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Translation

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Series tests and acceptance conditions for diesel engines of motive power units

*Essais de série et conditions de réception des moteurs diesel d'engins moteurs
Reihenprüfungen und Annahmebedingungen für Dieselmotoren der Triebfahrzeuge*



UNION INTERNATIONALE DES CHEMINS DE FER
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Summary

The purpose of these international regulations is to give recommendations for carrying out series tests on diesel engines and for the guarantee conditions to be agreed.

These regulations do not form an integral part of the approval conditions and procedures defined in *UIC Leaflet 623-1*. Their application does not amount to UIC approval.

1 - Field of application

1.1 - The purpose of these international regulations is to give recommendations for carrying out series tests on diesel engines and for the guarantee conditions to be agreed.

1.2 - These regulations do not form an integral part of the approval conditions and procedures defined in *UIC Leaflet 623-1* (see [Bibliography - page 8](#)). Their application does not amount to UIC approval.

1.3 - These regulations apply to diesel traction engines for installation in railway motive power units with the exception of engines intended for special locomotives (e.g. refinery or mine locomotives), and of diesel traction engines with a power output of less than 100 kW.

1.4 - These regulations may be applied by the Railways for their own use, if they wish to obtain a comprehensive guarantee of service reliability for any particular type of diesel traction engine.

1.5 - All the units quoted in these international rules must comply with the international system (SI) as defined in *UIC Leaflet 800-00* (see [Bibliography - page 8](#)).

2 - Series test

2.1 - General

The series test is an additional test run for all or some run-in engines of a production series.

2.2 - Test conditions

Acceptance is carried out on the test rig of the manufacturer.

The general test conditions correspond to those specified for the type approval test in *UIC Leaflet 623-2, point 4.2*.

2.3 - Test cycle

The series test consists of an operating test of 4 hours continuous running at the UIC nominal output (see *UIC Leaflet 623-2, point 2.3*).

At the request of the customer additional tests of short duration can be agreed for other points of the characteristic diagram in order to check the suitability of the engine for special application conditions.

2.4 - Measurements

During the series test the characteristics listed in Appendix **A - page 7** shall be measured every hour.

2.5 - Interruptions during the test

During the series test only a single interruption necessitated by engine irregularities is permitted, under the conditions set out in *UIC Leaflet 623-2, point 5*.

2.6 - Assessment

For the assessment of the engine an outside inspection for leakproofness (oil, water, air, exhaust gases) is sufficient. Sampling, such as removing a bearing, a valve, a piston, etc., is permitted.

At the end of the 4-hour test the acceptance inspector must check the functioning of the engine switch-off and safety arrangements as well as restarting.

2.7 - Acceptance certificate

An acceptance certificate, an example of which is shown in Appendix **A**, shall be issued at the end of the series test.

3 - Acceptance

The purchaser or his representative can monitor the production of the diesel engines and their components by the manufacturer and his sub-contractors in accordance with the conditions of the contract.

If the engine is to be installed in a vehicle which is under construction, its final acceptance shall take place after completion of the tests with this vehicle on the track.

In the case of a replacement engine final acceptance shall be granted after the completion of the type approval test, or the series test on the rig, or after running-in, if the series test on the rig is not required.

4 - Guarantee

In addition to *UIC Leaflet 983, Point 13* the following recommendations are made as regards guarantee conditions applicable to diesel engines.

The guarantee conditions for the engines are specified by the purchasing Railway, when concluding the procurement contract.

The guarantee for the diesel engine starts from the day of final acceptance and lasts for two years.

If the engines are not installed in vehicles immediately after delivery, the duration of the guarantee shall be extended to a maximum of 30 months from the date of delivery of the engines to the purchaser. The guarantee shall expire after 30 months, even if the engines have not yet been used in service in the meantime.

The duration of the contractual guarantee for new types of diesel engines, for which no operating experience is available, shall be the subject of special arrangements between purchaser and manufacturer.

If during the guarantee period the diesel engine is withdrawn from service to carry out repairs covered by the guarantee, the 2-year guarantee period shall be extended by the length of this idle period.

If during the contractual guarantee period defects of the same type are found on at least 5 % of engines of the same type and the same supply batch, and if these defects are likely to impair the proper functioning of these engines, the purchaser shall have the right to request the extension of the guarantee period for the engines involved, or for all engines of this supply batch, by at least a full year.

If application of the guarantee results in the replacement of engines by the manufacturer, his responsibility shall extend only until the expiry of the guarantee period for the replaced engines.

The supplier shall be responsible for design faults, the materials used and the production of all engines and engine components supplied by him. He must also repair damage to the other parts of the diesel engine caused by a defect covered by the guarantee.

The supplier shall also bear the costs of the repair or supply of new parts, including the transport costs, as part of the guarantee. The costs of removing and re-installing the diesel engine shall be borne by the purchaser; however, the costs of disassembly and re-assembly of the engine are the responsibility of the supplier.

If due to the negligence of the supplier a vehicle is immobilised for more than X days¹, the supplier shall be debited with the amount corresponding to the immobilisation costs of the vehicle from day X¹ + 1.

In the case of normal wear and tear the purchaser shall be responsible for the cost of repairing or exchanging the parts.

1. Idle periods shall be covered by a special agreement between purchaser and supplier.

If in the case of damage to the diesel engine covered by the guarantee other damage is found, which could have been avoided if normal inspection had been carried out and the engine had been withdrawn from service in time, the purchaser shall be responsible for the costs arising from the additional repair work.

As soon as major damage covered by the guarantee occurs the manufacturer must be informed, before the engine is removed, so that the cause of damage can be determined jointly and, at the same time, a decision can be made as to where repairs shall be carried out and the nature of the work involved; the supplier must indicate within a period set by the purchaser whether he wants to carry out the work himself in his workshops or whether he agrees to having the work performed at his expense in the purchaser's workshops.

In cases of urgency the purchaser can repair defects of minor importance without prior agreement, if the repair costs, including overheads, do not exceed a proportion of the purchasing price of the engine to be agreed. However, the supplier must be informed immediately.

Bibliography

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International Union of Railways (UIC)

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3. International standards

International Organization for Standardization (ISO)

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ISO 9000:2000: Quality management systems - Fundamentals and vocabulary, 2000

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