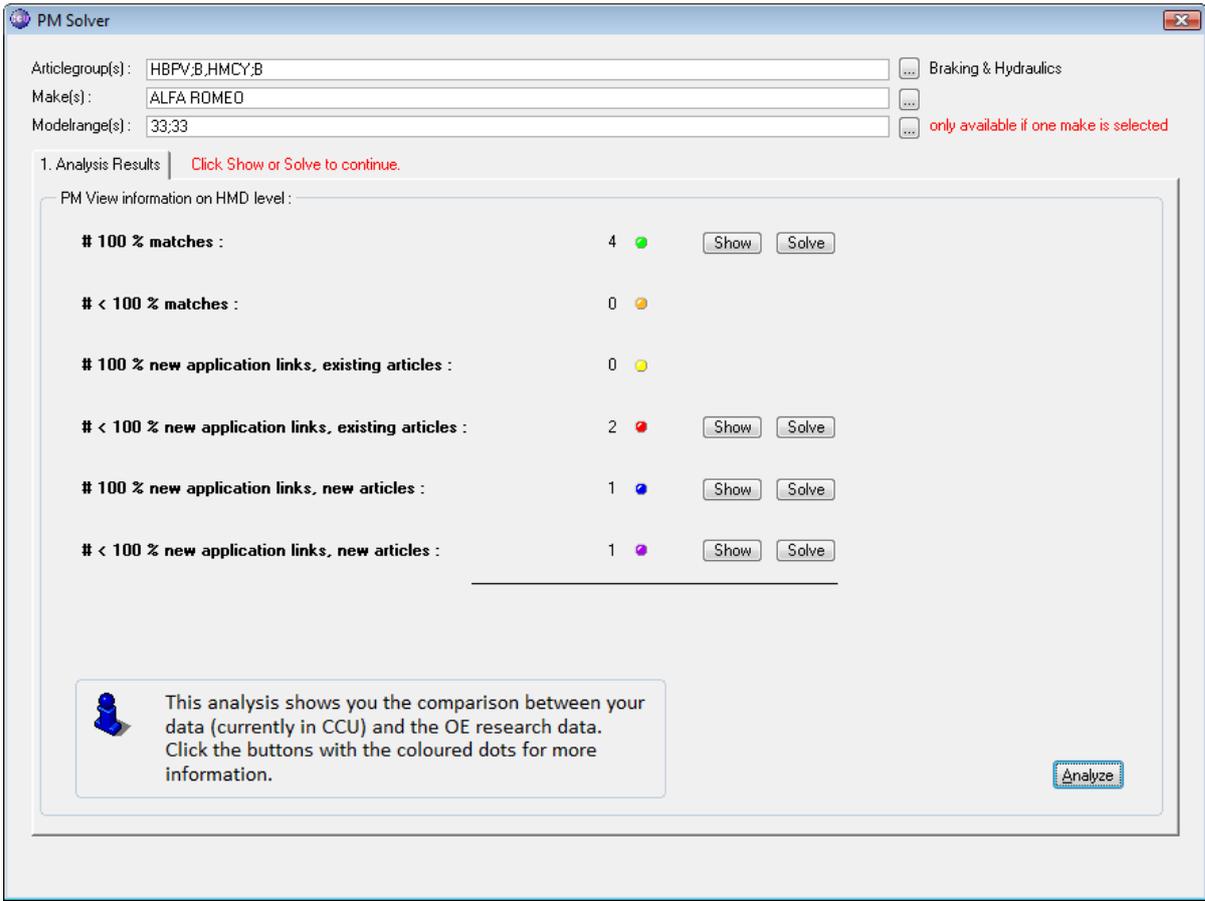


What's new?

As mentioned in the previous newsletter, we have a new tool to help you getting your articles and application links up-to-date with the OE research data. With one push of the button, this tool can give you insight into your data compared to the OE data, which you then can further analyze in detail, export to Excel, add to your data or even solve automatically. Nevertheless, it is still recommended to look into the differences and solve them case by case.

In order to be able to use this tool, the PM solver, your vehicles need a unique linkage to HMD numbers and articlegroups and articletree need to be the same as the ones Headline has (where you have a OE research subscription). For the best results, attributes need also to be the same. Because this tool is also able to add attributes to your articles, the attributes which cannot be found (not created in the CCU Supervisor Module) will be added to the first Memo fields available. It is recommended to enable this memo in the CCU Supervisor Module, if it is not already. Let's take a look at how this tool works:



The screenshot shows the 'PM Solver' application window. At the top, there are input fields for 'Articlegroup(s): HBPV;B,HMCY;B', 'Make(s): ALFA ROMEO', and 'Modelrange(s): 33;33'. To the right, there are dropdown menus for 'Braking & Hydraulics' and a note 'only available if one make is selected'. Below the inputs, a section titled '1. Analysis Results' contains a table of comparison metrics:

| Metric | Count | Status | Action |
|--|-------|------------|------------|
| # 100 % matches : | 4 | Green dot | Show Solve |
| # < 100 % matches : | 0 | Yellow dot | |
| # 100 % new application links, existing articles : | 0 | Yellow dot | |
| # < 100 % new application links, existing articles : | 2 | Red dot | Show Solve |
| # 100 % new application links, new articles : | 1 | Blue dot | Show Solve |
| # < 100 % new application links, new articles : | 1 | Purple dot | Show Solve |

Below the table, a text box explains: 'This analysis shows you the comparison between your data (currently in CCU) and the OE research data. Click the buttons with the coloured dots for more information.' An 'Analyze' button is located at the bottom right of the window.

First, the articlegroup(s) and make(s) to be checked need to be selected. When you only select one Make, you also have the possibility to select one or more Modelranges. Because this tool needs to analyze almost your complete data, it is recommended to run this tool only for a few Makes. You can select/deselect a Make by clicking the corresponding lines, also with the "Shift"-key you can select a range of Makes. The same also works with the Articlegroups and Modelrange selection. When in the Articlegroups selection, you also have the possibility to sort columns by clicking its headers. In combination with the "Shift"-key selection, it is very easy to select all articlegroups in combination with one single level.

When the selection is made, click the "Analyze"-button to start the Analysis. This can take a while depending your selection. When finished, the OE research data is divided in six groups, indicated with their own colour. Let us take a look at their meaning, keeping in mind that the tool analyses the article-vehicle linkages over the OE numbers :

- 100 % matches (green) : these are the OE research references where the OE numbers match 100% with your data.
- < 100 % matches (orange) : these are the OE research references where some of the OE numbers match with your data, but not all.

Solving these will result in missing OE numbers, article- and application attributes being added to the matching article. The next two groups are :

- 100 % new application links, existing articles (yellow) : these are OE research articles where the OE numbers match with an article already existing in your data, but which is not linked to this vehicle. There are no articles already linked on this vehicle for this articlegroup.
- < 100 % new application links, existing articles (red) : these are OE research articles where the OE numbers match with an article already existing in your data, but which is not linked to this vehicle. There are articles already linked on this vehicle for this articlegroup.

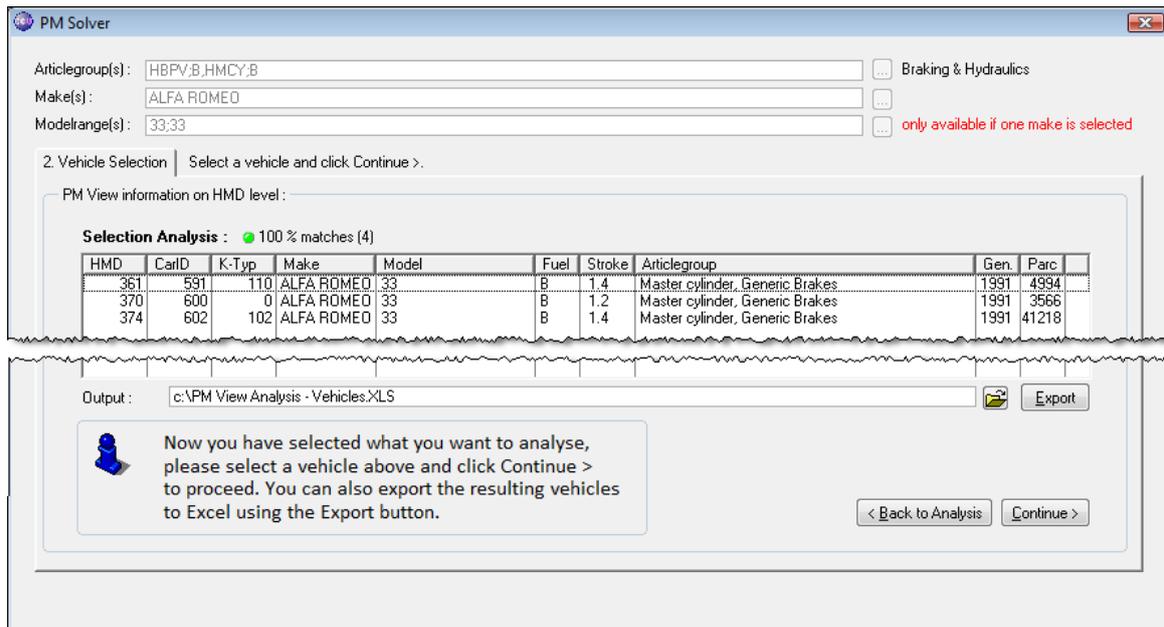
Solving these will result in the matching article being linked to the vehicles found in the OE research data, together with the application attributes. As with the matches (first two groups), the missing OE numbers and article attributes will also be added. The last two groups :

- 100 % new application links, new articles (blue) : these are the OE research references where the OE numbers where not found in your data. There are no articles already linked on this vehicle for this articlegroup.
- < 100 % new application links, new articles (purple) : these are the OE research references where the OE numbers where not found in your data. There are articles already linked on this vehicle for this articlegroup.

Solving these will result in the articles being created with their attributes, linked to the accompanying vehicles with their attributes, and all OE numbers linked. For the creation of the articlenumbers it is required that this is set up (correctly) in the CCU Supervisor Module. Here, a default articlenumbering mask needs to be linked and a default article status needs to be set.

When clicking the "Show"-button behind one of these groups, you get a more detailed overview of the application linkages where these appear. On the newly appeared window, a list of the vehicles and articlegroups are shown which have PM information for the group you selected. Note that the selection is shown in the upper part of the window. With the "< Back to Analysis"-button you can return to the previous window.

The vehicles shown can be sorted on any column by clicking the column headers. For example, when you click on Parc, you can sort on the parcranges. Clicking again sorts them descending (Z-A or large to small), this way you can concentrate on the vehicles with the highest parcranges. This complete list can be exported to an Excel-file, by selecting a filename in the "Output"-field and clicking the "Export"-button.



PM Solver

Articlegroup(s): HBPV,B,HMCY,B Braking & Hydraulics

Make(s): ALFA ROMEO ...

Modelrange(s): 33;33 only available if one make is selected

2. Vehicle Selection | Select a vehicle and click Continue >.

PM View information on HMD level:

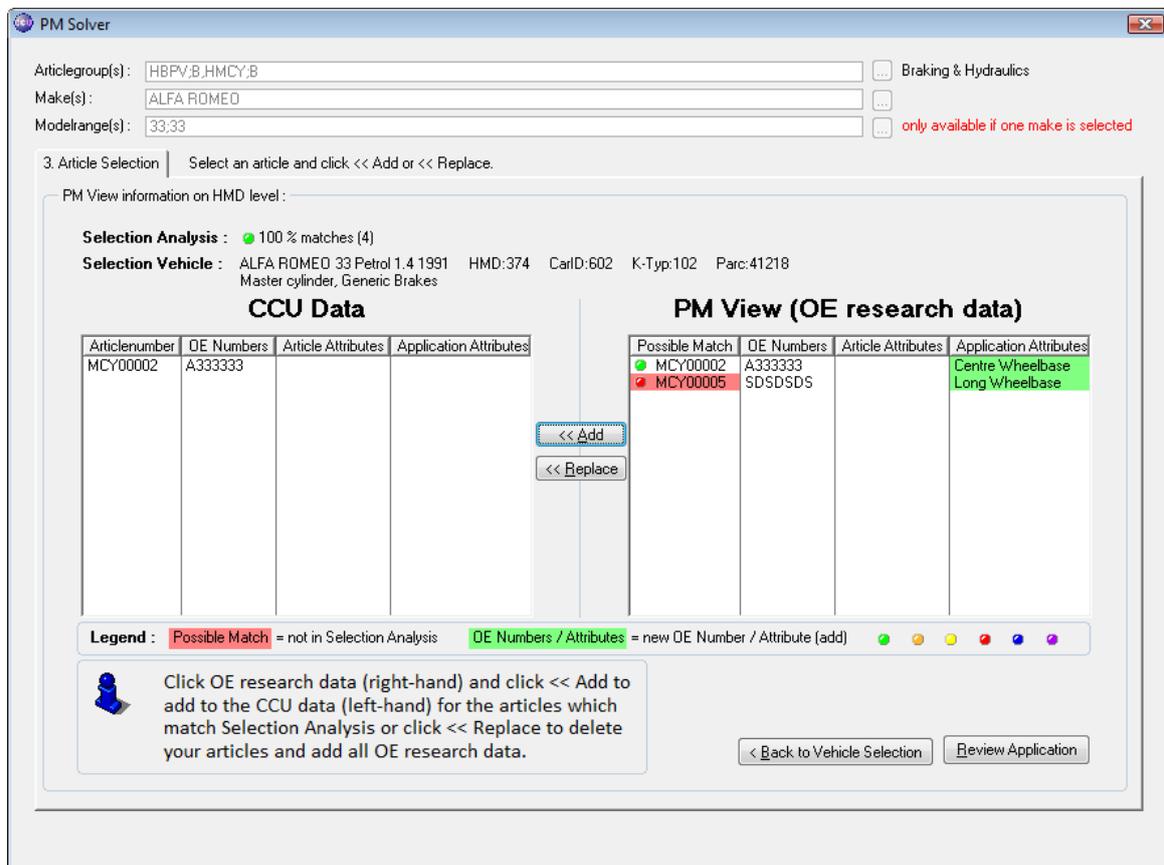
Selection Analysis: ● 100 % matches (4)

| HMD | Card | K-Typ | Make | Model | Fuel | Stroke | Articlegroup | Gen. | Parc. |
|-----|------|-------|------------|-------|------|--------|---------------------------------|------|-------|
| 361 | 591 | 110 | ALFA ROMEO | 33 | B | 1.4 | Master cylinder, Generic Brakes | 1991 | 4994 |
| 370 | 600 | 0 | ALFA ROMEO | 33 | B | 1.2 | Master cylinder, Generic Brakes | 1991 | 3566 |
| 374 | 602 | 102 | ALFA ROMEO | 33 | B | 1.4 | Master cylinder, Generic Brakes | 1991 | 41218 |

Output: c:\PM View Analysis - Vehicles.XLS

Now you have selected what you want to analyse, please select a vehicle above and click Continue > to proceed. You can also export the resulting vehicles to Excel using the Export button.

Now you can proceed to the next step by selecting a line and clicking the “Continue >”-button.



PM Solver

Articlegroup(s): HBPV,B,HMCY,B Braking & Hydraulics

Make(s): ALFA ROMEO ...

Modelrange(s): 33;33 only available if one make is selected

3. Article Selection | Select an article and click << Add or << Replace.

PM View information on HMD level:

Selection Analysis: ● 100 % matches (4)

Selection Vehicle: ALFA ROMEO 33 Petrol 1.4 1991 HMD:374 Card:602 K-Typ:102 Parc:41218
Master cylinder, Generic Brakes

CCU Data

| Articlenumber | OE Numbers | Article Attributes | Application Attributes |
|---------------|------------|--------------------|------------------------|
| MCY00002 | A333333 | | |

PM View (OE research data)

| Possible Match | OE Numbers | Article Attributes | Application Attributes |
|----------------|------------|--------------------|------------------------|
| ● MCY00002 | A333333 | | Centre Wheelbase |
| ● MCY00005 | SDSDSDS | | Long Wheelbase |

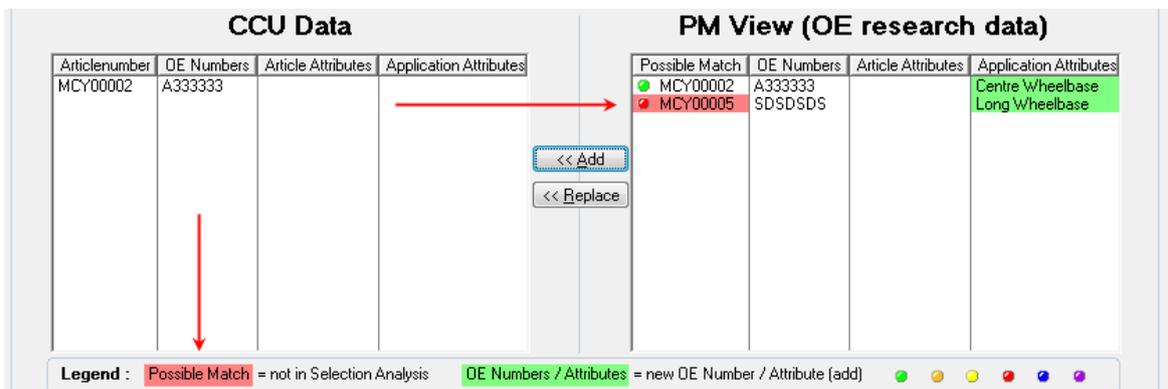
Legend: Possible Match = not in Selection Analysis OE Numbers / Attributes = new OE Number / Attribute (add)

Click OE research data (right-hand) and click << Add to add to the CCU data (left-hand) for the articles which match Selection Analysis or click << Replace to delete your articles and add all OE research data.

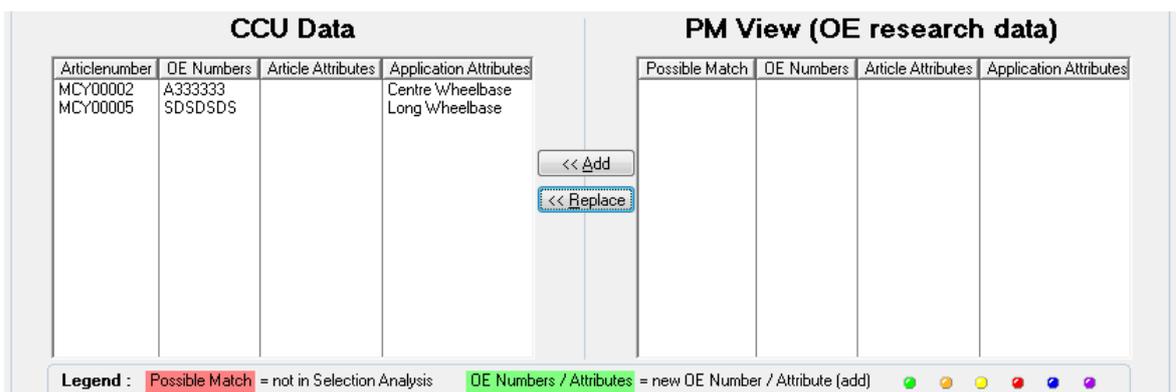
On this window, both your data (CCU Data on left-hand side of the window) and the OE research data (PM View on right-hand side of the window) are shown for the selected vehicle and articlegroup.

Now the analysis is fully visible, how can the PM data be added to the CCU data ? The above example shows the CCU data having one article linked to this vehicle, and the PM data having two articles linked to this vehicle, with their differences Centre Wheelbase and Long Wheelbase.

Because the selection is to show only 100% matches, when we click the MCY00002 on the right-hand and click the “<< Add”-button, only the Centre Wheelbase attribute will be added to the currently existing MCY00002 (on the left hand). When doing the same for another group selection, the entire vehicle link and/or article are also added. Another consequence of the group selection is that you cannot add articles (for example MCY00005) from another group, these are displayed in red.



Another possibility is to replace your current data completely. This can be done by clicking “<< Replace”. What happens then, is that all articles from the selected articlegroup on the selected vehicle are removed and all articles from the PM data are added, regardless of their group selection. In the above example, this will result in the following :



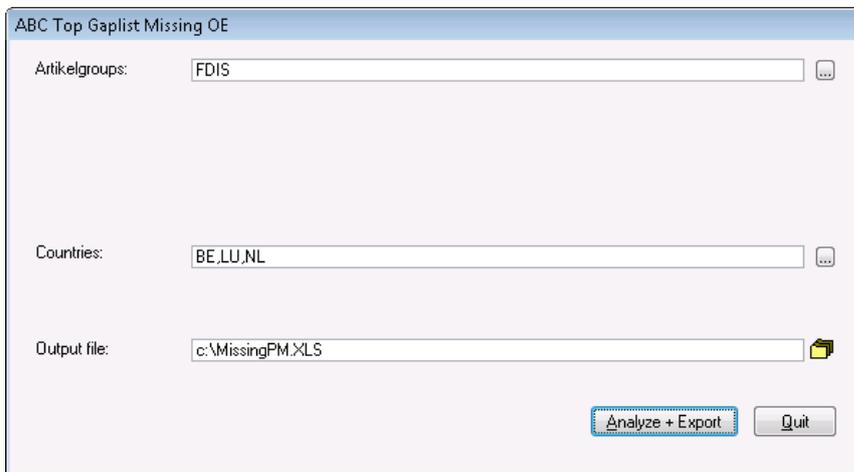
Other options you have on this window are : returning to previous window by clicking “< Back to Vehicle Selection” and checking the current status on the vehicle itself (if you for example want to compare with other articlegroups) by clicking “Review Application”.

When we go back to the first window, by clicking “< Back to Vehicle Selection”, “< Back to Analysis”, there is also the possibility to solve an entire group selection. This can be done by clicking “Solve” behind the group selection you want to solve automatically.

Hint : if you would like to solve all selections automatically, it is best to start from the bottom, so first you solve the purple, then the blue, red, yellow, orange and lastly the green group selection. Reason is that a completely new article which fits on multiple vehicles, is first listed under the blue or purple category. After one vehicle linkage is added, the article is not a new article anymore and is now listed under the yellow or red category.

What's new ?

In addition to the PM Solver, there is also a report available which shows you all complete new articles from the OE research data. Not only does this report show the new OE research articles, but it also gives insight in the importance of the articles to be newly created.



How does this work ? First, you select the articlegroup(s) to analyse and the country/countries you are interested in (only if they are in your parcrange subscription, they will be added to the report). After this, select an output file for the report by clicking the folder icon. Now the selection has been made, click the "Analyze + Export" button to start the analysis. The result will look like :

| Seq | Article | ARG | Description | Status | Total | % | cum % | OE | Make | Model | Stroke | Year | Linkage | Article Attrib | Application Attrib | All countries | BE | Belgium |
|-----|----------|------|-------------|--------|-------|-------|-------|----------------|----------------|--------------|-----------------|-------------|--------------|---------------------|---|---------------|----|---------|
| 1 | DIS00001 | FDIS | Disc | 99 | 19224 | 26.84 | 26.84 | 770120823202ST | RENAULT | Grand Scenic | 150216/1.90/2.0 | 09/04 | Rear Brakes | Solid | With Anti-lock system (ABS), with bearing | 19224 | | 9624 |
| 2 | DIS00002 | FDIS | Disc | 99 | 5737 | 8.01 | 34.85 | 3455719 | VOLVO | 440 | 1.7/2.0 | 08/88-08/97 | Front Brakes | Internally Ventated | | 3498 | | 1520 |
| 3 | DIS00003 | FDIS | Disc | 99 | 5737 | 8.01 | 42.86 | 3455719 | VOLVO | 460 | 1.7/2.0 | 08/88-08/97 | Front Brakes | Internally Ventated | | 1883 | | 725 |
| 4 | DIS00004 | FDIS | Disc | 99 | 5737 | 8.01 | 48.88 | 3455719 | VOLVO | 480 | 1.7 | 08/87-08/96 | Front Brakes | Internally Ventated | | 556 | | 135 |
| 5 | DIS00005 | FDIS | Disc | 99 | 5737 | 8.01 | 42.86 | 3455719 | VOLVO | 440 | 1.7/2.0 | 08/88-08/97 | Front Brakes | Internally Ventated | | 3498 | | 1520 |
| 6 | DIS00006 | FDIS | Disc | 99 | 5737 | 8.01 | 42.86 | 3455719 | VOLVO | 480 | 1.7/2.0 | 08/88-08/97 | Front Brakes | Internally Ventated | | 1883 | | 725 |
| 7 | DIS00007 | FDIS | Disc | 99 | 5737 | 8.01 | 42.86 | 3455719 | VOLVO | 480 | 1.7 | 08/87-08/96 | Front Brakes | Internally Ventated | | 556 | | 135 |
| 8 | DIS00008 | FDIS | Disc | 99 | 5737 | 8.01 | 42.86 | 3455719 | VOLVO | 480 | 1.7 | 08/87-08/96 | Front Brakes | Internally Ventated | | 556 | | 135 |
| 9 | DIS00009 | FDIS | Disc | 99 | 5688 | 7.94 | 50.80 | 452915C-AE50 | HONDA | CR-V | 2.0/2.2 | 03/02-09/06 | Front Brakes | Internally Ventated | With Anti-lock system (ABS) | 5688 | | 1798 |
| 10 | DIS00010 | FDIS | Disc | 99 | 5688 | 7.94 | 58.74 | 452915C-AE50 | HONDA | CR-V | 2.0/2.2 | 03/02-09/06 | Front Brakes | Internally Ventated | With Anti-lock system (ABS) | 5688 | | 1798 |
| 11 | DIS00011 | FDIS | Disc | 99 | 5688 | 7.94 | 66.68 | 452915C-AE50 | HONDA | CR-V | 2.0/2.2 | 03/02-09/06 | Front Brakes | Internally Ventated | With Anti-lock system (ABS) | 5688 | | 1798 |
| 12 | DIS00012 | FDIS | Disc | 99 | 5301 | 7.40 | 74.08 | 4320293J01 | NISSAN | Almera | 1.8/2.2/2.2D | 01/00-04/03 | Rear Brakes | Solid | 15" Wheels | 5301 | | 1288 |
| 13 | DIS00013 | FDIS | Disc | 99 | 5301 | 7.40 | 74.08 | 4320293J01 | NISSAN | Almera | 1.8/2.2/2.2D | 01/00-04/03 | Rear Brakes | Solid | 15" Wheels | 5301 | | 1288 |
| 14 | DIS00014 | FDIS | Disc | 99 | 2907 | 4.06 | 78.14 | 12163062 | CHRYSLER (USA) | 300C | 2.7/3.0/3.5/5.7 | 09/04 | Rear Brakes | Internally Ventated | With Anti-lock system (ABS) | 2907 | | 1000 |
| 15 | DIS00015 | FDIS | Disc | 99 | 2638 | 3.68 | 81.82 | 8095651AA | CHRYSLER (USA) | PT Cruiser | 1.8 | 10/02-09/07 | Rear Brakes | Internally Ventated | 09-03, With Anti-lock system (ABS) | 2638 | | 13 |
| 16 | DIS00016 | FDIS | Disc | 99 | 2540 | 3.55 | 85.37 | 5273038AA | CHRYSLER (USA) | Neon | 1.8/2.0 | 10/99-09/05 | Front Brakes | Internally Ventated | | 2540 | | 301 |

This output is similar to the ABC Top Analysis. The importance of an article is indicated by a sequence-number, calculated by the total parcrange of all vehicles where this article fits on. Within the report you can see the sequence, parcrange total, parcrange per country, OE number(s) and applications per article number. Also included is a percentage indicating the coverage of the article against all articles in the article group's OE research data. Additionally it shows all article and application attributes for the vehicle this article fits to. All OE numbers are shown vertically.

If we take a look at the second article in the example, we see that article DIS00002 covers 8.01% of all Discs in the OE research data. In the next column we see the cumulative percentage. This means that this article, together with the first article (because this article has sequence number 2) covers 34.85% of all OE research Discs.

When we scroll down, we see, when looking in the column "cum %", that we can cover about 50% of our total coverage for Discs with 4 articles.

Do you know?

The carparc ranges for 1954-2008 are available in CCU (if purchased by your company).

The following countries are available:

- ✓ Austria
- ✓ Belgium
- ✓ Bosnia-Herzegovina ***NEW**
- ✓ Bulgaria
- ✓ Croatia
- ✓ Czech Republic
- ✓ Denmark
- ✓ Estonia
- ✓ Finland
- ✓ France
- ✓ Germany
- ✓ Greece
- ✓ Hungary
- ✓ Iceland
- ✓ Ireland
- ✓ Italy
- ✓ Latvia
- ✓ Lithuania
- ✓ Luxembourg

| Country | Description | Quantity |
|---------|--------------------|----------|
| DE | Germany | 13257 |
| GB | Great Britain | 5568 |
| GR | Greece | 2174 |
| HU | Hungary | 839 |
| IE | Ireland | 559 |
| IT | Italy | 50827 |
| LU | Luxembourg | 488 |
| NO | Norway | 198 |
| PL | Poland | 2711 |
| PT | Portugal | 915 |
| RO | Romania | 201 |
| RU | Russian Federation | 23 |
| SK | Slovakia | 127 |
| ES | Spain | 15480 |
| SE | Sweden | 68 |
| CH | Switzerland | 2847 |
| NL | The Netherlands | 6648 |
| UA | The Ukraine | 8 |
| TR | Turkey | 853 |
| Total | | 116.217 |

- ✓ Macedonia ***NEW**
- ✓ Montenegro ***NEW**
- ✓ Netherlands
- ✓ Norway
- ✓ Poland
- ✓ Portugal
- ✓ Romania
- ✓ Russian Federation
- ✓ Slovakia
- ✓ Serbia ***NEW**
- ✓ Slovenia
- ✓ Spain
- ✓ Sweden
- ✓ Switzerland
- ✓ Turkey
- ✓ Ukraine
- ✓ United Kingdom

Coming soon...

We would like to inform you that as of 2nd quarter 2010 we are able to provide you with CCU running on the Microsoft SQL platform.

Main advantages of CCU running on SQL are:

- ✓ Improved performance when working with many users
- ✓ Easy to create customized reports
- ✓ Create custom database queries for quick access
- ✓ Better compatibility and connectivity with internal data systems
- ✓ Use of a trusted, productive and intelligent data platform

If you choose to switch to CCU-SQL, the update procedure will be as follows;

1. Detaching of the CCU database
2. Compressing database files
3. Uploading compressed database to FTP server
4. Update by Headline
5. Downloading compressed database from FTP server
6. Uncompress database files
7. Attaching the CCU database

Also for customers which do not have a SQL database administrator (DBA) we will provide a tool (VirtualDBA) to make this process less labour-intensive.

Hosting by Headline

If you do not have the facilities to run a SQL server, we can provide you a high end connection to a pre-installed Microsoft SQL server with CCU running on top of it.

Features are:

- ✓ Worldwide login to CCU as user or administrator
- ✓ Easy access using Citrix web based application server
- ✓ Low costs for licenses
- ✓ High availability, glasfiber and power redundancy
- ✓ Daily data backup by Headline
- ✓ Server management by Headline

What we need from you

- ✓ SQL Server where the SQL database should be installed
- ✓ SQL Database to store the CCU SQL tables
- ✓ SQL Username of user with read/write access to all tables in the SQL Database (user rights are controlled in the CCU Program with their current username/passwords)
- ✓ SQL Password for the SQL User

| | |
|---------------|--|
| SQL server: | <input type="text" value="SQLSRV1"/> |
| SQL database: | <input type="text" value="CCU_HYFR"/> |
| SQL user: | <input type="text" value="sqluser"/> |
| SQL password: | <input type="password" value="*****"/> |

System requirements (Server Side)

All CCU program files can be copied into a single directory (with a subdirectory structure only for drawings). Users that will have access to the CCU program do need Create/Change/Delete rights to this directory. For the data part, you need to set-up a server with MS SQL installed. Below you can find the system requirements for this server.

| | Minimum Requirements | Recommended Requirements |
|-------------------------|---|--|
| Operating System | Microsoft Windows Server 2003 / 2008 | Microsoft Windows Server 2008 64-bits |
| Processor | Intel Quad Core / AMD Opteron Quad Core | Intel Quad Core 2,4Ghz 55xx |
| Memory | 2 Gb RAM | 6 Gb DDR3 RAM |
| Harddisk | SAS / SCSI hard discs : <ul style="list-style-type: none"> - 1 system HD - 2 striped HD for log-files - 1 HD for data - 1 HD for backup | SAS 15k hard discs : <ul style="list-style-type: none"> - 1 system HD - 2 striped HD for log-files - 2 striped HD for data - 1 HD for backup |
| Network | 1 Gb Network Connection | 1 Gb Network Connection |

| | | |
|-----------------|--------------------------------------|--|
| Software | - MS SQL Standard 2005 / 2008 | - MS SQL Standard 2008 |
| | - MS SQL Cal's / SQL Socket Licenses | - MS SQL Cal's for < 15 users |
| | | - MS SQL Socket Licenses for >= 15 users |

The total disk-space requirements for CCU depend on the amount of catalog-groups, articles and drawings used.

In general the disk-space requirements are:

| | |
|--|--------|
| CCU program + default tables + Make/Model files: | 500 Mb |
| Article/Application/Cross/OE information for 10000 articles: | 2 Gb |

(Additional storage for article drawings / photos depends on the size and quality of the drawings / photos. These files are stored in a separate subdirectory and will not physically be included in the MS SQL database.)

System requirements (Client Side)

The requirements to use the CCU program are:

- Windows 32 bits OS (NT4/2000/XP/Vista/7)
- Pentium 1 GHz processor (AMD / Intel) or better
- 1 Gb internal memory
- VGA graphics with at least 1024 x 768 screen resolution
- Microsoft Excel to view and analyze .XLS export files

Since the client uses the network connection to the server to access files at least a 100 Mb Ethernet network connection to the CCU server is required. For using CCU over network connections with lower bandwidth we recommend using a Citrix Server solution.

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