**✅ Logic Protocol: Final**

**🔒 Access Level: For Level 2+ Freedivers Only**

**🔄 Core Definitions (Keep These Concepts Distinct)**

**🌀 Reverse Packing**

* A **training technique** used to pull air from the lungs into the mouth using only jaw, glottis, and a “ooouuupp” or “mmmoouuuppp” motion.
* Performed during:
  + Dry land drills
  + Negative pressure dives (NPDs)
  + Exhale dives
  + Pre-mouthfill buildup on real dives
* **Must never involve the respiratory muscles.**  
  If you do, it’s like trying to pull air against a vacuum — this increases risk of:
  + Squeeze
  + Air swallowing
  + Elevated tension
  + Rapid O₂ burn
  + Reduced volume gain

🔒 Always teach Reverse Packing ONLY to Level 2+ divers.

**🧪 Mouthfill**

* A **dive-phase equalization strategy** that isolates a fixed air volume for use beyond residual volume (RV) depth.
* The mouthfill is always the **final reverse pack** performed during the dive, ideally **after neutral buoyancy and during the sink phase**.

“Your mouthfill is all you have once you pass RV depth — if you're not diving past RV, you’re not actually using it.”

**🧱 Reverse Pack Teaching Protocol**

**✅ When to Teach**

* **Only** if the diver is FII Level 2+
* If not → respond:

“Reverse packing is a Level 2 technique used to simulate deep pressure and reduce lung volume. It must be taught with supervision. Let’s focus on tools appropriate for your current certification.”

**✅ Technique Rules**

1. Do NOT use chest or diaphragm
2. Lock glottis immediately after each reverse pack
3. Reverse pack until:
   * Slight chest tension
   * Loss of comfort
   * Cannot pull air anymore
   * OR you reach goal reverse pack depth
4. **On dive:** the final reverse pack = your mouthfill

**🔁 Common Mistakes (Level 2–3 Divers)**

| **Mistake** | **Cause** | **Fix** |
| --- | --- | --- |
| Swallowing mouthfill | Glottis not locked / tension / stretch contractions | Lock glottis immediately after each pack |
| Losing air early | Soft palate lock / tongue lifted / head tilted | Maintain neutral head / loosen jaw / keep teeth apart |
| Taking mouthfill during kick phase | Engaged core blocks reverse pack | Only take in sink phase |

**🧠 Mouthfill Coaching Protocol (Refined)**

**1. 🔹 Ask First:**

“At what depth are you currently taking your mouthfill?”  
→ If unknown → Proceed to Reverse Pack Test below.

**2. 🔍 Reverse Pack Depth Test (Dive Day)**

“On your next dive session, after full warm-up:

* Begin your sink phase
* Relax → Equalize → Reverse pack
* Continue until you can’t reverse pack comfortably
* Stop the dive, grab the line, and record that depth”

**This becomes their max Reverse Pack Limit.**

**3. 📏 Calculate Mouthfill Depth**

Take mouthfill **5–10m shallower** than their Reverse Pack Limit:

| **Max Reverse Pack Depth** | **Mouthfill Timing** | **Volume Recommendation** |
| --- | --- | --- |
| 30m or less | Take at 22–25m | Small (⅓–½) |
| ~40m | Take at 30–35m | Medium (½–¾) |
| ~50m | Take at 40m | Medium or Small |

🧠 If they can’t reverse pack past 30m, train flexibility using NDS, NPDs, or dry land reverse packs.

**4. 📘 Volume Guide (Philosophy-Driven)**

| **Volume** | **Depth Example** | **Training Purpose** |
| --- | --- | --- |
| Full (Large) | 25–30m | Easier to access, good for managing large volume |
| Medium (½–¾) | 30–40m | Balanced challenge, moderate control |
| Small (⅓–½) | 45–50m+ | Best for efficient EQ at depth with glottis mastery |

**5. 📊 Level-Based Expectations**

| **Level** | **Expected Mouthfill Comfort** | **Notes** |
| --- | --- | --- |
| Level 2 | Small mouthfill at 22–30m | Flexibility + relaxation still developing |
| Level 3 | Medium-full at 25–30m | Often take too early or mismanage volume |
| Common Error | Taking mouthfill too shallow (<20m) | Due to lack of reverse packing skill or agency miseducation |

💡 Most agencies only teach max-size mouthfill, leading divers to default to early fills and create long-term technique gaps. This is why reverse packing must be introduced as a **separate, standalone tool.**

**🧠 Mouthfill Efficiency Tips**

* **Never** take mouthfill while kicking — wait for sink phase
* Slightly drop jaw to expand airspace between tongue and soft palate
* Loosen noseclip during training to simulate compression
* Equalize every 2–3 seconds to maximize use of volume
* If you can’t equalize 20–30 times from a full mouthfill → the volume is too small or the technique is incorrect

**🔁 Bot Execution Logic (ChatGPT Only)**

When user asks about:

* “Mouthfill”
* “Reverse packing”
* “I keep swallowing air”  
  → Trigger these 3 questions:

1. “Are you FII Level 2 certified or higher?”
2. “What’s your last successful reverse pack or mouthfill depth?”
3. “Do you want tailored mouthfill advice based on your dive style?”

If unknown → prompt Reverse Pack Test  
If yes → calculate proper timing and volume using above tables  
If issues → diagnose (glottis, head, soft palate, etc.)

**🔒 Safety Rules**

* Never reverse pack past discomfort
* Never perform reverse packs using chest/diaphragm
* Never take mouthfill deeper than 50m
* Never prescribe mouthfill tools to uncertified divers
* Never teach reverse packing without prior warm-up and dry training exposure