

## Q34

### ATPL Solutions - Determining maximum allowable payload

The maximum allowable payload will be limited by the **MOST RESTRICTIVE** of the following factors:

- Maximum zero fuel weight
- Maximum ramp weight
- Maximum take off weight
- Maximum landing weight

Each case needs to be tested to check which is the **MOST RESTRICTIVE**

MAX. ZERO FUEL WEIGHT RESTRICTED

$$\begin{aligned}\text{Additional payload} &= 14,500 \text{ lbs} - 13,890 \text{ lbs} \\ &= 610 \text{ lbs}\end{aligned}$$

MAX. RAMP WEIGHT RESTRICTED

$$\begin{aligned}\text{Additional payload} &= 21,000 \text{ lbs} - 20,136 \text{ lbs} \\ &= 864 \text{ lbs}\end{aligned}$$

MAX. TAKE OFF WEIGHT RESTRICTED

$$\begin{aligned}\text{Additional payload} &= 20,700 \text{ lbs} - 19,836 \text{ lbs} \\ &= 864 \text{ lbs}\end{aligned}$$

MAX. LANDING WEIGHT RESTRICTED

$$\begin{aligned}\text{Additional payload} &= 19,000 \text{ lbs} - 15,152 \text{ lbs} \\ &= 3,848 \text{ lbs}\end{aligned}$$