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Figure 1
Vertical stepping

a. A releases during each pulse.

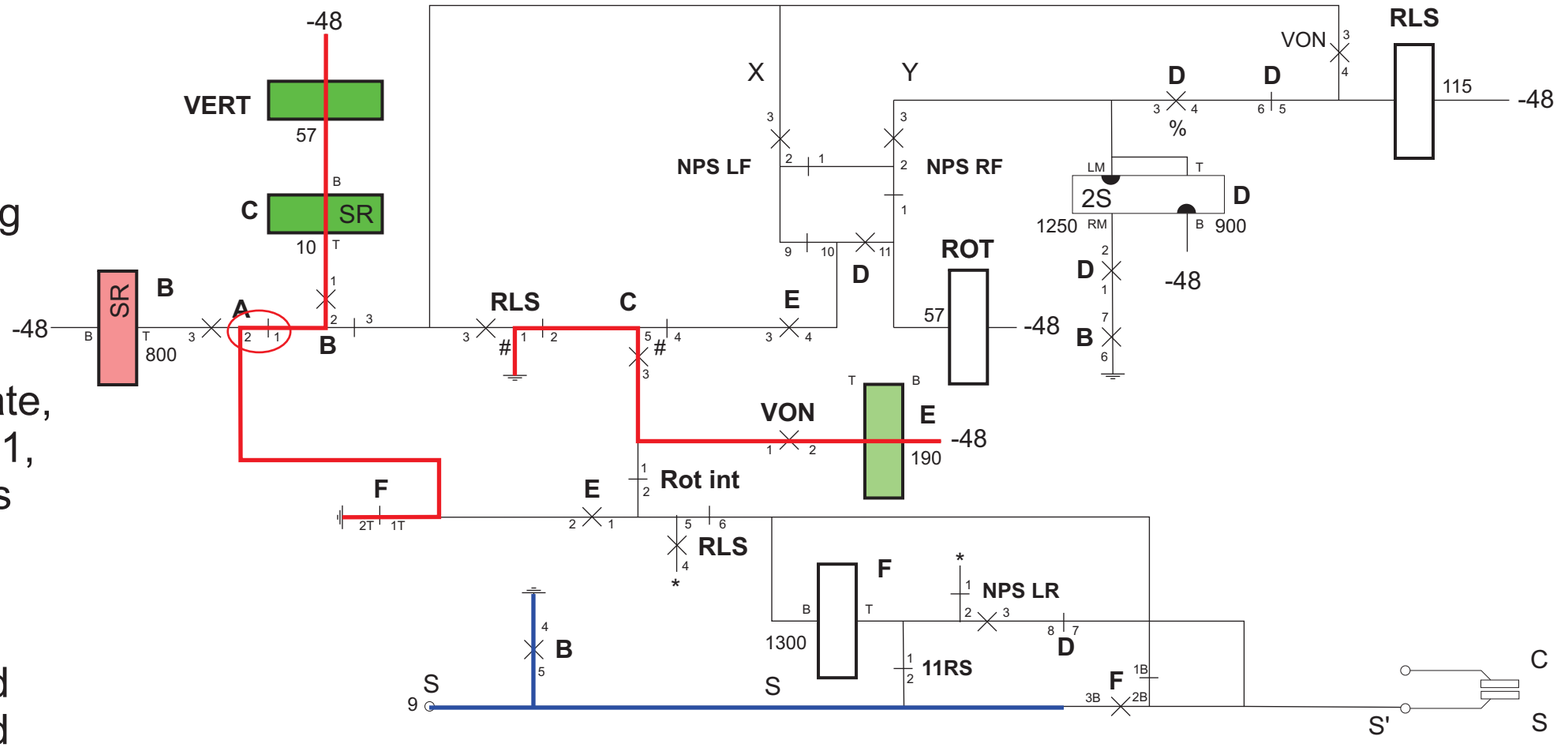
During first pulse C and VERT operate, shaft rises to level 1, VON operates, E is energized.

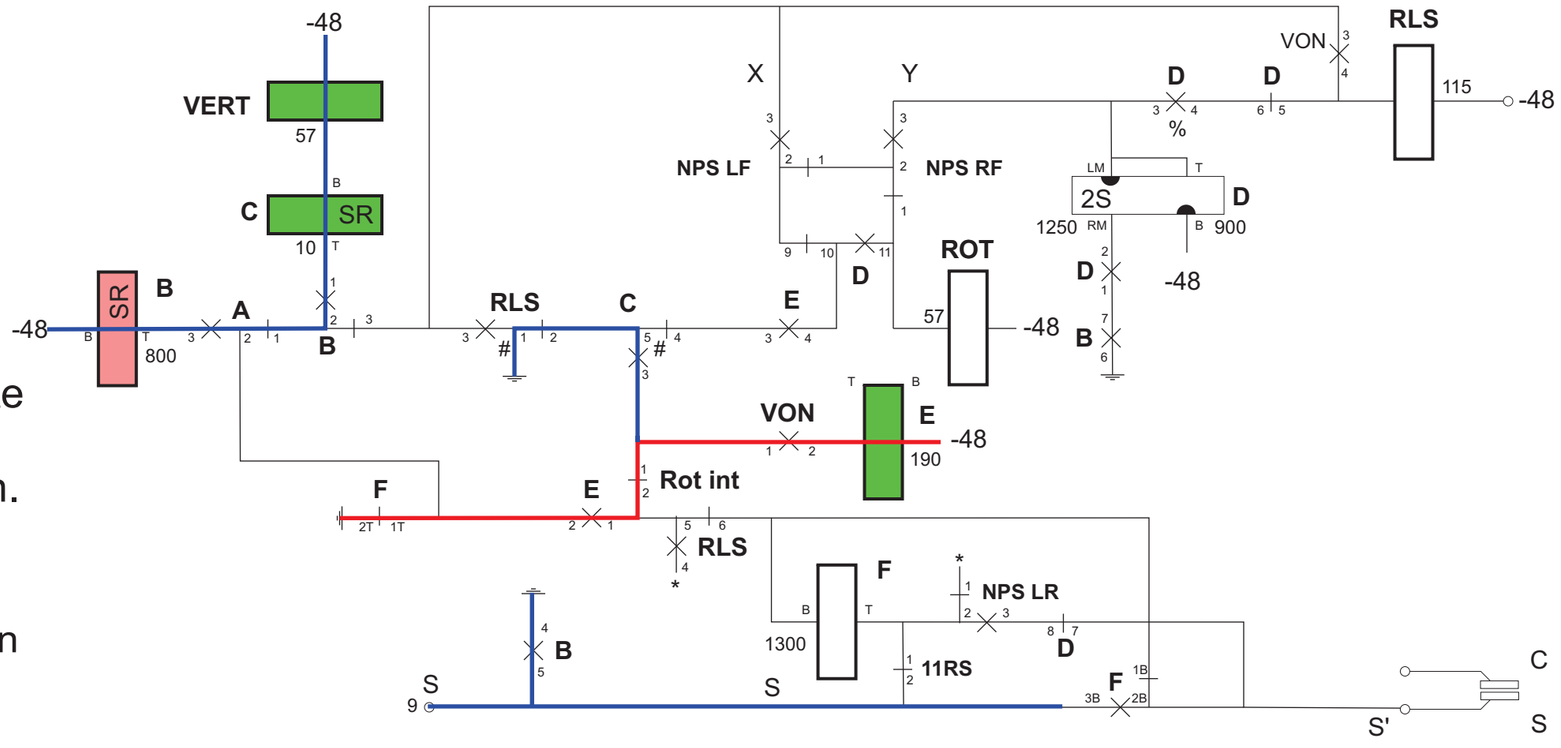
B is slow release and stays operated when de-energized during each pulse.

b. E operates and holds

Further intermediate details of vertical stepping not shown.

(Continued on next sheet)





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	iss	date	sht
SXS-SK1052	02	2019.12.08	01
proj	type	dwn	of
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Figure 1
Vertical stepping

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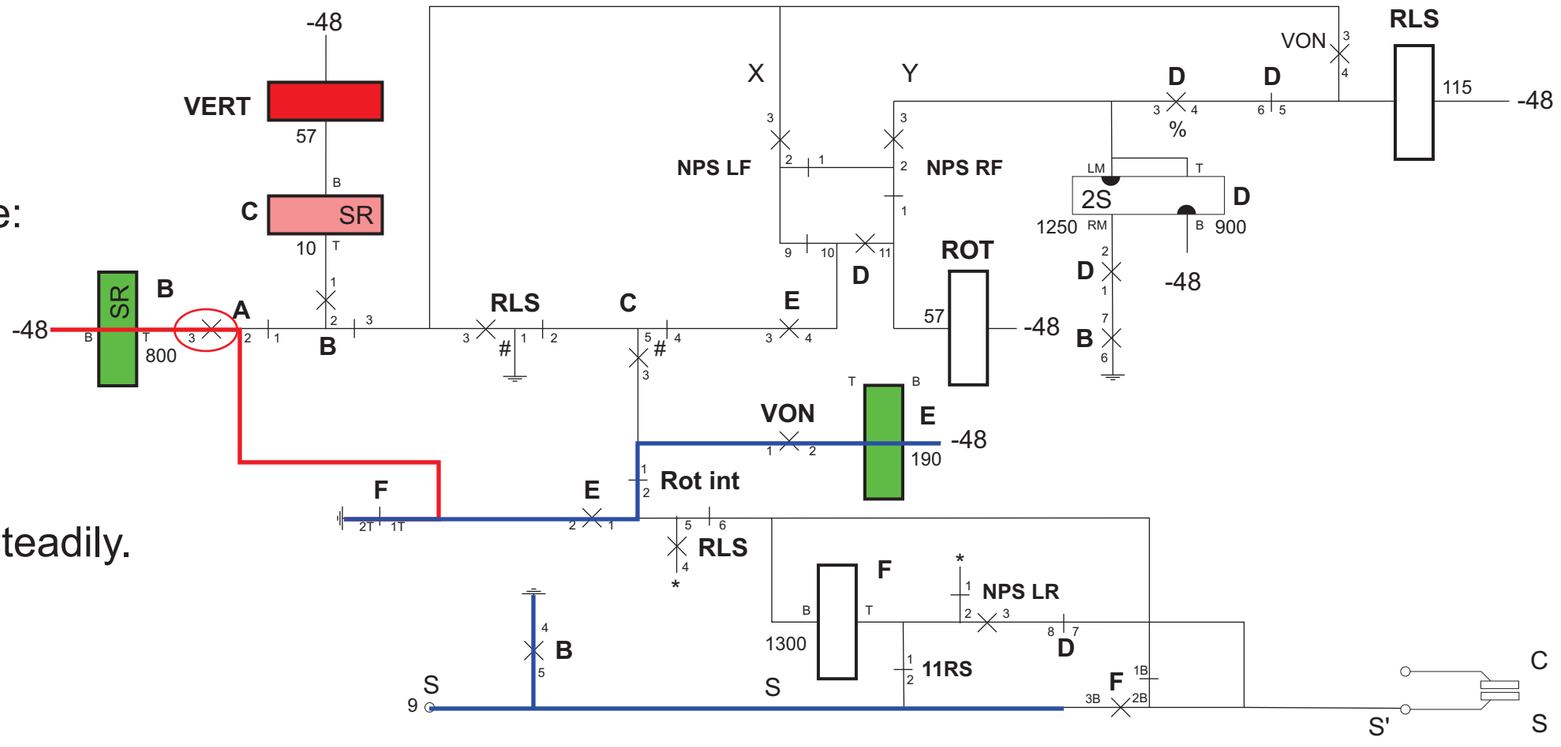
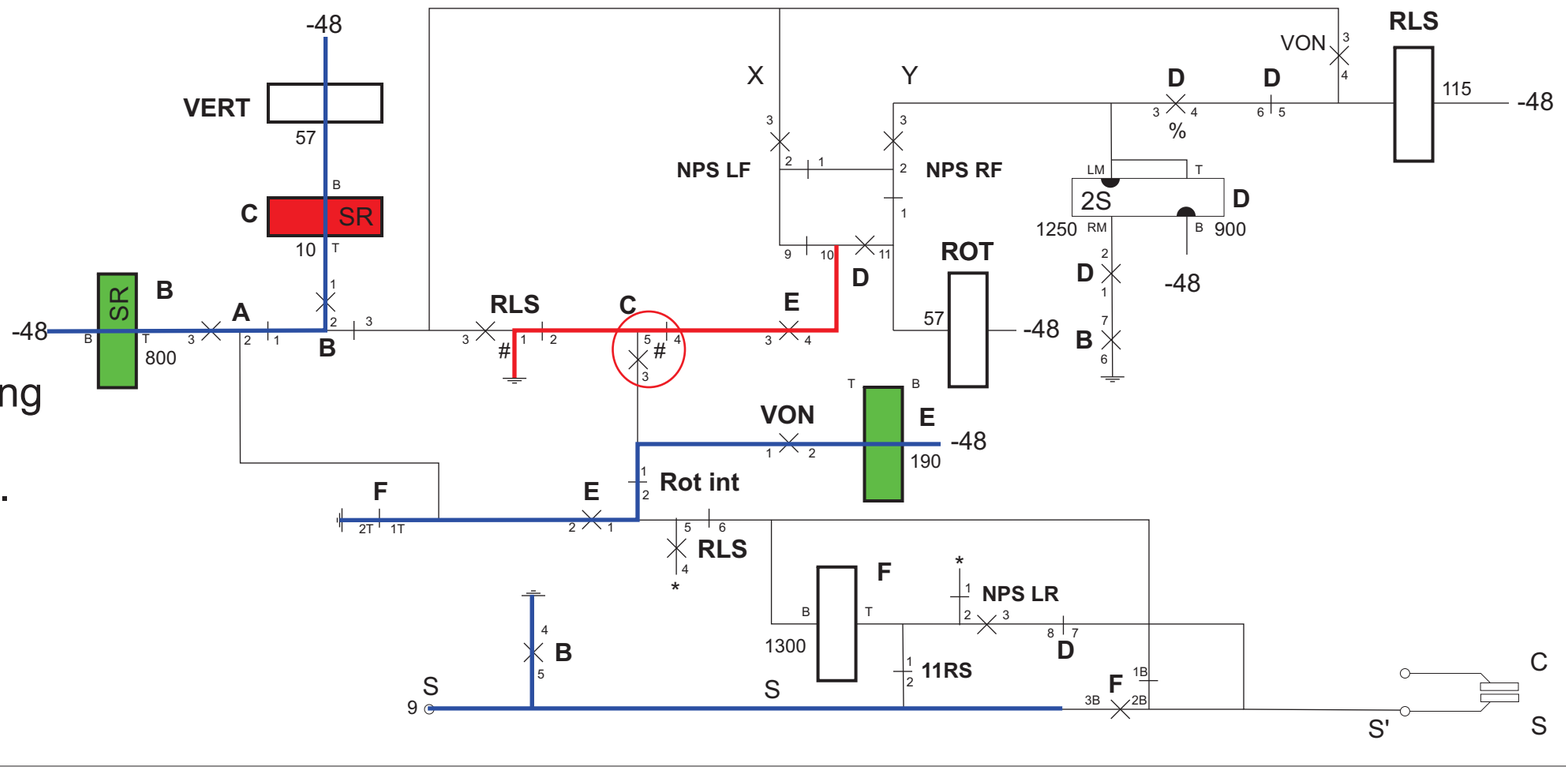
c. End of last pulse: VERT releases, C de-energized but does not release immediately.

B now energized steadily.



d. C releases, path closed to contact of D.

Go to figure 2, 3, 4, or 5, depending on state of normal post springs (NPS).



Key to symbols on last sheet

Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	02
proj	type	dwn	of
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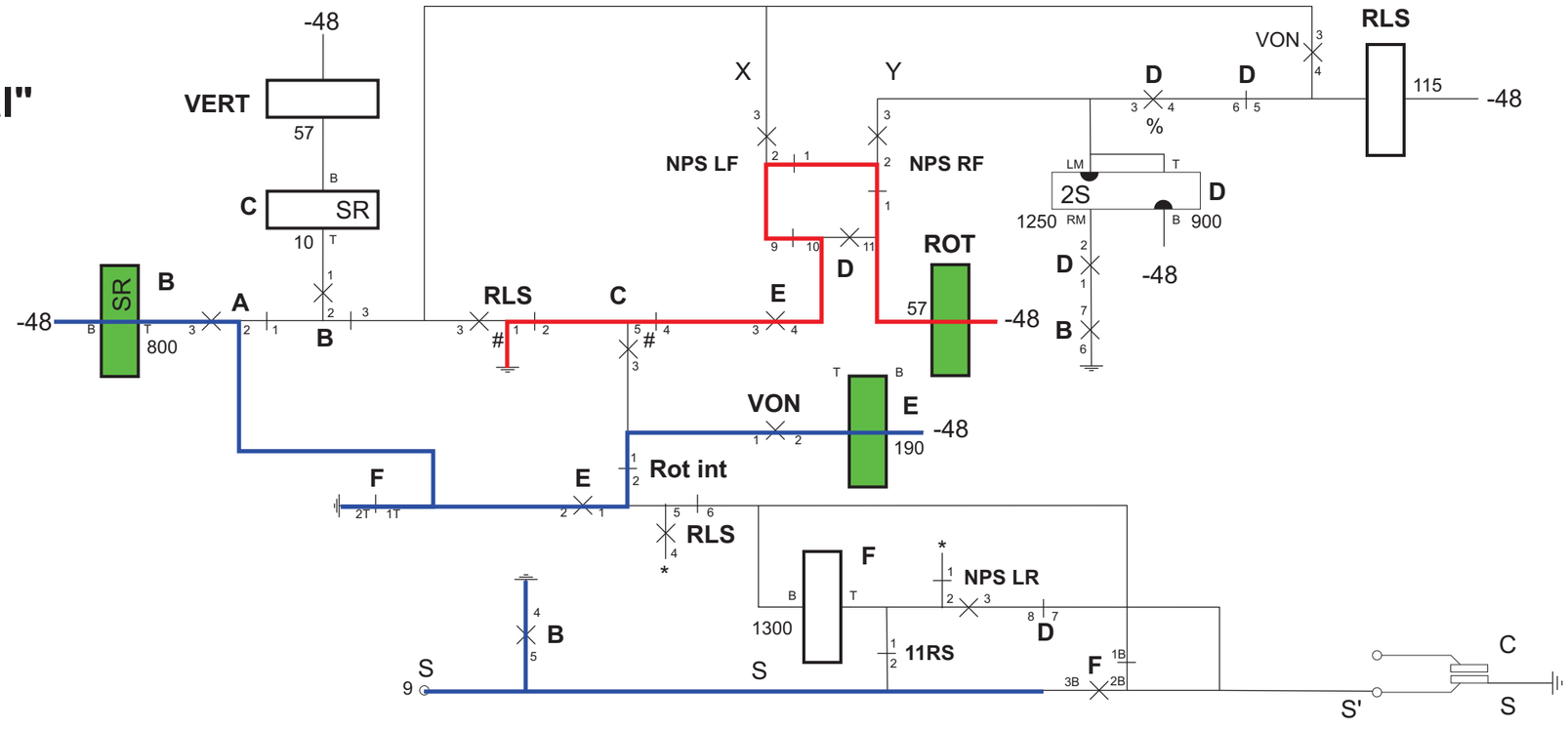
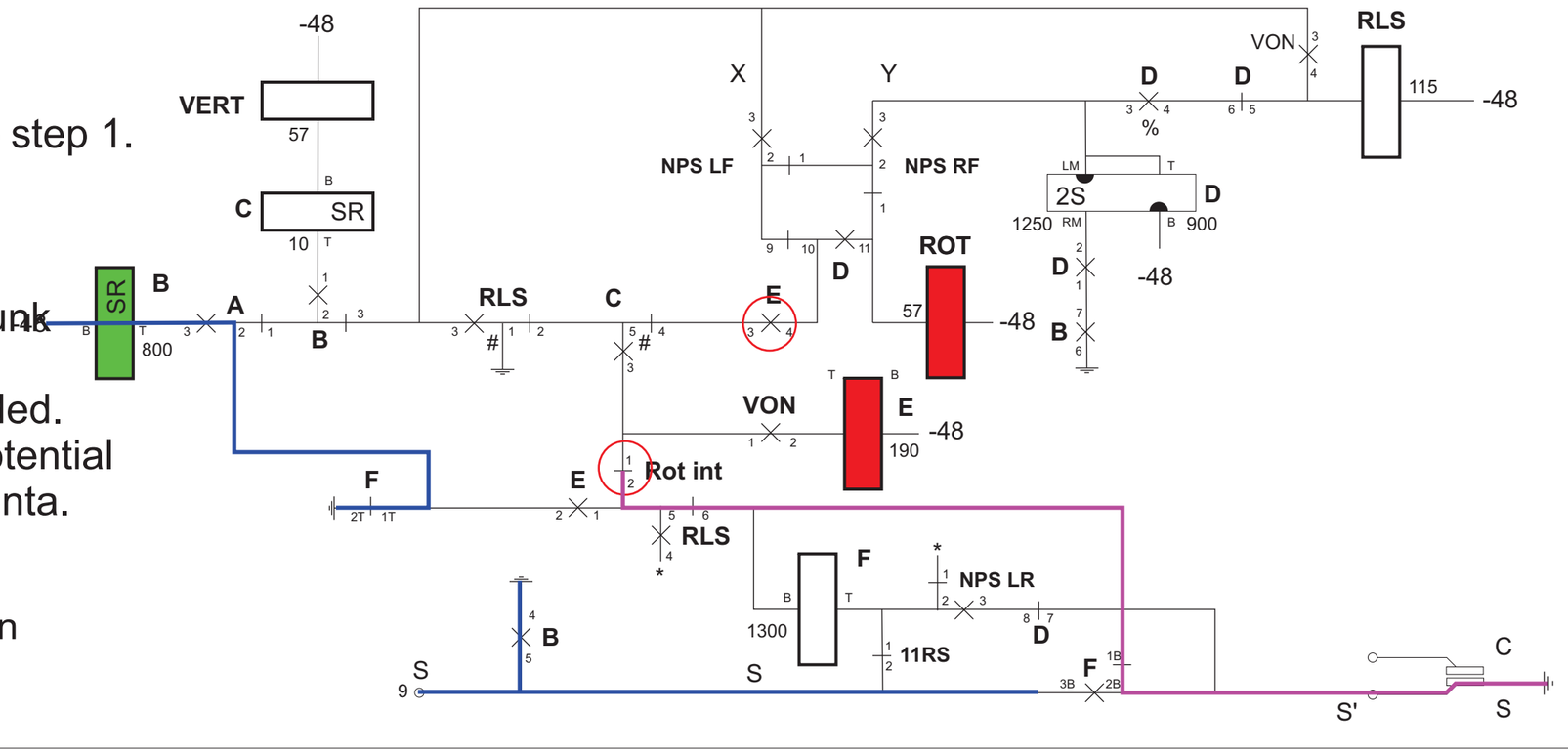
Figure 2
No NPS contact operated ("normal" level).

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)



Key to symbols on last sheet

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Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
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proj	type	dwn	of
SXS study	CDR	DAK	01

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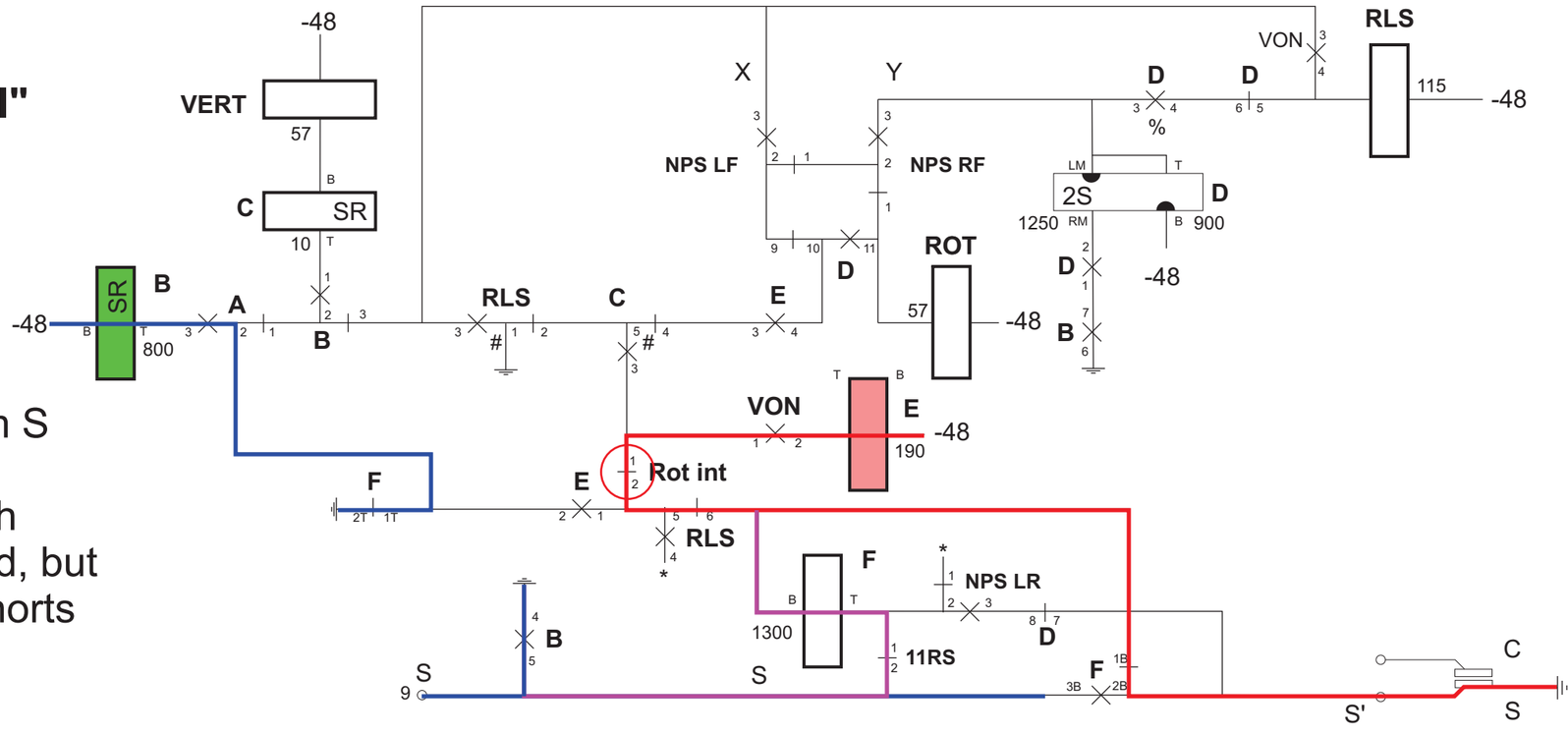
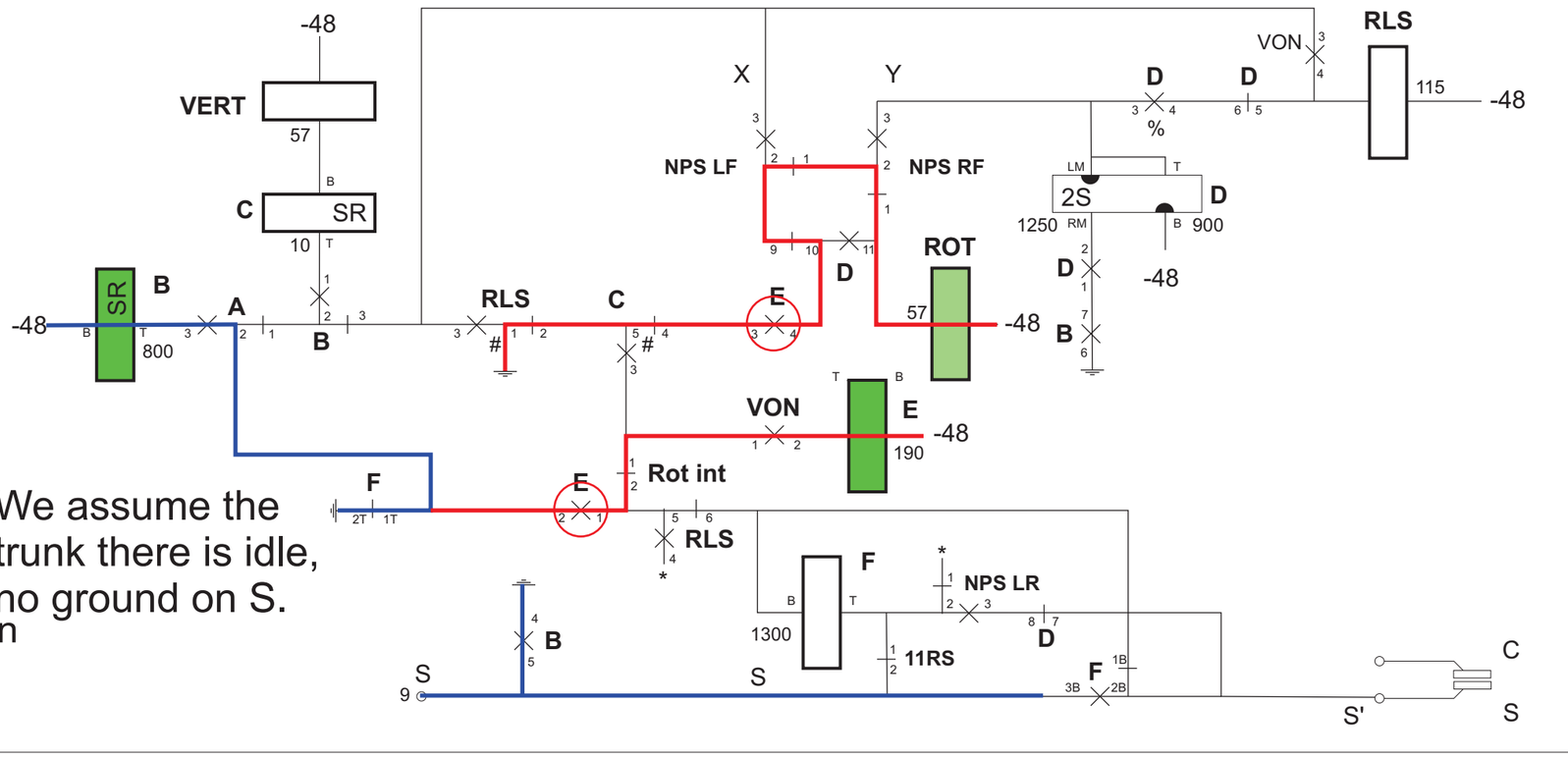
Figure 2
No NPS contact operated ("normal" level).



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

There is also a path through F to ground, but the path from S "shorts F out".



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

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

(Continued on next sheet)

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Issue 01
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Key to symbols on last sheet

Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	04
proj	type	dwn	of
SXS study	CDR	DAK	01

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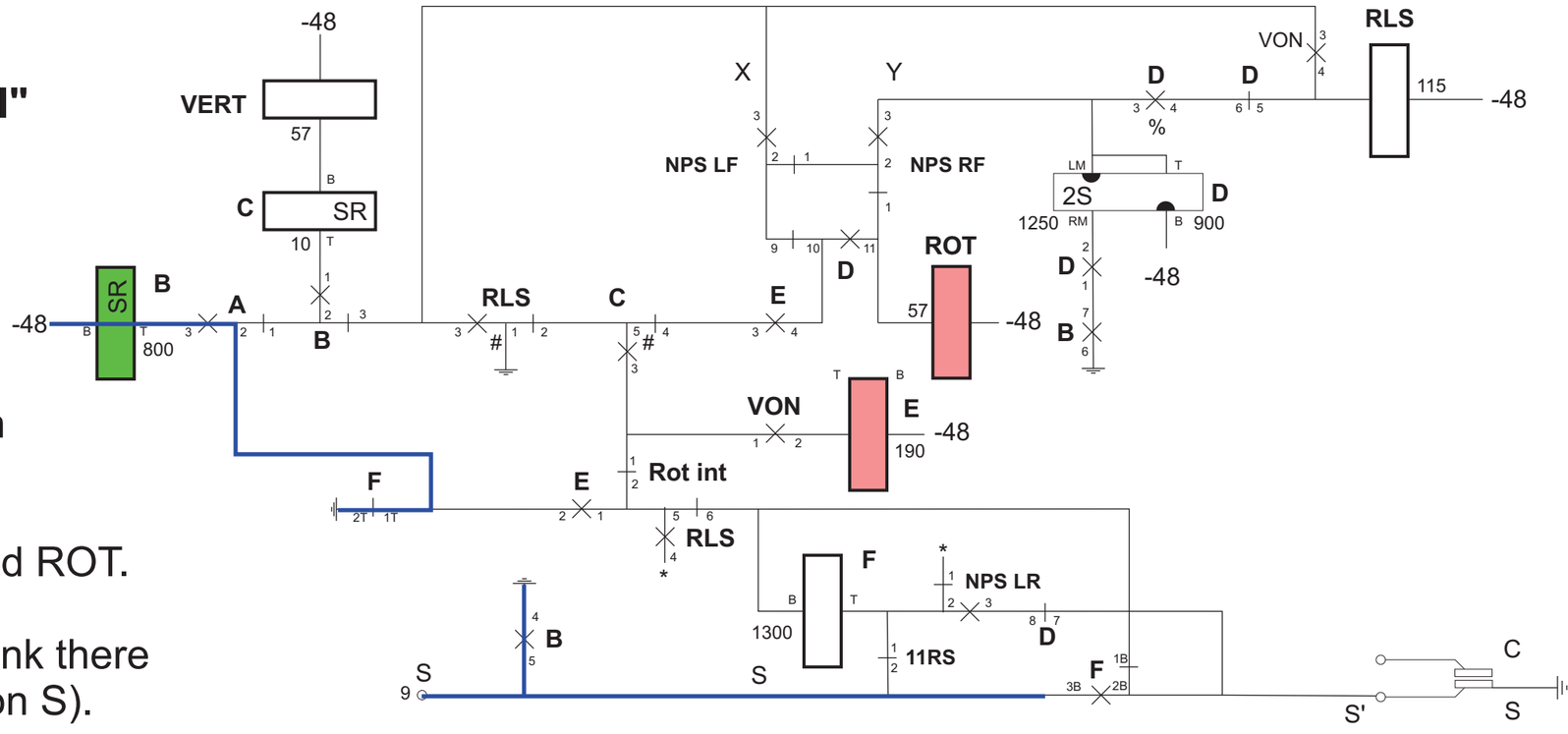
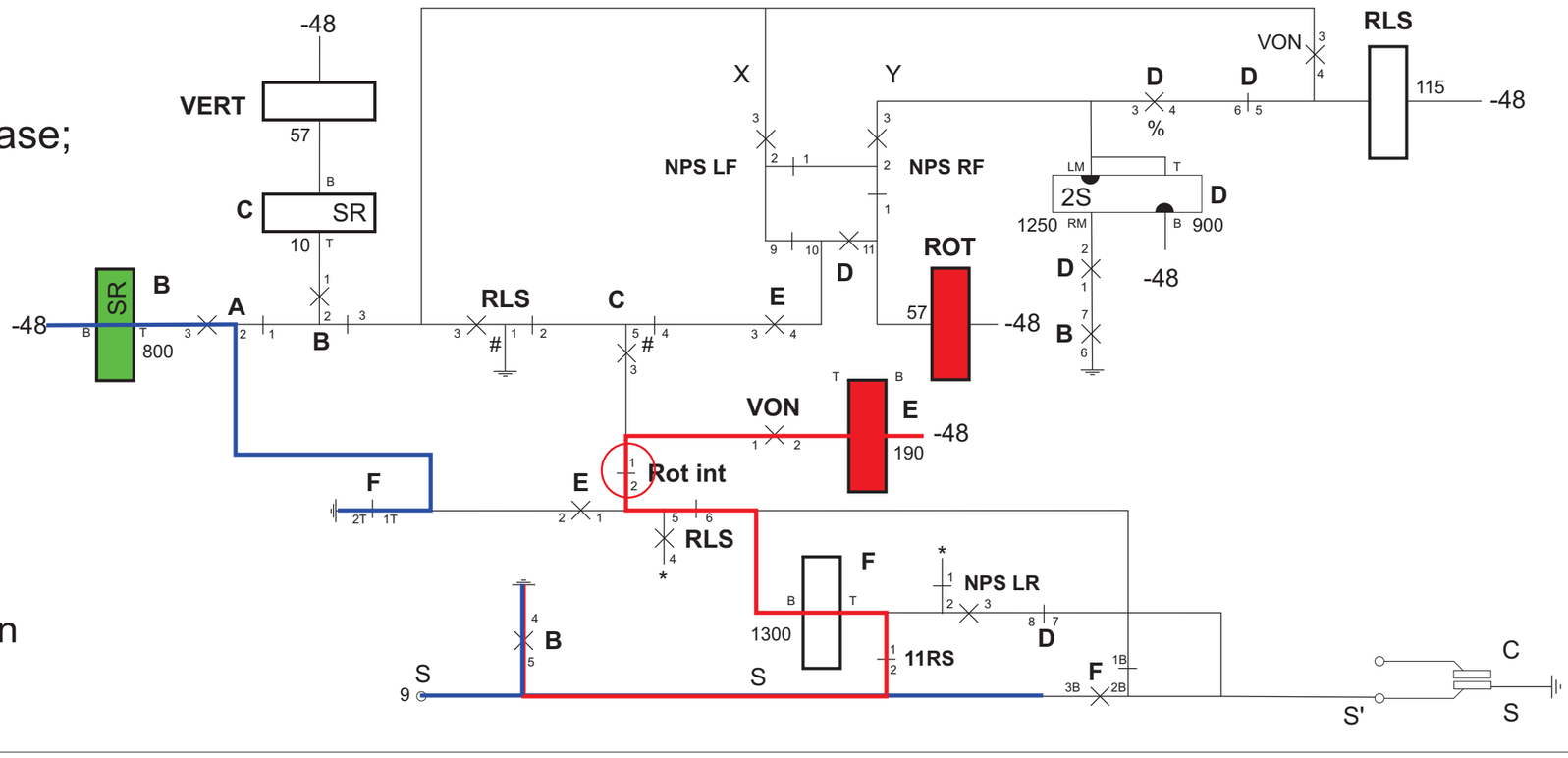
Figure 2
No NPS contact operated ("normal" level).



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).



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

(Continued on next sheet)

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Issue 01
Draft A

Key to symbols on last sheet

Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	05
proj	type	dwn	of
SXS study	CDR	DAK	01

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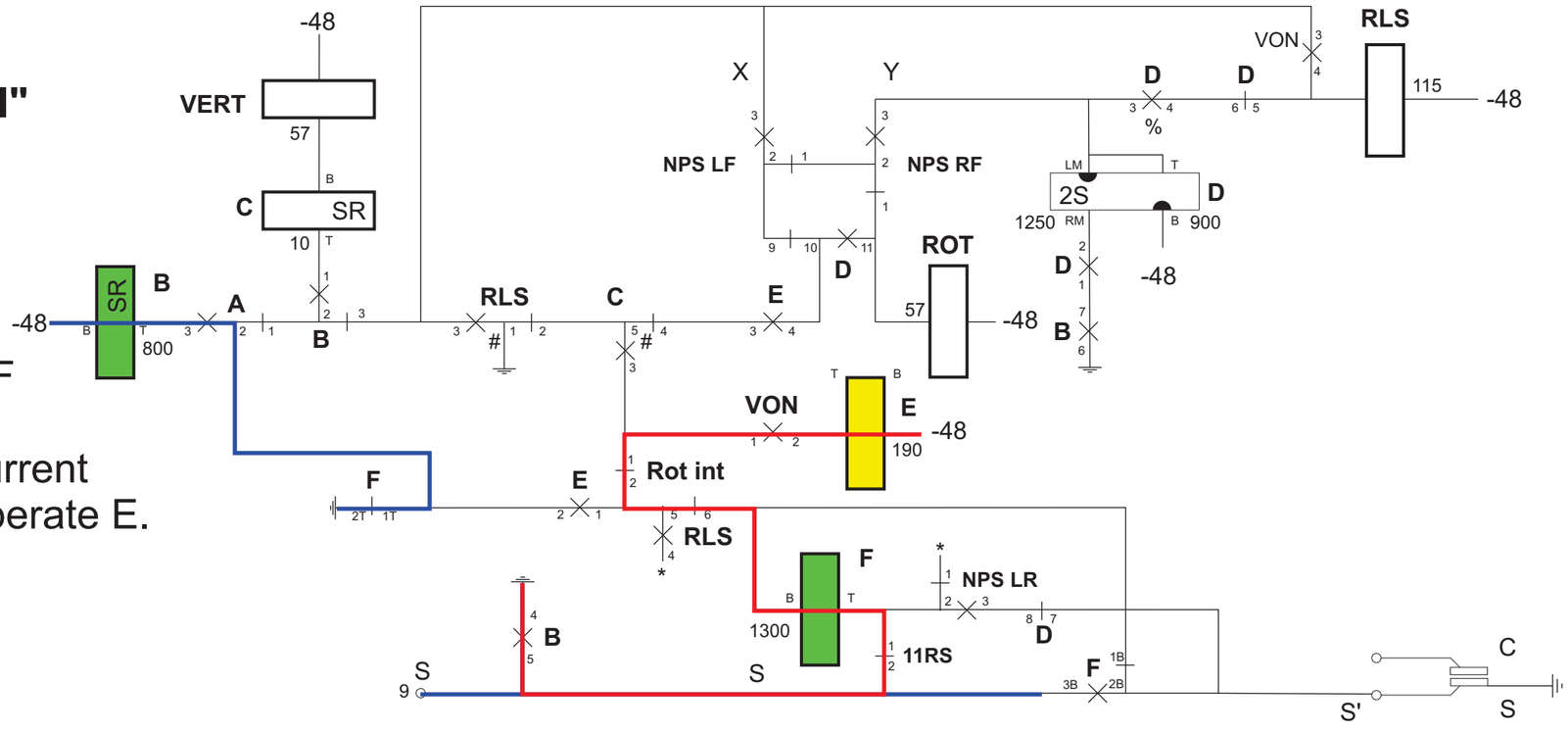
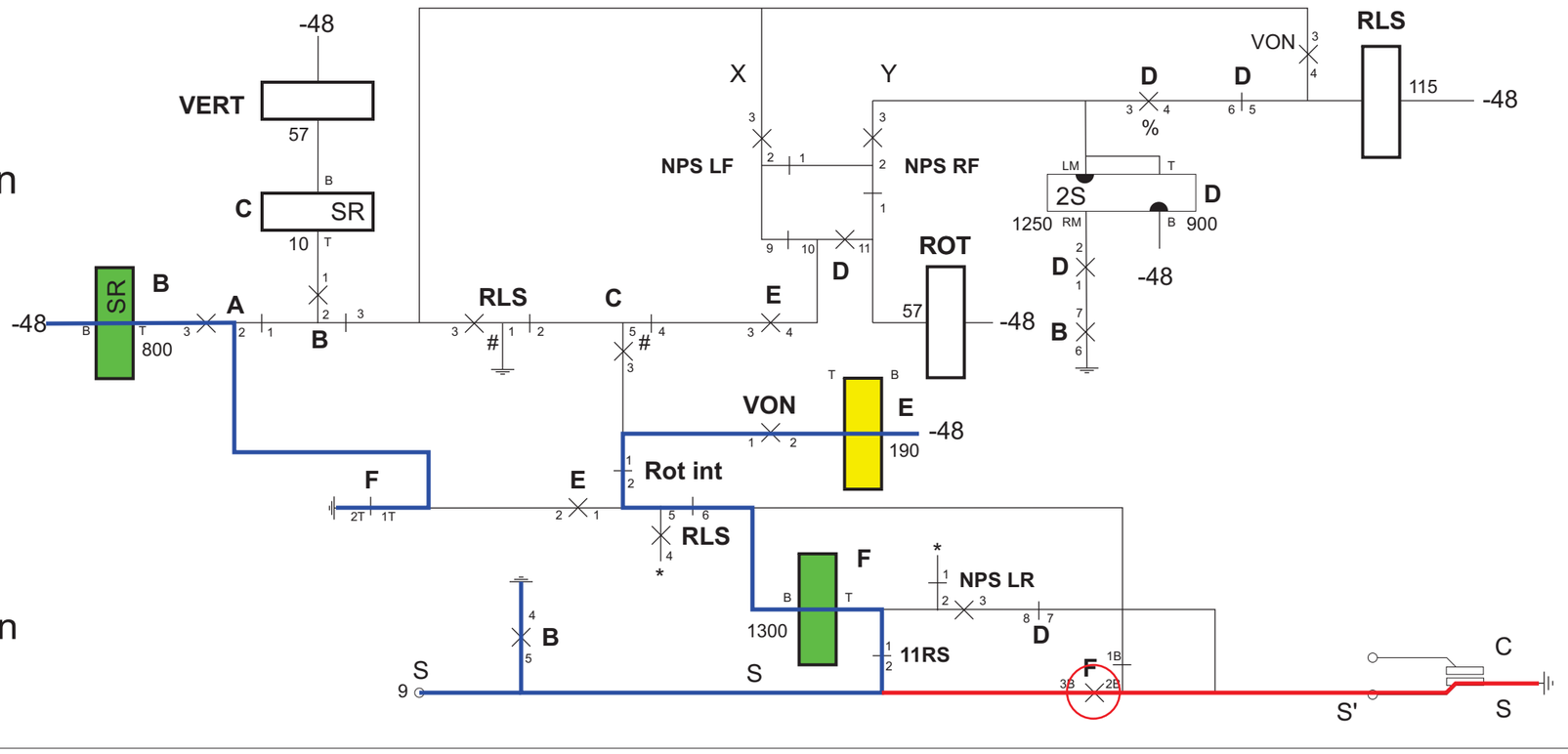
Figure 2
No NPS contact operated ("normal" level).



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



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

(Continued on next sheet)

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Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	06
proj	type	dwn	of
SXS study	CDR	DAK	01

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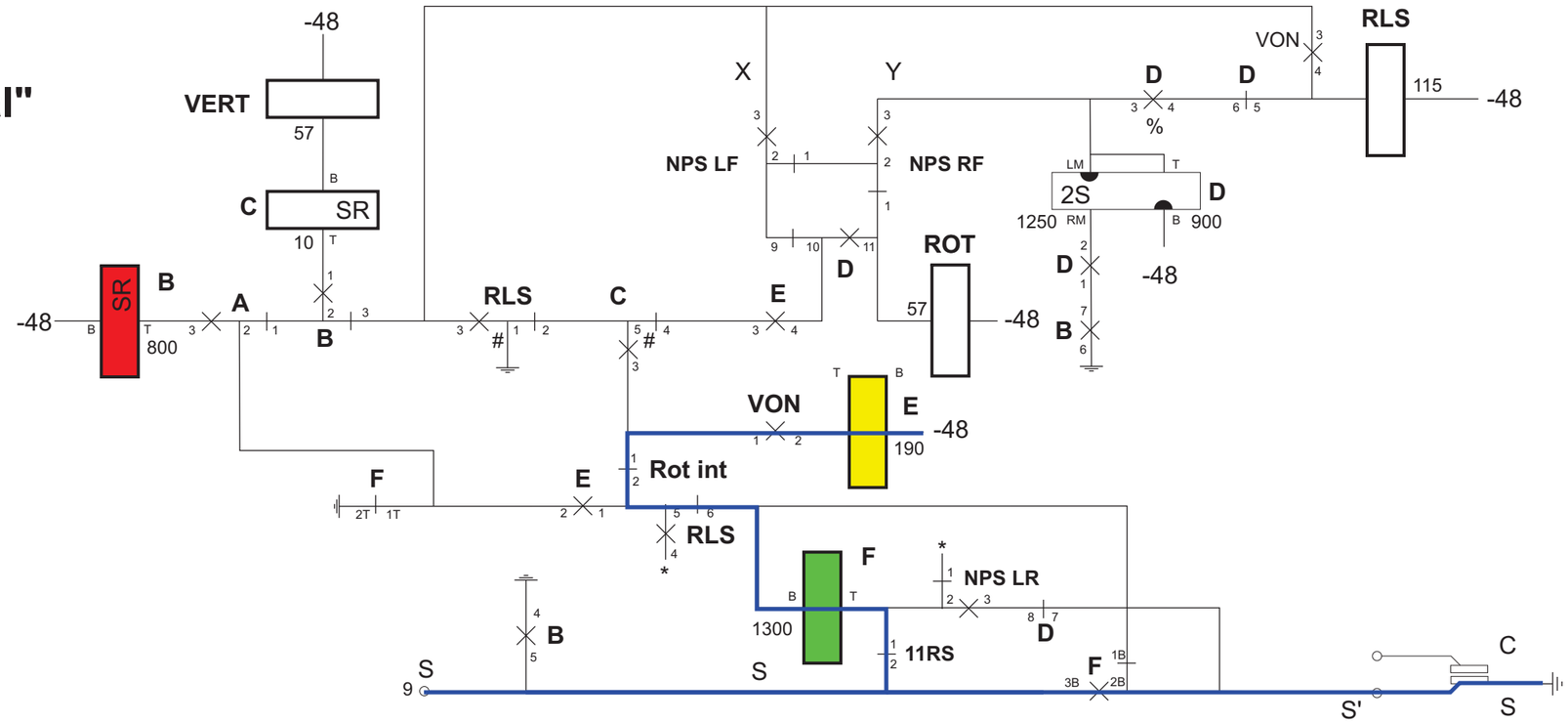
Figure 2
No NPS contact operated ("normal" level).



Key to symbols on last sheet

j. A releases and releases B.

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.

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Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	07
proj	type	dwn	of
SXS study	CDR	DAK	01

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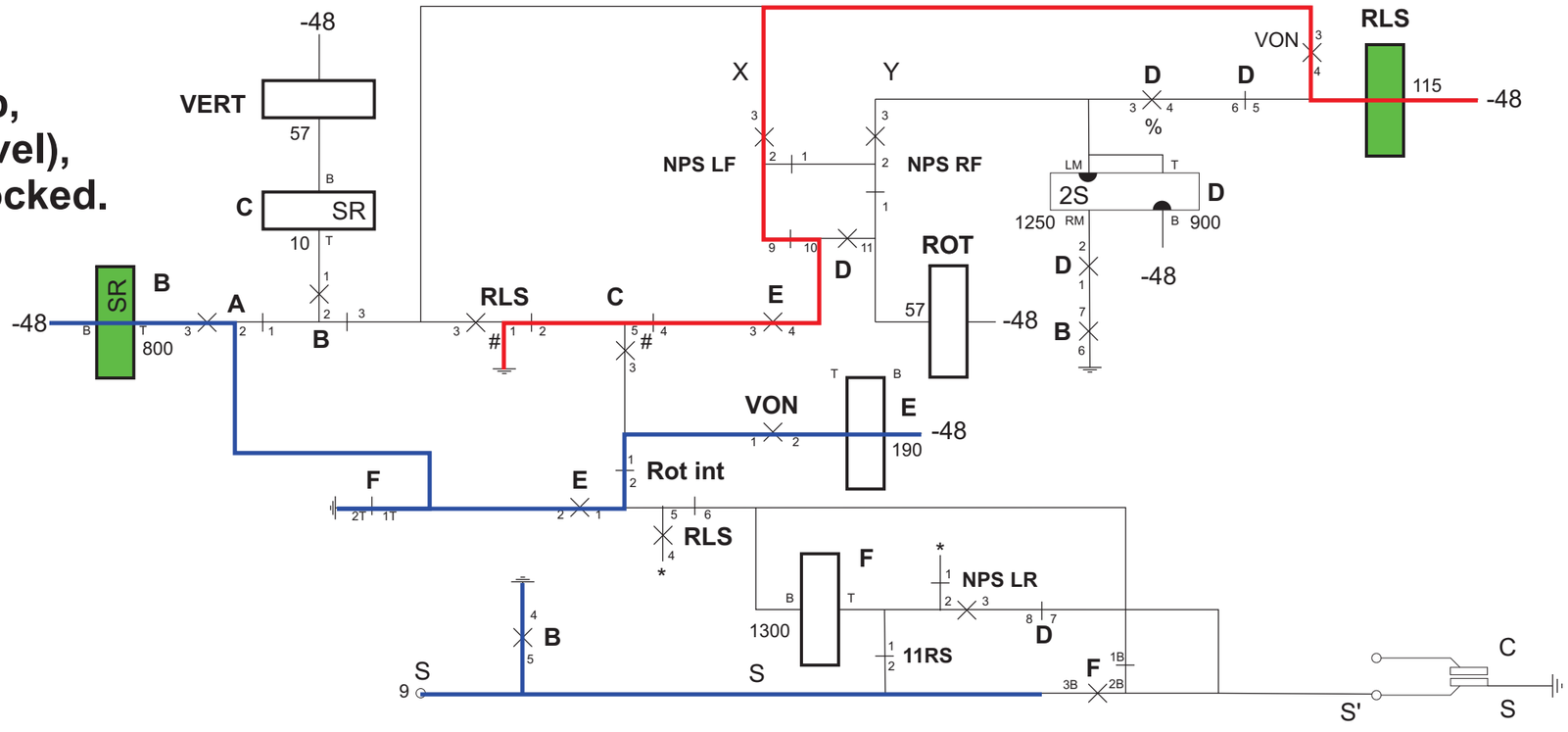
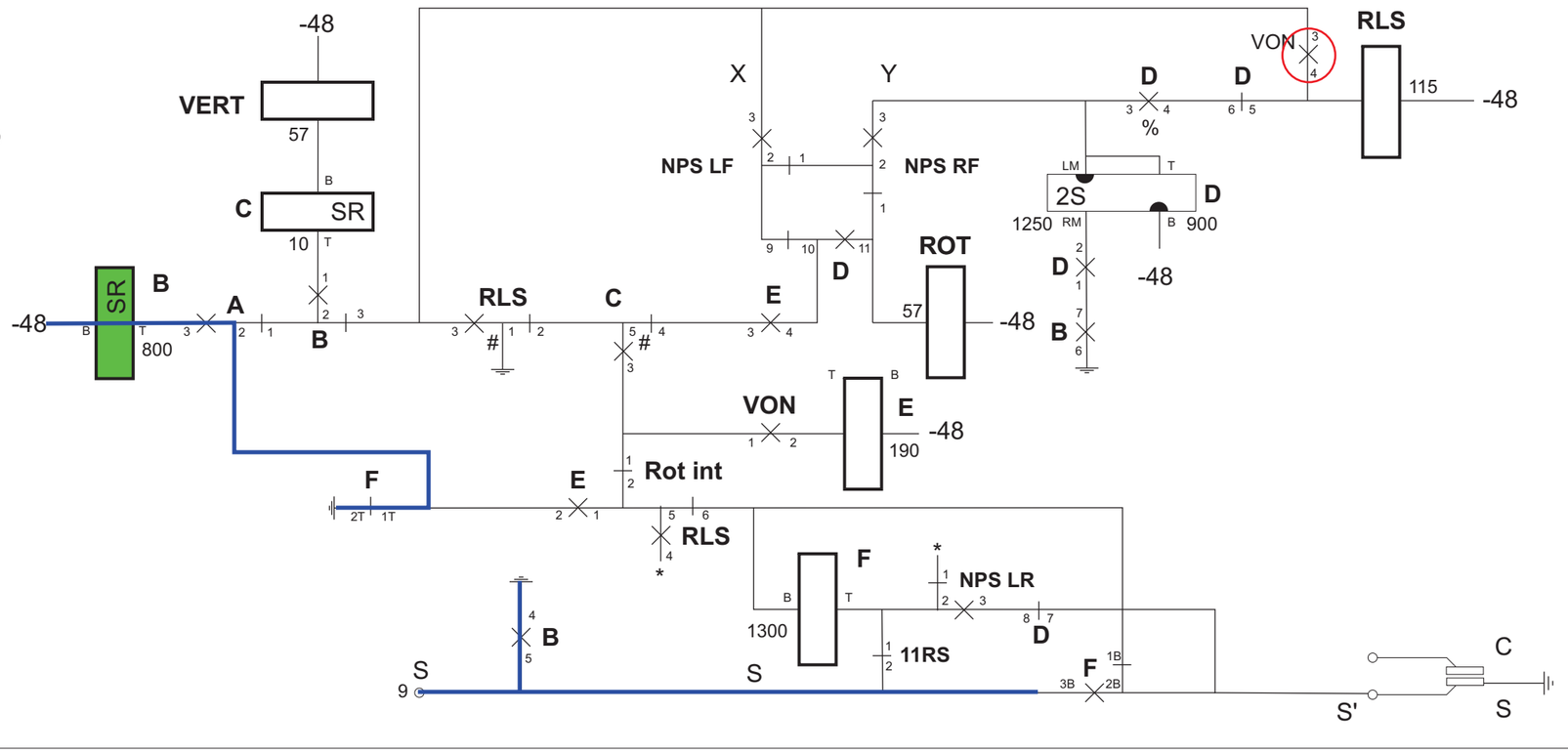
Figure 3
NPS LF contact operated ("absorb, do not unlock" level), not currently unlocked.

a. C released completes path to operate RLS..



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

Go to Fig. 1A.



Key to symbols on last sheet

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Issue 01
Draft A

Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	08
proj: SXS study	type: CDR	dwn: DAK	of: 01

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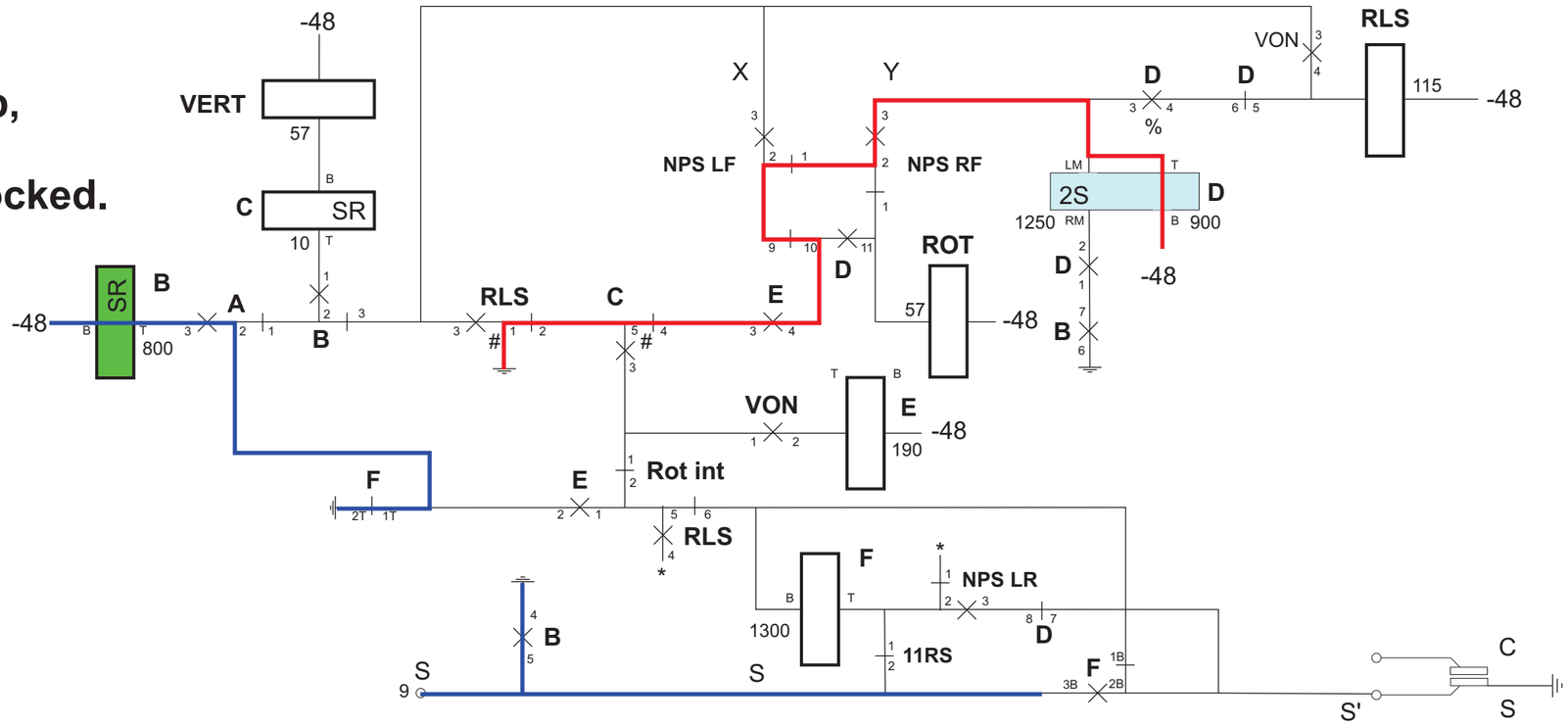
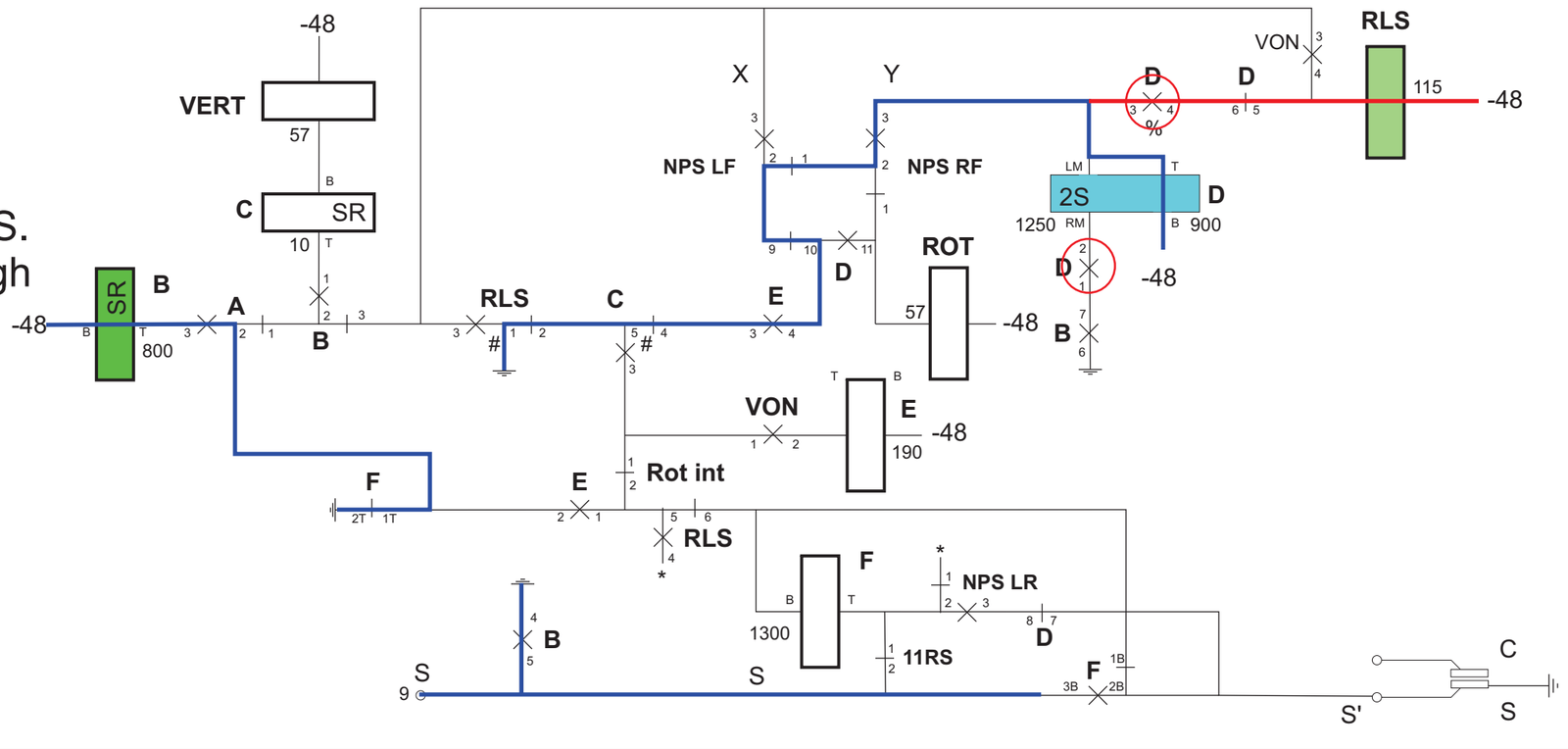
Figure 4
NPS RF contact operated ("absorb, unlock" level), not currently unlocked.

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.

Then go to Fig. 1A.



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Issue 01
Draft A

Key to symbols on last sheet

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.08	sht 09
proj SXS study	type CDR	dwn DAK	of 01

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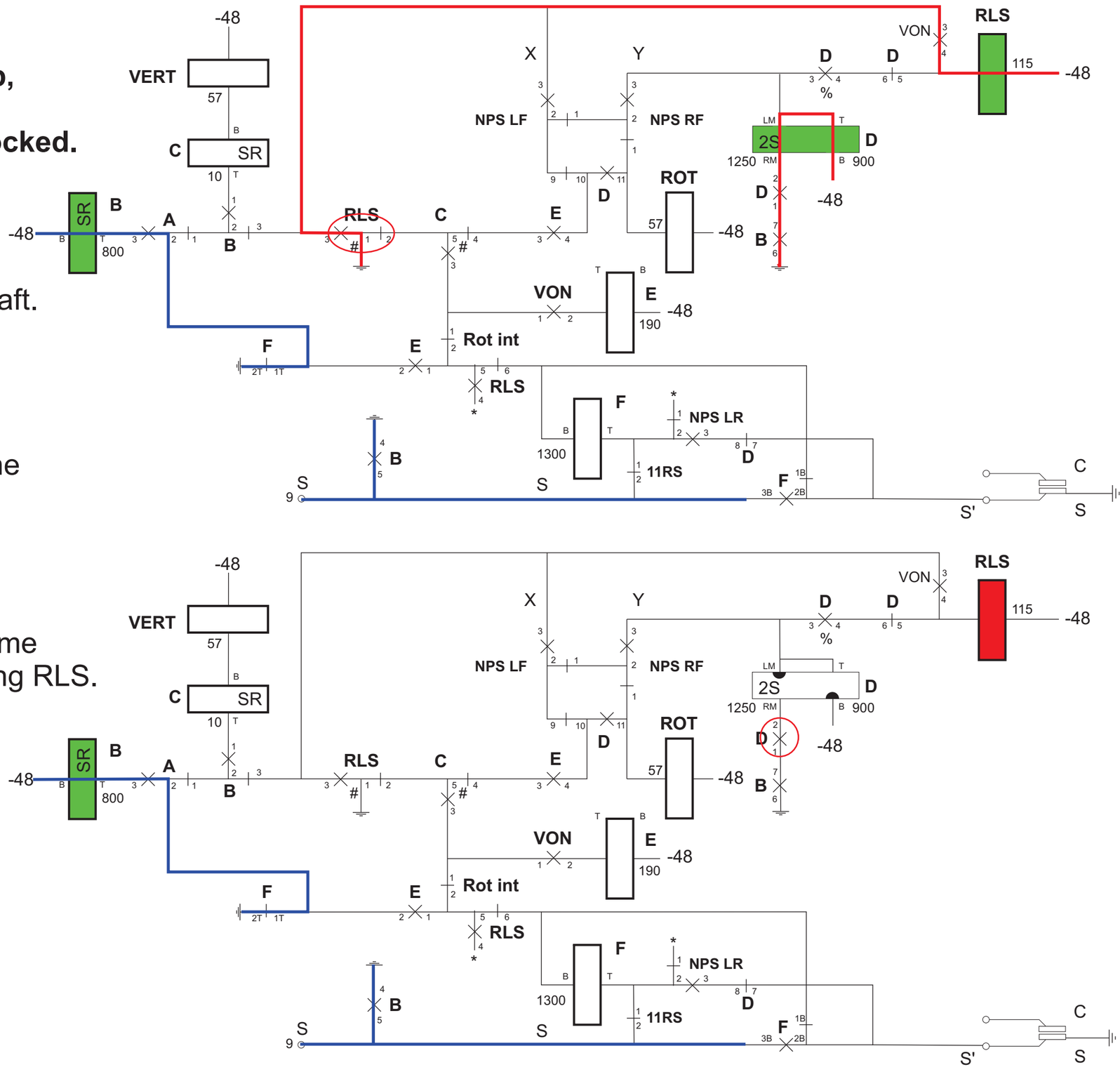
Figure 4
NPS RF contact operated ("absorb, unlock" level), not currently unlocked.



c. RLS operates and locks to ground. RLS releases switch shaft.

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.

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Issue 01
Draft A

Key to symbols on last sheet

Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	10
proj	type	dwn	of
SXS study	CDR	DAK	01

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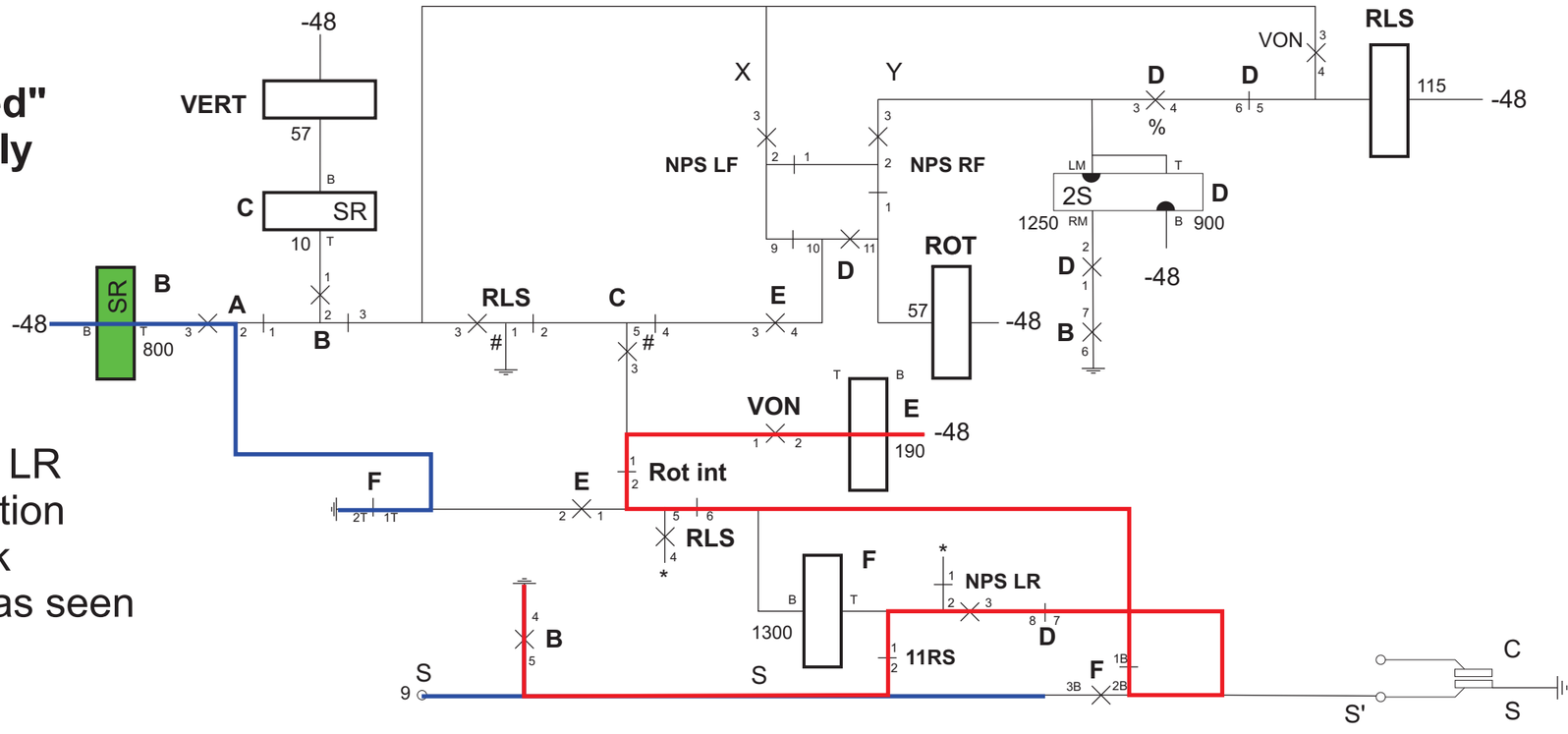
Figure 5
NPS LR contact operated ("blocked" level), not currently unlocked.

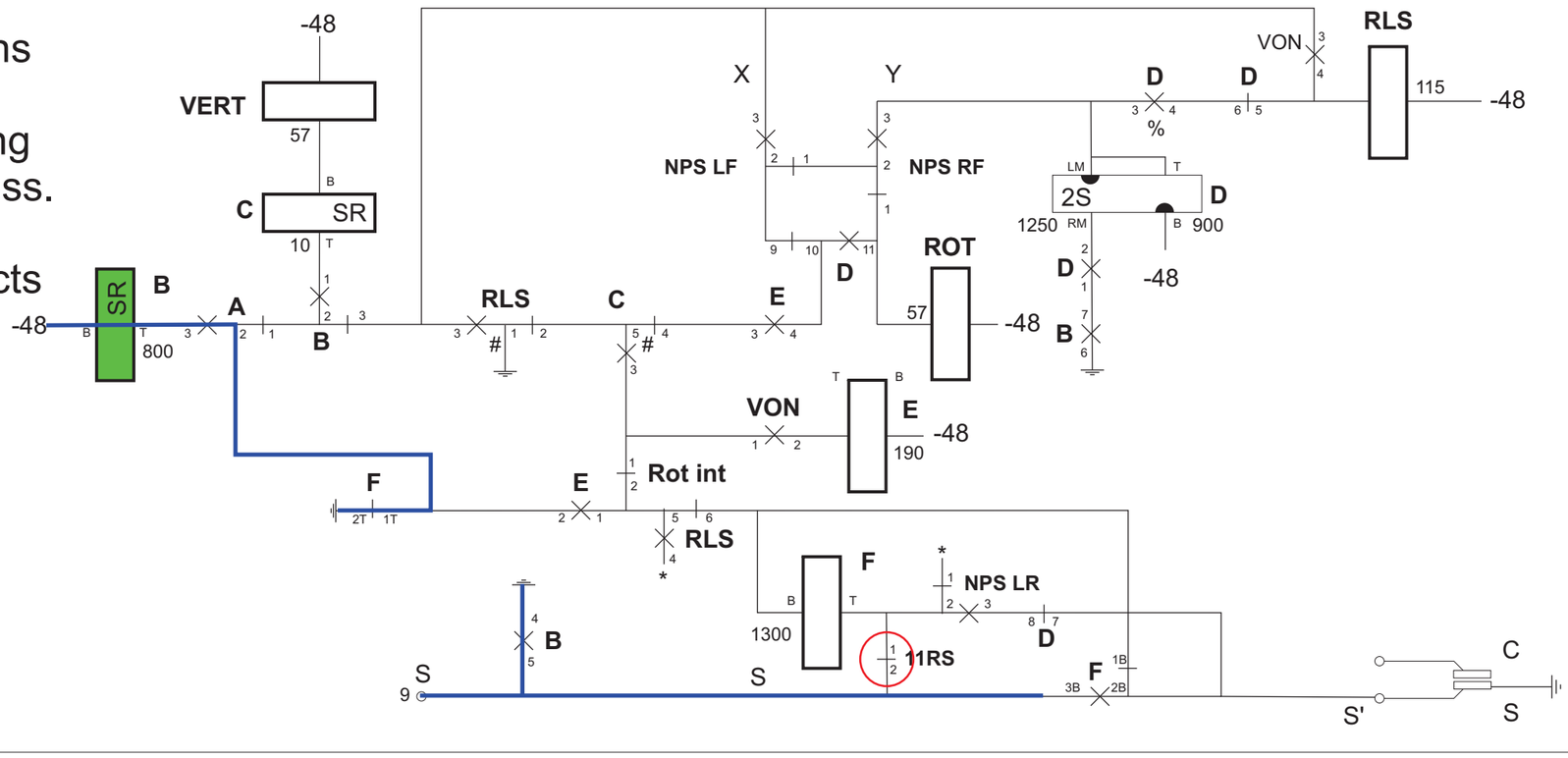
a. C released completes path to operate ROT.

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.



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Issue 01
Draft A

Key to symbols on last sheet

Step-by-step system			
ED-55242-33 G11 switch			
Auxiliary intertoll selector (D/A)			
num SXS-SK1052	iss 02	date 2019.12.08	sht 11
proj SXS study	type CDR	dwn DAK	of 01

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Figure 6
Consequece 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 absorprion 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.

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.

Block level: 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 "nornal" level.

Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	12
proj	type	dwn	of
SXS study	CDR	DAK	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 released
- Status varies

- Path newly shown this figure
- Path first shown earlier
- Contact change signficant

Step-by-step system
ED-55242-33 G11 switch
Auxiliary intertoll selector (D/A)

num	iss	date	sht
SXS-SK1052	02	2019.12.08	13
proj	type	dwn	of
SXS study	CDR	DAK	01

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