

following line in the program:

```
1280 IF LC<1000 THEN 1350
```

That fixes everything except when you try to un-assemble a long bit (there's that gremlin again!?) of machine code. The un-assembler inserts a lot of unnecessary spaces in the source code, creating a significant limit on the amount of source code which can be created on ordinary diskettes. With an ordinary 170k 1541 diskette, only about 12k of machine code can be un-assembled. Deleting unnecessary spaces from the generated code can double the limit. 24k sounds and is a lot better! This change is fairly easily accomplished by going through the program and substituting a single space wherever there are multiple spaces, notably in lines 1250, 1260, 1380, and 1400. It also seems desirable to increase the dimensions in line 120 to L1(2000) and L2(2000), which will then handle up to about 24k of machine code in a single un-assembly. (at least, after compilation)

But let's not get carried away with deleting spaces! The proportional typesetting machine used to set Transactor program listings is a problem too. Be sure to include a space between .BYTE and \$ in line 1480. Otherwise the Commodore assembler generates the "RAN OFF END OF CARD" error message. That error message presumably means that a couple of cooties sitting on the Ace of Spades will never really know whether the card is flat or round.

Finally, after the corrections and changes as indicated above, I want to confirm that the un-assembler works very well. It can be easily compiled with the Abacus compiler to give a 3-4x increase in overall speed, with negligible expansion of the program code. My compiled version of the un-assembler took about 4 hours to un-assemble 21k of code, i.e. almost the full capacity of 1 170k 1541 diskette. After deleting unnecessary spaces from the generated code, the resulting code is approximately 5-6x expansive.

Incidentally, I confirmed that after the BIT to .BYTE correction, the un-assembler correctly handles the standard C-64 disk wedge program, allowing relocation of the utility to any memory area simply by varying the first line in the source code. Relocation of machine code, as much as editing, is a major advantage of the un-assembler.

I really enjoy Transactor, at least partly because you obviously do too.
John R. Menke, Mt. Vernon, IL

There are quite a few extra benefits derived from working at The Transactor; one of them is the continuous stream of top notch letters and articles originating with John Menke. It's always a pleasure to be on the receiving end of your thoughts and observations. Your comments, as usual, are A1. We thank you for making what would have been just a good program - great! Please keep the correspondence coming.

Left Wing Interference: I had an experience this weekend that I thought might be of interest to other users of the Commodore 1541 disk drive.

My son's "Winnie The Pooh In The Hundred Acre Woods" program was having difficulty loading some of the screen files, and would sometimes provide an error message indicating a problem with the disk drive. This led me to believe that the drive might be out of alignment. So I checked with the "Check/Adjust/Alignment" function of the "1541 Disk Drive Alignment Program" from CSM Software. This function determines the time to access every seventh sector of every fourth track of a calibration disk supplied with the program. Proper alignment is indicated if the program reports a 'timing number' of about 100. The program was indicating timing numbers of 110 to 113, and blinking of the red light on the drive indicated that there was difficulty in accessing sector 8 of tracks 5 and 9.

The disk drive and TV normally sit on the top shelf of a cart which I roll up to a side arm of my desk, where my Commodore 64 is set for use. Because there is not enough room on the cart to disassemble and adjust the drive, I moved it to my desk top. I then rechecked my timing number and found that it was 101 to 102 - well within the acceptable range - and there was practically no trouble accessing the disk. However, upon returning the drive to the cart, the timing number returned to 110 or greater.

A little investigation showed that if the disk drive was sitting to the left of my TV (or my Commodore 1701 monitor), there was trouble accessing the drive. When the drive was sitting to the right, there was little or no trouble.

In conclusion, sitting the disk drive to the left of a TV or monitor can produce symptoms which mimic alignment problems. Readers might want to check for this type of interference before going to the trouble of having a drive realigned.

Jack Ryan, El Dorado, Arkansas

A while ago I received a 1541 fast load cartridge called GT-4 from Proline for review. The fast load was interesting, but what was more enlightening was the manual supplied. By reading through the authors notes, a similar experience to yours was noted. The author wrote that odd gremlins appeared within the 1541 if operated too close to the left side of the Commodore 1701/1702 monitor. Specifically, trouble might occur reading from and/or writing to track 35. Through your own experiences it seems that the problems are further reaching than just track 35. Very odd.

Perhaps, and this is pure and applied speculation, the trouble lies not with an actual read/write error, but with a checksum error in the data read/written. The flyback is placed closer to the left side of the Commodore monitors. Perhaps operating the 1541 too close to the flyback is sufficient to cause bit movement at the head or some other unexpected spot within the drive.