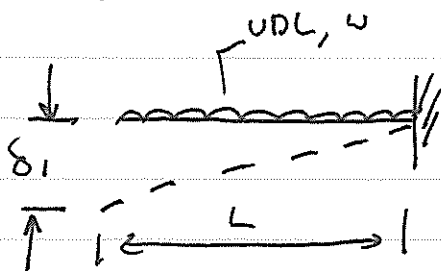LOGIC OF WORKING OUT DEFLECTIONS AT NOSE
& TAIL OF FUSELAGE FOR G286 EXAMPLE.

CONSIDER FUSELAGE FORWARD OF WING-TO ~~ROOT~~ FUSELAGE ROOT JOINT
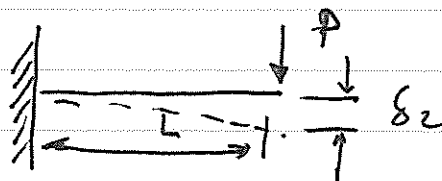AS A CANTILEVER BEAM WITH A UNIFORMLY DISTRIBUTED
LOAD.



DEFLECTION $\delta_1 = \dfrac{WL^4}{8EI}$ = DEFLECTION AT NOSE

CONSIDER FUSELAGE AFT OF WING TO FUSELAGE ROOT JOINT
AS A CANTILEVER BEAM WITH A UNIFORMLY DISTRIBUTED
LOAD  → SAME EQUATION AS ABOVE ⌣ WITH DIFFERENT 'L'

BUT WITH ADDITION OF DEFLECTION DUE TO VERTICAL
LOAD AT TAIL ($P_T$) OF ~7.6 KN (ACTING DOWNWARD)
WHICH IS ADDITION TO THE DEFLECTION DUE TO THE
UDL.



DEFLECTION $\delta_2 = \dfrac{PL^3}{3EI}$

ADD THE TWO DEFLECTIONS TOGETHER & YOU GET
THE TOTAL DEFLECTION.