DOUBLE INPUTS ON 'FORTRESS', 'KANGA' AND 'WARSPITE' TYPE MACHINES.

1. If a stop only is printed on the main chain, the second input relay is not printed.

2. If a stecker is printed on the main chain which does <u>not</u> get on the second chain a stop or stecker is printed on the second chain.

3. If a stecker is printed on the main chain which gets on to the second chain, it prints <u>once</u> only, to print on the second chain would only be a repetition of the first chain stecker.

4. If there is a stop and a stecker on the main chain, it prints both main chain stop and stecker <u>first</u> and <u>then</u> prints the second chain.

5. If there is a stecker on the first chain and a boxing stop on the second chain, it prints the stecker first, and then the <u>first</u> boxing relay <u>only</u> on the second input. (On Single Inputs boxing stops do not print at all.)

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<u>WARSPITE DOUBLE-INPUT STORIES</u>

On a double-input menu a stop occurs whenever there is at least one "straight" on each of the two chains – the main chain and the subsidiary chain. On an ordinary Bombe two relays are given for the stop -–one corresponding to each of the two inputs.

When Jumbo runs a double –input menu it only prints the "significant letter" (or relay) of the main chain – although, if the stop is genuine, there must <u>be</u> a straight on the subsidiary chain. To find out what this straight is, it is necessary to "do an alphabet" on the subsidiary chain – a most laborious process.
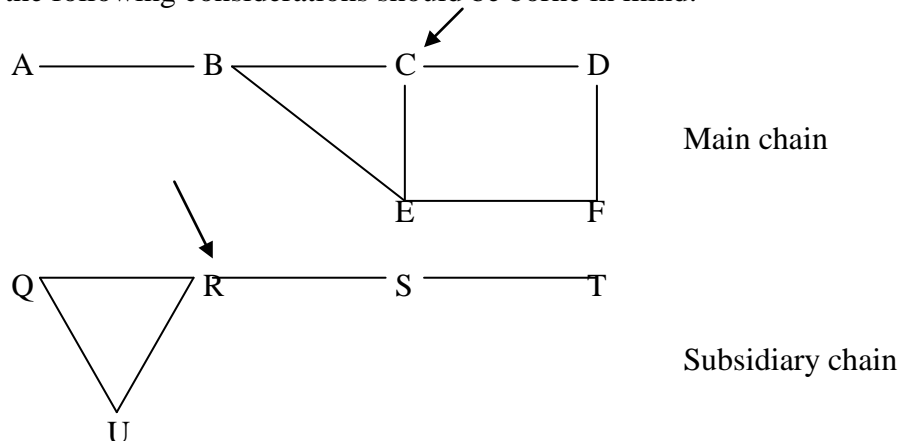
Warspite and Fortress have the further refinement that <u>under certain conditions</u> they print this second significant letter. It should be clearly understood what these conditions are, and what is and what is not "legal" for a Warspite or Fortress double-input stop.

On Warspite and Fortress the machine works as follows, and in the following order: -

1. Having found a stop – with straights on both chains – the machine stops.
2. The main chain straight is found (by the sensing relays), tested (by the machine-gun), and then the stop – with its significant letter – is printed by the typewriter. If the straight is a "stecker" the stecker are then printed out.
    (These stecker include the letters of the subsidiary chain <u>only</u> if the straight "tacks-on" to the subsidiary chain).
3. If there is another straight on the main chain this is dealt with in an exactly similar way.
4. If, and only if, the straight (or one of the straights) on the main chain is a "stecker" the machine proceeds to find, test and print the straight on the subsidiary chain. (Except when there is only one straight, which tacks-on to the subsidiary chain. In this case the subsidiary straight is really included in the main straight, and it is not necessary to deal with it separately.)

Thus the subsidiary chain relay is only printed when there is a "<u>stecker</u>" on the main chain, and not just a stop.

Hence the following considerations should be borne in mind: -

Main chain

Subsidiary chain

A.	A stop which is not a "stecker" on the main chain will have only one relay given.
(When the menu is producing no "steckers" on the main chain it is often a help to ask the mechanic to take off links from the menu – probably from the main chain – until he gets a "stecker" on this chain. Then the second relay will be printed, and we shall get a double –relay check stop – which is easier to test than one where only one relay is given.)

B.	Where two relays are given the main chain straight <u>must</u> be a "stecker", and the subsidiary chain straight may or may not be a "stecker". The operator should <u>always</u> be asked whether it is or not.

C.	Straights which tack-on from one chain to the other are tested in exactly the same way as for a single-input menu.

D.	It must be remembered that straights which do <u>not</u> tack-on are dealt with <u>successively</u> by the machine – not at the same time. Therefore, if such a straight is alleged to be a "stecker" it must be tested as a "stecker" with respect to its <u>own chain only</u> – quite independently of what the straight or stecker on the other chain may be. (E.g. For a "double-stecker" stop – with "steckers" on both chains – the values D/X and S/X (see menu) are quite legal and correct, though, of course, this cannot be the correct stop.

<u>Further note</u>

In order to provide a more complete check on the machines it is proposed that the following procedure be adopted: -

For the first stecker stops of a Jumbo, Warspite, or Fortress job will the testers please 'phone through to the operator the <u>actual stecker</u> they have found. The operator will then check these against the stecker printed by the machine.