A.

00	00	00	00	00	40	00	76	Return address
01	23	45	67	89	AB	CD	EF	Saved %rbx

B. Modify your diagram to show te effect of the call to gets(line 5).

00	00	00	00	00	40	00	34	Return address
33	32	31	30	39	38	37	36	Saved %rbx
35	34	33	32	31	30	39	38	← buf = %rsp
37	36	35	34	33	32	31	30	← buf = %rsp

C. To what address does the program attempt to return?
The program is attempting to return to address 0x400034. The lower-order two bytes were overwritten by the code for character '4' and terminating null character.

D. What register(s) have corrupted value(s) when get_line returns?
The saved value for register %rbx will be loaded into the register before *get_line* returns.

E. Besides the potential for buffer overflow, what other things are wrong with the code for *get_line*?
The call to malloc should have had *strlen(buf)+1* as its argument, and the code should also check that the returned value is not equal to *NULL*.