AUSTRALIA

National Standards Commission

C/- CSIRO NATIONAL STANDARDS LABORATORY UNIVERSITY GROUNDS,
CITY ROAD, CHIPPENDALE, N.S.W. 2008.
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CERTIFICATE OF APPROVAL No 5/6A/9

VARIATION No 1

This is to certify that the following modifications of the pattern and variants of the Gilbarco/Epex Dual-purpose Self-serve Driveway Flowmeter Model T132C approved in Certificate No 5/6A/9 dated 2 April 1971 submitted by Engineering Products Pty Ltd, 418-428 Burnley Street, Burnley, Victoria, 3121, have been approved under the Weights and Measures (Patterns of Instruments) Regulations as being suitable for use for trade.

The approved modifications are as follows:

(a) fitted with a $2.00 note acceptor;

(b) fitted with a $1.00 note acceptor;

(c) converted to indicate in metric units in accordance with Appendix 14 of the General Specifications for Measuring Instruments to be Used for Trade.

Approval was granted on 9 May 1974.

This variation is described in Technical Schedule No 5/6A/9, Variation No 1, and in drawings and specifications lodged with the Commission.

The approval is subject to review on or after 1 June 1979.

All instruments conforming to this approval shall be marked with the approval number "NSC No 5/6A/9".

Signed

Executive Officer

CANCELLED

COMMONWEALTH OF AUSTRALIA

NATIONAL STANDARDS COMMISSION

Weights and Measures
(National Standards)
Act 1960-1966

Weights and Measures
(Patterns of Instruments)
Regulations

Certificate of Approval

CERTIFICATE NUMBER 5/6A/9

In respect of the pattern of

Gilbarco/Epex Dual-purpose Self-serve Single Dispensing Pump Model T132C and Variants.

Submitted by: Gilbarco Australia Ltd.,
16-34 Talavera Road,
North Ryde,
New South Wales. 2113.

Engineering Products Pty. Ltd.,
418-428 Burnley Street,
Burnley,
Victoria. 3121.

Pump Conversions Pty. Ltd.,
675 High Street Road,
Glen Waverley,
Victoria. 3150.

This is to certify that the pattern and variants of the instrument illustrated and described in this Certificate have been examined by the National Standards Commission under the provisions of the abovementioned Regulations and have been approved as being suitable for use for trade.

The pattern was approved on 19th October, 1966, and further variants listed in Columns 6 and 7 of Figure 1 were approved on

Cont'd over

24th November, 1966, 26th January, 1968, and 11th December, 1968. Variants listed in Columns 8 and 9 of Figure 1 were approved on 26th January, 1968, and 11th December, 1968.

Approval was granted on condition that:

1. all instruments made in conformity with this Certificate are appropriately marked NSC No 5/6A/9 and, where required by State legislation, with the State approval number also; and

2. comply with the General Specifications for Weighing and Measuring Instruments to be Used for Trade, in respect of that part of the instrument which was not previously approved by a State.

This Certificate comprises:

Pages 1 to 11 dated 2nd April, 1971.
Figures 5/6A/9 - 1 to 27 dated 2nd April, 1971.

Pursuant to regulation 12 of the abovementioned Regulations, this Certificate is applicable in all States.

Date of issue 2nd April, 1971.

Signed

A person authorised by the Commission to sign Certificates under the abovementioned Regulations.

2/4/71

DESCRIPTION OF PATTERN

The pattern (see Figures 2 and 3) is of a modification of the Gilbarco Salesmaker Single Dispensing Pump Model 1006A approved in all States and is known as a Gilbarco/Epex Dual-purpose Self-serve Single Dispensing Pump Model T132C.

It comprises the Gilbarco Salesmaker Single Dispensing Pump Model 1006A with the computer, nozzle and nozzle hang-up removed and replaced by the components tabulated in Column 5 of Figure 1.

The coin-receiving and coin-testing units are located in a separate housing, together with the control unit.

The pressure bell is located in the supply tank.

The hydraulic diagram is illustrated in Figure 4.

The dispenser operates as a self-serve flowmeter when "automatic" mode is selected by a switch on the control unit, and by selection of "manual" mode an operator may use the dispenser as a manual flowmeter. When "automatic" mode of operation is selected the insertion of coins into the coin-receiving unit allows the dispenser to be operated by the purchaser. Inserting coins into the coin unit causes signals to be sent to the control unit, which records the value of the coins in its memory unit and indicates the value of the coins on panel lights.

Lifting the nozzle from its hang-up hook starts the pump motor, allowing the purchaser to commence delivery. Signals from the computer in the dispenser are sent to the control unit, causing the memory section to count back, stopping the pump motor when the value of the delivery is equal to the value of the coins accepted by the coin unit.

DESCRIPTION OF VARIANTS

1. The Gilbarco Salesmaker Single Dispensing Pump 1006A with the computer, nozzle and nozzle hang-up removed and replaced by the components tabulated in Column 6 of Figure 1, make up

variants known as the Gilbarco/Epex Dual-purpose Self-serve Single Dispensing Pump Model T132C. Each variant has the same housing and component arrangement as in the pattern.

The hydraulic diagram is illustrated in Figure 4.

2. The Gilbarco Salesmaker Single Dispensing Pump 1006A with the computer, nozzle and nozzle hang-up removed and replaced by the components tabulated in Column 7 of Figure 1, make up variants known as the Gilbarco/Epex Dual-purpose Self-serve Single Dispensing Pump Model T132B. Each variant has the same housing and component arrangement as in the pattern.

   The hydraulic diagram is illustrated in Figure 4.

3. The components tabulated in Column 8 of Figure 1 replace similar components in the Epex SS/VR Self-serve Single Dispensing Pump as described in Certificate No 5/6A/19.

4. The Wayne Single Dispensing Pump Model 605, as described in Certificate No 5/6A/4, with the computer, nozzle and nozzle hang-up removed and replaced by the components tabulated in Column 9 of Figure 1, make up variants known as the Wayne Self-serve Single Dispensing Pump Model 605 (see Figure 5).

   The coin-receiving and coin-testing units are located in a separate housing, together with the control unit.

   The pressure bell is located in the supply tank.

DESCRIPTION OF COMPONENTS

1. Computer - Veeder-Root 1611 (sterling), as described in State approvals, modified by:

   (a) fitting a trip lever and cam (see Figure 7), which causes the computer to reset to zero when the starting handle is rotated to the "off" position, that is, when the nozzle is placed on the hang-up arm;

   (b) fitting projecting studs to the 1-penny and 10-shilling price-indication drums on one side of the computer (see Figure 9);

(c) fitting a bracket (see Figure 7) to the reset dashpot; and

(d) fitting a bracket to the starting mechanism (see Figure 8).

The projecting studs and brackets, through pushrods, operate switches and contacts in the distributor unit.

2. Computer - Veeder-Root 1611 (sterling) - Component No 1, without the brackets, on the reset dashpot and starting mechanism.

3. Computer - Veeder-Root 1613, as described in Certificate No 5/6A/6, modified as described in Component No 1. The projecting studs are fitted to the 1-cent and 1-dollar price-computing drums (see Figure 9).

4. Computer - Veeder-Root 1613 - Component No 3, without the brackets as described in Component No 2.

5. Nozzle - Epex EP 4559 manual hose nozzle with flexible spout (see Figures 10 and 11).

6. Nozzle - OPW 1ABV automatic hose nozzle (see Figures 12 and 13).

7. Hang-up (see Figure 14):

(a) When starting the dispenser, the starting handle causes the reset pawl to engage in the reset cam, and a bracket operates a microswitch before the pump motor starts.

(b) When stopping the dispenser, the weight of the nozzle on the starting handle depresses the starting handle, energising the reset dashpot. A trip lever and cam resets the computer to zero before the starting handle reaches its reset position.

8. Solenoid valve and by-pass pipe (see Figure 15) - the solenoid valve closes when the outstanding credit, established by the value of the coins accepted by the coin tester, reaches a value equivalent to one revolution of the right-hand drum of the computer. The delivery then continues at a reduced rate of flow through the by-pass pipe.

9. By-pass solenoid valve - with a 1/8 inch diameter by-pass hole through the inner wall of the valve. The valve closes as described for Component No 8. The delivery then continues at a reduced rate of flow through the by-pass hole in the valve.

10. Distributor unit - Epex EP 5658 (see Figure 16), contains interlocking microswitches and pulse contacts. A pushrod, which opens and closes an electrical contact in the distributor, is lifted by a cam which rides on the external face of the right-hand drum of the computer.

    A projecting stud on the drum lifts the pushrod, closing the electrical contact once for each revolution of the drum. Each time the contact closes it applies a signal to the rotary switch in the control unit.

    A second electrical contact, which is operated by a pushrod and cam and by a projecting stud on the third drum, causes the pump motor to stop if the right-hand drum has made twenty revolutions.

    A microswitch operated by a bracket attached to the reset dashpot on the computer (see Figure 7) opens the circuit to the lock relay in the coin tester, preventing coins from being accepted while the computer is being reset.

    A second microswitch operated by a bracket on the starting-handle mechanism (see Figure 8) opens the circuit to the lock relay in the coin tester when the starting handle is in the "on" position, that is, when the nozzle is not on its hang-up hook.

    A pressure-operated switch opens the circuit to the lock relay in the coin tester when the quantity of liquid in the supply tank has reached a preset low level, to prevent coins from being inserted when there is insufficient liquid to make a 20-shilling delivery.

11. Distributor unit - Epex EP 5545, similar to Component No 10, the significant difference being the microswitch operated by a bracket attached to the reset dashpot is operated directly by contact with the reset dashpot, and the second microswitch operated by a bracket on the starting mechanism is operated directly by contact with the starting mechanism.

12. Coin-receiving unit (2-shilling) - Epex (see Figure 17), registers

the value of 2-shilling coins accepted by the coin tester. Lights behind ten circular cut-outs, each cut-out being marked successively with a monetary value from 2-shillings to 20-shillings, light in accordance with the value of coins accepted by the coin tester. The lights are energised by contacts on a rotary switch in the control unit. A dimensioned slot, through which coins are inserted into the coin tester, prevents bent or misshapen coins from being inserted. A reject button causes reject coins to be returned from the coin tester.

13. Coin-receiving unit (20-cent) - Component No 12 modified to accept only decimal currency (see Figure 18). It accepts 20-cent coins and the cut-outs are marked successively in value from $0.20 to $2.00.

14. Coin-receiving unit (2-shilling/20-cent) - Component No 12 modified to accept decimal currency. It accepts 20-cent and/or 2-shilling coins, and the cut-outs are marked successively in value from $0.20 to $2.00.

15. Coin tester - Epex CT/MCS (see Figures 19 and 20), which checks the characteristics of the coins received in the unit from the dimensioned slot in the coin-receiving unit. It accepts only 2-shilling coins.

    Mechanical section - referring to Figure 21, the coin is checked for:

    (a) thickness - by guide rails (A) which are adjusted by the screw 1 so that coins less than a set thickness fall through the rails into the reject chute;

    (b) over-diameter - by the distance between the guide rails (A) and the height-adjusting screw (B). Over-diameter coins are held at this point;

    (c) under-diameter - by the distance between the guide rails (A) and guide rail (C). Coins of lesser diameter than the set height are not held by the guide rail (C) and lean to one side contacting a stop;

    (d) ferrous content - by the magnet (D); and

(e) presence of rim - by the two-toothed wheels (E) between which the coin passes. Coins which are sufficiently thick to be held by the guide rails jam between the toothed wheels if there is no rim.

A coin failing any of the above tests will fall into the reject slot or be retained in the mechanism. Coins retained may be retrieved by pressing the reject button on the coin-receiving unit, which by means of a hinged bracket separates the two halves of the mechanical coin-checking mechanism, allowing the coin to fall into the reject chute. The coins held by the magnet are wiped off by a non-ferrous surround connected to the other side of the mechanism.

A sensing bar which protrudes into the path of the coin is moved aside by the coin, causing wire (F) to block the coin slot until the previous coin has cleared the mechanical section.

Electrical section - referring to Figure 21, wire (G), operated by the power relay, blocks the exit from the mechanical section when the system is in the manual mode of operation or is turned off. Coins thus held may be retrieved by pressing the reject button.

Coins passing the above checks are held on wire (H) operated by the comparator relay, while the comparator compares its resistivity to that of a test coin (2). If its composition is correct, the comparator relay energises, withdrawing the wire (H), allowing the coin to fall on to the balance lever (I). Depending on the weight of the coin, the balance lever will either tip the coin down the acceptance chute or retain it. Coins retained may be retrieved by pressing the reject button, which by means of a wire will tilt the balance lever. Operating the reject button also opens the reject microswitch which breaks the circuit to the lock relay, causing wire (J) to block the acceptance chute, while the under-weight coin is being rejected.

The lock relay causes wire (J) to block the acceptance chute when:

(a) the nozzle is not on its hang-up hook;

(b) the computer is not reset to zero;

(c) the level of liquid in the supply tank has reached a level at which there is insufficient liquid for a delivery;

(d) the value of coins accepted is 20 shillings.

Each coin falling down the acceptance chute operates the accept microswitch by means of the arm (K), causing the rotary switch in the control unit to advance one step when the microswitch closes and one step when the microswitch opens after the coin has passed. Thus the rotary switch advances two steps for each coin accepted.

16. Coin tester - Epex CT/MCS/DC, Component No 15 converted to decimal currency. It accepts 20-cent coins to a maximum value of $2.00.

17. Coin tester - Epex CT/M/63 (2-shilling), Component No 15, except that the check for resistivity is omitted; coins leaving the mechanical section pass directly to the balance lever, and the wire (G) from the power relay prevents coins from being inserted into the receiving slot, instead of from leaving the mechanical section.

18. Coin tester - Epex CT/M/63 (20-cent), Component No 17, converted to decimal currency.

19. Coin tester - Tally-Ho (see Figure 22), is mounted in a frame (see Figure 23) and accepts 2-shilling and 20-cent coins. A schematic diagram of the mechanism is shown in Figure 24. Referring to Figure 24, the coin is checked for:

    (a) dimensions - guide rails (A) are set for a coin of the correct diameter and thickness;

    (b) presence of rim - pawls (B) in the weighing bucket grip the coin by its rim;

    (c) weight - the correct-weight coin swings the weighing bucket its full travel (C), then releases the coin; and

    (d) material composition - the correct-composition coin will bounce off the bounce block (D) into the accept chute.

    A coin rejected at any of the check points will fall into the reject chute and be returned to the purchaser. A jammed coin may be released by pressing a reject button which opens the side of the mechanism, allowing the coin to fall free.

    If a coin is accepted, it passes into the acceptance chute (see

Figure 25). A solenoid-operated stop blocks the entrance to the accept chute when:

1. the nozzle is not on its hang-up hook;
2. the computer is not reset to zero;
3. the selector switch on the control panel is set for manual operation;
4. the liquid in the supply tank has reached a preset low level;
5. ten 2-shilling and/or 20-cent coins have been accepted by the coin unit.

Coins which are accepted fall down the acceptance chute and operate a microswitch which sends two pulses to the control unit for each coin accepted. The blade of the microswitch has a maximum clearance from the far side of the chute of 1/32 inch.

20. Control unit - Epex EP 5353 (see Figure 26), which contains power supplies, switches and a memory unit. The memory unit comprises an electrical-signal actuated rotary switch, which advances two steps each time a coin actuates the acceptance microswitch in the coin tester. At the twentieth step it opens the circuit to the lock relay in the coin tester, which prevents further coins from being accepted. The rotary switch goes backward one step each time a signal is received from the electrical contacts in the distributor unit which are operated by the right-hand price-indication drum of the computer.

    When the rotary switch reaches the second-last contact, that is, when the value of the liquid still to be dispensed is equal to one rotation of the right-hand price-indication drum of the computer, the solenoid valve is de-energised, closing the normal delivery pipe, the remainder of the serve being made through the small by-pass pipe or by-pass hole, which slows the rate of delivery.

    A switch on the front of the control unit provides for "manual" or "automatic" mode of operation.

21. Probe bell - Epex EP 5701 (see Figure 27), which comprises a cylinder open at its lower end and connected by a pipe from its

upper end, to the pressure switch in the distributor unit. The bell is lowered into the supply tank and pressurised sufficiently to close the pressure switch. When the level of liquid in the supply tank falls below the open end of the bell, the retained pressure drops and allows the pressure switch to open. This opens the circuit to the lock relay in the coin tester, preventing further coins from being accepted.

GENERAL NOTES

1. The Tally-Ho Coin Tester is manufactured by Pump Conversions Pty. Ltd.

2. Notice of approval of the pattern and variants described in this Certificate was given in Memorandum of Approval No 28B dated 2nd February, 1968, and Memorandum of Approval No 142 dated 18th December, 1968.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 5/6A/9

VARIATION No 1

Pattern: Gilbarco/Epex Dual-purpose Driveway Flowmeter Model T132C

Submittor: Engineering Products Pty Ltd, 418-428 Burnley Street, Burnley, Victoria, 3121.

Date of Approval of Variants: 9 May 1974

The modifications described in this schedule apply to the pattern and variants described in the following pages and figures of Certificate No 5/6A/9 dated 2 April 1971:

Pages 3 to 11 dated 2 April 1971
Figures 5/6A/9 - 1 to 27 dated 2 April 1971

All instruments conforming to this approval shall be marked "NSC No 5/6A/9".

Description:

This variation approves:

1. The pattern and variants fitted with:
   (a) a $2 note acceptor (see Figures 28 and 29);
   (b) a $1 note acceptor which is similar to the $2 note acceptor.
2. The pattern and variants converted to indicate in metric units in accordance with Appendix 14 of the General Specifications for Measuring Instruments to be Used for Trade.

Test Specification:

1. With no credit indicated, placing a $2 or $1 note as appropriate in the note acceptor should cause the lights on the coin unit to indicate the appropriate credit.
2. The note acceptor will be inoperative when any credit is shown on the coin unit.

FIGURE 5/6A/9 - 1

1	2	3	4	5	6	7	8	9
	COMPONENTS	DATE APPROVED	FOOT-NOTES	PATTERN †	VARIANTS†			
					T132C	T132B	SS/VR	605
1	Computer VR 1611 with brackets	19 OCT 66		*	A	A		
2	Computer VR 1611 without brackets	26 JAN 68					A	A
3	Computer VR 1613 with brackets	26 JAN 68			A	A		
4	Computer VR 1613 without brackets	26 JAN 68					A	A
5	Nozzle EP 4559	19 OCT 66		*	B	B	B	B
6	Nozzle OPW 1ABV	24 NOV 66			B	B	B	B
7	Hang-up	19 OCT 66		*	*	*	*	*
8	Solenoid valve and by-pass pipe	19 OCT 66		*	*	*		
9	By-pass solenoid valve	26 JAN 68					*	*
10	Distributor unit EP 5658	19 OCT 66		*	*	*		
11	Distributor unit EP 5545	26 JAN 68					*	*
12	Coin-receiving unit, 2-shilling	19 OCT 66		*	C	C	C	C
13	Coin-receiving unit, 20-cent	19 OCT 66			C	C	C	C
14	Coin-receiving unit, 2-shilling/20-cent	11 DEC 68			C	C	C	C
15	Coin tester, CT/MCS	19 OCT 66		*	D		D	D
16	Coin tester, CT/MCS/DC	19 OCT 66			D		D	D
17	Coin tester, CT/M/63 (2-shilling)	19 OCT 66				D	D	D
18	Coin tester, CT/M/63 (20-cent)	19 OCT 66				D	D	D
19	Coin tester, Tally-Ho	11 DEC 68			D		D	D
20	Control unit, EP 5353	19 OCT 66		*	*	*	*	*
21	Pressure bell	19 OCT 66		*	*	*	*	*

* - indicates required component

A - indicates alternative component, one of which is required

B to D - as for A

† - The pattern and variants T132C and T132B are manufactured by Gilbarco Australia Ltd.
Variant SS/VR is manufactured by Engineering Products Pty. Ltd.
Variant 605 is manufactured by Wayne Pumps Australia Pty. Ltd.

Compatibility Table for Components Described in this Certificate

FIGURE 5/6A/9 - 2

Gilbarco T132C

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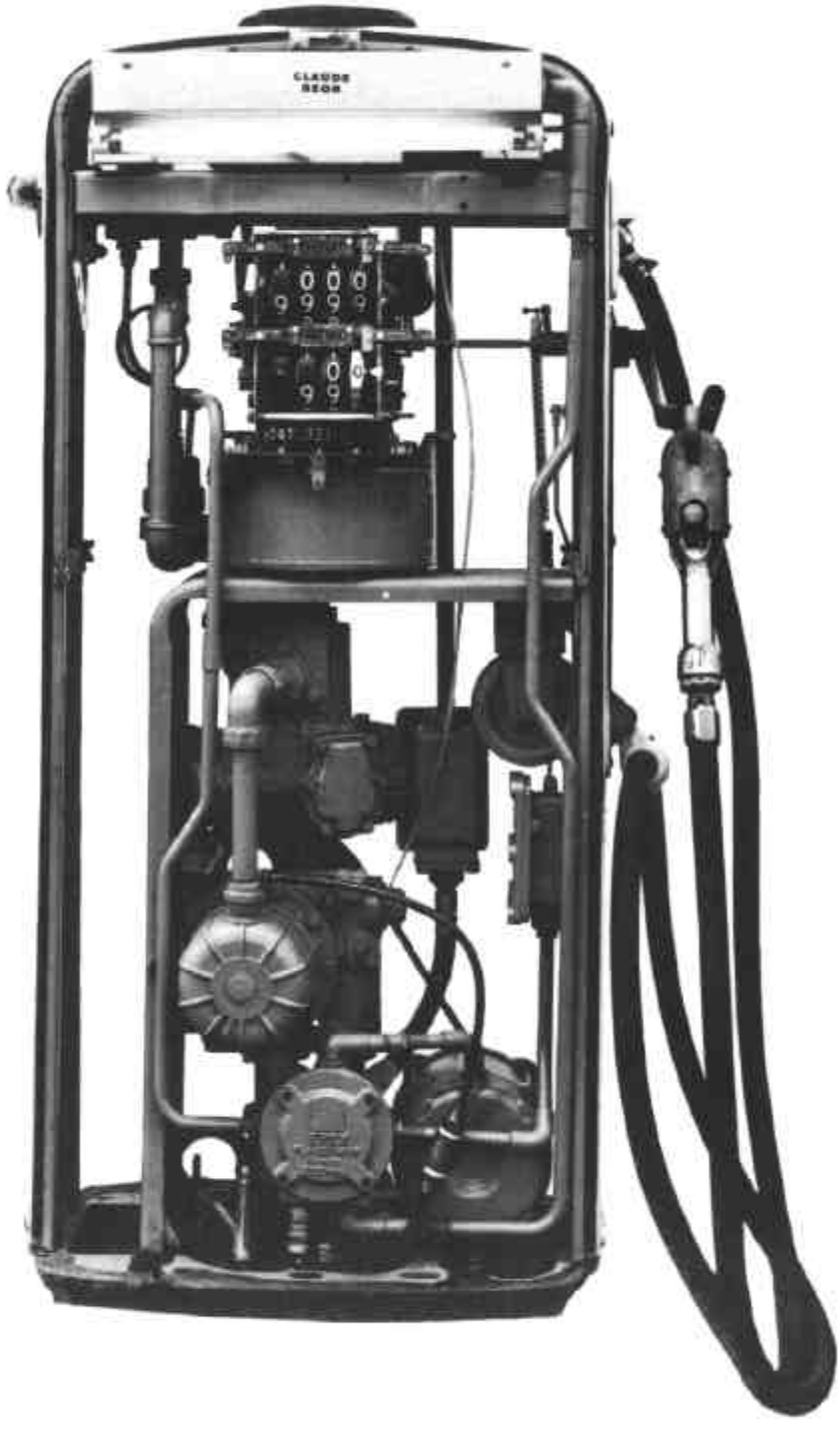
FIGURE 5/6A/9 - 3



Gilbarco Model T132C with Panels Removed

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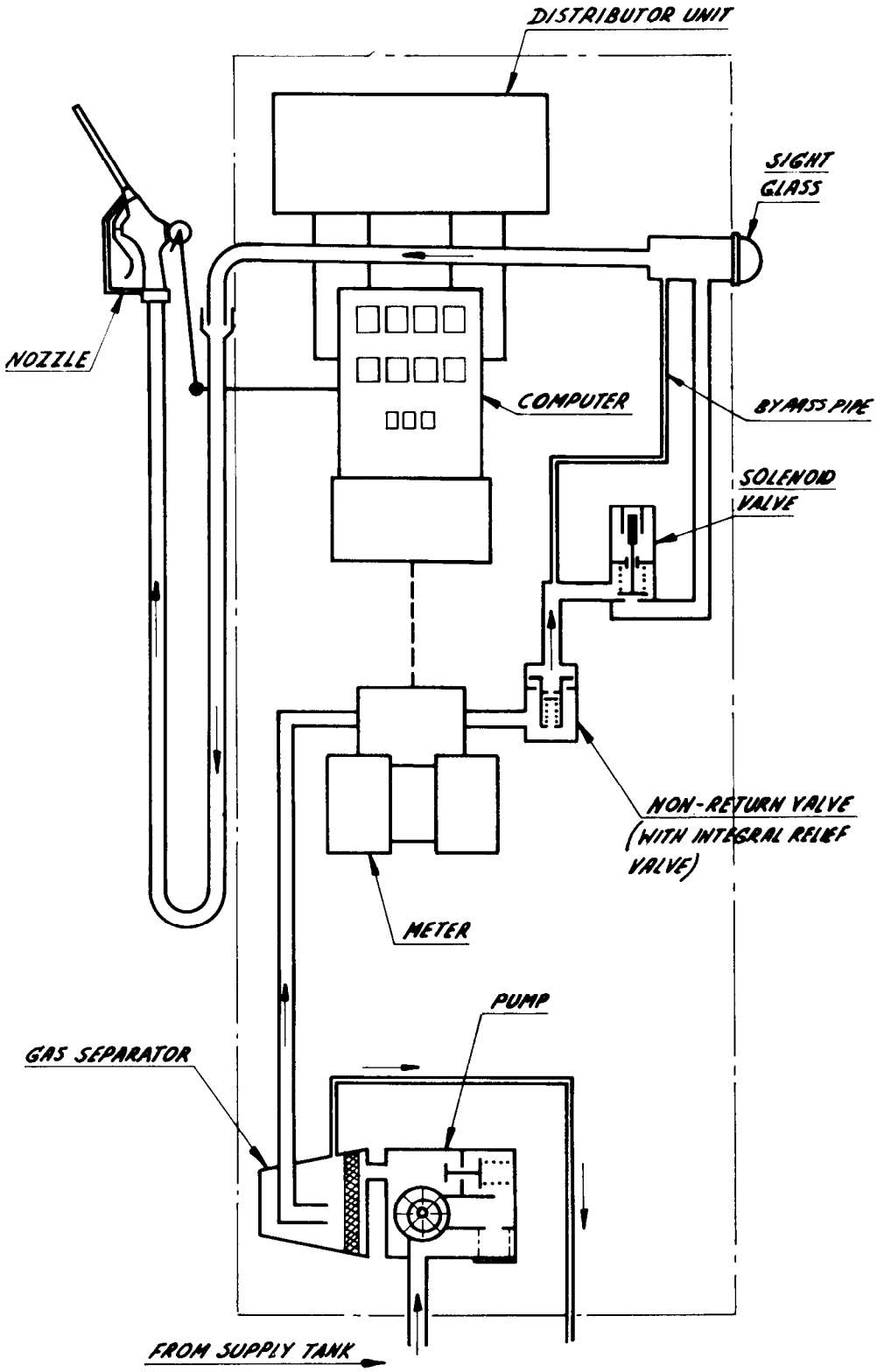
FIGURE 5/6A/9 - 4



Gilbarco Model T132C - Hydraulic Diagram

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FIGURE 5/6A/9 - 5

Wayne Model 605 Self-serve Pump

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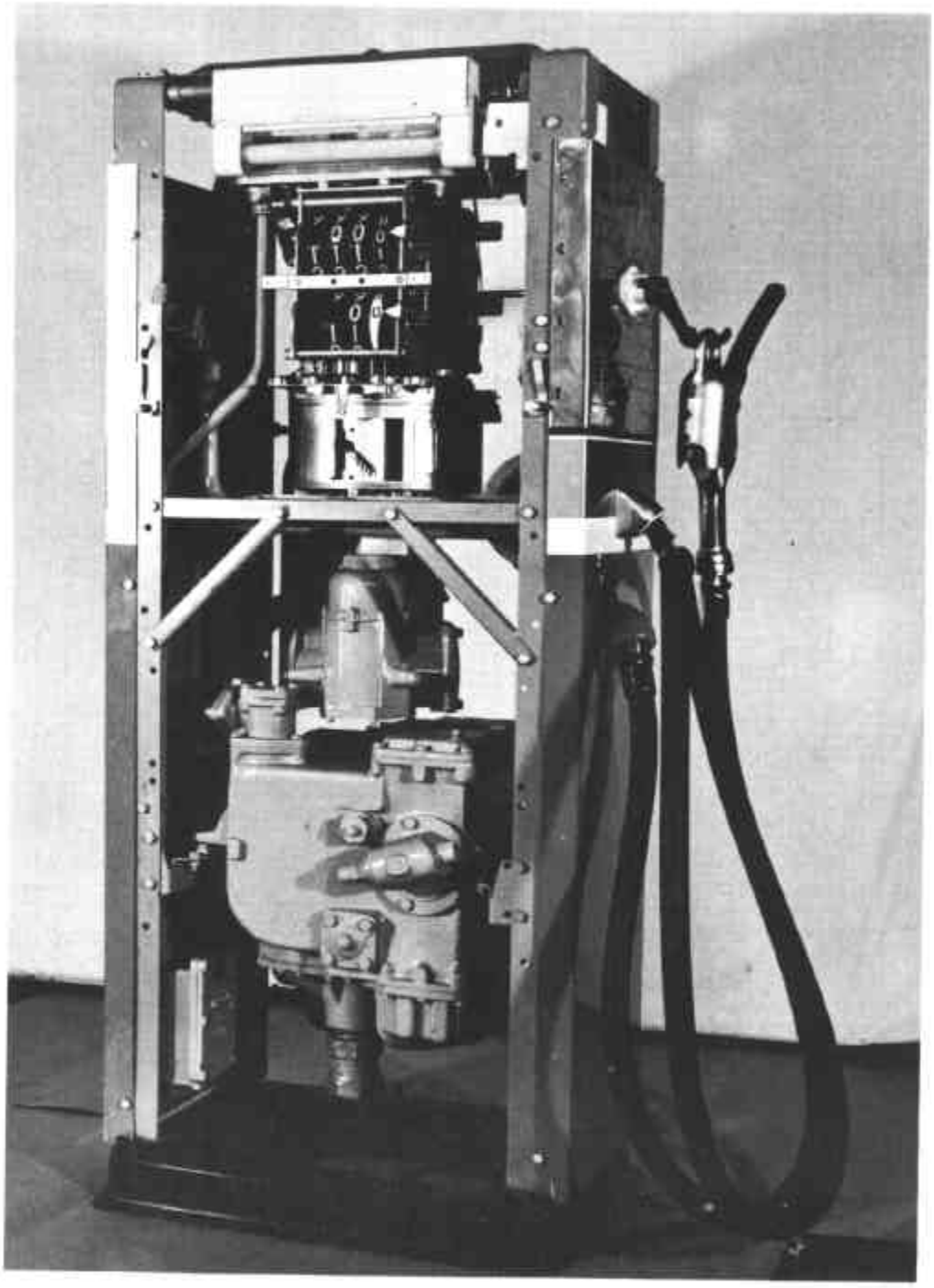
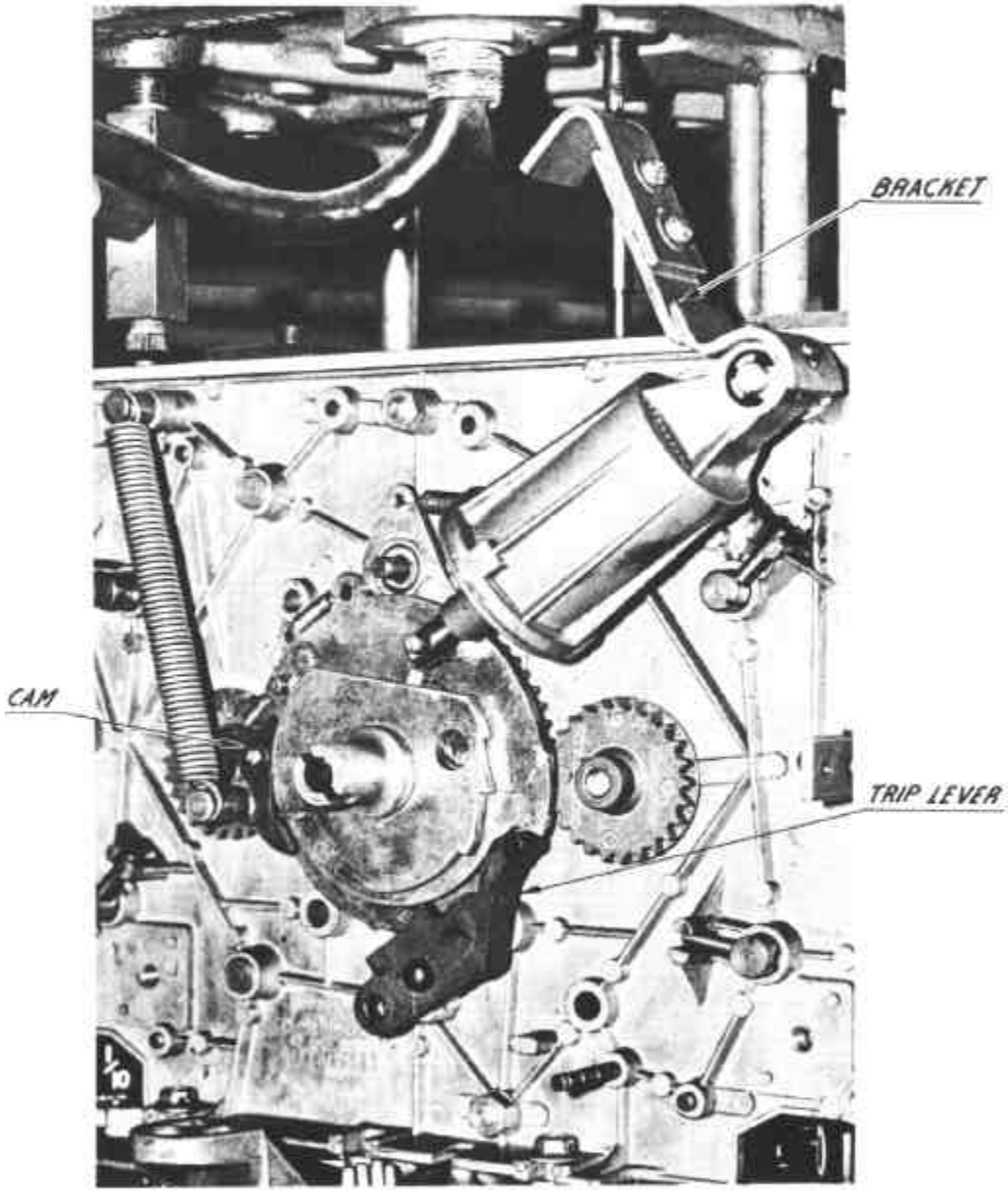
FIGURE 5/6A/9 - 6



Wayne Model 605 Self-serve Pump with Panels Removed
2/4/71



Veeder-Root 1611 Computer with Trip Lever and Cam

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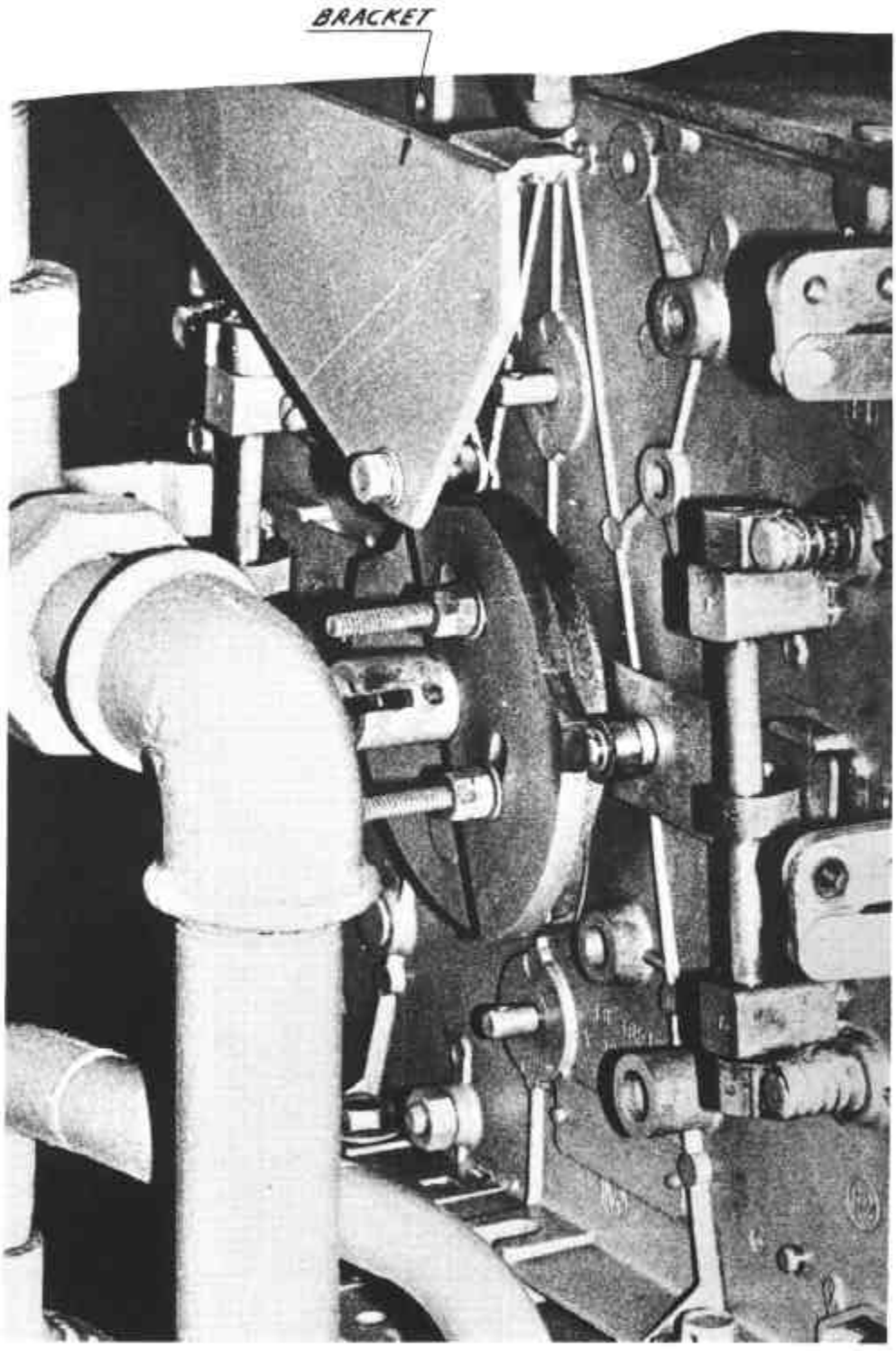

Veeder-Root 1611 Computer with Bracket
on Starting Mechanism

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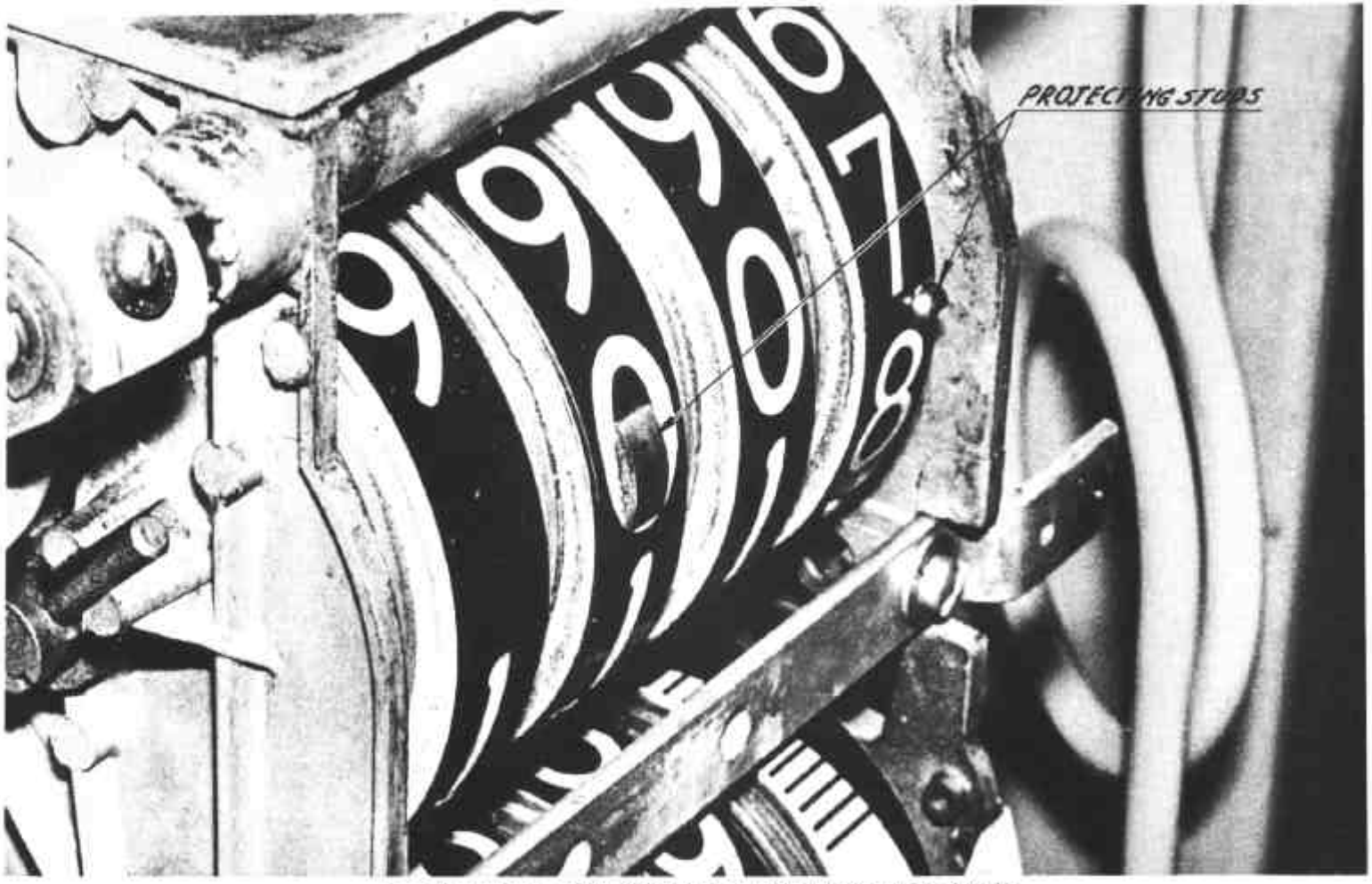
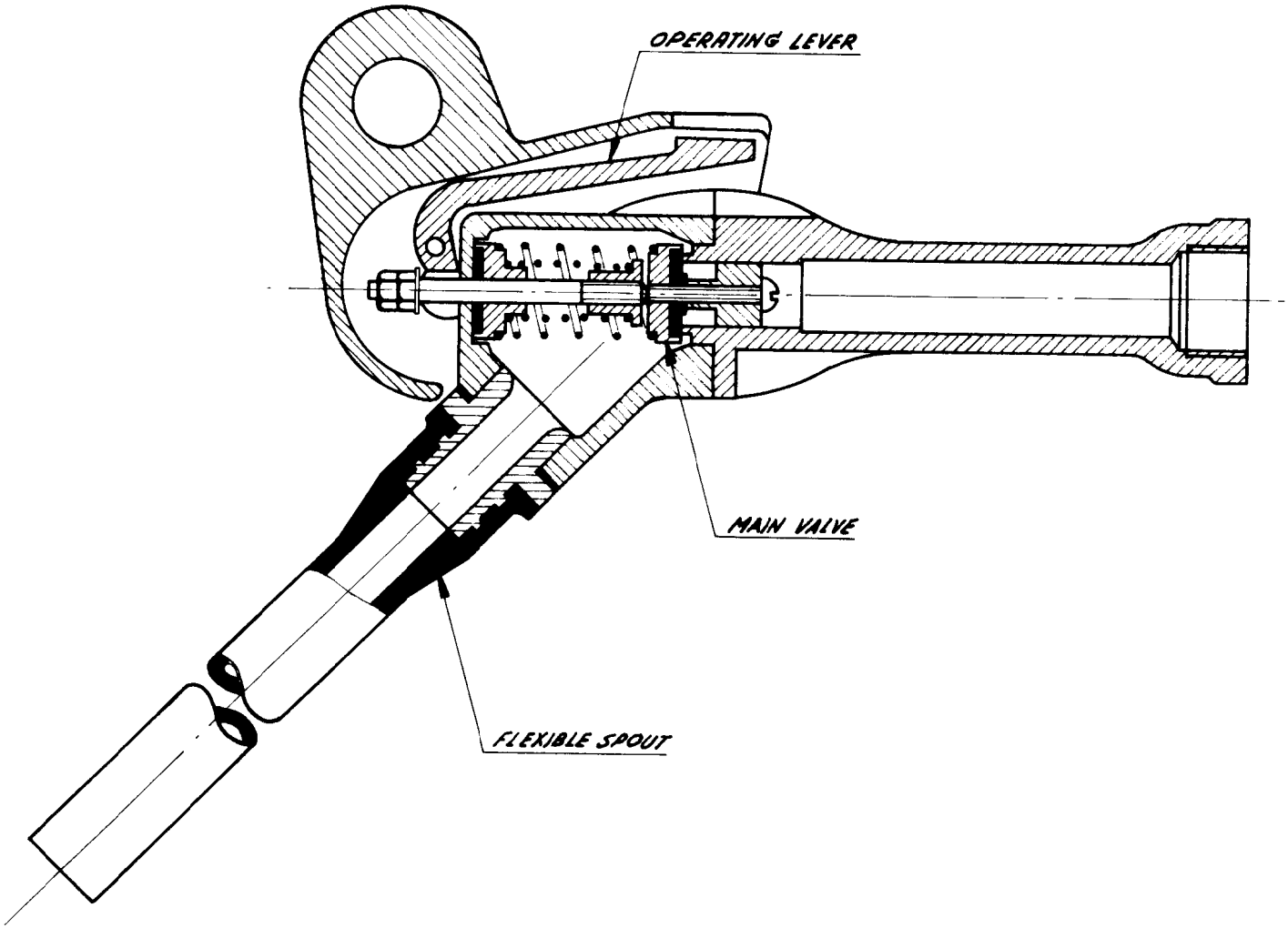


Veeder-Root 1613 Computer with Projecting Studs

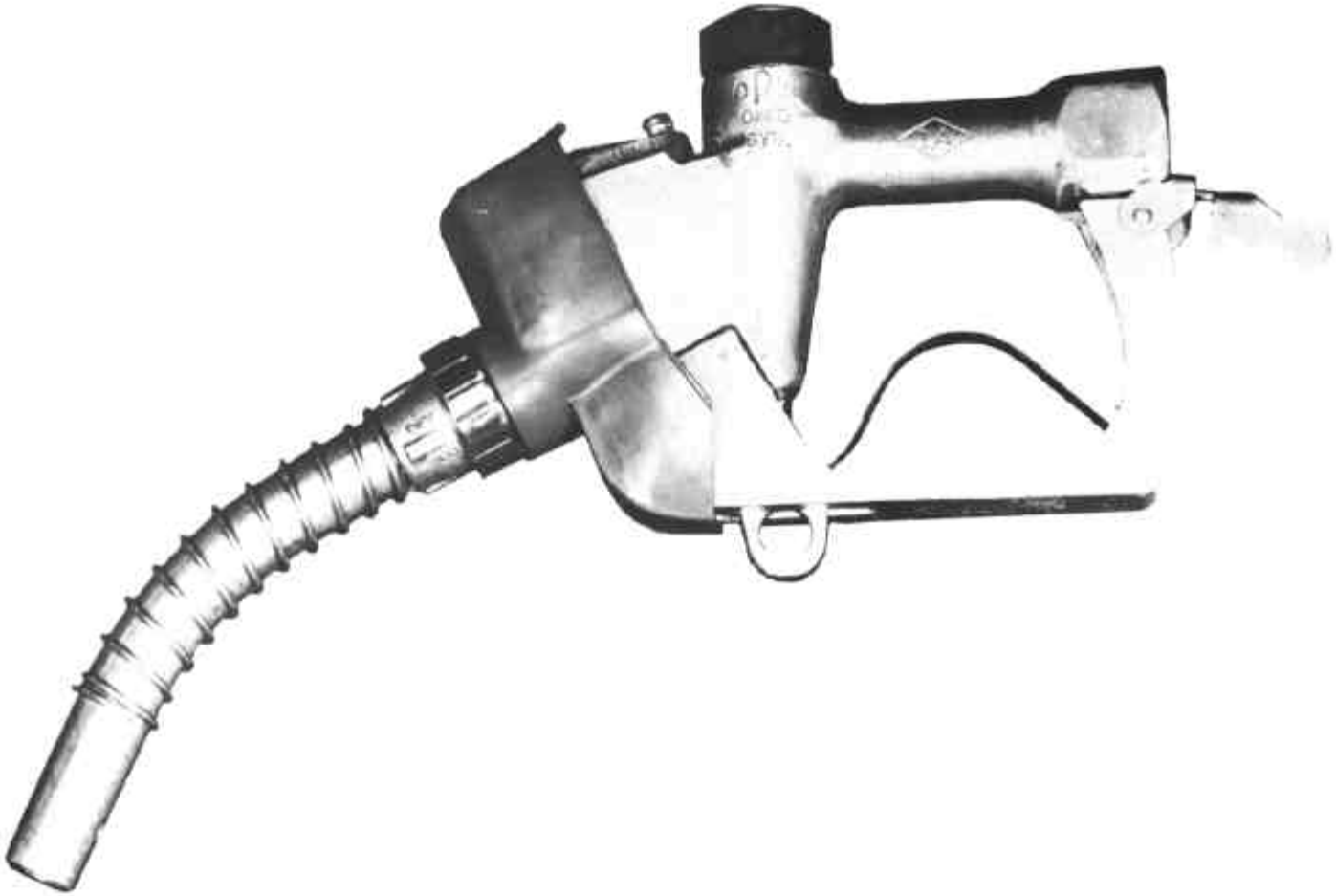
Epex EP 4559 Hose Nozzle

FIGURE 5/6A/9 - 11



Epex EP 4559 Hose Nozzle

FIGURE 5/6A/9 - 12



OPW 1ABV Hose Nozzle

FIGURE 5/6A/9 - 13

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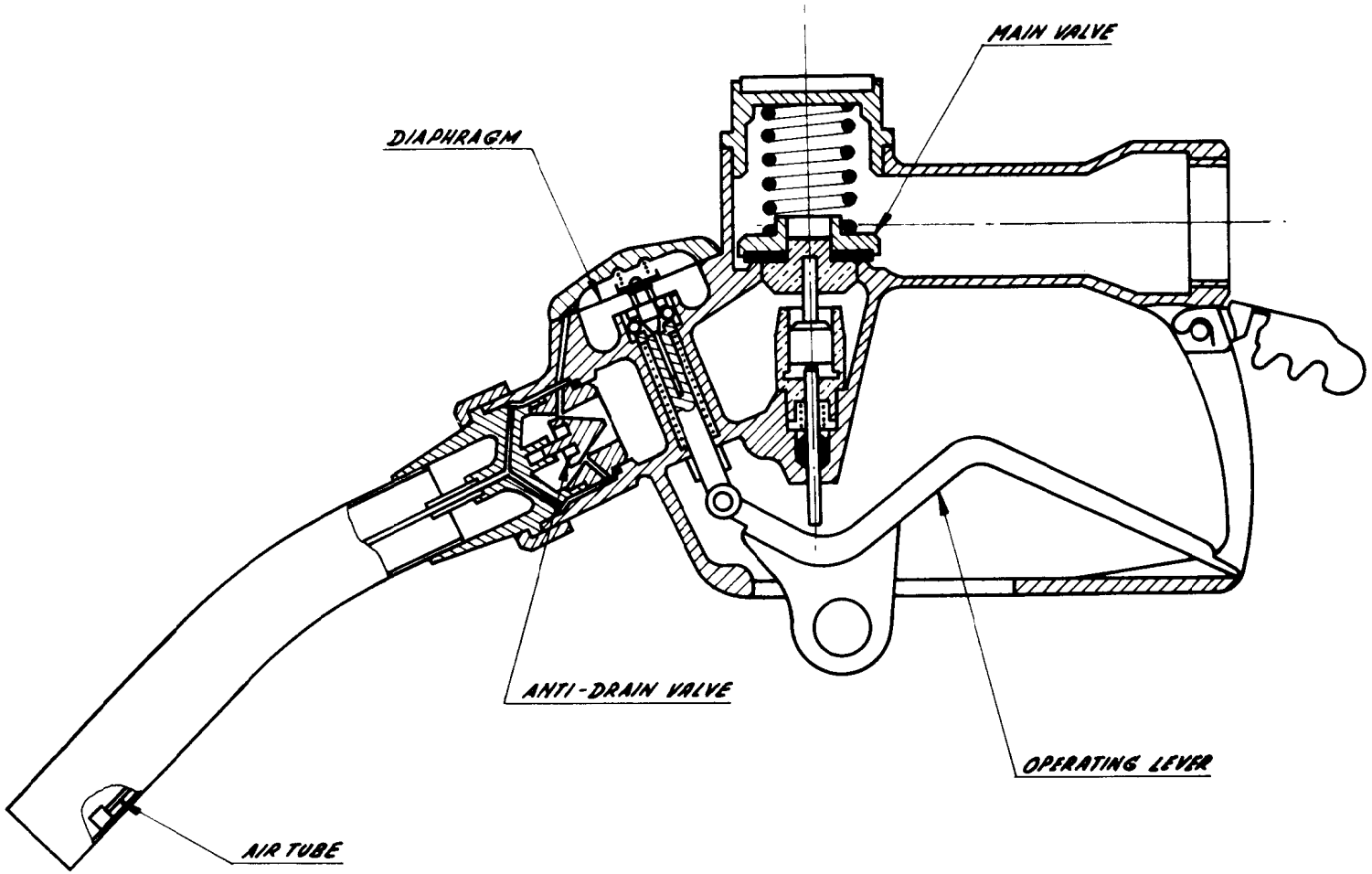
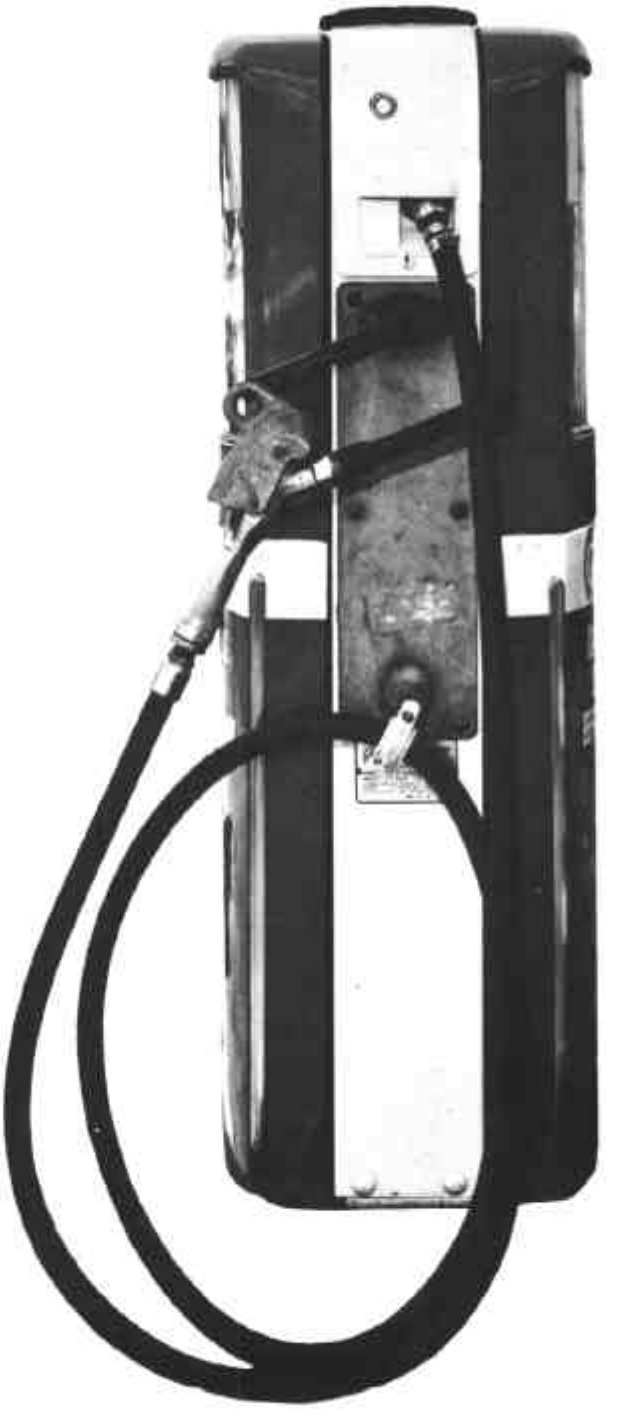
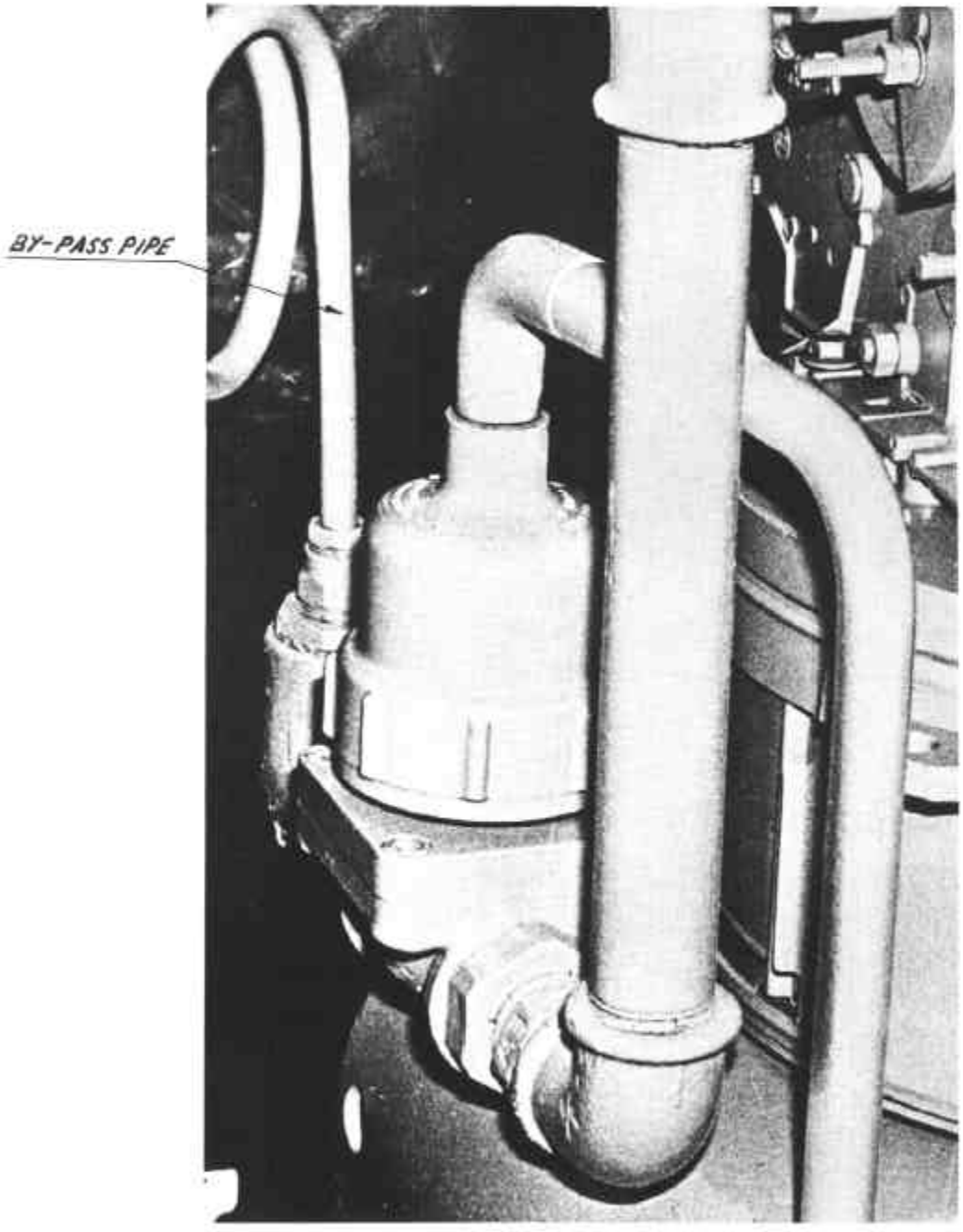


OPW 1ABV Hose Nozzle

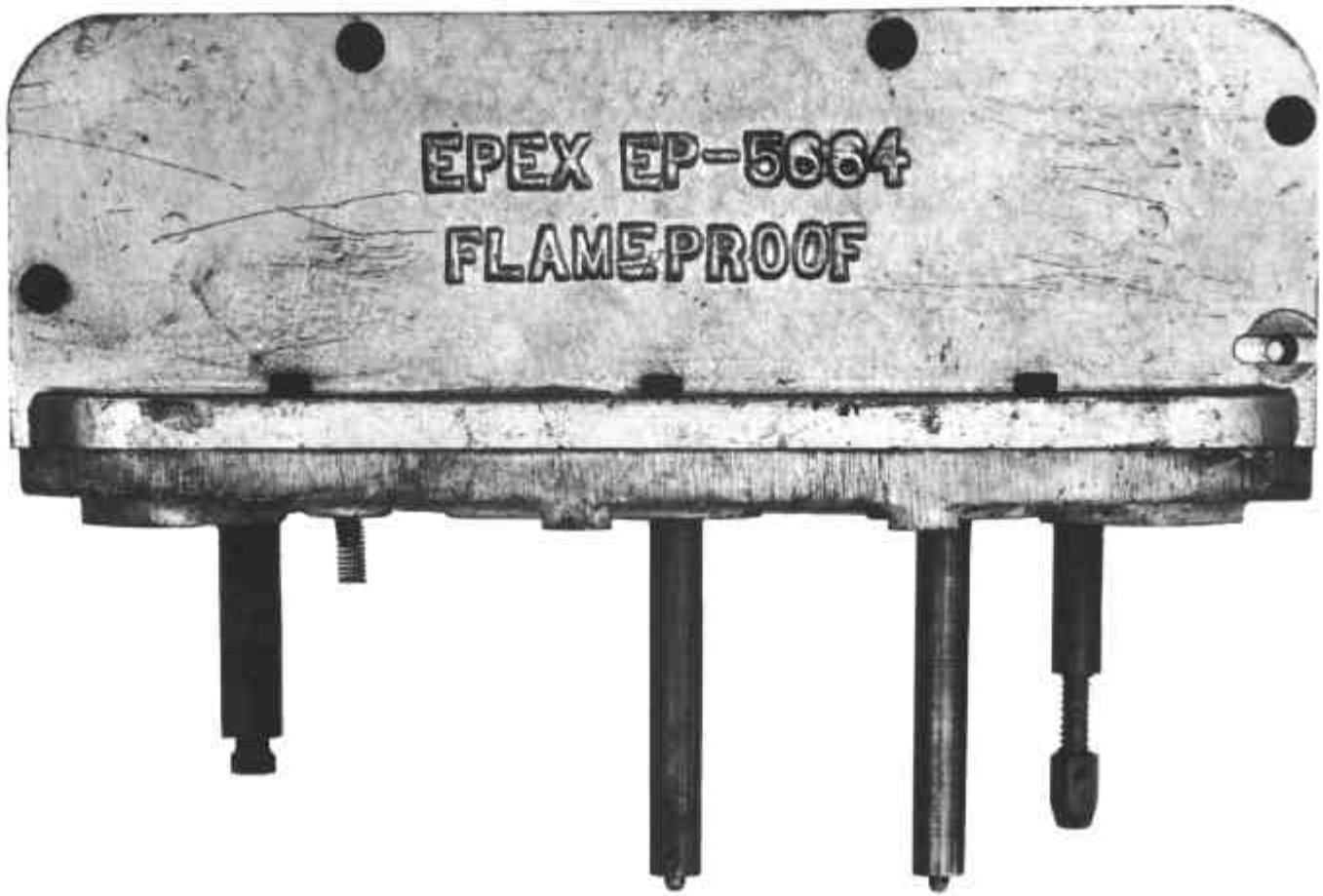


Gilbarco Model T132C - Nozzle Hang-up

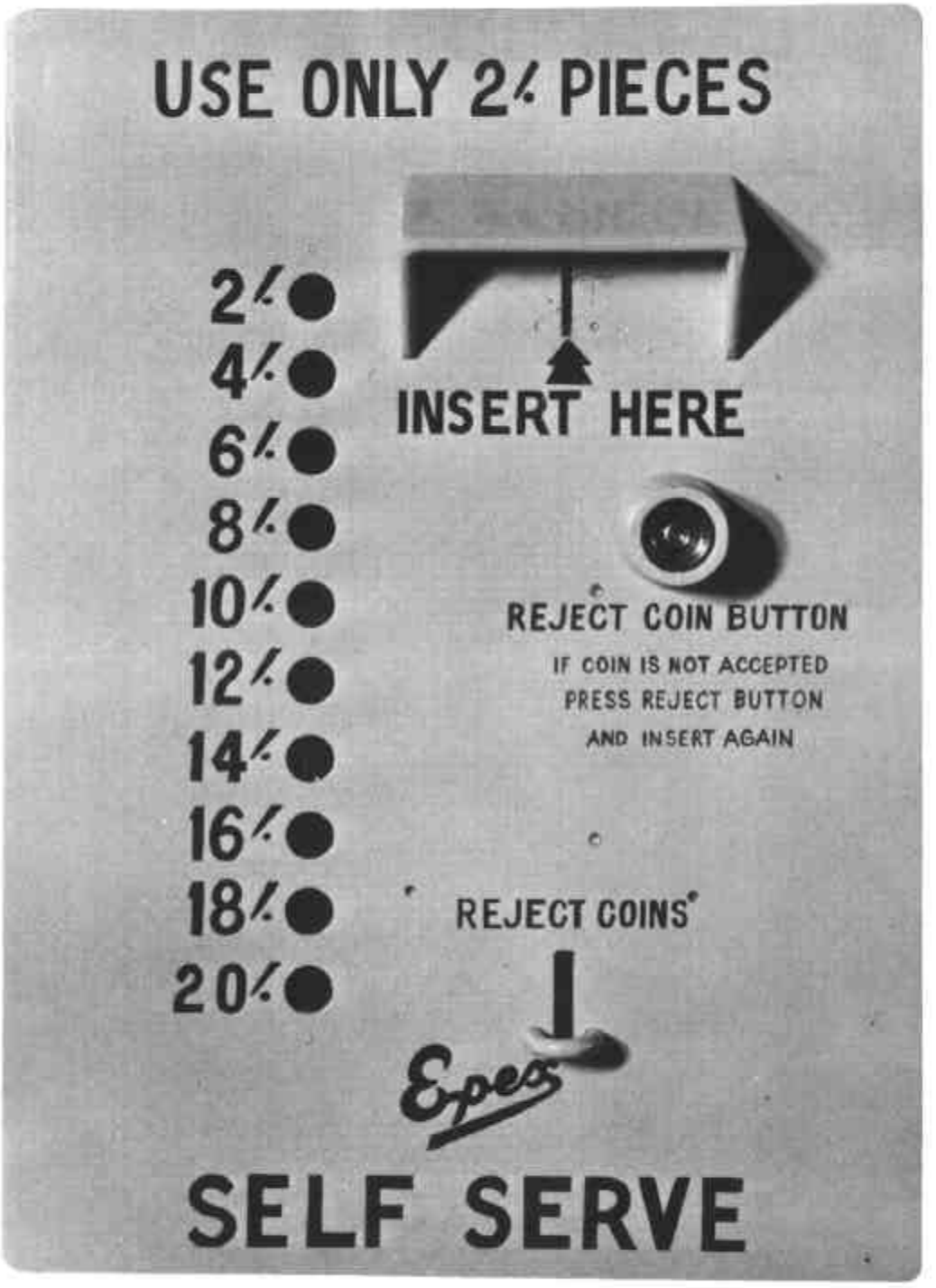


Solenoid Valve and By-pass Pipe

FIGURE 5/6A/9 - 16



Epex EP 5658 Distributor Unit



Epex Coin-receiving Unit - 2-shilling

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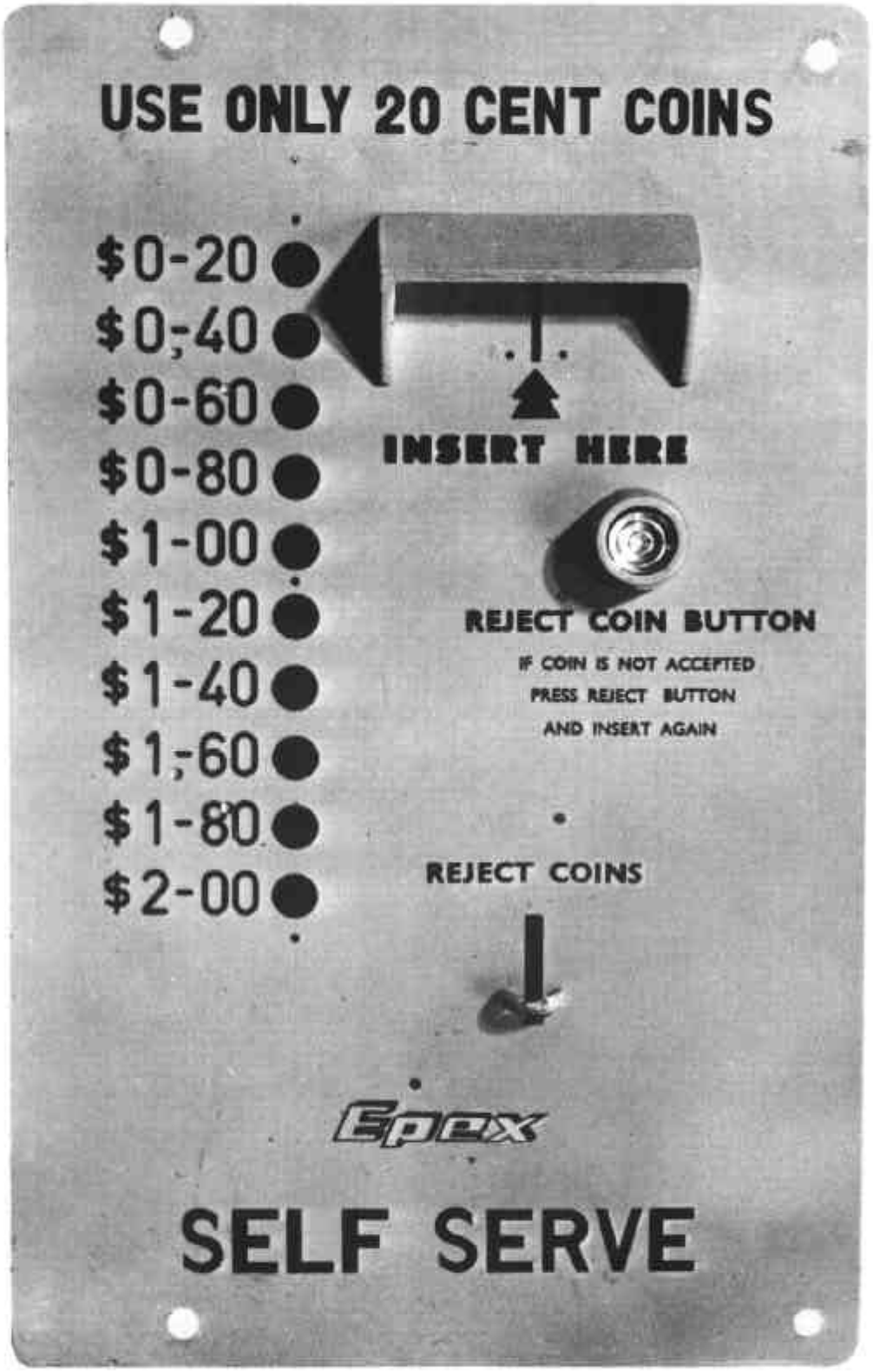
FIGURE 5/6A/9 - 18



Epex Coin-receiving Unit - 20-cent

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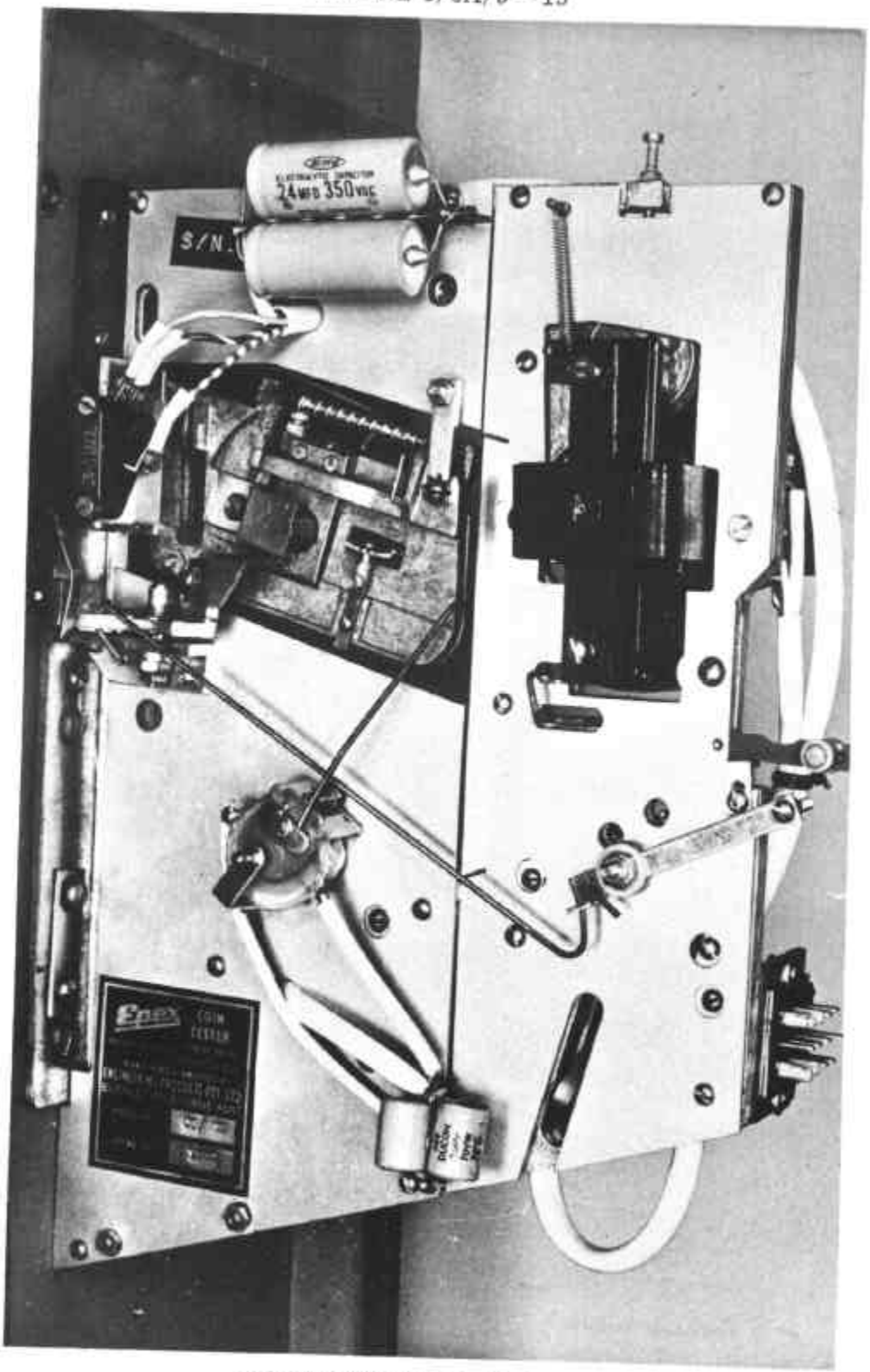
FIGURE 5/6A/9 - 19



Epex CT/MCS Coin Tester

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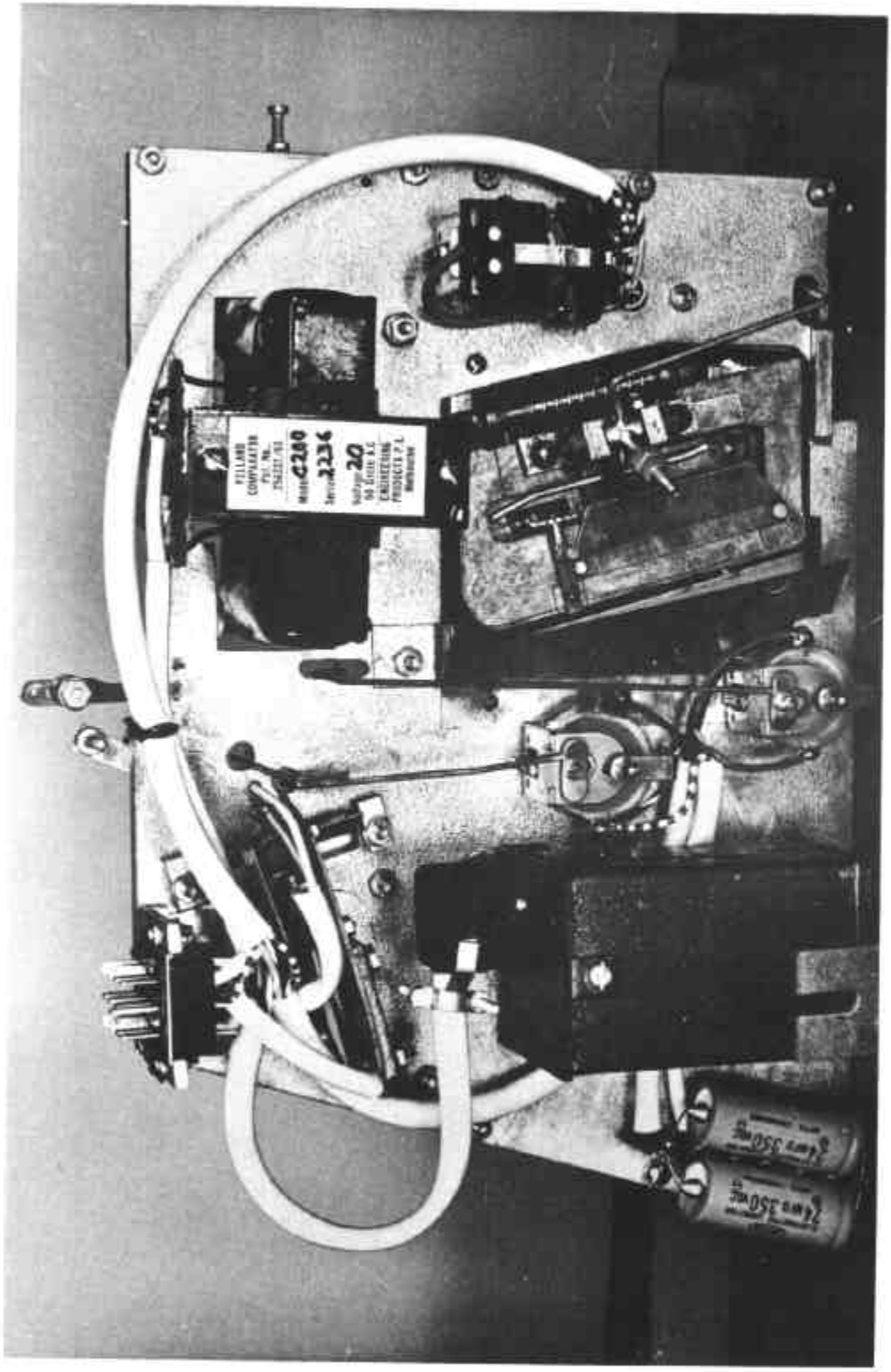

Epex CT/MCS Coin Tester

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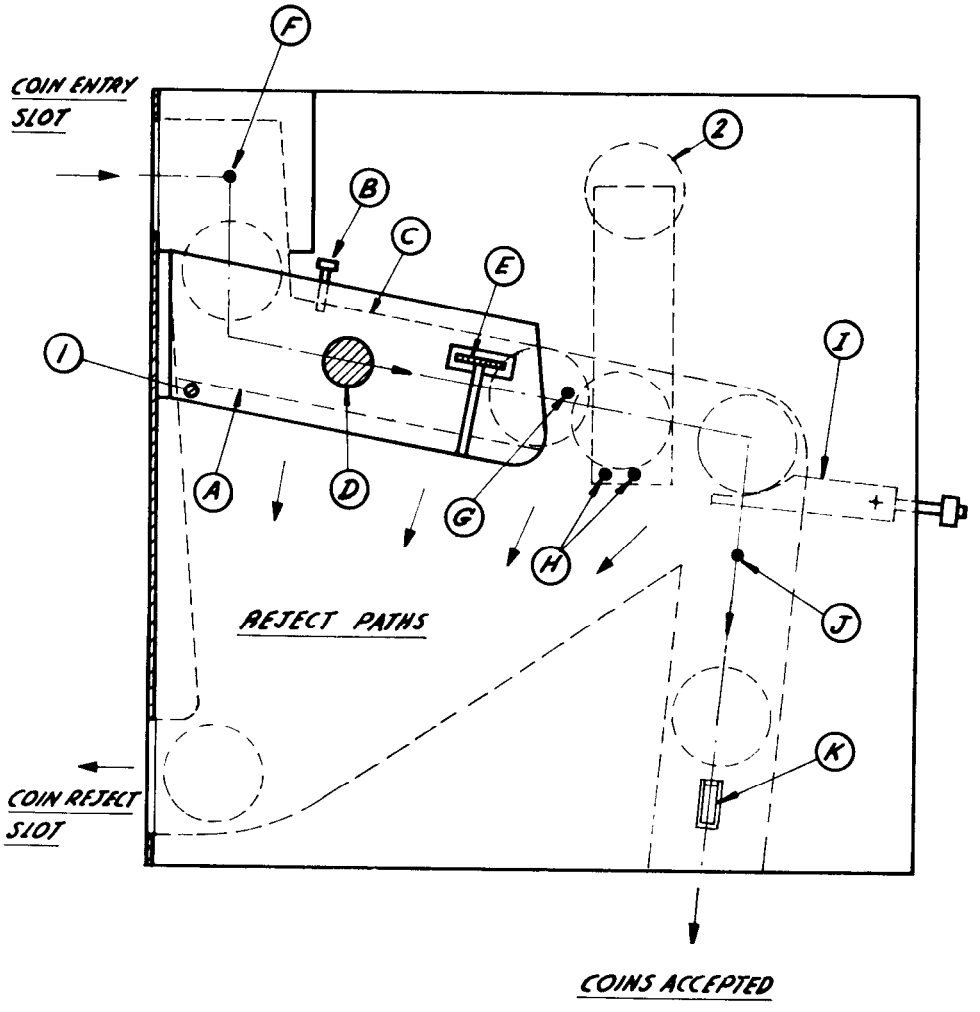
FIGURE 5/6A/9 - 21



Epex CT/MCS Coin Tester - Schematic Diagram

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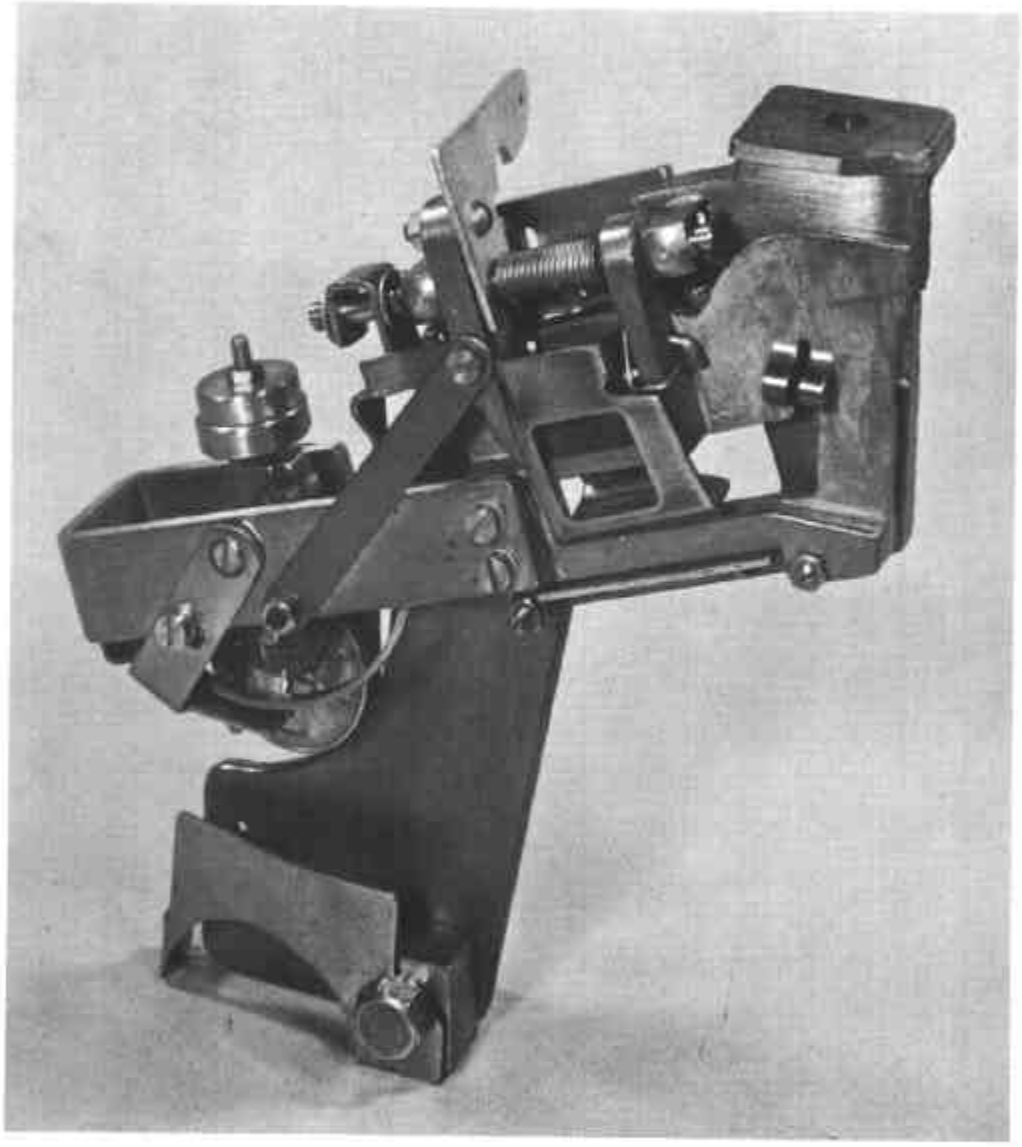

Tally-Ho Coin Tester

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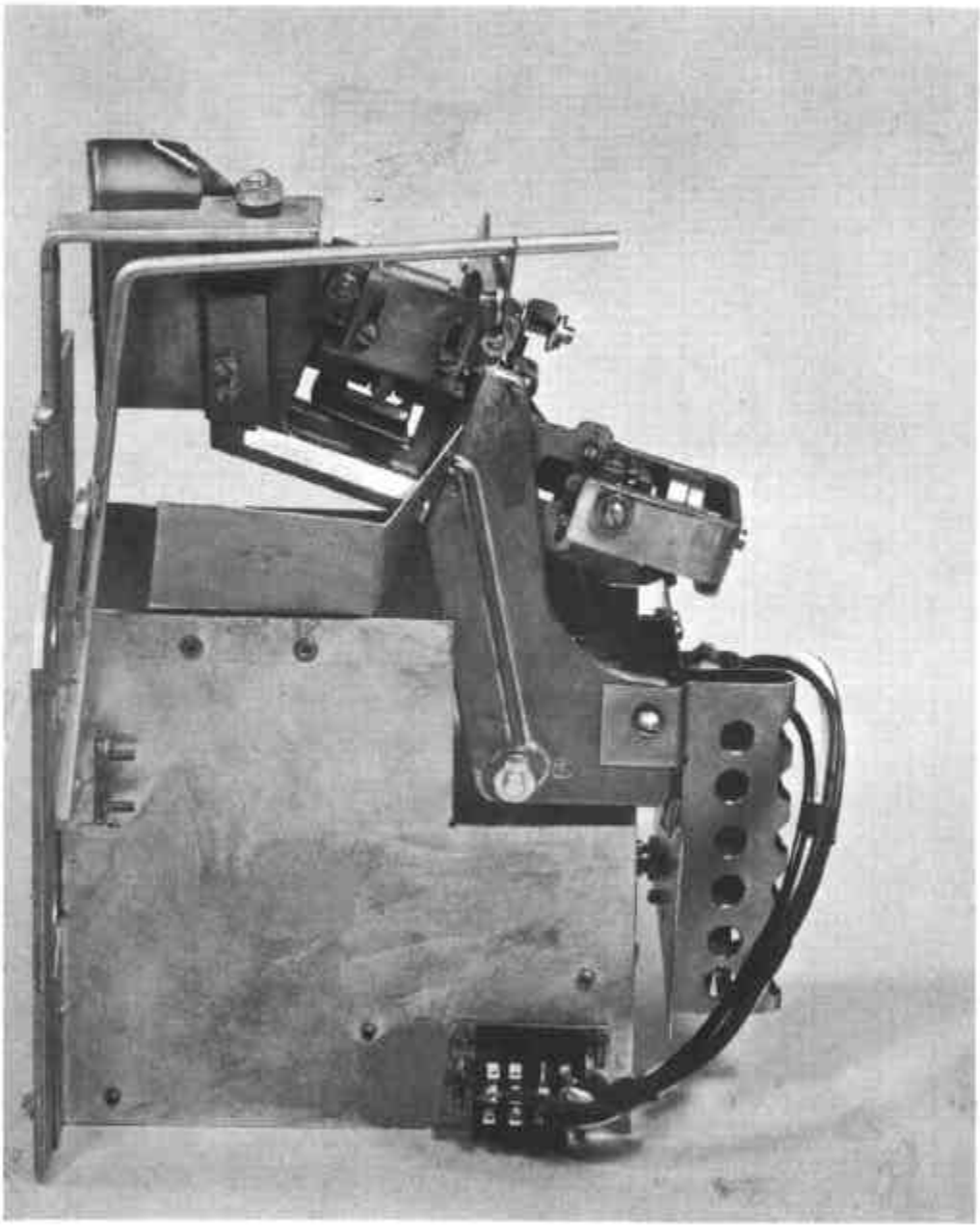
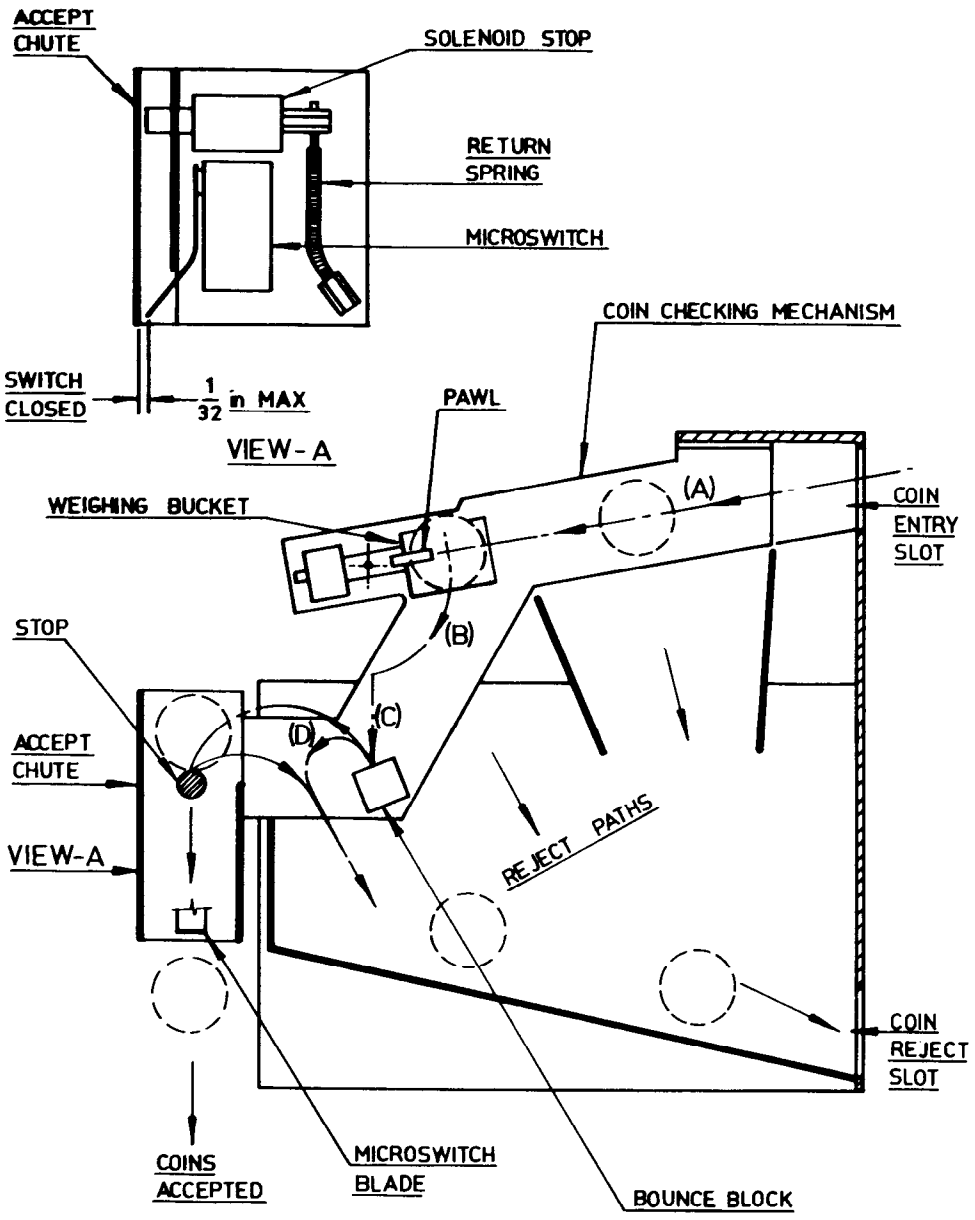


Tally-Ho Coin Tester in Frame

FIGURE 5/6A/9 - 24



Tally-Ho Coin Tester - Schematic Diagram

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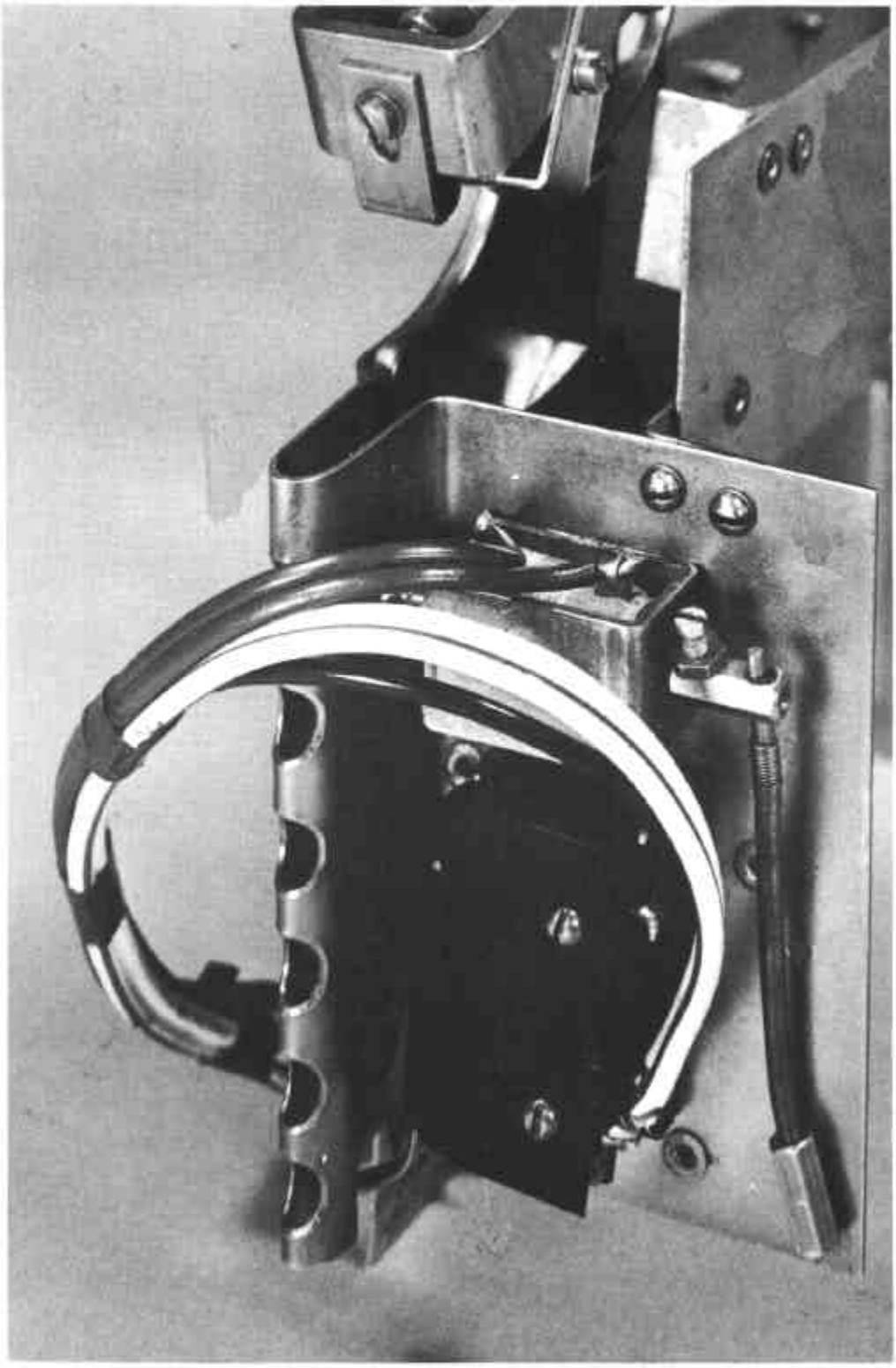
FIGURE 5/6A/9 - 25



Tally-Ho Coin Tester, Acceptance Chute, Solenoid Stop and Microswitch

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FIGURE 5/6A/9 - 26

Epex EP 5353 Control Unit

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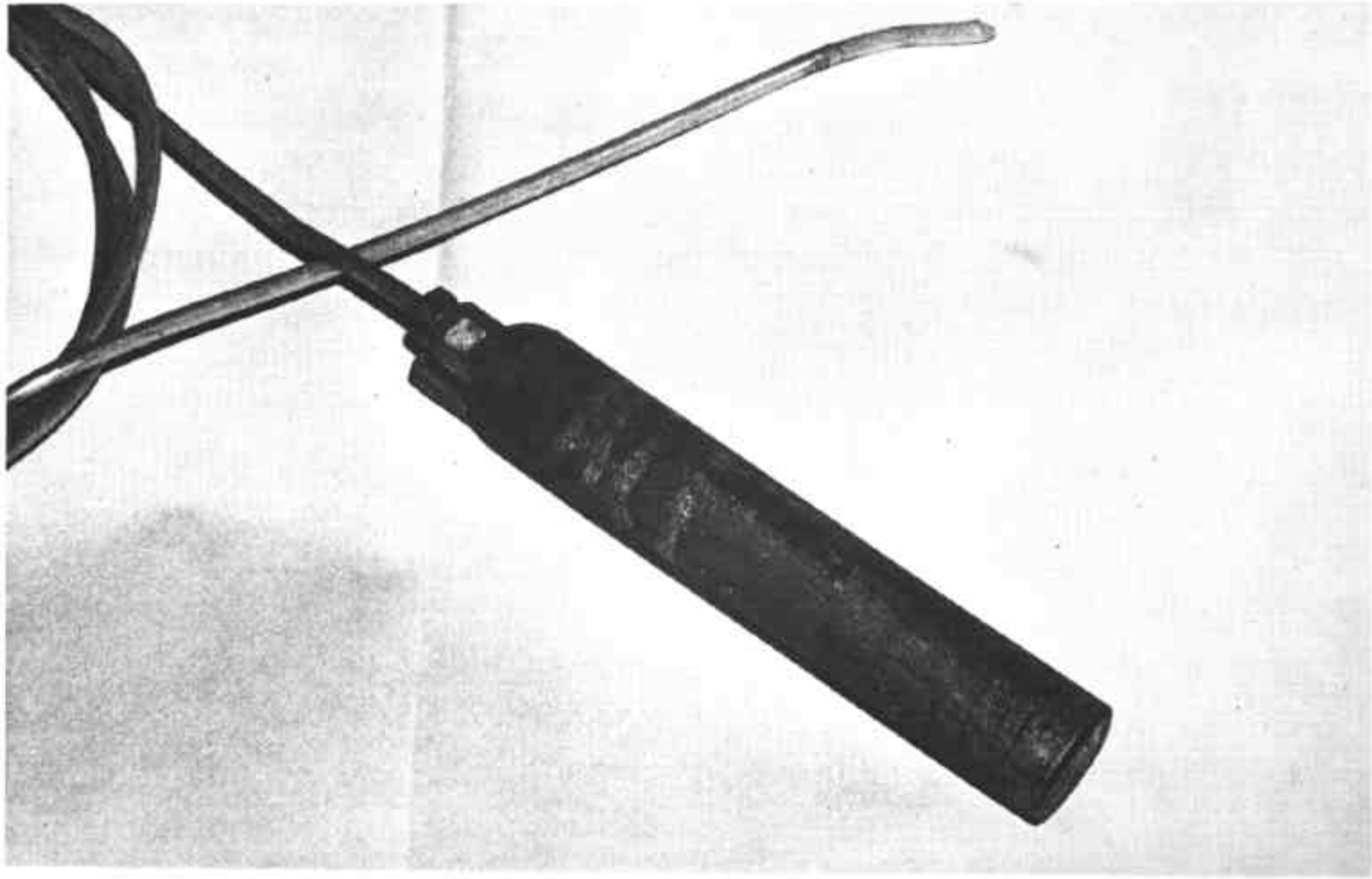
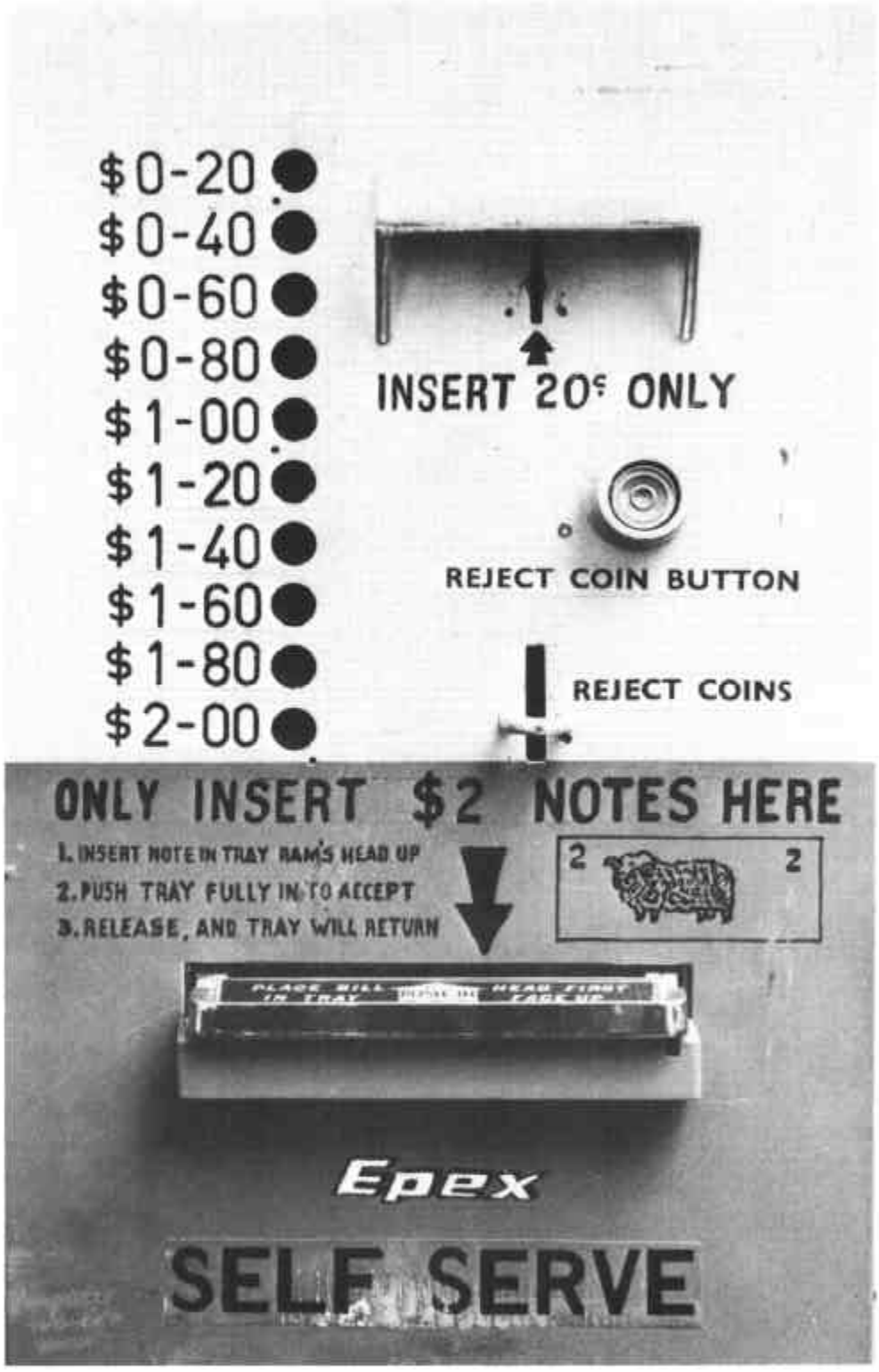


Epex EP 5701 Probe Bell

FIGURE 5/6A/9 - 28



Ardac $2 Note Acceptor

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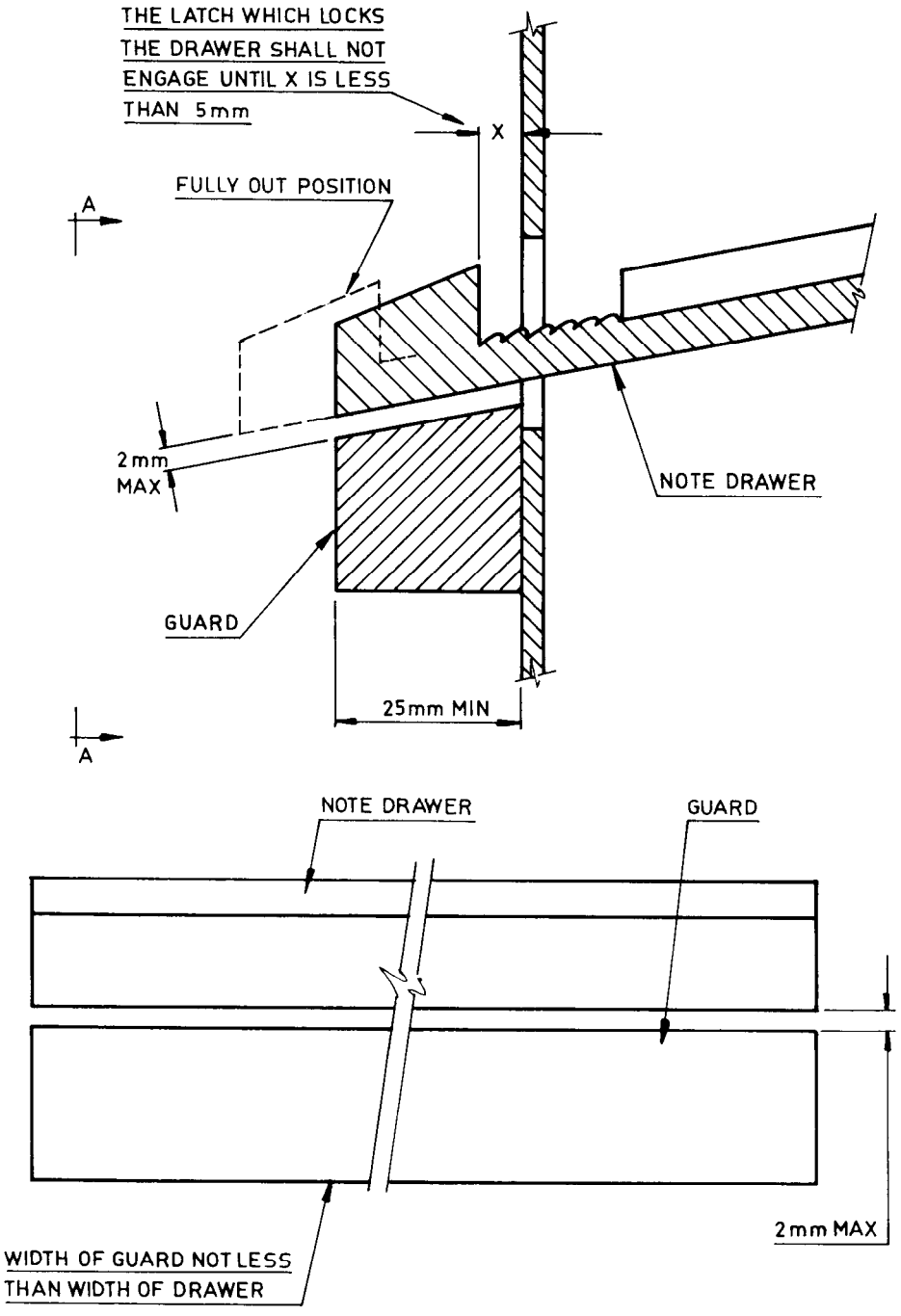

VIEW AA

Interlock Position and Guard for Ardac Note Acceptor

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