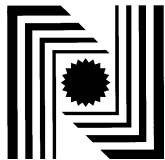
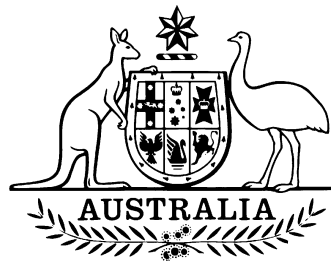


S245A
14 November 2001



National Standards Commission

12 Lyonpark Road, North Ryde NSW

Cancellation Supplementary Certificate of Approval

No S245A

Issued under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that the approval for use for trade granted in respect of the

Gilbarco Model STP Driveway Flowmeter Hydraulic Supply System

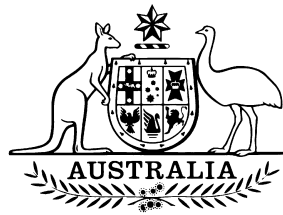
submitted by Gilbarco Aust. Ltd
12-38 Talavera Road
North Ryde NSW 2113

has been cancelled in respect of new instruments as from 1 December 2001.

Signed by a person authorised under Regulation 60
of the National Measurement Regulations 1999 to
exercise the powers and functions of the Commission
under this Regulation.



National Standards Commission



Supplementary Certificate of Approval

No S245A

Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

This is to certify that an approval for use for trade has been granted in respect of the

Gilbarco Model STP Driveway Flowmeter Hydraulic Supply System

submitted by Gilbarco Aust. Ltd
 12-38 Talavera Road
 North Ryde NSW 2113.

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 June 1999, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No S245A and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S245A in addition to the approval number of the instrument.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with the Commission's Document 106.

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

DESCRIPTIVE ADVICE

Pattern: approved 20 May 1994

- A Gilbarco model STP hydraulic supply system for use in a Commission-approved driveway flowmetering system approved for use with submersible turbine pumps.

Variant: approved 20 May 1994

1. With an FE Petro model STP hydraulic supply system.

Technical Schedule No S245A describes the pattern and variant 1.

Variants: approved 3 October 1996

2. With one or more FE Petro model IST1, or IST2, or IST3, 100 mm submersible turbine pumps.
3. With one or more Red Jacket model FX2V116-052, or FX2VD116-053, or FX2VD116-039 mechanical leak detectors.
4. With certain submersible turbine pumps fitted with variable length pipe.

Technical Schedule No S245A Variation No 1 describes variants 2 to 4.

FILING ADVICE

Supplementary Certificate of Approval No S245A dated 29 July 1994 is superseded by this Certificate and may be destroyed.

The documentation for this approval now comprises:

Supplementary Certificate of Approval No S245A dated 24 December 1996
Technical Schedule No S245A dated 29 July 1994 (incl. Test Procedure)
Technical Schedule No S245A Variation No 1 dated 24 December 1996
(incl. Test Procedure)
Figure 1 dated 29 July 1994

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.



National Standards Commission

TECHNICAL SCHEDULE No S245A

Pattern: Gilbarco Model STP Driveway Flowmeter Hydraulic Supply System.

Submitter: Gilbarco Aust. Ltd
12-38 Talavera Road
North Ryde NSW 2113.

1. Description of Pattern

The pattern is a Gilbarco model STP hydraulic supply system which may replace the equivalent components (i.e. motor, pump, gas separator and associated pipework) in a Commission-approved driveway flowmetering system approved for use with submersible turbine pumps and to dispense petrol, kerosene or distillate at flow rates up to the maximum specified in the approval documentation for the flowmetering system.

This system provides positive pressure at all times to the driveway flowmeters and incorporates one or more leak detectors.

1.1 Components

The main components of the hydraulic supply system (Figure 1) are:

- one or more Gilbarco model T221W or T221X 100 mm submersible turbine pumps;
- one or more Gilbarco model DTO4966 mechanical leak detectors; and
- an impact valve ('safety shut-off valve') for each driveway flowmeter.

1.2 Verification/Certification and Sealing Provision

Application of a verification/certification mark to the flowmeter constitutes application of the mark to the system including any components listed above; there is no separate provision for the application of the mark to, or for the sealing of, the components.

1.3 Markings

The following is the minimum data required to be permanently and indelibly marked on the hydraulic supply system, either on a nameplate or on a metal tag sealed to the top housing of the submersible pump:

Manufacturer's name or mark
Serial number
Year of manufacturer
NSC approval number

NSC No S245A

Driveway flowmeters fitted with an hydraulic supply system purporting to comply with this approval shall be marked NSC No S245A, in addition to the approval number of the flowmeter.

2. Description of Variant 1

With an FE Petro model STP hydraulic supply system which is similar to the pattern but uses the following components:

- one or more FE Petro model T221Y or T221Z 100 mm submersible turbine pumps; and
- one or more FE Petro mechanical leak detectors; model 108-400500901 is used for petrol and model 108-400501901 is used for kerosene and distillate.

These detectors may also be used to replace the detectors specified for the pattern.

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Inspector's Handbook.

Maximum Permissible Errors at Verification/Certification

The maximum permissible error applied during a verification test from normal flow rate to the minimum flow rate specified in the Certificate of Approval or Technical Schedule is $\pm 0.3\%$.

1. MECHANICAL LEAK DETECTOR TEST

Operation of the mechanical leak detector is tested by the following procedure:

Note: This Test should be carried out on initial verification. Thereafter, it need not be done at every verification/certification but should be done periodically at the discretion of the relevant verifying authority.

- a) Connect a pressure gauge and test valve to the test port of the impact valve ('safety shut-off valve') under the driveway flowmeter. Ensure that the submersible turbine pump is not turned on during this operation by disabling at the STP control box.
- b) Start the test by closing the test valve. The line pressure should be zero as indicated on the pressure gauge. At the control box enable the pump; observe that the pressure gauge reads approximately 220 kPa and dispense at least 15 L of fuel to remove any air introduced by installing the pressure gauge and valve.
- c) Turn off the pump and observe that the pressure gauge reads approximately 80 kPa (for the pattern) or 204 kPa (for variant 1). Open the test valve sufficiently so that a steady, unbroken stream of fuel is observed to flow from the test valve. Wait until flow ceases from the valve and the test gauge reads zero. Leave the test valve open.
- d) Start the pump by lifting the operating flap, but leaving the nozzle closed. A steady stream of fuel should be observed to flow from the test valve. The pressure on the gauge should not exceed 150 kPa during this step.

Attempt to deliver fuel from the nozzle. A flow rate of less than 11 L/min indicates correct operation of the leak detector.

- e) Close the nozzle but leave the pump running. Slowly close the test valve until the pressure reads approximately 150 kPa and the flow rate from the valve is approximately 200 mL in 1 minute.
- f) Close the test valve with the pump still running. A rise in pressure on the test gauge to approximately 220 kPa should be noted after not more than 10 seconds.
- g) Hang up the nozzle. Observe that the pressure gauge reads approximately 80 kPa (for the pattern) or 204 kPa (for variant 1).
- h) Disable the pump at the control box. Remove the test fixture and replace the plug in the test port. Enable the pump, and dispense at least 15 L of fuel from the flowmeter to remove any air introduced into the system.

2. MINIMUM FLOW RATE TEST

Note: This Test should be carried out on initial verification. Thereafter, it need not be done at every verification/certification but should be done periodically at the discretion of the relevant verifying authority.

The minimum flow rate test is performed by simultaneously running either all hoses on all driveway flowmeters connected to a particular submerged turbine pump (where the number of hoses is 6 or less) or by simultaneously running between 2/3 and 3/4 of all such hoses (where the number of hoses is more than 6). For the purpose of this test, where two or more pumps are connected in parallel, they shall be considered as one pump. Check that the lowest flow rate is not less than 15 L/min.

3. AUTHORISATION TEST

For systems where more than one driveway flowmeter is connected to the same pump, begin a delivery from one flowmeter.

While this delivery is in progress, attempt to make a delivery from a 2nd flowmeter connected to the same pump WITHOUT this flowmeter first being authorised (either locally or remotely) and WITHOUT the indicator reset cycle for this flowmeter first being initiated; the 2nd delivery should not be possible.

National Standards Commission

TECHNICAL SCHEDULE No S245A VARIATION No 1

Pattern: Gilbarco Model STP Driveway Flowmeter Hydraulic Supply System.

Submittor: Gilbarco Aust. Ltd
12-38 Talavera Road
North Ryde NSW 2113.

1. Description of Variants

1.1 Variant 2

With one or more FE Petro model IST1, or IST2, or IST3, 100mm submersible turbine pumps.

1.2 Variant 3

With one or more Red Jacket model FX2V116-052, or FX2VD116-053, or FX2VD116-039 mechanical leak detectors.

1.3 Variant 4

With the submersible turbine pumps used in instruments complying with variants 1 and 2 (FE Petro systems) fitted with variable length (telescopic) pipes to suit the tank diameter.

TEST PROCEDURE

For Variant 3:

Instruments shall be tested in accordance with the manufacturer's instructions as laid out in Red Jacket Petroleum Equipment publications as set out below:

EITHER:

- (A) The document entitled *Mechanical Leak Detector Manual (issue RJ 5191 3/93)*, Testing section pages 23 to 35, *Test Procedures for Mechanical Leak Detectors*, as follows:

Either:

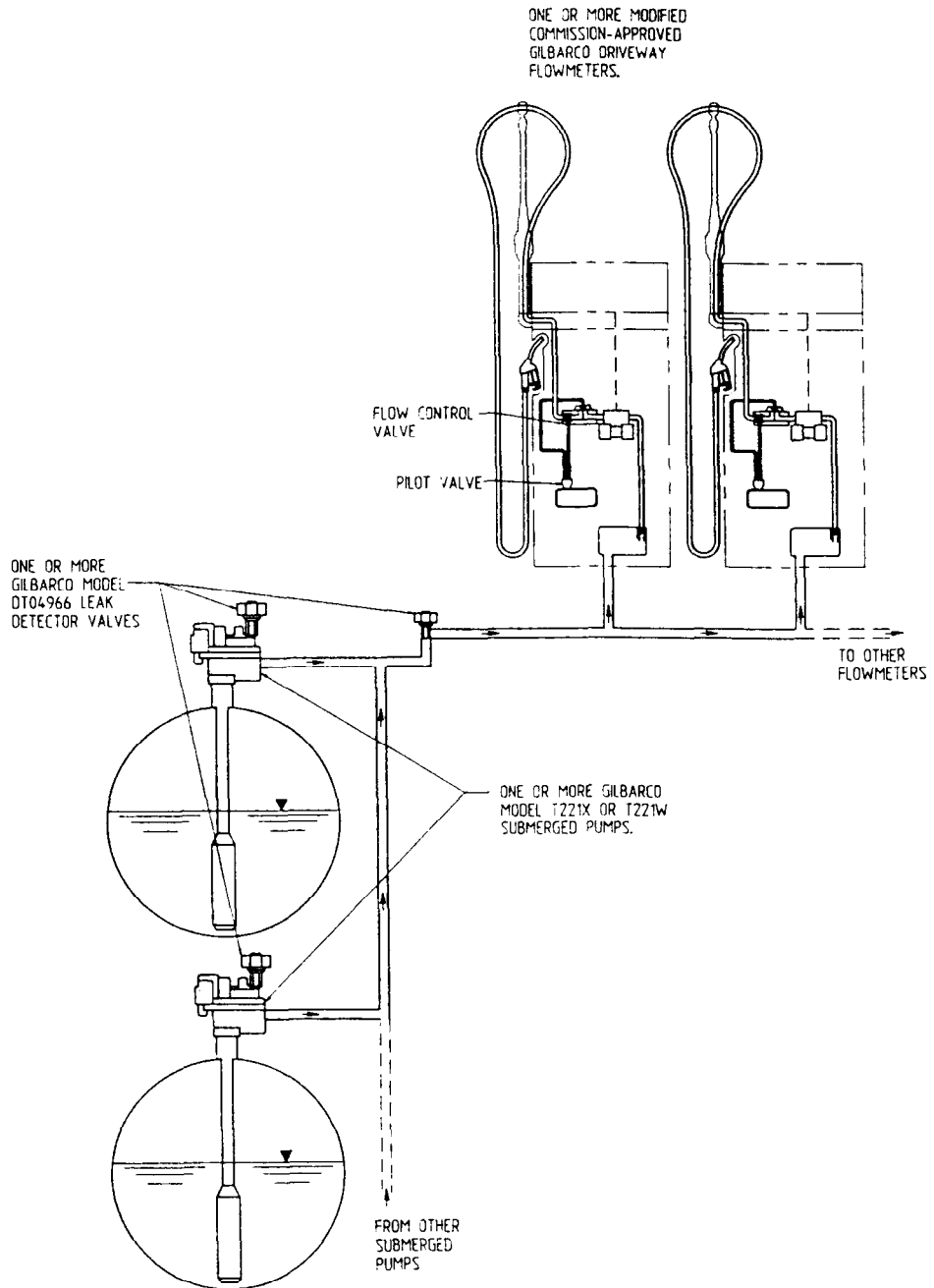
- (i) Option A — Basic Function Evaluation (RJ-21); or
- (ii) Option B — Finite Testing (RJ-20);

OR:

- (B) The document entitled *Test Procedures for Mechanical Leak Detectors (issue 051-259 2/95, February 1995)*, pages 1 to 14, *Testing Mechanical Leak Detectors with the FXT Testing System*.

Ensure that the leak detector has reacted to the imposed leak and is in "leak sensing mode" by attempting to deliver fuel from the nozzle. A restricted flow should be observed indicating that the leak detector has reacted and a simulated leak is present.

FIGURE S245A - 1



Schematic Diagram of a Typical Gilbarco Model STP System