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The Labor Pool Model:

Effectively Managing Aircrew in Today's Air Force

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Introduction

Our Air Force is under tremendous manpower pressures, especially regarding our combat aircrew. Deployments are at an all time high. Pilot training units are graduating many new pilots that units must absorb. Since flying training units (FTU) must train these pilots, less programmed flying training (PFT) is available for critically needed instructor upgrades. Often-deployed units have fewer resources to upgrade aircrew "in-house" (a secondary method). Therefore, many units are undermanned overall, yet have too many initial qualified aircrew, and/or not enough instructors to train them.

This situation has had an especially adverse impact on multi-crew combat/combat support aircraft with small pools of available aircrew, otherwise known as "low-density/high demand" (LD/HD) assets. Symptoms commonly experienced by these squadrons include:

- Not enough aircrew with the right qualifications to fill deployments, meaning some aircrew must take extra deployments or units will be unable to fulfill requirements.
- Commanders (CCs) and senior leadership relied upon too much as instructors.
- Too many inexperienced aircrew replacing too few seasoned instructors.
- Lack of instructors and evaluators on-station for spin-up and reconstitution.
- Critical directorates, such as scheduling, are run by temporary or unqualified personnel.
- Someone upgrades only to be reassigned soon thereafter.
- Being unable to access attached personnel when needed.
- The week prior to deployment is a mad scramble for mandatory training.
- Weapons officers flying too many basic instructional sorties and not teaching advanced tactics.

If these symptoms sound familiar, can you answer these five important questions about your unit?

1. How many qualified aircrew do you need *right now* to fulfill standing taskings?

2. Are those aircrew actually qualified, current and mobility ready *right now*?

3. What are the minimum numbers of instructors and evaluators needed to keep your squadron healthy at any given time?

4. Do you know your unit's core competencies and what it takes to maintain them?

5. Do you have a solid in-place training plan based on quantifiable metrics*?*

Most commanders can't readily answer these five questions because, as warfighters, we focus more on training to *employ* than on organizing to *deploy*. This has created a resource/requirement mismatch in regards to our personnel. This paper provides tools to ensure a unit is always ready to **deploy** and can readily answer the five questions listed above.

The Essential Squadron

In order to build a unit ready to deploy, the flying squadron must be reduced to its essentials: mission, environment, resources, and requirements.

A flying squadron's *mission* is to provide an aviation force for world-wide mobility/deployment in limited response time. This mission exists in an *environment* of constant deployments, especially for LD/HD squadrons.

The basic *resources* required are no different from any organization: money, equipment, time, and personnel. Among these resources are budgets (to include flying hours), aircraft, and manpower. **The commander's most important *resource,* and the focus of this paper, is aircrew.**

Aircrews are *required* to be properly trained and organized into deployment packages to fulfill the mission. The unit's training and organizational requirements are dictated by higher headquarters through Air Force Instructions (AFIs) and unit type codes (UTC). However, the commander has great latitude matching finite resources to fulfill requirements. The most important *requirement* is ensuring aircrew are ready to deploy and employ to accomplish the mission. This concept forms the foundation of the "Basic Rule."

The Rules

The Basic Rule states that operational flying commanders must ensure aircrew are qualified, current, proficient, properly equipped, mobility ready, *and able to stay this way at all times.*

While this sounds obvious there are units where attaining this goal seems like an impossible dream. If commanders want to follow the Basic Rule, then they must completely organize their squadrons *around* the Basic Rule. **This is the core concept of the Labor Pool Model (LPM).**

Three of the five areas of the basic rule (*qualified, current, proficient*) strictly deal with aircrew training, the other two focus on money and equipment (*properly equipped, mobility ready)*. This paper will deal with the training function of the Basic Rule.

There are several other rules and guidelines which support the Basic Rule. Rules are constants, violate them and you will undermine the Basic Rule. Guidelines, however, should be followed to the maximum extent possible. Many sound like common sense, but some don't. Proper application will come into focus once we start organizing a theoretical squadron around the Basic Rule.

Rule of Aviation Management: Aircrew utility is only as good as their Aircrew Resource Management System (ARMS) codes say it is. How does a squadron commander measure his performance in fulfilling the Basic Rule? The answer is simple and most likely hanging up somewhere near his operations desk: ARMS codes. ARMS codes are the metric when assessing compliance with the Basic Rule and help the commander answer the question, *"Are my aircrew actually qualified, current and mobility ready right now?"*

Rule of Enablers: Instructors and evaluators are enablers and key to a squadron's health. Aircrew qualifications can be divided into two categories: enablers and cost centers. Evaluators and instructors are enablers because they *enable* the Basic Rule. Basic aircrew (in any position) are cost centers. They cannot enable the Basic Rule, but cost you resources, i.e., continuation training (CT) sorties and/or the services of an enabler.

The Ultimate Rule: A perfect flying squadron is staffed entirely by enablers. Sounds obvious, right? For example, an FTU is entirely staffed by instructors and evaluators and therefore fulfills the Rule of Enablers and Ultimate Rule. Rarely does someone go overdue for a critical event, such as an instrument approach. If this happens they simply fly with someone else (anyone else) in the squadron to regain currency. Unlike many operational units, there is no waiting around until a scarce enabler can be scheduled.

The Rule of Deployed Enablers: Do not unnecessarily deploy enablers where a basic aircrew can do the job. Enablers have maximum utility at home station where they can fulfill the Basic Rule. Only deploy one instructor per crew position per deployment unless you have excess (which will be defined later as *up-shifting*). Unless there is an overage, never deploy an evaluator.

Rule of Core Tasks:Evaluations, scheduling, and training must always be staffed and managed by qualified personnel completely familiar with each function. This is because these tasks control the Basic Rule: *qualified, current, and proficient.* Mobility and Supply (*equipped and mobility ready*) fall into this category, but will not be addressed in this paper.

Here are the first five guidelines:

Guideline 1: Don't rely on the commander, the director of operations, or attached instructors to fill critical instructor roles *because you may not get them when you really need them*. For the same reason don't rely on attached personnel to fill deployments. It's okay to utilize them if the opportunity arises, but assume they will NOT be there when you really need them.

Guideline 2: Use *spin-upgrades* whenever possible. A 'spin-upgrade' is upgrade/certification and deployment spin-up conducted concurrently. It can include such items as verification/re-verification and mission qualification training (MQT). This saves resources, such as flying hours, and makes maximum use of enablers.

Guideline 3: Use PFT slots for people joining or departing the unit whenever possible. Commanders should make agreements with other commanders to do the same. This provides maximum *useful* time on-station. This also applies to formal schools longer than two months, such as weapons instructor courses.

Guideline 4: Don't use secondary method upgrades on someone leaving in less than a year. Such upgrades will not give adequate return on costs. Instead, refer to Guideline 3 and spend someone else's money.

Guideline 5: If a weapon system has a formation requirement, then flight leads should outnumber basic aircraft commanders three-to-two. This allows deployment of more formation capability. Commanders can adjust accordingly based on additional formation certifications for their weapon systems (i.e., 4-ship versus 2-ship leads, etc.)

A few more guidelines and rules will be introduced later. A consolidated list of these rules and guidelines can be found in Appendix A. Before we can start applying the rules and guidelines introduced so far, let's examine how squadrons have been organized in the past.

Squadron Organizational Structures

Usually, squadrons are formed around traditional constructs, such as flights and directorates. These have either been personnel oriented, task oriented, mission oriented, or a combination of these. None of these *intentionally* supports the Basic Rule and is the root cause of resource/requirement mismatches.

Personnel-oriented organizations stress division based on rank, leadership or crew position. Examples include enlisted flights, "green flights" for newly assigned aircrew, or simply making sure enough flights exist to give young officers a chance to be flight commanders or ensure excess field-grade officers have assistant operations officer slots.

Task-oriented organizations center around directorates based on AFI-specified disciplines like standards and evaluations (DOV), scheduling (DOS), training (DOT), weapons and tactics, exercises, safety, etc. These models may mirror Numbered Air Force and major command "A3" 3-digit sub-directorates.

Mission-oriented organizations focus on deployment structures, such as UTCs. Flights may be built around UTCs with personnel training, deploying and reconstituting together for long periods. For example, HH-60G squadrons have trended toward this model, employing the **"3:1 Rule"** based on a special operations model. This rule uses a three-flight system, with one in spin-up, one deployed, and one in reconstitution at any given time.

Some units use combinations of the three structures, known as *matrix organizations*. Typically, flights and directorates are interlaced with varying degrees of friction.

Regardless of which structure a given unit uses, problems arise if the Basic Rule is not consciously addressed. The symptoms of such a unit may sound familiar: the scheduling shop becomes the defacto current operations shop; the schedule becomes a "suggestion," there are too many co-pilots and too few instructors; sortie length increases for instructors while actual stick time for co-pilots decreases; and in-unit upgrades are rushed in order to fill the next rotation.

Most commanders and operations officers chase the symptoms. In order to fix the problem units must center their activities on the Basic Rule and their aircrew. This concept is called *The Labor Pool Model.*

Building a Squadron with the Labor Pool Model

The LPM enables the Basic Rule by organizing around the Rule of Aviation Aircrew Management and the Rule of Core Tasks. The core tasks (DOV, DOS, and DOT) are manned by enablers and don't deploy. Together these three directorates keep flights, organized into *labor pools* of like-qualifications, in compliance with the Basic Rule.

The first task in building a labor pool-based squadron is to conduct an internal audit based on mission requirements and personnel resources. We'll use a theoretical 12-aircraft HH-60G squadron as an example. This combat search and rescue squadron has a world-wide mobility tasking for three 4-ship (4/4/4) UTCs. Being an LD/HD asset, one UTC is always deployed and aircrew rotate every 120-days. **Unit size, aircraft type, and tasking vary, but the process to build a LPM unit is the same.**

Each aircraft requires one aircraft commander (AC), one mission pilot (MP) (effectively a co-pilot), one mission flight engineer (MF) and one mission gunner (MG). Guideline 5 dictates that for every three aircraft deployed two ACs must be flight leads (FL). The authorized crew ratio is 1.5 per primary aircraft assigned. There are also separate command and control UTCs authorized for the commander, operations officer and one assistant operations officer (ADO) per aircraft UTC. For our purposes the example doesn't need to be any more detailed.

Step 1: Organize you authorized manpower (resource) across your UTCs (requirement). This commander knows he has 77 aircrew authorized on his unit manning document (UMD). Using a chart similar to Figure 1, which gives a breakout of manning per UTC, he knows how much labor he is authorized per UTC.

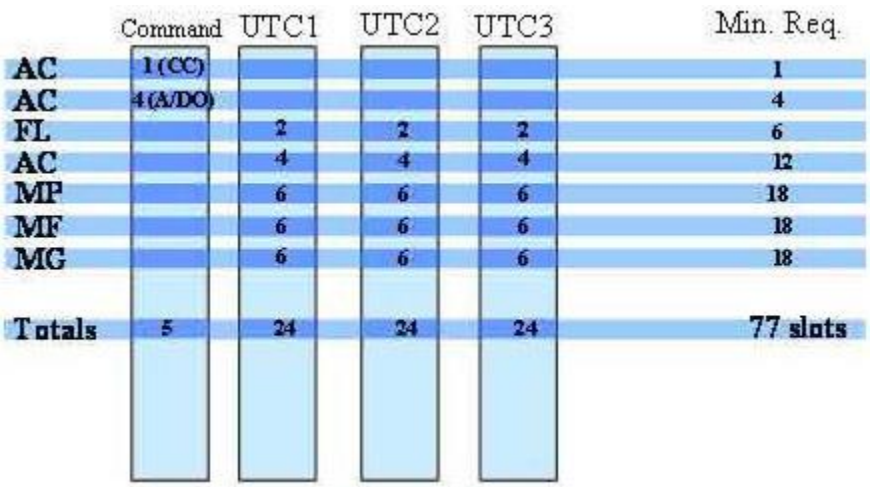

Figure 1. Basic Manning Authorizations Based on Theoretical 4/4/4 UTC HH-60 Squadron

Step 2: Match minimum resources needed to fulfill requirement. Here we must remember the Basic Rule and the purpose of enablers. In this step, we use a 1:1 manpower ratio to *identify the essential minimum – one body per crew position per aircraft***.** There are five pilots against command and control and 24 personnel against each of the aviation Flight leads are broken out as a separate requirement. If we were using a mission-oriented structure we would stop here and organize our flights. However, all we have done is match resources with mission, not our training requirement based on the Basic Rule.

Don't be misled by the term "minimum"…all your UMD manning is *required*. "Minimum manning" is a tool we will use later to build training requirements.

Using a chart like Figure 2 we've identified the absolute minimum manning requirements for our theoretical squadron. In the "manning map" we convert these minimum slots to numbered *billets*. We've used the Rule of Core Tasks to identify the enablers for DOV, DOT and DOS. DOV is given evaluators and the other core tasks are given instructors. To comply with the Rule of Enablers each deployment UTC is given one set of instructors. Guideline 5 set out flight lead manning. Figure 2 shows something called the "Home UTC" (HUTC) where we have placed our Core Task enablers. The HUTC, also called the *Virtual FTU*, combines the Rule of Core Tasks with the Rule of Enablers and is the machine which powers the LPM.

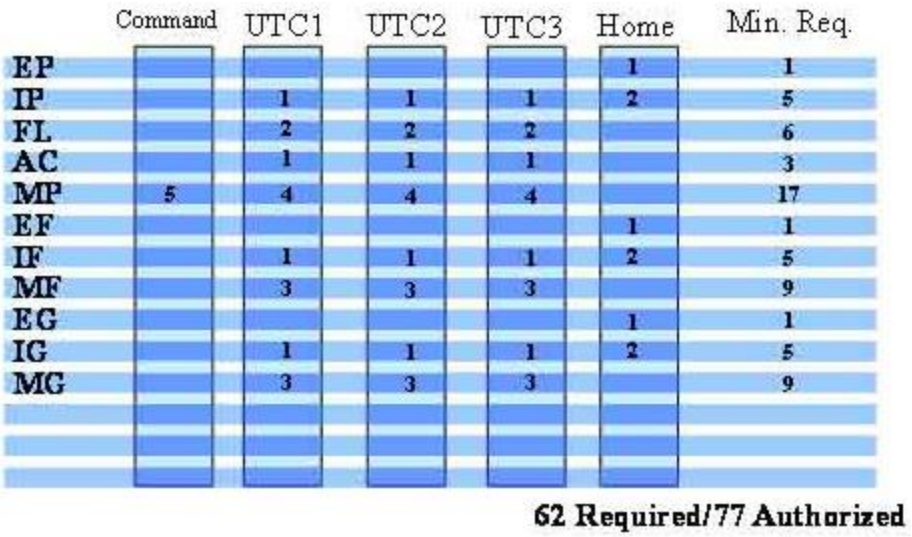

Figure 2. Min. Manning Requirements Based on Theoretical 4/4/4 UTC HH-60 Squadron

The HUTC is DOV, DOS, and DOT. Combined with our deployment UTC requirements this brings the total to 1 evaluator pilot (EP), 1 evaluator engineer (EF), 1 evaluator gunner (EG), 5 instructor pilots (IP), 5 instructor engineers (IF), and 5 instructor gunners (IG). In accordance with Guideline 1 this doesn't count attached personnel or squadron leadership. The commander now knows his minimum requirement is 3 evaluators and 15 instructors. The HUTC ensures compliance with the Rule of Core Tasks because, unless all of your UTCs are deployed, these functions should work smoothly. The HUTC controls the *aircrew evaluation forms, schedule, and grade folders (qualified, current, and proficient).* They are the heart of the squadron and answer the question, *"What are the minimum numbers of instructors and evaluators needed to keep your squadron healthy at any given time?"*

The HUTC acts as a *virtual FTU because it*:

- Keeps aircrew current and proficient and in compliance with the Law of Aircrew Management.

- Performs all MQT. When new personnel arrive these instructors *spin-upgrade* them. In this capacity, it resembles a "Green Flight" but centered on enablers, not the cost centers. This will be critical later when the term *up-shift* is introduced.

- Performs all pre-deployment spin-ups and reconstitutions.

- Performs "pyramid training." These aircrew possess all qualifications and certifications covered by the particular weapons system's training regulation, even seldom used skills. For example, in the helicopter community this might include sling-load certification. Sling-loads are useful, but seldom performed so commanders don't expend resources keeping all aircrew qualified. If sling-load aircrews are needed, the commander can direct the HUTC to conduct short-notice "pyramid

certifications." In this case the HUTC qualifies all unit enablers, who in turn, qualify all the basic aircrew.

- Performs all secondary method training. This is critical because it's important to build capability above the minimum requirement and is the key to the Ultimate Rule.

- Upgrade Board: This group recommends (along with the flight commander) who gets valuable training resources.

This is a good time to introduce **Guideline 6: Managing the Home UTC**:

- Manned with your most senior aircrew who ideally have been in the unit and have deployed sometime within in the last year.

- Assign personnel to the HUTC for no more than one year; it should be their last job before leaving.

- They don't deploy unless you've completely surged! Since HUTC members still fill deployment billets, you may be forced to deploy them. However, they should be the very last ones out the door.

- If you are **forced** to deploy HUTC personnel, then send DOV last. Send instructors before evaluators.

- There are no lengthy schools, temporary duties (TDYs) or extended leave while in this job. These personnel MUST be available to fly routine daily missions and keep the core tasks functioning smoothly. They should be available to fly 3 times per week and shouldn't be absent more than one week every three months.

- Do not place any other billets in DOV, DOS, and DOT except for those assigned to the HUTC. Since they don't deploy you don't need redundancy. After several deployment cycles redundancy will be built in as your unit *up-shifts.*

- Resource advisory (RA) and mobility are HUTC billets because they enable the Basic Rule (mobility folders and mobility equipment). Because they deal with *things*, not people, it's okay to:

    - Use non-aircrew whenever possible.

    - If you have to use aircrew, use basic aircrew and assign redundant billets to ensure continuity.

Now that we know our minimum crew and qualification requirements versus our mission requirements it's time to start building a *manning map*.

Step 3: Create a *minimum* manning map. A manning map divides aircrew into separate basic qualifications as well as an enabler category. Each billet in each qualification is given a billet number. These manning slots are built upon our minimum requirements defined in Figure 2, *not* a UMD authorization. These billets are somewhat like position numbers (PN), but more useful. A PN on a UMD might say "you are authorized a pilot," or "you are authorized 18 flight engineers." A billet on a manning map says, "I *need* one evaluator pilot, he *will* be in DOV and I will not deploy him," or "I *need* 5 instructor flight engineers in order to produce three deployable UTCs." This manning map gives the commander instant awareness of what positions he must fill to meet requirements. Figure 3 is an example *minimum* manning map for our HH-60G squadron. Here personnel resources are organized into labor pools and assigned billets. For example, "E1" is the billet assigned the unit's evaluator pilot. The minimum manning map answers the question, *"How many qualified aircrew do you need right now to fulfill standing taskings?"*

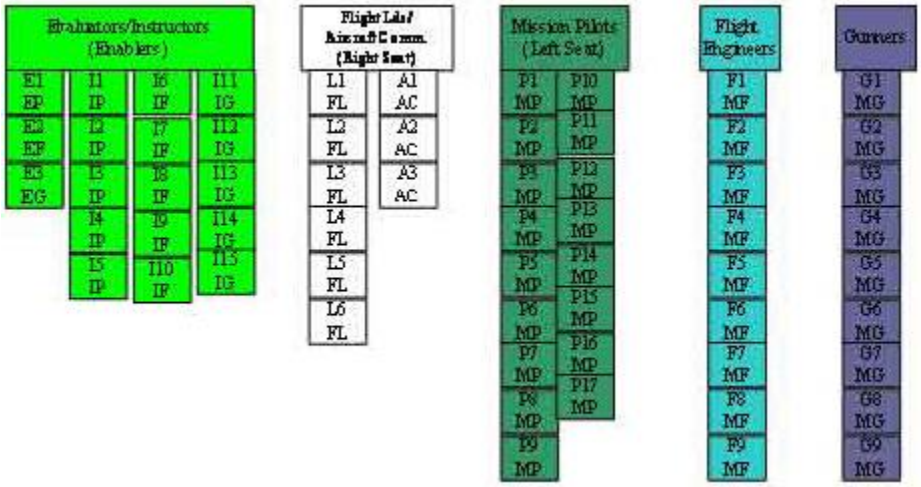

Figure 3. Minimum Manning Map

Step 4: Create a Complete Manning Map, or just *Manning Map*. Now add the other positions afforded by the UMD to give the complete Manning Map, seen in Figure 4. Any slots above the 1:1 ratio are given "X" designations. These are authorized resources and not excess. This method merely affords an ability to gain awareness to prioritize a training plan.

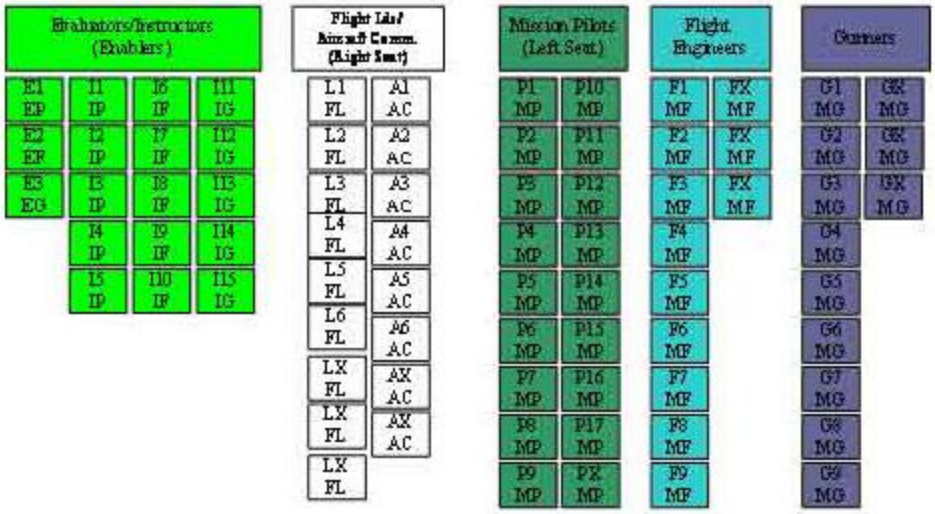

Figure 4. Manning Map

With the completion of the manning map you have just finished **Step 5:Organize your aircrew into flights.** Just leave them where they are. You have five flights, ready made. These flights are labor pools, hence the name of this model. While this example is based on a theoretical HH-60G unit, a unit flying another aircraft would have somewhat different flights. All units, however, would still have an enabler flight:

- Each flight is a *labor pool* organized to take care of a similar set of ARMS codes, supporting the Rule of Aircrew Management.

- Each flight commander is essentially a *career area manager*, managing a like set of personnel.

- Unlike mission oriented flights these flights do not compete with each other for limited resources. Instead they augment each other to accomplish the mission.

- All enablers are grouped together, not assigned according to their basic crew qualification. Their utility as enablers trumps their usefulness as basic aircrew.

The flight commanders also manage billets, which is why we built a minimum manning map. For example, if only 15 of the 17 billets in the MP flight are occupied, then the commander knows there is a specific shortfall. The requirement is readily apparent. DOT knows exactly when to initiate an upgrade, hold an upgrade board, and start a grade folder. This answers the question, *"Do I have a solid in-place training plan based on quantifiable metrics?"* The manning map, coupled with the Rule of Aviation Management, provides the metrics which drive all training requirements.

In accordance with the Ultimate Law, you may find yourself with insufficient basic qualified crew members and too many enablers. If you have this problem, congratulations! Your HUTC is

doing its job. You can leave the excess in the basic flights until slots become available in the enabler flight. This is part of the *up-shifting* mentioned earlier.

What about all those other jobs needed to make a squadron function? These non-core tasks can be divided into *mission* and *support* tasks.

Mission tasks center on *employment* and are important, but not always necessary to supporting the Basic Rule. These include such tasks as weapons and tactics and current operations. Non-flyer duties like life support, intelligence, and ARMS staffed by dedicated non-flyers are considered mission tasks. A unit can function for short periods of time without mission tasks and still fulfill the Basic Rule.

Support tasks deal with long term *planning* issues and do not have immediate impacts on deployment and employment. These include such tasks as plans, safety and exercises. Also, group or wing entities can temporarily perform these functions.

A rule of thumb to discern between core, mission and support tasks:

- If it is a MANDATORY task to empower an aircrew to legally **deploy** with the needed qualification (evaluation form, grade folder, current on required training) then it is a core task.

- If it is a MODIFYING task to help aircrew **employ** more effectively it is a mission task. If it is run by dedicated technicians it is also a mission task.

- If it is a PLANNING function for **long term** issues, then it is a support task.

Now we've answered the question, *"Do you know your unit's core competencies and what it takes to maintain them?"*

Here comes **Guideline 7: The Operations Officer/Director of Operations (DO) runs tasks, flight commanders take care of the people who perform tasks.** Since flight commanders are the reporting officials, change of reporting officials are necessary only when someone moves to the enabler flight. Of course, there are some regulatory exceptions because some offices must report directly to the commander. For aircrew billet purposes, commanders, operations officers and other senior personnel may fall under the non-enabler flight commander. It goes without saying that the flight commander will not be their reporting official, but only manage them as a *labor* source.

Step 6: Build your organization's task structure. The model in Figure 5 is the lattice on which the billets are placed. This is a generalized example for an HH-60G unit, your unit may be different. On top, the commander and DO slots have been noted, with the flight commanders underneath. All directorates have been divided into core, mission and support tasks and assigned an assistant DO (ADO). While assistant DOs are not necessarily part of the LPM, they help the DO effectively manage these tasks. The core directorates have been "roped off" and designated as the HUTC. Since the unit has three aviation UTCs, the main structure (except the HUTC) has

been divided into three *UTC spreads*. These spreads will help in the next step and prevent directorates from being inadvertently emptied during normal deployment rotations.

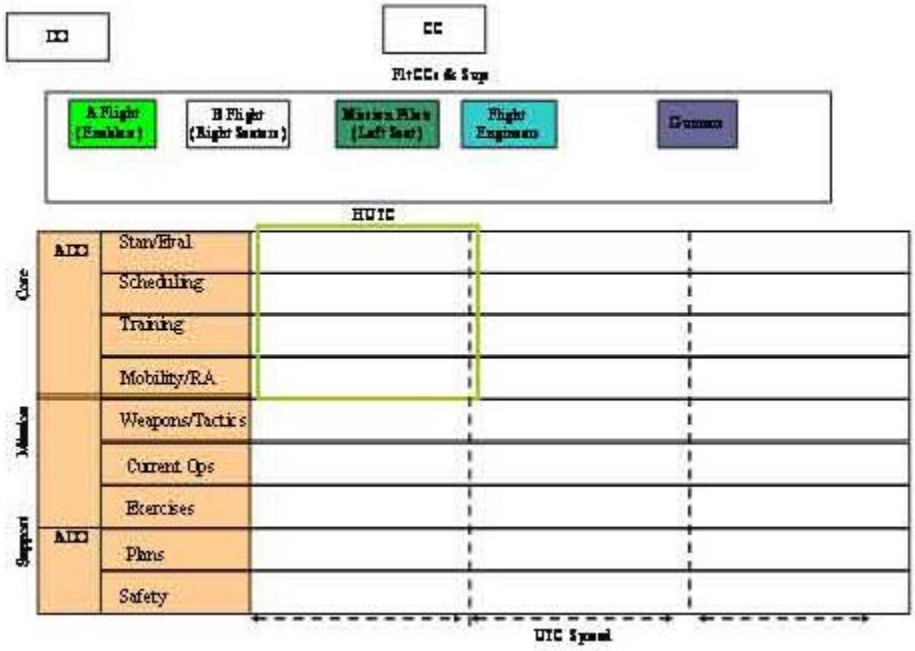

Figure 5. Matrix Organization

Now we're up to Step 7: Take your manning map and start placing billets against directorates. *This not the same as placing actual faces with positions*. First, start with evaluators and instructors and fill the HUTC. Second, take the instructor billets programmed against deployment UTCs and evenly fill them against mission and support tasks. Spread billets laterally in the UTC spreads, creating duplicate manning billets in each directorate for each deployment UTC. These spreads are not hard crews or supposed to deploy as sets, instead they're only placeholders to ensure directorates are manned.

Next, take the basic crew billets and spread them laterally at the top, filling the UTC spread. Work down until all mission and support directorates are filled. The final result is Figure 6.

This brings us to **Guideline 8:** If a unit uses lead and follow-on UTCs in a "stackable" structure, front load enablers on lead/stand-alone UTCs whenever possible. Enablers are most useful when in-theater first or as part of any stand-alone force.

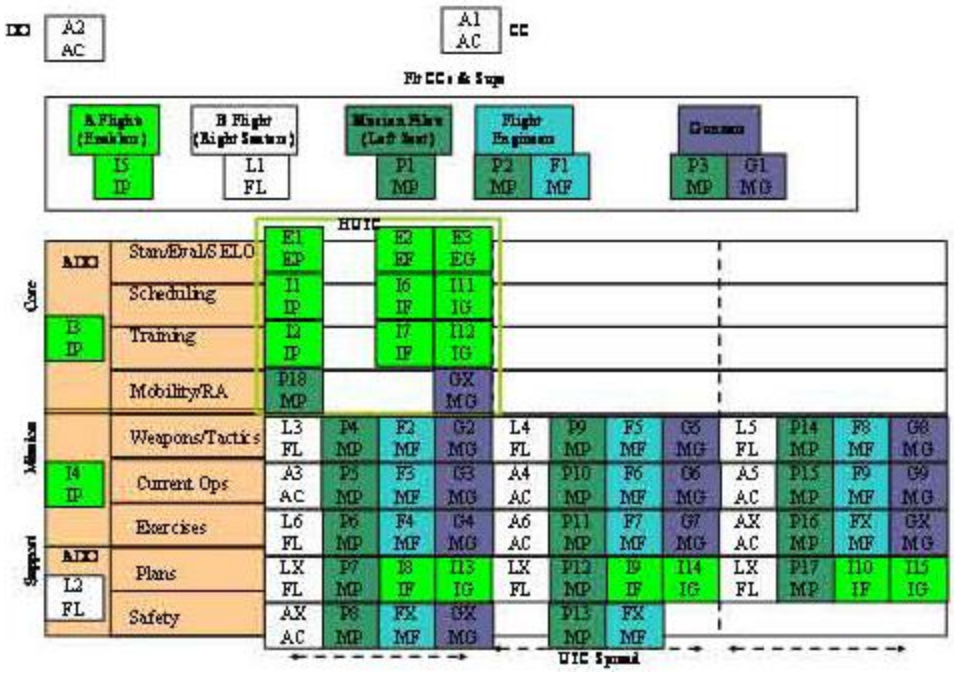

Figure 6. Matrix Organization with Billets Assigned

Now, we're up to **Step 8: Place actual manning against LPM structure.** This is placing "faces with spaces." We'll simulate this by making some realistic assumptions about what any given HH-60G squadron's manning might be:

- In relation to its UMD this unit is manned at about 90%:
  - Undermanned in aircraft commanders, flight leads and instructors.
  - Overmanned in basic mission pilots (co-pilots).
  - Undermanned in flight engineers.
  - Correctly manned in gunners.
- The unit receives the following from the FTU …
  - One new mission pilot, flight engineer and gunner every 6 months.
  - A PFT slot for instructor upgrade for one pilot, engineer and gunner every six months.
  - FTU cannot produce more.
- One mission pilot certified to AC every six months.

- The unit always has one UTC deployed.
- Annual flying hours will remain constant.

A consolidated list of these steps are located in Appendix B. Now let's examine how this theoretical unit looks under an LPM structure.

Modeling an LPM Squadron

This unit has 77 aircrew authorized and is currently staffed with 68 with the following qualifications:

EP: 3 (CC and DO included)

IP: 2

FL: 4

AC: 6

MP: 20

EF: 2

IF: 0

MF: 12

EG: 3

IG: 3

MG: 12

Steps 1-6 are complete. Real people must be placed against billets. In Figure 7 we take the notional aircrew in the list above and place them in the matrix organization, showing unfilled billets, excess, and up-shifted positions.

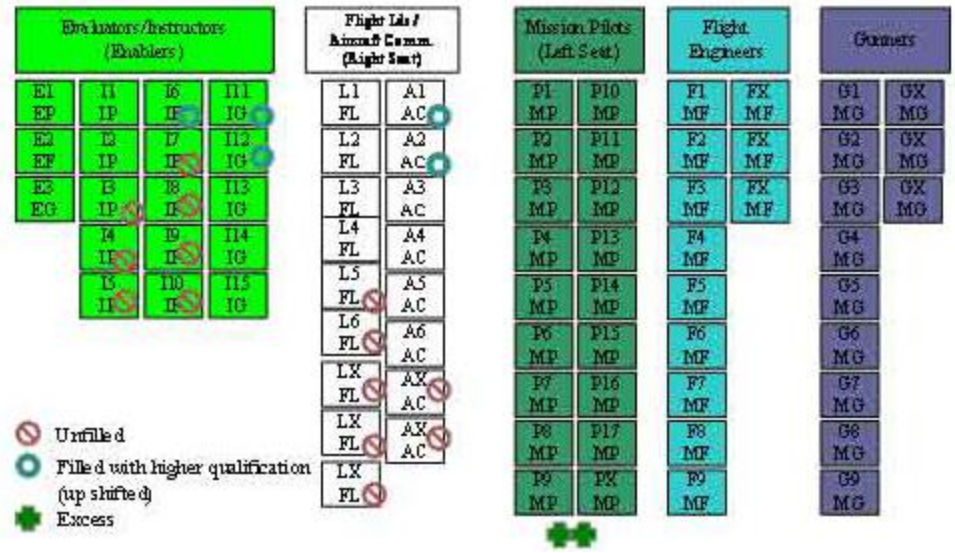

Figure 7. Manning Map versus Example Manning

It is now clear we need three instructor pilots, four instructor flightengineers, five flight leads, and two basic aircraft commanders. The training plan is already formulated**.** Carry this one step further and staff the complete matrix organization as seen in Figure 8.

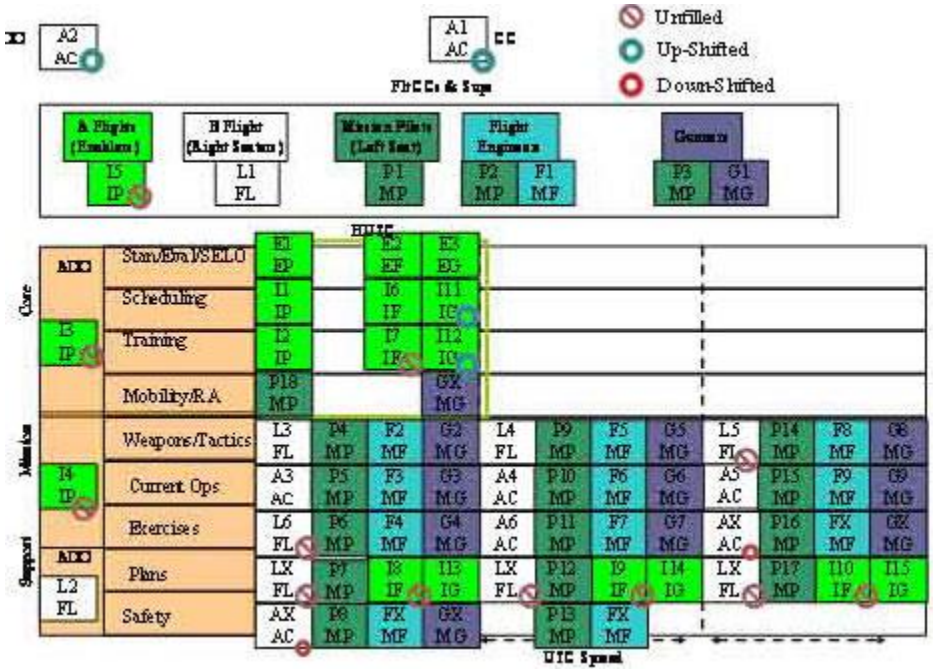

Figure 8. Matrix Organization with Billets versus Example Unit

The first priority is filling the IF billet in the HUTC as dictated by the Rules of Core Tasks, Enablers and the Basic Rule. The next priority is filling the deployable IP and IF billets. Next, fill the FL and AC certifications.

Another important aspect here is the shortage of two class=SpellE>ACs and the overage of mission pilots. We can slide those overages in the billets as they relate to *directorate* tasks, even though they are not from the billeted labor pool. This is called *down-shifting*. In this example, we need aircraft commanders in exercises and safety, but must settle for mission pilots. Down-shifting fills the task, not the qualification. Up-shifting relates to *qualification* and is good; down-shifting relates to *tasks* and is sometimes a necessary evil.

Role of the Flight Commander

Other organizational structures only look good in a static "snapshot." The LPM is built to handle dynamic situations. The changes include deployments, personnel changes, extended temporary duty, and life-events (childbirth imminent, illness, etc.). This is the job of the flight commander.

Under the LPM, flight commanders own these processes:

- Dynamically staff deployments in cycles or contingencies
- Nominate for developmental education courses (approved by commander)
- Nominate for upgrades (approved by commander and HUTC)
- Nominate for special training courses (approved by commander and HUTC)
- Write most performance reports.

The entire flight holds the same qualification. If the flight commander is deployed the next in line automatically steps up and takes the duty. If the flight is composed of enlisted aviators an officer from another flight can slide over as commander.

Modeling the Deployment Process

Let's put the LPM to the test and model it against the most dynamic of situations – deployments.

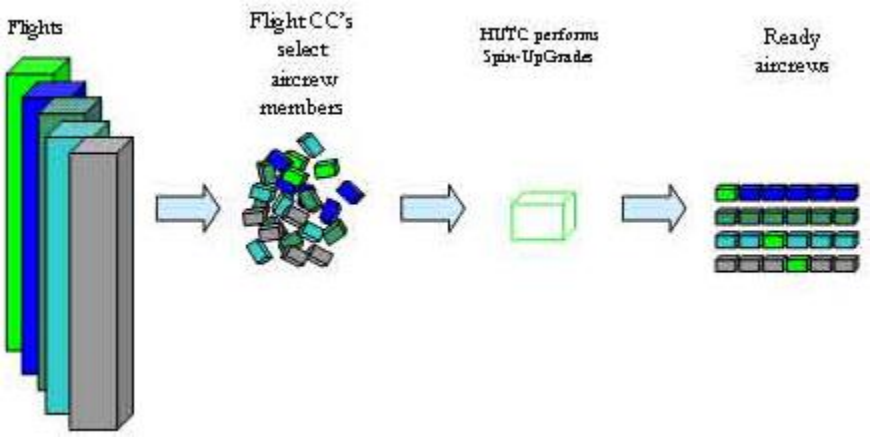

Figure 9. Deployment Process

Figure 9 shows how flight commanders pull personnel from each labor pool to fill deployments. Figure 10 shows an example of how a flight commander might rack and stack his labor pool not only to fill deployments, but to fill billets in the manning map using the rules and guidelines discussed so far. Both figures show the roles of the HUTC and the utility of spin-upgrades.

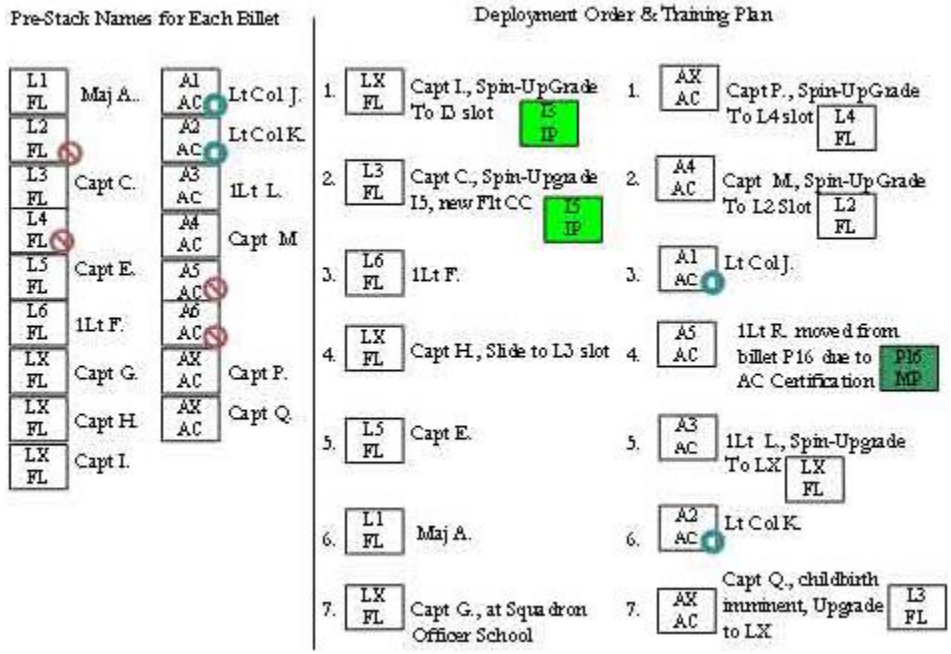

Figure 10. Example of Flight CC Deployment Planning

The example shows how spin-upgrades double the productivity. The flight commander assesses which billets are vacant. There are no personnel in the L2, L4, A5, and A6 billets. The commander and DO are up-shifted to evaluators but, in accordance with Guideline 1, they are not relied upon as enablers.

Working with the other flight commanders and the HUTC, the flight commander spin-upgrades two flight leads to instructors and two basic aircraft commanders to flight leads. The A5 billet is filled from the MP flight as part of another spin-upgrade. The bottom line: the unit is stronger after a deployment cycle and we've answered the question, *"Do you have a training plan based on the previous questions?"*

This example shows the advantages of the LPM:

- The manning map *automatically* drives the training plan to fill critical billets.
- Flights *cooperate* to fill billets.
- Billets give the commander the ability to *quantify* decisions, i.e., where he chooses to spend precious resources, hence…
- Upgrades will be more *competitive* as aircrew compete for specific enabler billets, especially when resources are scarce.
- Spin-upgrades provide an *incentive* to deploy. Deployments become synonymous with advancement.
- Finally, this process is *dynamic* and assumes an ever-changing external and personnel environment.

As we've seen, the LPM is easily modeled. Based on this fact commanders don't have to wait for each deployment to formulate a training plan. If deployment cycles are predictable then upgrades can be forecasted far in advance.

It must be stressed at this point that the **LPM doesn't fix undermanned units**; it helps them *compensate for shortfalls* by up-shifting and creating enablers. It converts shortages to the lowest common denominator, the cost centers. These must be filled by the FTU. More enablers empower units to quickly absorb these new personnel and make them deployable.

Even with the efficiencies gained using Guidelines 2, 3 and 4, what if a squadron doesn't have enough resources to conduct spin-upgrades and still conduct normal continuation training? This is the time to introduce the Rule of Continuation Training: If resources shortages are severe enough to affect the Basic Rule, fly CT in the following priority – HUTC, enablers, flight leads, aircraft commanders, then basic crew positions**.** If enablers are current, then it's easier to update everyone. If flight leads are current then formations can be scheduled. If ACs are current, then they can also fly as co-pilots. What happens if a unit is up-shifted with higher qualifications filling lower billets and training resources are still scarce? **Then Guideline 9 applies: If two equal qualifications need resources, with all other factors being equal, the one in the higher billet gets the resource.** This gives the commander more awareness of requirements versus resources.

A Few Parting Thoughts

A few emerging issues can enhance the effectiveness of the LPM. First are longer times between reassignments. This is an advantage since; strengthens the ability of commanders to up-shift their squadrons.

Also, some units use contractors to run functions such as scheduling. This practice frees up enablers to fly. In this case, however, an HUTC, based on qualifications, should still exist even if the core task is performed by contractors.

The author conceived the LPM to help LD/HD units make maximum use of on-station resources. The system will function best if an entire community uses the model. This gives maximum utility to Guidelines 2, 3, and 4. If assignment and career managers have full visibility of each unit's manning map and up-shift status then they can make better choices about assigning personnel.

This model is ideal for the Air Reserve Component (ARC). Low turnover, high experience levels, and the presence of full-time cadre (active guard/reserve [AGR] and air reserve technicians [ART]) give ARC units incredible up-shifting capability. To leverage their full-time aircrew, ARC units should, when able, adhere to **Guideline 10: ARC units should man their core tasks with AGR/ARTs whenever possible to ensure the HUTC is readily accessible to commanders.**

Finally, commanders considering adopting this model should realize that a cost of change must be factored in. It may take anywhere from 6 months to a year to effectively convert to an LPM organization. It is unwise to reorganize too quickly. However, a commander can immediately create a minimum manning map and HUTC. This will allow him to start enabling the Basic Rule and up-shifting the squadron. Then, over the course of time, the full organization can be converted. This will lower the cost of change and allow aircrew to slowly get used to the new organization.

Conclusion

The Labor Pool Model is not a silver bullet for manning shortages, but it is an effective tool to manage aircrew and make the most of limited resources. By following a simple set of rules and guidelines commanders can keep their units ready to deploy. These rules center around the aircrew and keeping them *qualified, current, proficient, properly equipped, mobility ready, and able to stay this way at all times.* Units will be better able to handle dynamic changes and will become healthier over time with more aircrew up-shifting to higher qualification levels.

Appendix A: Rules and Guidelines

- **The Basic Rule:** Operational flying commanders must ensure aircrew are qualified, current and proficient, properly equipped, mobility ready, and able to stay this way at all times.
- **Rule of Aviation Management:** Aircrew utility is only as good as its ARMS codes say it is.
- **Rule of Enablers:** Instructors and evaluators are enablers and key to a squadron's health.

- **The Ultimate Rule:** A perfect flying squadron is staffed entirely by enablers.
- **The Rule of Deployed Enablers:** Do not unnecessarily deploy enablers where a basic qualification can do the job. Unless there is an overage, never deploy an evaluator.
- **Rule of Core Tasks:** Evaluations, training, and scheduling must always be functioning and managed by qualified personnel completely familiar with how they function.
- **Rule of Continuation Training:** If resources are limited to the point it impacts the Basic Rule, CT is flown in this priority – HUTC, enablers, flight leads, basic aircraft commanders, then basic crew positions**.**
- **Guideline 1:** Don't rely on the commanders, director of operations and attached instructors to fill critical instructor roles. Do not rely on attached personnel to fill deployments for the same reason.
- **Guideline 2:** Use Spin-Up*Grades* when ever possible.
- **Guideline 3:** Use formal training upgrade slots for people transferring in/out of the unit if at all possible. Commanders should make agreements with other commanders to do the same. This also applies to formal training or schools longer than two months.
- **Guideline 4:** Don't use secondary method upgrades on someone leaving in less than a year.
- **Guideline 5:** Flight leads always outnumber basic aircraft commanders three to two.
- **Guideline 6:** How to manage the Home UTC:
    - Man with your most senior aircrew who have been in the unit and have deployed sometime within the last year.
    - Assign personnel to the HUTC for no more than one year and it should be their last job in unit before transferring out of the unit.
    - They do not deploy unless you completely surge out the unit. If forced to deploy them then DOV personnel should be the last ones out the door with evaluators being very final option, after instructors. Deploy gunners before engineers.
    - There are no extended schools, TDYs or extended leave while in this job. They should be available to fly 3 times per week and shouldn't be absent from unit more than one week every three months.
    - Do not place any other billets in DOV, DOT and DOS other than those assigned to the HUTC.
    - Because RA and mobility deal with *things*, not people, it's okay to:
        - Use non-aircrew whenever possible.
        - If you have to use aircrew, use basic aircrew and assign redundant billets to ensure continuity.
- **Guideline 7:** The DO and his ADOs run tasks, the flight commanders take care of the people who perform the tasks.
- **Guideline 8:** If two equal qualifications need resources, the higher billet gets the resource with all other factors being equal.

Appendix B: Steps in Building a Labor Pool Squadron

- **Step 1:** Match requirements (UTCs) to authorized personnel resources (UMD).
- **Step 2:** Identify minimum resources needed to fulfill requirement using 1:1 crew ratio.
- **Step 3:** Organize minimum billets into a *minimum* manning map with specific, numbered billets.
- **Step 4:** Apply authorized manning to create a complete manning map with "X" billets.
- **Step 5:** Covert manning map into flights (labor pools).
- **Step 6:** Build organization's task structure (lattice) organized by core, mission and supporting tasks.
- **Step 7:** Place all billets from manning map against directorates to create complete matrix organization.
- **Step 8:** Place actual manning against Labor Pool Model Organization.

Appendix C: Terms

Cost Center: Basic aircrew in any position; cost resources, e.g., CT sorties and/or the services of an enabler.

Enabler: An instructor or evaluator; can bestow currency, certification or qualification. "Enables" the Basic Rule.

Home UTC: Composed of core task directorates (DOV, DOS and DOT); it acts as a *virtual FTU*: 1) Keeps aircrew current and proficient, 2) Performs all MQT, 3) Performs all pre-deployment spin-ups and reconstitutions, 4) Performs all pyramid qualifications and certifications, 5) Performs all secondary method training, 6) Conducts upgrade boards.

Labor Pool Model: Organizational model centered around aircrew qualifications; groups aircrew "labor pools" based on those qualification and, using a series of rules and guidelines focuses on keeping those labor pools *qualified, current, proficient and able to stay this way at all times*.

Minimum Manning Map: Using a 1:1 crew ratio it divides aircrew into separate qualifications (labor pools) to identify the minimum requirement to support assigned UTC tasking. Assigns each minimum billet a number. Not based on UMD.

Manning Map: Adds remainder of UMD authorized aircrew to minimum manning map. Assigns these billets "X" designations.

Spin-UpGrade: Upgrade, certification or mission qualification conducted concurrently with deployment spin-up training.

Core Tasks: A MANDATORY task to empower an aircrew to legally **deploy** with the needed qualification (Form 8, grade folder, ARMS code, mobility folder).

Mission Tasks: A MODIFYING task to help aircrew **employ** more effectively and safely or it is run by dedicated technicians such as ARMS or life support.

Support Tasks: A PLANNING function for **long term** issues; these functions can be picked up for short periods by group or wing entities.

Flight Commander: In the LPM, he is essentially a *career area manager*, managing a like set of personnel/qualifications (labor pools).

Down-Shifting: In a matrix organization, the act of placing a crewmember with a lesser aircrew qualification in a *task*-billet assigned to a high qualification. For example, a co-pilot is assigned as chief of exercises, a billet listed as requiring an aircraft commander. Denotes a unit short of required qualifications.

Up-Shifting: In a matrix organization, the act of placing a crewmember with a higher aircrew qualification in a *task*-billet assigned to a lower qualification. For example, an instructor pilot is assigned an assistant flight commander, a billet listed as requiring a co-pilot. Denotes a unit in excess of required qualifications.

UTC spreads: In a matrix organization it's the act of spreading your labor pools laterally to create depth. These spreads prevent task directorates from being inadvertently emptied during normal deployment rotations.

Personnel-oriented structure: A structure which stresses division based on rank, leadership (such as advancement opportunities), or crew position.

Task-oriented structure: A structure which centers around directorates based on AFI-specified disciplines. May mirror Numbered Air Force and Major Command structures.

Mission-oriented structure: A structure which focuses on deployment structures, such as UTCs.

Matrix structure: A structure which uses combinations of the other structures.

3:1 Rule: Uses a three-flight system, with one in pre-deployment spin-up, one deployed, and one in reconstitution at any given time; used extensively in HH-60G squadrons.

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