Gas tank

INSTRUCTION MANUAL

Type 965C

WARNING

CALL A GAS SERVICEMAN IN CASE OF TROUBLE. ONLY A QUALIFIED PERSON MUST INSTALL OR SERVICE THIS REGULATOR IN ACCORDANCE WITH THESE INSTRUCTIONS.

INTRODUCTION

The Type 965C is an automatic changeover regulator. It withdraws gas from one cylinder until it is empty, then automatically changes to the other cylinder. This gives uninterrupted service to the user.

A red flag indicator on the regulator or an auxiliary remote indicator located at the customer's window signals the change so that the empty cylinder may be replaced with a full one. Since the gas service is uninterrupted, the 965C is ideal for domestic installations having automatic controls on the appliances. It provides complete gas withdrawal service on multiple cylinder operation for loads up to 214,000 BTU/hr.

INSTALLATION

When removing the regulator from the carton, be careful not to lose the pigtails or other loose fittings. The outlet of the cylinder valve should be cleaned thoroughly to remove dirt or water. One method of doing this is by cracking the cylinder valve open for a short time to blow out the dirt. On new installations it is recommended that gas or air be blow through the pigtails to prevent dirt or foreign material from being carried into the regulator.

Install the regulator in an upright position as shown in Figure 1. Provide protection if necessary to keep ice or snow from covering the vent. Do not remove the vent screen because it prevents the vent from being clogged with insects.

It is mandatory on new installations to inspect and leak test the house piping before connecting it to the appliances or the regulator. Always use a suitable pipe compound on the male pipe threads when making connections to the regulator. Avoid excessive strain on the regulator when connecting the regulator outlet to the house piping.

After the system is installed, it must be tested for leaks. Refer to NFPA No. 54 and to state and local regulations for the correct leak testing procedures to follow.

OPERATION

Place one of the two cylinders in "Supply" by rotating the change-over knob (A), see Figure 1, either way as far as it will go. The arrow will denote "Supply" service side. Open both cylinder valves slowly.

Gas will now flow from both cylinders through the pigtails into the first stage regulator section

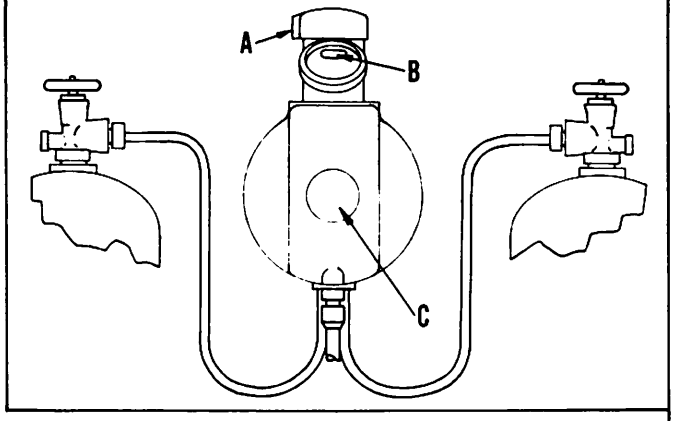

Figure 1—Typical Installation

of the assembly by way of the inlet fittings. When a pressure of 6 psi is reached in the first stage regulator, the disc assembly in the inlet fitting will shut-off gas from the reserve cylinder. Gas from the "Supply" cylinder will continue to enter the first stage body until approximately 15 psi is maintained. The second stage regulator section of the assembly reduces this pressure to the 11" W.C. needed for the appliances.

The "Supply" side of the first stage regulator will continue to supply gas at 15 psi as long as sufficient gas remains in the "Supply" cylinder. When pressure in the cylinder drops to about 6 psi, the reserve side of the first stage regulator will open and maintain 6 psi pressure to the second stage regulator, which continues to regulate at 11" W.C. At the time the "Supply" cylinder becomes exhausted, a red flag warning (B) appears at the indicator window and also on the remote indicator when used.

EXCHANGE OF CYLINDERS

Before removing the empty cylinder, be sure to rotate the changeover knob cap (A) so that it will point to the other cylinder. Then close the valve on the empty cylinder to prevent air from entering the exhausted cylinder. Install the full cylinder in place and slowly open the cylinder valve. The new cylinder now becomes the reserve cylinder and the red warning flag will not be visible at the indicator window.

ADJUSTMENT

Each regulator is individually factory set to deliver 11" W.C. with 100 psi inlet pressure passing 30 CFH propane. This is only the test setting, however, and Type 965C has much greater capacity. If it becomes necessary to increase the outlet pressure, remove the closing cap (C) and turn the adjusting screw clockwise. Turn the adjusting screw counterclockwise to decrease the outlet pressure. Always replace the closing cap after adjustment is made.

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FORM MCK-1054
(Supersedes Form No. 1677A)

MAINTENANCE

If the indicator flag (5) gives faulty indication of the cylinder condition, it is usually due to dirt or chips keeping one of the disc assemblies (18) from closing. This can be corrected by removing both inlet fittings (20) and thoroughly cleaning the orifice (17), disc assembly, spring (19), inlet screens (46 & 47), and the inside of the inlet fitting itself. Be careful not to lose the inlet screens. Examine the disc assemblies for damage or imbedded dirt particles, and replace if necessary. Also inspect the orifice seat for nicks or defects and replace if necessary.

To reassemble, first insert the fine inlet screen (47) and then the coarse inlet screen (46) into the inlet fitting. Replace the spring and disc assembly as shown in Figure 2. After replacing the orifice, making sure that the pushpin (15) protrudes through the orifice opening, the inlet fitting assembly can be screwed into the regulator body.

To inspect or replace the second stage disc holder assembly (28) or the internal relief valve, remove the closing cap (37) and back out the adjusting screw (35) to relieve spring tension. Remove the spring case screws (43), spring case (38A), and slide the diaphragm assembly off the disc holder. The disc holder can be lifted out by unscrewing two screws (30). Unscrew the spring holder (34) and examine the relief valve seat (31) for foreign matter or nicks where it comes in contact with the diaphragm (32A). If the diaphragm is damaged or badly indented, it must be replaced. The spring holder must be screwed in tightly against the relief valve seat when reassembling.

NOTE: If the spring case is removed, the regulator must be tested and checked for leaks before being returned to service. See Fisher Bulletin LP-15 and Type Y499-2 Test Rack instructions, Form MCK-1050.

Parts Reference

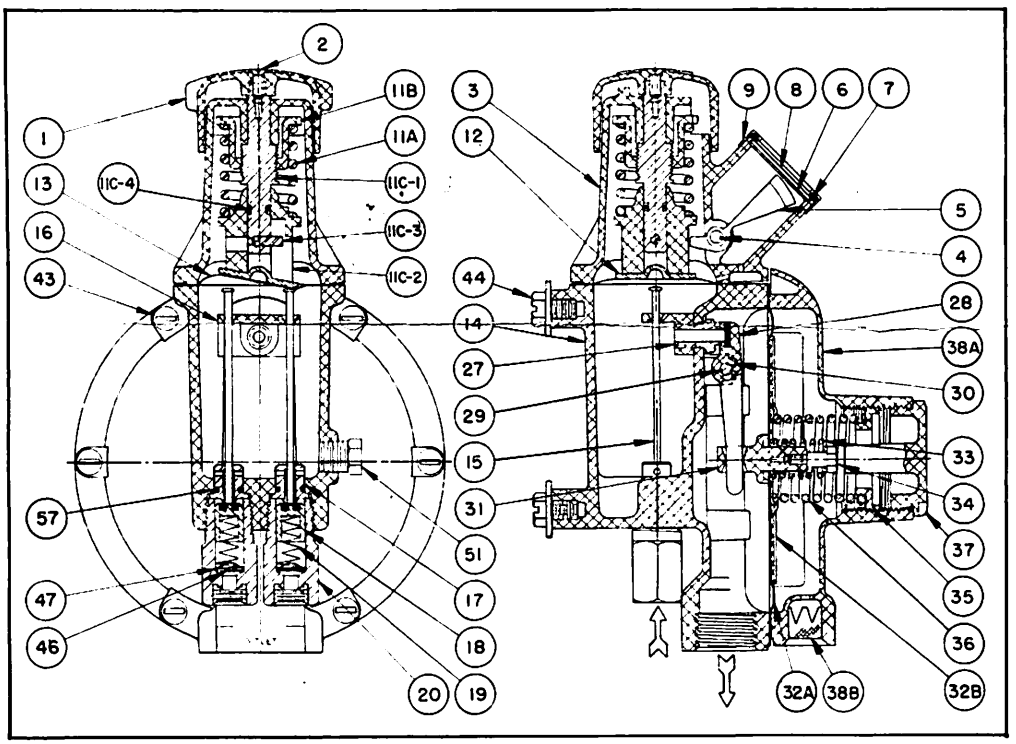

Figure 2—Type 965C sectional

KEY NO.	NAME OF PART	KEY NO.	NAME OF PART	KEY NO.	NAME OF PART
1	Changeover Knob	(13)	Diaphragm-1st Stage	34	Spring Holder
2	Machine Screw	14	Body	35	Adjusting Screw
3	Indicator Bonnet	15	Pushpin (2)	36	Regulator Spring-2nd Stage
4	Indicator Pivot Pin	16	Pushpin Guide	37	Closing Cap
5	Indicator Flag	17	Orifice-1st Stage (2)	38A	Spring Case
6	Indicator Dial	(18)	Disc Assembly (2)	38B	Screen
7	Gasket	19	Inner Valve Spring (2)	38C	Name Plate
8	Circle for Indicator	20	Inlet Fitting (2)	38D	Drive Screw
9	Dial Cap	27	Orifice-2nd Stage	39	Bracket
11A	Spring	(28)	Disc Holder Assembly	42	Machine Screw (4) (Not Shown)
11B	Upper Spring Seat	29	Valve Pivot Pin	43	Machine Screw (6)
11C-1	Stem	30	Machine Screw (2)	44	Foot Screw (4)
11C-2	Cam	31	Relief Valve Seat	46	Inlet Screen (2)
11C-3	Groov-Pin	(32A)	Diaphragm	47	Inlet Screen (2)
(11C-4)	"O" Ring	32B	Diaphragm Head	48	Foot Screw Washers (2)
12	Diaphragm Head-1st Stage	33	Relief Valve Spring	51	Pipe Plug

( ) Recommended Spare Parts