

There could be slight chance you could reduce the flare with changes to the servo pin length but if the problem is due to the 4-5 clutch, which I suspect, then there's only a very slight chance of any improvement.

During the 3-4 shift is the 3rd gear brake band(B4) is releasing at the same time as the 4-5 clutch pressure is being applied. The U2 shift valve is re-positioned from left to right and fluid pressure is released from the 3rd gear brake band at the same time pressure is being applied to the 4-5 clutch for engagement. Any flare would be caused by an early release of the 3rd brake band or late apply of the 4-5 clutch. Because your 2-3 shifts and 3-2 shifts are okay I'm thinking it's the 4-5 clutch but you can check and experiment with the B4 servo pin length.

From the ATSG manual the movement spec for the servo pin is 5.76mm to 6.76mm. This is servo pin movement distance when the 3rd brake band is released and then applied. To adjust if the movement is out-of-range there are different length servo pins, 5 possible pin lengths starting with the shortest pin 76.2mm (no ID groove), to 78.2mm with 4 ID grooves in increments of 0.5mm or 0.019 inches.

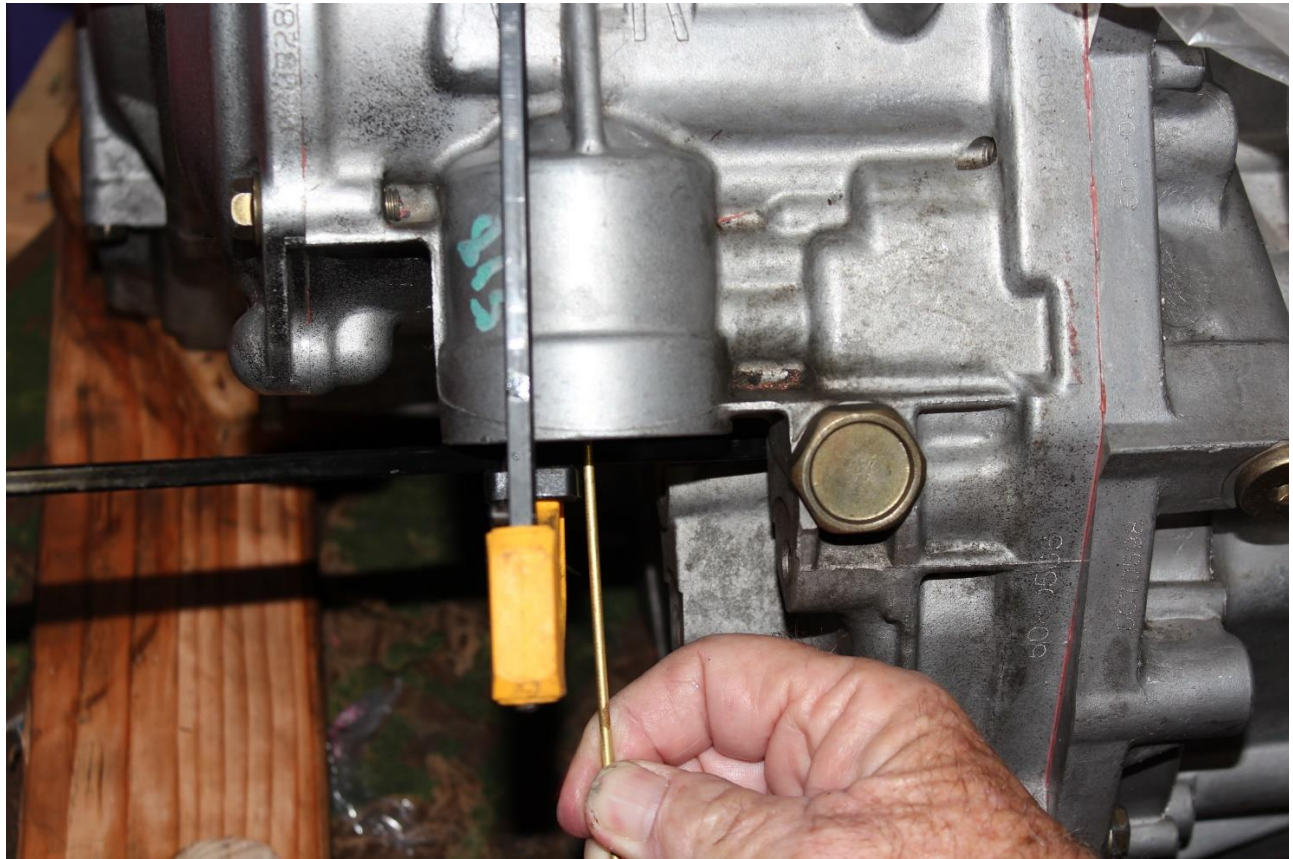
One thing you could try is to measure the movement of the servo pin spec with a method I used with the B4 servo removed and using a rod to compress the 3rd band, mark the rod then measure the length of the servo pin and subtract the difference to get an idea of the movement. If the 3rd brake band is badly worn I would expect the movement distance to exceed the spec and required a longer servo pin to bring it back in spec.

I've haven't look very hard but I don't know where to purchase the different length servo pins if you needed one. I think I've read from Vtl that you can weld a little on the tip of the servo pin and machine down to extend the length needed, which may be an option but must be done well to avoid other problems.

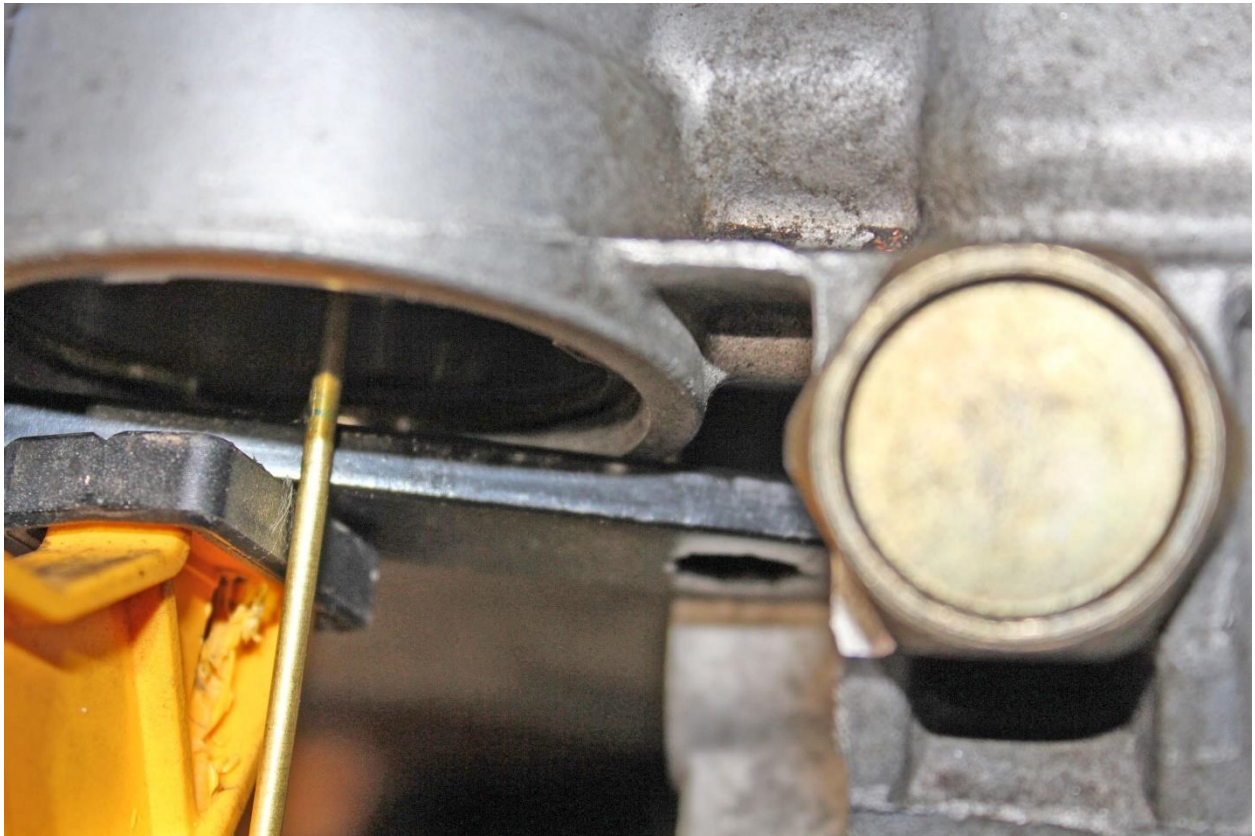
If you want to try this it's possible it could improve the flare some.

Here's my method for measuring the B4 servo pin travel. I don't know how accurate it is because you're manually compressing the 3rd brake band with a rod through the servo bore vs. actual fluid pressure but I did get a reasonable value.

Remove B4 servo and use a rod that will fit through the servo pin bore to compress the 3rd gear brake band. I clamped a piece of metal so I could mark right at the edge of the case. Just push firmly on the rod to compress the band and mark on the inside edge of the clamped on metal bridge piece.



Mark at full compression. Note the metal piece clamped to mark the inside edge, which is the outside edge of the case. The length measured from the end of the rod pressing on the brake band to the mark was 94mm (compressed).



Through several measurements I calculated a 12mm adder value that represents the distance from edge of the case where the rod is marked when the band is compressed to the end of the servo pin that sits in the cover plate center bore when the servo is assembled and in the case. You add the 12mm value to the servo pin length, in this case it's 76mm so $76+12 = 88\text{mm}$. This measurement is the servo pin length plus the calculated length to the edge of case, which represents servo pin in the release state where the pin is pulled back from the brake band by the servo spring. The released state value of 88mm is subtracted from the rod measurement when the band is compressed, which is 94mm. The difference between the two is the servo pin travel between released and compressed state of the 3rd brake band. $94-88 = 6\text{mm}$ of travel, which is in spec. $6.76 - 5.76\text{mm}$.

Assuming the 12mm calculated value is correct for the different servo revisions you can measure your servo pin length (or use the length ID rings) and add 12mm then subtract this value from the compressed rod value you get with your transmission. This should give you a good idea if the servo movement is out of spec and how much pin length you would need to get it back into spec. I'm assuming a worn brake band and longer pin length would be needed. If it's way out of spec then maybe this could help the 3-4 flare some.

