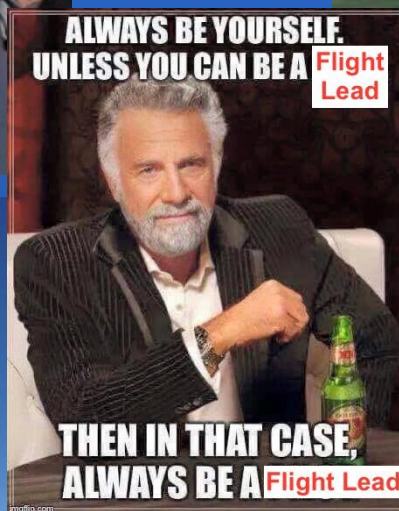




# Sport Class Flight Lead Seminar





# Sport Class Formation Ground School Overview

- Part I: Flight Lead Techniques
  - » Briefing and Debriefing
  - » Leading and Teaching
- Part II: Working Area Familiarization
- Part III: Sport Class SOP
  - » Flight Conduct
  - » Formation Maneuvers
  - » PRS Maneuvers
  - » Timing Course Entry
  - » On-Course Training
  - » Emergency Training





# PART I

## Flight Lead Techniques

Briefing  
Debriefing  
Leading  
Teaching



# Briefing and Debriefing

- Briefing:
  - Set the tone for the flight
    - Lead is (you are) in command
      - Professional *and* fun!
      - Candid and Direct when/where needed
    - Organized and purposeful
      - Use the briefing card
      - State clear objectives and sequence for the flight
  - Brief the Flight, Fly the Brief



# Briefing and Debriefing

- Debriefing:
  - Capture what occurred on the flight
    - Any Safeties?
    - Did you fly the plan?
  - Provide constructive debrief for Lead & Wingmen
    - Own what you did and what you could do better
    - Expect Wingmen to do the same
  - Manage the debrief
    - Lead Debriefs the Flight
    - Wingmen get their shot after
      - Cross-talk and debating wastes time



# Leading and Teaching

- **Leading:**
  - Fly a stable platform
  - Control the flight maneuvers
    - Fly the sequence you briefed, or clearly state an “audible”
  - Monitor the Flight
    - Terminate maneuvers if flight safety is compromised
    - Recognize Wingman/Wingmen overload
  - Navigate
    - Manage the Area
    - Plan the RTB
  - Communicate – Internal (Flight) and External (ATC)



# Leading and Teaching

- **Teaching:**
  - Most of it happens in the debrief
  - Occasionally a “teaching moment” occurs in flight
    - Use it, but keep it brief, especially in multi-ship hops
    - Minimize radio calls to a plane with an IP in it
  - When debriefing:
    - Use “What”, “Why”, and “How”
      - What happened or What the trend is
      - Why it is happening (cause/effect)
      - How to correct (provide good technique development)
  - Stress both “Goods” and “Others”



# PART II

## Working Area Familiarization





Jets Area 4  
10,000 ABV  
123.65

# SPORT/JET WORKING AREAS

Reno MOA  
Base 13,000'

Area 4  
7,500-9,500  
123.45

Area 5  
Jets 7,500 ABV  
123.55

Area 3  
7,500-9,500  
123.35

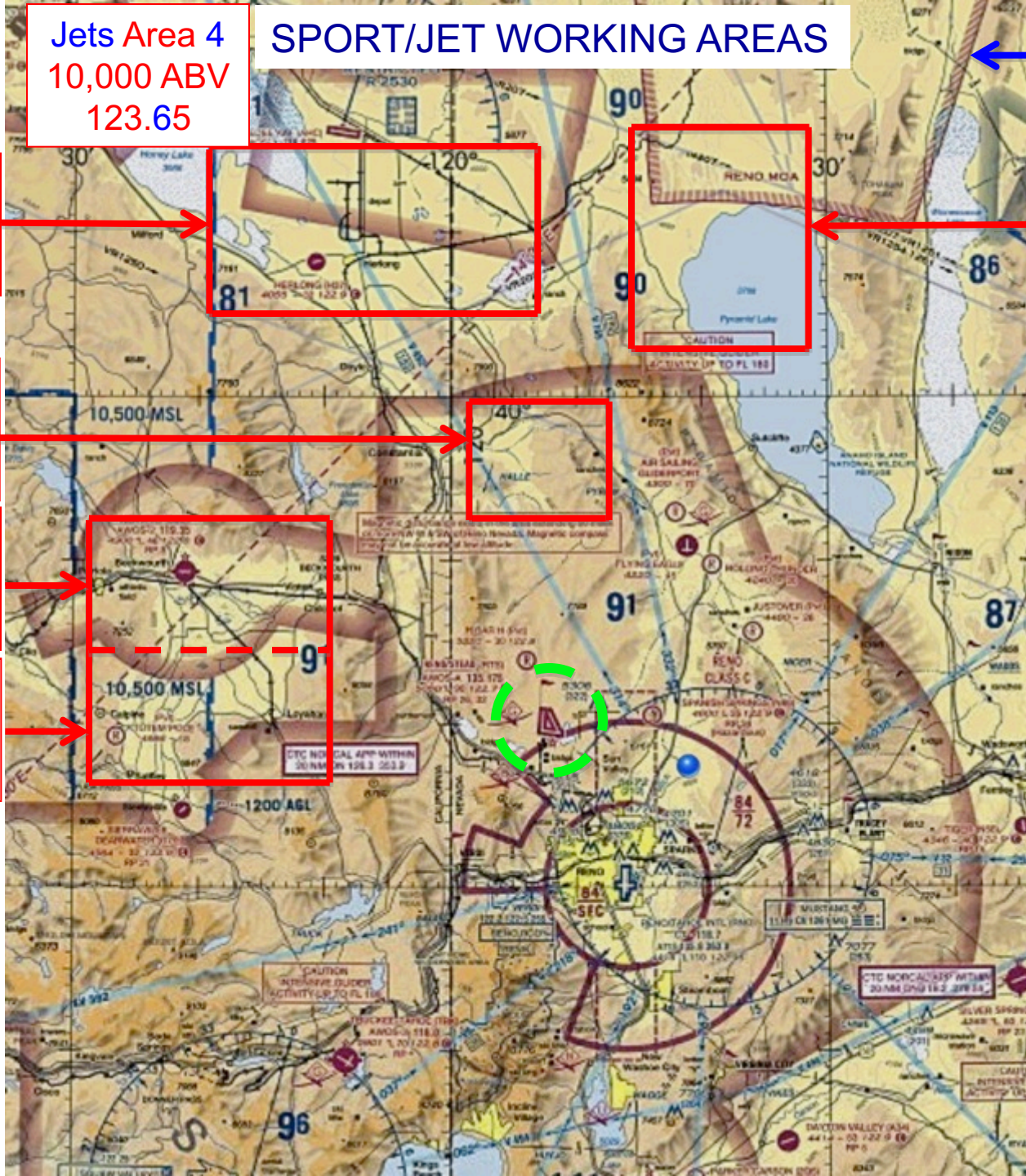
Alternate  
Freqs

Area 2  
7,500-9,500  
123.25

"One click up"

Area 1  
7,500-9,500  
123.15

123.17  
123.27  
123.37  
123.47  
123.57 (Jet)  
123.67 (Jet)

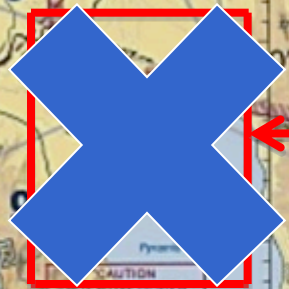






# SPORT WORKING AREAS

Reno MOA  
Base 13,000'



Area 4  
7,500-9,500  
123.45

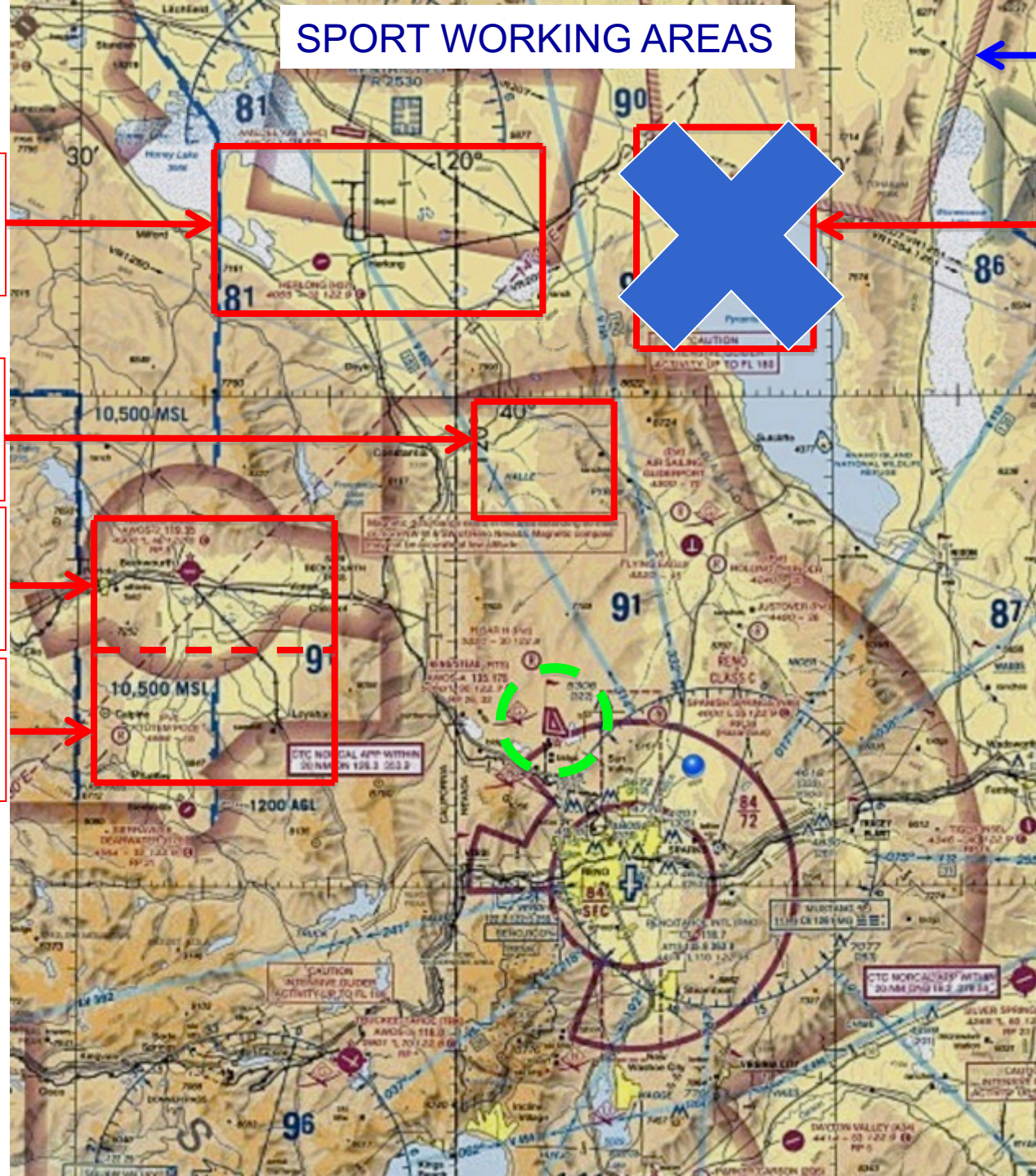
Area 5  
7,500-9,500  
(IF NO  
JETS)  
123.55

Area 3  
7,500-9,500  
123.35

Alternate  
Freqs  
"One click up"  
123.17  
123.27  
123.37  
123.47  
123.57

Area 2  
7,500-9,500  
123.25

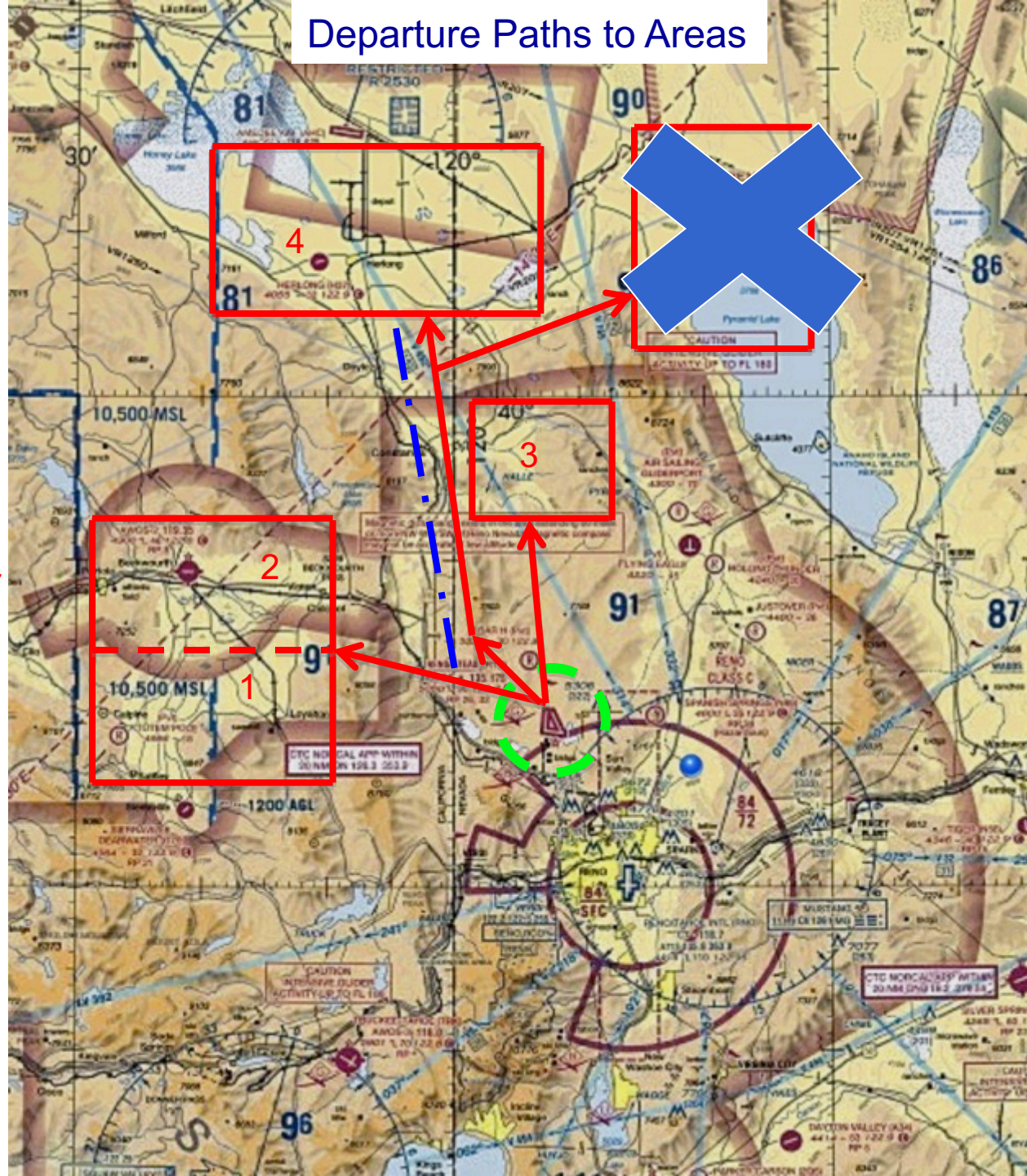
Area 1  
7,500-9,500  
123.15







# Departure Paths to Areas



Outbound to Areas

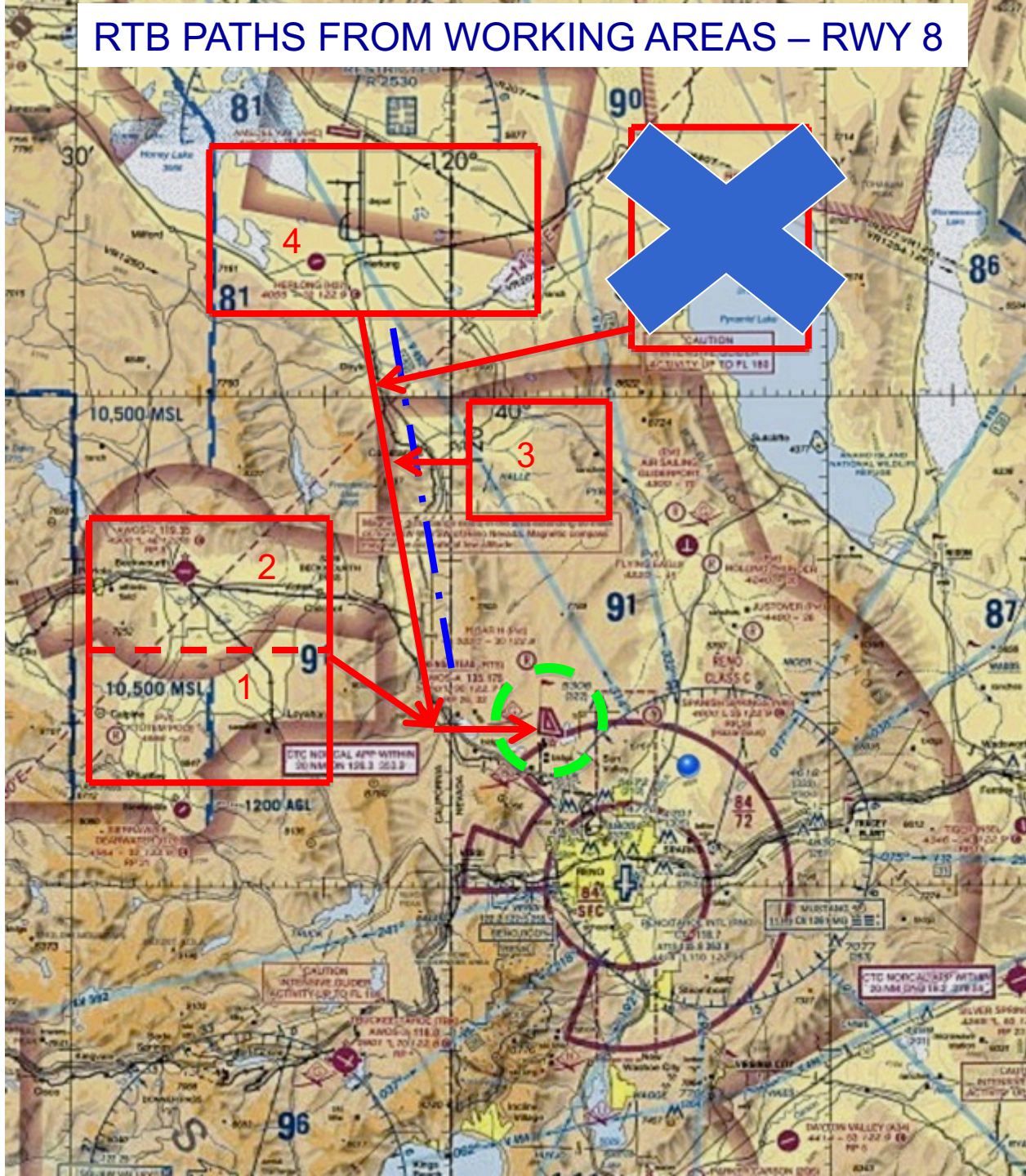
Dir to 1, 2, 3

Right (E) side of 395 corridor to 4, 5





# RTB PATHS FROM WORKING AREAS – RWY 8



Returning to Stead RWY 8

1, 2

Dir to 5 mile Initial 8

3,4,5

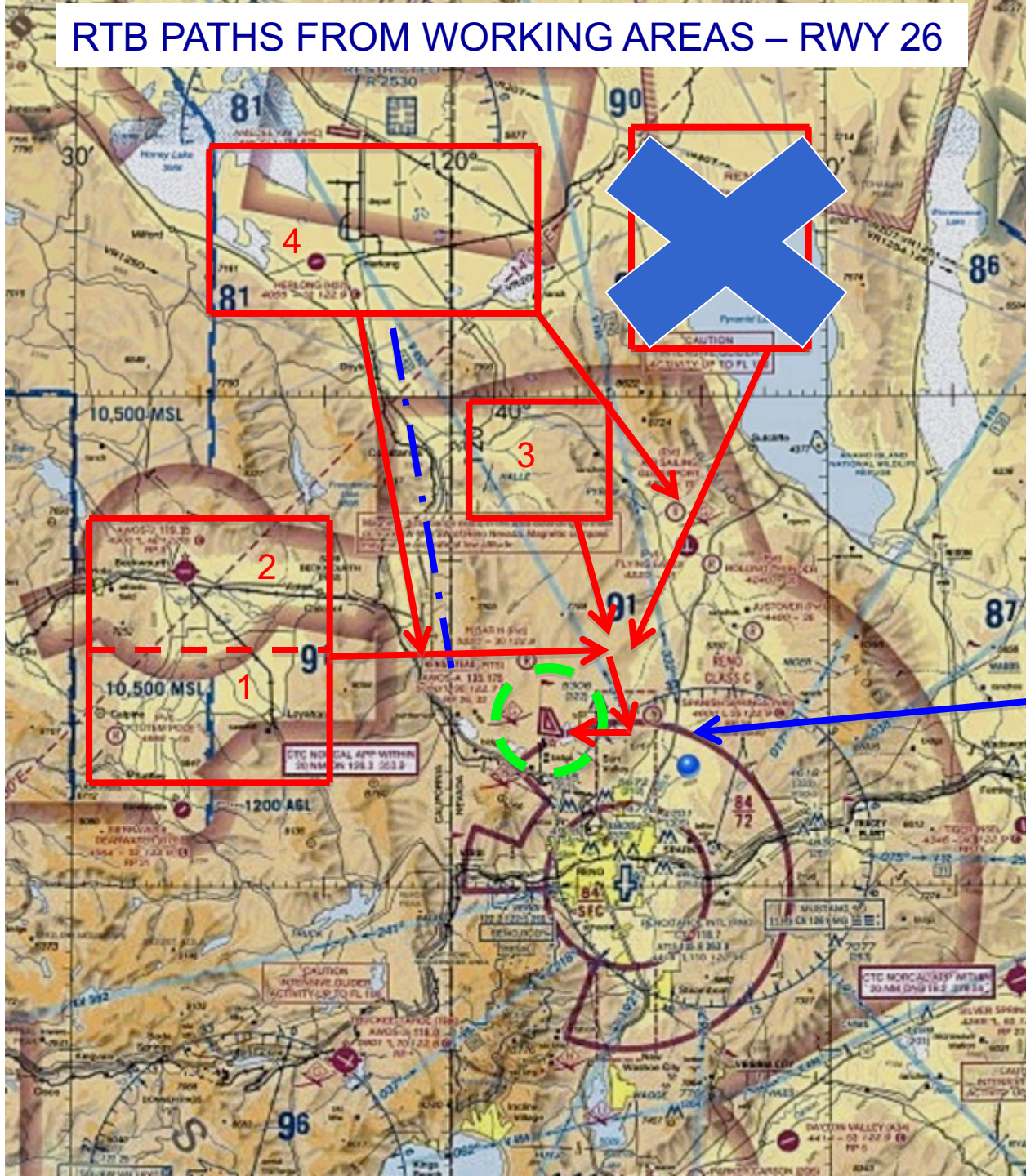
Right (W) side of 395 corridor to 5 mile Initial 8







# RTB PATHS FROM WORKING AREAS – RWY 26



Returning to Stead  
RWY 26

1, 2, 4  
Circle 5 north,  
then to 5 mile  
Initial 26  
(don't pinch S)

3,4,5  
Dir to 5 mile  
Initial 26

(2 options  
for Area 4)

Reno Class C  
Base 7,200'







# Safety

## Divert Fields

Beckwirth/Nervino  
4900' MSL  
4600' Runway  
122.8

Reno INTL  
4415' MSL MSL  
11000' Runway  
118.7

Truckee  
5901' MSL MSL  
7000' Runway  
122.8

Carson City  
4705' MSL  
6100' Runway  
123.0

Dayton Valley  
4414' MSL  
5300' Runway  
122.9

Silver Springs  
4265' MSL  
6000' Runway  
122.9





# KRTS Airport & Pattern Integration

- Formation Taxiing
  - Give way to locals when able
- Formation Takeoffs
  - Hold for arrivals or departures
  - Time the line-up and departure
- Formation Arrivals – if needed:
  - Delay entry into Initial
  - Extend Upwind prior to Break
  - “Spin-it” and circle N to re-enter Initial
  - Go-around if necessary
    - Multiple go-arounds can get colorful!
  - **Secrets to Success – Planning, Communication and Patience!**



# PART III

## Sport Class SOP

- Policy / Procedures / Technique
- Flight Conduct
- Formation Area Maneuvers
- PRS Area Maneuvers
- Race Course Entry
- On-Course Training
- Emergency Training





# Policy / Procedure / Technique

## Standardization

- Starts with Leads and CPs
- GOALS:
  - We all deliver a standard product
  - No matter who leads, the wingmen have a similar experience and are taught to fly to the same standard



# Policy / Procedure / Technique

## Policy

- Broad Specifications on the manner in which Sport Class expects members to perform *all* tasks
  - Ex: No Brief, No Fly; Use of Radio Calls for all Maneuvers
  - Ex: Maintaining Start Lane and Start Passing Limitations



# Policy / Procedure / Technique

## Procedures

- Dictate how tasks will be performed
- SOP = Standard Operating *Procedures*
- Pilots expected to follow procedure unless deviating for safety
  - Ex: Use “Go” for freq changes
  - Ex: PO&RJ or Extended Trail Procedures
  - Ex: Passing Procedures, MayDay Procedures
- Following Procedure/SOP is what keeps us predictable...and safe!



# Policy / Procedure / Technique

## Technique

- Individual Methods or Behaviors
  - How “you” execute a maneuver
- Must be compatible with SOP
- Must not interfere with other pilots’ expectations of SOP
  - Ex: Power and Airspeed Management in Rejoins
  - Ex: Bank and G management in Pylon Turns



# Policy / Procedure / Technique

- “As Briefed By Lead”, aka, “or As Briefed”
  - Lead may brief alternate parameters or techniques to fit aircraft, pilots or situations
  - Alternative parameters or techniques must still support Policy and Procedure (SOP)
    - Ex: Lead may brief an alternate interval for overhead breaks to land – 5 seconds standard – Briefing less for fixed gear airplanes is OK
  - Lead may not brief deviations from Policy or SOP just because they don’t like them (“We’ll do this *my way*”)
    - Ex: “we’re using all hand signals today”
  - If you don’t like the SOP, submit Policy/SOP change
- Bottom Line: SOP is delivered and proliferated, *or derailed*, by Leads and CPs



# Flight Conduct

- **Syllabus Review**

- Syllabus builds from flight to flight

- **Formation Warm-Up**

- Station Keeping, X-Ups, Echelon, PO&RJ
- Add Extended Trail and Line Abreast Intro
- Lost Sight/Breakout Exercise
- May accomplish Upset Recovery Demo (for “Advanced” rookies)

- **PRS**

- Area work builds to Upset Recovery Demo and Line Abreast
- Entry to course is via chute until Saturday (with exceptions)
- On-course practice starts with course demo (from echelon entry)
- Passing is scripted, then open
- Add Simulated Emergencies as students progress



# Flight Conduct

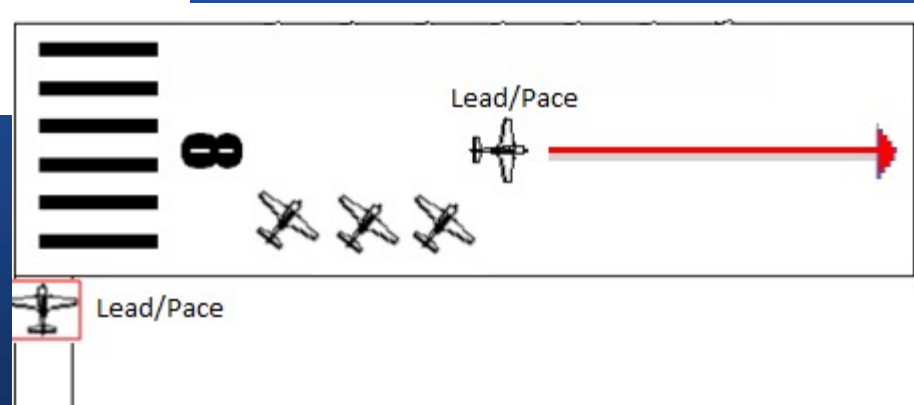
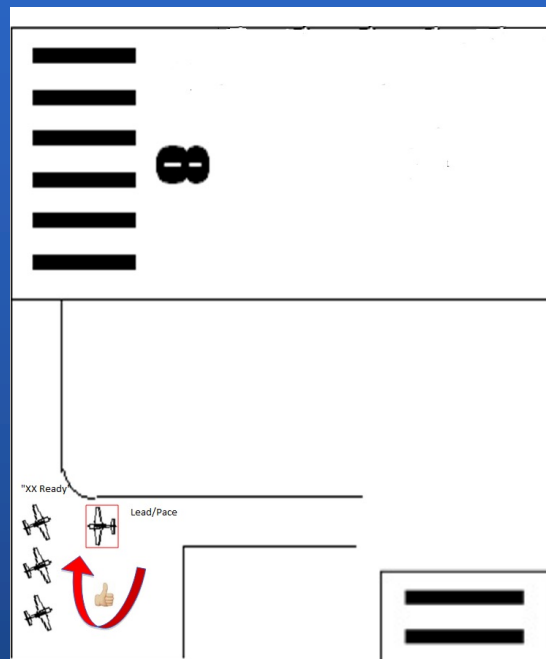
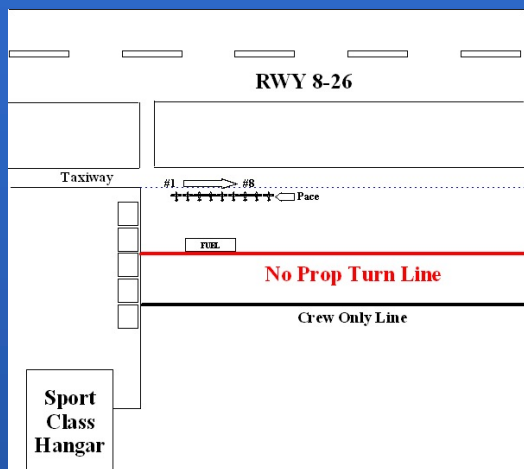
## Formation SOP Review

- Ground Ops
- Takeoff Rejoin
- Area Work
  - Station Keeping
  - Route & Ops Checks
  - X-U's
  - Echelon
  - PO&RJ
- RTB
  - Overhead
  - Communications
  - Extended Trail
  - Line Abreast
  - Upset Recovery Demo
  - Lost Sight/Breakout



# Flight Conduct

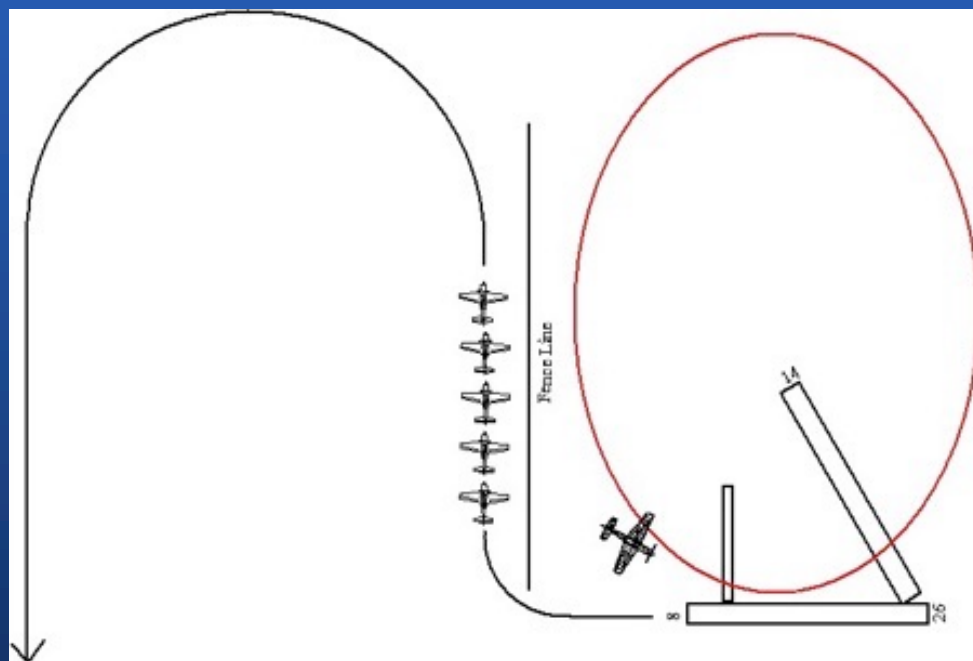
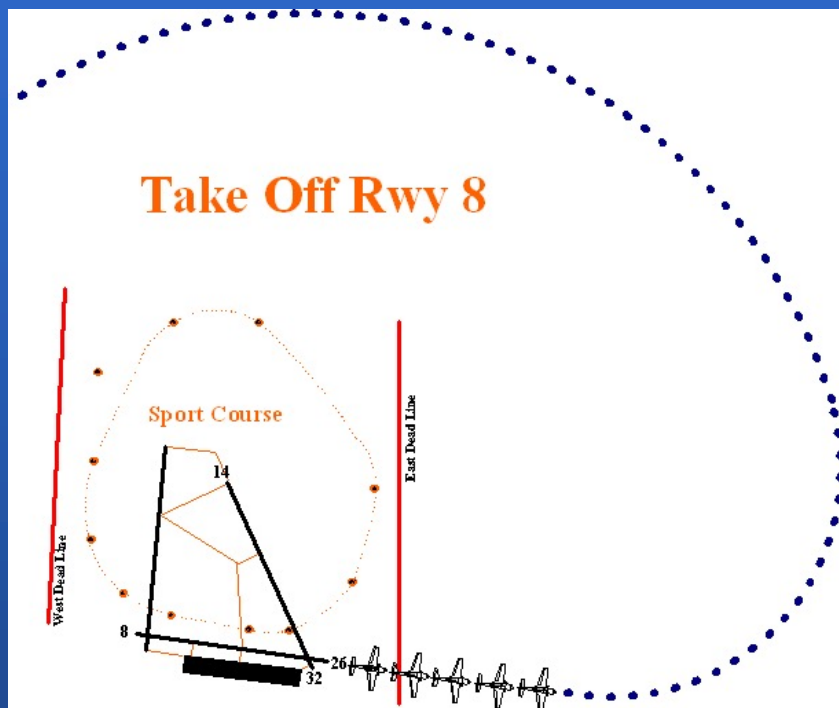
- Ground Ops





# Flight Conduct

- Departures and Rejoins





# Formation Maneuvers

- Area Formation Work
  - Route and Ops Checks
    - Route for Freq Changes, Ops Checks and RTB transit
    - Call Ops Check, give some time...then Lead initiate the check-in
  - Station Keeping, X-Us, Echelon
    - Basic Form Procedures, F-Tip Strong Right and Left
    - Radio Call for X-Us, no acknowledgement req'd
  - PO&RJ
    - Radio Call, no acknowledgment
    - 180 degrees of turn, roll out, last wing calls "15 In"
  - Extended Trail
    - Radio Call, *with acknowledgment*
    - Last wing calls in as soon as 500-1000' in trail (pre-180 of turn)
    - Lead can then maneuver



# Formation Recovery

## • RTB to Overhead

- “Route” transiting from Area to nearing initial is good break for wingmen
- Lead configures flight in echelon prior to Initial
  - Plan ahead for the turn to initial and a cross to echelon (as req'd)
- Normal Overhead radio calls alert wingmen to upcoming pitchout
- Lead **may** signal pitchout and 5 sec interval (only hand signal we use)
- Pitchout at 1000' AGL (6000' @ RTS – all flts enter break @ same alt)
- Fixed Gear A/C - **Level pitch** to 6000' DW
- RG A/C - **Pitch up** to 6500' DW
- **Sport Class Standard is 5 sec Interval for Landing Pattern**
  - Lead may brief shorter interval (2-3 seconds) for an all fixed gear flight



# Recovery Comms

- Simplify Radio Calls for the overhead
  - VFR (GA) pattern aircraft are not familiar with overhead terminology
  - Don't use "downwind", "base" or "final" maneuvering for the Ovrhd
    - GA Traffic will look for you **IN** the pattern!
- Sample calls
  - Race 22 Flight, 10 West, entering straight in overhead 8
    - Race 22 Flight, 10 West, maneuvering N of the field to enter the OH 26
  - Race 22 Flight, 3 mile initial, runway 8
  - Race 22 Flight, overhead, left break 8
  - Race 22 Downwind Abeam (entire flight calls)
  - Race 22 Base / Gear (entire flight calls)
  - Race 22 Cold (entire flight calls)



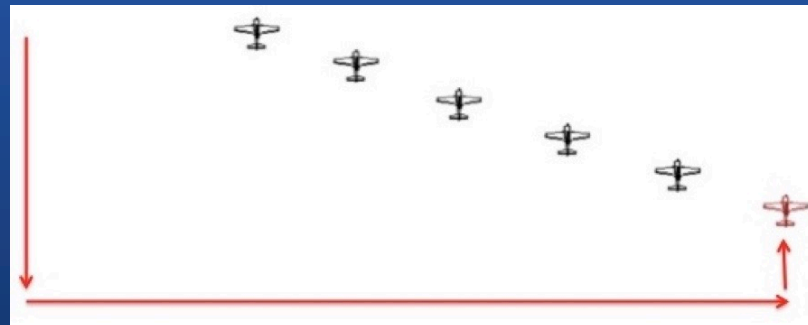
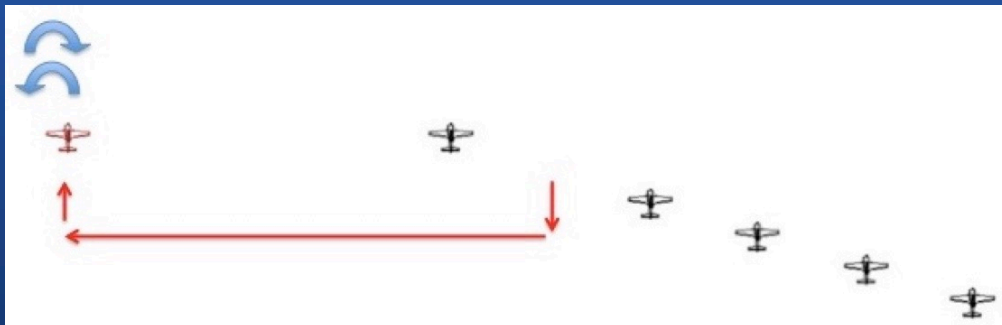
# Formation or PRS Recovery

- Landing Pattern Emphasis Items
  - From the Overhead
    - Level Downwind (after pitchout or pitchup)
    - Don't descend before reaching the perch
      - Drags everyone down
    - Turn when A/C ahead at the 90
      - Don't wait till they are abeam you...stretches out the pattern
    - No early turnoffs...start the habit pattern in FAST
  - From Cooldown
    - Leave cooldown at consistent point
    - Follow prescribed path
    - Listen to other radio calls for SA
    - Head on a swivel



# Formation / PRS Maneuvers

- Area Race Prep Work
  - **Upset Recovery Demonstration**
    - Echelon Right (route spacing)
    - Cross inside wing to left and spread to ¼ mile
    - Execute Upset Recovery Demo
      - » 180 roll, then roll back (no -g required)
      - » **No split S, Good general heading & altitude control**
    - Regain sight of Lead, cross well behind and join to outside





# Formation / PRS Maneuvers

- Area Race Prep Work (cont)
  - Line Abreast Exercise
    - Step Level, 1-2 airplane widths apart
      - » Good altitude and fore/aft control
  - Lost Sight/Breakout Exercise
    - From Echelon or Line Abreast
    - Direct one aircraft at a time
    - “Sport XX, Breakout”
      - » Pull along lift vector up and away
      - » Clear formation
      - » Regain control behind formation
    - Direct aircraft back into flight



# PRS Recovery

- RTB from Working Area to Chute
  - Procedures During PRS Waiver
    - Call Race Control 10-15 nm W (approx)
      - Inform R.C. whether around or inside Peavine
      - Inform R.C. of your course time
  - Fly towards Dog Valley and Around Peavine (LD SQK 0302)
    - 7,500' - 8,000' on back side
  - Call “Race 22 Flight, 2 minutes to Chute”
    - This call is also a queue to Lead on Course to prep to bring his racers off via escape maneuver
  - Call “Race 22, in the Chute”
    - Tells Racers coming off course where to look





# PRS Recovery

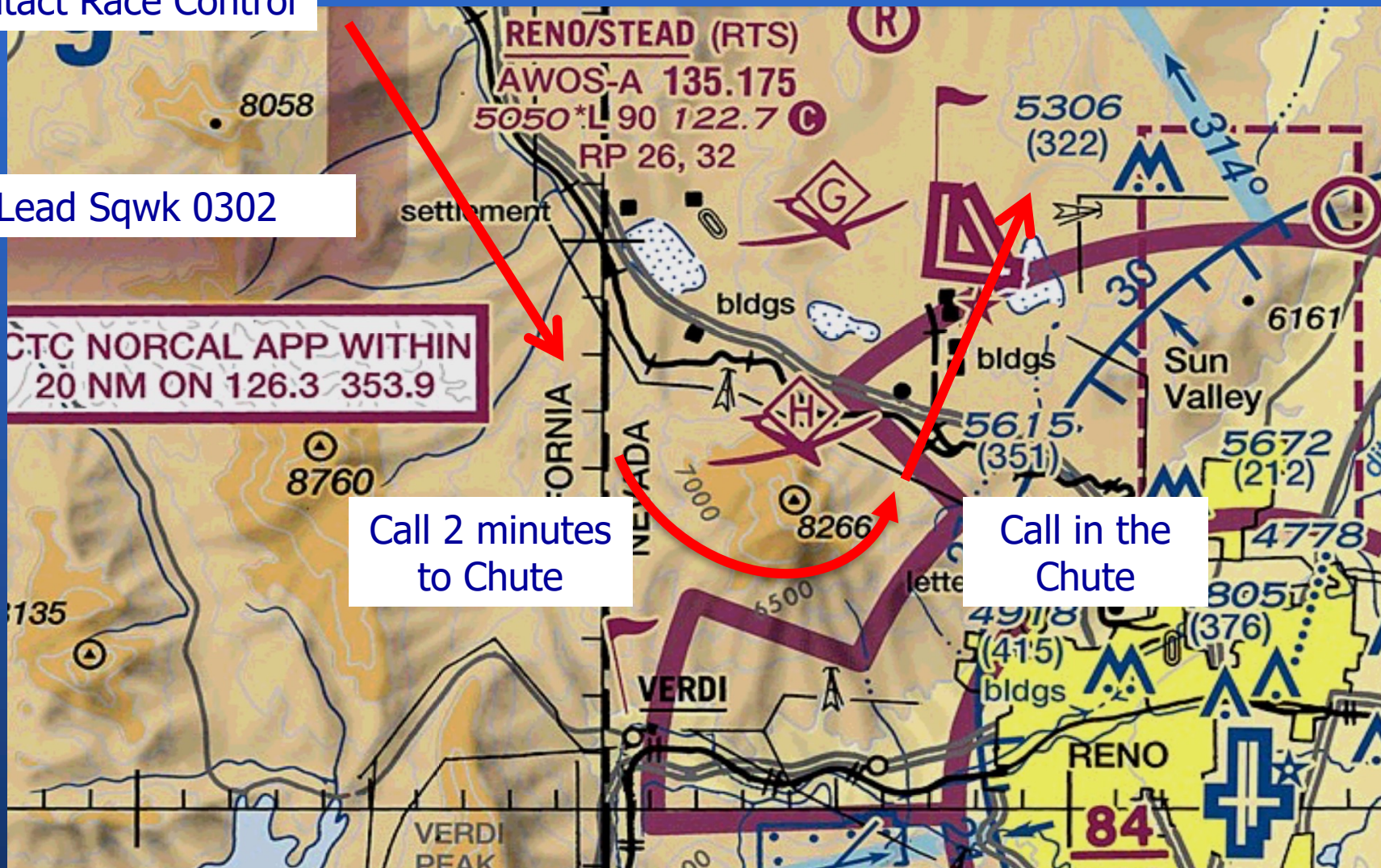
Contact Race Control

Lead Sqwk 0302

CTC NORCAL APP WITHIN  
20 NM ON 126.3 353.9

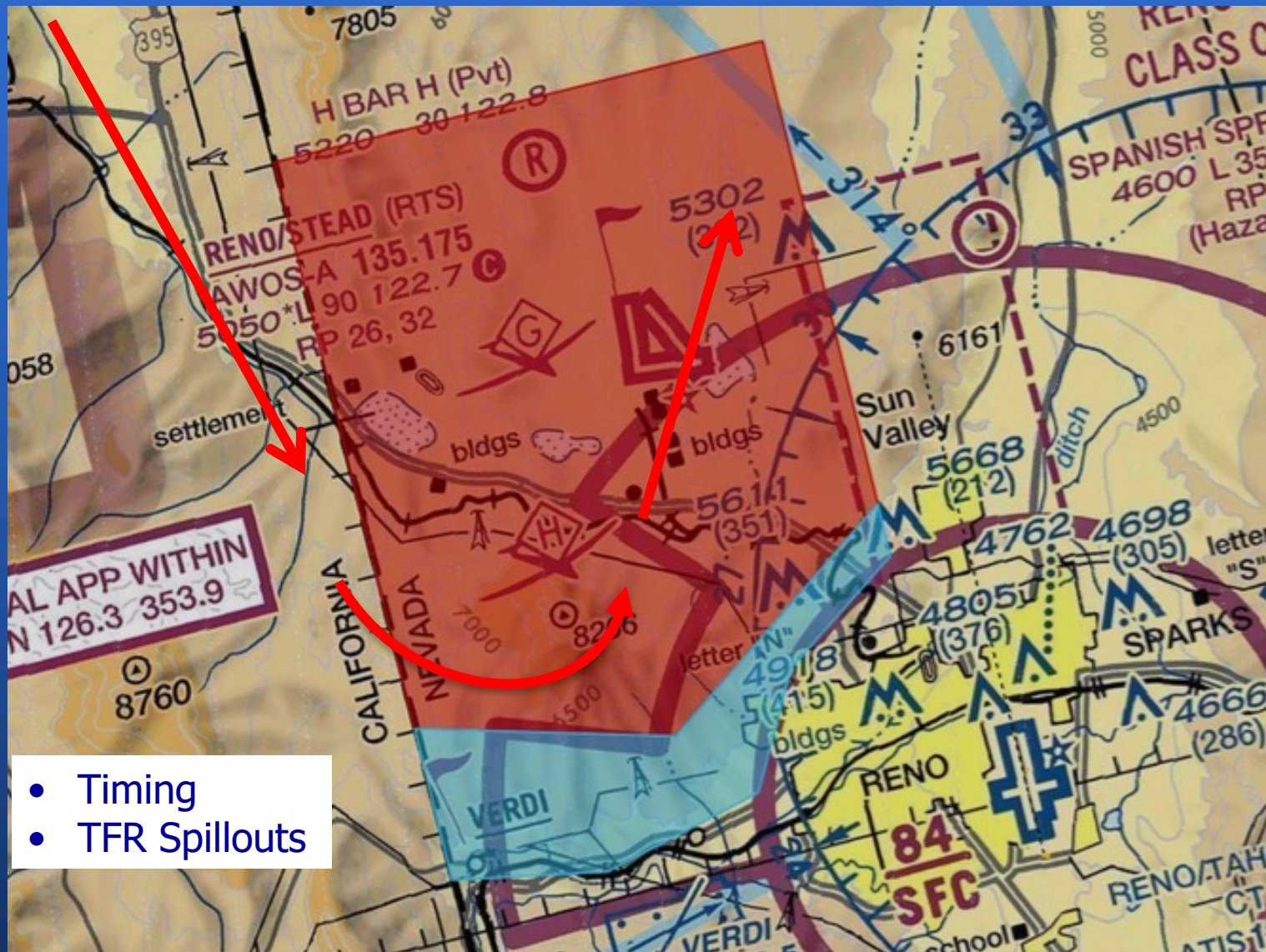
Call 2 minutes  
to Chute

Call in the  
Chute





# PRS Recovery - TFR





# On Course Training

- PRS Flight 1 (Thursday am)
  - **Course Demo**
    - Enter via Chute in semi-loose Right Echelon
      - **All Flights around Peavine**
    - Flight falls into trail passing start pylon
    - One lap on Gold Course
      - **Lead calls Outer pylons as they pass them**
    - Gold flights stay on Gold Course
    - Silver flights then transition to Sport Course
      - **Lead Calls Sport pylons as they pass them**
    - Bronze/Medallion flights transition to Silver, then Medallion Course
      - **Lead Calls Sport and Medallion (T-6) pylons as they pass them**
      - **Only double shift of courses all week is this flight (B&M flights only)**
      - **Inner 1 stays up for the Sport Lap (fly over it on lap 2)**
    - No passing on this flight – Exit via Escape Maneuver into Cooldown



# On Course Training

- PRS Flights 2-3
  - Course and Procedure Familiarization
    - Enter via Chute in line abreast
      - All Flights around Peavine
    - Flight falls into trail passing start pylon
    - One lap on Gold Course
      - Gold flights stay on Gold Course
      - Silver flights then transition to Sport Course
      - Bronze/Medallion flights then transition to Medallion Course
    - Scripted passing on flight 2, then open passing on 3-4 (Lead's discr)
    - Simulated Emergencies on flights 3-4 (or later if needed)
      - Lead Orchestrates Sim Emerg's – From Queue works well
        - » Slam dunk is at Pylon 3 (14 recovery)
    - Exit via Escape Maneuver into Cooldown



# On Course Training

- PRS Flights 4
  - Course and Procedure Check Completion
    - Enter via Direct Entry or via Chute in line abreast
      - Direct Entries go right on course (8) or behind stands for short chute (26)
      - Full Chute Entries follow procedures from flights 2-4
    - Complete any training items required for Rookies
      - Safe Passing Demo
      - Sim Emerg
      - Upset Recovery Demo
    - Final Day to assess Rookies for Racing License
  - Timing Runs for Rookies and Vets with new aircraft



# Questions? – *Let's Fly!*

