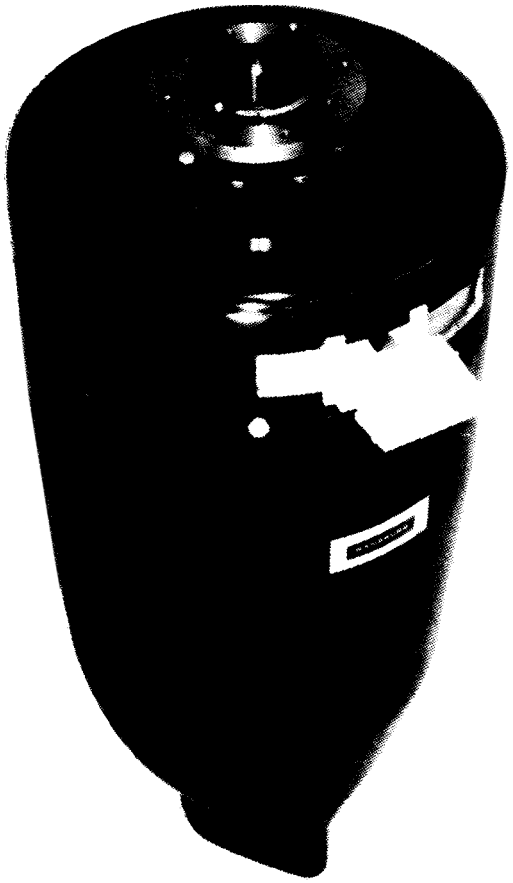
Ransburg

SERVICE MANUAL
AU-82-01.3
(Replaces AU-82-01.2)
March - 2013

TURBODISK™ FAIRING ASSEMBLY



MODEL: 70158

IMPORTANT: Before using this equipment, carefully read SAFETY PRECAUTIONS, starting on page 1, and all instructions in this manual. Keep this Service Manual for future reference.

Service Manual Price: $20.00 (U.S.)

NOTE: This manual has been changed from revision **AU-82-01.1** to revision **AU-82-01.2.** Reasons for this change are noted under “Manual Change Summary” inside the back cover of this manual.

CONTENTS

SAFETY

SAFETY PRECAUTIONS

Before operating, maintaining or servicing any Ransburg electrostatic coating system, read and understand all of the technical and safety literature for your Ransburg products. This manual contains information that is important for you to know and understand. This information relates to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS. To help you recognize this information, we use the following symbols. Please pay particular attention to these sections.

A WARNING! states information to alert you to a situation that might cause serious injury if instructions are not followed.

A CAUTION! states information that tells how to prevent damage to equipment or how to avoid a situation that might cause minor injury.

A NOTE is information relevant to the procedure in progress.

While this manual lists standard specifications and service procedures, some minor deviations may be found between this literature and your equipment. Differences in local codes and plant requirements, material delivery requirements, etc., make such variations inevitable. Compare this manual with your system installation drawings and appropriate Ransburg equipment manuals to reconcile such differences.

Careful study and continued use of this manual will provide a better understanding of the equipment and process, resulting in more efficient operation, longer trouble-free service and faster, easier troubleshooting. If you do not have the manuals and safety literature for your Ransburg system, contact your local Ransburg representative or Ransburg.

⚠ WARNING

➤ The user **MUST** read and be familiar with the Safety Section in this manual and the Ransburg safety literature therein identified.

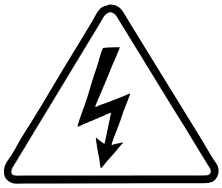
➤ This manual **MUST** be read and thoroughly understood by **ALL** personnel who operate, clean or maintain this equipment! Special care should be taken to ensure that the **WARNINGS** and safety requirements for operating and servicing the equipment are followed. The user should be aware of and adhere to ALL local building and fire codes and ordinances as well as **NFPA-33 SAFETY STANDARD, LATEST EDITION**, prior to installing, operating, and/or servicing this equipment.

⚠ WARNING

➤ The hazards shown on the following pages may occur during the normal use of this equipment. Please read the hazard chart beginning on page 2.

AREA Tells where hazards may occur.	**HAZARD** Tells what the hazard is.	**SAFEGUARDS** Tells how to avoid the hazard.
Spray Area 	**Fire Hazard** Improper or inadequate operation and maintenance procedures will cause a fire hazard. Protection against inadvertent arcing that is capable of causing fire or explosion is lost if any safety interlocks are disabled during operation. Frequent Power Supply or Controller shutdown indicates a problem in the system requiring correction.	Fire extinguishing equipment must be present in the spray area and tested periodically. Spray areas must be kept clean to prevent the accumulation of combustible residues. Smoking must never be allowed in the spray area. The high voltage supplied to the atomizer must be turned off prior to cleaning, flushing or maintenance. When using solvents for cleaning: • Those used for equipment flushing should have flash points equal to or higher than those of the coating material. • Those used for general cleaning must have flash points above 100°F (37.8°C). Spray booth ventilation must be kept at the rates required by NFPA-33, OSHA, country, and local codes. In addition, ventilation must be maintained during cleaning operations using flammable or combustible solvents. Electrostatic arcing must be prevented. Safe sparking distance must be maintained between the parts being coated and the applicator. A distance of 1 inch for every 10KV of output voltage is required at all times. Test only in areas free of combustible material. Testing may require high voltage to be on, but only as instructed. Non-factory replacement parts or unauthorized equipment modifications may cause fire or injury. If used, the key switch bypass is intended for use only during setup operations. Production should never be done with safety interlocks disabled. Never use equipment intended for use in waterborne installations to spray solvent based materials. The paint process and equipment should be set up and operated in accordance with NFPA-33, NEC, OSHA, local, country, and European Health and Safety Norms.

AREA Tells where hazards may occur.	**HAZARD** Tells what the hazard is.	**SAFEGUARDS** Tells how to avoid the hazard.
Spray Area 	**Explosion Hazard** Improper or inadequate operation and maintenance procedures will cause a fire hazard. Protection against inadvertent arcing that is capable of causing fire or explosion is lost if any safety interlocks are disabled during operation. Frequent Power Supply or Controller shutdown indicates a problem in the system requiring correction.	Electrostatic arcing must be prevented. Safe sparking distance must be maintained between the parts being coated and the applicator. A distance of 1 inch for every 10KV of output voltage is required at all times. Unless specifically approved for use in hazardous locations, all electrical equipment must be located **outside** Class I or II, Division 1 or 2 hazardous areas, in accordance with NFPA-33. Test only in areas free of flammable or combustible materials. The current overload sensitivity (if equipped) MUST be set as described in the corresponding section of the equipment manual. Protection against inadvertent arcing that is capable of causing fire or explosion is lost if the current overload sensitivity is not properly set. Frequent power supply shutdown indicates a problem in the system which requires correction. Always turn the control panel power off prior to flushing, cleaning, or working on spray system equipment. Before turning high voltage on, make sure no objects are within the safe sparking distance. Ensure that the control panel is interlocked with the ventilation system and conveyor in accordance with NFPA-33, EN 50176. Have fire extinguishing equipment readily available and tested periodically.
General Use and Maintenance 	Improper operation or maintenance may create a hazard. Personnel must be properly trained in the use of this equipment.	Personnel must be given training in accordance with the requirements of NFPA-33, EN 60079-0. Instructions and safety precautions must be read and understood prior to using this equipment. Comply with appropriate local, state, and national codes governing ventilation, fire protection, operation maintenance, and housekeeping. Reference OSHA, NFPA-33, EN Norms and your insurance company requirements.

AREA Tells where hazards may occur.	**HAZARD** Tells what the hazard is.	**SAFEGUARDS** Tells how to avoid the hazard.
Spray Area / High Voltage Equipment 	**Electrical Discharge** There is a high voltage device that can induce an electrical charge on ungrounded objects which is capable of igniting coating materials. Inadequate grounding will cause a spark hazard. A spark can ignite many coating materials and cause a fire or explosion.	Parts being sprayed and operators in the spray area must be properly grounded. Parts being sprayed must be supported on conveyors or hangers that are properly grounded. The resistance between the part and earth ground must not exceed 1 meg ohm. (Refer to NFPA-33.) Operators must be grounded. Rubber soled insulating shoes should not be worn. Grounding straps on wrists or legs may be used to assure adequate ground contact. Operators must not be wearing or carrying any ungrounded metal objects. When using an electrostatic handgun, operators must assure contact with the handle of the applicator via conductive gloves or gloves with the palm section cut out. NOTE: REFER TO NFPA-33 OR SPECIFIC COUNTRY SAFETY CODES REGARDING PROPER OPERATOR GROUNDING. All electrically conductive objects in the spray area, with the exception of those objects required by the process to be at high voltage, must be grounded. Grounded conductive flooring must be provided in the spray area. Always turn off the power supply prior to flushing, cleaning, or working on spray system equipment. Unless specifically approved for use in hazardous locations, all electrical equipment must be located **outside** Class I or II, Division 1 or 2 hazardous areas, in accordance with NFPA-33.

AREA Tells where hazards may occur.	**HAZARD** Tells what the hazard is.	**SAFEGUARDS** Tells how to avoid the hazard.
Electrical Equipment 	**Electrical Discharge** High voltage equipment is utilized in the process. Arcing in the vicinity of flammable or combustible materials may occur. Personnel are exposed to high voltage during operation and maintenance. Protection against inadvertent arcing that may cause a fire or explosion is lost if safety circuits are disabled during operation. Frequent power supply shutdown indicates a problem in the system which requires correction. An electrical arc can ignite coating materials and cause a fire or explosion.	Unless specifically approved for use in hazardous locations, the power supply, control cabinet, and all other electrical equipment must be located outside Class I or II, Division 1 and 2 hazardous areas in accordance with NFPA-33 and EN 50176. Turn the power supply OFF before working on the equipment. Test only in areas free of flammable or combustible material. Testing may require high voltage to be on, but only as instructed. Production should never be done with the safety circuits disabled. Before turning the high voltage on, make sure no objects are within the sparking distance.
Toxic Substances 	Certain material may be harmful if inhaled, or if there is contact with the skin.	Follow the requirements of the Material Safety Data Sheet supplied by coating material manufacturer. Adequate exhaust must be provided to keep the air free of accumulations of toxic materials. Use a mask or respirator whenever there is a chance of inhaling sprayed materials. The mask must be compatible with the material being sprayed and its concentration. Equipment must be as prescribed by an industrial hygienist or safety expert, and be NIOSH approved.
Spray Area 	**Explosion Hazard – Incompatible Materials** Halogenated hydrocarbon solvents for example: methylene chloride and 1,1,1,-Trichloroethane are not chemically compatible with the aluminum that might be used in many system components. The chemical reaction caused by these solvents reacting with aluminum can become violent and lead to an equipment explosion.	Aluminum is widely used in other spray application equipment - such as material pumps, regulators, triggering valves, etc. Halogenated hydrocarbon solvents must never be used with aluminum equipment during spraying, flushing, or cleaning. Read the label or data sheet for the material you intend to spray. If in doubt as to whether or not a coating or cleaning material is compatible, contact your coating supplier. Any other type of solvent may be used with aluminum equipment.

INTRODUCTION

GENERAL DESCRIPTION

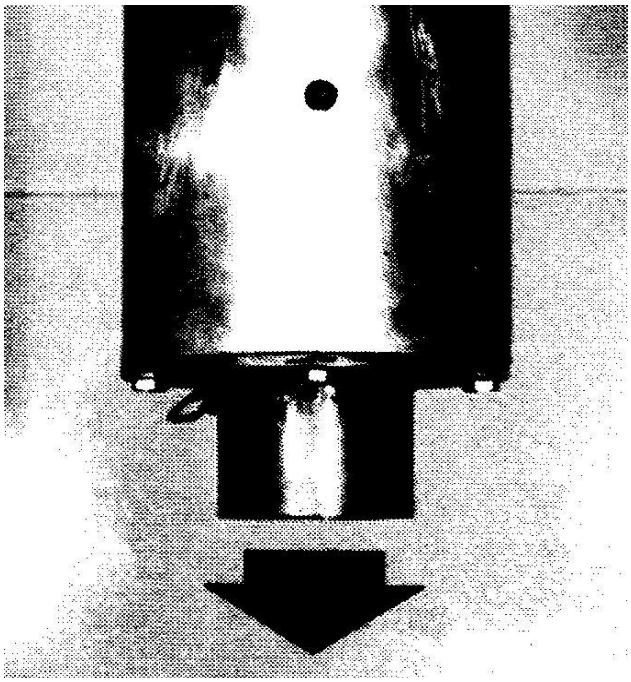
The primary purpose of the Ransburg **Turbodisk ™ Fairing Assembly** is to encapsulate the turbine feed and support structure. This enclosure provides an environment which will reduce clean-up time and potential down time from maintenance problems caused by accumulated paint residue. Along with the reduced clean-up time, there is of course, reduced cost of clean-up supplies.

Thee instructions are for the installation of the 70158 Turbodisk Fairing Retrofit Kit for existing Turbodisk installations. The unit illustrated herein is one of two configurations. The alternative unit differs only in the relative length of the 70155 Bulkhead Assembly and the 70157 Fairing Assembly. The installation procedures are the same for both assemblies.

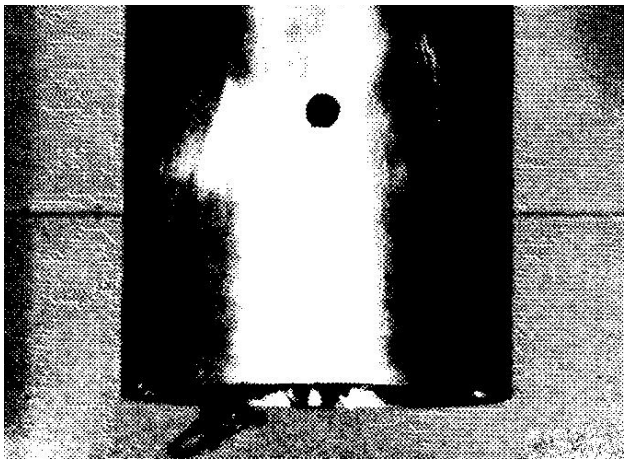
NOTES

INSTALLATION

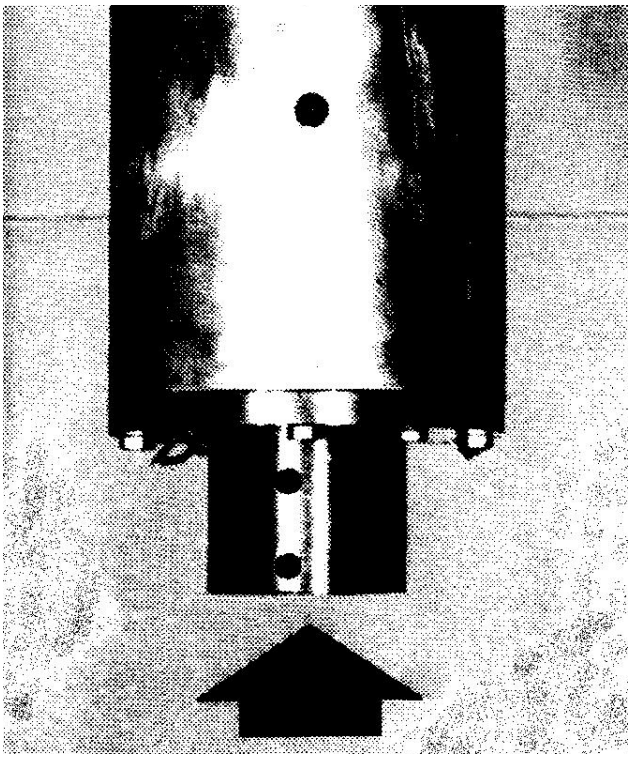
1. After the turbine insulator, feed tubes, etc., have been removed, remove the standard insulator support flange from the reciprocator ram.



2. Clean residual paint from the ram, especially from the four (4) threaded holes.

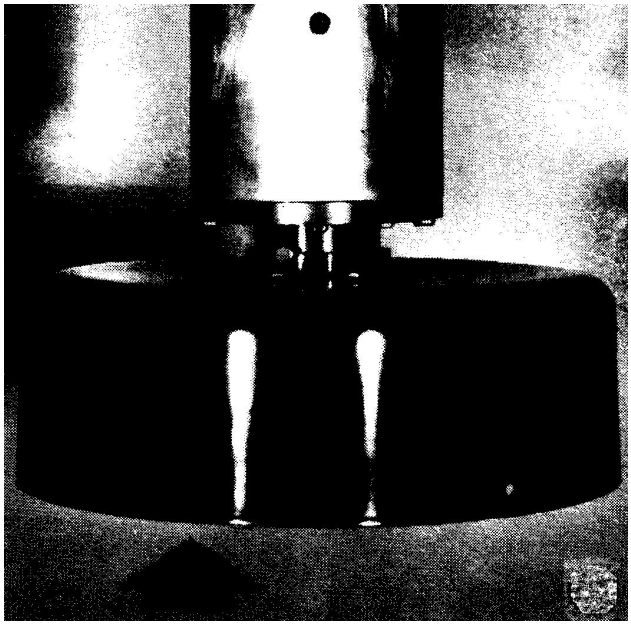


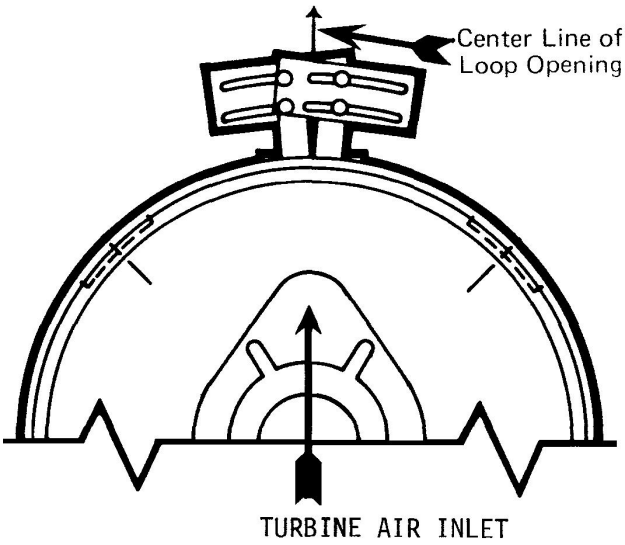
3. Attach the new insulator support flange to the ram using four (4) 8156-48C screws with 7776-07 lock washers. The two (2) clamps (secured with the two (2) smaller 7058-48C screws and 7776-06 lock washers) should fit inside of the ram. Snug the two (2) small clamp screws for this step.



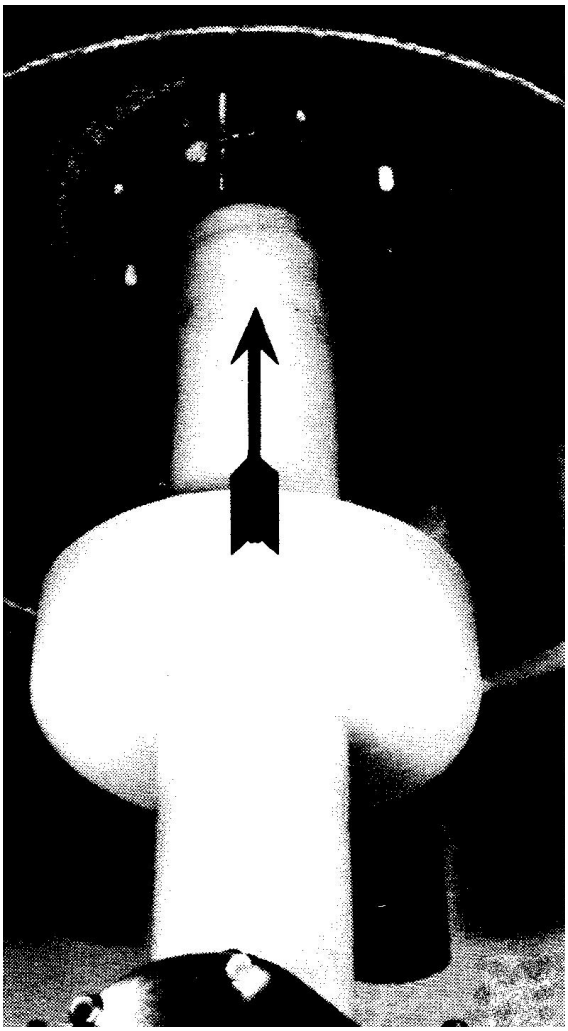
Remove the insulating cover 70148-00 from the bulkhead assembly by removing its two (2) plastic 4322-24C screws.

4. Slide the bulkhead flange 70147 (assembled to the 70155 bulkhead) over the ram flange 70381 and loosely secure with two (2) 8156-28C screws (with two (2) 7776-07 lock washers in place). The screws should just engage the ram flange.

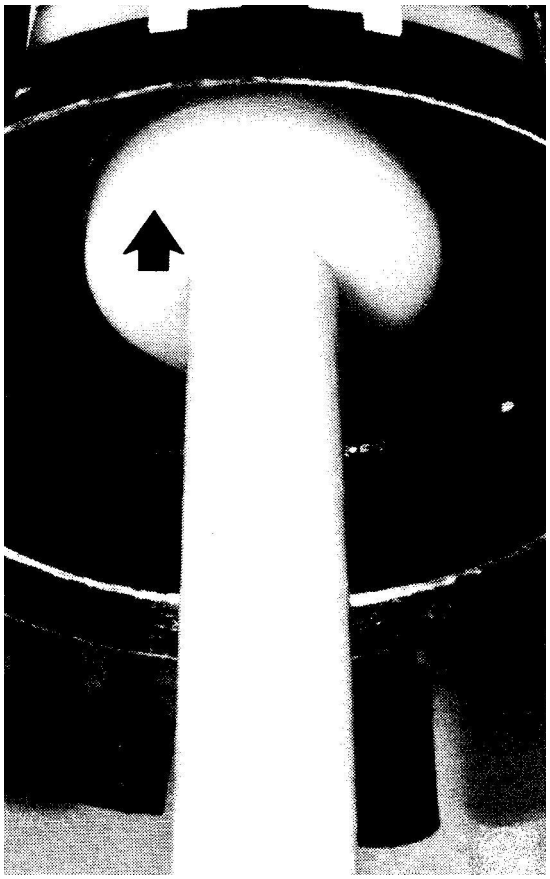




5. Place the previously removed 70148 insulating cover over the insulator so that the domed end faces the turbine. Insert the insulator into the 70381 ram flange until the two (2) 8156-28C screws will engage the two (2) screw holes in it. The turbine air inlet MUST be facing the center of the loop opening. Secure the screws. Loosen the two (2) clamp screws in the ram flange. Rotate the entire assemby until tube and cable slot in the side of the bulkhead is in line with the center line of the loop opening. Secure the clamp screws to hold it in this postion.

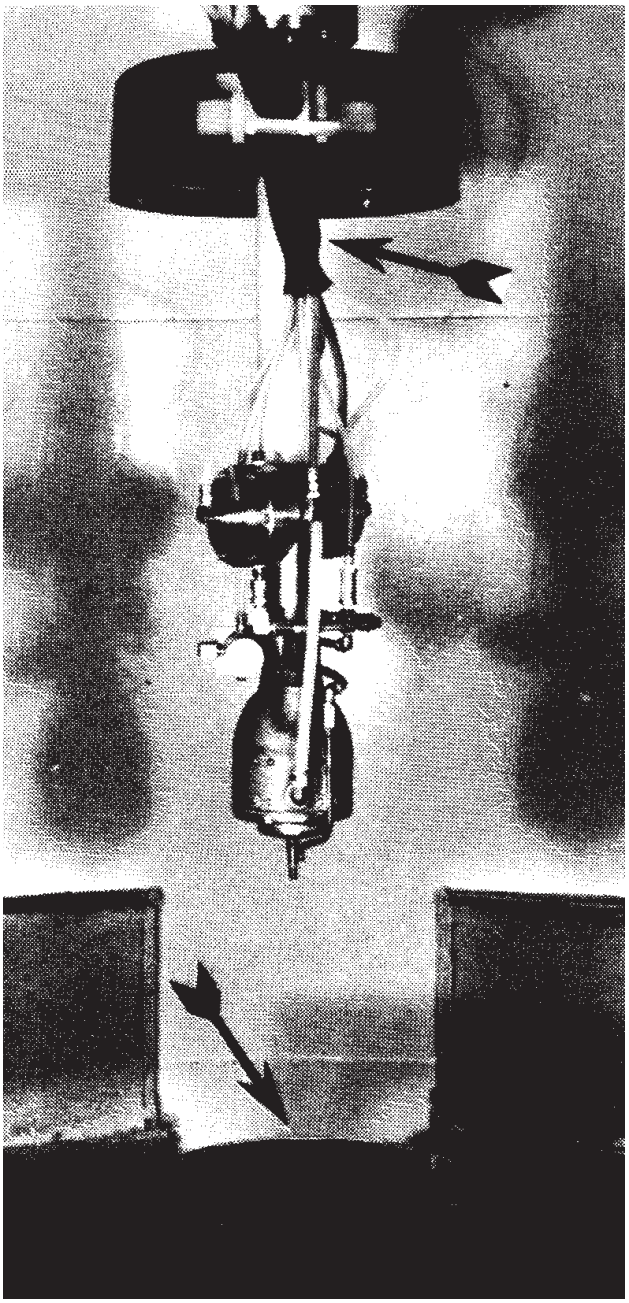


6. Slide the insulating cover 70148 into position in the blulkhead and secure it in place with the two (2) plastic screws previously removed.

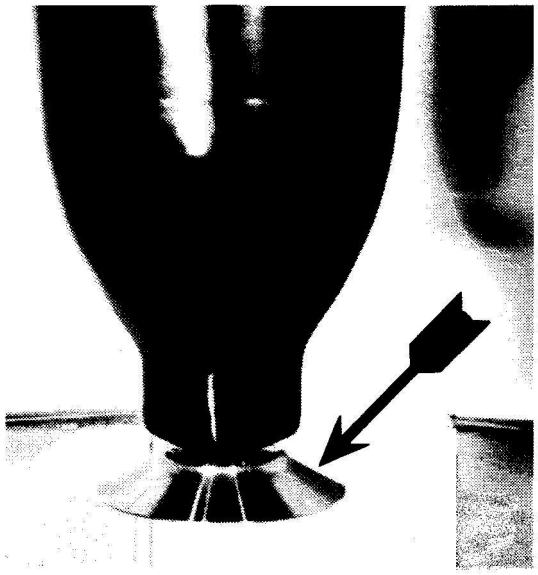


7. Pass all of the service lines through the slot in the side of the bulkhead. Spiral Wrap (3923-02) or some other NON-CONDUCTIVE material should be used to bundle these lines. Make all of the proper line connections (air, paint, and high voltage) to the valving and motor. Loosen the plastic screws in the bulkhead line clamp, press the two halves together and secure the screws.

Place the 70157 fairing in position so that it will slide over the entire applicator assembly. Mark the vertical center line position of ht efour (4) lip reinforcements on the outside of the fairing.

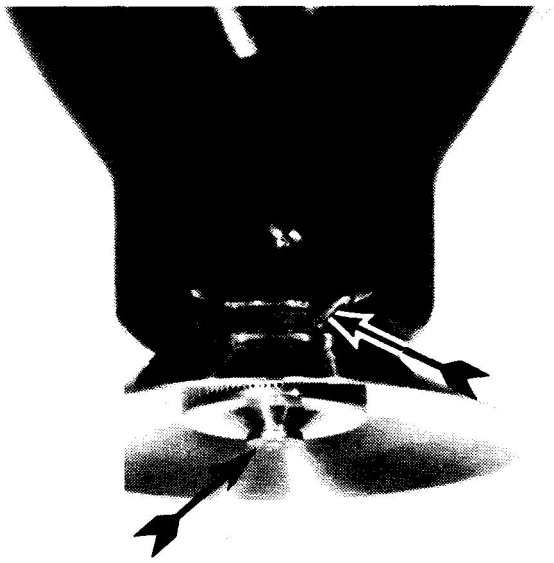


8. Slide the fairing over the assembly until it is tight against the turbine housing. Drill and tap holes through the fairing and bulkhead at each of the four (4) reinforced points. Secure the two elements with the four (4) 9317-24C plastic screws. Place the disk on the rotator shaft and secure.



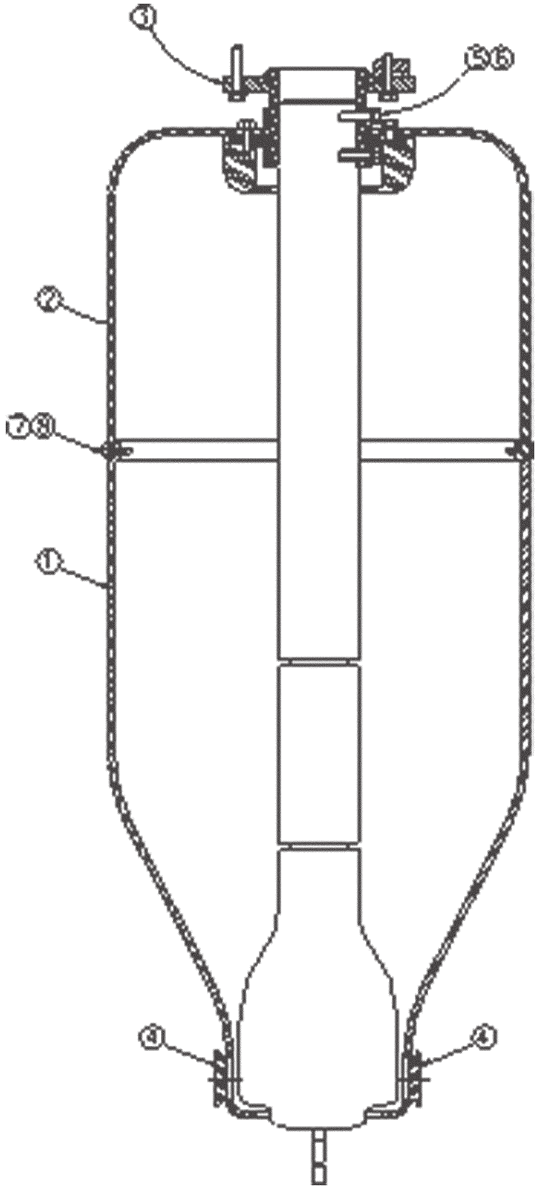
10. Rotate the disk to ensure that the paint feed tube does not come into contact with the disk surface. If there is any contact between the disk and the feed tube, bend the tube enough to allow clearance.

Restore the system to normal operation.



NOTES

PARTS IDENTIFICATION



70158-02 TURBODISK FAIRING ASSEMBLY - PARTS LIST (Figure 1)			
Item No.	**Qty**	**Part Number**	**Description**
1	1	70157-02	FAIRING
2	1	70155-02	BULKHEAD
3	1	70381-00	FLANGE SUPPORT
4	2	70909-00	PLUG, MACHINED, FEED TUBE ADJUSTMENT
5	2	8156-32F	SCREW, 5/16-24 x 1” LG, HEX HEAD
6	2	7734-07	LOCK WASHER, 5/16 HELICAL SPRING
7	6	70656-32C	SCREW, NYLON 3/8-16 x 1” LG, HEX HEAD
8	6	20559-09	WASHER, NYLON, FLAT 3/8” I.D.

WARRANTY POLICIES

LIMITED WARRANTY

Ransburg will replace or repair without charge any part and/or equipment that falls within the specified time (see below) because of faulty workmanship or material, provided that the equipment has been used and maintained in accordance with Ransburg's written safety and operating instructions, and has been used under normal operating conditions. Normal wear items are excluded.

THE USE OF OTHER THAN RANSBURG APPROVED PARTS, VOID ALL WARRANTIES.

SPARE PARTS: One hundred and eighty (180) days from date of purchase, except for rebuilt parts (any part number ending in "R") for which the warranty period is ninety (90) days.

EQUIPMENT: When purchased as a complete unit, (i.e., guns, power supplies, control units, etc.), is one (1) year from date of purchase. **WRAPPING THE APPLICATOR IN PLASTIC, ASSOCIATED VALVES AND TUBING, AND SUPPORTING HARDWARE IN PLASTIC, SHRINK-WRAP, OR ANY OTHER NON-APPROVED COVERING, WILL VOIDE THIS WARRANTY.**

RANSBURG'S ONLY OBLIGATION UNDER THIS WARRANTY IS TO REPLACE PARTS THAT HAVE FAILED BECAUSE OF FAULTY WORKMANSHIP OR MATERIALS. THERE ARE NO IMPLIED WARRANTIES NOR WARRANTIES OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. RANSBURG ASSUMES NO LIABILITY FOR INJURY, DAMAGE TO PROPERTY OR FOR CONSEQUENTIAL DAMAGES FOR LOSS OF GOODWILL OR PRODUCTION OR INCOME, WHICH RESULT FROM USE OR MISUSE OF THE EQUIPMENT BY PURCHASER OR OTHERS.

EXCLUSIONS:

If, in Ransburg's opinion the warranty item in question, or other items damaged by this part was improperly installed, operated or maintained, Ransburg will assume no responsibility for repair or replacement of the item or items. The purchaser, therefore will assume all responsibility for any cost of repair or replacement and service related costs if applicable.

MANUAL CHANGE SUMMARY

This manual was published to replace Service Manual **AU-82-01.2** Turbodisk Fairing Assembly (70158) to make the following changes:

1. Change logo.

Service Manual Price: $20.00 (U.S.)

Manufacturing
1910 North Wayne Street
Angola, Indiana 46703-9100
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Technical/Service Assistance
Telephone: 800/ 233-3366
Fax: 419/ 470-2071
www.ransburg.com

Technical Support Representative will direct you to the appropriate telephone number for ordering Spare Parts.

ISO 9001 Quality Systems

Form No.AU-82-01.3
Litho in U.S.A.
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