

**Fairchild Industrial Products**  
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**Installation & Service Instructions**  
**IS-100A34FR**  
**C30 & C40 Filter / Regulators**  
**ISSUED: October, 2006**  
**Supersedes: None**  
**EN# 100936**

**⚠ WARNING**

To avoid unpredictable system behavior that can cause personal injury and property damage:

- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.
- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

**⚠ CAUTION**

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

**TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT** use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

**⚠ WARNING**

To avoid polycarbonate bowl rupture that can cause personal injury or property damage, do not exceed bowl pressure or temperature ratings. Polycarbonate bowls have a 150 PSIG pressure rating and a maximum temperature rating of 125°F.

**Safety Guide**

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the **Pneumatic Division Safety Guide** at: [www.fairchildproducts.com/documents.php](http://www.fairchildproducts.com/documents.php)

**Installation**

1. Refer to WARNINGS and CAUTIONS prior to installation.
2. Install as close to the point of use as possible.
3. Unit must be installed with the flow in the direction of the flow arrow on the body cover and with bowl down.

4. Avoid using reducing bushings, couplings, etc., whenever possible to install this product. These devices restrict air flow and can affect performance.
5. Install filter/regulator in a vertical position with bowl side down.
6. **Maximum pressure rating is 150 psig (10.3 bar) for transparent plastic bowls, and 250 psig (17.2 bar) for metal bowls. Temperature range is 32°F to 125°F (0°C to 52°C) for transparent plastic bowls, and 32°F to 150°F (0°C to 65.5°C) for metal bowls.**
7. This product is supplied with two auxiliary ports located on the front and rear faces of the body. These ports may be used as additional filtered/regulated ports or for pressure gauges. A pipe plug is supplied to block the unused port. Make sure pipe plug is sealed before installation.
8. To increase regulated pressure, pull adjusting knob up and turn clockwise. To reduce pressure, turn knob counterclockwise. To lock knob, push down.
9. To panel mount this unit the following applies:
  - Model C30: Panel clearance hole diameter = 1.94" (49.3 mm).
  - Model C30: Panel thickness 3/16" (4.8 mm) Max.
  - Model C40: Panel clearance hole diameter = 2.44" (61.9 mm).
  - Model C40: Panel thickness 3/16" (4.8 mm) to drain stem.
10. To install a drain line, use the following procedure:
  - On units with the MANUAL DRAIN, attach flexible tubing having an I.D. of 3/16" (4.8 mm) to drain stem.
  - On units with the AUTOMATIC FLOAT DRAIN, install using a 3/8 or 10mm flexible tubing.

**Maintenance**

**⚠ DEPRESSURIZE SYSTEM BEFORE ATTEMPTING SERVICE!**

**THIS UNIT MAY BE SERVICED WITHOUT REMOVING THE UNIT FROM THE COMPRESSED AIR LINE. UNIT SHOULD BE SERVICED AT LEAST EVERY SIX MONTHS.**

1. Filter element replacement:
  - a. DEPRESSURIZE both upstream and downstream pressure.
  - b. Remove bowl / bowl guard assembly by pushing up on bowl assembly

**⚠ WARNING**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from The Company, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by The Company and its subsidiaries at any time without notice.

**EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.**

## C30 & C40 Filter / Regulators

IS-100A34FR

and turning counterclockwise (viewed from below). Clean inside of bowl using a clean, dry cloth. Inspect plastic bowl for damage and replace if necessary.

- c. Remove filter element by turning retainer counterclockwise.
  - d. Remove old element and discard. On series B28, care must be taken at this step not to lose or misplace the valve spring and valve assembly, as these components may be removed during this procedure.
  - e. Install a new filter element and reassemble in reverse order. See table side for torque values.
2. Valve assembly:
- a. Depressurize both upstream and downstream pressure.
  - b. Remove bowl / bowl guard assembly and element retainer assembly as outlined in maintenance Step #1. Additionally, the 28A deflector needs to be removed. Care must be taken at this step not to lose or misplace the valve spring and valve assembly, as these components may be removed during this procedure.
  - c. Remove the valve spring and valve assembly, if not already done.
  - d. Inspect all seals and components for damage and replace as required. Clean seals and components with mild detergent and water (No Solvents!). Use a clean, dry cloth to wipe any contamination from the valve seat inside the body.
  - e. Lubricate valve stem and lower valve O-ring seal with a light coat of lubricant.
  - f. Reassemble in reverse order. See table on reverse side for torque values.
3. Main Spring and Diaphragm:
- ▲a. Depressurize unit, both upstream and downstream.**
- b. Turn adjusting knob counterclockwise to remove all spring force, then remove bonnet by turning counterclockwise.
  - c. Remove adjusting screw assembly, main spring, slip ring and diaphragm assembly.
  - d. Inspect diaphragm and the relief seat, on relieving models, for damage or contamination. Replace diaphragm assembly if necessary. Clean relief seat with a soft, dry cloth. Reassemble in the reverse order making sure slip ring is properly positioned on top of the diaphragm. Bonnet torque values are shown in the table below.
4. Liquid level in the bowl must be kept below the level indicator line as marked. It is recommended practice to drain a unit equipped with the manual drain at least once during an eight (8) hour period. To do so, rotate the drain knob to the left one or two turns.\*
5. Before returning unit to service, insure that all seals have been properly reinstalled or replaced and components requiring torque have been properly tightened. Also, insure that bowl seal O-ring and bowl have been installed properly and that the bowl is in the locked position and the drain is properly secured.

## Troubleshooting Leaks

1. If regulated pressure begins to creep, an uncontrolled rise in regulated pressure, it will most likely be caused by contamination on the valve seat. Refer to Maintenance Step #2, Valve Assembly to remedy the condition.
2. If the unit leaks from the vent holes in the bonnet, it may be caused by contamination on the diaphragm relief seat, seal deterioration of relief seat or diaphragm damage. Refer to Steps #2 and #3 under maintenance to remedy the condition. Replace all damaged or worn components.

**\*NOTE: In the event the drain knob is over-rotated, it may become disengaged from the drain stem. In such a case, pull down on both the knob and the stem while rotating clockwise to re-engage. (viewed from below.)**

## Service Kits Available

The following service kits contain the appropriate seals and parts necessary for ordinary field service.

Description	C30 Filter / Regulator
5 Micron Element Kit	21520-1
Polycarbonate Bowl, Bowl Guard, Manual Drain	21572-1
Metal Bowl w/o Sight Glass, Manual Drain	21572-4
Polycarbonate Bowl, Bowl Guard, Automatic Drain	21572-3
0-30 PSI Gauge	21576-3
0-60 PSI Gauge	21576-2
0-150 PSI Gauge	21576-1

Description	C40 Filter / Regulator
5 Micron Element Kit	21521-1
Polycarbonate Bowl, Bowl Guard, Manual Drain	21573-1
Metal Bowl w/o Sight Glass, Manual Drain	21573-4
Polycarbonate Bowl, Bowl Guard, Automatic Drain	21573-3
0-30 PSI Gauge	21576-3
0-60 PSI Gauge	21576-2
0-150 PSI Gauge	21576-1