IFR Communication Procedure

- I. IFR Flight Plan and Tower En-route Clearance
 - A) Types of Flight Plan
 - 1) IFR Flight Plans File through FSS, requires center assistance and/or approach control facilities for all IFR Flight Plans, including Tower En-route.
 - 2) Tower En-route Clearance for tower to tower or local flight. Approach is involved, but not the center. File with Ground or Clearance Delivery or FSS. Used in conjunction with adjacent approach controls to eliminate use of center airspace. Limited to facilities which have an agreement with each other. Otherwise, file all IFR Flight Plans with FSS.

II. IFR Clearance

- A) Format of an IFR Clearance
 - 1) Format
 - C Clearance limit
 - R Route
 - A Altitude
 - F Departure Frequency
 - T Transponder Squawk
 - 2) Explanation
 - C Usually to an airport
 - R First gives a heading Either:
 - a) Fly Runway heading
 - b) Turn left
 - c) Turn right

Then either "radar vectors" or "direct" to the next airway or fix (VOR or Intersection). This will continue to the last fix then "direct" or "as filed".

- A Always "climb (descend) and maintain" or "maintain xxx feet", will be followed by "Expect xxx feet xx minutes after departure".
- F Check approach frequency with sectional chart or approach plate.
- T Transponder code (xxxx)
- B) Short Hand for Clearance
 - C SCK A/P
 - R TL 290, RV SJC, V334 SUNOL V195 ECA D
 - A CM 30 50/10
 - F 121.3
 - T 7500
 - or...

C SCK

R L 290 RV SJC V334 SUNOL V195 ECA ->

A 3000 5000/5

F 121.3

T 7500

C) Receiving an IFR Clearance

1) Through Ground Control

Pilot: RHV GroundCessna 737TX at Discovery AirTaxi with Charlie IFR to Stockton, Pre-filed (FSS filed to Stockton)

Ground:Cessna 737TX, RHV GroundTaxi to Runway 31R via Taxiway ZulClearance on request

Pilot: RHV Ground, Cessna 737TX at Discovery Air, Taxi with Romeo, Request tower en-route to Stockton, Cessna 172/G (IFR Stockton, Negative filed)

Ground: Cessna 7TX, I have your Clearance, advise when ready to copy

Pilot: 7TX. Standby.

or ...

Pilot: 7TX, I will copy Clearance at the run-up area.

2) Through Clearance Delivery

Pilot: San Jose Clearance, Cessna 737TX, 172/G IFR Stockton with Juliet

Clearance: Cessna 7TX, Clearance on request

or ...

Clearance: Cessna 7TX, Cleared to SCK A/P - SQ 1234

Clearance: Cessna 7TX, Read back correct

When ready for taxi, contact Ground 121.7

Pilot: San Jose Ground, Cessna 737TX at transient, ready to taxi

Ground: 7TX, taxi to 29 via Taxiway yankee

Note: When an airport has both Clearance Delivery and Ground control, then Clearance Delivery will control only issuance of Clearances.

3) Receiving Clearance over the phone (From Flight Service Station or from Center)

Note: At the beginning of the Clearance readout, ATC will always starts with "ATC clears" or "ATC ad-

vise" or "ATC requests".

FSS: ATC clears Cessna 737TX cleared to ABC A/P...SQ 0123. Clearance void after 2315 Zulu. Time now 2300 Zulu.

4) Some of the questions that Ground may ask:

Ground: Cessna 7TX, are you pre-filed? (Negative/Affirmative)

Ground: Cessna 7TX, say type aircraft and equipment suffix.

Pilot: Cessna 172/G.

Ground: Cessna 7TX, say your destination.

Pilot: Los Angeles International, 7TX

Ground: Cessna 7TX, when did you file?

Pilot: 2130 local, 7TX.

Ground: Cessna 7TX, what was your proposed departure time?

Pilot: 1030 local, 7TX

Pilot: Ground, ready to copy.

Ground: Cessna 737TX cleared to Stockton Airport, on departure, turn left

heading 290, Radar Vectors San Jose, V-334, SUNOL, V-195 MANTECA direct.

Climb and maintain 3000, expect 5000 5 minutes after departure, Departure

Frequency will be 121.3, Squawk 3674 (xxxx), Read back when ready.

Ground: 7TX, Standby for the read back.

Ground: 7TX, Go ahead with your read back

Ground: Cessna 7TX, Read back correct. When ready (for departure), cotact Tower on 119.8. Advise tower your IFR.

Ground: Cessna 737TX, read back correct except squawk 7600.

Ground: Cessna 737TX, read back correct except after RV SJC then V334 SUNOL. Rest of the read back was correct.

D) Examples of Clearance

- 1) Clearance received through Ground Control
 - C RHV A/P
 - R TL 120 Vectors SLI (Seal Beach) V8 V363 V186 V459 LHS (Lake Hughes) D GMN (Gorman) D AVE (Avenal) as filed.
 - A CM 20 60/10
 - F 124.65
 - T 7264

- C APC A/P (Napa)
- R TL 290 RV SABLO SGD (Scaggs Island) D
- A CM 30 50/5
- F 121.3
- T 4221
- 2) Clearance received in the air or "pop up" Clearance
 - C FUL A/P (Fullerton)
 - R via D AVE D GMN D LHS V459 SLI D
 - A DM 110
 - F You are already on this frequency
 - T You may already have a code or they may give you one.
 - C OAK A/P (Oakland)
 - R TR 290 RV ILS 27R OAK
 - A M 30
 - F 121.3
 - T 0123
 - Ground: Cessna 7TX, cleared to ABC airport. On departure, fly Runway heading, 800 feet, turn left 180,direct SNS (Salinas) Direct Alt/Freq/SQ
 - Ground: Cessna 7TX, cleared to ABC airport. On departure, turn right 290, Radar Vectors SJC (San Jose), as filed Alt/Freq/SQ
 - Ground: Cessna 7TX, cleared as filed to SAN (San Diego). Except after LAX (Los Angeles) V23 SLI V363 MZB (Mission Bay) D. Alt/Freq/SQ
 - Ground: Cessna 7TX, Cleared via V334 SUNOL V195 ECA D. Rest of Route uchanged. Alt/Freq/SQ
- E) Some possible questions to clarify Clearance
 - Pilot: Cessna 7TX, requesting full route Clearance.
 - Pilot: Cessna 7TX, would like a full read out.
 - Pilot: Cessna 7TX, say again after routing.
 - Pilot: Cessna 7TX, say again squawk (altitude, etc.)

F) VFR Restriction in IFR Flights

Note: Used to expedite your departure instead of waiting for IFR release.

In case of IFR Flight in VFR conditions (practice IFR), advise controller that you will accept a VFR Climb.

Pilot: Tower, Cessna 7TX will accept a VFR climb, IFR SCK.

or...

Pilot: Tower, Cessna 7TX will depart VFR and activate IFR flight plan with Nocal after departure.

Tower: Cessna 7TX, climb in VFR conditions until 3000. Maintain 5000., Runway 31R, cleared for takeoff.

G) Standard Instrument Departure (SID)

Note: If you do not want, or cannot comply with a SID or STAR, then write in the remark section of your flight plan "negative SID (no SID) or STAR"

or...

Advise ATC (Tower) that:

Pilot: Cessna 7TX, unable to comply with the SID climb requirements

1) Example of a SID

Ground: Cessna 7TX, cleared to Reynolds A/P, David 2 RNAV departure, Kingham transition, then as filed. Maintain 9000, expect FL410 10 minutes after departure. Freq/ SQ ... pa

III. In Flight Communications

A) Tower Communications

Pilot: RHV tower, Cessna 737TX at 31R, IFR to Stockton.

or...

Tower: RHV Tower, Cessna 7TX, 31R, ready for IFR release.

Tower: Cessna 737TX, hold short of Runway 31R, waiting for IFR release.

or...

Tower: Cessna 7TX, cross Runway 31R, hold short Runway 31L, change to (my) frequency 126.1 (contact tower on 126.1)

Tower: Nocal advises expect 5 minutes delay.

Tower: 7TX, Cessna 7TX, Runway 31R cleared for takeoff, wind 300 at 5.

Pilot: 7TX, Rolling 31R

Tower: Cessna 7TX, contact Departure, good day.

or...

Tower: Cessna 7TX, contact Nocal on 121.3. So long.

Pilot: Cessna 7TX, switching to Nocal. Good day.

or...

Pilot: 21.3, 7TX

Note: If tower forgets to switch you, then you may ask tower:

Pilot: Cessna 7TX, going to Nocal approach?(Switching to Nocal?)

B) Departure and En-route Communications

Pilot: Nocal approach, Cessna 737TX, leaving 800 climbing 3000.

or...

Pilot: Nocal approach, Cessna 737TX, leaving 1.2 for 3.0 (1200 - 3000).

Approach: Cessna 7TX, radar contact. Turn heading 270, vector for ...(route, traffic, etc.) Climb and maintain 5000.

Approach: Cessna 7TX, say altitude (leaving)

or...

Approach: Cessna 7TX, verify leaving 1600.

1) Hand offs

Note: When Approach or Center hands you off to another controller, always be ready for a new (or amended) Clearance.

Note: Also, if the frequency is very busy and you receive no reply, give the controller some time before you call again. They will call you.

Approach: Cessna 7TX, contact Nocal approach on 125.35, good day.

Pilot: 125.35, 7TX. Good day.

Pilot: Nocal approach, Cessna 7TX level at 3000 (IFR SCK).

Approach: Cessna 7TX, Nocal approach, . Turn right heading 060. Join (vectors to) V334. Resume your own navigation.

2) Vectoring and Traffic Advisory

Not: If the heading or altitude given to you from Approach is on your route of flight, they will state the reason for the vector or altitude. This will be followed by an "expect..." (return to on course or altitude).

Approach: Cessna 7TX, turn right heading 340, vector around traffic (vectors for climb, vectors for terrain, vectors for spacing). Expect vectors to (fix, airway) in 5 miles.

Approach: Cessna 7TX, traffic 12 o'clock, 3 miles, Southeast bound, Cessna 152 restricted above (below) you. Report that traffic in sight.

Approach: Cessna 7TX, turn left heading 280, when able proceed direct to SJC VOR.

Approach: Cessna 7TX, maintain 020 heading. Expect direct (to route, fix) in 5 miles. Traffic is a King Air, 10 o'clock, 2 miles at 8000.

Pilot: Cessna 7TX, traffic in sight.

Approach: Maintain visual (separation) with that traffic, cleared to direct Oakland

Approach: Cessna 7TX, turn right (left) heading 040 (fly heading 040)

or...

Approach: Cessna 7TX, turn 40 degrees left (right).

Note: Only Approach Control can use visual separation, Centers cannot.

3) Tips on Figuring out New Routing

Note: If a new Clearance or routing is received and you do not completely understand it, first try to figureit out by finding the close airways. Also keep in mind that most of the time a route Clearance alternates between victor airways and fixes (V334 SUNOL V195 ECA, etc.). Therefore, as long as you know the victor airways, the fixes are easy to figure out. (You may also find fixes by similar sounds.)

Note: Take your time to figure out a new route Clearance. Approach will usually give enough time to and an initial heading to intercept your en-route course. If they do not, then you can request an initial heading.

4) Frequency Problems

Note: If you cannot receive 125.35 for some reason, then go back to previous frequency (121.3). Always return to your previous frequency if not able to receive new frequency.

Pilot: Nocal, Cessna 7TX, unable Nocal approach on 125.35.

Approach: Cessna 7TX, try Nocal on 134.5, if unable, return to this frequency.

5) Course Vectoring

Note: When given vectors to an airway, "join" (airway) is used. When vecotrs to a radial, "intercept" is used followed by a fix (VORTAC, VOR) and radial.

Note: If you happen to be off course, Approach will usually notify you and help you get back on course.

Approach: Cessna 7TX, I show you are 2 miles off course of (North of) V334, turn left 350, rejoin V334.

Pilot: Left 350, rejoin V334, 7TX

Pilot: Approach, 7TX, any chance direct Gorman?

Approach: Cessna 7TX, turn left heading 030, vectors to intercept SJC 010 radial, then as filed.

6) Temporary Frequency Change from Approach

Note: If you want to air file your flight plan or if you want to receive an updated briefing through the FSS, Ask Approach for a temporary frequency change.

Pilot: Approach, 7TX, request switching frequency to FSS.

Pilot: Approach, 7TX, like to frequency to ourselves momentary.

Approach: Cessna 7TX, frequency change approved. Report back on this frequency.

Note: This communication will also allow you to talk to a company frequency, such as Unicom.

7) Be aware of MEA and MSA on your route

Note: If ATC issues an altitude which is lower than the MEA or MSA, the pilot should verify the altitude with ATC.

Approach: Cessna 7TX, cleared direct ECA, maintain 2000 until ECA. Cleared for VOR Runway 29R Approach.

Pilot: 7TX, I am showing an MSA of 2500 feet.

Approach: 7TX, my MVA is 2000 in your area.

Pilot: Roger, 7TX.

Note: Minimum Vectoring Altitude (MVA) provides at least 300 feet Clearance above the floor of controlled airspace and at least 3 miles horizontal distance from obstructions. Also it gives 1000 feet vertical separation anywhere, and 2000 feet over mountains.

8) Canceling IFR

Note: Pilot may cancel IFR at any time except in IMC (Instrument Meteorological Conditions) and while operating in the PCA (Positive Control Area).

Pilot: Approach, Cessna 7TX, like to cancel IFR, continue VFR to APC at 3.5 (3500).

Approach: Cessna 7TX, Cancellation received. Maintain VFR at 3.5 (3500).

9) Pop up Clearance

Note: Pop up Clearance may be requested anywhere en-route or at the final segment of Approach.

Pilot: Nocal approach, Cessna 7TX request.

Approach: Cessna 7TX, Bay. Go ahead.

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Pilot: Cessna 7TX, 172/G over CCR VOR (Concord) 2000 feet, request LDA 19R Concord withDelta.

Approach: Cessna 7TX, Squawk 7777 and ident.

Pilot: 7777, 7TX.

Approach: Cessna 7TX, radar contact, maintain 2000. Turn left 010, vectors for LDA 19R Concord.

Pilot: 010, 2.0, vectors for ILS, 7TX.

Note: Use the following phraseology to convert from VFR to IFR when using (VFR) Flight Following.

Pilot: Nocal, Cessna 7TX, request hard altitude.

Pilot: Nocal Cessna 7TX, request IFR to (destination).

Approach: Cessna 7TX, , say full call sign, type aircraft and equipment.

Pilot: Cessna 737TX, C-172/G.

Approach: Cessna 737TX, cleared to (destination) via (route), (altitude), squawk (code if not already given.)

IV. Arrival Communication

A) Initial Phase of Approach to an Airport

Approach: Cessna 7TX, descend and maintain 3000. Contact Nocal Approach on 123.85.

Pilot: Out of 5 for 3, 23.85, 7TX.

Note: Use this in order to descend to a lower altitude because of:

- i) IMC (Icing),
- ii) Earlier Descent,
- iii) Approach may forget to let you descend.

Pilot: Approach, Cessna 7TX, looking for lower.

or...

Pilot: Approach, Cessna 7TX, request lower.

Note: Before you reach the final Approach Controller, listen to the destination airport's ATIS. If you have two radios, you may be able to listen to the ATIS while still in contact with Approach Control. If you have one radio, then you may be able to pick up ATIS between hand offs.

B) Requesting Approaches

Pilot: Nocal Approach, Cessna 7TX, (with you) level 3000. Requesting multiple approaches into Stockton starting ILS with Romeo.

Pilot: Nocal Approach, Cessna 7TX, level 3, with Romeo, requesting VOR into Stockton then ILS Livermore.

Pilot: Nocal Approach, Cessna 7TX, level 3, ILS 29R Stockton, full stop with Romeo.

Pilot: Nocal Approach, Cessna 7TX, level 4. Requesting pilot nav VOR 29R Stockton with Romeo.

Pilot: Nocal Approach, Cessna 7TX, level 3 with Romeo.

Approach: Cessna 7TX, maintain 3000. Fly heading 350, vectors for ILS 29R (Final Approach Course).

Approach: Cessna 7TX, say route of flight.

Approach: Cessna 7TX, How will this approach terminate. (Low approach, Full stop, Multiple approaches)

Approach: Cessna 7TX, verify that you have information Romeo. (Negative/Affirmative)

Approach: Cessna 7TX, say type approach requested (VOR, ILS, etc.).

Note: When you are requesting multiple approaches to one airport (ILS, VOR Stockton) or multiple airports (i.e., IFR Stockton, Low Approach IFR Livermore), there will be an additional clearance. You will most likely receive this clearance before starting first approach.

Approach: Cessna 7TX, I have your clearance. Advise when ready to copy.

Note: They may just give you the clearance immediately (Be ready!)

Approach: Cessna 7TX, Upon missed approach, turn right 050, climb and maintain 2000, come back to my frequency.

Pilot: 050, 2000, back to this frequency, 7TX.

Approach: Cessna 7TX, upon missed approach, turn left 230, radar vectors, V195 TRACY direct.

Departure frequency will be 123.85.

Pilot: Left 230, V195 TRACY direct, 23.85, 7TX.

Approach: Cessna 7TX, execute published missed after completion of each approach.

Pilot: Published missed, 7TX.

C) Procedure Turns

Note: Use this to reverse direction to establish the aircraft inbound on an intermediate or final approach course. Holding pattern may be used as a procedure turn. Purpose of the procedure turn (holding pattern) is:

- a) To lose excessive altitude,
- b) Better establishment on course,
- c) Spacing with other traffic.

You should not use procedure turns when:

- a) When the approach plate says "NoPT",
- b) When you have been radar vectored,

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c) The absence of the procedure turn barb in the plan view of the approach plate.

Pilot: Approach, Cessna 7TX, request hold over ECA to lose altitude.

Approach: Cessna 7TX, , report procedure turn inbound (outbound).

Pilot: 7TX, roger.

Pilot: Approach, Cessna 7TX, procedure turn inbound.

Approach: Cessna 7TX, . Contact tower 120.3.

D) Holding

Note: The key to holding is to "Aviate, Navigate, then Communicate". Also to set the speed before you enter the holding pattern (know power setting).

1) Holding Instructions:

- a) The direction to hold from the holding fix.
- b) The name of the holding fix.
- c) The specified radial, course, magnetic bearing, airway numbers, or jet route.
- d) The length in minutes of the inbound leg or nautical miles in case of DME or RNAV equipped.
- e) The direction of the holding pattern turns (if left, right is standard).
- f) EFC (Expect Further Clearance) or EAC (Expect Approach Clearance).

Approach: Cessna 7TX, hold southeast of ECA on V195, left turns, 1 minute legs (10 mile legs), maintain 3000, EFC at 2320. Time now 2305.

E) Last Phase of Vectoring to Fix or FAC (Final Approach Course)

1) In case fo pilot (own) nav

Approach: Cessna 737TX, maintain 4000 direct ECA when able. Cleared for VOR 29R Approach.

2) In case of radar vectors

Approach: Cessna 737TX, five miles from SIMMS, turn left 320, maintain 2000 until established, cleared ILS 29R approach.

Pilot: Left 320, 2 until established, cleared for ILS 29R.

Note: The key here is to know that you are close to intercepting the FAC. No matter which approach you are shooting, do not let the needle pass by.

Approach: Cessna 7TX, cleared for the approach.

Note: When Approach Controller does not specify the approach, you may shoot any authorized instrument approach except visual and contact.

Note: If Approach gives you vectors through the FAC, they will usually give you the reason. If no reason, then ask Approach why.

Pilot: Approach, Cessna 7TX, is this a vector through the localizer.

F) Hand off from Approach to Tower

Approach: Cessna 7TX, contact Tower 120.3.

Approach: Cessna 7TX, contact Tower over the outer marker.

Pilot: Stockton Tower, Cessna 7TX, inbound ILS 29R approach.

Pilot: Stockton Tower, Cessna 7TX, outer marker (JOTLY) inbound.

Pilot: San Jose Tower, Cessna 7TX, ILS 30L inbound, low approach, VFR to RHV.

Pilot: San Jose Tower, Cessna 7TX, VOR inbound, landing assured, cancel IFR, request continue approach VFR, full stop (By saying this, you can help others who are waiting to take off IFR).

Tower: Cessna 7TX, Runway 29R, cleared for the option.

Tower: Cessna 7TX, report over the outer marker (JOTLY).

Tower: Cessna 7TX, report when field (airport) in sight.

Tower: Cessna 7TX, continue until middle marker, then side step to 30R.

Tower: Cessna 7TX, continue on Runway 9, number 2, following Cherokee on left base.

Pilot: Tower, Cessna 7TX, missed approach (on the missed).

Tower: Cessna 7TX, , contact Departure.

Pilot: Departure, Cessna 7TX on the missed, requesting VOR 29R this time (requesting another ILS).

Pilot: Departure, Cessna 7TX on the missed, IFR Livermore.

G) In case of approach into an uncontrolled airport:

Approach: Cessna 7TX, 3 from ECA, turn right 120, maintain 2000, cleared for straight in Runway 10, cancel IFR on this frequency or by phone through the FSS. Change to advisory frequency approved.

H) Contact Approach

Note: Contact approach is used to expedite IFR arrival. Pilot must request it and must have either the airport in sight or landmark associated with the airport in sight.

Pilot: Approach, Cessna 7TX, request contact approach.

Approach: Cessna 7TX, cleared for the contact approach, contact Tower on 118.1.

I) Visual Approach

Note: Assigned by ATC or requested by pilots.

Pilot: Approach, Cessna 7TX has the airport (Field) in sight. Request visual.

Approach: Cessna 7TX, cleared visual Runway 30L.