

**Figure 1**  
**Vertical stepping**

a. A releases during each pulse.

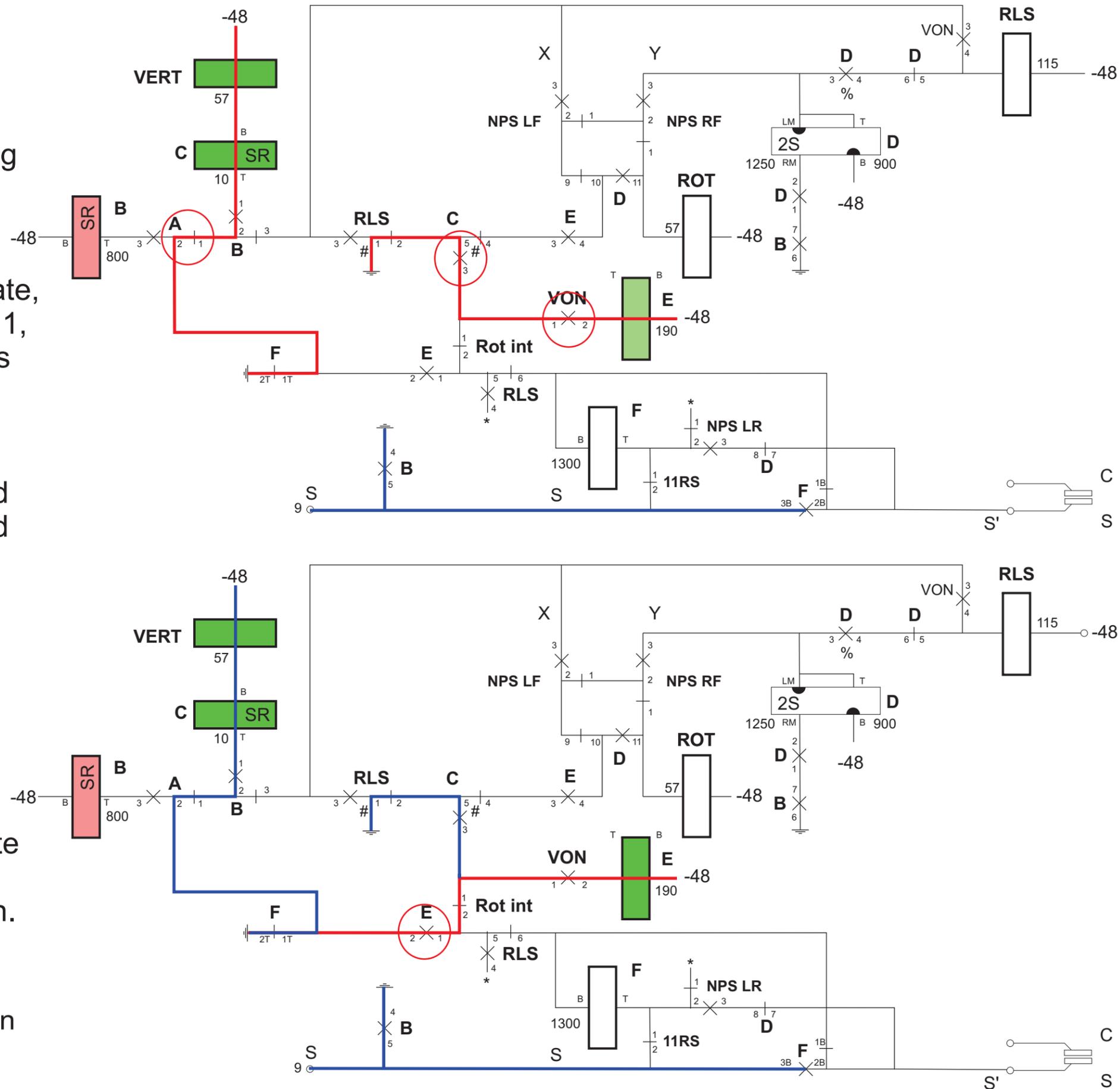
During first pulse C and VERT operate, shaft rises to level 1, VON operates, E is energized.

B is slow release and stays operated when de-energized during each pulse.

b. E operates and holds

Further intermediate details of vertical stepping not shown.

(Continued on next sheet)



**IN PROCESS**

**Issue 01**  
**Draft C**

Key to symbols on last sheet

Path development for trunk hunting, digit absorption, and level blocking.

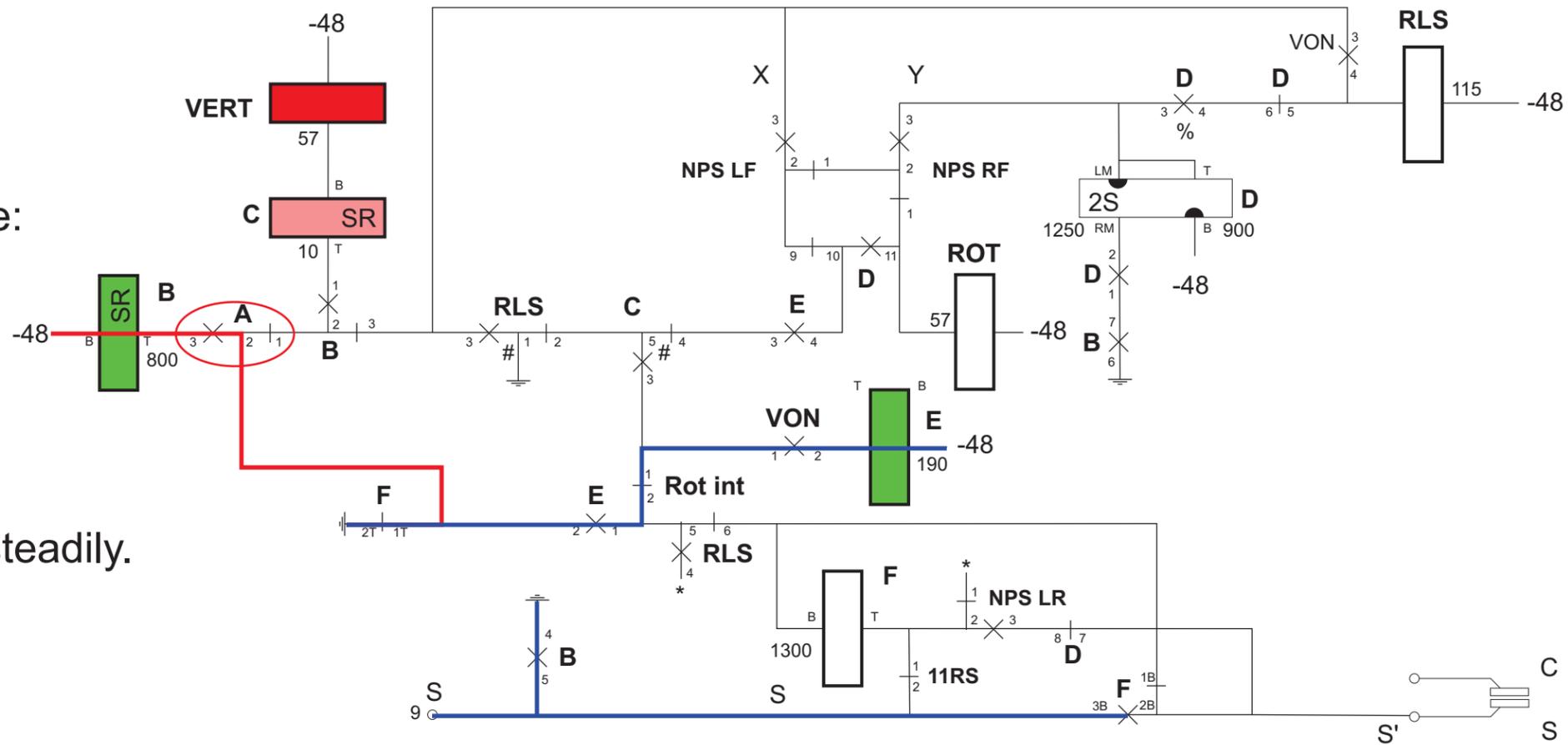
Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.26	sht 01
proj SXS study	type CDR	dwn DAK	of 01
laboratories dak			
scientific and technical undertakings			
Alamogordo, New Mexico			

**Figure 1**  
**Vertical stepping**

**IN PROCESS**

**Issue 01**  
**Draft A**

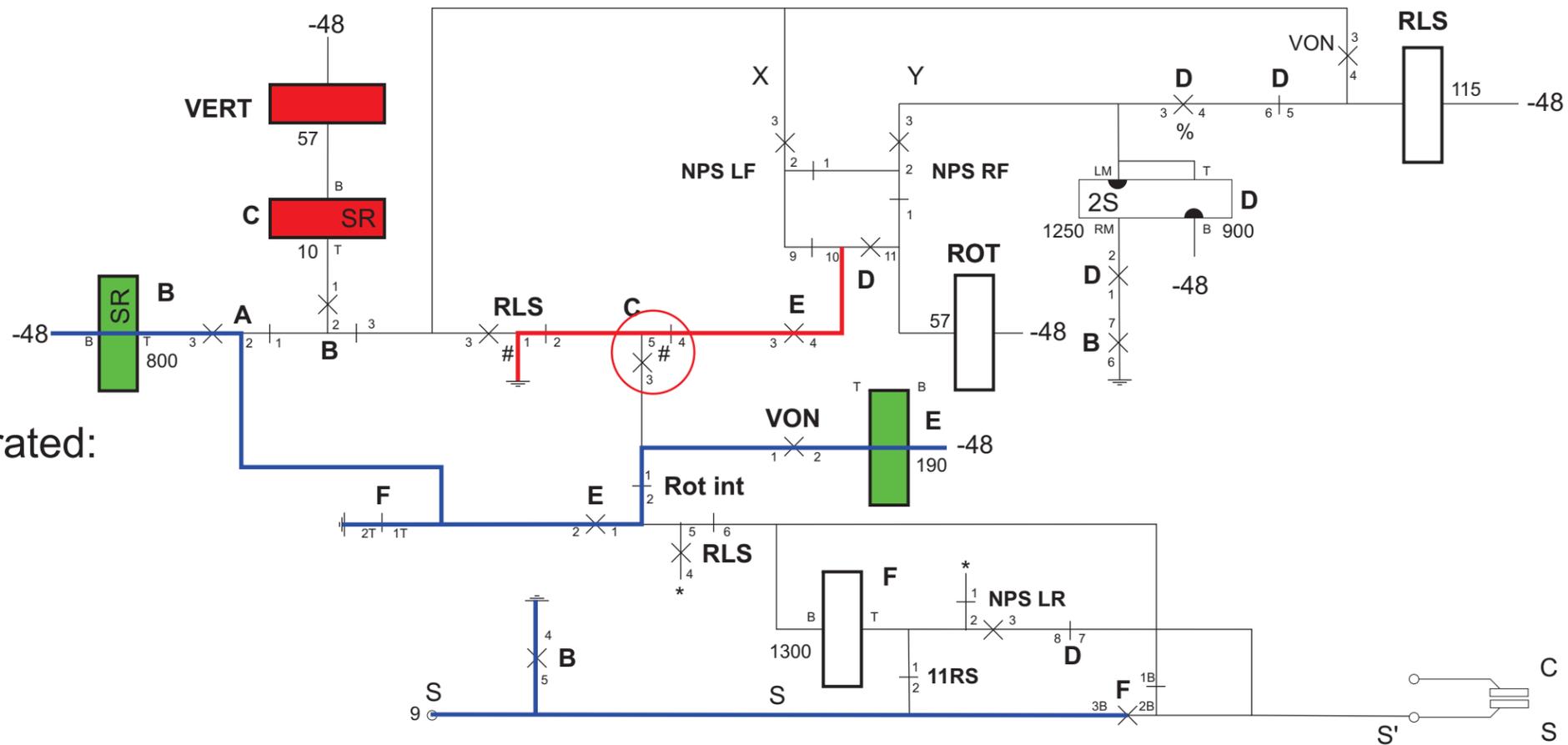
c. End of last pulse:  
VERT releases,  
C de-energized  
but does not  
release  
immediately.



B now energized steadily.

Key to symbols  
on last sheet

d. C releases,  
path closed to  
spring 10 of D.



Go to, depending  
on normal post  
springs (NPS) operated:  
None: Fig 2  
LF: Fig. 3  
RF: Fig 4  
LR: Fig 5.

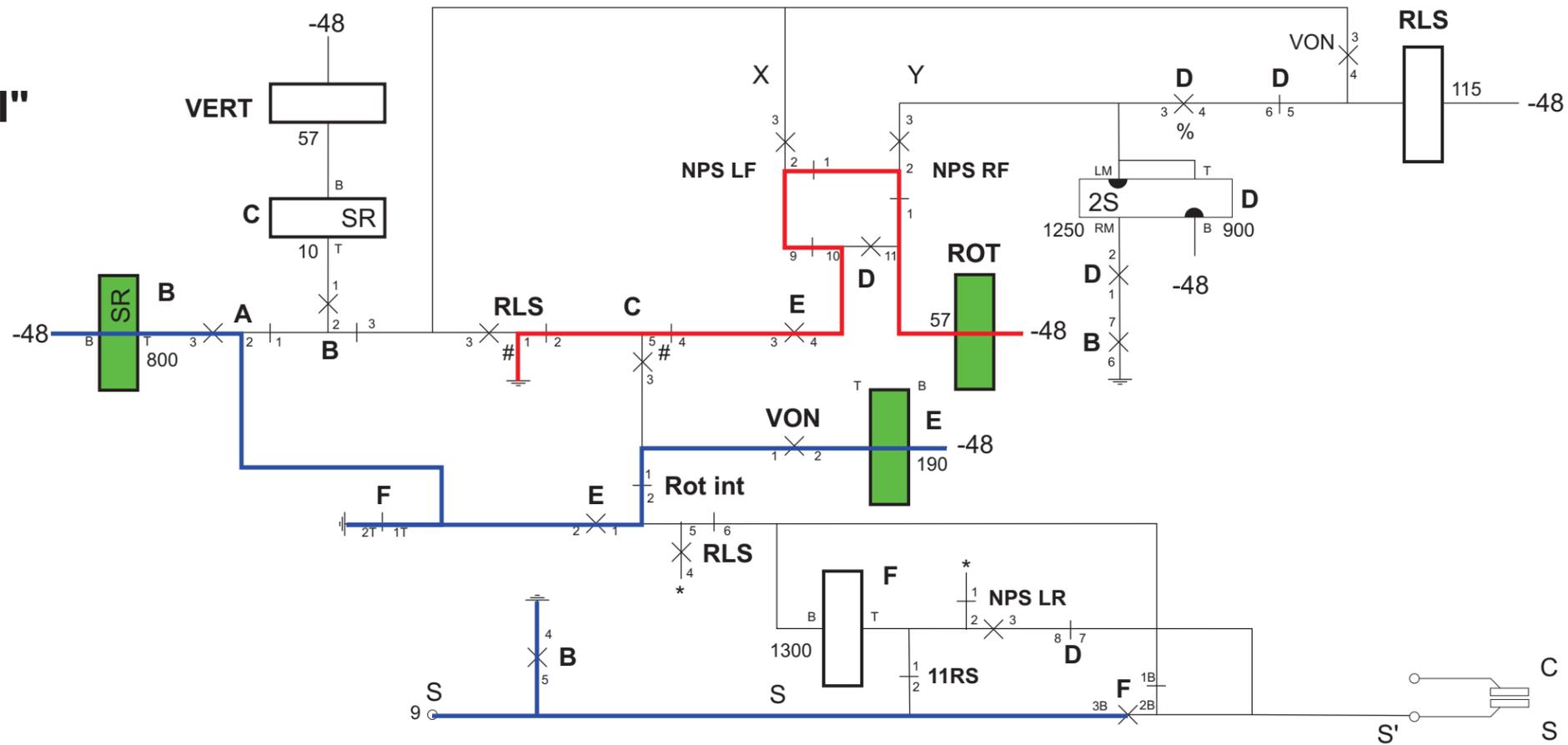
Path development for  
trunk hunting,  
digit absorption, and  
level blocking.

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.26	sht 02
proj SXS study	type CDR	dwn DAK	of 01
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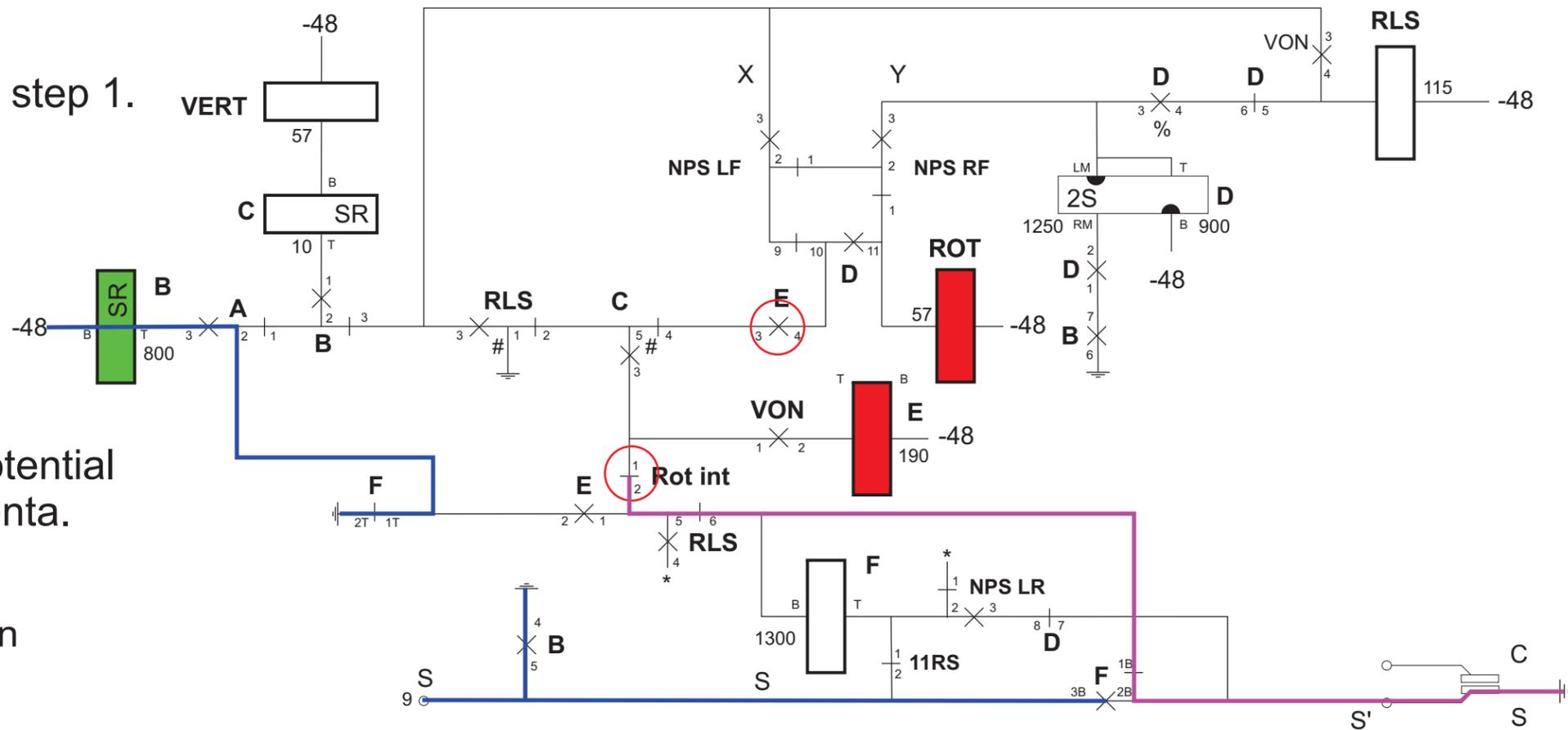
**Figure 2**  
**No NPS contact**  
**operated ("normal"**  
**level).**

We arrive here  
 from Fig. 1d

a. C released  
 completes path  
 to operate ROT.



b. Shaft rotates to step 1.  
 Rot. Int. opens,  
 releasing E, which  
 releases ROT.  
 We assume the  
 trunk at step 1  
 is busy, with  
 sleeve grounded.  
 That provides a potential  
 path seen in magenta.



(Continued on  
 next sheet)

**IN PROCESS**

**Issue 01**  
**Draft A**

Key to symbols  
 on last sheet

Path development for  
 trunk hunting,  
 digit absorption, and  
 level blocking.

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.26	sht 03
proj SXS study	type CDR	dwn DAK	of 01
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Alamogordo, New Mexico			

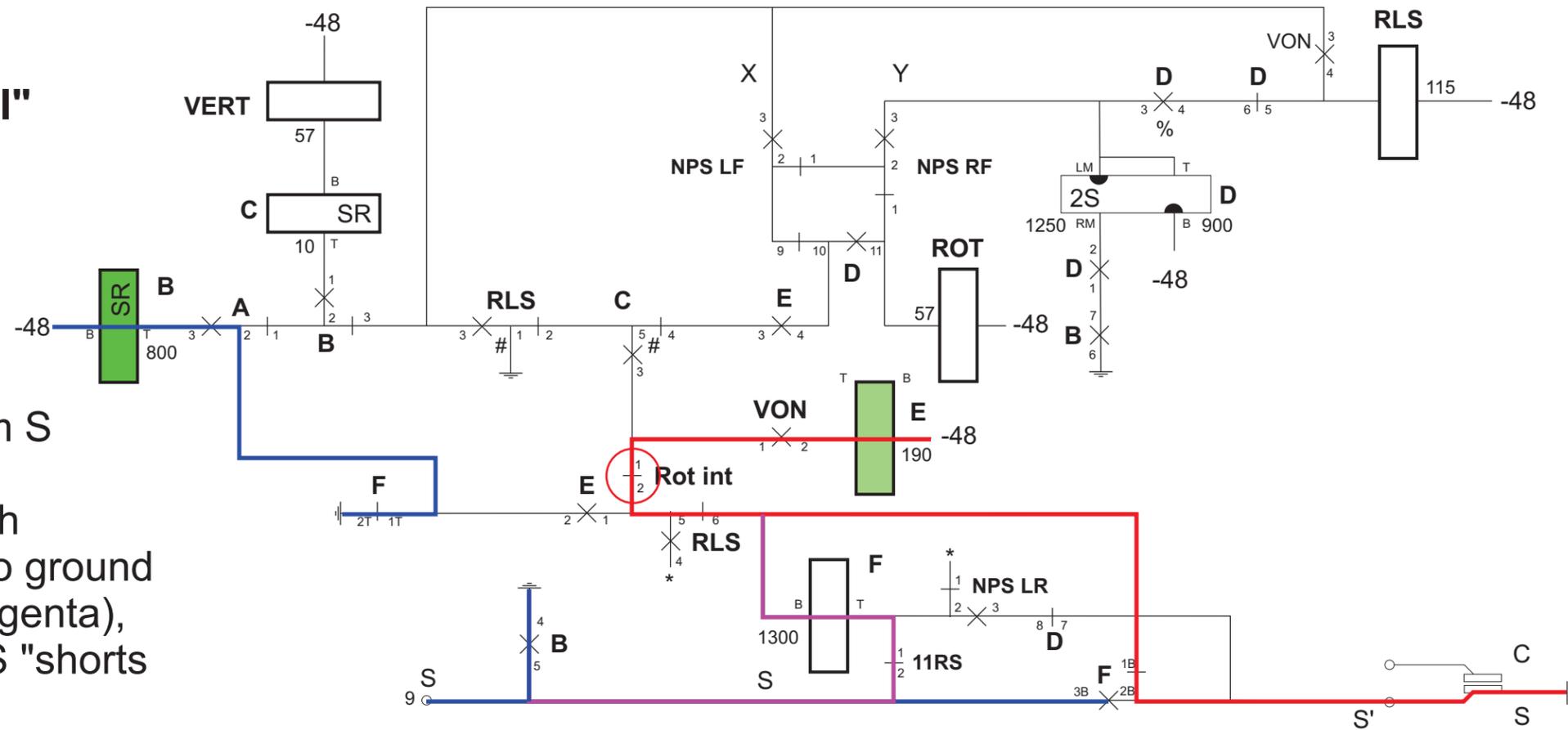
**Figure 2**  
**No NPS contact**  
**operated ("normal"**  
**level).**

**IN PROCESS**

**Issue 01**  
**Draft A**

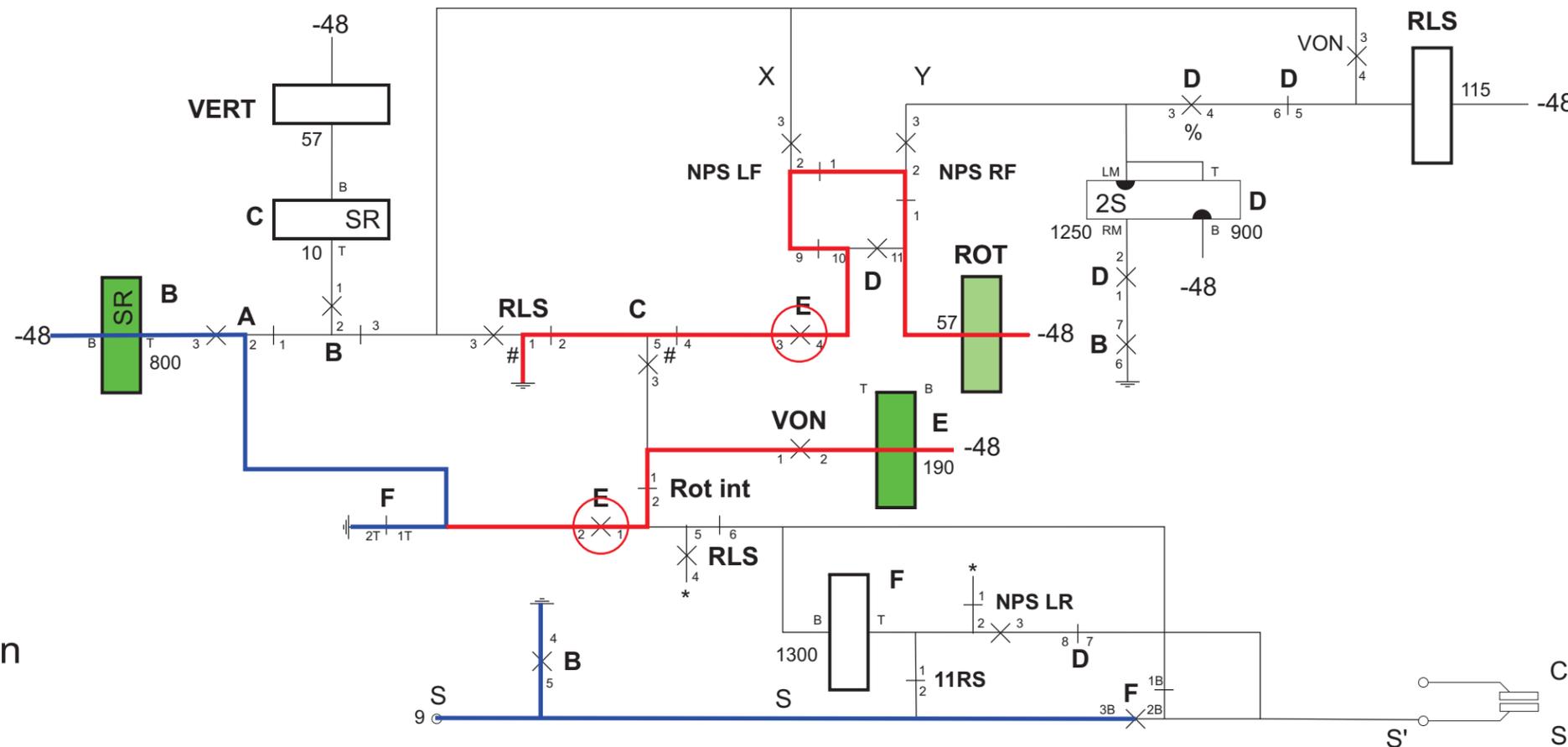
c. Rot. Int. closes,  
 E is energized from S

There is also a path  
 from E through F to ground  
 (shown here in magenta),  
 but the path from S "shorts  
 F out".



Key to symbols  
 on last sheet

d. E operates and  
 locks to ground.  
 E closes the path  
 to energize ROT.



Path development for  
 trunk hunting,  
 digit absorption, and  
 level blocking.

(Continued on  
 next sheet)

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.26	sht 04
proj SXS study	type CDR	dwn DAK	of 01
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scientific and technical undertakings			
Alamogordo, New Mexico			

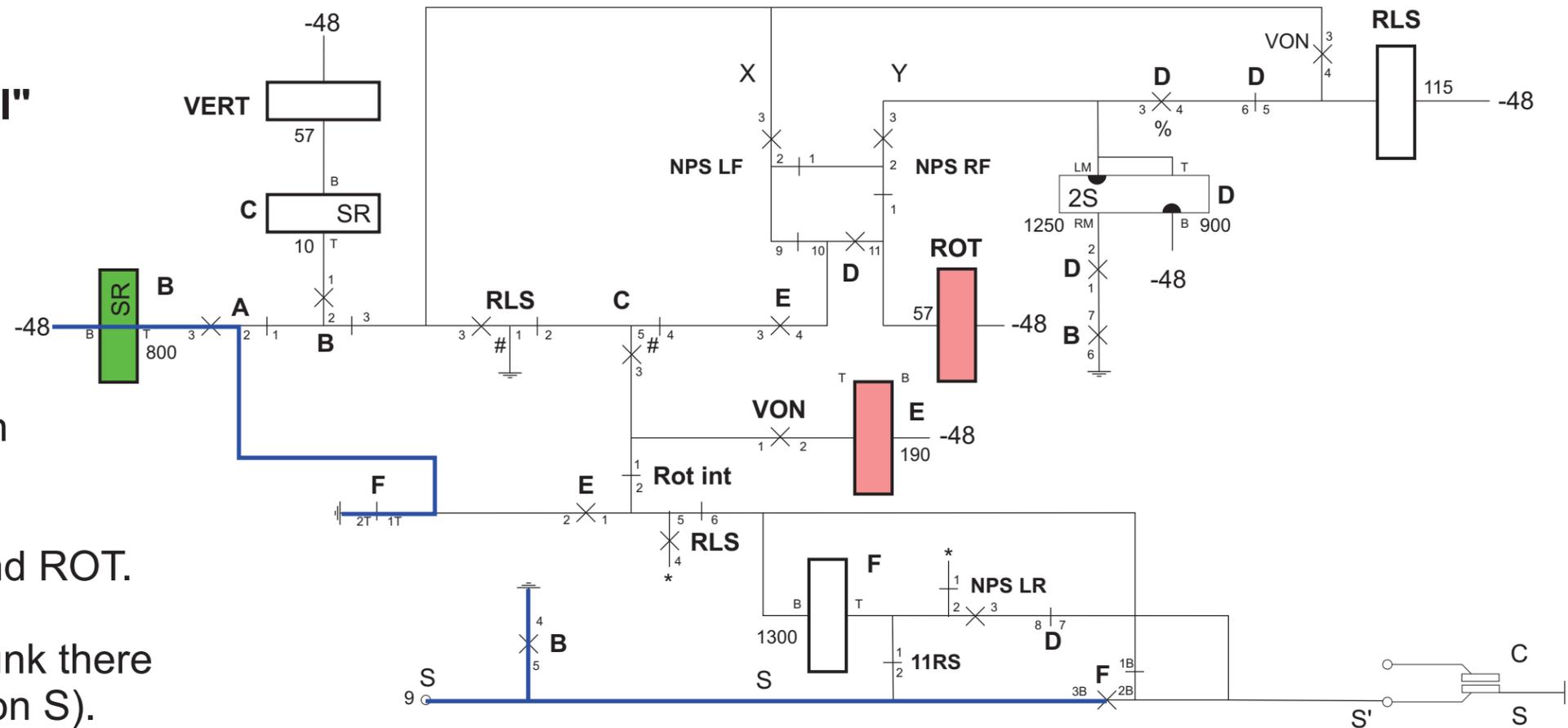
**Figure 2**  
**No NPS contact**  
**operated ("normal"**  
**level).**

**IN PROCESS**

**Issue 01**  
**Draft A**

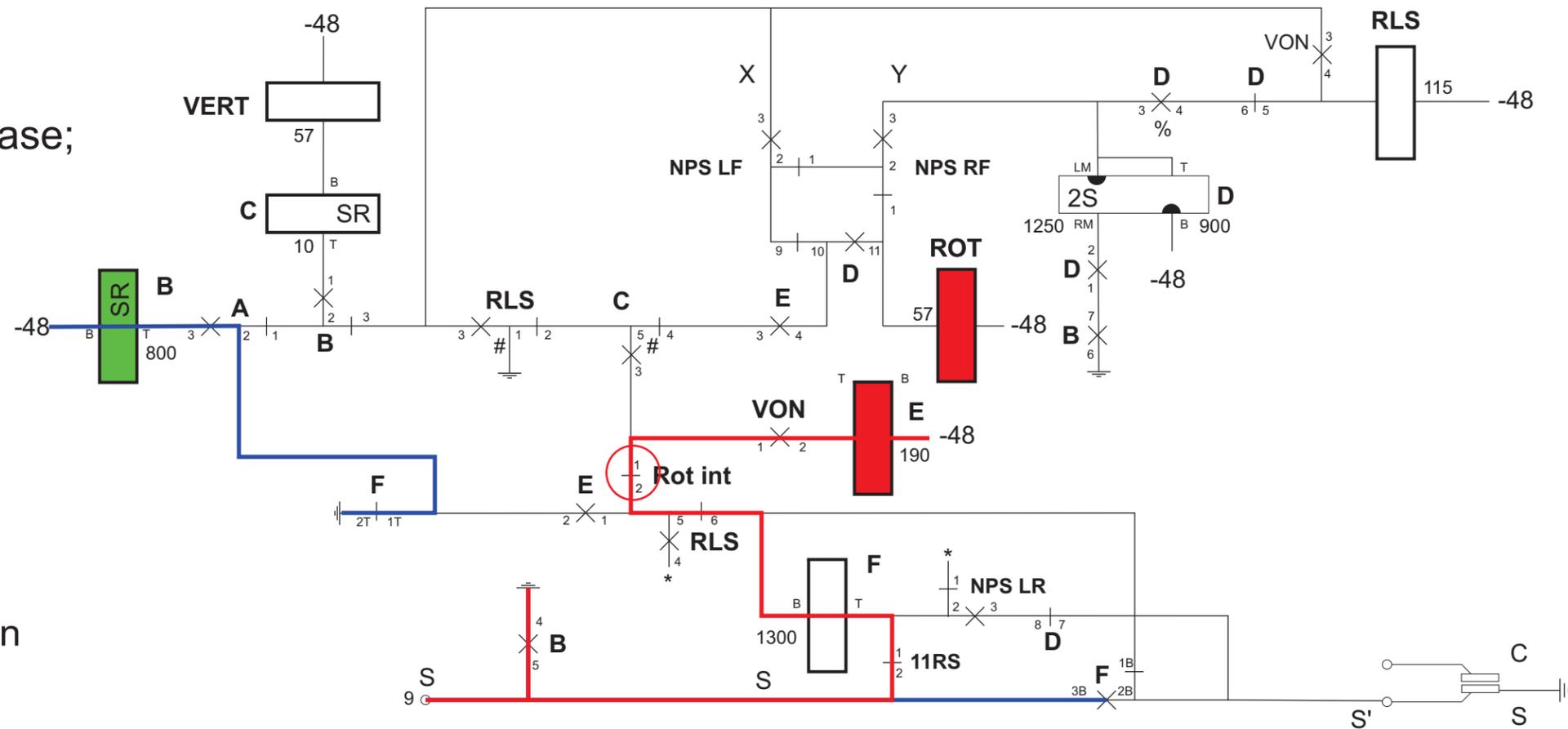
e. ROT operates,  
stepping the switch  
to step 2.  
Rot. Int. opens,  
de-energizing E and ROT.

We assume the trunk there  
is idle (no ground on S).



Key to symbols  
on last sheet

f. E and ROT release;  
Rot. Int. closes



Path development for  
trunk hunting,  
digit absorption, and  
level blocking.

(Continued on  
next sheet)

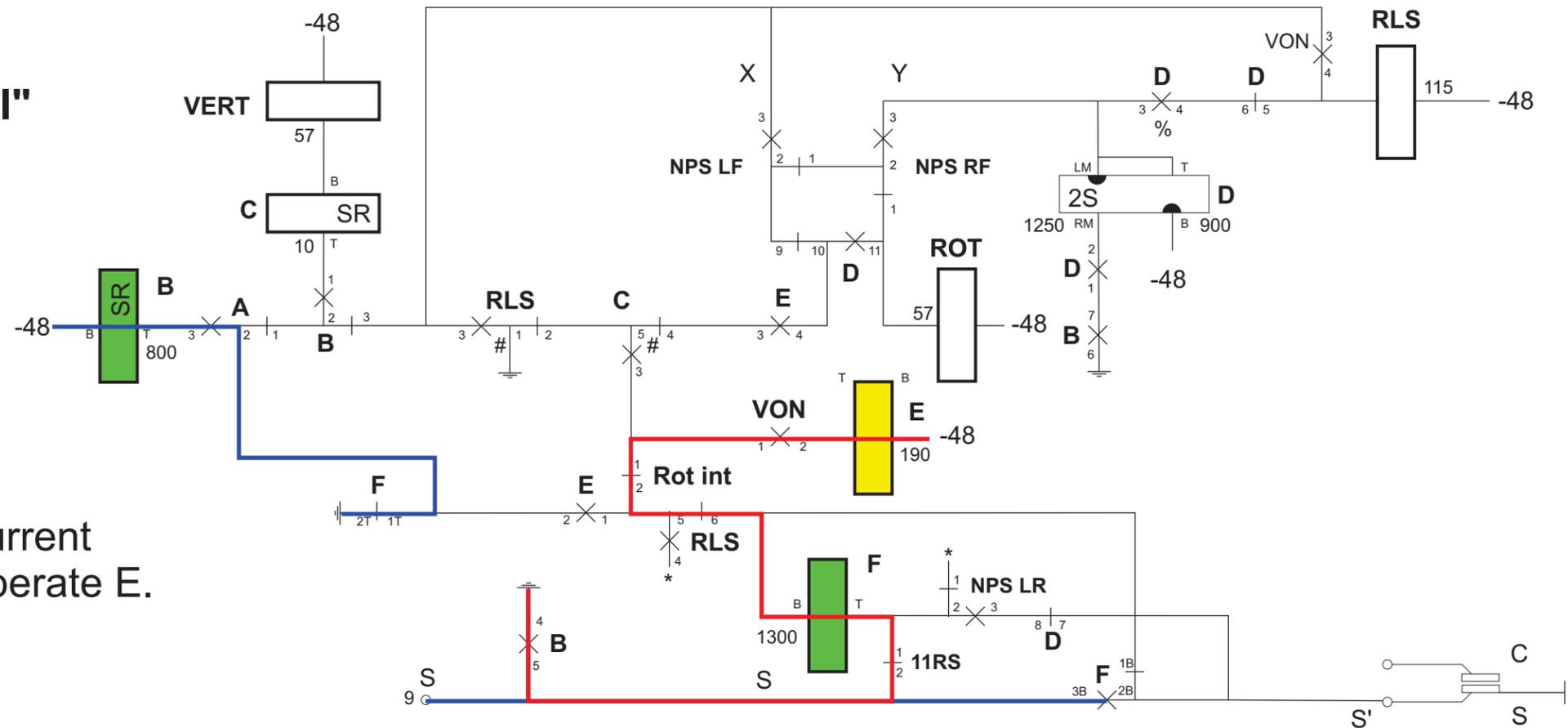
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ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
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proj SXS study	type CDR	dwn DAK	of 01
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Alamogordo, New Mexico			

**Figure 2**  
**No NPS contact**  
**operated ("normal"**  
**level).**

**IN PROCESS**

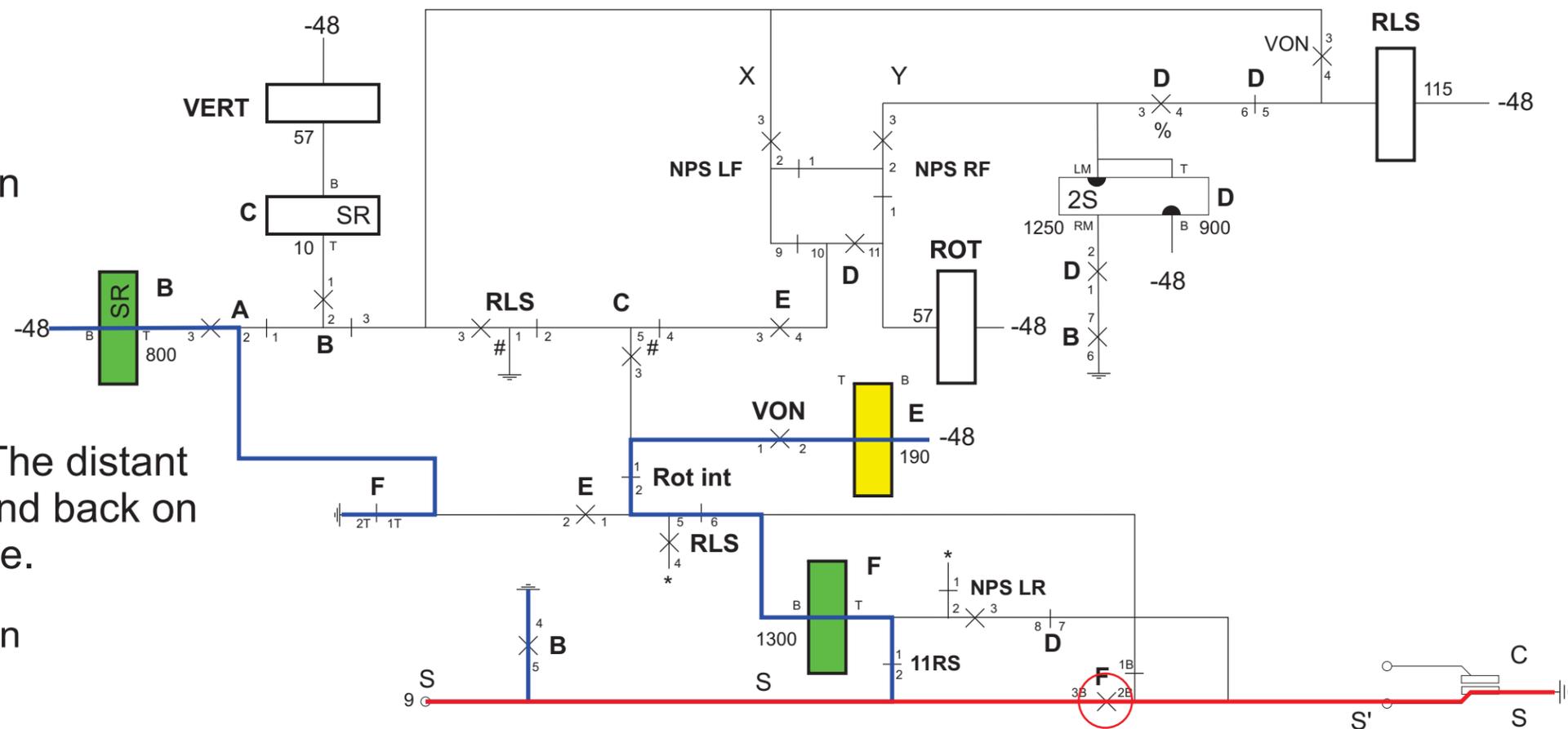
**Issue 02**  
**Draft A**

g. A path from ground through F and E energizes F and E, but the current is not enough to operate E.



Key to symbols  
on last sheet

h. F operates and cuts the connection through to the next stage. F also ties the sleeve from the next stage to the incoming sleeve. The distant switch sends ground back on the outgoing sleeve.

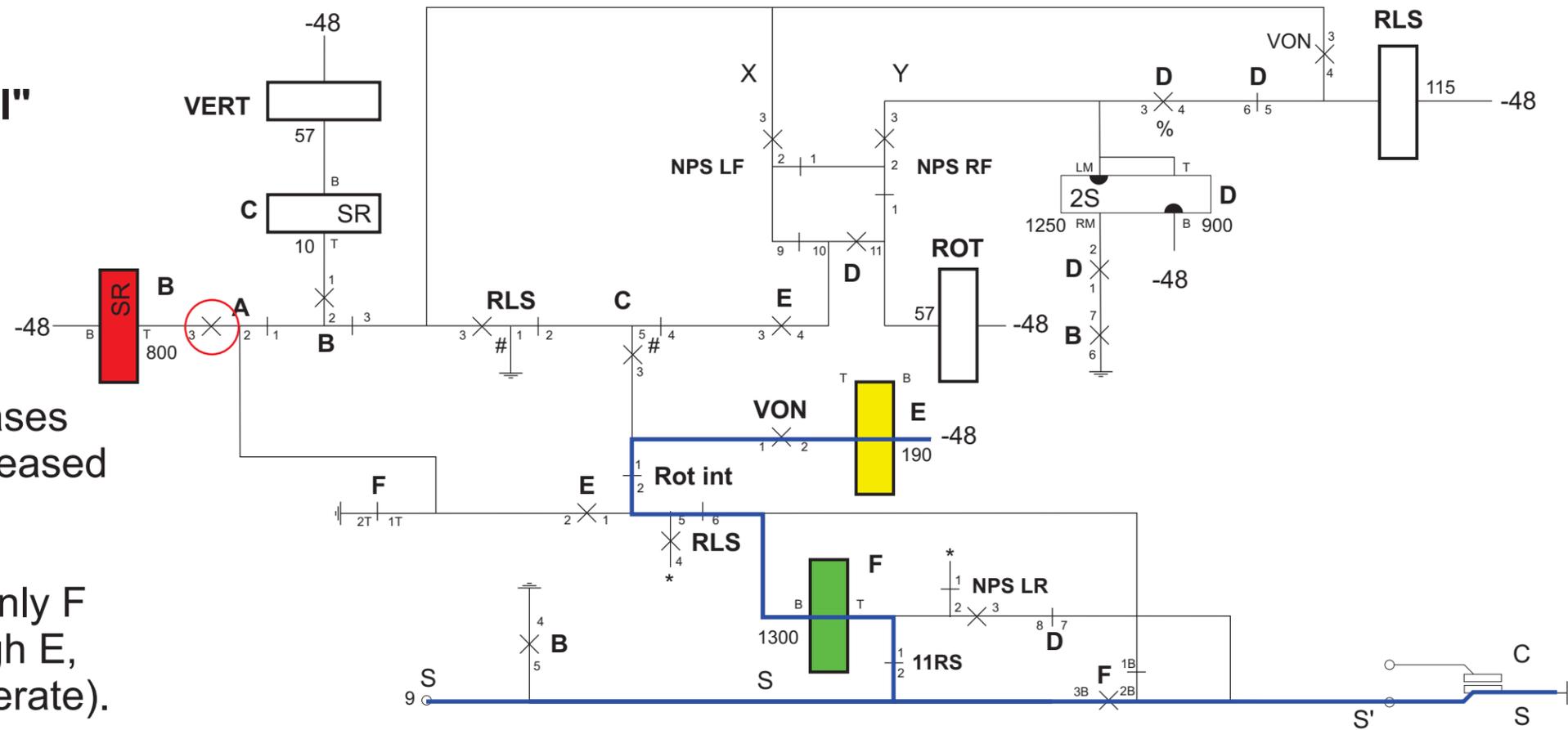


Path development for  
trunk hunting,  
digit absorption, and  
level blocking.

(Continued on  
next sheet)

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.26	sht 06
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**Figure 2**  
**No NPS contact**  
**operated ("normal"**  
**level).**



j. F operated releases A (not seen). A released releases B.

After B releases, only F is operated (through E, which does not operate).

Note: if no idle trunk is found and switch goes to the 11th rotary step, contact 11RS opens and brings the trunk hunting to a halt.

Other 11RS contacts (not seen) send reorder tone to the calling line.

**IN PROCESS**

**Issue 01**  
**Draft A**

Key to symbols on last sheet

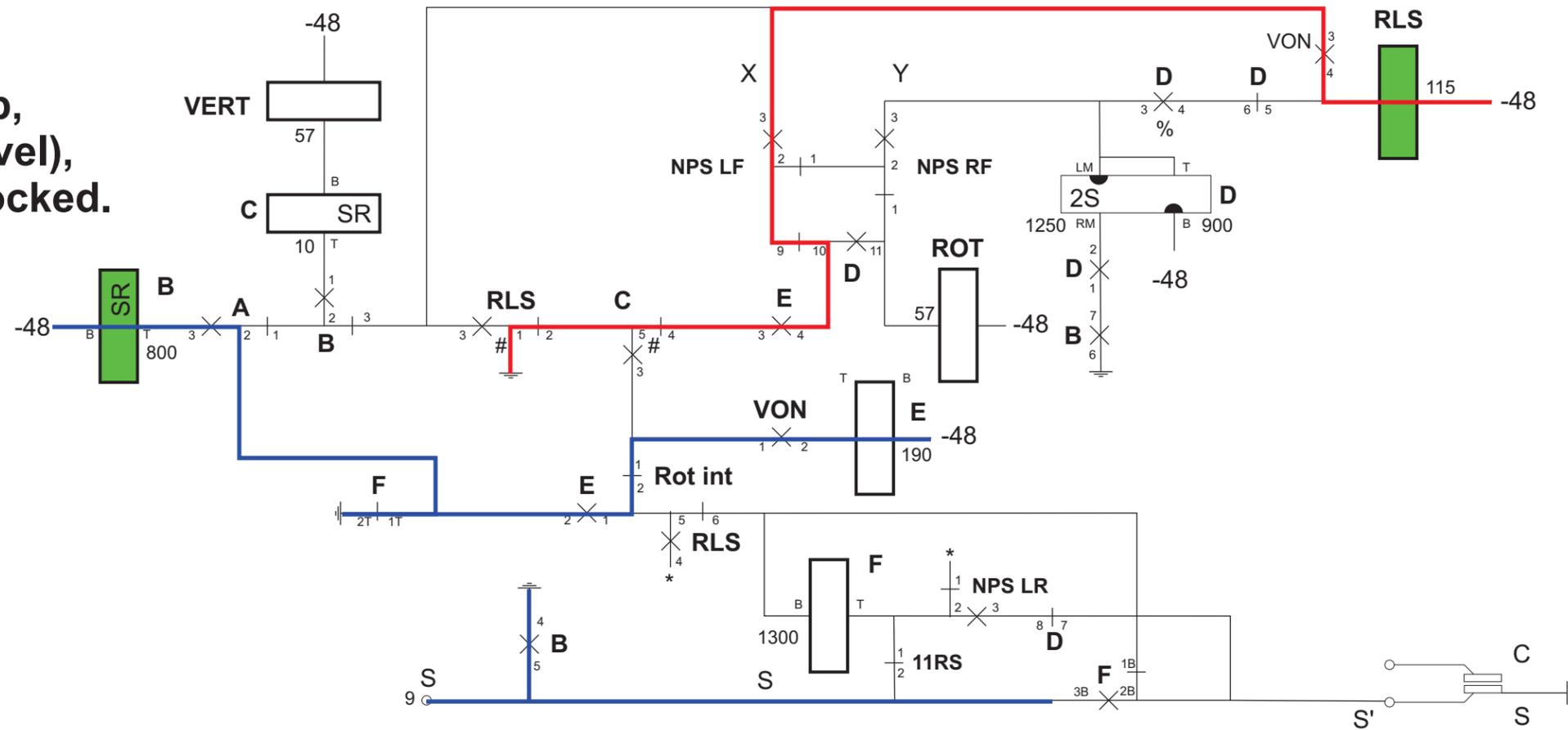
Path development for trunk hunting, digit absorption, and level blocking.

Step-by-step system			
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Auxiliary intertoll selector (D/A)			
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proj	type	dwn	of
SXS study	CDR	DAK	01
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scientific and technical undertakings			
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**Figure 3**  
**NPS LF contact**  
**operated ("absorb,"**  
**do not unlock" level),**  
**not currently unlocked.**

We arrive here  
 from Fig. 1d

a. C released  
 completes path  
 to operate RLS..



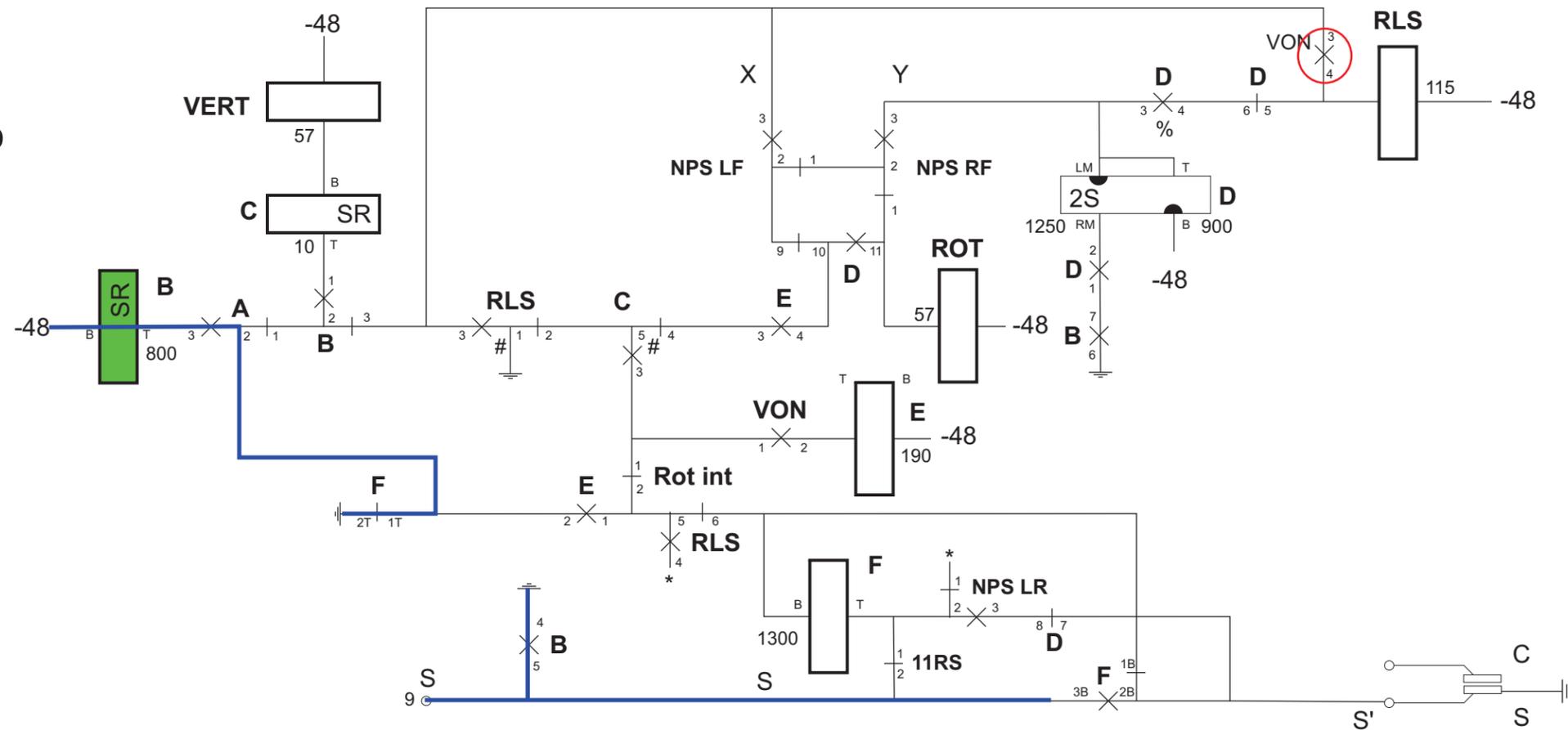
**IN PROCESS**

**Issue 01**  
**Draft A**

Key to symbols  
 on last sheet

b. Shaft returns to  
 home position.  
 VON opens,  
 releasing RLS.

Go to Fig. 1A.

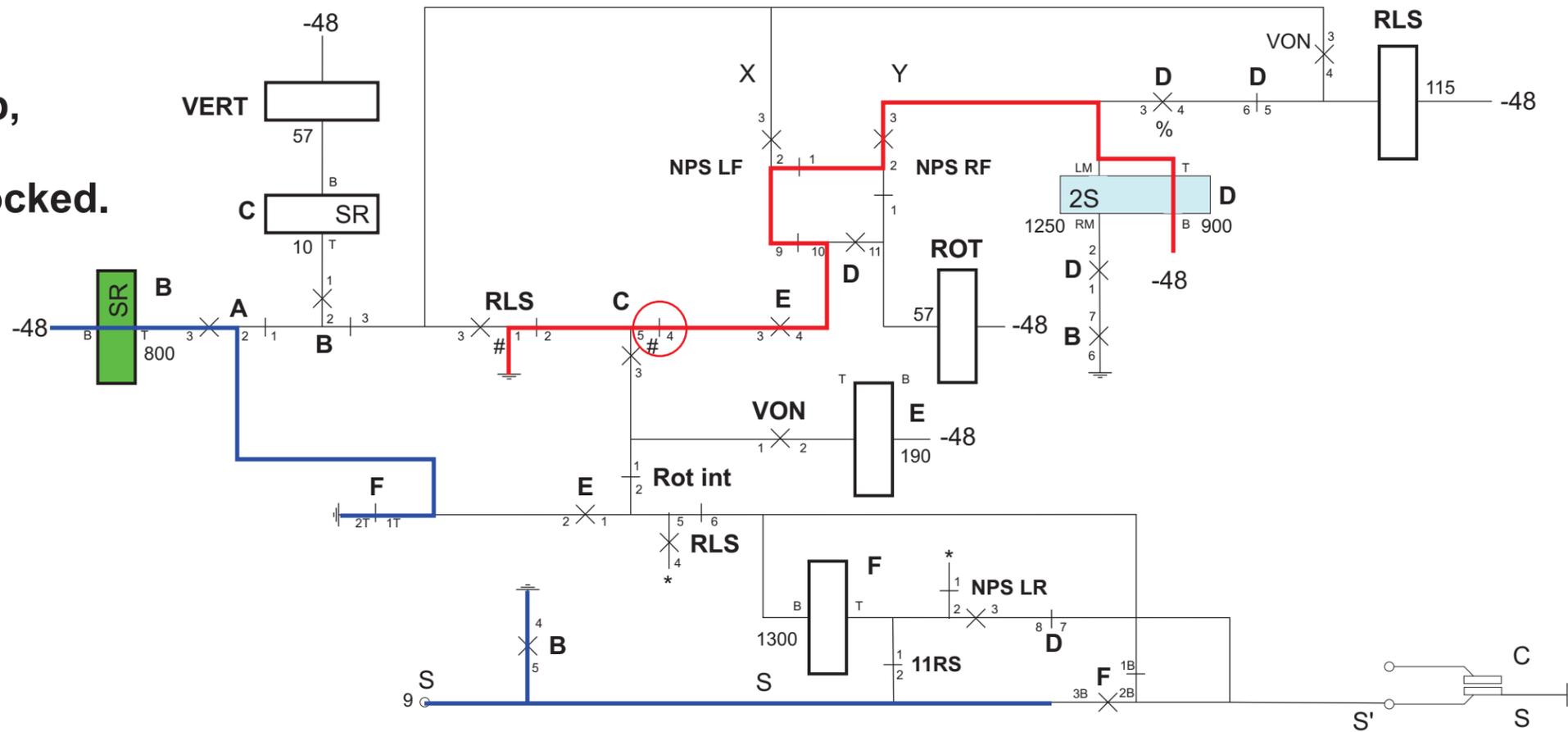


Path development for  
 trunk hunting,  
 digit absorption, and  
 level blocking.

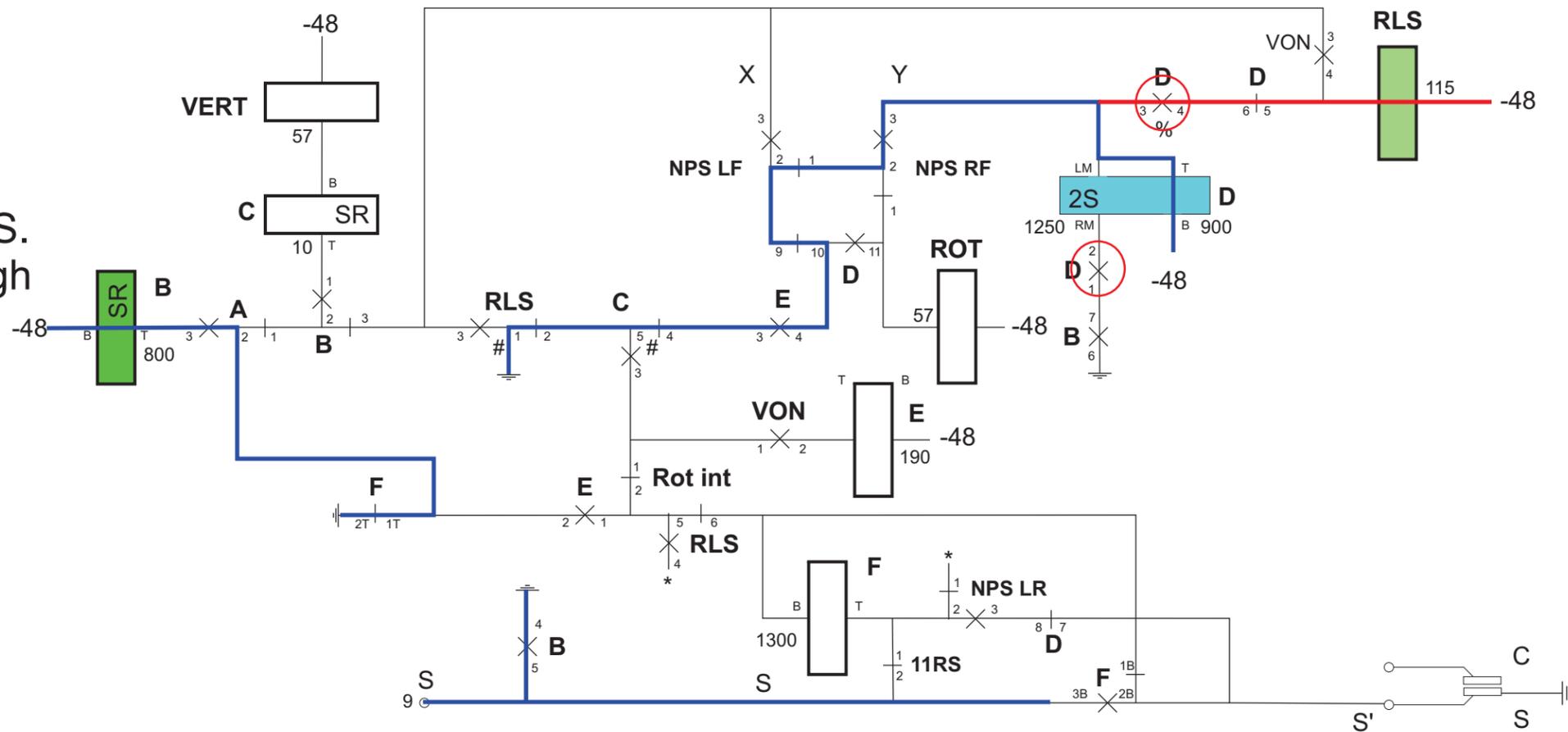
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ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
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proj	type	dwn	of
SXS study	CDR	DAK	01
laboratories dak			
scientific and technical undertakings			
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**Figure 4**  
**NPS RF contact**  
**operated ("absorb,**  
**unlock" level),**  
**not currently unlocked.**

a. C released  
 completes path  
 to D winding T-B.  
 D is energized for  
 1st step operation.



b. D operates to  
 1st step, that closes  
 path to energize RLS.  
 D closes path through  
 its LM-RM winding,  
 but that is shorted  
 out for now.



**IN PROCESS**

**Issue 01**  
**Draft A**

Key to symbols  
 on last sheet

Path development for  
 trunk hunting,  
 digit absorption, and  
 level blocking.

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.26	sht 09
proj SXS study	type CDR	dwn DAK	of 01
laboratories dak			
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Alamogordo, New Mexico			

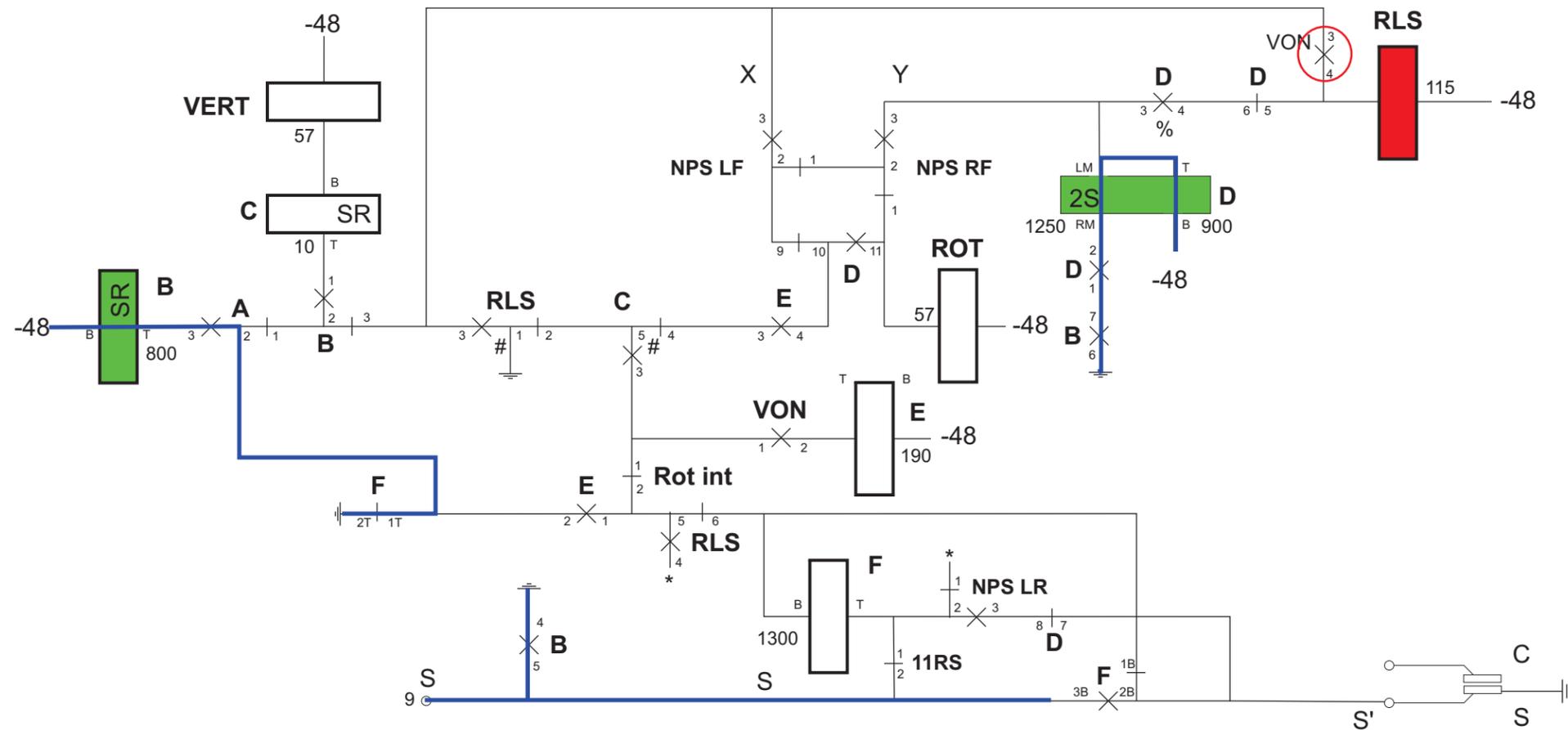
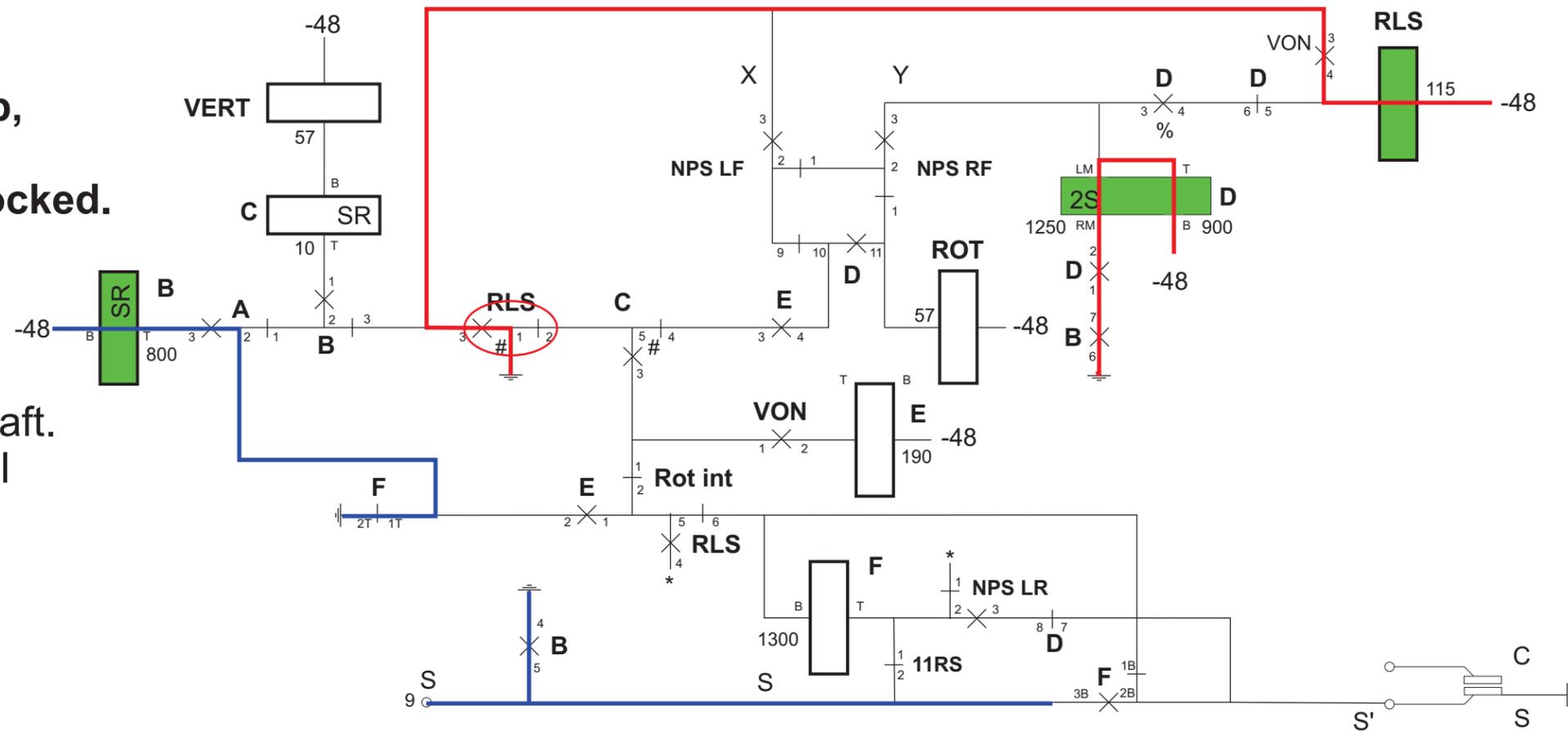
**Figure 4**  
**NPS RF contact**  
**operated ("absorb,**  
**unlock" level),**  
**not currently unlocked.**

c. RLS operates  
 and locks to  
 ground. RLS  
 releases switch shaft.  
 RLS opens original  
 operate path to D.

The path through  
 both windings of D  
 operates D fully.  
 That establishes the  
 "unlocked" mode.  
 (See Fig. 6.)

d. When shaft is  
 home, VON opens,  
 releasing RLS.

Then go to Fig. 1A.



**IN PROCESS**

**Issue 01**  
**Draft A**

Key to symbols  
 on last sheet

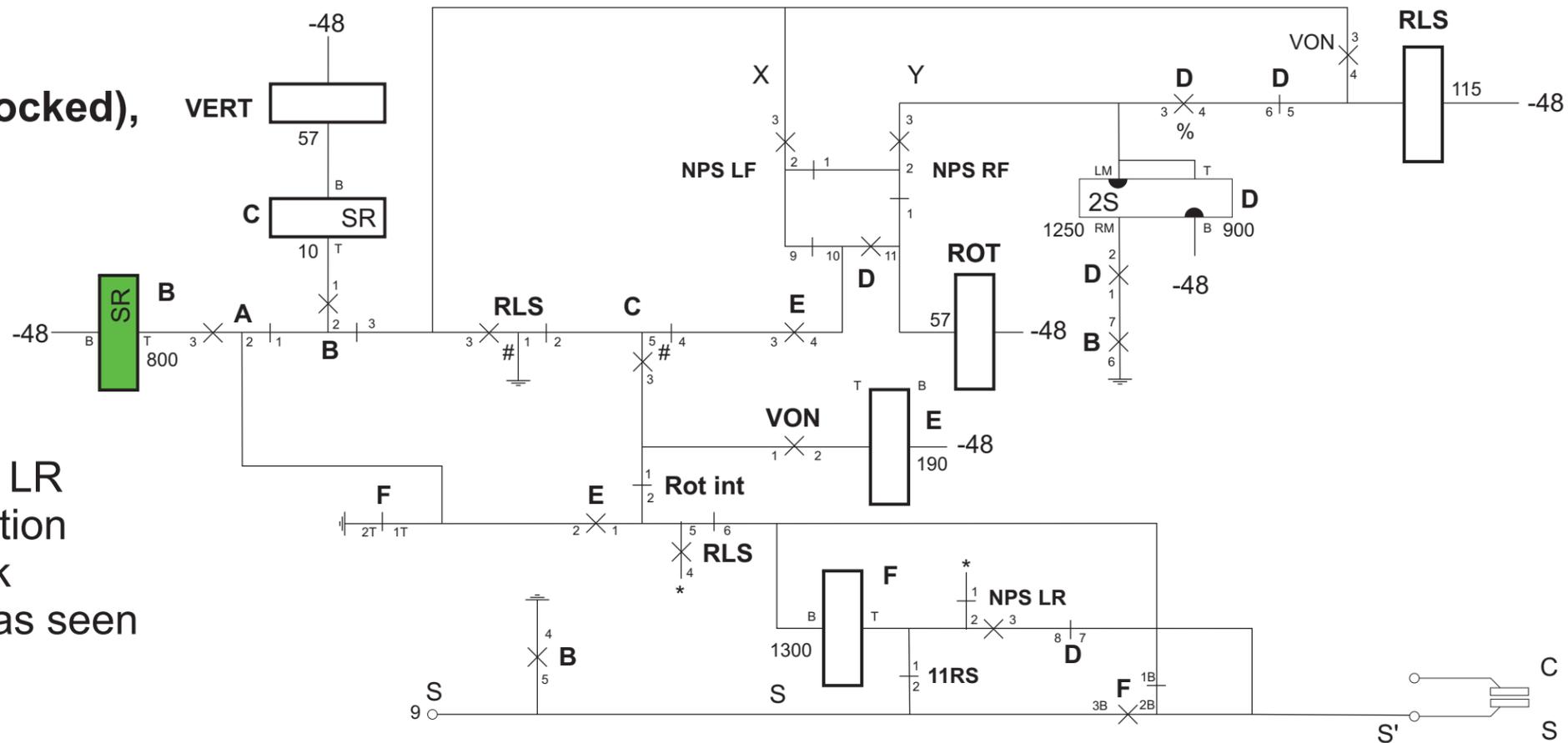
Path development for  
 trunk hunting,  
 digit absorption, and  
 level blocking.

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
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proj SXS study	type CDR	dwn DAK	of 01
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**Figure 5**  
**NPS LR contact**  
**operated (level blocked),**  
**not currently**  
**unlocked.**

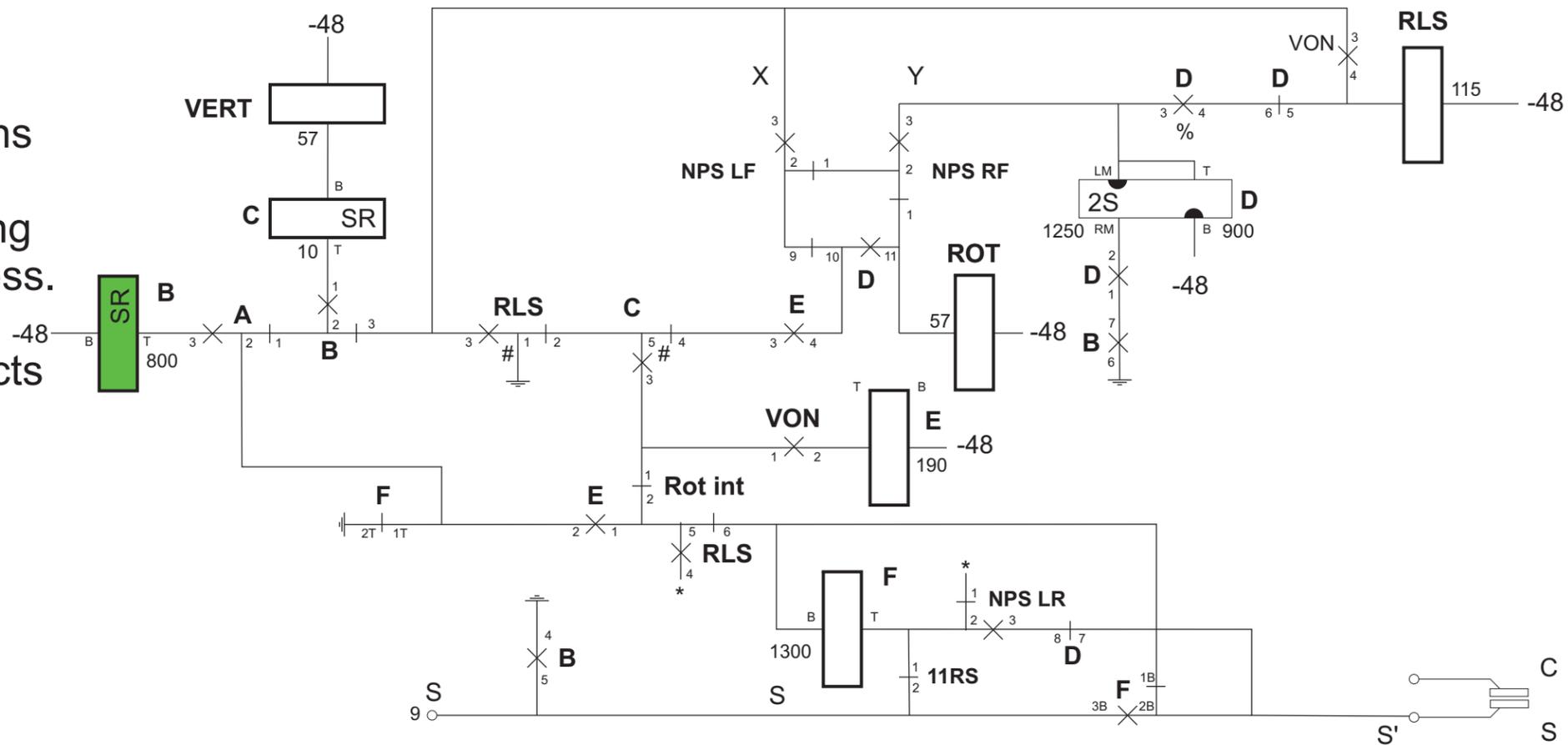
a. C released  
 completes path  
 to operate ROT.

Path through NPR LR  
 "fakes" busy condition  
 on all trunks. Trunk  
 hunting proceeds as seen  
 on Figs. 2c-d.



b. When shaft turns  
 to rotary step 11,  
 11RS opens, halting  
 the stepping process.

Other 11RS contacts  
 (not seen) send  
 reorder tone to  
 the calling line.



**IN PROCESS**

**Issue 01**  
**Draft A**

Path development for  
 trunk hunting,  
 digit absorption, and  
 level blocking.

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.26	sht
proj SXS study	type CDR	dwn DAK	of 01
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## Figure 6 Consequences of "locked" status

"Locked" status of the digit absorption and level blocking system is brought about when the D relay is operated. In that case, neither type of digit absorption nor level blocking will happen on levels set for those.

- Absorb and do not unlock: See Fig. 3a. With D operated, contact D9-10-11 in effect rearranges the circuit as seen in Fig. 2a, and operation proceeds as for a "normal" level; the digit is not absorbed.
- Absorb and unlock: see Fig. 4a. With D operated, contact D9-10-11 in effect rearranges the circuit as seen in Fig. 2a, and operation proceeds as for a "normal" level; the digit is not absorbed.
- Level blocked: See Fig. 5a. With D operated, contact D7-8 opens the path that "fakes" trunk busy at all rotary steps, so operation proceeds as for a "normal" level; the level is not blocked.

Path development for  
trunk hunting,  
digit absorption, and  
level blocking.

Step-by-step system ED-55242-33 G11 switch Auxiliary intertoll selector (D/A)			
<small>num</small> SXS-SK1052	<small>iss</small> 02	<small>date</small> 2019.12.26	<small>sht</small> 12
<small>proj</small> SXS study	<small>type</small> CDR	<small>dwn</small> DAK	<small>of</small> 01
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# Key

-  Relay released
-  Coil energized but relay not yet operated
-  Relay operated
-  Coil energized but current too little to operate
-  Coil energized for 1st step operation
-  Relay operated to 1st step
-  Relay de-energized but not yet released
-  Just now or recently released
-  Status varies

 Path newly shown this figure

 Path first shown earlier

 Contact change significant

Path development for trunk hunting, digit absorption, and level blocking.

Step-by-step system ED-55242-33 G11 switch Auxiliary intertoll selector (D/A)			
num	iss	date	sht
SXS-SK1052	02	2019.12.26	13
proj	type	dwn	of
SXS study	CDR	DAK	01
<b>laboratories dak</b> scientific and technical undertakings Alamogordo, New Mexico			