



# CADT- 1598

Big Search : Display Complex CU's

**Description: Search results in Big Search should also show Complex CU's. Currently they are excluded.**

# Example attached with Screenshot

- Example of complex CU

Major Components		Add Item						
GM-BLOW-OFF-0.50IN-IPS-M								
<div><div>+</div><div></div><div></div><div></div></div>	complex	1.0000	GM-BLOW-OFF-0.50IN-IPS-M			BLOW OFF 0.50IN IPS		
<div><div>+</div><div></div><div></div><div></div></div>	50056723	1.0000	GM-BLOW-OFF-0.50IN-IPS-M			BLOW OFF 0.50IN IPS		
<div><div>+</div><div></div><div></div><div></div></div>	1553205	1.0000	GM-BLOW-OFF-0.50IN-IPS-M			BLOW OFF 0.50IN IPS		
<div><div>+</div><div></div><div></div><div></div></div>	1556281	1.0000	GM-BLOW-OFF-0.50IN-IPS-M			BLOW OFF 0.50IN IPS		

Example of how it currently shows up in Big Search. No indication that it is a complex CU and no list of the additional parts included in the complex CU

The Big Kahuna Parts Search										CLOSE
Item/CU    Region    CU Status    SHOW COLS    EXPORT    Search: GM-BLOW-OFF-0.50IN-IF										
Item/CU	Region	CU Status	SHOW COLS	EXPORT	Search: GM-BLOW-OFF-0.50IN-IF					
ALL	ALL	All								
MAXIMO #	MRC STOCK DATA #	MAXIMO# DESCRIPTION	ITEM STATUS	CU NAME	CU DESCRIPTION	CU STATUS	STRUCT CLASS	SUBCAT CLASS	MANUFACTURER	
Search Maximo #	Search MRC Stock Data #	Search Maximo# Descript	Search Item Status	Search CU Name	Search CU Description	Search CU Status	Search Struct Class	Search SubCat Class	Search Ma	
1553205	Yes	PLUG,PIPE, 1/2" NPS, SQ HEAD, MNPT, FORGED STL, ASME B16.11, ASTM A105		GM-BLOW-OFF-0.50IN-IPS-M	BLOW OFF 0.50IN IPS	Active	PLUG	PIPE		
1553205	Yes	PLUG,PIPE, ASTM A105, ASME B16.11, FORGED STL, MNPT, SQ HEAD, 1/2" NPS		GM-BLOW-OFF-0.50IN-IPS-M	BLOW OFF 0.50IN IPS	Active	PLUG	PIPE	BONNEY	
1553205	Yes	PLUG,PIPE, 1/2" NPS, SQ HEAD, MNPT, FORGED STL, ASME B16.11, ASTM A105		GM-BLOW-OFF-0.50IN-IPS-M	BLOW OFF 0.50IN IPS	Active	PLUG	PIPE	BONNEY	

**Analysis:** I did the analysis based on the screenshot attached as shown in example so I found that how the complex CU's are displayed on a particular Design so when we click on design Id -> design number(15804) -> AddItem -> Inside the Add New Record -> Click on Filter table from here I analysis that how they are displaying the Complex CU's as shown below:

### Add New Record

Drop parts here.

Pipe	Add Item
GO-VALVE-GATE-6IN-CI-FLXFL-125-FL-STATIONARY	
+ [edit] [checkbox] [status]	4568900
GM-FLANGE-6IN-BLIND-ANSI-150-285PSIG	
+ [edit] [checkbox] [status]	231422
GO-MAIN-8IN-ST-DB-S-FL-322-70M-POWER	
+ [edit] [checkbox] [status]	
GM-SCREW-.375IN-OD-3IN-LG-1614894-NUT	
+ [edit] [checkbox] [status]	

### Add New Record

Drop parts here.

Complex	No	GO-MAIN-6IN-PEDD-S-40-3001-800-RPL-M	GS-LENGTH OF 6IN PL GAS MAIN (3001-8000FT) - DI R DRILL SOD (STRUCT IMPROV./REPLACEMENT)	WIRE, 500' LG, 500' L G, STL, PRINT #333 W/ CAUTION GAS, 12 AWG, #12 GA AWG SOLID CU WIRE W/ YELLOW HMWPE INSULATION
+ [edit] [checkbox] [status]				

Show 10 entries

Previous 1 Next

Showing 1 to 6 of 6 entries

**Conclusion:** When the user click on Filter Table then in the backend (/ehubMaterialList) is called First they getting all the duplicates CU name -> then get only one CU name from duplicate List and finally setting the itemNum as Complex as shown below:

SA added 08-21-2019 method

```
@RequestMapping(value = "/ehubMaterialList", method=RequestMethod.POST, produces = "application/json", consumes = "application/json")
public @ResponseBody List<Bomv2AddRowMaterialDTO> ehubMaterialList (@RequestBody GenericMessageRequest request, Model model) {

    logger.debug("Starting ehubMaterialList(..");
    Instant processingStart = Instant.now();
    String region = (String) request.getData().get("region");
    List<Bomv2AddRowMaterialDTO> dataList=ehubGIMCompatibleUnitMaterialDao.getAllByFilter("ALL", region);
    //List<Bomv2AddRowMaterialDTO> dataList1=ehubGIMCompatibleUnitMaterialDao.getAllByFilter("ALL", region);
    /*List<Bomv2AddRowMaterialDTO> finalList = Stream.concat(dataList.stream(), getComplexByItemNumForMultiCU().stream()).collect(Collectors.toList());*/
    List<Bomv2AddRowMaterialDTO> LabordataList1=ehubCompatibleUnitDao.getAllByFilterLabor("ALL");
    dataList.addAll(LabordataList1);

    List<Bomv2AddRowMaterialDTO> duplicates =dataList.stream().collect(Collectors.groupingBy(p->p.getCompatibleUnitName(),Collectors.toList()))
        .values().stream().filter(i->i.size()>1).flatMap(j->j.stream()).collect(Collectors.toList()); //get duplicate cu name

    List<Bomv2AddRowMaterialDTO> unique= duplicates.stream()
        .collect(Collectors.collectingAndThen(Collectors.toCollection(() -> new TreeSet<>(Comparator.comparing(Bomv2AddRowMaterialDTO::getCompatibleUnitName,String
            ArrayList::new))); //get only one cu name from duplicate list

    unique.stream().forEach(u -> u.setItemNum("Complex")); //Set itemnum as Complex
```

**Solution:** So after click on BigSearch it will trigger the backend control with an API name (/getAllItemsFromEhub) as shown below:

## The Big Kahuna Parts Search

[CLOSE](#)

Item/CU      Region      CU Status <a href="#">SHOW COLS</a> <a href="#">EXPORT</a> Search: <input type="text"/>							
MAXIMO #	MRC STOCK DATA #	MAXIMO# DESCRIPTION	ITEM STATUS	CU NAME	CU DESCRIPTION	CU STATUS	STRUCT CLASS
<input type="text" value="Search Maximo #"/>	<input type="text" value="Search MRC Stock Data #"/>	<input type="text" value="Search Maximo# Descripti"/>	<input type="text" value="Search Item Status"/>	<input type="text" value="Search CU Name"/>	<input type="text" value="Search CU Description"/>	<input type="text" value="Search CU Status"/>	<input type="text" value="Search Struct Class"/>
	No			GD-DRIP-POT-8-ST-W-STEM-M	Drip pot for steel mains 8 in with stem see standards 2.8.2 for drip pot and standard 2.8.1 for stem	Active	
	No			GE-55A-REO-M	Re-light Customer Appliances Only (No service test) - (55A-REO)	Active	
	No			GE-CL-92-M	Cl. 92 - Seed & Spread Topsoil SQ YD 1411757	Active	
	No			GE-CL-47-SY-M	CL 47 - Asph SURF/Asphalt BASE (CINTI) SY 1533201	Active	
	No			GE-CL-47-M	Cl. 47 - Asph surf./asph base LIN FT (Cincinnati)	Active	

So In the Controller method I did the changes that getting all the duplicates CU name & then get only one CU name from duplicate List & then set the ItemNum as “Complex” as shown below:

```
}  
List<PartsLibSearchResultsDTO> duplicates = itemorCUList.stream().collect(Collectors.groupingBy(p->Optional.ofNullable(p.getCuName()),Collectors.toList()))  
    .values().stream().filter(i->i.size()>1).flatMap(j->j.stream()).collect(Collectors.toList()); //get duplicate cu name  
  
List<PartsLibSearchResultsDTO> unique= duplicates.stream().filter(Objects::nonNull).collect(Collectors.collectingAndThen(  
    Collectors.toCollection(() -> new TreeSet<>(Comparator.comparing(dto->dto.getCuName()),Comparator.nullsLast(String.CASE_INSENSITIVE_ORDER))  
    )),  
    ArrayList::new  
));  
//get only one cu name from duplicate list  
  
unique.stream().forEach(u -> u.setItemNum("Complex"));
```

# RESULT:

## The Big Kahuna Parts Search

CLOSE

Item/CU	Region	CU Status	SHOW COLS		EXPORT		Search:	
ALL	ALL	All						
MAXIMO #	MRC STOCK DATA #	MAXIMO# DESCRIPTION	ITEM STATUS	CU NAME	CU DESCRIPTION	CU ST		
Search Maximo #	Search MRC Stock Data #	Search Maximo# Descript	Search Item Status	Search CU Name	Search CU Description	Search		
Complex	No			GM-COUPLING-1/2INCTS-ELEC-FUS-PE4710-ASTMD2513-F1055-P	COUPLING,PIPE, 1/2IN CTS, ELECTROFUSION, PE 4710, ASTM D2513, F1055, ELECTROFUSION X ELECTROFUSION, 4.0MM	Pend		
Complex	No	POST, DRIVE, 30 INCHES IN LENGTH, F/ GAS SERVICE RISER, STL, DRIVE		GD-NEW-1IN-PE-CM-FS-150-250-M	1IN CTS Service C-M Free Standing Meter 150 to 250 Feet	Inact		
Complex	No	POST, DRIVE, 30 INCHES IN LENGTH, F/ GAS SERVICE RISER, STL, DRIVE		GD-NEW-1IN-PE-CM-FS-0-75-M	1IN CTS Service C-M Free Standing Meter 0 to 75 Feet	Inact		
Complex	No	POST, DRIVE, 30 INCHES IN LENGTH, F/ GAS		GD-NEW-1IN-PE-CM-	1IN CTS Service C-M Free Standing Meter 75 to 150 Feet	Inact		