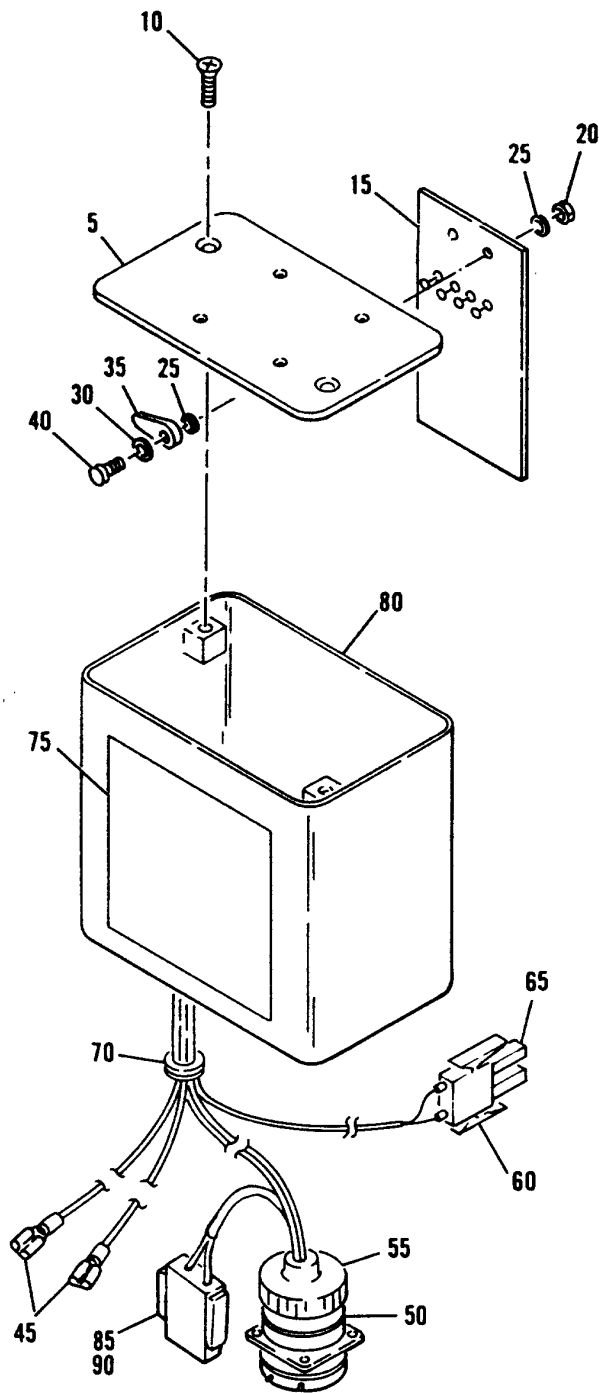
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Timer Assembly
IPL Figure 4

38-31-09

Page 1030
May 17/02

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COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
4					
-1	11059-79		TIMER ASSY (SEE IPL FIG. 1 FOR NHA)		RF
5	11059-12-36		. PLATE ASSY, TIMER		1
10	AN507C832R10		ATTACHING PARTS . SCREW, FLAT HD ***		2
15	11059-12-33		. PC BOARD, TIMER		1
20	NAS679C04M		ATTACHING PARTS . NUT		2
25	AN960C4		. WASHER		3
30	MS35333-70		. WASHER, LOCK		1
35	5411-23		. LUG, TERMINAL, (V86928)		1
40	MS51957-15		. SCREW, PAN HD ***		2
45	AD18-183		. DISCONNECT, FEMALE (V59730)		2
50	MS3470L12-3P		. CONNECTOR		1
55	MS3416-12EN		. CLAMP		1
60	1-480698-0		. PLUG, CONNECTOR (V00779)		1
65	350690-1		. PIN, CONNECTOR (V00779)		2
70	MS35489-4		. GROMMET		1
75	2333-7		. DECAL, I.D.		1
80	11059-1		. ENCLOSURE, TIMER		1
85	207360-1		. PLUG, CONNECTOR (V00779)		1
90	66105-3		. SOCKET, CONTACT (V00779)		2

- ITEM NOT ILLUSTRATED

COMPONENT MAINTENANCE MANUAL

BASIC PN 15900

Page 1032
May 17/02

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
5					
R -1	13503-106		TRANSMITTER, LIQUID LEVEL (REPLD BY ITEM -1A) (SEE IPL FIG. 1 FOR NHA)	A	RF
R -1A	13503-110		TRANSMITTER, LIQUID LEVEL (REPLS ITEM 1) (SEE IPL FIG. 1 FOR NHA)	B	RF
5	13503-036		. CASE		1
10	MS35275-217		ATTACHING PARTS . SCREW		4
15	5610-10-32		. WASHER, NYLON (V86928) ***		4
20	13503-011		. SUPPORT		4
25	1412-4		. LUG, GROUND WIRE		1
30	MS51957-13		ATTACHING PARTS . SCREW		1
35	5610-10-32		. WASHER, NYLON (V86928)		1
40	MS35649-44		. NUT ***		1
45	13503-019		. CONNECTOR		1
50	MS51957-13		ATTACHING PARTS . SCREW		4
R 55	AN960C4L		. WASHER, FLAT (REPLD BY ITEM 55A)	A	4
R -55A	NAS1149CN416R		. WASHER, FLAT		4
60	MS35338-135		. WASHER, LOCK		4
65	MS35649-44		. NUT ***		4
67	10-101949-14		. GASKET, SIZE 14 (V12143)		1
70	M10SLRN		. RECEPTACLE (V81312)		1
75	13503-018		. SEAL		1
80	13503-002		. PLATE, MOUNTING		1

- ITEM NOT ILLUSTRATED

38-31-09

Page 1033
Feb 23/04

Monogram Systems

COMPONENT MAINTENANCE MANUAL BASIC PN 15900

FIG. ITEM	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	USED ON CODE	UNITS PER ASSY
5			ATTACHING PARTS		
	85	MS51957-21	. SCREW		4
	90	5610-10-32	. WASHER, NYLON (V86928)		4
R	95	AN960C6	. WASHER, FLAT (REPLD BY ITEM 95A)	A	3
R	-95A	NAS1149CN632R	. WASHER, FLAT ***		3
	100	13503-012	. GROMMET		4
	105	1412-4	. LUG, GROUND WIRE		1
	110	13503-009	. SPACER		4
	115	13503-010	. SPACER		4
	120	M10PLSN	. PLUG, CONNECTOR (V81312)		1
R	125	13503-108	. PC BOARD, BRIDGE	A	1
R	-125A	13503-111	. PC BOARD 'A'	B	1
R	130	13503-109	. PC BOARD, LIGHT DRIVER	A	1
R	-130A	13503-112	. PC BOARD 'B'	B	1
	135	13503-107	. DECAL, SCHEMATIC		1
	140	13503-001-00	. NAMEPLATE		1

- ITEM NOT ILLUSTRATED

38-31-09

Page 1034
Feb 23/04