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REPORT

on

FLAMMABLE LIQUID DISPENSING DEVICES,
POWER-OPERATED

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Greensboro, NC

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DESCRIPTION

PRODUCT COVERED:

Power operated flammable liquid dispensing device.

USL, CNL Self Contained - Series Encore 300, Encore 350, Encore 500, and Encore 550, may be suffixed by S.

- Model N followed by C, followed 0, 1, 2, or 3
- Model N followed by G, followed by 2, 3, 4 or 5
- Model N followed by J, followed by 1 or 3
- Model N followed by L or N, followed by 4, 5, 6, or 7.

USL, CNL Remote Control - Series Encore 300, Encore 350, Encore 500, and Encore 550, may be suffixed by S.

- Model N followed by A, followed by 0, 1, 2, or 3
- Model N followed by G, followed by 0 or 1
- Model N followed by J, followed by 0 or 2
- Model N followed by L or N, followed by 0, 1, 2, or 3.

- Models N followed by B followed by 0, 1, 2, 3 or 4
- Models N followed by F followed by 0, 1, or 2
- Models N followed by M followed by 0, 1, 2, or 3

USL, CNL Remote Control - Series Encore 300 and Encore 500 Ultra-Hi.

Model N followed by P, followed by 3, 4 or 5.

Note 1 - All models have been qualified for use with interchangeable service station type hose nozzle valves.

Note 2 - Models may have one or more of the following options as explicitly marked on the nameplate:

- Vapor V ac (only available on 120 V dispensers)
- Balance Vapor
- ATC
- Lever Activate
- Push to start
- CRIND
- Bar Code Scanner
- Pump Preset
- U.S. Gallon Tots
- Metric Tots
- Imp Gal Tots

(continued)

Canopy Light Conduit
5.7 Mono
Printer
Pro Pump Preset
Pump Stop
TRIND (only available on 120 V dispensers)
Speaker
Hose Retriever
Cash Acceptor (USL Only)
Call Button
Single Line CRIND (Encore 300 Series Only)
ISD Flowmeter
ORVR Valve
VDI (Visible Discharge Indicator)
Smart CRIND
Healy Vapor

GENERAL:

Vol. 1Z of this Procedure file must be used as a supplement to this descriptive section. It contains information concerning components and constructions in this section.

The Encore 300 Series is the same as the Encore 500 Series except that it uses the alternate CD module.

MARKINGS:

In addition to the marking specified in Vol. 1Z, nameplate must also contain the appropriate series designation as described in the product covered.

The following appears on labels or tags attached to the location indicated:

1. Optional tag, "CAUTION: Do not pick up or handle this dispenser by lifting at the nozzle hang-up assembly. Handling should be done by removing the lower panels and lifting from the lower frame assembly" attached to the nozzle hook lock hole.
2. Optional, see ILL. A applied to inside of hydraulics door.
3. When hose retriever option is provided, label shown in ILL. E must be affixed to the dispenser.
4. Additional marking is also present on the inside of the access door. This marking is applied with self-adhesive label and contains the following statement: "CAUTION - Hazard of electrical shock. More than one disconnect switch may be required to de-energize the device for servicing."

5. When ISD Flowmeter option is provided, a tag stating "WARNING - Wiring to this junction box must be intrinsically safe power from Veeder-Root TLS 350 Series consoles or Gilbarco EMC series consoles and must be installed in accordance with Veeder-Root Installation document No. 577013-796.

I.S. Barrier enclosure must have marking which states "WARNING - Substitution Of Components May Impair Intrinsic Safety." Marking is provided on an adhesive backed label, see Vol. 1Z for label material requirements.
Note: RK Marking and Labeling Systems suitable for indoor use are acceptable.

INSTALLATION INSTRUCTIONS:

1. See ILLS. B, C, and D.

MODEL DESIGNATION SYSTEM:

Only those models specifically identified under "Product Covered" are Listed.

<u>N</u>	<u>A0</u>		
<u>1</u>	<u>2</u>	<u>Code Position</u>	<u>Code Description</u>
		1. Grade Name	N Encore
		2. Grade Series	A0 Multi-hose, Remote Control, 1 Grade
			A1 Multi-hose, Remote Control, 2 grade
			A2 Multi-hose, Remote Control, 3 grade
			A3 Multi-hose, Remote Control, 4 grade
			B0 Dispenser 1-Grade (Alternate meter /piping)
			B1 Dispenser 2-Grade (Alternate meter /piping;
			B2 Dispenser 3-Grade (Alternate meter /piping;)
			B3 Dispenser 4-Grade (Alternate meter /piping;)
			B4 Dispenser 4-Grade (Alternate meter /piping;)
			C0 Multi-hose, Self Contained, 1 grade
			C1 Multi-hose, Self Contained, 2 grade
			C2 Multi-hose, Self Contained, 3 grade
			C3 Multi-hose, Self Contained, 4 grade
			G0 Single hose, Remote Control, 3 grade
			G1 Single hose, Remote Control, 3+1 grade
			G2 Single hose, Self Contained, 3 grade
			G3 Single hose, Self Contained, 3+1 grade
			G4 Single Hose, Remote Control, 2 grade
			G5 Single Hose, Self Contained, 2 grade
			F0 3 Grade + 1 (Alternative meter /piping,)
			F1 4 Grade + 1 (Alternative meter /piping,)
			F2 4 Grade + 2 Alternative meter /piping,)
			J0 Multi-hose Blender, Remote Control, 3 grade
			J1 Multi-hose Blender, Self Contained, 3 grade
			J2 Multi-hose Blender, Remote Control, 4 grade
			J3 Multi-hose Blender, Self Contained, 4 grade
			L0 X+1 Blender, Remote Control, 2+1 grade
			L1 X+1 Blender, Remote Control, 3+1 grade
			L2 X+1 Blender, Remote Control, 4+1 grade
			L3 X+1 Blender, Remote Control, 5+1 grade
			L4 X+1 Blender, Self Contained, 2+1 grade
			L5 X+1 Blender, Self Contained, 3+1 grade
			L6 X+1 Blender, Self Contained, 4+1 grade
			L7 X+1 Blender, Self Contained, 5+1 grade

Continued

M0 Blender Dispenser 2+1 (Alternative meter /piping;)
M1 Blender Dispenser 3+1 Alternative meter /piping;)
M2 Blender Dispenser 4+1 Alternative meter /piping;)
M3 Blender Dispenser 3+1+1 Alternative meter /piping;)

N0 X+0 Blender, Remote Control, 2+0 grade
N1 X+0 Blender, Remote Control, 3+0 grade
N2 X+0 Blender, Remote Control, 4+0 grade
N3 X+0 Blender, Remote Control, 5+0 grade
N4 X+0 Blender, Self Contained, 2+0 grade
N5 X+0 Blender, Self Contained, 3+0 grade
N6 X+0 Blender, Self Contained, 4+0 grade
N7 X+0 Blender, Self Contained, 5+0 grade

P3 Ultra Hi Master
P4 Ultra Hi Combo
P5 Ultra Hi Satellite

RATINGS:

DESCRIPTIONELECTRONIC RATINGS:

Lights and Electronics	120 V, 60 Hz, 13.1 A, 240 V, 50 Hz, 13.1 A
Pump Motors (SC only)	120 V, 8.4 A

Total dispenser rating is the sum of the individual ratings for the circuit/options provided.

Ambient Temperature Rating - 40° C (Electronics enclosure has been evaluated for a higher ambient temperature of 55°C.)

The voltage at which the dispenser is intended to operate (120 V or 240 V) must be explicitly stated on the dispenser marking. Marking must be permanent, see Vol. 1Z. Self-contained dispensers may only be rated 120 V.

CONSTRUCTION DETAILS:

See Vol. 1Z

Several locations in this Report make reference to a parflange connection and parflange bracket. Descriptions of these items are located in Vol. 1Z.

Castings - Castings used in this product are as identified below. Manufacturer's drawings are to be used to verify construction. Castings may be marked with the first six digits of the casting number.

<u>Drawing/Part Number</u>	<u>Rev. Level</u>	<u>Part</u>	<u>Min. Wall Thickness</u>
M00160B010	D	Aluminum Angle Casting	4.5 mm
M00162B010	E	Hose Outlet Casting	4.5 mm
M00163B010	D	Hose Outlet Casting	4.5 mm
M00164B010,B011, B012	G	Hose Outlet Casting	2.5 mm
M00159B010	D	Aluminum Manifold Casting	4.5 mm
M02087B010	B	Aluminum Angle Casting (die-cast)	3.25 mm
M02088B010	B	Aluminum Angle Casting (die-cast)	3.25 mm
M02771B010	B	Aluminum Angle Casting (die-cast)	3.25 mm
T17903	B	Meter Discharge Fitting	0.28 in.
M02226B010	F	Aluminum Manifold Casting (die-cast)	3.8 mm
M03404B010	D	Aluminum Manifold Casting	4.0 mm
M03897B010	A	Aluminum ATC Adapter Casting	4.5 mm
M06320B011	A	Hose Outlet Casting	4.0 mm
M05583B010	E	Hose Outlet Casting	4.5 mm
M05612B010,011,012	D	Hose Outlet Casting	4.5 mm

<u>Drawing/Part Number</u>	<u>Rev. Level</u>	<u>Part</u>	<u>Min. Wall Thickness</u>
M06840B001	A	Meter Outlet Casting	4.0 mm File
M05398B011	C	Meter Outlet Casting	4.0 mm
026075	B	Meter Outlet Flange(CI)	0.5 in.
M06976B001	P2	Valve Manifold (Steel)	9.5 mm
035318	A	Manifold(CI)	0.187 in.
003087	C	Filter Adapter(CI)	0.187 in.
500524	6	Strainer Casting(CI)	0.234 in.
063203	C	Strainer Cover (CI)	9.339 in.
M06918B001	A	Flowmeter Inlet Casting	4.0 mm
M07096B011	B	Flowmeter Inlet Casting	4.0 mm
M07308B010	C	Hose Outlet Casting	4.5 mm

Note: All part descriptions labeled with (CI) for cast iron or (Steel) with a minimum wall thickness less than 0.25 in. cast iron or 0.093 in. for steel must be corrosion protected in accordance with Vol. 1Z. See Vol. 1Z.

ENCORE SERIES DISPENSER - FIG. 1

1. Lower Hydraulic Assembly - See Fig. 2, 2C, or 2D(550) for remote control models, Fig. 2A for Ultra Hi Combo models, Fig. 2B for Ultra Hi master, and Fig. 3, 3A(550) , or 3B for self-contained models.
2. CD Module - See Fig. 4 or Fig. 4A for alternate construction. See Fig. 4B for dispensers with Smart CRIND option (USL Only) Secured to each side angle with two screws provided with machined aluminum washers and nuts on both sides of the CD module.
3. Upper Hydraulic Assembly - See Fig. 5. Secured to each side angles of lower hydraulic assembly with three clinch studs and three nuts.
4. Main Door Assembly - Two provided. See Figs. 6 through 10. Secured to the CD module and angles with hinges. The door is secured to the CD with slide brackets accessed through the Customer Interface Module Door.

Alternate - Provided on models with "S" suffix. See Figs. 31 and 32 for details. Secured to the CD module and angles with hinges. Additionally secured to the CD module by a latch on the lower inside of the door and by a lock (part of door assembly) at the top of the door.

5. Lower Panel Assembly - Two provided. Constructed of No. 20 gauge sheet steel, 22 by 619 by 925 mm. Painted galvanized or stainless steel. Fits over tabs formed from the base or tab brackets mounted to the base. Secured to frame by key-operated latches.
6. Angles - Not shown. Four provided. Constructed of No. 13 gauge G90 galvanized sheet steel, measures 44 by 62.5 by 2203.7 mm. Secured to lower hydraulic assembly by four bolts.
7. Sheathing - Two provided. Constructed of No. 20 gauge sheet steel or 22 gauge stainless steel, C-shaped, measures 2240 by 608 by 51 mm. Each is secured to two of the angles by four screws per angle.

Alternate - For Encore 550 Models, sheathing is the same as above except it measures 2270 by 610 by 103 mm.

8. Extended Reach Retriever Assembly - Optional. One per side maximum. Not Shown. See Figs. 23 and 24 for details. Secured to upper by hydraulic assembly by seven screws and to lower hydraulic assembly by two screws.

LOWER HYDRAULIC ASSEMBLY, REMOTE CONTROL - FIG. 2

1. Lower Hydraulic Frame - See ILL. 1. Constructed of G60 galvanized sheet steel, No. 13 gauge, overall dimensions are 604 by 888 by 1031 mm. Consists of eight sheet metal parts welded, bolted or pop riveted together.
2. Junction Box Mounting Bracket - Constructed of G60 galvanized sheet steel, No. 11 gauge, see ILL. 49 for details. Secured to frame by one bolt and to piping support bracket by one bolt.
3. Junction Box - Must be provided on all units with C-UL Listing. Optional on units without C-UL Listing. Unlisted component, cover Part No. W02814 or W02949 and body Part No. W02948, described in File MH1941(Sp), Vol. 4, Sec. 6. Provided with Listed conduit fittings for use in a Class 1, Group D, Division 1 hazardous location. Secured to junction box mounting bracket by two bolts. Positioned such that the distance between the base of the dispenser and the field connection conduit is 9 in.
4. **Inlet Piping - One provided for each manifold assembly provided. 1.25 in. OD steel tubing, zinc phosphate plated and powder painted, minimum wall thickness 0.095 in. One end of the tubing has an NPT adapter welded to the tubing, and the other has a flange welded to it. The tubing is secured to the manifold assembly, Item 5, by two bolts. A synthetic rubber O-ring is provided between the tubing flange and the manifold, Gilbarco Inc. Part No. Q10068-09 or Q12974-218. Tubing is additionally secured to the piping support bracket with a U-bolt.**
5. Lower Door Lock Bracket - Two provided. Constructed of G90 sheet steel, No. 14 gauge, measuring 37 by 67 by 224 mm. Secured to lower frame by one screw each.
6. Manifold Assembly - Up to four provided. See Fig. 12 for details. A gasket (Optional for USL only units, required for all CNL units) is provided between the top of each valve housing and the lower air gap plate, Gilbarco Inc. Part No. M00245B001. Tabs on manifold assembly fit into slots on the lower frame rails and is held in place by the lower air gap plate. When less than four are provided, blanking plates, Item 9 are provided to cover the empty holes in the lower air gap plate.
7. Lower Pulser Assembly - See Fig 11. Two provided for each manifold assembly, Item 12. Secured to lower air gap plate with two bolts. When not provided, the holes in the lower air gap plate are covered with a blanking plate, Item 9.
8. Lower Air Gap Plate - Constructed of No. 14 gauge G90 galvanized sheet steel, measures 121 by 558 by 929 mm. Secured to lower frame by six bolts. Plate has no unused openings.

9. Lower Conduit Seal Plate - Two provided. Constructed of No. 18 gauge G90 sheet steel 89 by 89 mm. Secured to lower air gap plate by two screws. Four conduit knockouts, for field installed conduits, provided per seal. Provided with synthetic rubber gasket (Optional for USL only units, required for all CNL units), Gilbarco Inc. Part No. M00222B001 or M00222B002.
10. Blanking Plate - Up to four provided. Provided to cover holes where a manifold assembly is not provided. Constructed of G90 sheet steel, No. 20 gauge, measuring 309 by 178 mm and is secured to the lower air gap plate by four screws. Provided with a synthetic rubber gasket (Optional for USL only units, required for all CNL units), Gilbarco Inc. Part No. M00217B001 between the plate and the lower air gap plate.
11. Piping Support Bracket - One or two provided. Upper support bracket is always provided, lower support bracket is optional, must be provided on all units provided with a junction box, Item 2. Constructed of G90 sheet steel, No. 13 gauge, C-shaped measures 930 mm long by 45 mm wide by 1143 mm high. Part is provided with holes along the length to allow securing of piping with U-bolts and nuts.
12. ATC I.S. Barrier - Not shown. Provided only on units with ATC option. R/C (EQXX2), Gilbarco Inc. Part No. T19428. Mounted to conduit hub in dispenser junction box with or without Listed conduit fittings.
13. T-Meter Module - Not shown. Provided only on dispensers with Automatic Temperature Compensation (ATC) option, see ILL. 50. Consists of a housing with cover constructed of painted, plated, or G60 galvanized steel, 0.05 in. thick. Cover is secured to housing with four screws. A circuit board, R/C (EQXX2) manufactured by Gilbarco Inc., Part No. T19386, is secured to the housing with standoffs and screws. Module is provided with studs for mounting to the hydraulics frame with nuts as shown in ILL. 51.

LOWER HYDRAULIC ASSEMBLY, ULTRA HI MODELS - FIGS. 2A, 2B AND 2B1

General - Fig. 2A shows the Ultra Hi Combo and Fig. 2B shows the Ultra Hi Master, and Fig. 2B1 shows the Ultra Hi Satellite. Same as Fig. 2C except as follows:

1. Lower Hydraulic Frame - Same as Fig. 2C, Item 1 except upper and lower piping support brackets are not provided.
2. Junction Box - Same as Fig. 2, Item 3. Mounted to frame with No. 11 GA galvanized sheet steel bracket measuring 280 by 38 by 96 mm bracket. Must be provided on all units with C-UL Listing. Optional on units without C-UL Listing. Secured to junction box mounting bracket by two bolts. Bracket is secured to lower hydraulic frame by three bolts.
3. Support Rail - Two provided. Constructed of No. 11 GA galvanized sheet steel, C-shaped, measured 930 by 86.6 mm. Secured to lower hydraulic frame by two screws at each end of rail.
4. Support Bracket - Two provided. Constructed of No. 11 GA galvanized sheet steel, overall dimensions 384.4 by 125 mm. Secured to support rails with four screws.
5. Hydraulic Line Bracket - Constructed of No. 11 GA galvanized sheet steel, overall dimensions 296 by 114 mm. Secured to support bracket with two screws and to hydraulic line with u-bolt and nuts.
6. Hydraulics Assembly - See Fig. 26 for Ultra Hi Combo and Fig. 27 for Ultra Hi Master, and Fig, 27A for Ultra Hi Satellite. Secured to support rail by four nuts and bolts.
7. Valve Conduit Seal Plate - Two provided. Same as Fig. 2, Item 10 except provided with an opening for valve conduit. Provided with a synthetic rubber gasket, Gilbarco Part No. M00217B002 between the seal plate and the lower air gap plate.

LOWER HYDRAULIC ASSEMBLY, REMOTE CONTROL - FIG. 2C AND 2C-1

General - Same as Fig. 2 except as described below. For Models NB, NF, or NM, see Fig. 2E.

1. Lower Hydraulic Frame - See ILL. 1A. Constructed of G60 galvanized sheet steel, No. 13 gauge, overall dimensions are 604 by 888 by 1031 mm. Consists of six Sheet metal parts welded, bolted, pop riveted, or TOX riveted (see Vol. 1Z) together.
2. Lower Door Lock Bracket - Two provided. Constructed of G90 sheet steel, 13 gauge, measures 67 mm. by 248.7 mm. Secured to lower frame by two screws.
3. Manifold Assembly - Up to four provided. See Fig. 12A for details. Secured to lower air gap plate by two bolts. When less than four are provided, blanking plates, Item 6 are provided to cover the empty holes in the lower air gap plate. Where valve coil conduits of each manifold assembly pass through the lower air gap, a metal plate secured to the lower air gap plate is secured to the lower air gap plate to cover the portion of the opening not occupied by the conduit. A gasket (optional for USL only units, required for all CNL units) is provided between the metal plate and the lower air gap plate, Gilbarco Inc. Part No. M03083B001.
4. Lower Pulser Assembly - Only provided when pulser assembly shown in Fig. 14 is provided (not provided when pulser assembly shown in Fig. 14A is provided.) See Fig. 11A. Two provided for each manifold assembly, Item 3. Secured to lower air gap plate with two bolts. A synthetic rubber gasket (required for CNL units, optional for USL only units), Gilbarco Part No. M03081B001 is provided between the lower air gap plate and the lower Pulser assembly. When not provided, the holes in the lower air gap plate are covered with a blanking plate, Item 6.
5. Lower Air Gap Plate - Constructed of No. 13 Gauge G90 galvanized sheet steel, measures 121 mm. by 558 mm. by 929 mm. Secured to lower frame by four bolts. Plate has no unused openings.
6. Blanking Plate - Up to four provided. Provided to cover unused openings in the lower air gap plate, Item 5, where the manifold assemblies and lower Pulser assemblies are not provided. Constructed of G90 sheet steel, 20 gauge, measures 178 mm. by 366 mm., secured to the lower air gap plate by two bolts. A synthetic rubber gasket (required for CNL units, optional for USL only units), Gilbarco Part No. M03080B001 is provided between the lower air gap plate and the blanking plate.

7. ISD Flowmeter - Optional. R/C (EQXX2) manufactured by Veeder Root, Part No. 331847-001. Meter is secured to a 13 gauge G90 galvanized steel bracket, see ILL. 82, by four screws. Bracket is secured to dispenser frame by one tab and one screw. Meter inlet is provided with an aluminum inlet casting, Gilbarco Part No. M06918B011 or M07096B011 secured to the meter by two screws and the joint between the inlet casting and the meter is provided with a filter assembly with integral seal. The filter assembly consists of a stainless steel washer measuring 1.581 in. OD by 1.0 in. ID by 0.010 in. thick with a stainless steel wire mesh screen mechanically secured to the opening in the washer. The outer edge of the washer is provided with a synthetic rubber grommet, Gilbarco Part No. 332172-001 which fits around the edge of the washer, see ILL. 83 for filter assembly drawing. Flowmeter outlet is provided with an aluminum outlet casting, Gilbarco Part No. M04040B010 (see ILL. 62), secured to the meter by two screws. Joint between the meter and the outlet casting is provided with a synthetic rubber o-ring, Gilbarco Part No. Q10068-13.
8. Junction Box - Optional. Provided only on units with Healy Vapor option. Listed, manufactured by Killark Electric Mfg. Co., Part No. GRSS-2 or Appleton Electric Co. Part No. GRSS-75 or Crouse-Hinds Part No. 13-0-01139. Secured to a 13 gauge galvanized steel bracket, L-shaped, overall dimensions 116 mm by 135 mm by 215 mm, by a hex bolt and nut. Bracket is secured to lower air gap plate by two screws.
9. Junction Box - Optional. Not shown. Provided only on units with ISD flowmeter, Item 7. Listed, manufactured by Appleton Electric, Part No. ERC-50 or Killark Electric, Part No. XC-1. Secured to bracket constructed of 11 gauge galvanized steel, overall dimensions 54 mm by 143 mm by 95 mm, by a u-bolt. Bracket is secured to dispenser frame by one screw.
10. ¼ Turn Valve - Listed, for flammable liquids.
11. Vapor Pump - Optional. Provided only on units with Healy Vapor option. R/C (YUNT2) manufactured by Healy Systems, Part No. VP-1000. Secured to pump mounting bracket by four bolts and nuts.
12. Pump Mounting Bracket - Consists of a base and two legs. Base is constructed of 13 gauge galvanized steel, u-shaped, overall dimensions 110 mm by 31 mm by 170 mm. Bracket is secured to two 13 gauge galvanized steel brackets, one on each side, overall dimensions 47 mm by 116 mm by 215 mm, secured to base by two bolts and nuts each. Bracket assembly is secured to lower air gap plate by four screws.

LOWER HYDRAULIC ASSEMBLY, ENCORE 550, REMOTE CONTROL - FIG. 2D

General - Same as Fig. 2C except as described below. Lower pulser assembly shown in Fig. 2C, Item 4 is not provided.

1. Flow Switch - R/C (EQXX2) manufactured by Gilbarco, Part No. M03310A001, one provided per meter, Item 2, provided. Outlet of flow switch connects to copper tubing by way of a single 7/8 in. parflange, see Vol. 12. Inlet of flow switch connects of outlet of meter with two screws. Joint between the flow switch and the meter is provided with a synthetic rubber o-ring, Gilbarco Part No. N16891-41.
2. Meter - R/C (PLRZ2) manufactured by Gilbarco, Part No. M02950A001. Up to four provided on each side. Secured to meter bracket, see ILL. 59 with one screw. Meter bracket is secured to dispenser frame by two screws.
3. Manifold Assembly - Up to four provided. See Fig. 12B for details. Secured to lower air gap plate by three bolts. When less than four are provided, blanking plates, Item 4 are provided to cover the empty holes in the lower air gap plate. Where valve coil conduits of each manifold assembly pass through the lower air gap, a gasket sleeve, Gilbarco Part No. M03514B001 (optional for USL only units, required for all CNL units) is provided between the manifold and the bottom of the lower air gap plate. Each manifold outlet connects to copper tubing by way of a single 7/8 in. parflange connection, see Vol. 1Z. . Outlet ports may contain an optional stainless steel wire mesh strainer. The strainer is secured in the outlet port by the parflange connection
4. Blanking Plate - Up to four provided. Provided to cover unused openings in the lower air gap plate when less than the maximum number of manifold assemblies are provided. Constructed of G90 sheet steel, No. 20 gauge, T-shaped with dimensions sufficient to completely cover all unused openings. Secured to lower air gap plate by three screws. A synthetic rubber gasket (required for CNL units, optional for USE only units), Gilbarco Part No. M03729B001 is provided between the lower air gap plate and the blanking plate.

LOWER HYDRAULIC ASSEMBLY, MODELS NB, NF, AND NM - FIG. 2E

General - Same as Fig. 2C except as described below. Lower pulser assembly shown in Fig. 2C, Item 4 is not provided.

1. Lower Hydraulic Frame - same as FIG. 2C, item 1 except frame is provided with two support rails, same as Fig. 2A, Item 3, secured to the frame by two screws at each end.
2. Alternate Meter Manifold Assembly - Up to two provided. See Fig. 12C for details. Replaces standard manifold assembly shown in FIG. 2C in one location on each side of the dispenser. Assembly is secured to lower air gap plate by four pem studs and nuts.
3. Meter Outlet Flange - Cast Iron, Gilbarco Part No. 026075, secured to meter by two screws. Joint between meter and outlet casting is provided with a gasket, Gilbarco Part No. 026768.
4. **Valve - Two provided. Same as Fig. 12A, Item 2. Secured to each valve manifold by three bolts. Each valve is provided with two synthetic rubber o-rings, Gilbarco Inc. Part Nos. Q10068-03 or Q12974-212 and Q10066-51 or Q12974-138 between the valve and the valve manifold.**
5. Valve Manifold - Two provided. Machined steel, Gilbarco Part No. M06976B001. Secured in place by connecting piping that threads into the inlet and outlet of the manifold.
6. Piping - All piping that runs between components and from the valve manifold to the outlet is Schedule 40 piping, elbows, and Listed unions. Piping is secured to the frame using a 11 gage G90 steel L shaped bracket, 2.5 inches tall by 2.75 wide. Piping is secured to bracket with U-bolt and nuts. Bracket is secured to upper housing by two screws.

LOWER HYDRAULIC HOUSING - SELF CONTAINED MODELS - FIGS. 3 AND 3A

General - This housing has the same features as that described in Fig. 2 or 2C with the following additions. Fig. 3A (Encore 550) has the same features as that described in Fig. 2D with the following additions.

1. Pump Mounting Rail - G90 sheet steel, No. 11 gauge, measures 929 mm long by 100 mm tall by 160 mm wide. Secured to lower frame by eight screws.
2. **Pump Feed Line - One provided for each pump. Copper or steel tubing, 1-1/8 in. OD, provided with flanges welded to both ends. Secured to a manifold and a pump by two screws each. A synthetic rubber O-ring is provided between the tubing flange and the manifold, Gilbarco Inc. Part No. Q10068-09 or Q12974-218, and an O-ring is provided between the flange and the pumping unit, Gilbarco Inc. Part No. Q10068-09 or Q12974-218.**
3. Junction Box and Cover - Unlisted Component, Gilbarco Inc. Part Nos. W02948 (box) and W02814 (cover) or W02949 (cover). Parts are described in File MH1941(Sp), Vol. 4, Sec. 6.
4. Pump - Up to four provided. See Vol. 1Z. Pump is secured to pump mounting rail by two screws, and to the pump mounting bracket by one screw.
5. Pump Mounting Bracket - See ILL. 2. One provided for each pump. G90 sheet steel, No. 11 gauge. Secured to lower housing frame by one bolt and to the pump mounting rail by one bolt.
6. Motor - One provided with each pump. Listed explosion proof motor for use in Class I, Group D Hazardous Locations. Secured to pump by two bolts.
7. Sump - Not shown. See Vol. 12. Not provided when pump is manufactured by Blackmer.

LOWER HYDRAULIC HOUSING - SELF CONTAINED MODELS - FIG. 3B

General - This housing has the same features as that described in Fig. 2 or 2C with the following additions.

1. Motor - One provided for each pump. Listed explosion proof motor for use in Class I, Group D hazardous locations. Secured to motor mounting rail by two bolts.
2. Motor Mounting Rail - Two provided. Constructed of 11 gauge G90 galvanized steel, measures 924 mm by 46 mm by 135 mm. Rails are secured to each other with four screws. Secured to the motor rail mounting brackets with two screws and isolation spacers on each end.
3. Motor Rail Mounting Bracket - Two provided. Constructed of 11 gauge G90 galvanized steel, measures 230 mm by 65 mm by 40 mm. Secured to lower frame by two screws on each end.
4. Junction Box Bracket - Constructed of 11 gauge G90 galvanized steel, measures 135 mm by 135 mm by 165 mm. Secured to motor mounting rail by two nuts.
5. Junction Box and Cover - Unlisted component manufactured by Gilbarco, Part No. M04400B010 box and Part No. M04536B010 cover. For engineering reference, box and cover are described in File MH1941sp, Vol. 4, Sec. 9. Secured to junction box bracket by two screws.
6. Pump - Up to four provided. R/C (ERIV2) manufactured by Bennett Pump, Model 75. Pump is secured to pump mounting rail by two screws and to pump mounting bracket by one screw.
7. Pump Mounting Bracket - One provided for each pump. Constructed of 11 gauge G90 galvanized steel, measures 245 mm by 40 mm by 32 mm. Secured to pump with one screw and to pump mounting rail by two screws.
8. Pump Mounting Bracket - One provided for each pump. Constructed of 11 gauge G90 galvanized steel, measures 284 mm by 283 mm by 83 mm. Secured to pump with one screw, to pump mounting rail by two screws, and to motor mounting rail by one screw.
9. Pump Mounting Rail - Two provided. Constructed of 11 gauge G90 galvanized steel, measures 912 mm by 85 mm by 50 mm. Rails are secured to each other with four screws. Secured to pump rail mounting bracket with two screws and isolation spacers at each end.
10. Pump Rail Mounting Bracket - Two provided. Constructed of 11 gauge G90 galvanized steel, measures 1890 mm by 52 mm by 57 mm. Brackets are secured to pump mounting rails by four screws and to the housing frame by four screws.
11. **Meter Discharge Casting - Not shown. Gilbarco Part No. M06840B001, or M05398B011. Secured to outlet of meter with a parflange connection, see Vol. 1Z. Joint between the tubing and the meter is provided with a synthetic rubber o-ring, Gilbarco Part No. N16891-32 or Q12974-118**

CD MODULE - FIG. 4

1. Enclosure - See Fig. 13 for details. Enclosure has four 34.2 mm diameter knockouts, two on each side, formed by punching out the holes in the enclosure and press fitting the slugs back into place. See ILL. 31 for general location. The center of the top holes is located 68.4 mm from the top of the enclosure and 136.5 mm from the side of the enclosure. The center of the bottom holes is located 170 mm from the top of the enclosure and 136.5 mm from the bottom of the enclosure. When vapor vac option is provided, one of the knockouts is removed and replaced with a potted nipple assembly with wires passing through it, secured to the enclosure by a machined nut and washer on both sides of the enclosure.
2. Hinge Bracket - Two provided. Constructed of G90 sheet steel, No. 11 gauge, measuring 16 by 41 by 115 mm. Secured to enclosure by two clench studs and nuts each.
3. Blanking Plate - Up to four provided. Provided to cover unused openings where manifold assembly and pulser assemblies are not provided. Constructed of G90 sheet steel, 20 gauge, measuring 184 by 366 mm and is secured to the upper air gap plate with four screws.
4. Hinge Bracket - Two provided. constructed of G90 sheet steel, No. 11 gauge, measuring 32 by 24 by 67 mm. Secured to column by two clench studs and nuts each.
5. Options Plate - Optional - No. 16 gauge G90 sheet steel shaped as shown. Measures 390 by 193 by 72 mm. Secured to the upper T-rail by two hooks and on the lower C-frame by two screws. May be provided with ATC Board, R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M00068A001 secured to the plate by four 1/4 in. nylon standoffs.
6. Valve Coil - Coils are provided as part of R/C (YIOZ2) manufactured by Lisk, Part No. M2-2110, see Fig. 12, Item 3. Two provided with each valve provided. Coils slip fit onto top of valves, and a washer is provided between the coils and the upper air gap plate. Coils may be shipped separately from the rest of the valve. When this occurs, the two coil assembly can be identified by Part No. VW3-0314. Coils are not provided for units with manifold assembly described in Figs. 12A and 12B or with Models NP3, NP4, and NP5. When not provided, openings in upper air gap plate are covered by a blanking plate, Item 3.
7. Pulser - Not provided on Models MB, NF, and NM at positions where alternate meter, see Fig. 12C, is used. See Fig. 14 or 14A. Up to eight provided. Secured to the CD module by two bolts. Not provided on dispenser Models NP3, NP4, or NP5, or units with manifold assembly described in Fig. 12B. When not provided, openings in upper air gap plate are covered by a blanking plate, Item 3.

8. Main Power Supply Assembly - See Fig. 29 for details. Secured to upper T-rail by two hooks and to lower C-frame by two screws.

Alternate - R/C (NWGQ2) manufactured by Phoenix Contact, Part No. 5604601. Secured to studs in side of CD module with nuts, see ILL. 63. For engineering reference, power supply outputs are considered Limited Power Source (LPS). Relays K1-K4 on power supply must be R/C (NRNT2) manufactured by CP Clare, Model CPC1965G, Solid State Optronics, Model S742, or Crydom, Part No. DPA6111.

Alternate - Provided on Model NP5 (Satellite) units only. Listed transformer manufactured by Hammond Manufacturing, Type 3AH, Part No. 266K18 rated 27 VA, with dual primary windings, Black-White primary rated 117 V, 50/60 Hz. and Brown-Orange rated 117 V, 50/60 Hz. Dual secondaries Red-Blue and Grey-Yellow are both rated 9 V, 1.5 A. For 120 V models, primary windings are wired in parallel and for 240 V units they are wired in series. Transformer is mounted on a 14 gauge galvanized steel bracket by tabs and one screw. Bracket is mounted to lower C-frame by two screws.

Alternate - R/C (EQXX2) manufactured by Gilbarco, Part No. M07555A001, secured to studs in the side of the CD module with nuts, see ILL. 63. For engineering reference, power supply outputs are considered limited power source (LPS). Relays K1-K4 on power supply must be R/C (NRNT2) manufactured by CP Clare, Model CPC1965G, Solid State Optronics, Model S742, or Crydom, Part No. DPA6111.

9. Pump Electronics Module - See ILL. 3 for details. Not provided on Model NP5 dispensers. Secured with one hook to the upper T-rail and to the lower C-frame with two bent tabs. Consists of following parts:

Printed Wiring Boards - Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco Inc., Part Nos. M01922A00X and M00059A001 or M02044A003. One secured to each side of bracket by four 1/4 in. nylon standoffs.

Alternate - Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco, Part No. M03615A002 may be provided as an alternate to board Part No. M02044A001.

Bracket - Constructed of No. 16 gauge G90 sheet steel measures 230 by 293.4 by 50.8 mm.

Calibration Switch - Powered by Class 2 equivalent. Source may vary. Secured to bracket by nut.

10. Vapor Vac Assembly - Optional. Not provided on dispenser Models NP3, NP4, or NP5. See Fig. 22 for details. Secured to T-rail by four nuts.

Alternate - ATC module. Secured to upper T-rail by four nuts. Consists of the following parts:

Printed Wiring Board - R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M0068A001. Secured to four 8 mm metal standoffs on bracket with four screws.

*

Bracket - Steel, No. 16 gauge, measures 168.15 by 254 mm.

Alternate - ATC Electronics Assembly - Powered from a Class 2 equivalent source. Provide on Encore 550 models. See Fig. 30 for details. Secured to upper T-rail by four nuts.

11. Monochrome Module - Not provided on Model NP5 dispensers. Secured to upper T-rail by three nuts. Consists of following parts:

Printed Wiring Boards - Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco Inc., Part Nos. M03893A001 (optional) or M04915A001 (optional), or M06365A001 (optional, Part of Smart CRIND option), and M04108A00X. One secured to each side of the bracket by four 1/4 in. nylon standoffs. May be provided with a cable adapter board, R/C (ZPMV2), overall dimensions 36 mm by 29 mm by 1/16 in. thick, plugs into M04108A00X board and secured to bracket with one 5/8 in. high nylon standoff. The only components on the cable adapter board are latching-type connectors.

Alternate - Same as above except: R/C (EQXX2), manufactured by Gilbarco Inc., Part No. M03565A001, are provided in place of M04108A00X. Each board is secured to the bracket with nylon standoffs. Two provided.

Transformer Board - R/C (EQXX2), manufactured by Gilbarco Inc., Part No. M07543A001, secured to bracket with four nylon standoffs.

Bracket - Constructed of No. 16 gauge G90 sheet steel measures 194.9 by 219.3 by 67.9 mm.

12. TRIND Card Cage Assembly - Optional. R/C (EQXX2), Gilbarco Inc., Part No. T20538-G1 or T20606-G1, G2, G3 or G4. Mounted to T-rail by four nuts.

13. Conduit Plates - Not shown. Two provided. G90 sheet steel, No. 14 gauge, 125 by 125 mm. Secured to lower C-rail by two screws. Plates are provided with four conduit knockouts for field installed conduits. Positioned to cover unused conduit openings.

14. Note Acceptor Assembly - Not shown. Optional. Not provided in CNL units. See Fig. 25 for details. Secured to lower c-rail with two screws and to the upper T-rail with one screw as shown in ILL. 45.

Alternate - For units that use main door assembly M07033AXXXXXX described in FIGS. 31 and 32, note acceptor is secured to 14 gauge, G60 galvanized steel top mounting bracket (see ILL. 45A) and rear mounting bracket (see ILL. 45B) with screws. Top mounting bracket is secured to top of enclosure with studs and nuts. Rear mounting bracket is secured to upper T-rail with screws.

15. Transformer - Not shown. Optional. Listed, manufactured by Hammond Manufacturing, Type 3AH. Transformer is mounted to an No. 14 gauge G60 galvanized steel L-shaped bracket by tabs and one screw. Bracket is mounted to lower C-frame by two screws.

*

16. I.S. Barrier Assembly - Not shown. Provided only on units with ATC Option. Same as Fig. 4A, Item 7.
17. Potted Nipple Assembly - Not shown. Provided only on units with ATC Option. Same as Fig. 4A, Item 8.

18. Meter Power Supply - Not shown. Optional. Provided only on Encore 550 Series dispensers. Listed, manufactured by Puls, Model ML30.101. Provided with integral DIN-rail mount which attaches to a metal bracket. Assembly is secured to C-frame with two screws.

Alternate - Same as above except power supply is Listed, manufactured by XP PLC, Part No. THF45US05.

Alternate - Same as above except power supply is Listed, manufactured by Phoenix Contact, Model MINI-PS-100-240AC/5DC/3.
19. Transformer - Not shown, optional. Unlisted component manufactured by Schumacher, Part No. 93996732. For engineering reference, transformer is described in File MH8467, Vol. 24, Sec. 1.
20. Fuseholder - Optional, provided only when alternate power supplies described in Item 8, is provided. Line voltage component. R/C (IZLT2) manufactured by Cooper Industries, Bussman Div., Part No. HTB-22I, mounted to L-shaped 18 gauge steel mounting bracket. Mounting bracket is secured to C-frame in bottom of CD module with one screw. Provided with a Listed slo-blo fuse rated 3A, 250 V. The uninsulated connection points of the fuseholder and leads are completely covered by R/C (YDPU2) tubing.
21. Heater Assembly - Not shown. Optional. See Fig. 36 for details. Secured to CD module frame by studs and nuts.
22. I.S. Barrier Assembly - Not shown. See Fig. 28. Secured to lower C-frame with two screws. Provided only on Models NP3 and NP4 and Models NB, NF, and NM. Fits over potted nipple assembly, Item 23. Wires extending out of potted nipple assembly are cut and dressed such that they cannot contact any components on board.
23. Potted Nipple Assembly - Consists of a threaded nipple with wires for I.S. barrier, Item 7, potted in place. See Vol. 1Z for details of potting compound and securement means.
24. Healy Control Module - Not shown. Optional, provided only on units with Healy Vapor option. R/C (EQXX2) manufactured by Airotronics, Part No. MC1001441H2T, secured to lower center C-rail by screws.

ALTERNATE CD MODULE - FIG. 4A

General - Same as Fig. 4 except as noted.

1. Main Power Supply Assembly - R/C (EQXX2), Gilbarco Inc., Part No. M01608A001. Secured to CD module with a minimum three screws and/or nuts.

Alternate - See Fig. 29 for details. Secured to upper T-rail by two hooks and to lower C-frame by two screws.

2. Pump Electronics Module - Not provided on Model NP5 dispensers. See ILL. 3A for details. Secured with one hook to the upper T-rail and to the lower C-frame with two bent tabs. Consists of following parts:

Printed Wiring Boards - R/C (EQXX2), manufactured by Gilbarco Inc., Part Nos. M01598A001, M01546A001 or T18994-GX or M02335A001. As an option, module may additionally be provided with one of either M01564A001 or M02097A001. Secured as shown in ILL. 3A to bracket by four 1/4 in. nylon standoffs.

Bracket - Constructed of No. 16 gauge G90 sheet steel measures 230 by 293.4 by 50.8 mm.

Calibration Switch - Powered by Class 2 equivalent. Source may vary. Secured to bracket by nut.

3. Monochrome Module - Optional. Secured to upper T-rail by two nuts. Consists of following parts:

Printed Wiring Boards - R/C (EQXX2), manufactured by Gilbarco Inc., Part Nos. T20306 G1 and T19501 G1. Secured to side and base of the bracket by minimum of four 1/4 in. nylon standoffs.

Bracket - Constructed of No. 16 gauge G60 or G90 sheet steel measures 225 by 170 by 304 mm.

Alternate - Used only on dispensers with Single Line CRIND option. Secured to upper T-rail by two nuts. Consists of the following parts:

Bracket - Constructed of G60 or G90 steel, 16 gauge, measures 162 mm by 335 mm.

Printed Wiring Board - R/C (EQXX2) manufactured by Gilbarco, Part No. T20306-G1. Secured to side and base of bracket by a minimum of six 1/4 in. nylon standoffs.

Transformer - Line voltage component. Gilbarco Part No. Q12566-01 manufactured by Better Coil and Transformer Co., Part No. 624P10 or Deltona, Part No. 685-K114, see ILLS. 55, 56, and 57. Secured to bracket by threaded studs, washers, and nuts. Constructed as follows:

Core - Laminated steel, 3-3/4 in. by 3-1/8 in. by 1-1/4 in. with a 2-1/2 in. by 1-7/8 in. opening for the coil.

Bobbin - 6/6 Nylon, 1/32 in. thick minimum, provides integral end washers and primary-secondary barrier, measures 1-29/32 in. by 2-7/16 in. by 2-3/8 in., barrier 31/32 in. from the top.

Coil - Random wound copper wire.

Leads - UL Style 1015, rated 600 V, 105 C, 22 gauge. Secured by 3M No. 10 tape over and under the splice.

Crossover Insulation - One layer of 3M No. 56 tape, 0.0022 in. thick.

Winding Insulation - One layer of 3M No. 28 tape, 0.0055 in. thick.

Outer Wrap - One layer of 3M No. 28 tape, 0.0055 in. thick.

Thermal Protection - Line voltage component. R/C (XCMQ2) manufactured by Uchihashi Estec Co., Part No. 125, rated 145 C.

Assembly is varnish dipped to prevent moisture absorption.

Alternate Transformer - Unlisted component manufactured by Schumacher, Part No. 93996756, described in File MH8467, Vol. 24, Sec. 1. Orange, Yellow, and White outputs have been evaluated as Class 2 equivalent, non-energy limiting.

4. Pulser Assembly - See Fig. 14A for details. Secured to CD module by two bolts. Not provided on NP3, NP4 and NP5 or Encore 550 Series model dispensers. When not provided, holes in upper air gap plate are covered with a steel blanking plate secured to the upper air gap plate by screws.
5. ATC Module - Not shown. Optional. Secured to upper T-rail by four nuts. Consists of the following parts:
 - Printed Wiring Board - R/C (EQXX2) manufactured by Gilbarco Inc., Part No. T20569-GX, secured to four 12 mm, tall metal standoffs in bracket with four screws.
 - Bracket - Steel, No. 16 gauge, measures 168.15 by 254 mm.
6. Bar Code Scanner Card Cage - Optional. R/C (EQXX2) manufactured by Gilbarco Inc., Part No. T20595-G2. Secured to upper T-rail by four nuts.
7. I.S. Barrier Assembly - Not shown. See Fig. 28. Secured to lower C-frame with two screws. Provided only on Models NP3, NP4 and Models NB, NF, and NM. Fits over potted nipple assembly, Item 8. Wires extending out of potted nipple assembly are cut and dressed such that they cannot contact any components on board.
8. Potted Nipple Assembly - Consists of a threaded nipple with wires for I.S. barrier, Item 7, potted in place. See Vol. 1Z for details of potting compound and securement means.

SMART CRIND CD MODULE - FIG. 4B

General - Same as Figure 4 except for added components described below. All common components omitted from Fig. For clarity. Smart CRIND option components include the S-bezel, 10.4 color display module (Fig. 33), S-bezel Printer Assembly (Fig. 34), and Power Supply (Fig. 35) and board Part No. M06365A001 described in Fig. 4, Item 11.

1. Color Screen Power Supply - See Fig. 35 for details. Mounts to CD module with two tabs and two pem studs and nuts.

Alternate - See Fig. 35A for details.

UPPER HOUSING FRAME - FIG. 5

1. Frame - Consists of two sides, constructed of G90 galvanized sheet steel 15 by 103 by 583 mm, and two fronts, constructed of No. 13 gauge G90 galvanized sheet steel 57 by 275 by 1054 mm. Each side is bolted to each front with two bolts.
2. **Angle Casting - Up to four provided, Gilbarco Inc., Part No. M02771B010 (Blend) M02087B010 (Open) or M02088B010 (Closed). Bottom of coating connects to a maximum of two copper tubes by way of a dual 7/8 in. parflange connection. When one of the tubes is not provided, the fluid path is blocked by an aluminum or steel cylinder measuring 30 mm diameter by 5 mm thick. Cylinder is secured in place by the parflange bracket and is provided with a synthetic rubber o-ring, Gilbarco Inc., Part No. N16891-32 or Q12974-118, between the cylinder and the casting. Angle casting secured to the frame with two bolts.**
3. Lifting Bracket - Two provided. Constructed of G90 sheet steel, No. 11 gauge, 19 by 46.2 by 597.2 mm. Secured to frame with two bolts.
4. Motor Mounting Bracket - Optional. Up to two provided. Constructed of G90 sheet steel, No. 11 gauge, measures 19.6 by 88.9 by 475.7 mm. Secured to frame with two bolts.
5. Pump/Motor Assembly - Optional. One or two provided. R/C (YUNT2) manufactured by Blackmer Pump, Model VRG3/4. Has an integral motor evaluated but not marked for use in Class 1, Group D Hazardous Locations. Held in place by a U-bracket measuring 89 by 110 by 195 mm bolted to the motor mounting bracket, Item 4, with two bolts.
6. **Outlet Casting - Up to eight provided. Five different outlet castings may be provided. M00162B010 or M07308B010 for balance vapor, M00163B010 or M05583B010 for vapor assist or M00164B010, M00164B011, M06320B011, M05612B010, M05612B011, or M05612B012 for non-vapor applications or M00164B012 for Ultra-Hi dispensers. Provided with a synthetic rubber O-ring between the casting and a pipe flange, angle casting, multi-hose blender manifold or parflange equipped tube, Gilbarco Inc., Part No. N16891-32 or Q12974-118. Knockouts are provided in the upper housing cover which are removed when an outlet casting is present, when less than eight are provided, unaffected knockouts are left in place.**
7. Vapor Valves - Optional. Up to eight provided. R/C (YIOZ2) manufactured by Automatic Switch Co., Cat No. HV260336-1, rated 110 V, 50 Hz, 8.1 W; 120 V, 60 Hz, 6.1 W. Valve inlet and outlet provided with 3/8 in. NPT to flare fittings for connection to vapor piping system. Valves are attached to a copper or steel tubing manifold which is secured by bracket No. 14 gauge and measures 87.4 by 44.7 by 87.4 mm. The bracket is held to the upper housing using two screws and the tubing manifold is held to the bracket with a tie wrap.

8. **Piping - Not shown. Up to eight provided. 0.88 in. OD copper or zinc phosphate plated steel tubing, minimum wall thickness 0.095 in. Each end of the tubing has parflange adapter swaged to the tubing. The tubing is secured to the meter in the lower hydraulics by a bracket held on by two bolts and to the angle casting in the upper hydraulics by a bracket held on by three bolts. A synthetic rubber O-ring is provided between the tubing and the mating castings, Gilbarco Inc., Part No. N16891-32 or Q12974-118.**
9. Multi-Hose Blender Manifold and Valve Assembly - Optional. Not shown. Up to two provided. When provided, they will replace up to two of the angle castings, Item 2. Listed, manufactured by Automatic Switch Co., Part No. HV-276433-1. Valve is bolted to the frame with four bolts.
10. TRIND Antenna Assembly - Optional. Not shown. Up to two provided. Consists of the following parts:
 - Right Antenna Box - Constructed of R/C (QMFZ2) manufactured by Bayer, Compound Designation BG30X, measures 196.7 by 82 by 52.8 mm. Secured to antenna bracket by screws. Box contains a printed circuit board, R/C (ZPMV2), components and artwork may vary (powered from a Class 2 equivalent source). Board is secured to box by two screws.
 - Left Antenna Box - Constructed of R/C (QMFZ2) manufactured by Bayer, Compound Designation BG30X, measures 196.7 by 82.6 by 36.3 mm. Secured to antenna bracket by screws.
 - Antenna - Constructed of 0.375 in. aluminum tubing, measures 9.5 by 42.3 in. Secured to antenna board by two screws and additionally secured by the left antenna box.
 - Antenna Bracket - Constructed of No. 13 gauge painted sheet steel, measures 187.2 by 54.3 by 785 mm. Bolted to upper frame of the dispenser under the lifting bracket.
11. ORVR Valve - Optional. Not shown. R/C (EQXX2) manufactured by Gilbarco, Part No. M04400A001. Secured to 16 gauge steel bracket by two screws. Bracket is retained on the upper support by the top cover. Tubing is connected to inlet and outlet ports by tubing fittings, see Vol. 1Z.
12. Visible Discharge Indicator (VDI) - Not shown. Optional. May only be provided on dispensers without vapor recovery option. R/C (EUQT2), Gilbarco Part No. R20176-G1. Device is threaded into the hose outlet casting between the outlet casting and the hose, when provided. Must not be provided between the hose and the hose nozzle valve.

MAIN DOOR ASSEMBLY - FIGS. 6, 7, AND 8

General - Doors may be either CRIND (Door Part No. M01219A0XX, M01220A0XX, or M01221A0XX) or non-CRIND (Door Part No. M01219A1XX, M01220A1XX, or M01221A1XX). Or CRIND with dual PPU displays (Door Part No. M01536A0XX, M01537A0XX, or M01538A0XX) Non-CRIND doors are described in Figs. 9 and 10.

1. Door - R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M01219A0XX, M012f0XX, or M01221A0XX. Doors are provided with plugs and gaskets to cover holes for bar code scanner, TRIND, totalizer, cash acceptor options. When options provided, plugs to be removed to accommodate those options. When bar code scanner option present, plug gasket to be used as part of assembly.

Alternate - R/C (EQXX2), manufactured by Gilbarco Inc., Part No. M10536A0XX, M01537A0XX, or M01538A0XX.

2. Grade Select Button - Optional. Up to 12 provided. See Fig. 16 for details. Attached to main door with two screws.
3. Nozzle Boot Assembly - Up to eight provided. See Figs. 15A or 15B. Secured to door by two screws and hooked around bottom lip of door. In positions where boot is not provided, recess in door is covered by a blanking plate constructed of No. 20 gauge G90 sheet steel, measuring 172 by 104 by 419 mm (depending on door). Secured by two screws.
4. Bar Code Scanner Assembly - Optional. See Fig. 21 for details. The scanner bracket assembly is mechanically secured (see Fig. 21) to the scanner hood with the door in between. Provided with a synthetic rubber gasket Gilbarco Inc., M00370B001 between the scanner hood and the door.
5. Customer Keypad Assembly - Membrane keypad, source may vary. Powered from Class 2 equivalent source. Secured to door with 3M 468 MP adhesive backing.

Alternate - Smart Pad, powered from Class 2 equivalent source. Consists of a printed wiring board with 3M 468MP adhesive backing. Area where circuitry and components are located is encapsulated and fits into a recessed area in the door. Components and artwork may vary.

6. Option Keypad - Optional - Membrane keypad, source may vary. Powered from Class 2 equivalent source. Secured to door with 3M 468 MP adhesive backing. When keypad is not used, opening in door filled with plug made of 1.3 mm thick aluminum, 31 by 356 mm adhesive backed.
7. 10.4 Display Keypad - Optional, membrane keypad, source may vary. Powered from Class 2 equivalent source. Secured to door with 3M 468 MP adhesive backing. When keypad is not used, opening in door filled with CHR industries #54 yellow tape.

8. Display Lens - Constructed of R/C (QMFZ2) manufactured by G.E., Compound Designation Lexan MR10 or DSM Engineering Plastics, Compound Designation Hyzod AR, measures 203.2 mm by 279.5 mm by 0.177 in. thick with 36 mm by 6 mm opening for membrane keypad tail. Secured to door assembly by monochrome display assembly. Provided with a gasket, Gilbarco Inc., Part No. R20682-01 between the lens and the door. Lens may be provided with optional membrane keypad, powered from Class 2 equivalent source, adhered to the lens. When keypad is not provided, opening in lens is covered with CHR Industries No. 54 tape and self-adhesive keypad blanking panels are provided. For units with Single Line CRIND option, lens does not have a membrane keypad tail opening and the lens is provided with a gasket, Gilbarco Part No. M02539B001 instead of R20682-01 as described above.

Alternate - The assembly replaces the lens. Consists of the following parts:

Bezel - Constructed of R/C (QMFZ2) manufactured by Bayer Corp., Material Designation Makrolon SF800, or Entec Engineered Resins, Compound Designation P1010G7FR, 0.25 in. thick, see ILL. 42 for details. Secured to bracket with six screws and provided with a gasket, Gilbarco Inc., Part No. R20682-01 between the bezel and the door. Bezel may be provided with optional self-adhesive membrane keypad, powered from Class 2 equivalent source. When keypad is not provided, opening in bezel is covered with CHR Industries No. 54 tape and self-adhesive keypad blanking panels are provided.

Display Lens - Constructed of R/C (QMFZ2) manufactured by General Electric, Material Designation Lexan MR10 or DSM Engineering Plastics, Material Designation Hyzod AR, 4.25 mm. thick by 142.2 mm. by 116.8 mm. Secured to bezel by bracket. Lens is provided with a gasket, Gilbarco Inc., Part No. R20059-02 between the lens and the bezel.

Bracket - Constructed of G60 galvanized steel, No. 14 gauge, see ILL. 43 for details. Secured to door by eight screws.

9. Totalizer Lens - Optional. Must be provided when totalizer assembly, Item 18 is provided. Constructed of R/C (QMFZ2) manufactured by GE Plastics, Compound GE Lexan MR5AC-71172, measuring 62 by 129-201 mm by 3.18 mm thick. When totalizer not provided, hole sealed with blanking plate constructed of R/C (QMFZ2) manufactured by Bayer, Compound SF800 measuring 6.3 by 16 by 181.1 mm. Held in place on door by a G60 sheet metal bracket, No. 14 gauge, measuring 8.16 by 1.1 in., secured to door with two screws. Sealed by gasket, Gilbarco Inc., Part No. M01046B001 between the plate and the door.
10. Door Node Assembly - Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M04326A00X. Secured to door by four screws.

Alternate - When alternate CD module is used, door node assembly is replaced by a main display assembly, R/C (EQXX2), manufactured by Gilbarco Inc., Part No. M01515A001, secured to door by four screws.

11. Speaker - Optional - Secured to door by four screws.
12. Monochrome Display Assembly - Optional. See Figs. 18 and 18A or 18C for details. Secured to door by eight screws.

Alternate - CRIND Single Line Display. Only available on Encore 300 Series units. See Fig. 18B for details. Secured to door by eight screws.

Alternate - 10.4 Color Display. USL models only. See Fig. 18D for details. Secured to door by eight screws.

13. Card Reader - Powered from a Class 2 equivalent source. R/C (NWGQ2), Matsushita, Part No. ZU1870CF22, ZU1870MA6T2 or ZU1870MA8T2. Secured to main door via card reader mounting bracket by four screws. Provided with a synthetic rubber gasket M00681B001 located between the card reader and the door.
14. TRIND Assembly - Optional - Consists of the following parts:
 - Antenna PCB - Powered by Class 2 equivalent source. R/C (ZPMV2), components and artwork may vary. Secured to door with two screws.
 - Light PCB - Powered by Class 2 equivalent source. R/C (ZPMV2), components and artwork may vary. Secured to antenna by three 1/4 in. plastic standoffs.

Alternate - Barcode Scanner Light Board Assembly - Powered by Class 2 equivalent source. Provided when barcode scanner, Item 4, is provided. Consists of a light board, R/C (ZPMV2), components and artwork may vary. Board is mounted to an 18 gauge galvanized steel bracket measuring 88.9 mm by 260.4 mm on three 1/4 in. nylon standoffs. Bracket is secured to door with two screws.

15. Printer Assembly - R/C (EQXX2), manufactured by Gilbarco Inc., Part No. M00317A001, 002. For Models with alternate CD module, printer is R/C (EQXX2), Gilbarco Inc., Part No. M00317A003. Secured to a 16 gauge painted or plated steel bracket, see ILL. 64, by three screws. Bracket is secured to door by four screws and is provided with a synthetic rubber gasket, Gilbarco Part No. M00325B001 between the door and the bracket.

Alternate - R/C (NWGQ2) manufactured by Hengstler, Part No. 0 684 001. Printer utilizes a DC stepper-type motor. Secured to 16 gauge plated or painted steel bracket, see ILL. 65, by two screws. Bracket is secured to the door by four screws and is provided with a synthetic rubber gasket, Gilbarco Part No. M00325B002, between the door and the bracket.

16. Reed Switch - Powered from a Class 2 equivalent source, source may vary. Magnet activated, magnet part of nozzle boot assembly, Item 2. Attached to door by one screw.
17. PPU Assembly - Up to 12 provided. Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M04329A00X. For models with alternate CD module, part is R/C (EQXX2), Gilbarco Inc., Part No. M01522A001. Secured to door by one screw.

Alternate - Up to six provided. Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M04332A00X. Provided with alternate doors described in Item 1. For models with alternate CD module, part is R/C (EQXX2), manufactured by Gilbarco Inc., Part No. M01525A001. Secured to door by two screws.

Alternate - Satellite Indicator Board - One provided. R/C (EQXX2) manufactured by Gilbarco, Part No. M04202A001 or M04570A001. Provided only on Models NP3, NP4 and NP5. Secured to door by one screw.

Alternate - Call Interface Board - R/C (EQXX2) manufactured by Gilbarco, Part No. M04528A002. Provided only on Models NP3 and NP4. Secured to door by one screw.

18. Totalizer Assembly - Optional. See Fig. 17 for details. Secured to door by four screws.
19. Bezel Barrier - Optional on units with alternate main power supply (Phoenix Contact), reference Fig. 4, Item 8. Required on units with all other main power supplies. Open box construction. Constructed of sheet steel, No. 22 gauge. Attached to main door with four screws. See ILL. 5 for details.

- Alternate - Constructed of sheet steel, No. 22 gauge. Attached to main door with seven nuts. See ILL. 6 for details.
20. Monochrome CRIND Interface Assembly - Optional. Provided only on units with alternate CD module. R/C (EQXX2), manufactured by Gilbarco Inc., Part No. T17764-G3 or -G4. Secured to bezel barrier by six 1/4 in. nylon standoffs.
 21. Serial LON Node - (Not shown) - Powered from a Class 2 equivalent source R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M00122A002, mounted to door node assembly, Item 10, with four 1/4 in. nylon standoffs.
 22. Door Switch - (Optional, Not shown) - Powered by a Class 2 equivalent source. The actuator is attached to an 18 GA aluminum bracket with two screws which is attached to the CIM door with two screws. The switch is attached to an L-shaped 18 GA aluminum bracket with two screws which is attached to the bezel barrier with two screws.
 23. Call Switch - (Optional, Not shown) - Listed, manufactured by Telemecanique, consists of contact block, Part No. 2B2BE101, a plated zinc alloy fixing base and a button operator, Part No. 2B2BAX or 2B2BCX. (Note: X suffix in button part number represents a one digit number representing color.) The zinc alloy fixing base and contact block may be provided as an assembly, Part No. 2B2BZ101. Installed in door as shown in ILL. 54.
 24. Card Reader Heater - Not shown. Optional. R/C (KSOT2) manufactured by Elmwood Sensors, Series 3200. Heater is provided with a thermostat, R/C (XAPX2) manufactured by Elmwood Sensors, Part No. 3150U. Assembly is secured to an aluminum bracket by adhesive. Aluminum bracket snap fits onto card reader heater.
 25. Call Interface Board - (Optional) - Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco, Part No. M04528A001. Attached to bezel of alternate display assembly described in Item 8 by two screws.

NON-CRIND MAIN DOOR ASSEMBLY - FIG. 9 and FIG. 10

1. Door - R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M01219A1XX, M01220A1XX, or M01221A1XX.
2. Grade Select Button - Same as Fig. 6, Item 2.
3. Nozzle Boot Assembly - Same as Fig. 6, Item 3.
4. Customer Keypad Assembly - Optional - Same as Fig. 6, Item 5. When not provided, hole in door is covered using CHR Industries #54 yellow tape.
5. Option Keypad - (Optional) - Same as Fig. 6, Item 6.
6. Totalizer Lens - (Optional) - Same as Fig. 6, Item 9.
7. Printer Assembly - (Optional) - Same as Fig. 7, Item 15. When not provided, opening in door is covered with CHR Industries No. 54 yellow tape.
8. Reed Switch - Q12514-07. Same as Fig. 7, Item 16.
9. PPU Assembly - Same as Fig. 7, Item 17.
10. Totalizer Assembly - (Optional) - Same as Fig. 7, Item 18.
11. Door Node Assembly - Same as Fig. 7, Item 10.
12. Speaker Assembly - (Optional) - Same as Fig. 7, Item 11.
13. Bezel Barrier - (Not shown) - Same as Fig. 8, Item 19.
14. Call Switch - Same as Fig. 8, Item 23.

LOWER PULSER DRIVE ASSEMBLY - FIG. 11

1. Gasket - Synthetic rubber, Gilbarco Inc., Part No. M00409B001.
2. Lower Pulser Seal Plate - Constructed of G90 sheet steel, No. 18 gauge and measures 70 by 104 mm. Plate is provided with an circular embossed section 20.7 mm diameter by 4.6 mm. high with a hole measuring 14.28 mm through the center.
3. Bushing - Constructed of plastic, see ILL. 7. Press-fit into the seal plate, Item 1. O-ring, Gilbarco Inc., Part No. N18254-05 is provided between the bushing and the lower pulser seal plate.
4. Shaft - Stainless steel, see ILL. 8. Held in place by an E-ring on one side of the bushing and shaft collar on the other side of the bushing. A swivel is attached to the bottom of the shaft with a roll pin.
5. Pulser Drive Link - Plastic. Cylindrical in shape, 19 mm diameter by 25.4 mm long. Secured to shaft by roll pin.

LOWER PULSER DRIVE ASSEMBLY - FIG. 11A

1. Lower Pulser Seal Plate - Constructed of G90 sheet steel, No. 18 gauge and measures 70 mm. by 70 mm. Plate is provided with a circular embossed section 23.5 mm diameter by 4.6 mm. high with a hole measuring 14.28 mm through the center.
2. Bushing - Constructed of plastic, see ILL. 7A. Press-fit into the seal plate, Item 1. O-ring, Gilbarco Inc., Part No. N18254-05 is provided between the bushing and the lower pulser seal plate.
3. Shaft - Stainless steel, see ILL. 8A. Held in place by an E-ring on one side of the bushing and shaft collar on the other side of the bushing. A swivel is attached to the bottom of the shaft with a roll pin.
4. Pulser Drive Link - Plastic. Cylindrical in shape, 19 mm diameter by 25.4 mm long. Secured to shaft by roll pin.

MANIFOLD ASSEMBLY - FIG. 12

1. **Meter - R/C (PLRZ2), manufactured by Gilbarco Inc., Part No. T19976-G3. Attached to manifold, Item 4, by two bolts. A synthetic rubber gasket, Gilbarco Inc., Part No. Q10068-14 or Q12974-223 is provided between the manifold/meter connection.**
2. Manifold Mounting Bracket - G60 sheet steel, No. 14 gauge, measures 36 by 478 mm. Attached to manifold by two bolts.
3. **Valve - R/C (YIOZ2) manufactured by G.W. Lisk, Part No. M2-2110. Attached to manifold by three bolts. Each valve is provided with two synthetic rubber O-rings, Gilbarco Inc., Part No. Q10068-09 or Q12974-218 between the valve and the manifold.**
4. Manifold -Part No. M00159B010. Die cast aluminum, 4.0 mm minimum wall thickness.
5. Fuel Filter - See Vol. 1Z. Threads onto manifold. One provided for each manifold assembly.
6. **Check Valve Assembly - Not shown. One provided for each meter, R/C (EUQT2) manufactured by Gilbarco Inc., Part No. N23619-G2. Slip fit into the inlet of the meter and held in place by the manifold. Each check valve is provided with one synthetic rubber O-rings, Gilbarco Inc., Part No. Q10068-09 or Q12974-218 between the check valve and the manifold.**

MANIFOLD ASSEMBLY - FIG. 12A

1. Meter - R/C (PLRZ2), manufactured by Gilbarco Inc., Part No. T19976-G3. Attached to manifold, Item 4, by two bolts. A synthetic rubber gasket, Gilbarco Inc., Part No. Q10068-14 or Q12974-223 is provided between the manifold/meter connection.
2. Valve - R/C (YTSX2) manufactured by Parker-Hannifin Corp., Part No. 73P1Z001NOHZ53C2. Secured to manifold by three bolts. Each valve is provided with two synthetic rubber o-rings, Gilbarco Inc. Part Nos. Q10068-03 or Q12974-212 and Q10066-51 or Q12974-138 between the valve and the manifold. Coil assembly not shown, see Fig. 2C.

Alternate - R/C (YTSX2) manufactured by Zhejiang Chunhui Group Co. Ltd., Part No. DV1050-P. Each valve is provided with two synthetic rubber o-rings, Gilbarco Inc. Part Nos. Q10068-03 or Q12974-212 and Q10066-51 or Q12974-138 between the valve and the manifold.

Alternate - Consists on a R/C (YIOZ2) valve body manufactured by Zhejiang Chunhui Group Co., Part No. M02227A002 and a coil, R/C (VAPT2) manufactured by Parker Hannifin Corp., Part No. 7HZ53C2. Coil is secured to the valve body by one nut. Each valve is provided with two synthetic rubber o-rings, Gilbarco Inc. Part Nos. Q10068-03 or Q12974-212 and Q10066-51 or Q12974-138 between the valve and the manifold.

Alternate - Consists of a R/C (YSYI2) valve body manufactured by Parker-Hannifin Corp., Part No. M02227A001 and a coil, R/C (YSYI2) manufactured by Zhejiang Chunhui Group Co., Part No. M02958A002. Coil is secured to the valve body by one nut. Each valve is provided with two synthetic rubber o-rings, Gilbarco Inc. Part Nos. Q10068-03 or Q12974-212 and Q10066-51 or Q12974-138 between the valve and the manifold.

3. Manifold - Part No. M02226B010. Die cast aluminum, 4.0 mm minimum wall thickness. Provided with two 0.75 in. steel pipe plugs, one in each end of the manifold.

Alternate - For dispensers with ATC option, the manifold is Part No. M0226B020. Manifold has two ¼ in. NPT openings. One of the openings has a sensor, R/C (EQXX2) manufactured by RTD Assembly, Part No. Q13131, threaded into it and the other opening has a stainless steel thermowell, see ILL. 58, threaded into it.

4. Check Valve Assembly - Not shown. One provided for each meter, R/C (EUQT2) manufactured by Gilbarco Inc., Part No. N23619-G2. Slip fit into the inlet of the meter and held in place by the manifold. Each check valve is provided with one synthetic rubber o-rings, Gilbarco Inc., Part No. Q10068-09 or Q12974-218 between the check valve and the manifold.

ENCORE 550 SERIES MANIFOLD ASSEMBLY - FIG. 12B

1. Manifold - Gilbarco Part No. M0340B010. Die cast aluminum, 4.0 in. minimum wall thickness.
2. Strainer Insert - Constructed of Delrin, formed as shown. Provided with 80 mesh polyester screen.
3. Fuel Filter - See Vol. 1Z. Threads onto manifold.
4. Valve - Same as Fig. 12A, Item 2.
5. **O-Ring - Synthetic rubber, Gilbarco Part No. Q10066-51 or Q12974-138, provided between valve and manifold.**
6. **O-Ring - Synthetic rubber, Gilbarco Part No. Q10068-03 or Q12974-212, provided between valve and manifold.**
7. Seal Plate - No. 7 gauge plated sheet steel, formed as shown. Secured to manifold with two screws.
8. O-Ring - Synthetic rubber, Gilbarco Part No. Q10068-18, provided between seal plate and manifold.

ALTERNATE METER HYDRAULICS ASSEMBLY FOR MODELS NB, NF, and NM - FIG. 12C

1. Manifold - Cast iron, Gilbarco Part No. 035318. Secured to strainer assemblies, item 10, by four bolts and nuts each. Joint between manifold and strainer assemblies is provided with a cork composite gasket, Gilbarco Part No. 027005.
2. Filter Adapter - Cast iron, Gilbarco Part No. 003087 with 1 in. NPT inlet and outlet. Secured to NPT inlet of manifold with schedule 40 pipe fitting threaded into cast iron reducer bushing.
3. Lower Meter Support Plate - Constructed of 11 gauge G90 galvanized steel, with overall dimensions of 17.65 in. by 15.26 in. by 1.6 in. Secured to support rails by four screws.
4. Strainer Assembly - See ILL. 77 for assembly/cross sectional details, consists of a cast iron body casting Part No. 500524, a cast iron cap Part No. 063203, an o-ring, Gilbarco Part No. 026768 between the cap and body, a stainless steel screen (two layer), and a check valve/pressure relief assembly as detailed in Fig. 37 located at the junction of the strainer assembly and the meter. Strainer assembly is secured to the meter by four bolts.
5. Gasket - Gilbarco Part No. 027038. Located between the strainer assembly and the meter.
6. Meter - Two provided. R/C (PLRZ2) manufactured by Murray Equipment, Part No. 898. Meters secured to meter mounting bracket by two bolts and nuts each.
7. Meter Mounting Bracket - Steel, see ILL. 80 for details. Secured to upper meter support plate by two pem studs and nuts.
8. Upper Meter Support Plate - Not shown. Constructed of 11 gauge G90 galvanized steel, overall dimensions of 20.47 in. by 16.73 in. by 0.79 in. Secured to lower air gap plate by four pem studs and nuts.
9. Pulser - Not shown. One provided for each meter. R/C (EQXX2) manufactured by Gilbarco, Part No. T18350-G1. Provided with a bracket, L, shaped, overall dimensions 0.5 inch wide by 1.5 long with 1.5 inch tab, secured to meter by one screw.

ELECTRICAL ENCLOSURE - FIG. 13

1. Enclosure Box - Constructed of G90 sheet steel, top is No. 13 gauge, and all other parts are No. 14 gauge. Overall dimensions are 933.2 by 610 by 543 mm. Consists of two sheet metal parts (top/sides part and bottom part) spot welded or TOX riveted (see Vol. 1Z) together. Corners are provided with corner support brackets which are spot welded or TOX riveted (see Vol. 1Z) to four upper corners. The bottom plate has no unused openings.
2. Upper Center T-Rail - Constructed of G90 sheet steel, No. 14 gauge for details. Spot-welded or TOX riveted (see Vol. 1Z) to the electrical enclosure as shown.
3. Lower Center C-Rail - Constructed of G90 sheet steel, No. 14 gauge. Spot-welded or TOX riveted (see Vol. 1Z) to the electrical enclosure as shown.
4. Deleted.

PULSER ASSEMBLY - FIG. 14

1. Mounting Bracket - G90 sheet steel, No. 18 gauge, "U" shaped 127 by 64 by 31 mm. Secured to upper pulser seal plate and the upper air gap plate by two screws.
2. Upper Pulser Seal Plate - Consists of a plate and bushing. The plate is constructed of G90 sheet steel, No. 18 gauge and measures 127 by 137 mm with one 14.28 mm diameter hole. A bushing constructed of plastic, is press fit into the seal plate. Secured to upper air gap plate with screws described in Item 1.
3. Pulser - Powered by Class 2 equivalent source. Manufactured by Oak Grigsby, Part No. 900/240 or Encoder Devices, Part No. CA 1027. Secured to mounting bracket by tabs formed from bracket.

Alternate - Powered from a Class 2 equivalent source. Manufactured by Measurement Specialties Inc., Part No. CA-1174 or R/C (EQXX2) manufactured by Measurement Specialties Inc., Part No. CA-1134, secured to upper air gap plate by two screws. When provided, Items 1 and 2 above are not provided (those items integral to pulser.)

ALTERNATE - PULSER ASSEMBLY - FIG. 14A

1. Mounting Bracket - G90 sheet steel, No. 18 gauge, U-shaped 127 by 137 by 13 mm. Secured to CD modules by two screws.
2. Pulser - R/C (EQXX2), manufactured by Gilbarco Inc., Part No. T18350-G5 or T18350-G6. Powered by Class 2 equivalent source. Secured to mounting bracket by cable tie.

Alternate - Manufactured by Encoder Devices, Part No. CA-1074 or CA-1097, powered from a Class 2 equivalent source. Secured to mounting bracket with one screw. Pulser should contain no normally arcing or sparking parts and all connectors should be latching-type.

Alternate - Powered from a Class 2 equivalent source. Manufactured by Measurement Specialties Inc., Part No. CA-1173 or R/C (EQXX2) manufactured by Measurement Specialties Inc., Part No. CA-1133, secured to upper air gap plate by two screws. When provided, Items 1 and 2 above are not provided (those items integral to pulser.)

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1. Boot - Aluminum - See ILL. 9 for details.
2. Hook - Aluminum - See ILL. 10 for details. Attached to cradle with one screw.
3. Cradle - Aluminum - See ILL. 11 for details. Attached to cradle with one screw.
4. Lever - Aluminum - See ILL. 12 for details. Trapped in slots in boot and retained by main door.
5. Spring - Leaf - Not shown. Attached to boot with two screws.
Alternate - Coil - Not shown, retained by mounting pegs of cradle.
6. Magnet - Cylindrical - Retained by magnet retainer. See ILL. 13 for retainer details. Retainer is sheet metal attached to lever by two screws. Retainer is provided with metal shunt shaped to match retainer.

NOZZLE BOOT ASSEMBLY - FIG. 15A

1. Boot - Constructed of R/C (QMFZ2) manufactured by Bayer AG, Compound Designation Durethane BKV-130, see ILL. 25 or 25A for details.
2. Lever Retainer - Constructed of same material as Item 1, see ILL. 19 for details. Secured to boot by two screws.
3. Shunt Bracket - Steel, see ILL. 20 for details. Secured to lever by two screws.
4. Magnet Retainer - Aluminum, see ILL. 21 for details. Snap fits onto shunt bracket, Item 4. Provided with a cylindrical magnet.
5. Lever - Same material as Item 1, see ILL. 24 for details. Slip fit into boot and is held in place between the boot and the lever retainer.
6. Cradle - Constructed of same material as Item 1, see ILL. 26 for details. Secured to boot by two screws.

NOZZLE BOOT ASSEMBLY - FIG. 15B

1. Boot - Constructed of R/C (QMFZ2) manufactured by Bayer AG, Compound Designation Durethane BKV-130, see ILL. 25 or 25A for details.
2. Cradle - Constructed of same material as Item 1, see ILL. 26 for details. Secured to boot by two screws.
3. Nozzle Boot Plug - Constructed of same material as Item 1, see ILL. 27 for details. Secured to boot by nozzle boot retainer, not shown, constructed of steel, measuring 71 mm by 22.6 mm by 0.079 in. thick by one screw. Retainer is positioned behind the boot such that the retainer/plug assembly is secured to the boot when the screw is tightened.
4. Nozzle Flap - Constructed of same material as Item 1, see ILL. 28 for details. Secured to nozzle flap mount, Item 5, by a stainless steel hinge rod, not shown, and held in place between the flap mount and the boot.
5. Spring - Two provided. Constructed of stainless steel wire, see ILL. 29 for details. Secured to boot by hinge rod described in Item 4.
6. Nozzle Flap Mount - Constructed of same material as Item 1, see ILL. 30 for details. Secured to boot by three screws.
7. Magnet - Cylindrical, slip fit into nozzle flap.

GRADE SELECT BUTTON - FIG. 16

1. Base - Constructed of R/C (QMFZ2) manufactured by Bayer, Compound Designation BKV 130, measures 66 by 67 mm, shaped as shown. Attached to main door with two screws. Includes snap assembly feature for retention of button and push post for retention of spring.

Alternate - Same as above except base measures 61 mm. by 55mm., used on models with S suffix.

2. Magnet - Cylindrical shape. Attached to button with two snaps.
3. Spring - Optional - Spring steel, attached to base by push post. Formed in V shape to push button off of base. Alternate: Button is pushed out with magnetic force when spring not used.
4. Shunt - Constructed of steel in rectangular shape open on top and bottom. Attached to base with two snaps.
5. Button - Constructed of R/C (QMFZ2) manufactured by Bayer, Compound Designation BKV 130, measures 66 by 67 mm, shaped as shown. Attached to base by lip on top and snap on bottom.

Alternate - Same as above except button measures 76 mm. by 69 mm., used with alternate base described in Item 1.

TOTALIZER ASSEMBLY - FIG. 17

1. Bracket - G90 sheet steel, L-shaped, No. 16 gauge, 60 by 130 by 190 mm.
2. Totalizer Node PCB - Optional. Powered by Class 2 equivalent source. R/C (EQXX2), Gilbarco Inc., Part No. M00077A001, secured to bracket by four 1/4 in. nylon standoffs.

Alternate - For units with alternate (1) module, board is R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M01621A001.

3. Totalizer - Powered from Class 2 equivalent source. Up to four totalizers per assembly provided. Source may vary. Secured to bracket with a wire tie wrap.

MONOCHROME DISPLAY ASSEMBLY - FIGS. 18 AND 18A

1. Bracket - Flat - No. 14 gauge sheet metal 341.2 by 215.9 mm.
2. Lampholder - Listed, Leviton Part No. 26720-2. Attached to sheet metal bracket, shaped as shown, with two screws. Bracket is secured to Item 3 by two studs and nuts.
3. Thermostat - R/C (XAPX2), hermetically sealed type by Elmwood Sensors, Type 3100U. Attached to lamp bracket by snap in nylon holders. Two provided.
4. Ballast - Listed Type 1 Magnetek 4111H2. Attached to bracket, Item 4, with two studs and nuts.
5. Monochrome Graphic Display PC - Powered by Class 2 equivalent source. Manufactured by Standish Ind., Part No. SICM-104743 - Attached to bracket with four studs and nuts.
6. Fluorescent Lamp - Phillips Part No. PLS13W/50 or Osram Sylvania Products Part No. CF13DS/850.
7. Shield - Sheet metal - "C" shaped, measures 102 by 180 by 47 mm. Snaps to bracket in four places.
8. Heater - R/C (KSOT2), manufactured by Watlow Electric Part No. 1JR-A. Attached to shield, Item 7, by adhesive backing. Bracket L-shaped measuring 19.5 by 37.7 by 127 mm. Bracket attached to Item 4 with two studs and nuts.
9. Shield - Constructed of sheet steel, No. 14 gauge, measures 317 by 70 by 332 mm. Secured to shield, Item 7, by two tabs. Optional when alternate graphic display is used.
10. Fan - Not shown - Brushless DC motor, powered by Class 2 equivalent source. Attached to shield by two screws. (Note: Field Representative must verify that the fans are brushless type at Gilbarco Inc., facility.)

SINGLE LINE DISPLAY ASSEMBLY - FIG. 18B

1. CRIND single Line Display - R/C (EQXX2) manufactured by Gilbarco, Part No. T20379. Secured to bracket by two screws.
2. Bracket - Constructed of 14 gauge sheet steel, measures 215 mm by 325 mm.
3. Lens Filter - Constructed of R/C (QMFZ2) manufactured by General Electric, Compound Designation Lexan MR10 or DSM Engineering Plastics, Compound Designation Hyzod AR, measures 8.25 in. by 1.25 in. by 0.187 in. thick, held in place between the bracket and the lens, Item 5.
4. Spacer - Synthetic rubber, Gilbarco Part No. M01360B002, held in place between the bracket and the display lens.
5. Display Lens - See Fig. 6, Item 8.
6. Display Lens Gasket - See Fig. 6, Item 8.
7. Call Interface Board - (Not shown) - (Optional) - Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco, Part No. M02325A001. Secured to bracket by two 1/4 in. nylon standoffs.

MONOCHROME DISPLAY ASSEMBLY - FIG. 18C

General - Used only when alternate display lens, Fig. 6, Item 8 is used.

1. Monochrome Display - Powered from a Class 2 equivalent source. R/C (NWGQ2) manufactured by Planar, Part No. SICM 1062-001 or R/C (EQXX2) manufactured by Ampire Co., Ltd., Part No. AD320240JFIQW, secured to bracket by two screws.
2. Bracket - Constructed of 20 gauge galvanized sheet steel, measures 183 mm by 162 mm., formed as shown.
3. Thermostat - R/C (XAPX2), hermetically sealed type manufactured by Elmwood Sensors, Type 3100U. Secured to bracket by two screws.
4. Heater - R/C (KSOT2) manufactured by Watlow Electric, Part No. 1JR-A, secured to bracket by adhesive packing.

10.4 COLORSCREEN DISPLAY ASSEMBLY - FIG. 18D

1. Door - Same as Fig. 1, Item 4.
2. Gasket - Synthetic rubber, Gilbarco Part No. M02539, provided between lens and door.
3. Display Lens - Constructed of R/C (QMFZ2) manufactured by GE Plastics, Compound Lexan MR10 or DSM Engineering Plastics, Compound Hyzod AR, measures 203.2 mm. by 279.5 mm. by 4.5 mm. thick with a 38 mm. by 6 mm. opening for membrane keypad tail. Secured to door by a bracket, Item 4. Lens may be provided with a membrane keypad adhered to the lens. When keypad is not provided, lens opening is covered with CHR Industries No. 54 tape and self-adhesive blanking panels.
4. Bracket - Constructed of 14 gauge G90 galvanized steel, see ILL. 43A for details. Secured to door by eight screws.
5. 10.4 Colorscreen Module - See Fig. 33. Secured to bracket, Item 4 by pem studs and nuts.

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BAR CODE SCANNER - FIG. 21

1. Hood - Constructed of R/C (QMFZ2) manufactured by Bayer, Compound SF800, see ILL. 16 for details.
2. Scanner Bracket - No. 16 gauge sheet metal, shaped as shown. Secured to scanner hood by three screws.
3. Scanner Engine - Not visible - Manufactured by Symbol Part No. SE2223. Powered from Class 2 equivalent source. Mounted to scanner bracket by two screws.

Alternate Scanner Engine - Manufactured by Symbol, Part No. SE2200. Mounted to scanner bracket by two screws. Provided with decoder board manufactured by Symbol, Part No. PL220, also mounted to scanner bracket with three screws.

4. Scanner Lens - Not visible - Glass, 3.2 mm thick, 52 mm long by 3.8 mm wide. Held in place by bracket. Provided with synthetic rubber gasket, Gilbarco Inc., Part No. M01312B001 located between lens and hood.
5. Interface Board - Not shown. Powered by Class 2 equivalent source. R/C (ZPMV2), components and artwork may vary. Attached to scanner bracket by clinch standoffs and screws.

BAR CODE SCANNER - FIG. 21A

1. Scanner Engine - Same as Fig. 21, Item 3. Secured to scanner mounting bracket by two screws.
2. Scanner Mounting Bracket - Constructed of 22 gauge painted, plated, or galvanized steel, see ILL. 70 for details.
3. Interface Board - Same as Fig. 21, Item 5.
4. Cover Plate - Constructed of 0.015 in. thick vulcanized fiber board, formed as shown. Secured to scanner mounting bracket by three nylon circuit board supports.

VAPOR VAC ASSEMBLY - FIG. 22

1. Vapor Vac Power Supply - R/C (EQXX2), manufactured by Gilbarco Inc., Part No. M01775A001 (120 V units) or M01775A001 (240 V units). Mounted to bracket with studs and nuts.
2. Card Cage - R/C (EQXX2), Gilbarco Inc., Part No. T20361-G1, Option 8, secured to Item 1 with studs and nuts.
3. Shield - Not shown. Constructed of 0.020 in. thick vulcanized fiberboard, formed as shown in ILL. 66. Secured to card cage by two nylon mounting buttons. Shield is provided to restrict access to uninsulated live parts containing hazardous voltages when CIM Door is opened to change printer paper.

EXTENDED REACH RETRIEVER ASSEMBLY - FIGS. 23 AND 24

1. Retriever Bracket Assembly - Constructed of G60 galvanized sheet steel. Consists of an 11 gauge inner guide bracket, see ILL. 33, a No. 13 gauge weight bracket, see ILL. 34, and a No. 13 gauge outer guide bracket, see ILL. 35. Parts are mechanically secured together with nuts and bolts as shown.
2. Pulley Assembly - Two provided. Steel, aluminum or zinc die cast, 2-1/4 in. diameter with press fit bearing. Secured to bracket assembly with nut and bolt.
3. Cable grommet - Two provided. Plastic, secured to brackets with two self tapping screws, see ILL. 36.
4. Weight Guide Tube - 42.2 mm diameter schedule 40 PVC pipe, 2197 mm long. Top end is held in place by the retriever bracket assembly, and the bottom end is held in place by the lower support bracket and the dispenser frame.
5. Lower Support Bracket - Constructed of G60 galvanized steel, 13 gauge, see ILL. 37 for details. Mechanically secured to dispenser fame by two screws.
6. Cable - Not shown. 0.125 in. or 0.187 in. diameter solid braid nylon cord with ends fused. Cable is routed over the two pulleys and down through each cable grommet. One end is secured to the retriever weight with a knot, and the other end is attached to the hose clamp.
7. Retriever Weight - Not shown. Steel, 1.25 in. diameter by 33 in. long. Provided with a threaded eye bolt screwed into the end of the weight and secured with a hex nut as shown in ILL. 38.
8. Hose Clamp - Not shown. EZ-FLO Part No. 1428-FG for coaxial hoses or Gilbarco Inc., Clamp Part No. M02045A001, constructed of Delrin 500, consisting of two inner clamp halves, ILL. 39, two outer clamp halves, ILL. 40, and cable end, ILL. 41, secured together with a screw, nut and clamp lock ring for standard hoses.

Alternate - EZ-FLO Part No. 1428-E for vapor hoses (non-balance). See ILL. 59 for details.

NOTE ACCEPTOR ASSEMBLY - FIG. 25

1. Main Bracket - Constructed of 14 GA G60 galvanized steel, formed as shown in ILL. 46. Opening in bracket through which wires pass is provided with a R/C (NZMT2) insulating bushing.

Alternate - For note acceptor assemblies used on units with main door Part No. M07033AXXXXXX described in FIGS. 31 and 32, main bracket is formed as shown in ILL. 46A. For those units, note acceptor is located as shown in ILL. 46B.

2. Serial LON Node - Powered from a Class 2 equivalent source. Not provided on dispensers with alternate CD module as described in Fig. 4A. R/C (EQXX2) manufactured by Gilbarco, Part No. M00122A002. Mounted to main bracket with four ¼ in. high nylon standoffs.
3. Bracket - Constructed of 13 GA G60 galvanized steel, formed as shown in ILL. 47. Secured to four studs on note acceptor mounting bracket with nuts.

Alternate - When note acceptor assembly with alternate main bracket described in item 1 above is provided, bracket is formed as shown in ILL. 47A. Opening in bracket through which wires pass is provided with a R/C (NZMT2) insulating bushing.
4. Bezel Face Gasket - Not visible. Synthetic rubber, Gilbarco Part No. M02077B002, held in place between the note acceptor and the inner bezel face gasket.
5. Inner Bezel Face Gasket - Not visible. Synthetic rubber, Gilbarco Part No. M02078B003, held in place between the note acceptor and the inside surface of bracket.
6. Gasket - Synthetic rubber, Gilbarco Part No. M02078B003. Secured to bracket by adhesive and two screws. When note acceptor assembly is provided with alternate bracket described in item 3, an additional gasket, Gilbarco Part No. M02078B003 is provided and both gaskets are secured with two screws.
7. Note Acceptor - Not provided on units with CNL Listing. R/C (DUCU2) manufactured by MEI, Part No. AE261U7M or AE2811. Attached to four studs in note acceptor mounting bracket, Item 8, with nuts. Provided with synthetic rubber gasket, Gilbarco Part No. M02223B001 applied to the front surface of the cash acceptor and held in place between the cash acceptor and the bracket, Item 3.
8. Note Acceptor Mounting Bracket - Constructed of 13 GA G60 galvanized steel, formed as shown in ILL. 48. Attached to main bracket by two clinch nuts, screws, washers, and spacers.

9. Door Latch - R/C (WOYR2) manufactured by Southco Inc., Part No. C3-1805. One part of the latch is mounted to main bracket with two screws and the mating part is secured to two studs in mounting bracket with nuts.
10. Line Filter - Not shown. R/C (FOKY2) manufactured by Curtis Industries, Part No. F1100AA02 or Corcom Inc. Part No. 2VB1-2A. Secured to main bracket with screws.

Alternate - Same as above except the line filter is secured to the alternate bracket described in item 3 with nuts.
11. Shield - Not shown. Constructed of 0-020 in. thick vulcanized fiberboard, formed as shown in ILL. 67. Attached to note acceptor bracket by tabs which snap fit into slot at bottom of bracket. Shield is provided to restrict access to uninsulated live parts containing hazardous voltages when CIM Door is opened to change printer paper.
12. Reed Switch - Not shown. Powered from a Class 2 equivalent source. Magnet activated, attached to note acceptor assembly with screws. Magnet actuator is part of note acceptor door assembly described in FIG. 37.

HYDRAULICS, ULTRA-HI COMBO AND ULTRA-HI MASTER - FIGS. 26 AND 27

1. Valve - Two provided. Listed, manufactured by Parker-Hannifin Corp., Skinner Valve Div., Type XLG201580C. Gilbarco supplies UL Listed conduit which runs from the valve and up through the air gap. Conduit is potted as a vapor-explosion seal as described in Vol. 1Z.

Alternate - R/C (YTSX2) manufactured by Parker-Hannifin Corp., Skinner Valve Division, Type XLG201600CS or XLG201620CS. Valve is supplied with a length of conduit with a vapor-explosion seal which runs from the valve and up through the air gap.

2. Filter Adapter - Optional. R/C (VXYV2) manufactured by Central Illinois Mfg. Co., Part No. 50136.
3. Filter - Optional. R/C (VXYV2) manufactured by Central Illinois Mfg. Co., Part No. 800-30.
4. Meter - One provided for Ultra-Hi combo model and two provided for Ultra-Hi master model. R/C (PLRZ2), manufactured by Liquid Controls Corp., Series M5-1, Part No. P9560. Provided with an inlet flange which changes inlet from flange to NPT. Gilbarco adds synthetic rubber gasket, Gilbarco Part No. Q10068-24 between the meter and the inlet flange. The meter is secured to the support bracket with bolts, nuts and washers.
5. Support Bracket - Same as Fig. 2A, Item 4.
6. Check Valve - R/C (YFKR2) manufactured by Universal Valve Co., Model 212VPR-20. Threaded in place as shown, provided with pressure relief valve.

Alternate - Listed. Manufactured by Emco-Wheaton Retail Corp., Model A0066-020.

7. Strainer - One provided per meter. Schedule 40 piping with 30 mesh wire filter element.
8. Meter Outlet Flange - One provided for each meter. Manufactured by Gilbarco, Part No. T19703 which is secured to the meter by four bolts. Flange is provided with a gasket, Gilbarco Part No. Q10068-24 provided between the meter and the outlet flange.

Alternate - Same as above except T19703 is provided with two $\frac{1}{4}$ in. openings. A R/C (EQXX) RTD assembly Part No. Q13131 is threaded into one of the openings and a stainless steel thermal test well, see ILL. 58, is threaded into the other opening.

HYDRAULICS, ULTRA-HI SATELLITE - FIG. 27A

1. Valve - Two provided. R/C (YTSX2) manufactured by Parker-Hannifin Corp., Skinner Valve Div., Type XLG201600CS or XLG201620CS. Valve is supplied with a length of conduit with a vapor-explosion seal which runs from the valve up through the air gap.
2. Filter Adapter - Optional. Same as Fig. 26, Item 2.
3. Filter - Optional. Same as Fig. 26, Item 3.

I.S. BARRIER ASSEMBLY - FIG. 28

1. Top Cover - Constructed of G60 galvanized sheet steel, No. 22 GA, 166.7 by 166.7 by 62.4 mm high. Snap-fit to bottom cover with interlocking tabs and slots.
2. Printed Wiring Board - R/C (EQXX2), Gilbarco, Part No. T19301-G1 or Part No. T19506-G1. Only Part No. T19506-G1 is to be used on models designated CNL. Attached to bottom cover with four 1/4 in. high nylon standoffs.
3. Bottom Cover - Constructed of G60 galvanized sheet steel, No. 22 GA, 157 by 157 by 48 mm high.
4. Transformer - R/C (XPTQ2) manufactured by ATC Frost, Part No. FT3451. Two provided. Attached to studs on each side of the bottom cover with two nuts.

MAIN POWER SUPPLY ASSEMBLY - FIG. 29

1. Power Supply - R/C (EQXX2) manufactured by Gilbarco, Part No. M02274A001.
2. Power Supply Board - Optional. Not provided on dispensers with Alternate CD Module, Fig. 4A. R/C (EQXX2) manufactured by Gilbarco, Part No. M02774A001. Secured to power supply bracket with four 1/4 in. high nylon standoffs.
3. STP Board - Optional. R/C (EQXX2) manufactured by Gilbarco, Part No. M00047A001. Secured to power supply bracket with four 1/4 in. high nylon standoffs.

ATC ELECTRONICS ASSEMBLY - FIG. 30

General - Assembly is powered from a Class 2 equivalent source.

1. Bracket - 16 gauge painted or plated steel, measures 168 mm. by 259 mm, formed as shown. May be provided with R/C (ZODZ2) adhesive backed wire positioning devices.
2. ATC Node - R/C (EQXX2) manufactured by Gilbarco, Part No. M00068A001, secured to four 8 mm. tall metal standoffs on bracket with screws.
3. T-Meter Board - R/C (EQXX2) manufactured by Gilbarco, Part No. T19386-G1, secured to four 8 mm. tall metal standoffs on bracket with screws.
4. ATC IS Barrier - R/C (EQXX2) manufactured by Gilbarco, Part No. T19428, secured to bracket as shown with two nylon tie wraps.
5. Cable Adapter Board - R/C (ZPMV2) printed circuit board material. Only components on board are four latching-type connectors. Board is formed as shown, secured to four 8 mm. high standoffs on bracket by screws.

ALTERNATE MAIN DOOR ASSEMBLY - FIGS. 31 and 32

1. Door - R/C (EQXX2) manufactured by Gilbarco, Part No. M06239AXXXXXX (Non-CRIND), M06247AXXXXXX (CRIND), M06248AXXXXXX (CRIND with scanner), or M07033AXXXXXX (10.4 Color) or M07379AXXXXXX (non-CRIND) where each X is any integer. Door assembly arrives with some components already installed and is modified as indicated below.
2. Monochrome Keypad Assembly - Optional. Up to two provided. Membrane keypad, Powered from Class 2 equivalent source. Source may vary. Secured to door with 3M 468 MP adhesive backing. When not provided on door Part No. M06293AXXXXXX and M07033AXXXXXX, openings in main door are provided with metal blanking plates as part of the R/C (EQXX2) door assembly. When not provided on all other doors, a blanking plate is provided, constructed of aluminum, measures 31 mm by 90 mm by 0.063 in. thick (135 mm by 46 mm by 0.063 in. thick for units with door Part No. M07033AXXXXXX), secured in recesses in recesses in main door on each side of the monochrome display lens with 3M 468MP adhesive.

Alternate - For door Part No. M07033AXXXXXX, with a 5 or 6 after the A, a one-piece monochrome keypad, powered from a Class 2 equivalent source, is secured to the display lens with 3M 468 MP adhesive backing. Keypad must completely cover the cable slot in the lens.

3. TRIND Lens - Optional on units with door Part Nos. M06247AXXXXXX, M06248AXXXXXX, and M07033AXXXXXX, not provided on units with door Part No. M06239AXXXXXX or M07379AXXXXXX. When the TRIND Lens is provided, the plug provided with the R/C main door assembly, item 1, is removed and the gasket is retained for use with the TRIND Lens. Constructed of R/C (QMFZ2) manufactured by G.E., Compound Designation Lexan MR10 or DSM Engineering Plastics, Compound Designation Hyzod AR, measures 89.8 mm by 86.1 mm by 4.5 mm thick. Secured to door with four screws.

Alternate - Same as above except the area in the center of the lens is milled down to 3.0 mm thickness over an area measuring 50 mm by 77 mm.

4. Card Reader - Not provided on door Part No. M06239AXXXXXX or M07379AXXXXXX. Powered from a Class 2 equivalent source. R/C (NWGQ2), Panasonic, Part No. ZU1870MA6T2, ZU1870MA8T2 or ZU1870CF22. Secured to main door via card reader mounting bracket by four screws. Provided with a synthetic rubber gasket M00682B001 located between the card reader and the door.
5. Customer Keypad Assembly - Optional. Membrane keypad, powered from Class 2 equivalent source. Source may vary. Secured to door with 3M 468 MP adhesive backing. When not provided, a metal blanking plate measuring 145.3 mm by 75.6 mm by 0.063 in. thick is provided to cover the opening, secured with 3M 468 MP adhesive backing.

Alternate - Smart Pad, powered from Class 2 equivalent source. Consists of a printed wiring board with 3M 468MP adhesive backing. Area where circuitry and components are located is encapsulated and fits into a recessed area in the door. Components and artwork may vary.

6. Grade Select Button - Optional. Up to 10 provided. See Fig. 16 for details. Snap-fit into slot on main door.

7. Options Keypad Assembly - Optional. Membrane keypad, Powered from Class 2 equivalent source. Source may vary. Secured to printer door with 3M 468 MP adhesive backing. When not provided a metal blanking plate is provided and is secured to printer door with 3M 468 MP adhesive backing.
8. Scanner Hood - Not provided.
9. Door Node - Powered from Class 2 equivalent source R/C (EQXX2) manufactured by Gilbarco, Part No. M05835A00X. Secured to main door with four screws.
10. Speaker - Optional. Powered from a Class 2 equivalent source. Secured to main door with four screws.
11. Reed Switch - Powered from a Class 2 equivalent source, secured to metal bracket by one screw. Bracket is secured to door by two screws. Magnetic actuator is provided on CD module enclosure.
12. Monochrome Display - Optional. Powered from a Class 2 equivalent source. R/C (NWGQ2) manufactured by Planar, Part No. SICM 1062-001 or R/C (EQXX2) manufactured by Ampire Co., Ltd., Part No. AD320240JFIQW, secured to door by four screws. When provided on door Part No. M07033AXXXXXX, display is mounted to a 16 gauge, G60 galvanized steel adapter bracket with screws. Adapter bracket is secured to the door with screws.

Alternate - Color display. Provided only on door Part No. M07033AXXXXXX, see Fig. 33 for details. Secured to door by four screws.
13. Serial LON Node - Not shown. Powered from Class 2 equivalent source, R/C (EQXX2) manufactured by Gilbarco Inc., Part No. M00122A002. Secured to bracket with four screws.
14. Reed Switch - Powered from a Class 2 equivalent source. One provided for each nozzle boot assembly. Magnet activated. Magnet actuator is part of nozzle boot assembly provided with R/C main door assembly. Attached to door by one screw.
15. Printer Assembly - Not provided on units with door Part No. M02369XXXXXX. R/C (NWGQ2) manufactured by Hengstler, Part No. 0684001. Printer utilizes a DC stepper-type motor. Opening in door through which the printer chute passes is sealed with gasket provided as part of the printer door. The gasket is retained to the printer door by the printer assembly. Printer assembly is secured to the door by two screws.

Alternate - Provided only on units with door Part No. M07033AXXXXXX, see Fig. 34 for details. Secured to CD module by five screws.
16. PPU Board - Powered from Class 2 equivalent source R/C (EQXX2) manufactured by Gilbarco, Part No. M05838A00X. Secured to 0.062 in. thick aluminum bracket with four screws. Bracket is secured to main door with three screws at top of bracket and bottom of bracket friction fits into slot in the main door.

Alternate - Consists of PPU board, R/C (EQXX2) Gilbarco Part No. M04329A001 and Satellite Indicator/Valve Control board, R/C (EQXX2) Gilbarco Part No. M04570A001, each secured to a 402.8 mm by 207.6 mm by 0.062 in. aluminum bracket by three 1/8 in. tall metal standoffs. Bracket is secured to main door with three screws at the top of the bracket and bottom of bracket friction fits into a slot in the main door.

Alternate - Pump Handle Interface board, R/C(EQXX2), Gilbarco Part No. M05650A001, secured to 0.062 in thick aluminum bracket with two 5/16 in. high clinch standoffs and two screws. Bracket is secured to main door with three screws at top of bracket and bottom of bracket friction fits into slot in the main door.

17. Totalizer Assembly - Optional. Powered from Class 2 equivalent source. Source may vary. Up to four totalizers per assembly provided. Totalizers are stacked in metal mounting bracket and secured to bracket with one screw each. Mounting bracket is secured to main door with two screws.
18. TRIND Assembly - Optional - Consists of the following parts:
 - Antenna PCB - Powered by Class 2 equivalent source. R/C (ZPMV2), components and artwork may vary. Secured to door with three screws.
 - Light PCB - Powered by Class 2 equivalent source. R/C (ZPMV2), components and artwork may vary. Secured to antenna by three metal standoffs and screws.
19. Call Interface Board - Powered from a Class 2 equivalent source R/C (EQXX2) manufactured by Gilbarco, Part No. M04528A001. Secured to main door with two screws.
20. Card Reader Heater - Not shown. Optional. R/C (KSOT2) manufactured by Elmwood Sensors, Series 3200. Heater is provided with a thermostat, R/C (XAPX2) manufactured by Elmwood Sensors, Part No. 3150U. Assembly is secured to an aluminum bracket by adhesive. Aluminum bracket snap fits onto card reader.
21. Scanner Assembly. Not shown. Provided only on units with door Part No. M06248AXXXXXX, see Fig. 21A for details, secured to printer door with two screws. (For engineering reference, scanner assembly provides mechanical retention for the scanner lens provided on the R/C door assembly)
22. Cash Acceptor Door Assembly - Not shown. Optional. May be provided only on units with door Part No. M07033AXXXXXX. See FIG. 37 for details. When provided, left blanking plate provided as part of R/C door assembly is removed. Cash acceptor door assembly is installed in blanking panel location.

S-BEZEL 10.4 COLOR DISPLAY ASSEMBLY - FIG. 33

1. Display - Powered from a Class 2 equivalent source. R/C (NWGQ2) manufactured by Melco Display Technology Inc., Part No. AA104VC08. Secured to color display mounting bracket by screws.
2. LVDS Board - Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco, Part No. M06605A001. Secured to connector on back of display. All connectors on board are latching except for P11 and board utilizes one jumper (JP1) which can be placed on pins 1 and 2 or 2 and 3.
3. Color Display Mounting Bracket - Constructed of 18 gauge G60 galvanized steel, overall dimensions 184 mm. By 283 mm. By 11.6 mm. Secured to door by studs and nuts.
4. Inverter - R/C (NWGQ2) manufactured by Endicott Research, Part No. K2952B. Secured to display mounting bracket by two screws.
5. Inverter Adapter Board - Powered from a Class 2 equivalent source. R/C (EQXX2) manufactured by Gilbarco, Part No. M06838A001. Secured to color display mounting bracket on metal standoffs by two screws.
6. Inverter Cover - Constructed of 20 gauge G60 galvanized steel, overall dimensions 54 mm by 18 mm by 103 mm, see ILL. 71 for details. Secured to color display mounting bracket by studs and nuts.

S-BEZEL PRINTER ASSEMBLY - FIG. 34

1. Printer - R/C (NWGQ2) manufactured by Hengstler, Part No. 0684002. Printer utilizes a DC stepper-type motor. Opening in door through which the printer chute passes is sealed with a gasket, Gilbarco Part No. M06908B001 secured to the printer by 3M Scotch Seal Metal Sealant No. 2084. Secured to printer bracket, Item 2 by screws.
2. Printer Slide Bracket - Constructed of 16 gauge G60 galvanized steel, see ILL. 72 for details. Secured to printer slide by three screws.
3. Cover - Constructed of 20 gauge G60 galvanized steel, u-shaped, overall dimensions 270 mm by 185 mm. Top of cover is provided with a R/C (NZMT2) bushing for wire routing.
4. Printer Slide - Constructed of 14 gauge plated steel, u-shaped, overall dimensions 303 mm. By 12.7 mm by 50.8 mm, secured to slide base plate by three screws.
5. Slide Base Plate - Constructed of 16 gauge G60 galvanized steel, 230 mm by 215 mm by 90 mm.
6. Adapter Bracket - Constructed of 16 gauge G60 galvanized steel, u-shaped, overall dimensions 220 mm by 25 mm by 60 mm, secured to slide base plate by two screws.

SMART CRIND POWER SUPPLY - FIG. 35

1. Monochrome PCB - Powered from a Class 2 equivalent source, manufactured by Advantech, Part No. PCM9577F-00A2, secured to bracket with 9 nylon standoffs.
2. 10.4" CPU Color CPU PCB. Advantech C-GAIL01-AIMB33-01. Mounts to bracket with 9 nylon standoffs. - Used on M06481A002 or M06481A003. Powered by Class 2 equivalent source. All connectors used on board are latching-type except for connectors inserted into CN13 and CN19 and jumpers are used on JP1 (Pins 1 and 2 or 2 and 3), JP5 (Pins 1 and 2 or 2 and 3), and JP4. The only switch used on the device is a four position DIP switch designated SW1.
3. Power supply - Listed, (QUZW) manufactured by Phoenix Contact, Model MINI-PS-100-240AC/24DC/4 for use with M06481A001 or Phoenix Contact, Model MINI-PS-100-240AC/24DC/10. Power supply mounts to bracket 16 gauge galvanized sheet steel, overall dimensions 100 mm by 35 mm. This bracket is secured to main bracket with 2 screws. For engineering reference, power supply outputs are considered Limited Power Source (LPS) when used with item 6.
4. UPS - Listed, (QUZW) manufactured by Phoenix Contact, Model QUINT DC-UPS/24/10 supply mounts to bracket 16 gauge galvanized sheet steel bracket, overall dimensions 100 mm by 35 mm. This bracket is secured to main bracket with 2 screws. Supplies power to Item 3 in power outage.
5. Bracket - Constructed of 16 gauge galvanized sheet steel, formed as shown in ILL. 73.
6. Smart CRIND Interface Board - R/C (EQXX2) manufactured by Gilbarco, Part No. M06187A001 mounts to bracket with 4 nylon standoffs. Powered by item 3 and provides Class 2 equivalent source. All connectors used on board are latching type except for connectors inserted into P219, P311, and P116.
7. Gilbarco Security Module - Listed, manufactured by Gilbarco Inc, Model number POA258xxxxxx. Secured to main bracket with 2 clench nuts and screws. All connections to security module are latching except power connection.

ALTERNATE SMART CRIND POWER SUPPLY - FIG. 35A

1. Bracket - Same as Item 5, Fig. 35.
2. Power supply - Same as Item 3, Fig. 35.
3. Smart CRIND Interface Board - Same as Item 6, Fig. 35.
4. 10.4 Color CPU PCB - Same as Item 2, Fig. 35, except: Part No. is Advantech C-GAIL01-AIMB330-02 which reflects additional parts populated, PCMCIA connector (CN3) and the PCMCIA SRAM PC card (U25), not populated on the board described in Fig. 35.
5. RS232-to-TTL Interface Board - Optional. R/C (EQXX2), manufactured by Gilbarco Inc., Part No. M07592A001. Secured to bracket by nylon standoffs. Powered from NEC Class 2 equivalent source.
6. USB-to-LON Board - Manufactured by Gesytech, Part No. LPM2_012_PV1. Secured to bracket with nylon standoffs. Powered from NEC Class 2 equivalent source. All connectors on board must be latching-type and board contains no normally arcing components such as DIP switches, switches, jumpers, etc.

HEATER ASSEMBLY - FIG. 36

1. Heater/Fan Assembly - R/C (XGPU2) manufactured by Dekko, Part No. PTC001, secured to heater mounting bracket by three bolts and nuts.
2. Heater Distribution Bracket - Constructed of 20 gauge galvanized steel, formed as shown. Secured to heater assembly by two bolts and nuts.
3. Heater Mounting Bracket - Constructed of 16 gauge galvanized steel, overall dimensions 125 mm by 140 mm by 141 mm, formed as shown.
4. Solid State Relay - R/C (NMFT2) manufactured by Crydom, Part No. D2425, secured to heater mounting bracket by studs and nuts.
5. Heater Circuit Board - R/C (EQXX2) manufactured by Gilbarco, Part No. M06783A001, secured to solid state relay by screws.
6. Heater Electronics Cover - Constructed of 18 gauge galvanized steel, u-shaped, overall dimensions 40 mm by 100 mm by 60 mm, formed as shown. Secured to heater mounting bracket by studs and nuts.

CHECK/PRESSURE RELIEF VALVE - FIG. 37

1. Check Valve Seat - Delrin, see ILL. 78 for molding and dimensional details.
2. Spring - Phosphor bronze wire, 1/32 in. diameter, 1-15/16 in. free length.
3. Spring Retainer - Delrin, see ILL. 79 for details.
4. Poppet Stem Assembly - See ILL. 80 for assembly details, consists of the following:

Stem - Plated or stainless steel, see ILL. 80 for details.

Pressure Relief Valve - Eaton Corp., Part No. 100GP with a Teflon barrel seal and a synthetic rubber cup seal Compound VI-18-GQFLT-Viton, subject to pick up and retest under File MH20145, Vol. 1, Sec. 1.

1. Retainer Ring - Steel, 0.290 in. ID by 1/32 in. thick.
6. Poppet Disc - Delrin, see ILL. 81(020631) for details.
7. Poppet Seal - Synthetic Rubber, Gilbarco Part No. 020632.
8. Poppet Retainer - Plated steel, 12 gauge, 1-7/8 in. OD by 5/16 in. ID, secured with the poppet disc and seal with a lock nut and lock washer to the stem assembly.

CASH ACCEPTOR DOOR ASSEMBLY - FIG. 38

1. Door - Constructed of 13 gauge stainless steel, 168 mm by 103 mm, with 92 mm by 54.4 mm opening for chute. Provided with lock, manufactured by Hudson Lock Co., Part No. XW33253762F retained by a metal spring clip. Lock is provided with a synthetic rubber o-ring, Gilbarco Part No. Q10066-19 under the head of the lock.
2. Hinge - Constructed of stainless steel, 0.035 in. thick, 0.75 in. wide by 292 mm long. One side of hinge is spot welded to door and the other side is secured to door frame with studs and nuts.
3. Gasket - Synthetic rubber, Gilbarco Part No. M07522B001. Secured to back of door by chute, lock and 3M Scotch Seal 2084 metal sealant.
4. Chute - Constructed of aluminum, see ILL. 84 for details. Secured to door with four studs and nuts.
5. Door Frame - Constructed of aluminum, see ILL. 85 for details. Secured to door with fourteen screws and washers.
6. Gasket - Synthetic rubber, Gilbarco Part No. M06892B001. Secured between door frame and main door.
7. Switch Actuator - Magnetic, secured to studs in chute with nuts.