Conflict Checking with the Complex Search Form

To use the Complex Search Form for the online Ordinary and Armorial, you should have a solid understanding of how conflict checking works. This article does not cover the basics of conflict checking.

Introduction and Terms

The underlying idea of using the Complex Search Form is to sort results into "not known to have any distinct changes", "known to have at least one distinct change", and "known to have at least two distinct changes". In general, this will also weed out anything that is substantially changed as well.

> Distinct changes (DCs) are described in the Standards for Evaluation of Names and Armory, section A5G. Substantial changes (SCs) are described in the same source, sections A5E and A5F.

It's powerful, but not magic – you'll still need to do some work to weed through the results that it gives, but it should be far fewer results than looking through the Index to the Ordinary.

This system does not use blazon pattern searches, which are not effective or accurate for conflict checking. It uses "armory description" searches, which are based on the two things that the Ordinary is built on:

- Categories: If you've ever used the Index for the Ordinary, you've probably seen those terms that end up in the search box at the top that are all in caps, like CAT and GARB. Those are categories.
- Features: In that same search box, you've probably seen some lower-case parts separated by colons, like *purpure* and *2* and *rampant* and *gpna*. These are the features.

Example: *BEAST-HORSE:2:purpure:gpa*. The category is BEAST-HORSE and the features are 2, purpure, and gpa (which means "Group Primary Alone on the field").

The file that the Ordinary and the Complex Search Form use as a reference for the categories and features is available, if not directly linked:

> http://oanda.sca.org/my.cat

Some computers may not recognize this file – if so, just save it with the ending .txt and open it with a program like Word or Notepad. It's usually easiest to figure out the appropriate category by looking in the Index to the Ordinary, but the my.cat file is often useful for determining the possible features for a search. The my.cat file also has other information – more on this later.

If you are used to looking in the Index to the Ordinary, you've probably noticed that some categories are broken down into smaller chunks (by features), while others aren't. This is a matter of display and ease in using the Index – it keeps any single page of results down to a manageable size. Every piece of armory is tagged with in the database by its features, even if they aren't immediately visible in the Index. Try it out by going to a page of results in the Index and adding or removing features from that box (and pushing the button).

> Note: Some armory in the database is not *fully* described by features for all charges. That is, some armory has its charges categorized but missing some features (such as missing the number, posture, orientation, etc. for some charges). The search engine is smart enough to work around this – more on this later.

Breaking It Down

The first step is to break down the armory into parts, based on changes that get a DC. Generally, this means that the field is one part and the primary charge group and secondary charge groups each have multiple parts. Start with the field, and then on to the primary charge group, followed by the secondary charge groups. Unless it is very simple armory, you probably won't need to get to the tertiary charges.

Once you have the parts, code them by category and feature, including "defaults". It doesn't matter what order the features are coded in – the search engine will figure them out

> Example: *Or, in pale three lions passant and an orle vert*. The field is OR. The most pin-point way to describe the lions is: CAT:3:vert:passant. When it comes to the primary group, you're best off using more descriptions: CAT:3, CAT:vert, and CAT:passant. Arrangements aren't a feature but they are categories, so you can include that by using INPALE. The orle is simply ORLE AND TRESSURE:vert (yes, with spaces in the category).
>
> Note: Each of these parts is chosen because changes to that value generally generate a DC – one or two or four or five or more lions each get at least a DC from three lions, for example. Ignore for the moment that some of these are an SC apart because the lions are the primary charge group – more on this later.
>
> Note: There are more possible parts to this blazon that are covered in the advanced section below, but these will get you pretty far in conflict checking by themselves.

The example here uses a plain field, because that's simple; almost all fields are the first two letters of the tincture, excepting *Vert* which is VT. Fieldless armory uses NO for the "field". Divided fields and charges are slightly more complicated – it's easiest to start by looking those up in the Index to the Ordinary (under F for Field division).

> Example: *per pale argent and sable*. This field is coded in the database as PPALE:~ and sable:argent. '~ and' means "this is the second tincture". It doesn't matter which order you put them in, as long as you use the '~ and' for the second one.

Filling in the Form

Put each of these items into the Complex Search Form with a weight of 1 and a type of 'armory description'. Change the sort order to "score and blazon" instead of "score and name". It will still work if you don't, but the most critical part is to have it sort by score first. Sorting by the score is what makes this technique work.

> Note: In example above of *Or, in pale three lions passant and an orle vert*, there were six possible parts, more than will fit in the form. Dropping the field in this example would probably work best, because the field is the first and easiest thing to see when you're looking through results manually.
>
> Note: if you guess a category and guess incorrectly, you'll see a warning above the results section. It'll say something like:
>
> "ERROR: WOMBAT is not a valid description!"

Examining the Results

This should give you a bunch of results, which are sorted by score. The "max score" is equal to the number of lines you filled in. There are, in essence, three groups of scores. Of these three groups, you only care about the first two:

- The group which has the max score – these have no known DCs.
- The group which has "max score minus one" – these have at least one known DC.
- The group which has a score smaller than that– these have at least two known DCs, and are clear! This may be multiple scores; for example, if the max score is 5, this is anything with a score of 3, 2, or 1.

This is why sorting by the score is so critical – it puts the first two groups at the top. It's important to remember that the items in each group may have more DCs (or even SCs!) … we just don't *know* that they do yet. So, **don't panic**, even if you have items with the max score!

In general, there will be very few items in the first group, and not all that many in the second group. You'll need to check these two groups manually. You can, generally, ignore everything in the last group – it has at least two DCs already from the item you're checking!

Note: some items may show up in the first two groups that don't seem to meet the criteria. This is because some items in the database are not fully coded for all the possible features and the search engine works by *exclusion* rather than *inclusion*. That is, it starts by assuming that a given piece of armory matches the feature you're searching for, and only tosses it out *only* if it contains a feature that is *incompatible*. That is, what "matches" your feature criteria may be "fails to specify" or "similar feature that doesn't get a DC from your feature criteria".

> Example: *six lions*. If you code this as CAT:6, the search engine will throw out anything with 1 lion, 2 lions, 3 lions, 4 lions, or 5 lions, because those are incompatible with 6.
>
> If the number of lions isn't specified, the search engine counts that as "matches" and keeps it. There is no DC for number above 6, so anything with more than 6 lions (including semy) "matches" and it keeps that item.
>
> Example: *lion passant*. If you code this as CAT:passant, the search engine will throw out anything with lion(s) that are rampant, salient, combatant, couchant, dormant, addorsed, sejant, sejant erect, or the contourny versions of those.
>
> If the posture of the lions isn't specified, the search engine counts that as "matches" and keeps it. Also, there is no DC between passant and statant, so anything with statant lions or passant lions "matches" and it keeps that item.

Here's how this plays out:

> Example: *Or, in pale three lions passant and an orle vert*. This is the same example as before, with the same six possible search terms. Let's say you drop the field as a search term, so you filled in all five lines. Therefore, the highest possible score is 5.
>
> Anything with a score of 5 "matches". It has some kind of cat and some kind of orle (or equivalent). The number of cats "matches" 3, "matches" passant, "matches" in pale,

and “matches” vert. The orle-equivalent “matches” vert. Examine these matches carefully to see if there are two DCs – you’ll need two to clear.

Anything with a score of 4 is missing one of those things, so it already has 1 DC. So, these should be easier to skim through for DCs.

In this example, for items with a score of 5 or 4, those DCs might come from changes to the field, a complex line on the orle, or charges on the lions or orle, just to name a few possibilities. Because we didn’t specify how many orles there are, that’s also a possible DC (two orles is blazoned a “tressure” or a “double tressure”). It might also happen that you can get a DC for a change to number, tincture, arrangement, or posture of the lions because the item doesn’t have that feature specified in the database.

Anything with a score of 3 or less is missing two or more of those things, so it should already have at least 2 DCs and **be ignored**.

NOTE: It may also be tempting to fully specify the primary charge group on a single line with our original CAT:3:vert:passant. However, if you do this, you will get a LOT of extra results with a score of 2 out of 3 (including other types of primary charge group). Then you might miss *Or, in pale three lions azure within an orle vert*, which has only 1 DC, but would only get a score of 2 out of 3 (one for the field, one for the orle).

Using multiple lines for the primary charge gives both more weight to the primary charge group *and* finer granularity in the results.

WARNING: It may be tempting to use both ORLE AND TRESSURE:vert **and** ORLE AND TRESSURE:1 as separate lines. However, if you do this, you **would** miss *Or, in pale three lions passant*, which only has 1 DC, because it would only score a 3 out of 5.

This is the basic premise. Even starting with just this will help you out, but there are a number of other important features you may find helpful when using this form.

Variants and Weeding-Out Features

These features can be pretty powerful at weeding out a lot of results that are clearly different from the item you’re considering. However, when overused, they can hide items that are too close as well. Sometimes, you may want to run more than one search, as long as those searches are pinpointed to search different parts of the potential conflict pool.

There are several features that have groupings or subsets. They’re marked in the my.cat file with the < symbol. They gather together things that do not get a DC from each other.

Note: The lines in my.cat with < do not ‘stack’. 4<4 or more<3 or more means that 4 is part of both ‘4 or more’ and ‘3 or more’, but doesn’t mean that ‘4 or more’ is part of ‘3 or more’.

Groups

This is one of the most useful features out there. It helps make sure you’re comparing primaries to primaries, secondaries to secondaries, and so on. In our example above with the passant lions, tacking ‘primary’ onto the feature list for every CAT line makes sure we’re not getting results where the only lions are secondaries or tertiaries.

- primary, secondary, tertiary: Straightforward.
- Features specific to primary groups (all subsets of 'primary', above):
    - sole primary, group primary: also straightforward.
    - spa: 'sole primary alone on the field' (any time there's only one charge in the primary charge group, but *no* other charges on the field)
    - spna: 'sole primary not alone on the field' (any time there's only one charge in the primary charge group, *and* other charges on the field)
    - gpa: 'group primary alone on the field' (any time there's more than one charge in the primary charge group, but *no* other charges on the field)
    - gpna: 'group primary not alone on the field' (any time there's more than one charge in the primary charge group, *and* other charges on the field)

Just remember that if there is more than 1 charge in the primary charge group, you'll want the 'group primary' options, rather than 'sole primary', even if they're all the same type.

> Example: *Azure, three caltraps argent*. The caltraps are the primary charge group *as a group*. If you use CALTRAP:3:spa to indicate that the caltraps are the primary charge group and nothing else is on the field, you'll only get results where the number or the primary-group-status features aren't specified – they are a group primary, even though they are all the same type. Use CALTRAP:3:gpa instead.

Numbers

- X or more: Just what you think it is. Replace X with an integer ('1', not 'one') to get items with at least that many of that charge.
- Semy: "seme" is a valid number feature ("semy" isn't).

Use these to cover options where certain numbers are not a DC apart.

> Example: *Argent, six lozenges sable*. This can be done as either LOZENGE:6 or LOZENGE:6 or more.

Tinctures

- Light, dark, multicolor, fur: Light is argent, Or, multi-colored, and fur. Dark is sable, gules, azure, vert, purpure, brown, multi-colored, and fur. Multicolor is anything that's divided (by a line of division, or evenly-divided furs like vair).

Use these to hedge your bets on secondary charges.

> Example: *Vert, a fess between three escallops argent*. Try using ESCALLOP:3:light, so that you don't miss *three escallops Or*.

Charged and uncharged

- charged, uncharged, unc: Exactly what they sound like. "unc" is an equivalent for uncharged

Use these to help get results with or without tertiaries. They're really handy when you have more information than will fit in five lines.

Lines and Postures

- complex, plain line, jagged, square, long, and the like: These cover certain classes of lines (of divisions and ordinaries). Check the my.cat file to find these.
- Passant, rising, rampant, and the like: These cover certain classes of posture for charges. There is a whole set of bird postures and other postures in my.cat.

  Example: *Gules, a rabbit statant and a chief Or*. Any chief which has a complex line will be one DC away, so it may be useful to use CHIEF:plain line:or (yes, with a space in 'plain line' and lowercase 'or').

  Example: *Gules, a rabbit statant and a chief indented Or*. You can use either CHIEF:indented or CHIEF:jagged – both of them will catch any complex line that is not a DC from indented. Alternately, you can use CHIEF:complex line to get anything with any chief with *any* type of complex line of division (this will get more results, some of which have a DC from indented).

  For the rabbit, you can use either BEAST-RABBIT:statant or BEAST-RABBIT:passant (either will include: passant, passant to sinister, statant, and statant to sinister)

Not all records include these features, so they aren't foolproof, but they still help. These can be used to pre-emptively dispose of results that are completely irrelevant, so that the piles you are looking through are smaller.

> Example: *Or, a hedgehog between three hearts gules*. The hedgehog is the primary charge group and the hearts are the secondary charge group. If you use HEART:3 or HEART:gules or even HEART:3:gules, you'll get a lot of items where the *primary* charge group is a heart. Weed some those out by using HEART:3:secondary or HEART:gules:secondary or HEART:3:gules:secondary (in addition to OR and BEAST-HEDGEHOG:1 and BEAST-HEDGEHOG:gules).

Beyond the Basics – how to make it really work for you

Using the power of numbers (and SENA)

Under the new Standards for Evaluation of Names and Armory, it's possible to get a substantial change for some features of primary charges, such as for number (unlike the old Rules for Submission, which only allowed them for the type). That is, an item may be completely clear of another piece of armory simply by changing the number of primary charges from 1 to 2 to 3 or 4 or more. Numbers 4 and up can't get a substantial change (though they can get a distinct change). So, you can weed out even more results by combining the number with other features when coding your primary charge group.

> Example: *Or, in pale three lions passant and an orle vert*. This is the same example as before, with the suggested coding: CAT:3, CAT:vert, CAT:passant, INPALE, ORLE AND TRESSURE:vert (dropping the field to stay under 5 lines).

However, since armory with any other number of CATs is substantially changed, we can, fold the '3' in with each line relating to the primary charge group: CAT:3:vert, CAT:3:passant, INPALE:3, ORLE AND TRESSURE:vert, OR (adding the field back in, because we now have one less line).

You can make this even more accurate by adding in 'primary', 'group primary' or even 'gpna' to each of the lines for the primary charge group. It doesn't help to add 'secondary' to the ORLE AND TRESSURE line, because an orle can *only* be a secondary.

Example: *Argent, six lozenges sable*. This is the same example as before, but it's important to remember that 6 lozenges are not an SC away from 4 lozenges, 5 lozenges, or semy of lozenges. Try the coding: AR, LOZENGE:4 or more:sable, LOZENGE:6 or more. Note that LOZENGE:4 or more:6 or more won't do what you might think – it'll ignore the '6 or more'.

It is definitely tempting to try using the posture features to eliminate other items under the other Substantial Change rules of SENA, but don't do it. You run a significant risk of missing legitimate conflicts. This can happen when the registered or proposed armory doesn't fit into the "limited cases" of A.5.E.5, when the "limited cases" of A.5.E.5 have items which are a DC apart in the same A.5.E.5 group, or when either armory has mixed-type primary charge group (which may only be partly comparable to the other armory).

A few postures which don't count for A.5.E.5: migrant, floatant supine, volant, in its curiosity, herissony, mortant. The first is still registerable, but others are from the distant past of SCA heraldry.

Example: *Azure, three birds close, a bordure argent*. If you use BIRD:3:gpna:close, BIRD:3:group primary:close:argent, BIRD:3:group primary:close:uncharged, AZ, BORDURE:argent:uncharged, you'll entirely miss *Azure, three birds migrant, a bordure argent*, which has only 1 DC for the posture – migrant is not one of the "limited cases" of A.5.E.5 – because it would only get a score of 2 out of 5.

Example: *Per pale azure and gules, a wolf courant Or*. If you use DOG:1:courant:or, DOG:1:courant:spa, you would miss *Per pale azure and gules, a wolf dormant Or*, which has only 1 DC for the posture - courant and dormant are in the same group for A.5.E.5, even though they are a DC apart.

Example: *Per fess gules and azure, a hound courant and a lymphad argent*. It cannot use A.5.E.5 when being compared to *Per fess gules and azure, a hound rampant and a dragon passant argent* because, while the hounds are in different postures, a lymphad and a dragon do not have comparable postures or orientations.

It may also be tempting to use arrangement features for this purpose as well, but arrangement isn't actually a feature! There are a few categories for non-default arrangements, but you would have to specify those on their own lines, and they likely wouldn't count towards A.5.E.4.

Tincture is not one of the features that can be a Substantial Change, so definitely don't repeat the tincture across multiple primary charge lines.

Advanced Concepts

Complicated armory

Your armory may be too complex to fit into the five lines of the form, even with combinations like those described above. Unfortunately, adding more lines causes the searches to run a lot slower and takes more work on the server side. So, you may want to run multiple searches, or look through a larger set of results manually (by not fully specifying all the possible features). This can be a good time for the 'charged' and 'uncharged' features.

Multiple types of charge in the primary charge group

The most awkward searches are for armory where there are two types of charge in the primary charge group. Sometimes, you can work around this by judicious you will want to run multiple searches to catch all the possibilities for these. Remember that changes of number will be more complicated.

You can also try using the 'group primary' options more liberally, including some of the more complicated ones. Beyond gpa and gpna, these are: g2pa, g2pna, g3pa, g3pna and work pretty much like you'd think.

Example: *Per chevron argent and Or, two mullets and a lion gules*. One way to skin this cat, as it were, is to use CAT:1:g3pa, which gets items compatible with a primary group with 1 CAT and two other charges. A full coding of this might be: PC:argent:~ and or: plain line, STAR:2:g3pa:gules, CAT:1:3gpa:gules.

Conclusion

While there isn't One True Way to code any one query, some ways work well and some ways miss conflicts. *This is a technique that you'll want to practice*. It's powerful, useful stuff, but like anything powerful, it takes some work to get the hang of and use most optimally.

Practice Examples

Start out by listing the most accurate coding for these. Next, show how you would break that out for the Complex Search Form. Then, give it a try! Try out some alternate ways to code it for the CSF and see how that changes the number of results you get for each score.

Per fess argent and sable, a gryphon vert.

Vert, a fess between three lions argent.

Per chevron argent and azure, two mullets sable and a bird argent.

Possible answers to the Practice examples

Your answers may differ but still work just fine – in particular, you may find that you start out needing to use multiple searches or using fewer features with more results. Over time, you'll get the hang of ways to combine things without missing things (sometimes you can't, and that's ok!).

Per bend argent and sable, a gryphon vert.

Fully Coded: PFESS:argent:~and sable:plain line / GRIFFIN:1:vert:spa:rampant

CSF: PFESS:argent:~and sable:plain line / GRIFFIN:1:vert / GRIFFIN:1:rampant / GRIFFIN:1:spa

Vert, a fess between three lions argent.

Fully Coded: VT / FESS:1: argent:plain line:uncharged: spna / CAT:3:argent:secondary

One way to do this is with multiple queries so you cover all the options for the lions.

CSF 1: VT / FESS:1: argent / FESS:1:spna / FESS:1:plain line / CAT:3:secondary

CSF 2: VT / FESS:1: argent / FESS:1:spna / FESS:1:plain line / CAT:argent:secondary

Another way to do this is to combine all the lion features into one line, because any of those parts changing in a secondary is worth a DC.

CSF: VT / FESS:1: argent / FESS:1:spna / FESS:1:plain line / FESS:1:uncharged / CAT:3:argent:secondary

The most elegant way I've thought of is to drop the 'spna' line and add an 'uncharged' line. A FESS:1 is almost always going to be a sole primary, so we don't add many things by dropping it.

CSF: VT / FESS:1: argent / FESS:1:plain line / FESS:1:uncharged / CAT:3:argent:secondary

Per chevron argent and azure, two mullets sable and a bird argent.

Fully Coded: PC:argent:~and azure:plain line / STAR:2:g3pa:sable:close / BIRD:1:g3pa:argent

This is one of the most complicated things to conflict check! The primary charge group has two types of charges, making it difficult to apply A5E2 (type of primary) and A5E3 (number of primaries). Also, while the bottom-most charge counts as "half", you can only get a total of 1 DC for changes to it, no matter how many (like the rules about fields).

One way to approach it is in parts with multiple searches (particularly for the different possible numbers of birds and dog heads), but this gets awkward and takes LOTS of searches. You might also try using "or more" versions of the numbers, but that's still awkward. It can be tempting to use g3pa to get around that, but you would likely miss something identical to this, but with a secondary charge group. Complicated! The best I've come up with is:

CSF: PC:argent:~and azure / STAR:group primary / STAR:azure / BIRD:argent:group primary