



# ASA Distribution 360° SEATTLE

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# *POWER BY THE HOUR:*

# *AN OVERVIEW*

- Among the many measures used in airline economics is a simple and basic metric of efficiency and productivity: **Costs Per Flight Hour**
- This basic measure can be further broken down into its constituent contributors such as **Maintenance Costs per Flight Hour**



According to a recent IATA report<sup>1</sup>, *The direct maintenance cost per flight hour varied... from an average of \$682 per flight hour for narrow bodies to \$1,430 per flight hour for wide body aircraft equipped with three or more engines and \$1,204 per flight hour for wide body aircraft equipped with 2 engines. Regional jets posted the lowest maintenance cost – \$461 per flight hour.*

<sup>1</sup>IATA- "Airline Maintenance Cost Executive Commentary", January 2011

Costs Per Flight Hour is a useful planning and finance tool for airline management because it implies a level of predictability; *for a given level of forecasted flight activity, what will my costs amount to?*

Thus, the fundamental attractiveness of MRO contracts founded on Costs Per Flight Hour is: *Predictability*.

Costs per Flight Hour contracts, loosely referred to as “Power By the Hour” or PBH, is the supplier’s quote to the operator of a fixed cost per flight hour for the service.

By the way, the term ‘Power By the Hour’ owes its genesis to the Engine industry.

Distributors who broker repairs and overhauls, as well as repair stations are typically asked to participate on PBH bids.



So how do we form a bid?

*KISS then escalate*  
*A simple 1 component illustration:*

**STEP 1:** Determine your FLAT Rate price (some times referred to as “Fixed Price” for the component

- ❑ Often, the customer will ask for your flat rates for comparison to the Power By the Hour quote.

TYPICALLY a sum of:

- ❑ Historical average of Time and Materials for all visits
  - ❑ Includes any 100% Replacement Parts
  - ❑ May, or may not include “Over and Above Parts” (more on that later)
  - ❑ May or may not include differentiations between Overhaul, Repair, or Inspect
- ❑ Allocation of overhead

For simplicity, let's assume your flat/fixed rate price is \$1000 per visit



*KISS then escalate*  
*A simple 1 component illustration:*

## **STEP 2:** Determine the Mean Time Between Removal Rate (MTBR) for the component

- ❑ Roughly this is the average amount of hours the component lasts on the aircraft
- ❑ Typically the source of this information is the operator's data which is required to be tracked by regulation.
- ❑ Alternatively, for new products, an OEM may have guaranteed a certain MTBR

For simplicity, let's assume the MTBR is 1000 hours



*KISS then escalate*  
*A simple 1 component illustration:*

### STEP 3: Calculate the basic Power By The Hour Quote

Basic Formula:  $\frac{\text{FLAT RATE}}{\text{MTBR}} = \frac{\$1000}{1000 \text{ Hr}} = \$1 \text{ per flight hour, your quote}$

*Royboy, can we escalate this now?*



***KISS then escalate***  
***A simple 1 component illustration:***

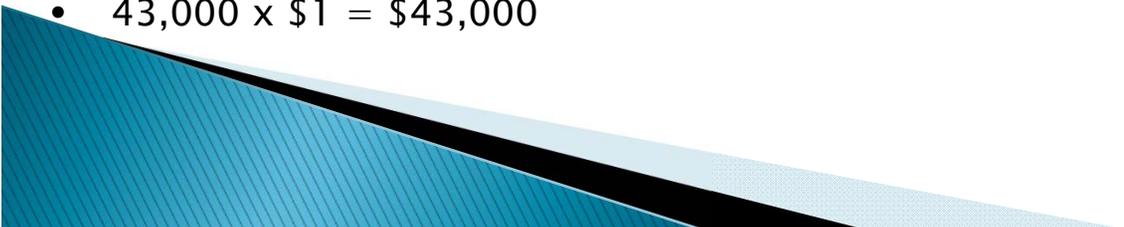
### ***OPERATOR PROFILE:***

- 10 Jets
- The average Utilization Rate is 12 hours per day per jet
- $12 \times 365 = 4,300$  hours per year per jet (rounded down)
- $4,300 \times 10$  jets = 43,000 hours per year for the fleet
- $43,000 / 12 = 3,583.3$  flight hours per month for the fleet

### ***YOUR INVOICE:***

- The customer reports they flew 3,583 total fleet hours last month, therefore:
- Reported fleet hours X your power by the hour rate:  $3,583 \times \$1 = \$3,583.00$

### ***ANNUALIZED CASH FLOW FORECAST***

- The customer forecasts 43,000 flight hours for the year x your power by the hour rate:
  - $43,000 \times \$1 = \$43,000$
- 

*KISS then escalate*  
*A simple 1 component illustration:*

### *SOME BASIC CALCULATIONS*

$$\text{FORECAST COMPONENT REMOVALS} = \frac{\text{Forecast flight hours (for a given period)}}{\text{MTBR}}$$

For Example:

$$\frac{43,000 \text{ hours (annual fleet forecast)}}{1000}$$

43 removals of the component per year.

*This is critical information for spares planning.*

*KISS then escalate*  
*A simple 1 component illustration:*

## *SOME BASIC CALCULATIONS*

*FORECAST REMOVALS WHEN THERE IS MORE THAN 1 OF THE COMPONENT PER AIRCRAFT =*

$$\frac{\text{Forecast flight hours (for a given period)} \times \text{Number of component per aircraft}}{\text{MTBR}}$$

For Example, lets assume there are 2 of the components per aircraft:

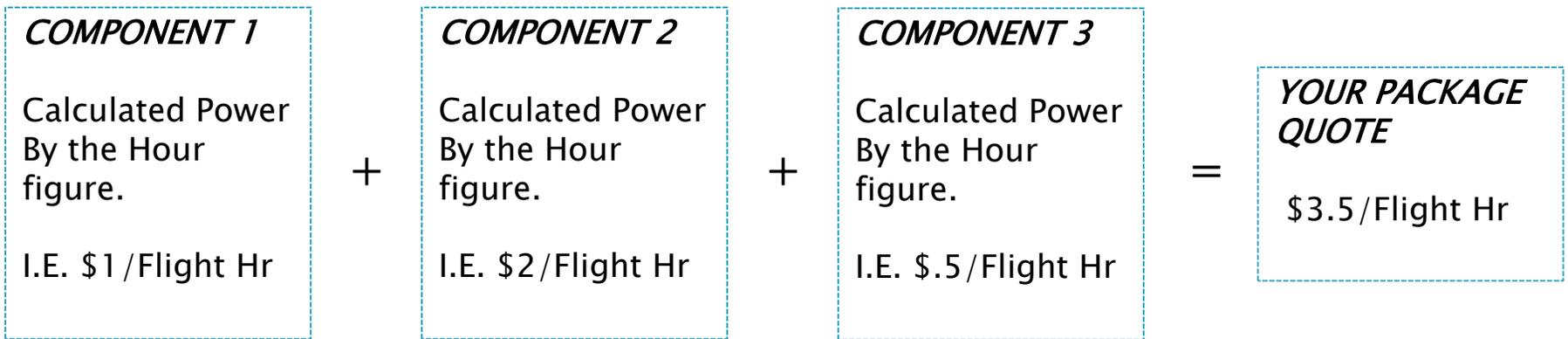
$$\frac{43,000 \text{ hours (annual fleet forecast)} \times 2}{1000} =$$

86 removals of the component per year.



## *KISS then escalate*

***SUPPOSE YOU ARE ASKED TO BID A POWER BY THE HOUR QUOTE FOR MULTIPLE DIFFERENT COMPONENTS FOR A GIVEN FLEET: Here is the *scalable model*:***



### ***NOTICE:***

- As a customer adds flight hours (Seasonable variation or added aircraft), the reported flight hours increases, the removals increase, ***and your invoiced hours increases proportionately***, and visa versa.

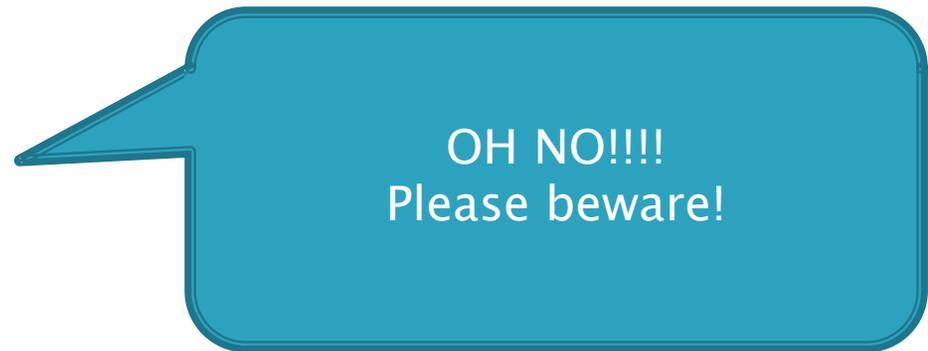


We need to review  
some notes and  
observations

## NOTES AND OBSERVATIONS:

- Your flat/fixed rate analysis *is critical* to your Power By the Hour (AKA Cost Per Flight Hour) calculation
  - It will determine your competitiveness
  - Often, the RFP will ask for two quotes: One for fixed/flat rates, and the other for the PBH. They will analyze and compare the two against their forecasts
- Typically, the customer provides you a figure of the flight hours they experienced in the last month; you invoice them based on this
- You get predictable monthly cash flow regardless of removal rate, and the customer is able to more accurately forecast their costs.
- No two PBH RFP/RFQ's are the same; there is great variation in what is asked for, and what can be negotiated regarding agreement language.





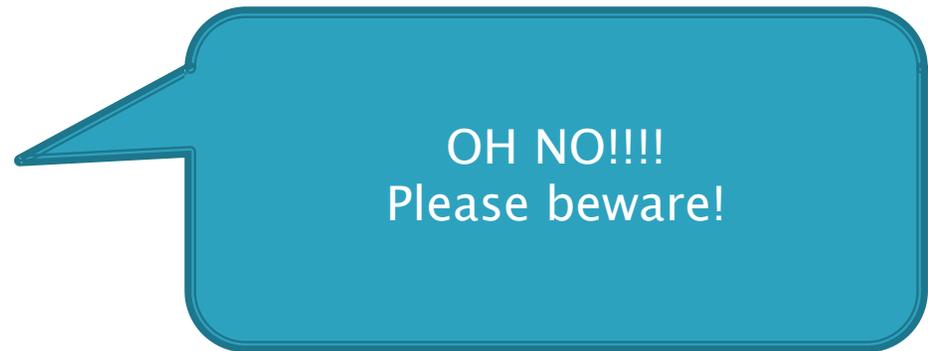
***CHALLENGE:*** The MTBR figures critically into your calculations, but in actual operation you may experience variations, yet you are locked into a steady payment per flight hour, *regardless!*

***DISCUSSION:*** MTBR variations can be caused by:

- Seasonal variations. For example, during the thunderstorm season RADAR is used more actively than other times of year. Over the course of the year the figures should reflect the average
- Training or experience: The wrong components being removed during troubleshooting, or chronic aircraft or chronic components
- An unforeseen requirement such as an AD
- The original figures of MTBR provided by the customer had been “Adjusted”.
- Know the distinctions between MTBR, MTBUR, and MTBCR.

***RECOMMENDED REMEDY:***

- Ask that a commonly agreed upon definition of the removal rate be defined in the agreement
- Make sure that an annual review provision is built into the agreement whereby the actual removal figures are compared to the contractual basis. This is typically addressed in ‘escalation’ language



***CHALLENGE:*** The spare parts prices the OEM or markets charge you will change during the course of the PBH

***DISCUSSION:***

- Unless you are the OEM, the fluctuation in spare parts pricing used to calculate your flat/fixed rate will change over time and be unpredictable

***RECOMMENDED REMEDY:***

- A provision in the agreement should be made to make this a basis for escalation in pricing, based on an annual review
- Ask if the operator has a separate agreement with the OEM on pricing for spare parts which can be passed onto you.

***FURTHER DISCUSSION:*** ESCALATIONS:

- You should place into the agreement language that has a provision for an annual review of conditions that can contribute to pricing adjustment (Usually escalation) based on the following:
  - Labor indexes
  - Actual versus quoted MTBR
  - Increases in OEM pricing

***EXPECT LIVELY  
DISCUSSION REGARDING  
'OVER & ABOVE'  
CHARGES***



***• SOURCES OF OVER AND ABOVE CHARGES TYPICALLY INVOLVE:***

- Replacement of parts not normally replaced, or which were not accounted for in your flat/fixed rate calculations
- Parts damaged by non-operational sources; shipping, or handling
- Parts involved in incidents and accidents
- Mandatory SB's and AD's.

***ROYBOY COUNSELS TO  
BE CAREFUL WITH:***



***• WHO WILL PAY FOR FREIGHT?***

***• WHO WILL PAY FOR THE SHIPPING  
CONTAINERS, OR SPEC 300 CONTAINERS?***

***• READ THE PROVIDED BLOG ON TRENDS IN MRO AGREEMENTS***



AND THAT CONCLUDES  
TODAY'S SESSION,  
*THANKS!*

