CERTIFICATE OF APPROVAL No 5/6D/6

VARIATION No 1

This is to certify that the following modification of the pattern and variants of the

Acme Bulk Dispenser

approved in Certificate No 5/6D/6 dated 31 July 1972

submitted by Acme Oil Equipment Services Pty Ltd, 253 Ingles Street, Port Melbourne, Victoria, 3207,

has been approved under the Weights and Measures (Patterns of Instruments) Regulations as being suitable for use for trade.

The approved modification converts all flowmeter models to indicate in metric units in accordance with Appendix 13 of the General Specifications for Measuring Instruments to be Used for Trade.

Approval was granted on 15 May 1974.

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

The approval is subject to review on or after 31 December 1975.

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

Signed

Executive Officer

Initialed

15/5/74

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 5/6D/6

This Certificate replaces Certificate No 5/6D/6 dated 9th March 1972. *

In respect of the pattern of

Acme Bulk Dispenser and Variants.

Submitted and manufactured by: Acme Oil Equipment Services Pty. Ltd.,
253 Ingles Street,
Port Melbourne,
Victoria. 3207.

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 and variants 1 to 4 were approved on 22nd March 1967, variants 5 to 7 were approved on 10th February 1970, and variant 8 was approved on 19th July 1972; variant 5 was withdrawn on 3rd March 1972.

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*NOTE: Pages 3 and 4 and Figures 5/6D/6 - 1, 2 and 4 to 7 of the previous issue form part of the Certificate and must be retained.

Cont'd over

The pattern and variants:

1. are marked NSC No 5/6D/6 and, where required by State legislation, with the State approval number also; and

2. comply with the General Specifications for 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, 2, 5 and 6 dated 31st July 1972.
Pages 3 and 4 dated 9th March 1972.
Figures 5/6D/6 - 1, 2 and 4 to 7 dated 16th February 1970.

Pursuant to regulation 12 of the abovementioned Regulations, this Certificate is applicable only in the State of Victoria.

Date of issue 31st July 1972.

Signed

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

DESCRIPTION OF PATTERN

The pattern (see Figure 1) is a modification of a vehicle-mounted wholesale liquid-measuring instrument approved in Victorian Notice of Approval No 571. The modifications consist of fitting a device to eliminate hose dilation and fitting a different type of pump, hose and register.

The maximum rate of delivery is 30 gallons per minute and is set by the integral pump by-pass valve.

The following significant changes have been made to the instrument described in the State approval, arranged as shown in Figure 2:

1. Pump — positive displacement with integral spring-loaded by-pass valve, driven by the vehicle engine through a power take-off.

2. Pressure Control Valve — setting the delivery pressure to approximately 2 psi below pump by-pass pressure.

3. Register — Neptune 433, with zero-start ticket-printing head and totalizer (see Figure 4). The register indicates in gallons and tenths of a gallon up to 9999.9 gallons the volume of liquid flowing through the meter. The register has a second set of number wheels, obscured by a spring-loaded button-operated shutter which indicates total deliveries in gallons up to 9 999 999 gallons. A plate carrying nine intermeshing gears each varying by one tooth from its neighbour is incorporated in the register. The plate may be located in any one of eight positions marked from "A" to "H". In each position a different pair of the nine gears forms part of the gear train in the register. By this means, the calibration of the meter may be adjusted. A further and coarser adjustment may be made by changing two of the other wheels in another part of the gear train.

   The ticket-printing head which prints in gallons and tenths of a gallon up to 9999.9 gallons is attached to the register. Prior to any delivery a specially printed ticket is inserted through a slot into the ticket printer. A knob on the side of the register is turned clockwise to a front stop. This returns the register to zero and at the same time zero-prints the ticket after locking it in position by means of a spike which pierces the ticket. On completion of the

delivery the knob is turned anti-clockwise to a back stop. This first prints the ticket to the nearest 1/10 gallon with the quantity shown on the register and then unlocks it to permit removal.

4. MLD Controller — Meter-locking Device (see Figure 4), fitted to the Neptune Model 433 ticket-printing register, which unlocks the reset spindle at liquid pressures above 2 psi below pump by-pass pressure.

   The controller (see Figure 5) comprises a cylinder in which a spring-loaded piston pulls down a locking link when liquid under pressure acts on it. The pressure required to actuate the locking link is regulated by an adjustable plug which compresses the spring under the piston. The plug is locked in position by a pin which passes through the cylinder walls and a slot in the plug. The locking link engages with a locking plate attached to the reset spindle of the meter register. Liquid from the delivery side of the meter is admitted to the cylinder and, at a pressure approximately 2 psi less than pump by-pass pressure, the piston moves downwards against its spring sufficiently to disengage the locking link from the locking plate and allow the reset spindle to be rotated.

   Before a delivery is made a ticket must be inserted into the register and the reset handle turned clockwise to a front stop; this locks the ticket in the register, prints the zero indication and resets the delivery indicator to zero. The MLD controller prevents the reset handle from turning until the system, including the hose, is at a pressure within 2 psi of pump by-pass pressure.

   On completion of a delivery the reset handle is turned anti-clockwise to a back stop; this prints the quantity which has passed through the meter and unlocks the ticket. The ticket cannot be removed during or after a delivery unless the pump is running and the system, including the hose, is at a pressure within 2 psi of pump by-pass pressure.

5. Hose — Nylex Type PR $1\frac{1}{4}$-inch bore, 200 feet long.

Sealing of the instrument is effected as follows:

1. The pump by-pass valve adjustment is sealed by a lead-and-wire seal.

2. The pressure-control valve is sealed to prevent adjustment.

3. On the meter by a wire passing through the drilled heads of two of the set screws securing the top cover to the casing (see Figure 4).

4. On the register by a wire passing through the drilled head of a set screw securing the top cover, through a drilled lug on the front face of the register and through the drilled heads of two set screws securing the register to the meter (see Figure 4).

5. On the MLD controller by a wire passing through a hole drilled in the shank of the pin which locks the spring-pressure adjusting plug (see Figures 4 and 5).

DESCRIPTION OF VARIANTS

1. Fitted with Barfell PVC Grade 1, $1\frac{1}{4}$-inch bore hose not exceeding 200 feet.

2. Fitted with Nylex Type PR, 1-inch bore hose not exceeding 200 feet.

3. Fitted with Nylex Type PR, $1\frac{1}{4}$-inch bore hose not exceeding 200 feet.

4. Fitted with a Buckeye Type 890 $1\frac{1}{4}$-inch automatic hose nozzle with anti-drain valve (see Figures 6 and 7).

   In this nozzle a spring-loaded piston-type valve is operated by a hand lever, the fulcrum point of which is the end of a rod held in position by a latch. From the external extremity of the spout a tube connects with a chamber, one side of which is closed by a flexible spring-loaded diaphragm to which is attached the latch. The chamber is connected by a drilled hole to a point immediately downstream of the piston-type valve. With the valve open and liquid flowing through the nozzle, and as a result of the venturi effect at the drilled hole, air flows freely through the tube to the chamber, and thence through the hole to become mixed with the discharging liquid; when the level of liquid in the receiving vessel rises to and submerges the air inlet at the end of the spout, pressure in the chamber drops to such an extent as to move the

diaphragm and latch, in consequence of which the fulcrum rod is released and the piston valve closes, thus stopping the flow of liquid. The valve cannot be re-opened until the hand lever has been restored to its closed position, which results in the fulcrum rod becoming relatched in its normal position.

5. (Refer General Notes).

6. The pump being driven by prime movers differing from that described in the State approval.

7. The hose being mounted on hose reels differing from those described in the State approval.

8. With an OPW $1\frac{1}{4}$-inch 1A automatic hose nozzle as described in Certificate No 5/6D/13.

GENERAL NOTES

Variant 5, which referred to a specific model of pressure-control valve, was withdrawn because the model is not relevant to suitability for use for trade.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 5/6D/6

VARIATION No 1

Pattern: Acme Bulk Dispenser

Submittor: Acme Oil Equipment Services Pty Ltd,
253 Ingles Street,
Port Melbourne, Victoria, 3207.

Date of Approval of Variant: 15 May 1974

The modification described in this schedule applies to the pattern and variants described in the following pages and figures of Certificate No 5/6D/6 dated 31 July 1972:

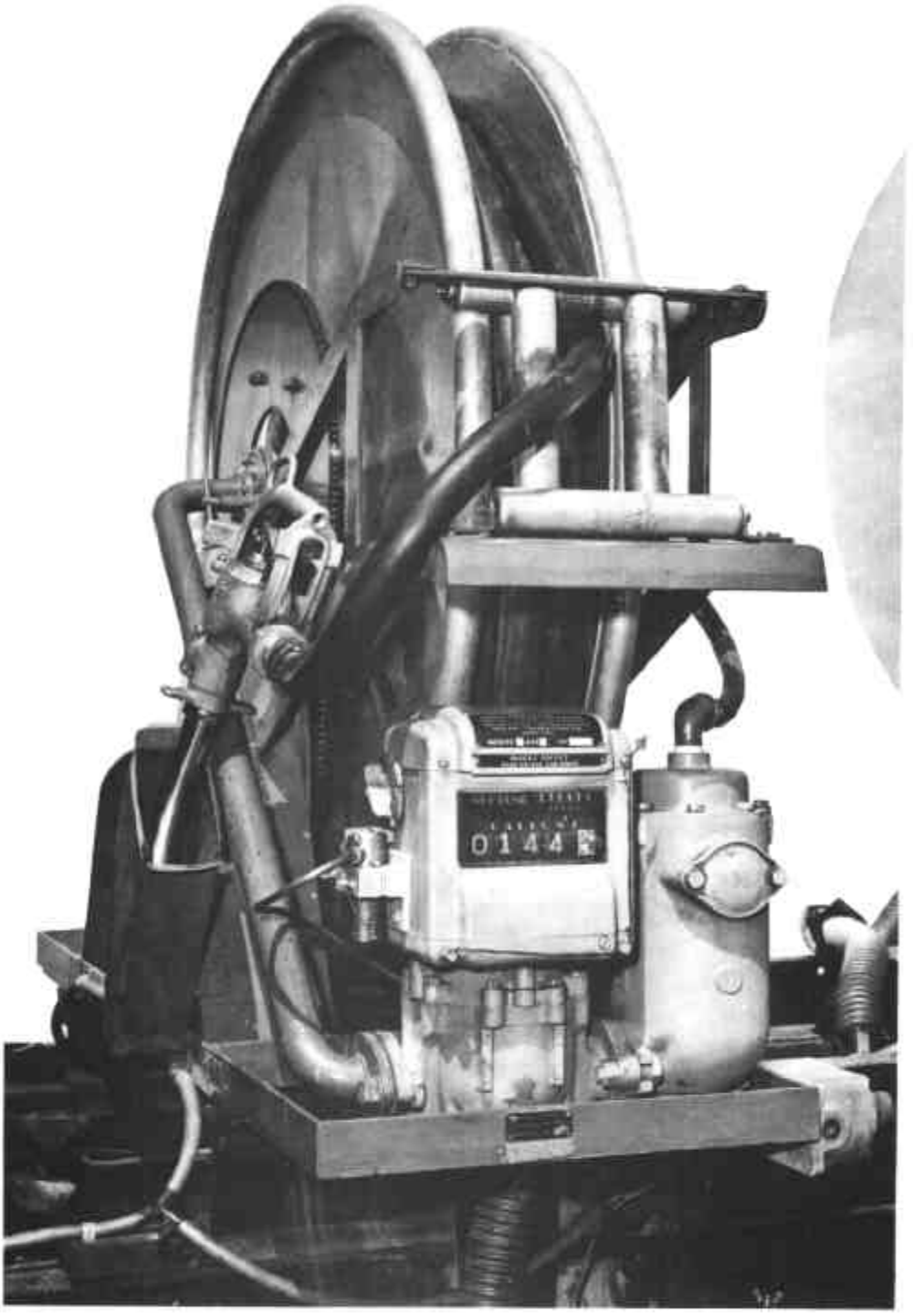
Pages 3 and 4 dated 9 March 1972
Pages 5 and 6 dated 31 July 1972
Figures 5/6D/6 - 1, 2 and 4 to 7 dated 16 February 1970

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

Description:

This variation approves the conversion of all models to indicate in metric units in accordance with Appendix 13 of the General Specifications for Measuring Instruments to be Used for Trade.

FIGURE 5/6D/6 - 1



Acme Bulk Dispenser

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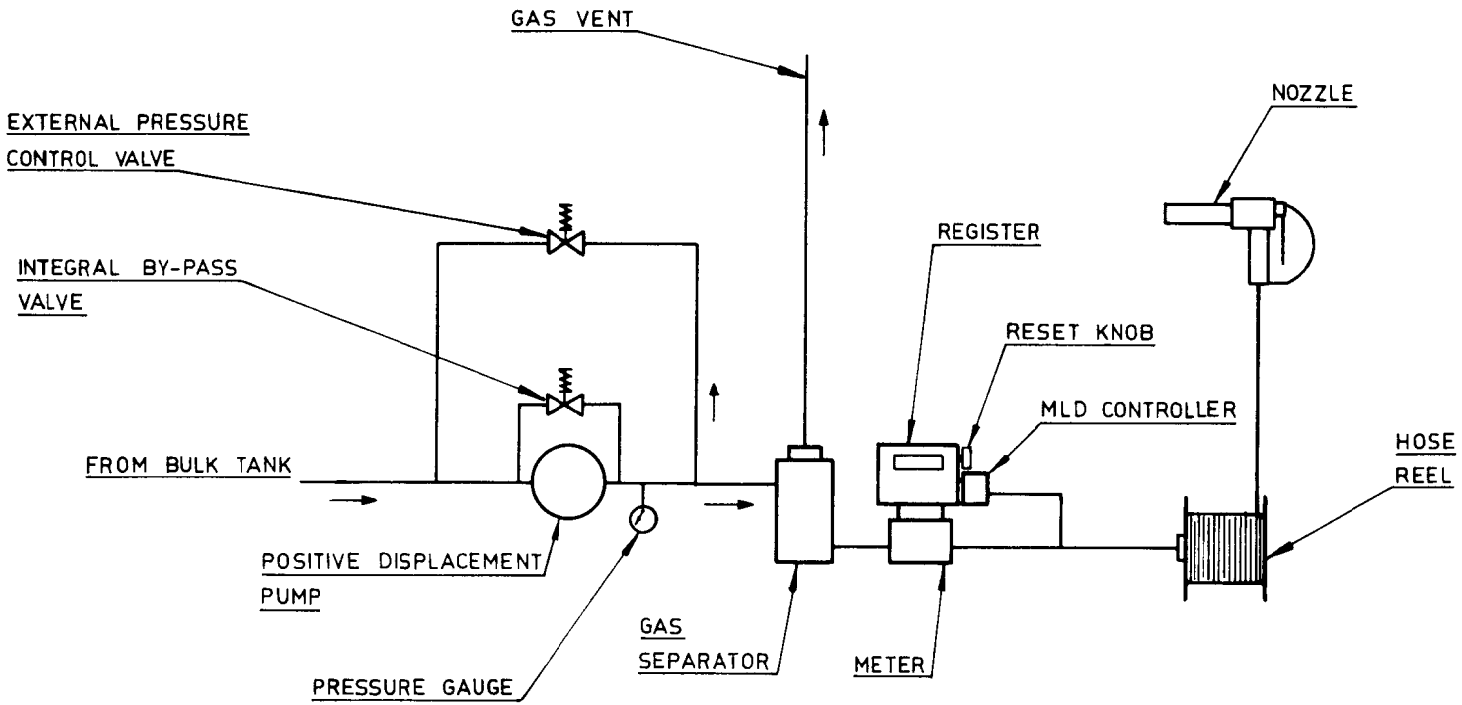
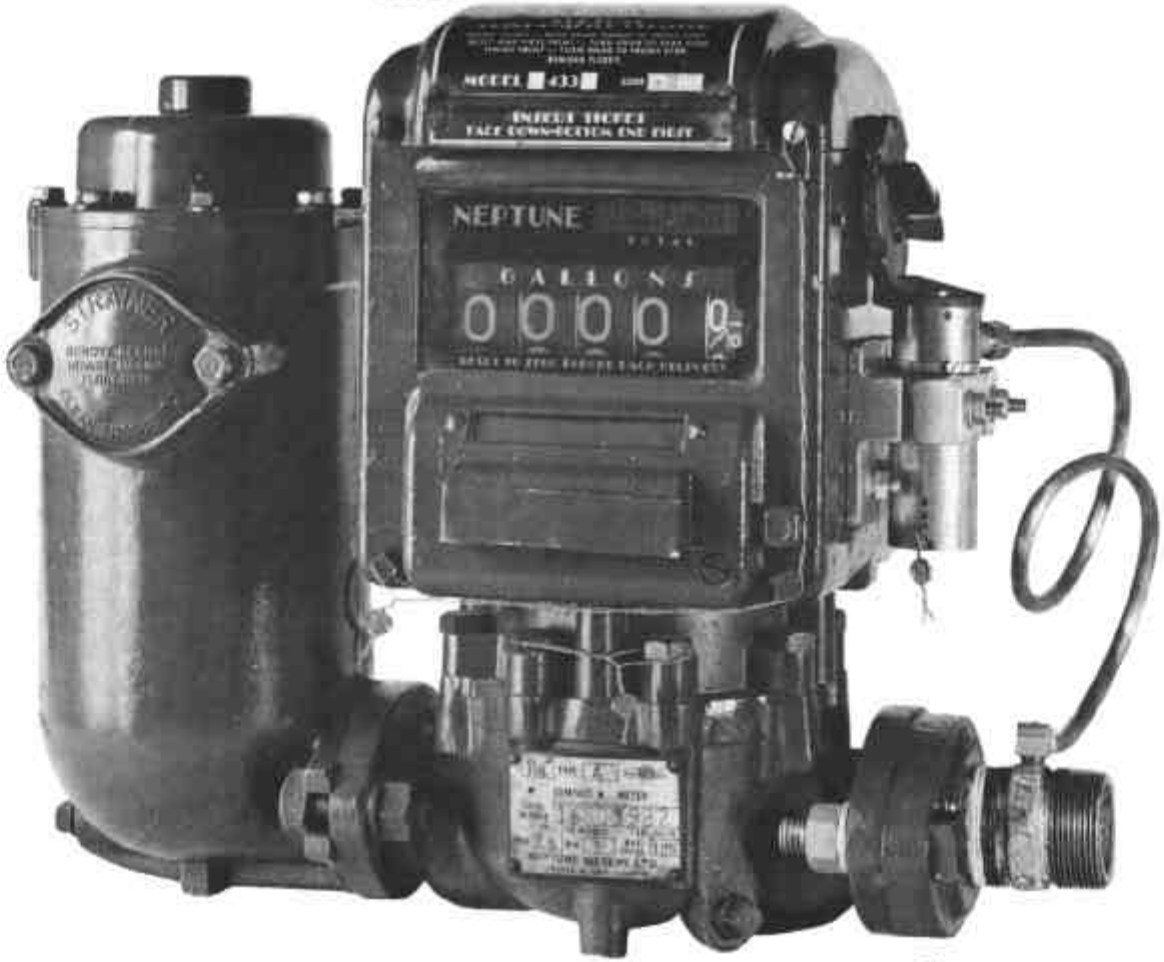
FIGURE 5/6D/6 - 2



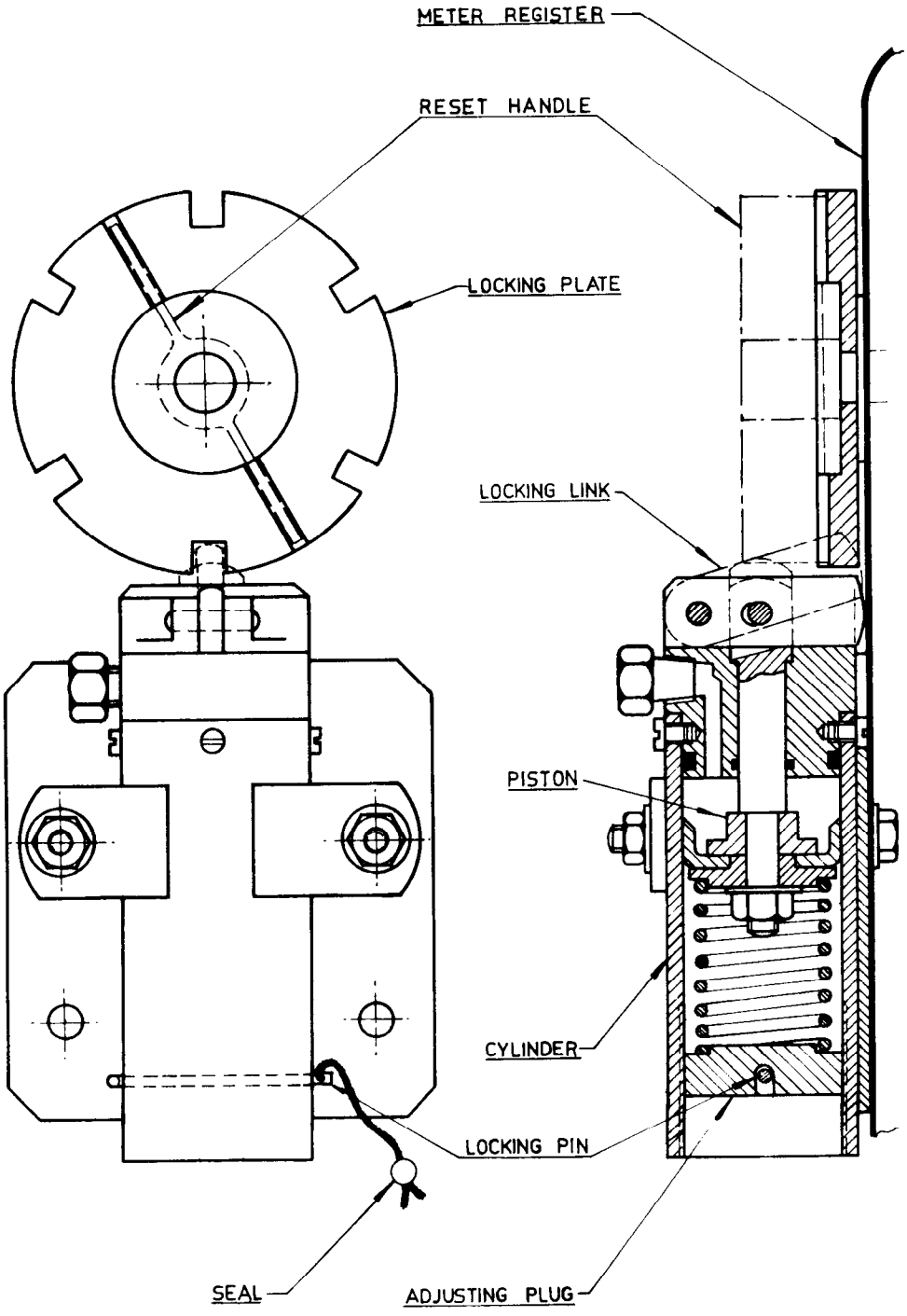
Acme Bulk Dispenser - Hydraulic Diagram

FIGURE 5/6D/6 - 4



Neptune Gas Separator, Meter, Register and MLD Controller

FIGURE 5/6D/6 - 5



MLD Controller

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FIGURE 5/6D/6 - 6

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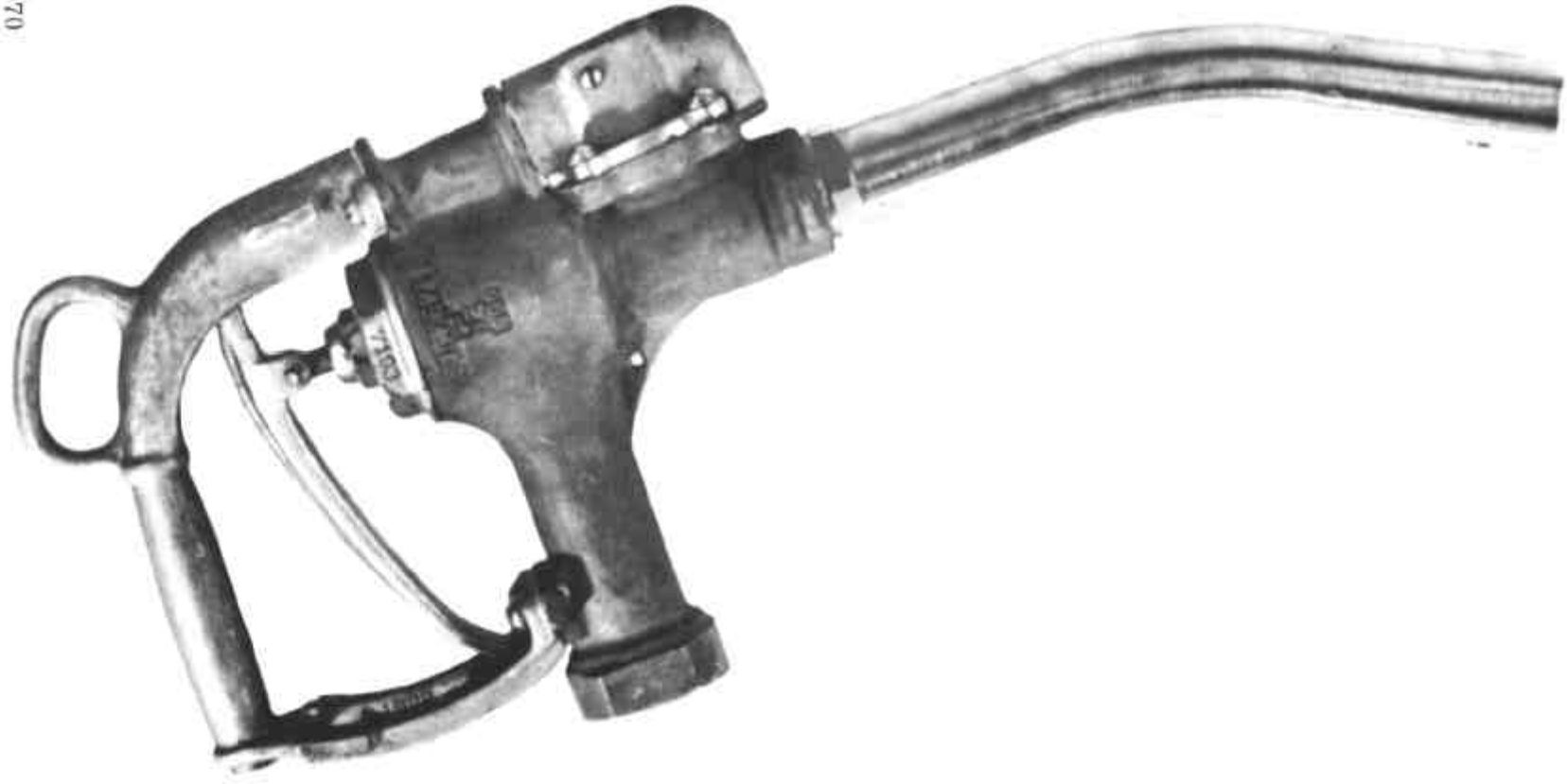
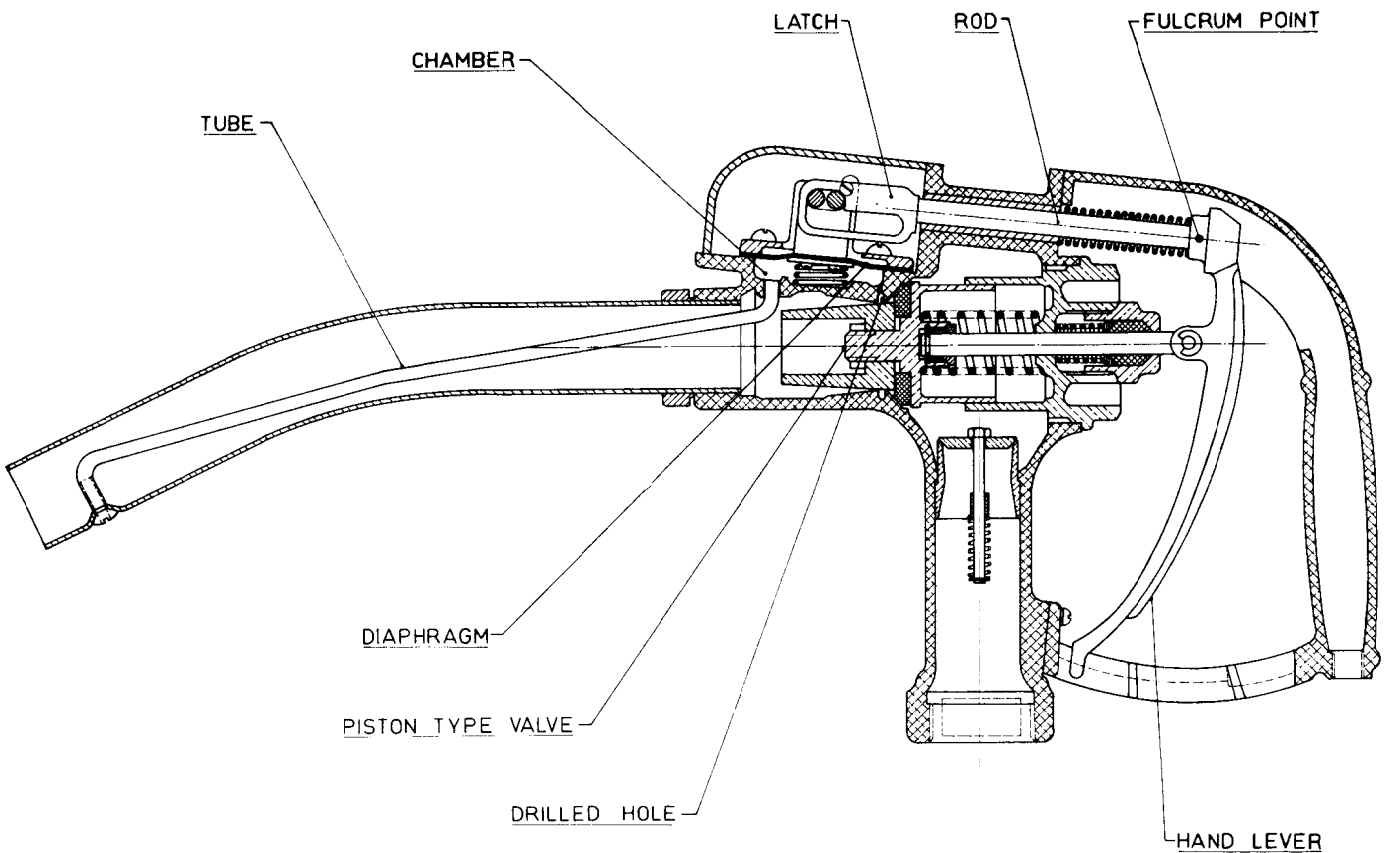


Buckeye 890 Nozzle

FIGURE 5/6D/6 - 7



Buckeye 890 Nozzle