

**Introduction**

Section 1 of this document aims to provide a brief overview of the MOT test and an introduction to the data provided in the MOT Testing Data Extract. Section 2 provides technical details of the datasets provided.

**Section 1 - Understanding the MOT Data**

What is the MOT Test?

Sections 45 to 48 of the Road Traffic Act 1988 provide the legislative basis for MOT testing. The purpose of the MOT test is to ensure that cars, other light vehicles (including some light goods vehicles), private buses and motor bicycles over a prescribed age are checked at least once a year to see that they comply with key roadworthiness and environmental requirements in the Road Vehicle Construction and Use Regulations 1986 and the Road Vehicle Lighting Regulations 1989 as amended. A Test Certificate is issued following successful completion of an examination.

The Test Certificate relates only to the condition of testable items at the time of the test and should not be regarded as evidence:

• of their condition at any other time;

• of the general mechanical condition of the vehicle; or

• that the vehicle fully complies with all aspects of the law on vehicle construction and use.

The test does not require the dismantling of parts of the vehicle although doors, boot lids and other means of access will normally need to be opened. In the case of motor bicycles, cover panels may also need to be removed or raised to examine the vehicle structure.

Detailed legislation on vehicles exempt from the MOT is set out in the Motor Vehicles Test Regulations 1981 regulation 6 (as amended), and in the Road Traffic Act 1988 Section 189. Examples of vehicles exempted from MOT testing include electrically propelled goods vehicles, track laying vehicles, vehicles constructed or adapted to form part of an articulated combination, works trucks, trailers, pedestrian controlled mechanically propelled vehicles and electrically powered pedal cycles. Legislation also exempts vehicles used in particular ways (e.g. travelling to and from test) or particular places (e.g. some islands) from the need to have a valid MOT test certificate. It should also be noted that even when a vehicle is not required to have a test certificate it must still be maintained in a roadworthy condition.

The MOT test is conducted principally at private garages and by some local authorities. These are authorised, or designated as appropriate, by DVSA, and known as Vehicle Testing Stations (VTS). VTS and their staff are subject to inspections by DVSA to ensure that testing is properly carried out using approved test equipment. Only specifically approved people may conduct tests, sign official test documents, and make database entries. VTS may only test those classes and types of vehicle that they are authorised to test and which are of a size and weight that can be accommodated on the authorised test equipment.

Test Classes

The vehicles subject to test under the Regulations are divided into the following classes: -

|  |  |  |
| --- | --- | --- |
| Class | Description | Age at which first test is required (years) |
| 1 | Motor bicycles (with or without sidecars) up to 200 cm3 | 3 |
| 2 | All motor bicycles (including Class 1) (with or without sidecars). | 3 |
| 3 | 3 wheeled vehicles not more than 450 kg unladen weight (excluding motor bicycles with side cars). (3 wheeled vehicles more than 450 kg unladen are in class 4.) | 3 |
| 4 | Cars, passenger vehicles, motor caravans, Private Hire Vehicles, Motor Tricycles, Quadricycles and dual purpose vehicles in all cases with up to eight passenger seats | 3 |
| Goods vehicles not exceeding 3,000 kg Design Gross Weight (DGW). | 3 |
| Taxis and ambulances in either case with up to eight passenger seats. | 1 |
| Passenger vehicles, ambulances, motor caravans and dual purpose vehicles in all cases with nine to twelve passenger seats that;   * are fitted with no more seat belts than the minimum required because of their construction; or * are identified as having been fitted with a type approved seat belt installation when built; or * have been tested as class 4A, 5A or 6A (PSV) with at least the same number of seat belts as are currently fitted. | 1 |
| 5 | Private passenger vehicles, ambulances, motor caravans and dual purpose vehicles in all cases with thirteen or more passenger seats (including community and play buses, etc.) that:   * are fitted with no more seat belts than the minimum required because of their construction; or * are identified as having been fitted with a type approved seat belt installation to all seats when built; or * have been tested as class 5A or class 6A (PSV) with at least the same number of seat belts as are currently fitted. | 1 |
| 7 | Goods Vehicles over 3,000 kg up to and including 3,500 kg DGW | 3 |

**NOTE:** A number of records have Test Class 0. These reflect tests carried out prior to MOT Computerisation, for which a duplicate or replacement test certificate was requested. This process created a valid test record, which has been included for completeness.

What do the datasets contain?

The MOT Testing data release is comprised of two main groups of data, each divided into calendar year.

* Test Results, containing: -
  + Information about the time, place and final outcome of the MOT test.
  + Information about the vehicle tested.
* Test Items, which contains information about individual RfRs (Reasons for Rejection) discovered during the test.

The remaining three datasets contain further information about individual RfRs, and the groups within which they can fall.

The current release contains test data from 01/01/2005 to 31/12/2016. MOT Computerisation was not fully implemented across Great Britain until 01/04/2006, therefore the dataset will not contain all tests performed between 01/01/2005 and 31/03/2006.

The data encompasses all tests for which a valid MOT pass could have been a potential outcome.

This version of the dataset has introduced a new unique ID variable in the Vehicle Test Result table. This allows users to identify tests for the same vehicle and therefore track it across time.

The MOT Testing Data release contains approximately 30+ million tests and 65+ million associated test item records for each years worth of data. As such, analysis will need to be performed using a suitable database system (e.g. MS SQL, MySQL, PostgreSQL, Oracle). MS Excel and Access are NOT recommended for analysis of this dataset.

Test Result Data

Vehicle Mileage, Vehicle Colour, Fuel Type and Cylinder Capacity are as entered or validated by the Nominated Tester (NT) at the point of test.

Unique vehicles can be tracked using the Vehicle ID field, which is based upon the Registration and VIN (Vehicle Identification Number).

A high level postcode region is provided. To avoid identification of any individual VTS, any region with less than 5 active sites is merged under the code ‘XX’.

Vehicle make and model data is sourced from the DVSA’s vehicle dataset. A small proportion of vehicles do not have a valid record, and have therefore been marked ‘UNCLASSIFIED’.

Vehicles that have an unknown date of manufacture are allocated a first use date of 01/01/1971 by the DVLA. As a result of this, data for 1971 will show anomalies.

Test Outcomes: -

|  |  |  |
| --- | --- | --- |
| **Result** | **Result Code** | **Notes** |
| Pass | P | Test Pass |
| Fail | F | Test Fail |
| Pass with Rectification at Station | PRS | The process where minor defects may be rectified within one hour after the test, but before recording the result on the VTS Device (Vehicle begins test in a fail condition, but is in pass condition when result is input). |
| Abandon | ABA | The term used when a test cannot be completed because the NT considers it unsafe to continue or because it becomes apparent during the test that certain items cannot be satisfactorily inspected.  An appropriate fee may be charged for the test. |
| Abort | ABR | The term used when a test cannot be completed because of a problem with the testing equipment or the NT.  No fee may be charged for the test. |
| Aborted by VE | ABRVE | This test was aborted by Vehicle Examiner. No fee may be charged for the test. |

Note: Refusal to Test is no longer used as a test outcome in MOT Testing System.

Test Types: -

|  |  |  |
| --- | --- | --- |
| **Test Type** | **Type Code** | **Notes** |
| Normal MOT test | NT | Full initial test |
| Statutory Appeal | ES |  |
| Partial Retest Left VTS | PL | Chargeable (half standard fee) partial MOT retest when vehicle has left VTS for repair of any items, and returned by close of next working day. |
| Partial Retest Repaired at VTS | PV | Free partial MOT retest where vehicle has remained at VTS for repair. |
| Re-Test | RT | Full retest of vehicle. Derived by system, not selected by NT |

Note: Refusal to Test is no longer held as a test type in MOT Testing System.

Fuel Types: -

|  |  |  |
| --- | --- | --- |
| **Fuel Type** | **Type Code** | **Notes** |
| CNG | CN | Compressed Natural Gas |
| Diesel | D |  |
| Electric Diesel | ED |  |
| Electric | EL |  |
| Fuel Cells | FC |  |
| Gas | GA |  |
| Gas Bi-Fuel | GB |  |
| Gas Diesel | GD |  |
| Hybrid Electric (Clean) | HY |  |
| LNG | LN | Liquefied Natural Gas |
| LPG | LP | Liquefied Petroleum Gas |
| Other | OT |  |
| Petrol | PE |  |
| Steam | ST |  |

Test Item Data

Dangerous item markers are recorded at the discretion of the NT at the point of test.

RfR Types: -

|  |  |  |
| --- | --- | --- |
| **RfR Type** | **Type Code** | **Notes** |
| Fail | F | A test failure item. |
| PRS | P | An item in a failing state at the point of test, repaired within one hour of the test and before the result was entered. |
| Advisory | A | An Advisory Notice |

Test Item Detail and Grouping

Each unique, usable combination of RfR ID and Test Class is a ‘leaf’ within the test item hierarchy. Every RfR can be grouped within one or more levels below its parent vehicle class.

Where a Test Item is of type Fail or PRS, the RfR description is printed upon the VT30 (test failure document). Where a Test Item is of type Advisory, the Advisory text is printed upon an accompanying advisory notice.

Vehicle Test Class

Top Level Item

Top Level Item

Test Item

Test Item

RfR

RfR

0-3 additional levels of Test Item

Failure Item Locations

Test Items may have a failure location identifier that can be decoded using a lookup table of failure locations. Each failure location lookup identifier specifies the location from a Lateral, Vertical and Longitudinal perspective (when applicable), for example, failure location ID: 10 has the following attributes.  
  
Lateral : Offside

Longitudinal : Rear

Vertical : Outer

Front

Offside Nearside

Rear

Comparison with DVSA published statistics

Historically, DVSA has published MOT testing volumes and failure rates as part of its annual Effectiveness Report. Traditionally, Normal (Initial) tests with outcomes of Pass, Fail or PRS are used. All other tests are omitted.

Failure rates have been calculated as follows: -

Initial failure rate = (Test Fail Results + Test PRS Results) / Total Tests

Final failure rate = Test Fail Results / Total Tests

Initial Failures by defect category are calculated using a count of distinct tests with one or more Fail or PRS type Test Items associated. The categories used are derived from the top level items in the Test Item hierarchy.

**Section 2 – Dataset Specification**

Data is provided in a ‘csv like’ format, using the pipe character ‘|’ as a delimiter. The carriage return character signifies the end of a record. Examples of create table syntax with suggestions for indexing are provided, in a form suitable for a MySQL database. Import syntax for this database type would be as follows: -

LOAD DATA LOCAL INFILE '*file-name*'

INTO TABLE *table-name*

FIELDS TERMINATED BY '|'

LINES TERMINATED BY '\n'

**IGNORE 1 LINES**

;

Entity Relationship Diagram

**Test Item**

**Test Item Detail**

A Test Item is always defined by a Test Item

Detail

A Test Item detail may define one or more Test Items

**Test Item Group**

A Test Item Group may have one or more child

Test Item Groups

A Test Item Group may have a parent Test Item Group

A Test Item Group always has one or more child Test Items

A Test Item detail always has a parent Test Item Group

**Test Result**

A Test Item always belongs to one Test Result

A Test Result may have one or more Test Items

**Failure Location**

A Failure Location is sometimes used to define the Location of a Test Item on a Vehicle

A Test Item may have one Failure Location.

A failure location identifies a latitude ref, a longitude ref and a vertical ref as applicable for a specific test item.

Vehicle Test Result

This contains details of individual MOT tests and of the vehicle tested. All tests which could result in a valid pass result are included. Datasets are provided by calendar year and can be concatenated if required.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Column Name (Suggested) | Description | Type | Length | Notes |
| Test ID | Unique Identifier for a test | Integer | 10 | Primary Key |
| Vehicle ID | Unique Identifier for a vehicle | Integer | 10 |  |
| Test Date | Date of Test | Date |  | Format ‘YYYY-MM-DD’ |
| Test Class ID | Class of Vehicle Tested | Character | 2 |  |
| Test Type | Type of MOT Test (See page 4) | Character | 2 |  |
| Test Result | Test Outcome (See page 3) | Character | 5 |  |
| Test Mileage | Mileage recorded at point of test | Integer | 7 | Zero or blank in the file means it was not possible to obtain a reading or none was taken e.g. an aborted test. |
| Postcode Area | Test Location | Character | 2 |  |
| Make | Vehicle Make | Character | 50 |  |
| Model | Vehicle Model | Character | 50 |  |
| Colour | Vehicle Colour | Character | 16 |  |
| Fuel Type | Vehicle Fuel Type (See page 4) | Character | 2 |  |
| Cylinder Capacity | Vehicle Cylinder Capacity | Integer | 10 |  |
| First use Date | Vehicle Date of First Use | Date |  | Format ‘YYYY-MM-DD’ |

Example MySQL Create Table Syntax

CREATE TABLE TESTRESULT (

TESTID INT UNSIGNED

,VEHICLEID INT UNSIGNED

,TESTDATE DATE

,TESTCLASSID CHAR(2)

,TESTTYPE CHAR(2)

,TESTRESULT CHAR(5)

,TESTMILEAGE INT UNSIGNED

,POSTCODEREGION CHAR(2)

,MAKE CHAR(50)

,MODEL CHAR(50)

,COLOUR CHAR(16)

,FUELTYPE CHAR(2)

,CYLCPCTY INT UNSIGNED

,FIRSTUSEDATE DATE

,PRIMARY KEY (TESTID)

,INDEX IDX1 (TESTDATE, TESTTYPE, TESTRESULT, TESTCLASSID)

)

;

Vehicle Test Item

This contains details of individual MOT test failure items and advisory notices. Datasets are split by calendar year and can be concatenated if required.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Column Name (Suggested) | Description | Type | Length | Notes |
| Test ID | Unique Identifier for a test | Integer | 10 | References associated test in Vehicle Test Result table. |
| RfR ID | Reason for Rejection ID | Integer | 4 |  |
| RfR Type | Reason for Rejection Type (See page 4) | Character | 1 | ‘F’, ‘P’, ‘A’ |
| Location ID | Failure Location ID | Integer | 4 | References associated failure location in Failure Location table. The location Id identifies the lateral, longitudinal and vertical position of the RfR (where applicable). |
| D Mark | Dangerous Item Marker | Character | 1 | Signifies that item was marked ‘Dangerous’ by NT. |

Example MySQL Create Table Syntax

CREATE TABLE TESTITEM (

TESTID INT UNSIGNED

,RFRID SMALLINT UNSIGNED

,RFRTYPE CHAR(1)

,LOCATIONID INT

,DMARK CHAR(1)

,INDEX IDX1 (TESTID)

,INDEX IDX2 (RFRID)

);

Test Item Detail

This contains details of individual RfRs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Column Name (Suggested) | Description | Type | Length | Notes |
| RfR ID | Reason for Rejection ID | Integer | 4 | Primary Key |
| Test Class ID | Class of Vehicle Tested | Character | 2 | Primary Key |
| Test Item ID | Test Item ID | Integer | 4 | References parent test item in Test Item Group table (with Test Class ID) |
| Minor Item | Minor Item Marker – Specifies whether an item can be classified as minor (qualifies for free partial retest). | Character | 1 | ‘Y’, ‘N’ |
| RfR Desc | RfR Short Description | Character | 250 | Text printed on VT30 test failure document |
| RfR Loc Marker | RfR Location Marker – Specifies whether further location details are required against this item. | Character | 1 | ‘Y’, ‘N’ |
| RfR Insp Man Desc | RfR Inspection Manual Description | Character | 500 |  |
| RfR Advisory Text | Advisory Notice Text | Character | 250 | Text printed for type ‘A’ Test Items on Advisory Notice |
| Test Item Set Section ID |  | Integer | 4 | References top level test item in Test Item Group table (with Test Class ID) |

Example MySQL Create Table Syntax

CREATE TABLE TESTITEM\_DETAIL (

RFRID SMALLINT UNSIGNED

,TESTCLASSID CHAR(2)

,TSTITMID SMALLINT UNSIGNED

,MINORITEM CHAR(1)

,RFRDESC CHAR(250)

,RFRLOCMARKER CHAR(1)

,RFRINSPMANDESC CHAR(500)

,RFRADVISORYTEXT CHAR(250)

,TSTITMSETSECID SMALLINT UNSIGNED

,PRIMARY KEY (RFRID, TESTCLASSID)

,INDEX IDX1 (TSTITMID, TESTCLASSID)

,INDEX IDX2 (TSTITMSETSECID, TESTCLASSID)

)

;

Test Item Group

This contains details of RfR groupings within the test item hierarchy. The top level group for a Test Class is always ‘Vehicle’, with a Test Item ID of 0.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Column Name (Suggested) | Description | Type | Length | Notes |
| Test Item ID | Test Item ID | Integer | 4 | Primary Key |
| Test Class ID | Class of Vehicle Tested | Character | 2 | Primary Key |
| Parent ID |  | Integer | 4 | References parent Test Item ID in hierarchy (with Test Class ID) |
| Test Item Set Section ID |  | Integer | 4 | References top level test item in hierarchy (with Test Class ID) |
| Item Name | Test Item Name | Character | 100 |  |

Example MySQL Create Table Syntax

CREATE TABLE TESTITEM\_GROUP (

TSTITMID SMALLINT UNSIGNED

,TESTCLASSID CHAR(2)

,PARENTID SMALLINT UNSIGNED

,TSTITMSETSECID SMALLINT UNSIGNED

,ITEMNAME CHAR(100)

,PRIMARY KEY (TSTITMID, TESTCLASSID)

,INDEX IDX1 (PARENTID, TESTCLASSID)

,INDEX IDX2(TSTITMSETSECID, TESTCLASSID)

)

Failure Location

Reference for Location IDs in Test Item Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Column Name (Suggested) | Description | Type | Length | Notes |
| Failure Location ID |  | Integer | 4 | Primary Key |
| Lateral | Lateral Location Text | Character | 20 |  |
| Vertical | Vertical Location Text | Character | 20 |  |
| Longitudinal | Longitudinal Location Text | Character | 20 |  |

Example MySQL Create Table Syntax

CREATE TABLE FAILURE\_LOCATION (

FAILURELOCATIONID INT(4)

, LATERAL CHAR(20)

, VERTICAL CHAR(20)

, LONGITUDINAL CHAR(20)

,PRIMARY KEY (FAILURELOCATIONID)

)

;

Example Queries

The following assume that tables have been created using the above syntax, and that the annual Test Result and Test Item datasets have been concatenated into a single pair.

Initial, Completed Test Volumes by Class 2009-10 (As calculated in DVSA effectiveness report)

SELECT TESTCLASSID

,TESTRESULT

,COUNT(\*) AS TEST\_VOLUME

FROM TESTRESULT

WHERE TESTTYPE=’NT’

AND TESTRESULT IN (‘P’,’F’,’PRS’)

AND TESTDATE BETWEEN ‘2009-04-01’ AND ‘2010-03-31’

GROUP BY TESTCLASSID

,TESTRESULT

;

RfR Volumes and Distinct Test Failures 2008 for Class 7 Vehicles by Top Level Test Item Group (For vehicles as presented for initial test)

SELECT d.ITEMNAME

,COUNT(\*) AS RFR\_VOLUME

,COUNT(DISTINCT a.TESTID) AS TEST\_VOLUME

FROM TESTRESULT AS a

INNER JOIN TESTITEM AS b

ON a.TESTID=b.TESTID

INNER JOIN TESTITEM\_DETAIL AS c

ON b.RFRID=c.RFRID

AND a.TESTCLASSID = c.TESTCLASSID

INNER JOIN TESTITEM\_GROUP AS d

ON c.TSTITMSETSECID = d.TSTITMID

AND c.TESTCLASSID = d.TESTCLASSID

WHERE a.TESTDATE BETWEEN ‘2008-01-01’ AND ‘2008-12-31’

AND a.TESTCLASSID = ‘7’

AND a.TESTTYPE=’NT’

AND a.TESTRESULT IN (‘F’,’PRS’)

AND b.RFRTYPE IN(‘F’,’P’)

GROUP BY d.ITEMNAME

;

Basic Expansion of RfR Hierarchy for Class 5 Vehicles

SELECT a.RFRID

,a.RFRDESC

,b.ITEMNAME AS LEVEL1

,c.ITEMNAME AS LEVEL2

,d.ITEMNAME AS LEVEL3

,e.ITEMNAME AS LEVEL4

,f.ITEMNAME AS LEVEL5

FROM TESTITEM\_DETAIL AS a

INNER JOIN TESTITEM\_GROUP AS b

ON a.TSTITMID = b.TSTITMID

AND a.TESTCLASSID = b.TESTCLASSID

LEFT JOIN TESTITEM\_GROUP AS c

ON b.PARENTID = c.TSTITEMID

AND b.TESTCLASSID = c.TESTCLASSID

LEFT JOIN TESTITEM\_GROUP AS d

ON c.PARENTID = d.TSTITEMID

AND c.TESTCLASSID = d.TESTCLASSID

LEFT JOIN TESTITEM\_GROUP AS e

ON d.PARENTID = e.TSTITEMID

AND d.TESTCLASSID = e.TESTCLASSID

LEFT JOIN TESTITEM\_GROUP AS f

ON e.PARENTID = f.TSTITMID

AND e.TESTCLASSID = f.TESTCLASSID

WHERE a.TESTCLASSID = ‘5’

;

**Appendix A – Further Reading**

MOT information for public use

<https://www.gov.uk/getting-an-mot>

MOT Testing Manuals and Guides

<https://www.gov.uk/topic/mot/manuals>

Internal DVSA MOT Scheme Operations Manual

<https://www.gov.uk/government/organisations/driver-and-vehicle-standards-agency>