

12-1/

$X := (\text{vector-ref } a_v \overset{\text{int}_x}{\text{off}})$

\Rightarrow (movq a_v %rax)
(movq %rax[8(1+n)] x) // careful in patch
 $\uparrow \quad \uparrow$
tag field

$X := (\text{vector-set! } a_v \ n \ a_e)$

\Rightarrow (movq a_e $a_v[8(1+n)]$)
(movq 0 x) // optional
(movq a_e %rax)
(movq %rax $a_v[8(1+n)]$)
 \rightarrow rax \rightarrow r15

$X := (\text{allocate } T_y)$ $T_y = \text{Vector } T_1 \dots T_n$

\Rightarrow (movq free_ptr ~~tag~~)
(addq 8(1+n) free_ptr)
(movq tag $x[0]$) // if x is memory loc
 \rightarrow (movq x r15)
(movq tag r15[0])

$X := (\text{collect})$

\Rightarrow $\overset{\text{spill}}{\text{movq}} \text{ root-stack-ptr (r11) \%rdi}$
(callq — collect) \rightarrow (movq size %rsi)

