NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S100

This is to certify that an approval has been granted by the Commission that the pattern and variants of the

Calcopac Series T350 Driveway Flowmeter Price Computing Indicator

submitted by Gilbarco Aust. Ltd,
12-38 Talavera Road,
North Ryde, New South Wales, 2113,

are suitable for use for trade when replacing the price-computing indicator on any Commission-approved driveway flowmeter specified in this Certificate.

The approval of the pattern and variants is subject to review on or after 1/4/85.

All instruments modified by the fitting of an indicator purporting to comply with this approval shall be marked NSC No S100 in addition to the approval number of the unmodified pattern.

Relevant drawings and specifications are lodged with the Commission.

Condition of Approval

1. The pattern and variants replace any 4-digit price-computing indicator on any Commission-approved driveway flowmeter in which the input shaft rotates at a rate of 4.0 ± 0.2 revolutions per litre.

Signed

Executive Director

Descriptive Advice

Pattern: approved 27/5/80

. Calcopac Series T350 price-computing driveway flowmeter indicator designed to replace the price-computing indicator fitted to any attendant-operated driveway flowmeter listed in Table 1 of the Technical Schedule.

Variants: approved 27/5/80

1. With preset facility, restricted to driveway flowmeters approved for Gilbarco Aust. Ltd.

2. With or without preset facility, designed to replace the price-computing indicator in Transac 10 self-serve systems listed in Table 1. Where preset is used, this is restricted to driveway flowmeters approved for Gilbarco Aust. Ltd.

Technical Schedule No S100 dated 30/5/80 describes the pattern and variants 1 and 2.

Variant: approved 2/9/80

3. Calcopac Model T350 CB, with or without preset facility, designed to replace the price-computing indicator in Transac T1 and T2 self-serve systems listed in Table 1. Where preset facility is used, this is restricted to driveway flowmeters approved for Gilbarco Aust. Ltd. Maximum price indication is $99.99.

Technical Schedule No S100 Variation No 1 dated 17/10/80 describes variant 3.

Variants: approved 29/10/81

4. Calcopac Model T350 CH.

5. Without preset facility, replacing the price-computing indicator in Wayne 600 and 700 series driveway flowmeters.

Technical Schedule No S100 Variation No 2 dated 2/12/81 describes variants 4 and 5.

Filing Advice

Supplementary Certificate of Approval No S100 dated 22/6/81, Table 1 of Technical Schedule No S100 Variation No 1 dated 17/10/80, and pages 1 and 2 of Technical Schedule No S100 Variation No 2 dated 22/6/81, are superseded by this Certificate and Technical Schedule, and may be destroyed. Figures 15 and 16 dated 22/6/81 are retained as part of Variation No 2.

The documentation for this approval now comprises:

Supplementary Certificate of Approval No S100 dated 2/12/81
Technical Schedule No S100 dated 30/5/80
Technical Schedule No S100 Variation No 1 dated 17/10/80
Technical Schedule No S100 Variation No 2 dated 2/12/81.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S100

Pattern: Calcopac Series T350 Driveway Flowmeter Price Computing Indicator

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

1. Description of the Pattern:

The pattern is an electronic price-computing indicator for driveway flowmeters intended for attendant operation (Figures 1, 2 and 3).

1.1 Range:

Volume	999,99 L in 0,01 L increments
Price	$999,99 in 1c increments
Unit Price	99,9 c/L in 0,1c increments
Totaliser	9999999 L in 1L increments
Totaliser	$9999999 in $1 increments

The only changes permitted to the original driveway flowmeter are:

1. The provision of an electrical junction box (Figure 4).
2. The removal of the reset-control drive shaft.
3. The locking or removal of the reset-control knob.
4. A modified reset linkage (Figures 5, 6, 7, 8, 9, 10 and 11).
5. The provision of new dial plates.
6. The dial plates bolted flush with the face-plate of the computer.
7. Provision of a hose-supporting mast.
8. Provision of a preset facility (Figure 12).
9. Provision of a modified nozzle boot (Figure 12).

1.2 Sealing

The totalisers are located on the top left corner of the dial face and are individually sealed with lead and wire (Figures 1, 2 and 3).

Access to the meter output shaft and Calcopac input shaft is prevented by a single metal cylinder as shown in Figure 16.

The top cover of the Calcopac casting is sealed by wire passing through holes in two lugs, one on each side, terminating in lead-plug seals on the computer mounting frame (Figures 13 and 14).

The meter is sealed in a similar way, the sealing wire terminating in a lead-plug seal on the computer mounting frame (Figures 13 and 14).

2. Variants

2.1 With preset facility, restricted to driveway-flowmeters approved for Gilbarco Australia Ltd.

2.2 With or without preset facility, replacing the price-computing indicator in Transac T10 self-serve systems listed in Table 1. Where preset facility is used, this is restricted to driveway-flowmeters approved for Gilbarco Australia Ltd.

3. Test Procedures:

In addition to the tests specified in the original approval the following are applicable to the Calcopac:

3.1 Price Computing Accuracy:

(a) Set unit price on 50 c/L and deliver exactly 6,00; 8,00; 10,00; 12,00 and 14,00 litres, stopping at each volume; without hanging up the nozzle, ensure that the prices indicated are exactly $3,00; $4,00; $5,00; $6,00 and $7,00.

(b) Set the unit price at or above 100 c/L and remove the nozzle from its hang up - the pump motor must not start.

(c) Whilst a delivery is in progress alter one unit-price thumbwheel - the pump motor will stop and the price digits will flash zeroes until the thumbwheel setting is restored or until the corresponding thumbwheel on the other side of the computer is altered by the same amount. The pump motor will not re-start until the nozzle has been returned to its holster and removed.

Repeat Test (c) for each thumbwheel.

3.2 Reset and Interlock:

(a) Nozzle operated reset (Figures 6, 7, 9, 10 and 11). Remove the nozzle from the hang up - the indication will blank, show all 8's, blank again, then show zero before the pump motor starts.

(b) Handle operated reset (Figures 5 and 8). Remove the nozzle from its hang up and then turn the operating handle to the ON position - the all 8's and blank test will be indicated as in (a) above, before the pump motor starts.

The reset linkages for each model driveway flowmeter are shown in figures 5, 6, 7, 8, 9, 10 and 11. The purpose of these linkages is to ensure that removal of the nozzle and switch to the ON position activates the push button switch on the Calcopac casting.

3.3 Variant 1:

(a) At the driveway flowmeter enter a value on the key-board to be delivered, say $2,00.

(b) Check that the purchasers indicator shows the preset amount.

(c) Make the delivery - the dispenser should automatically stop when the exact value is indicated.

3.4 Variant 2:

(a) Carry out all of those tests applicable to the original approval; however, because the Calcopac computer has a digital indicator the price and volume displayed shall exactly equal the price and volume indicated at the driveway flowmeter.

(b) If a preset facility is fitted, carry out the following tests:

1. The additional tests specified for Variant 1.

2. Preset a value at the driveway flowmeter by means of the preset facility and make part of that delivery; the indication on the console must agree exactly with the indication on the driveway flowmeter.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S100

VARIATION No 1

Pattern: Calcopac Series T350 Driveway Flowmeter Price Computing Indicator

Submittor: Gilbarco Aust. Ltd,
16-34 Talavera Road,
North Ryde, New South Wales, 2113.

1. Description of Variant:

3. The Calccpac T350CB electronic price-computing indicator, with or without preset facility, designed to replace the price-computing indicator in the Transac T1 and T2 self-serve driveway flowmeter systems listed in Table 1. When preset facility is used, this is restricted to driveway flowmeters approved for Gilbarco Aust. Ltd. The maximum price indication is restricted to $99,99.

Range

As per the pattern except for:

Price	$99,99 in 1 c increments

Installation

The only changes permitted to the original driveway flowmeter are those listed in the description of the pattern.

2. Test Procedure

See Technical Schedule No S100, and in addition:

3.5 Variant 3

(a) Set unit price to 99,9 c/L.

(b) Make a number of deliveries into one or more containers without hanging-up the nozzle or resetting the indicator until the pump motor stops automatically; the indicated price should not exceed $99,99.

(c) Several times during step (b) check that the console indicator stops immediately on releasing the nozzle trigger; if the console indicator takes one or more seconds to catch up and agree with the driveway flowmeter indication the incorrect model Calcopac has been installed and that driveway flowmeter should not be stamped; two operators are required for this test, one at the console and one at the driveway flowmeter.

This test shall be repeated on each driveway flowmeter connected to the console.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S100

VARIATION No 2

Pattern: Calcopac Series T350 Driveway Flowmeter Price Computing Indicator

Submittor: Gilbarco Aust. Ltd,
12-38 Talavera Road,
North Ryde, New South Wales, 2113.

1. Description of Variants

1.1 Variant 4

1.1.1

Calcopac Model T350 CH (Figure 15), with or without preset facility, designed to replace any 4-digit price-computing indicator in any attendant-operated driveway flowmeter listed in Table 1. When preset facility is used this is restricted to driveway flowmeters approved for Gilbarco Aust. Ltd.

Range for the Model T350 CH is:

Volume	999.99 L in 0.01 L increments
Price	$999.99 in 1c increments
Unit price	0.5 to 999.9 c/L in 0.1c increments
Totaliser	9999999 L in 1 L increments
Totaliser	$9999999 in $1 increments

1.1.2 Sealing

(a) The totalisers located on the top left corner of the computer dial face are individually sealed with lead and wire (Figure 15).

(b) The meter output shaft and Calcopac input shaft are protected from interference by a single metal tube as shown in Figure 16.

1.2 Variant 5

1.2.1

Calcopac T350 price-computing indicator, without preset facility, replacing the price-computing indicator in Wayne 600 and 700 series driveway flowmeters approved in Certificates of Approval Nos 5/6A/48, 5/6A/13 and 5/6A/61.

Modifications to the reset linkages are illustrated in Figures 17, 18, 19, 20, 21 and 22. A new Table 1 dated 2/12/81, which replaces Table 1 dated 17/10/80, lists all driveway flowmeters in which the Calcopac T350 may be installed.

1.2.2 Sealing

As for paragraph 1.2 of Technical Schedule S100, except that the wire which seals the Calcopac casting terminates in a lead-plug seal on the framework of the driveway flowmeter as illustrated in Figures 23, 24 and 25.

The meter is sealed as described in the original Certificate of Approval No 5/6A/13, 5/6A/48 or 5/6A/61.

TEST PROCEDURE No S100 - VARIATION No 2

Variant 4

Tests 3, 3.1, 3.2, 3.3 and 3.4 described in Technical Schedule No S100 dated 30/5/80 are applied where appropriate, with the following exceptions:

Test 3.1(a)

In addition to the test already specified, set unit price on $5/L and deliver exactly 6.00, 10.00 and 14.00 litres, stopping at each volume; without hanging up the nozzle , ensure that the prices indicated are exactly $30.00, $50.00 and $70.00.

Test 3.1(b)

Because unit price may be set at any price in the range 0.5 c/L to 999.9 c/L, this test is not applicable.

Test 3.1(c)

(Note: Price setting thumbwheels are only operative on one side of Calcopac Model T350 CH.)

Whilst a delivery is in progress, alter one unit price thumbwheel - the pump motor will stop, the price digits will go blank and the quantity delivered (litres) will remain displayed. The pump motor will not re-start until the nozzle has been returned to its holster and again removed.

Repeat test for each thumbwheel.

Test 3.3(a)

As the T350 CH Calcopac is approved for unit prices up to 999.9 c/L, the unit price set for this test can be any unit price up to this maximum.

Variant 5

Proceed as described in Technical Schedule No S100 dated 30/5/80.

For details of reset and interlock (paragraph 3.2), refer to:

Figure 17	-	nozzle operated reset, Wayne 700 series (Single)
Figure 18	-	handle operated reset, Wayne 700 series (Single), and
Figure 19	-	handle operated reset, Wayne 600 series (Dual)
Figure 20	-	handle operated reset, Wayne 600 series (Single)
Figure 21	-	handle operated reset, Wayne 700 series (Dual)
Figure 22	-	nozzle operated reset, Wayne 700 series (Dual).

TABLE 1

Original Certificate

5/6A/13	Wayne 700 Series
5/6A/24	Trimline Series including those with round casings
5/6A/30	Trimline Series including those with round casings
5/6A/35	Trimline Series T171
5/6A/44	Trimline Series T166R
5/6A/45	Trimline with round casings
5/6A/47	T1 and T2 self-serve systems
5/6A/48	Wayne 600 Series
5/6A/55	Trimline Series including those with round casings
5/6A/56	Trimline Series with round casings
5/6A/61	Wayne 700 Series
5/6A/62	Trimline Series including those with round casings
5/6A/63	T10 Self-serve system only
5/6A/66	Trimline High Flow T166
5/6A/100	Patterns with 4-digit indicators

Driveway Flowmeters in which Calcopac T350 may be installed

(This Table 1 replaces Table 1 in Technical Schedule No S100 Variation No 1 dated 17/10/80)

NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No S100

CHANGE No 1

The description of the

Calcopac Series T350 Driveway Flowmeter Price Computing Indicator

given in Technical Schedule No S100 is altered by deleting references to 5/6A/67 from Table 1 and from Figures 9, 10 and 11.

Signed

Executive Director

29/8/80

NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No S100

CHANGE No 2

The following changes are made to the description of the Calcopac Series T350 Driveway Flowmeter Price-Computing Indicator given in Technical Schedule No S100 dated 30/5/80:

Pages 1 to 4 and Figures 1 to 4 are replaced by the attached pages and figures, in which

(a) a new method of sealing the totalisers and the meter output shaft is described in paragraph 1.2 and Figures 1 to 4; and

(b) the description of the sequences which follow nozzle removal, given in paragraph 3.2 (a) and (b), has been rewritten.

Note: The change in sealing methods takes effect immediately. All new instruments will be sealed in this manner; existing instruments will be changed when they are next reverified.

Signed

Executive Director

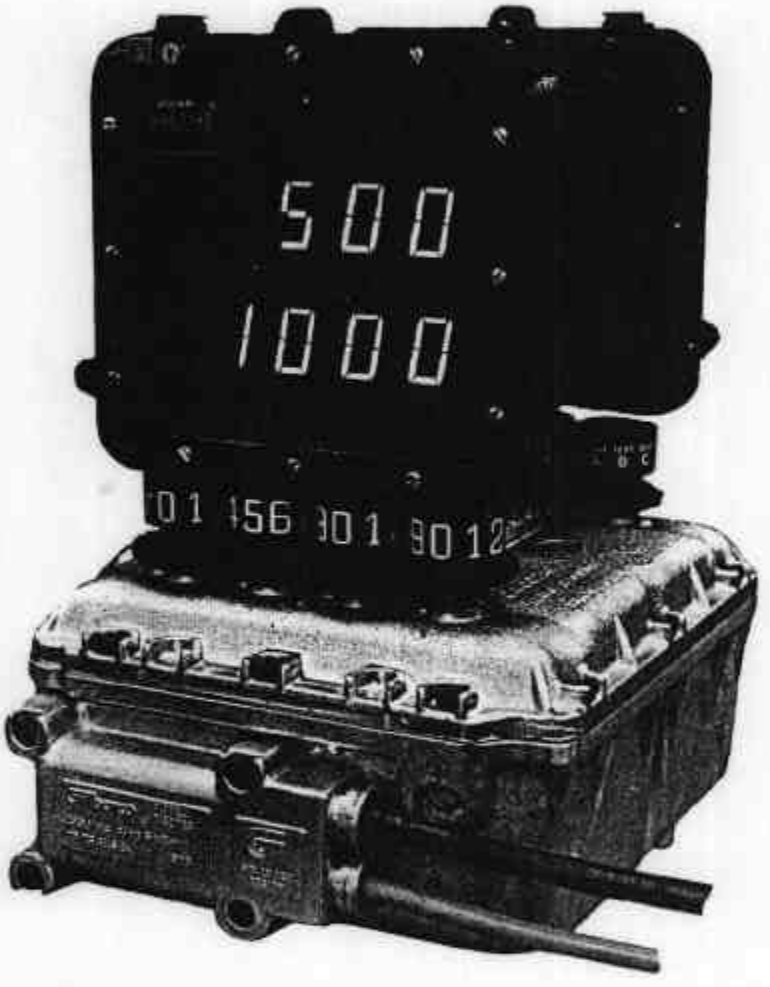
3/12/81

FIGURE S100 - 1

Calcopac
(casting of base may differ slightly on older calcopacs)

30/5/80
replaced 3/12/81

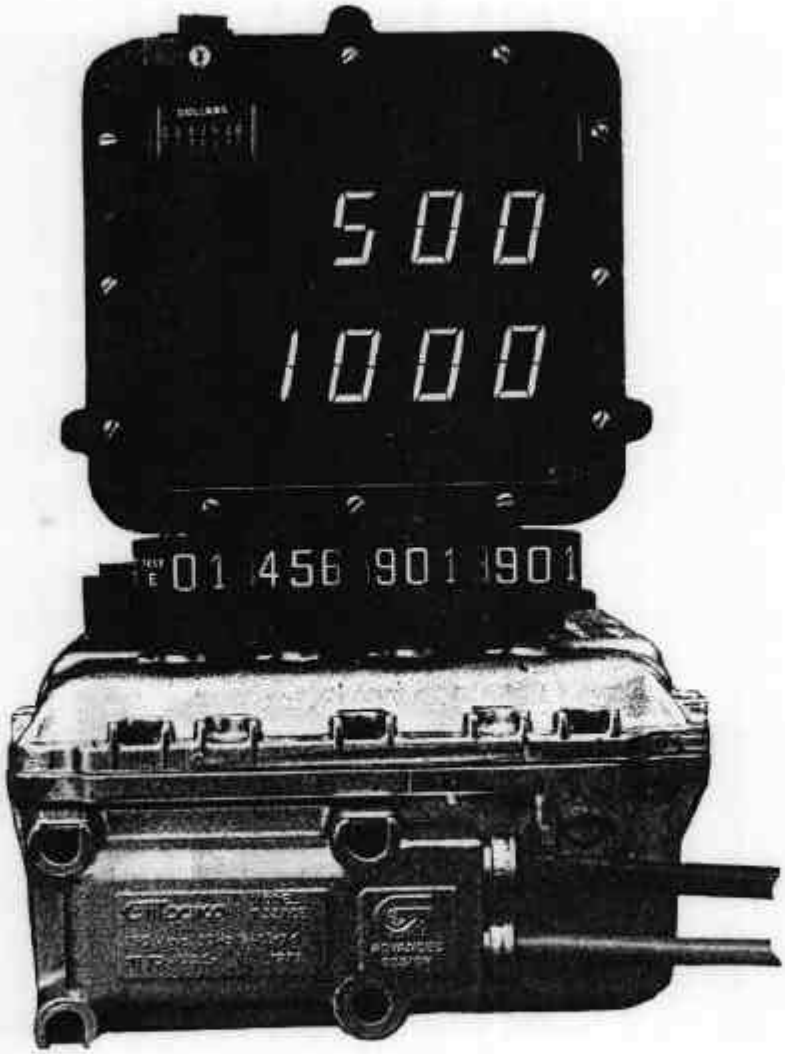
FIGURE S100 - 2



Calcopac
(casting of base may differ slightly on older calcopacs)

30/5/80
replaced 3/12/81

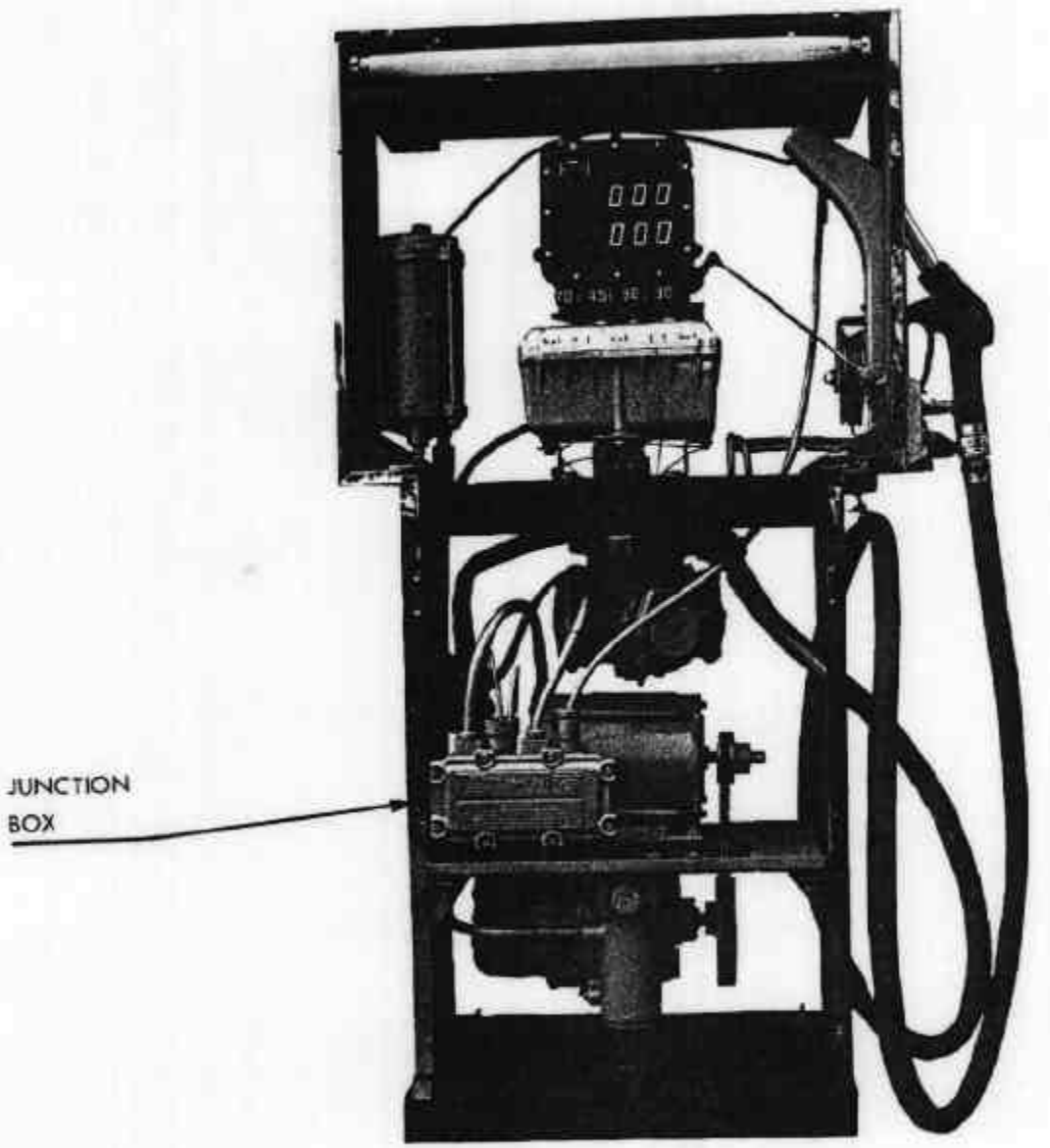
FIGURE S100 - 3



Calcopac
(casting of base may differ slightly on older calcopacs)

30/5/80
replaced 3/12/81

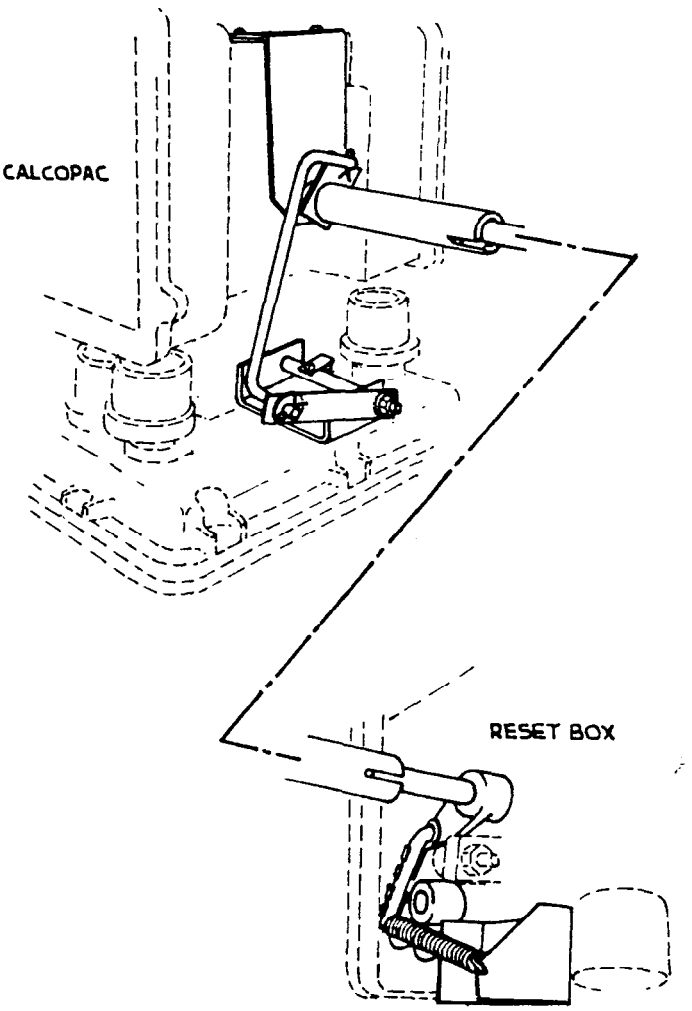
FIGURE S100 - 4



Driveway Flowmeter with Electrical Junction Box

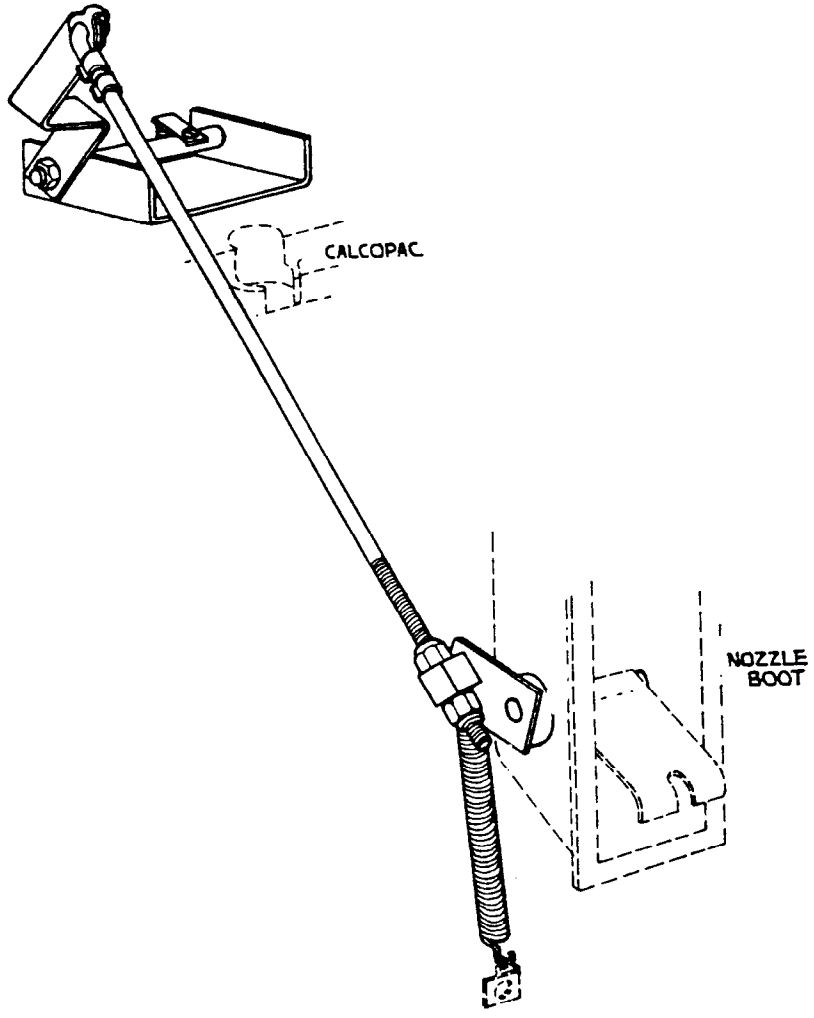
30/5/80
replaced 3/12/81

Figure S100 - 5



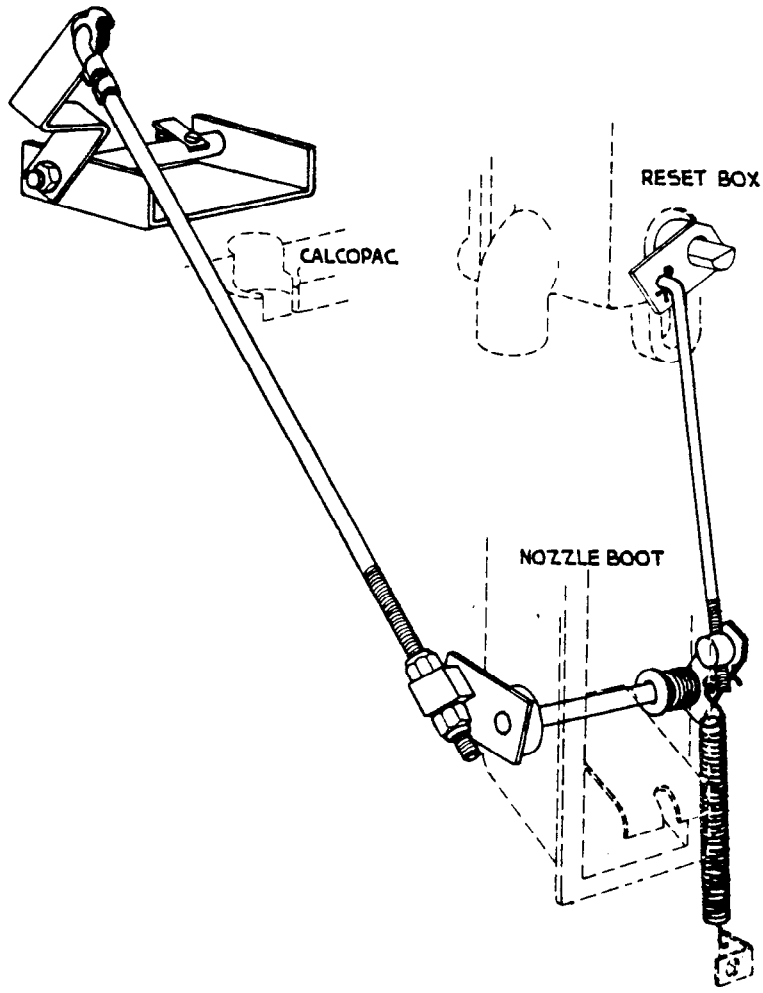
Reset Linkage for Trimline Driveway Flowmeter (Certificate Nos 5/6A/24, 5/6A/30, 5/6A/35, 5/6A/44, 5/6A/55, 5/6A/62) Retrofitted with Calcopac

30/5/80



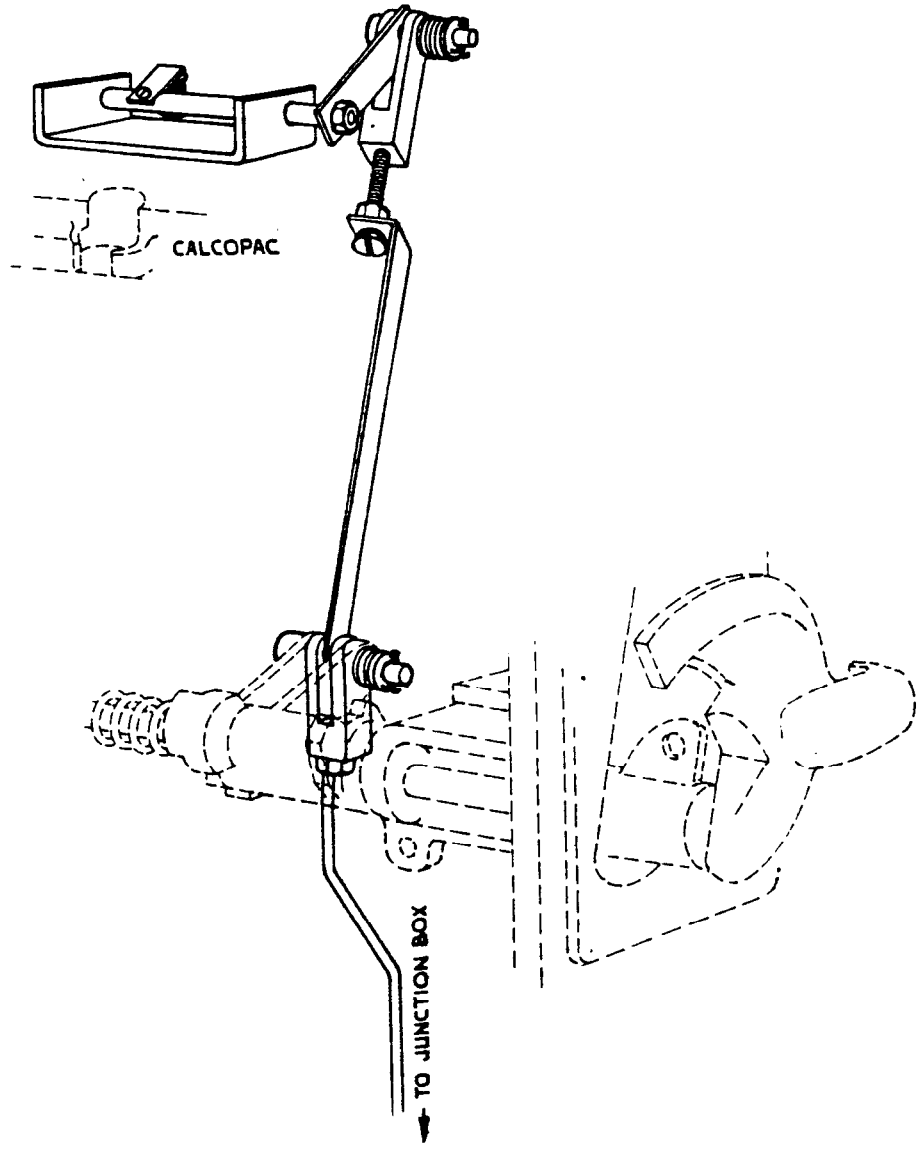
Reset Linkage for Trimline Driveway Flowmeter Either New or Retrofitted with Calcopac (Certificate Nos 5/6A/24, 5/6A/30, 5/6A/55, 5/6A/62, 5/6A/63, 5/6A/66)

Figure S100 - 7



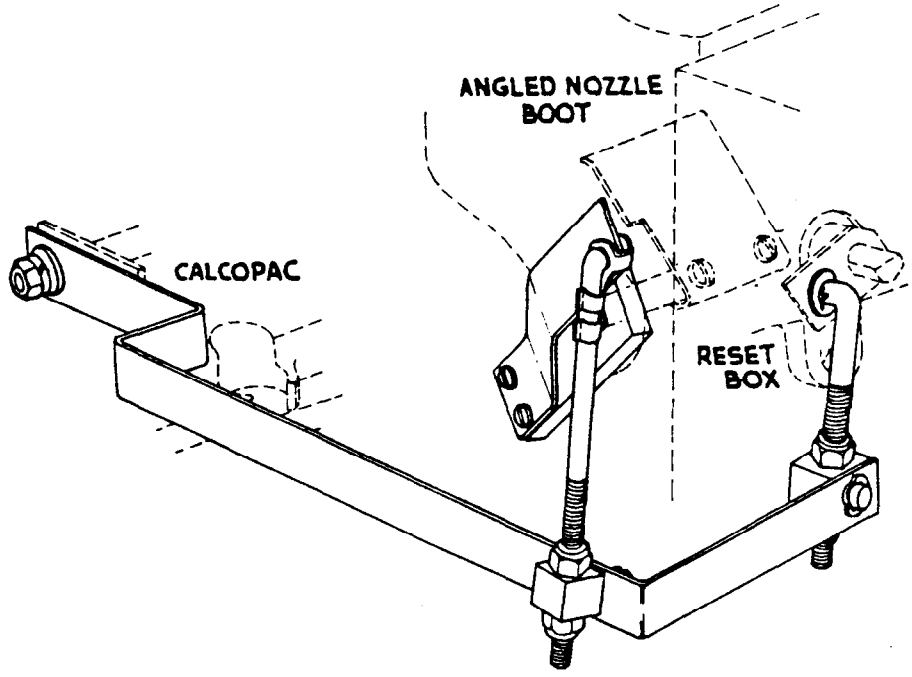
Reset Linkage for Trimline Driveway Flowmeter (Certificate Nos 5/6A/24, 5/6A/30, 5/6A/55, 5/6A/62, 5/6A/63, 5/6A/66) Retrofitted with Calcopac

Figure S100 - 8



Reset Linkage for Salesmaker (Certificate No 5/6A/100)
Retrofitted with Calcopac

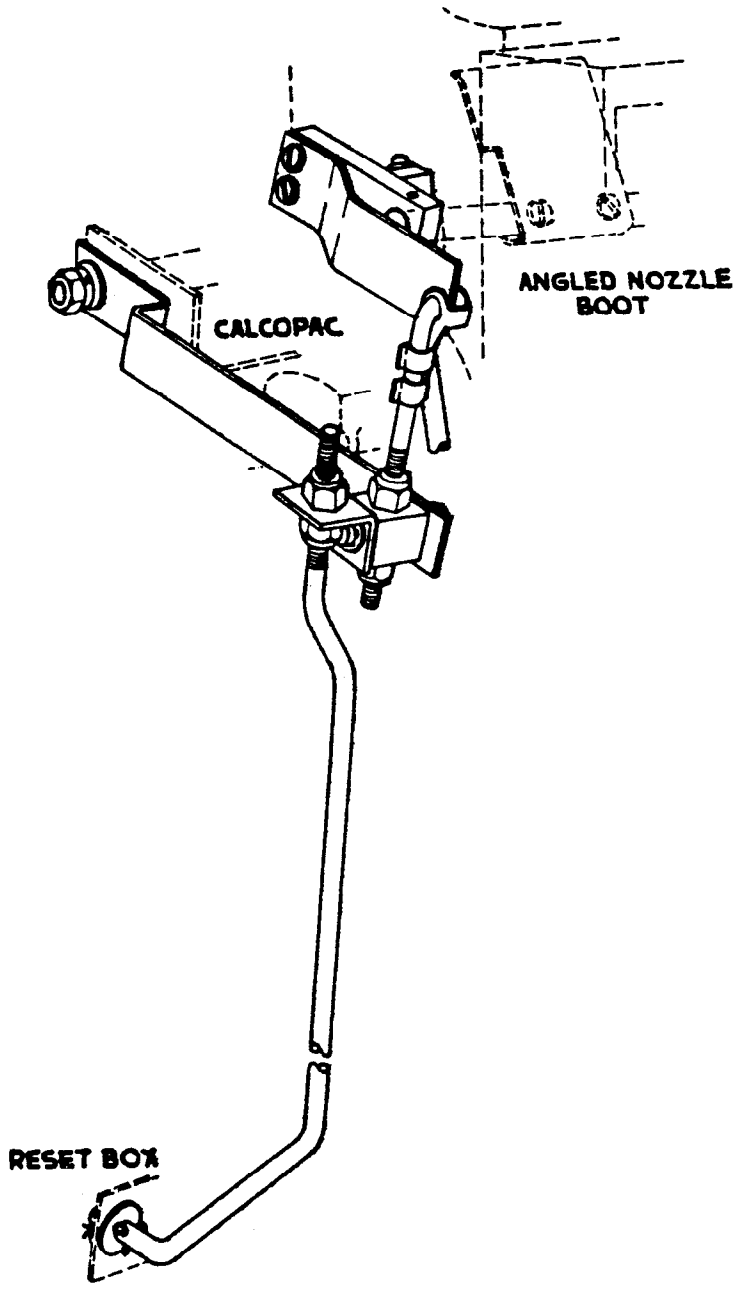
Figure S100 - 9



Trimline Driveway Flowmeter with Round Casing (Certificate Nos 5/6A/24, 5/6A/30, 5/6A/55, 5/6A/56, 5/6A/62, 5/6A/63, 5/6A/67) Retrofitted with Calcopac

CN1

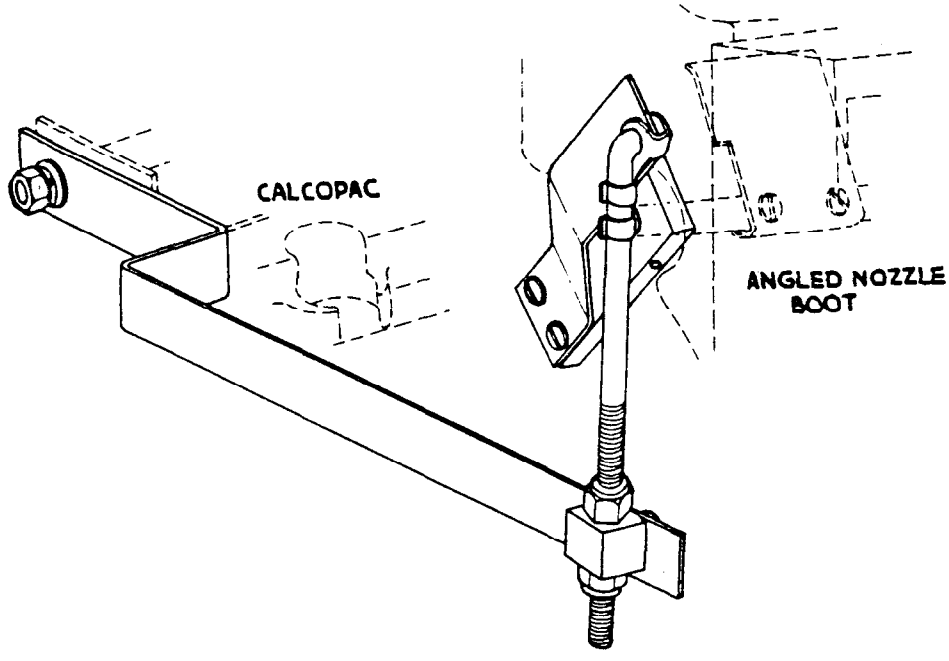
30/5/80



Trimline Driveway Flowmeter with Round Casing (Certificate Nos 5/6A/24, 5/6A/30, 5/6A/55, 5/6A/56, 5/6A/62, 5/6A/63, ~~5/6A/67~~) Retrofitted with Calcopac

CN1

Figure S100 - 11



Trimline Driveway Flowmeter with Round Casing, Single or Double, with Angled Nozzle Boot (Certificate Nos 5/6A/30, 5/6A/55, 5/6A/56, 5/6A/62, 5/6A/63, ~~5/6A/67~~) Retrofitted with Calcopac

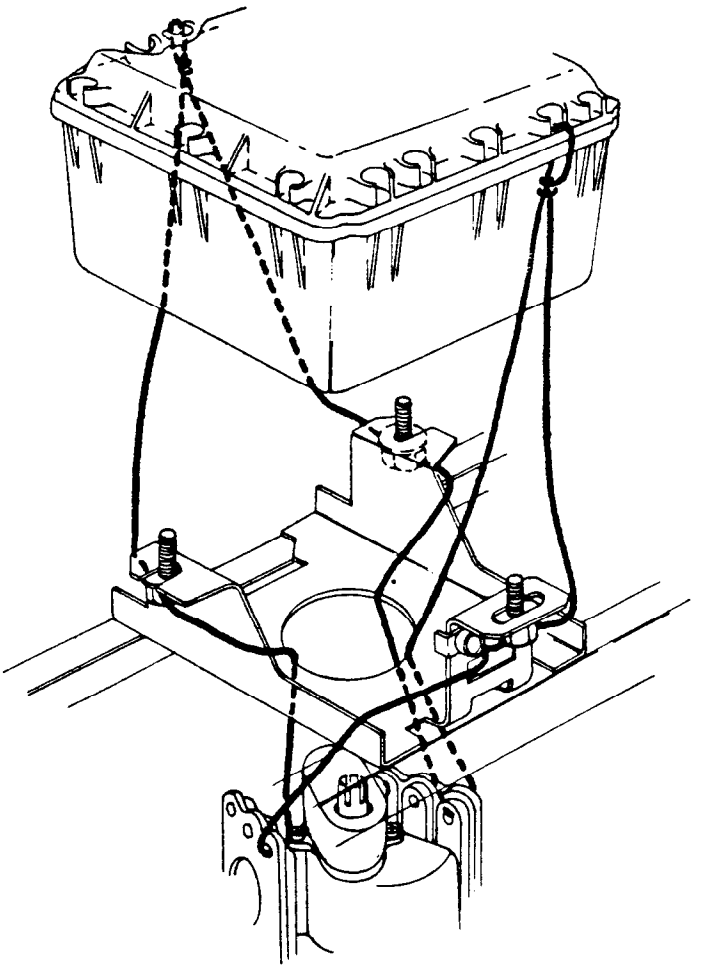
CN1

30/5/80

Figure S100 - 12

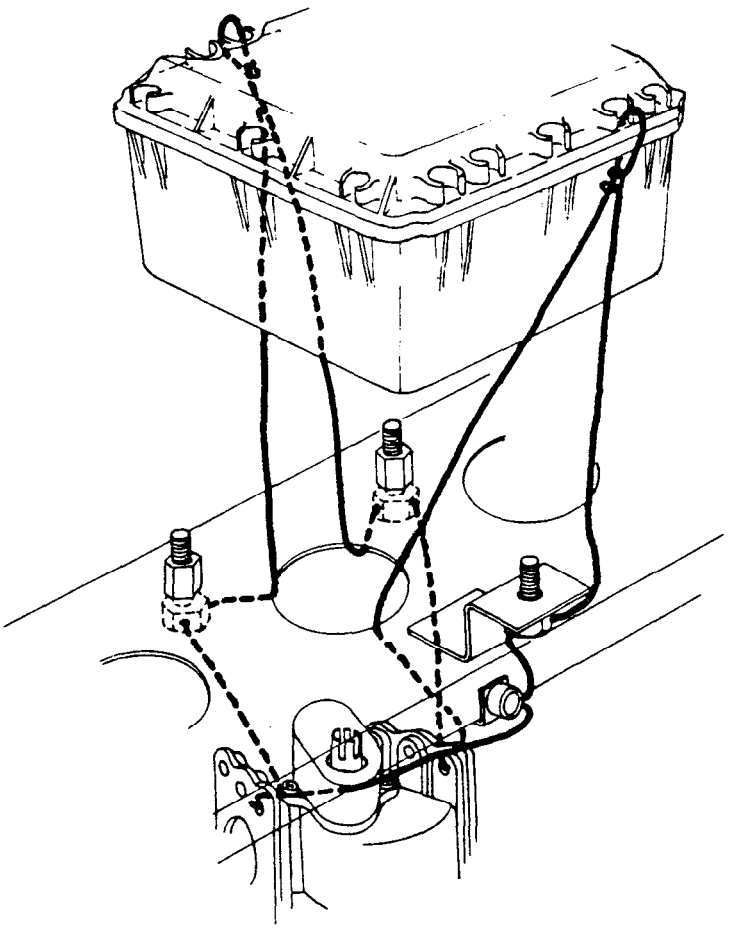
Driveway Flowmeter with Preset Facility

30/5/80



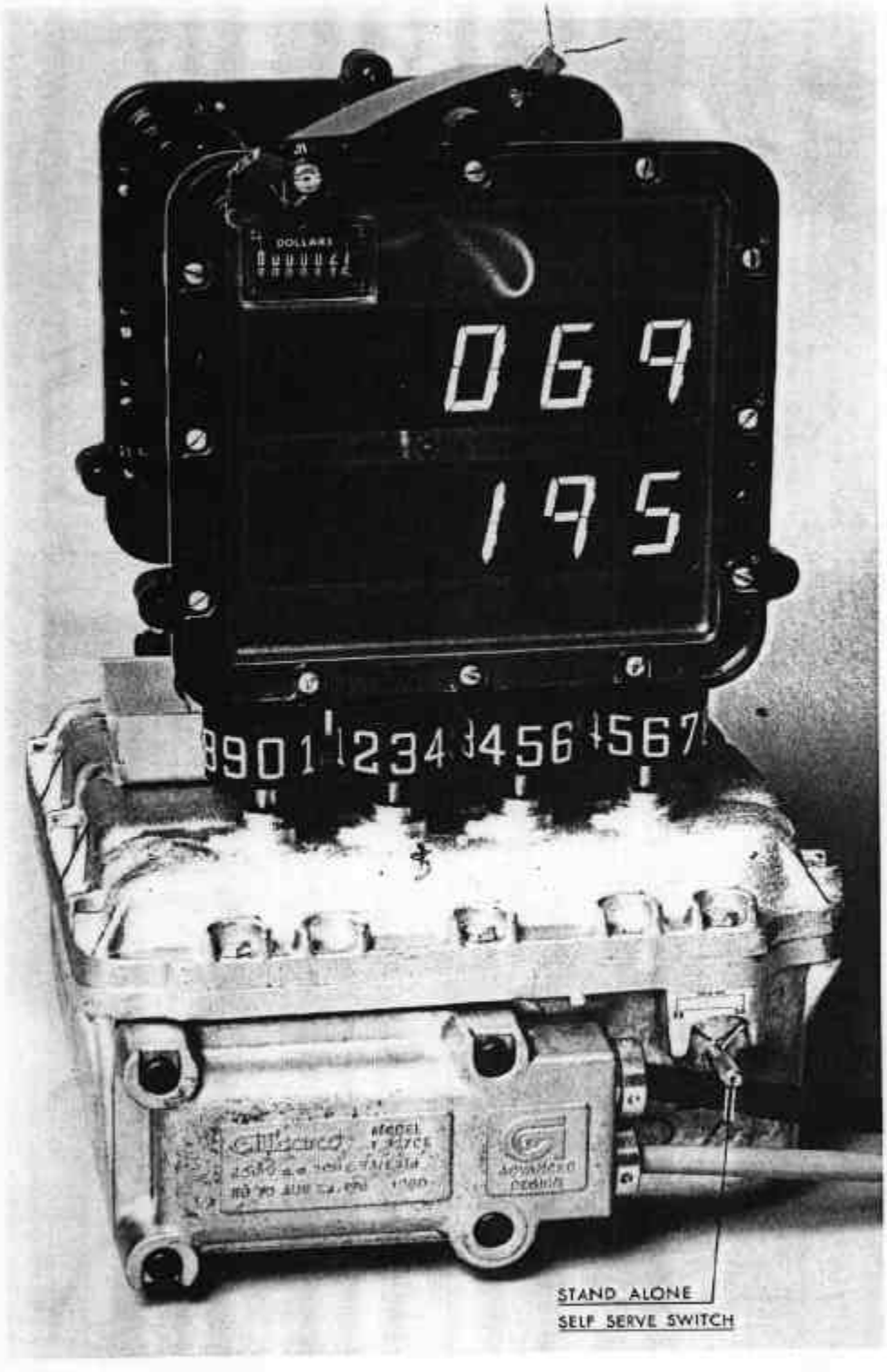
Sealing of Calcopac to Trimline Driveway Flowmeter

30/5/80



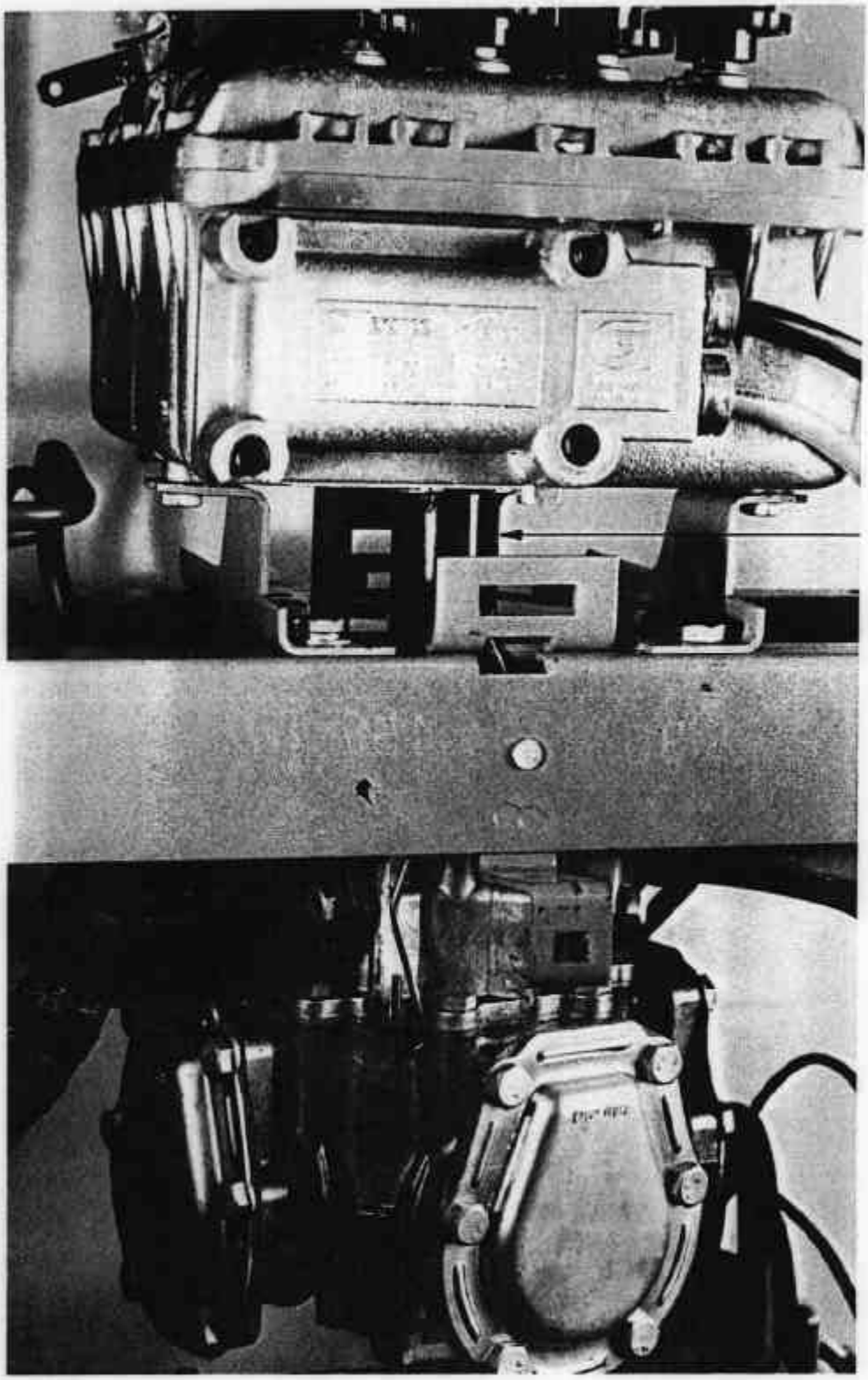
Sealing of Calcopac to Trimline Driveway Flowmeter
with Round Casing

FIGURE S100 - 15



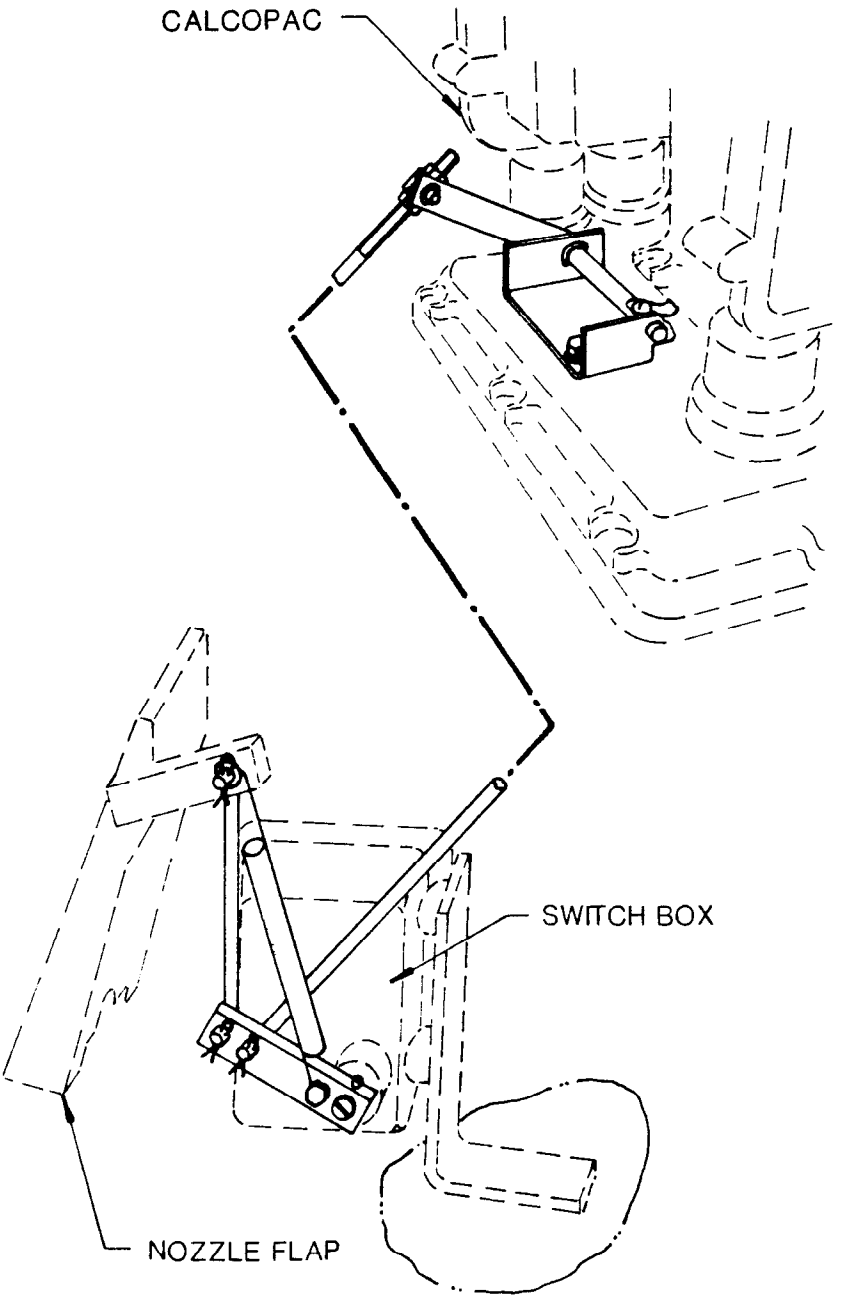
Calcopoc T350 CH

FIGURE S100 - 16



Sealing of Meter to Calcopac Drive-shaft

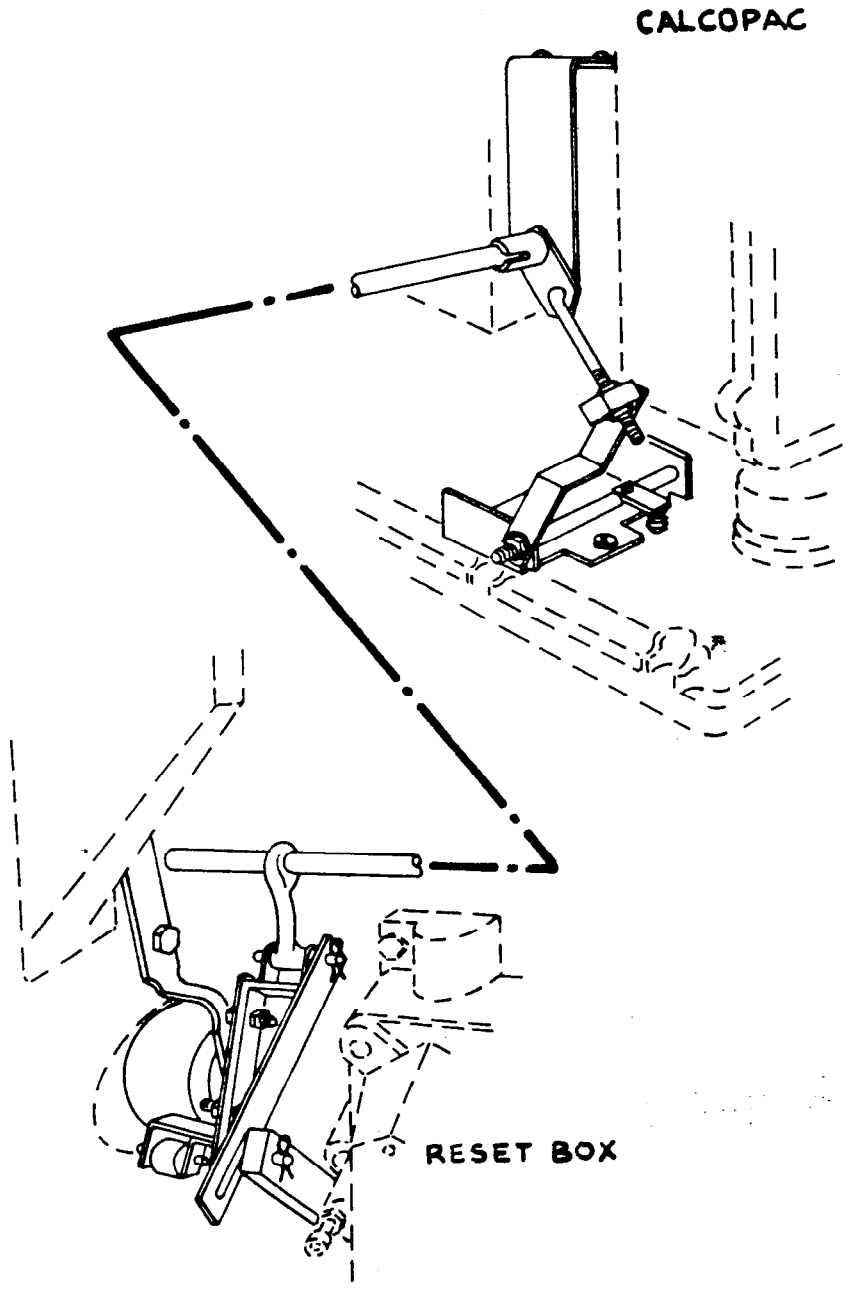
FIGURE S100 - 17



Nozzle-operated Reset Wayne 700 Series
Single Driveway Flowmeter

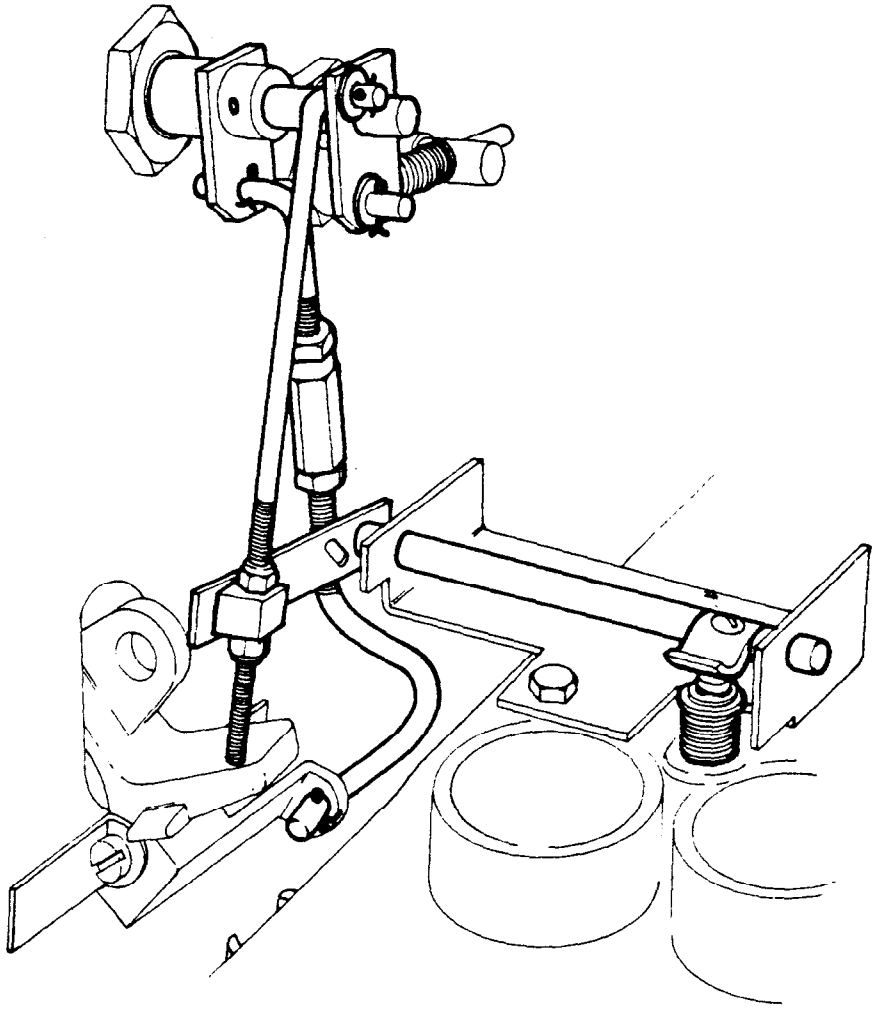
2/12/81

FIGURE S100 - 18



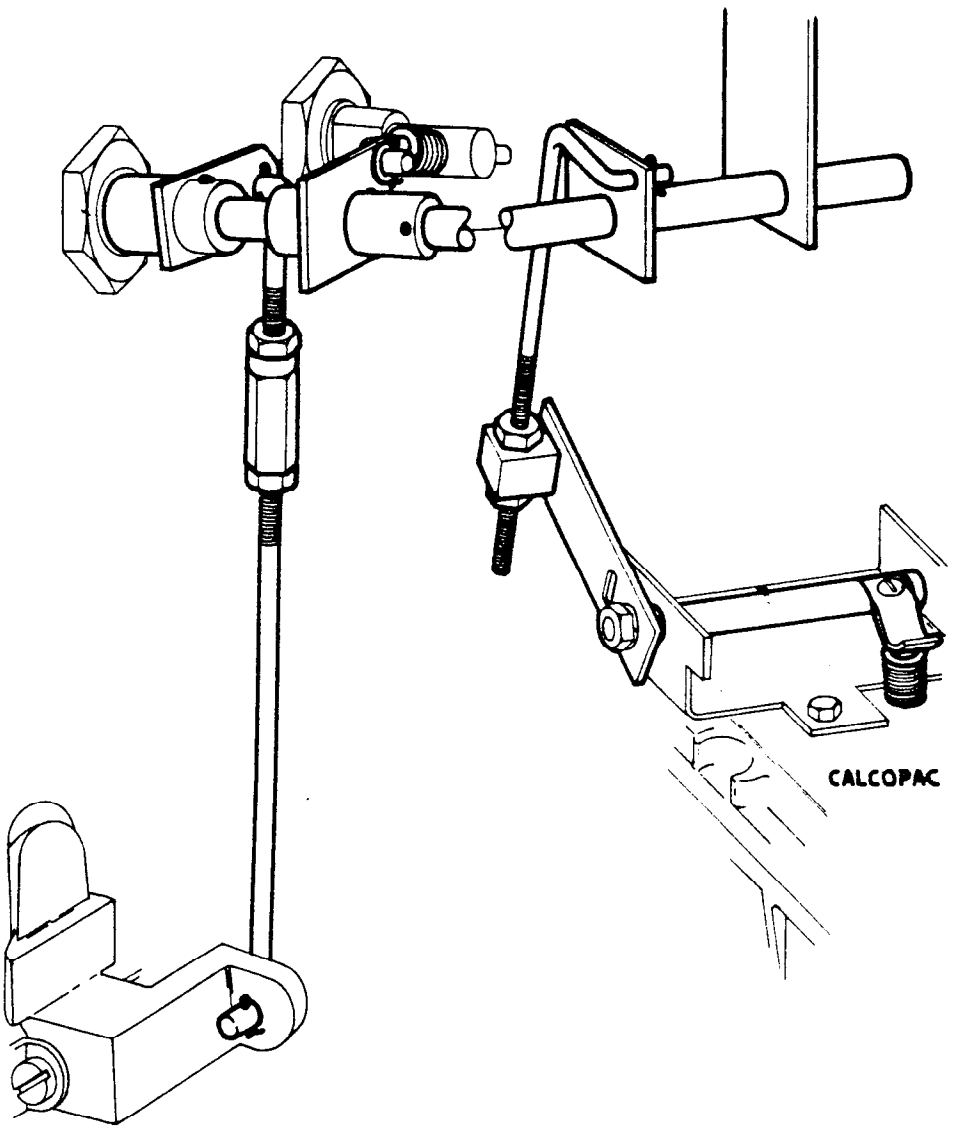
Handle-operated Reset Wayne 700 Series
Single Driveway Flowmeter

2/12/81



Handle-operated Reset Wayne 600 Series
Dual Driveway Flowmeter

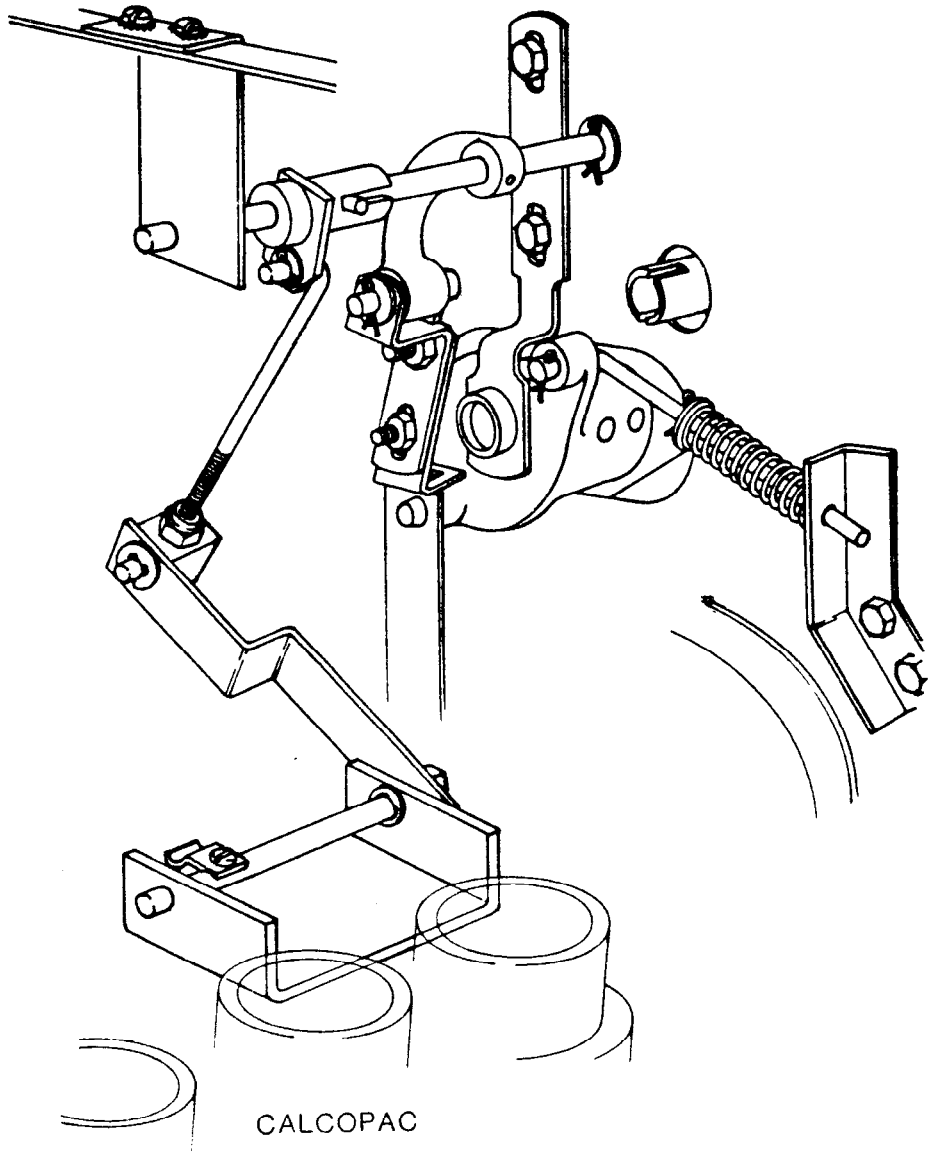
FIGURE S100 - 20



Handle-operated Reset Wayne 600 Series
Single Driveway Flowmeter

2/12/81

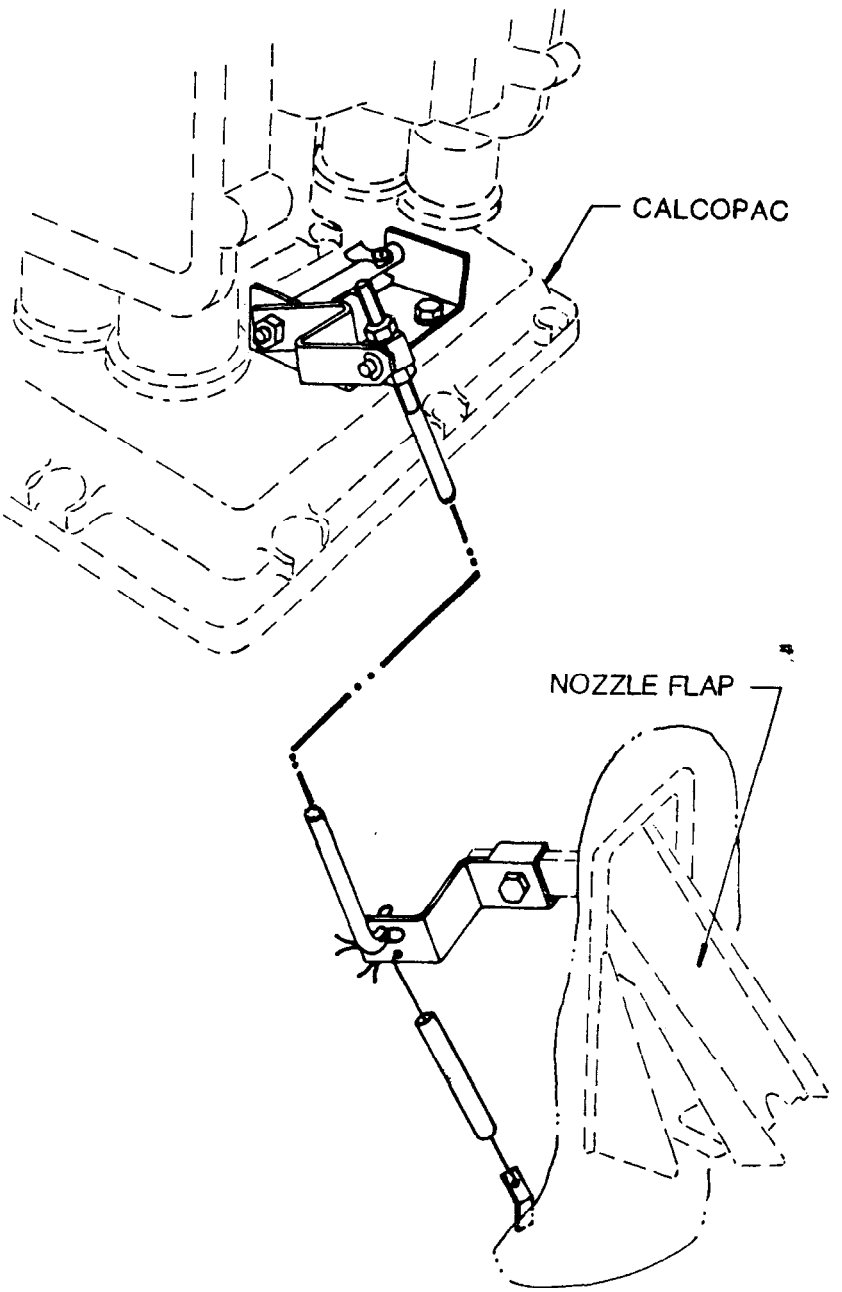
FIGURE S100 - 21



Handle-operated Reset Wayne 700 Series
Dual Driveway Flowmeter

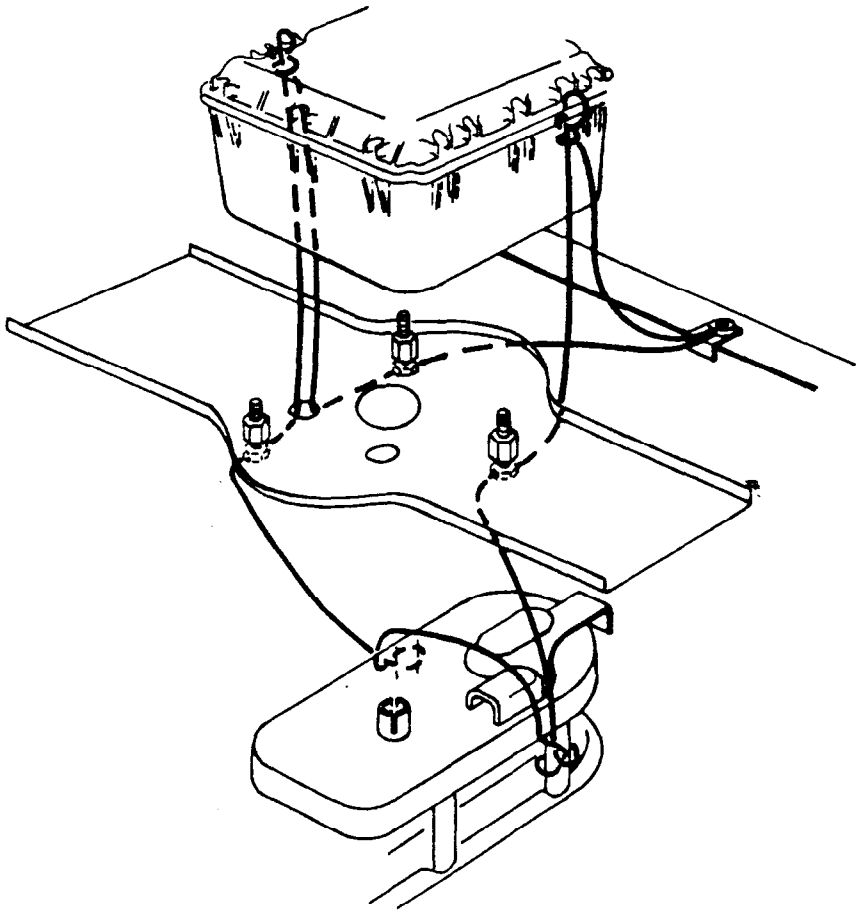
2/12/81

FIGURE S100 - 22



Nozzle-operated Reset Wayne 700 Series
Dual Driveway Flowmeter

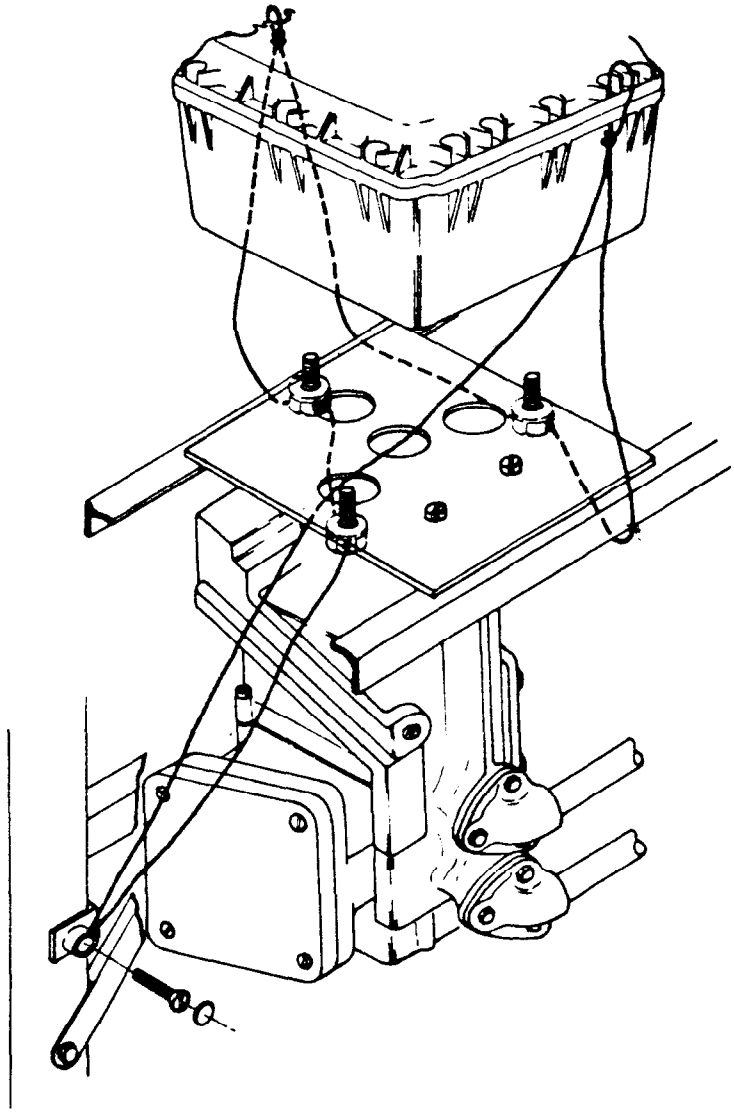
FIGURE S100 - 23



Sealing of Calcopac to Wayne 700 Series
Driveway Flowmeter

2/12/81

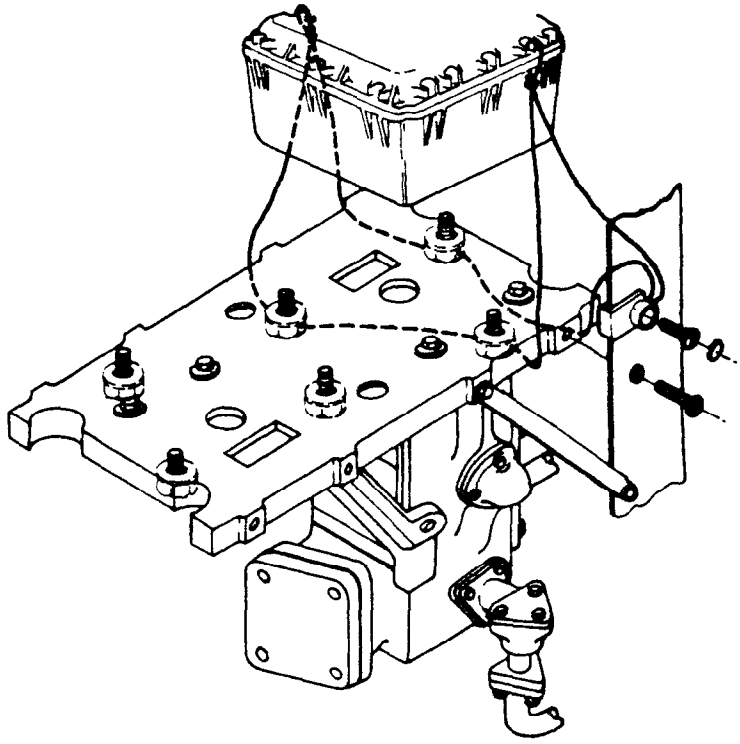
FIGURE S100 - 24



Sealing of Calcopac to Wayne 600 Series
(Single) Driveway Flowmeter

2/12/81

FIGURE S100 - 25



Sealing of Calcopac to Wayne 600 Series
(Dual) Driveway Flowmeter

2/12/81