FFI EVALUATION SUPPLEMENT

February 10, 2018 Version 1

PROFICIENCY EVALUATIONS

The mission of the *FFI Formation Standards and Proficiency Program* is to provide standards for formation training and flying, a system for proficiency evaluation, and a method for monitoring currency. For those pilots who have attained and demonstrated a high level of formation competency and wish to be evaluated for an FFI card, there is a procedure in place:

• Each applicant must complete the appropriate FFI evaluation form, and submit that form to an FFI Flight Lead or Check Pilot for their recommendation for an evaluation flight. A recommendation will only be given upon a demonstration of formation competency to FFI Practical Test Standards, as outlined in the FFI Program Manual.



NOTE: All evaluation forms and completion guidelines are included at the end of this Supplement.

• Upon receipt of an evaluation recommendation, an FFI Check Pilot will conduct the evaluation using this FFI Evaluations Supplement as a guide, along with the attached forms.

NOTE: If a Check Pilot recommends an applicant, he *cannot* also conduct the evaluation.

An FFI formation card is the certificate of a successful formation competency evaluation. The card allows the holder to participate in Standard Maneuvering (non-aerobatic) formation flights during operations under a FAA Certificate of Waiver for an airshow or Aviation Event, as long as currency requirements shown in the FFI Formation Standards and Proficiency Program Manual are met. Pilots are authorized to maneuver in the flying display area to the pitch, bank angle, and altitude limits of *FAA Order 8900.1* and to momentarily project energy toward the spectator areas. Abrupt or dynamic maneuvers are not authorized.

EVALUATIONS - INFLIGHT PHASE - All evaluations are administered as a 4 ship and must include the following mission elements:

Brief Start	Lazy 8's in:	Echelon turns Pitchouts and rejoins
Formation taxi	Fingertip	Initial and 360° overhead
Formation takeoff	Diamond	Wing formation landing
Climbout	 Close trail 	Taxi-in
Route / Route turns	 Extended trail 	Shutdown
Crossunders		Debrief

Refer to the *Formation Standards and Proficiency Program Manual* for specific requirements for the above elements.

Each Wing candidate shall demonstrate Lazy 8's (a turn in each direction with climbs and descents) as both #2 and #4 in fingertip, diamond, and close trail. Extended trail need only be flown once, as either #2 or #4. At least one echelon turn must be flown as #4. Rejoins should be demonstrated in both left and right turns, as #2 and as #4. This requirement may be reduced to two (2) rejoins (one as #2, one as #4) at the Check Pilot's discretion. Return to base will be via an initial for the 360° overhead pattern to a low approach, missed approach and 2 element/section wing formation landings. The profile is completed with formation taxi-in and shutdown.

NOTE: The candidate may be qualified without a wing landing if conditions or facilities dictate.

During an evaluation, no more than 2 applicants should receive an evaluation during the same flight. However, the final decision as to the makeup of any evaluation flight is up to the discretion of the Check Pilot in concert with the Flight Lead and Wingmen within that flight.

The following are suggested guidelines for recommending Leads and Check Pilots to consider when planning the composition of an initial evaluation flight.

SINGLE WINGMAN EVALUATION

- Lead the recommending lead or his designated lead qualified alternate.
- Wingman applicant as #2 or #4. Must fly both positions during the evaluation.
- #3 should be lead qualified or a highly experienced carded wingman.*
- Carded wingman as #2 or #4.

DUAL WINGMAN EVALUATION

- Lead the recommending lead or his designated lead qualified alternate.
- One wingman applicant as #2 and one wingman applicant as #4. Each must fly both positions.
- #3 should be lead qualified or a highly experienced carded wingman.*

LEAD EVALUATION

- Lead applicant as Lead
- Recommending lead as #3. Another lead or a highly experienced carded wingman* may be substituted.
- Carded wingman as #2 and #4. (It is acceptable to consider substituting one 4-ship qualified, non-carded wingman as #2 or #4. This allows the Check Pilot to observe the Lead applicant while directing, teaching and critiquing a non-carded wingman).

LEAD PLUS WINGMAN EVALUATION

- · Lead applicant as Lead.
- Wingman applicant as #2 or #4. Must fly both positions.
- Recommending lead as #3. Another lead or a highly experienced carded wingman* may be substituted.
- Carded wingman as #2 or #4.
- * NOTE: for the purposes of evaluation flights, a *highly experienced carded wingman* is a current and qualified wingman who is capable of leading formation takeoffs and landings.

EVALUATIONS - GROUND PHASE - The Oral portion of all check rides will evaluate the applicant's knowledge of all signals, procedures, and maneuvers.

Each candidate seeking an FFI qualification must be able to demonstrate a thorough knowledge of appropriate hand and aircraft signals, as well as an understanding of formation radio discipline, check-in, frequency changes, and traffic calls. The applicant must also be able to explain the basic concepts of formation flight to include the mechanics and safety factors of fingertip, echelon, close trail, extended trail, diamond, and route formations, as well as the dynamics of cross-unders, pitchouts and rejoins, lead changes, 360° overhead patterns, formation takeoffs and landings, and all taxi procedures. The applicant must demonstrate a thorough knowledge of appropriate emergency procedures to include abort procedures, inflight emergency procedures, and emergency hand signals.

Each candidate must also demonstrate a thorough knowledge of operations within the Air Show environment while operating under a Certificate of Waiver, to include pilot and aircraft documentation requirements, briefing requirements, applicable rules and restrictions contained in *FAA Order 8900.1, Volume 3, Chapter 6*, weather requirements and considerations, Certificate of Waiver specifics to include the flying display area, show center, corner markers, the crowd line, the Category I, II, and III show lines, and Air Boss communications, both normal and emergency.

Refer to the *FFI Formation Standards and Proficiency Program Manual* and *FAA Order 8900.1, Volume 3, Chapter 6* for additional information. (See *Air Show Operations Supplement*).

SAMPLE EVALUATION PROFILE

There is no single mandatory "checkride" profile. It is up to each Lead to accomplish all of the required maneuvers during an evaluation flight.

The following is offered ONLY as an example of a profile that may be used to accomplish the required items:

- FORMATION TAXI
- FORMATION TAKEOFF 2 elements of 2
- JOIN UP In turn out of traffic in Fingertip, #2 is on the inside of the turn
- ROUTE Lead kicks flight into route for climb and area departure, frequency change, Ops check. Route turns in each direction.
- FINGERTIP Wing-rock flight back into Fingertip
- LAZY 8s in Fingertip, up to 45° of Pitch and 60° AOB, each direction, with climb and descent
- CROSS-UNDER TO ECHELON Cross either #2 or the 2nd element (#3 and #4) (if only one pilot is being evaluated, cross that A/C. If 2 pilots are being evaluated, then each should demonstrate a crossunder sometime during the flight)
- ECHELON TURN one required but often flown as 2 turns with each ~180° of turn
- PITCHOUT
- REJOIN Direction of rejoin will put #2 on opposite side
- FINGERTIP LAZY 8s
- DIAMOND Move #4 to the slot
- LAZY 8s in Diamond
- CLOSE TRAIL Porpoise flight to close trail
- LAZY 8s in Close Trail
- EXTENDED TRAIL
- LAZY 8s in Extended Trail
- REJOIN Rejoin turn opposite direction as first rejoin
- ROUTE to prepare for position change, #2 to #4, and #4 to #2.
- POSITION CHANGE Move #2 to #4 / #4 to #2. Accomplish this either with:
 - a *lead change*, #3 takes the lead, thus moving the old #4 to #2, and the old #2 to #4

OR

- a *position change* on the radio, without lead change. (One possible example: from FINGERTIP, Lead will call #2 to cross to the strong side, all the way to the outside, to form an echelon. Lead will then call #4 to cross to the weak side, again forming a fingertip, with the old #2 now at #4, and the old #4 now at #2).
- Lead will call for a check-in on the radio in new positions.
- FINGERTIP Wing-rock flight back into Fingertip
- LAZY 8s up to 45° of Pitch and 60° AOB, each direction
- CROSS-UNDER TO ECHELON Cross either #2 or the element (cross opposite as direction of crossunder anticipated on return to pattern)

- ECHELON TURN not required if going to be accomplished on turn into overhead break
- PITCHOUT AND REJOIN Direction of rejoin turn will put #2 on opposite side
- DIAMOND Move #4 to the slot
- LAZY 8s in Diamond
- CLOSE TRAIL Porpoise the flight to close trail
- LAZY 8s in Close trail
- EXTENDED TRAIL optional, not required, if already accomplished
- FINGERTIP rejoin from Extended Trail (if accomplished) OR Wing-rock into Fingertip from Close Trail
- ROUTE Lead kicks flight into route. If Lead change was used, a change back to original Lead can be accomplished here, if desired. Return to base, descend in route with turns, and frequency change
- FINGERTIP Wing-rock back to fingertip
- CROSS-UNDER TO ECHELON appropriate direction for pattern entry / overhead break
- OVERHEAD PATTERN PITCHOUT 2 second interval
- LOW APPROACH Fly to an intended point of landing, go missed, form in 2 elements on the turn to downwind
- FORMATION LANDING land as 2 elements
- TAXI BACK and SHUTDOWN both elements join and taxi back as a 4 ship

PROFILE COMPLETE

Required Paperwork for FFI Evaluations

 An applicant for Wingman or Flight Lead completes personal data in the header information on the Formation Evaluation Form. He / she also completes and signs the Hold Harmless statement (which MUST be printed on the back side of the SAME PIECE OF PAPER), and passes it to a Flight Lead or Check Pilot.

ENSURE all blocks are filled out and legible, with the entire mailing address. ENSURE the information includes the TYPE of certificate (Private, Comm, ATP, not SEL/Inst/etc

Applicant Name (as appears on Pilot Certifica	ite)	Date
Address	Email	
	Primary phone	
Pilot Certificate Type No	Medical Class	Date
Total flight time (100 hrs min)	_ Total formation time (20 hrs min)	4-ship flights (10 min)
A/C Type Emergency Contact		Phone

2. An FFI Flight Lead or FFI Check Pilot, if he believes the applicant is qualified, completes the recommendation section of the form, signs and dates.

NOTE: The same Check Pilot cannot BOTH recommend and perform the checkride unless prior approval has been received from the President.

The Applicant MUST sign the RELEASE / HOLD HARMLESS in the presence of the recommending FFI Flight Lead or FFI Check Pilot, who then signs as Witness.

RECOMMENDATION: I have observed the above pilot in formation flights,	find him/her
qualified, and recommend him/her for an FFI Wingman eva	aluation.
Recommending Flight Lead Name	FFI#
Recommending Flight Lead Signature	Date

THE RELEASE / HOLD HARMLESS FORM ON THE REVERSE SIDE MUST BE SIGNED AND WITNESSED BEFORE FLIGHT

3. The completed paperwork will be passed to the FFI Check Pilot prior to the check ride. The Check Pilot reviews the qualifications. If all requirements have not been met but the Check Pilot feels the applicant is qualified, he contacts the President to request a partial waiver, which must be approved before scheduling the evaluation.

- 4. The check pilot performs the evaluation using the appropriate section of the Practical Test Standards and Evaluation Guidelines contained in the Formation Standards and Proficiency Program Manual and fills in the appropriate areas under the EVALUATION PRACTICAL TEST STANDARDS section.
 - If the check is unsuccessful, the Check Pilot declines to sign and files the form with appropriate comments and documentation.
 - · If the check is successful, the Check Pilot completes the form, signs and dates

EVALUATION PRACTIC	AL TEST STANDARDS	(To be filled out by Check Pilot)
 1 Signals 2 Formation knowledge 3 Air Show knowledge 4 Ground Operations 5 Communications 6 Run-up 7 Formation Takeoff 	Image: Second state Image: Second state Image: Second state Image: Second state Image: Second state Image: Second state	8 Climbout / Route Image: Climbout / Route 9 Cross Unders Image: Climbout / Route 10 Pitchout and Rejoins Image: Climbout / Route 11 Echelon turns Image: Climbout / Route 12 Lazy 8 Maneuvering Image: Climbout / Route 13 Pattern / Landing Image: Climbout / Route 14 Taxi / Debriefing Image: Climbout / Route

5. The Check Pilot makes a copy for his files, and sends the completed original to the President with a check for \$35 made payable to Formation Flying, Inc.

Formation Flying, Inc. 3443 Modena Circle Las Vegas, NV 89120

Mail to:

- 6. The FFI President will review the documentation and send the applicant his FFI credentials.
- 7. See Formation Flying, Incorporated Formation Standards and Proficiency Program Manual for additional information.

Evaluation / Qualification Forms and Reports

• Evaluation / qualification forms and reports, including Wingman, Flight Lead, Check Pilot, Large Formation Flight Lead, and the Hold Harmless and Annual Activity Reports are included below:

FFI Wingman Evaluation Form

IMPORTANT! RELEASE/ HOLD HARMLESS MUST BE PRINTED ON REVERSE SIDE AND MUST BE SIGNED BEFORE FLIGHT

Applicant Name (as appears on Pilot Certificate)	Date
Address	Email
	Primary phone
Pilot Certificate Type No	Medical Class Date
Total flight time (100 hrs min) Total forma	ation time (20 hrs min) 4-ship flights (10 min)
A/C Type Emergency Contact	Phone
qualified, and record Recommending Flight Lead Name	ne above pilot in formation flights, find him/her mmend him/her for an FFI Wingman evaluation. FFI # Date
EVALUATION PRACTICAL TEST ST	ANDARDS (To be filled out by Check Pilot)
I Signals Image: Comparison of the second secon	8 Climbout / Route 9 Cross Unders 10 Pitchout and Rejoins 11 Echelon turns 12 Lazy 8 Maneuvering 13 Pattern / Landing 14 Taxi / Debriefing
SUMMARY	OF FLIGHT EVALUATION
QUALIFIED Comme CONDITIONALLY QUALIFIED CONDITIONALLY QUALIFIED Recom	ents: mendation for further training:
Check Pilot Name (print)	FFI#
Check Pilot Signature	

FFI Flight Lead Evaluation Form

IMPORTANT! RELEASE/ HOLD HARMLESS MUST BE PRINTED ON REVERSE SIDE AND MUST BE SIGNED BEFORE FLIGHT

Applicant Name (as appears on Pilot Certificate		Date
Address	Email	
	Primary phone	
Pilot Certificate Type No	Medical Class	Date
Total flight time (300 hrs min)	Total formation time (40 hrs min)	4-ship flights (20 min)
A/C Type Emergency Contact		Phone
qualified, a Recommending Flight Lead Name _	erved the above pilot in formation flights, and recommend him/her for an FFI Flight Lead e re	valuation. FFI#
EVALUATION PRACTICAL 1	EST STANDARDS (To be filled out b	y Check Pilot)
1 Signals	Yoo ooo 7 Takeoff / Joinu Image: I	nship
SUN	IMARY OF FLIGHT EVALUATION	
QUALIFIED CONDITIONALLY QUALIFIED UNQUALIFIED	Comments:	
	Recommendation for further training:	
Check Pilot Name (print)		FFI#
Check Pilot Signature		Date

FFI CHECK PILOT Evaluation Form

IMPORTANT! RELEASE/ HOLD HARMLESS MUST BE PRINTED ON REVERSE SIDE AND MUST BE SIGNED BEFORE FLIGHT

Applicant Name (as appears on Pilot Cer	tificate)	Date
Address		Email
		Primary phone
Pilot Certificate Type No		Medical Class Date
Total flight time (1000 hrs min)	Total form time (100 hrs min)	4-ship flights as Flt Lead (20 min)
A/C Type Emergency Contact	t	Phone
Recommending Check Pilot / Recommending Check Pilot / I have observed the above pilot in	Flight Lead Name Flight Lead Signature formation flights, find him/her qua	erequired): alified, and recommend him/her for an FFI Check Pilot evaluation. FFI # FFI # Date alified, and recommend him/her for an FFI Check Pilot evaluation. FFI #
		Date
	<u> </u>	
EVALUATION PRACTION 1 Signals 2 Formation knowledge 3 Air Show knowledge 4 Communications 5 Briefing 6 Ground Operations		(To be filled out by Check Pilot)
	SUMMARY OF FLIGHT E	EVALUATION
QUALIFIED CONDITIONALLY QUALIFIED UNQUALIFIED	Comments:	rther training:
	Recommendation for fu	rtner training:
Check Pilot Name (print)		FFI#
Check Pilot Signature		Date

RELEASE / HOLD HARMLESS

The undersigned Holder/Applicant of/for a Formation Flying, Incorporated (FFI) Wingman/Flight Lead/Check Pilot Formation Card hereby agrees to be familiar with and abide by the guidelines of FFI. I further acknowledge and understand that the guidelines of FFI have been established to provide the Holder/Applicant of/for the Card with the minimum information necessary to understand the procedures and signals of formation flying. I further acknowledge and understand that it is my sole responsibility to keep fully informed, current, and aware of all information available from whatever source concerning formation flight. The undersigned recognizes and agrees that no representation or warranties have been made to him/her which are inconsistent with any of the procedures, signals, and policies, as set forth within industry standard formation flying instructional manuals. Further, I hereby acknowledge and recognize that this Formation Card Evaluation does not waive my obligation to abide by all local, state, and Federal rules and regulations. I further recognize that formation flight training and formation flying is inherently dangerous wherein there is a possibility of injury or death, and in consideration of my acceptance of this Formation Card issued by FFI, I, for myself, my heirs, executor, administrators, and assigns do hereby release and forever discharge FFI, its members, officers, directors, employees, suppliers, agents, or representatives of and from any and all claims, demands, losses, or injuries incurred or sustained by me as a result of instruction, training, attending, participating in, practicing for, and traveling to and from activities involving formation flights. Further, I agree to accept any and all financial obligations incurred as a result of medical assistance, hospitalization, and related expenses which may arise out of participation, attendance, practicing for, traveling to and from, or because of engaging in formation flights organized by any named entity or individual named herein.

I agree to abide by Program policies and procedures and commit to serve the formation community.

Printed Name	Date
Signature	
Witness Name	Date
Signature	
Additional Comments (continued from front side)	
	A \$35 processing fee is required, payable by cash or check to FORMATION FLYING, INC.
	Mail form and payment to:
	Formation Flying, Inc.

3443 Modena Circle Las Vegas, NV 89120

FFI Formation Standards and Proficiency Program Annual Activity Report

Required for all Wingmen, Flight Leads, and Check Pilots

	ame (as appears on Pliot Certifica	ite)		Date
Address			Email	
			Primary phone	
Pilot Certific	cate Type No		Medical Class	Date
Total flight ti	ime Primary Forma	ition Type	Total # of formation fligh	ts in previous 12 months
Emergency	Contact		Phone	e
	the pilot's responsibility to log, t	rack document and pre	sent the activity report to l	te Elistat e e de se
	Check Pilot. Failure to provide r and requalifier	required documentation cation evaluation flight w	in a two (2) year period wi	Il require a review
	and requalifi	required documentation cation evaluation flight w	in a two (2) year period wi /ith an FFI Check Pilot. FORMATION FLIC	Il require a review
	and requalifier	ATION AND FFI #:	in a two (2) year period wi /ith an FFI Check Pilot.	BHTS (4 4-SHIPS)
	and requalifie	ATION AND FFI #:	in a two (2) year period wi vith an FFI Check Pilot. FORMATION FLIC Date:	BHTS (4 4-SHIPS)

FLIGHT LOG VERIFICATION BY FLIGHT LEAD OR CHECK PILOT

Flight Lead or Check Pilot Name (print)	FFI#
Flight Lead or Check Pilot Signature	Date

A \$35 processing fee is required, payable by cash or check to FORMATION FLYING, INC.

Mail report and payment to:

Formation Flying, Inc. 3443 Modena Circle Las Vegas, NV 89120

FFI Formation Standards and Proficiency Program Large Formation Flight Lead Qualification

(Required to lead a formation of greater than 12 aircraft)

Applicant Name (as appears on Pilot Certificate)	Date
Address	Email
	Primary phone
Emergency Contact	Phone
Applicant Signature	
under a CoW or TFR, an FFI Flight Lead must subm his/her training and/or experience leading large (ma	aircraft flying in close formation (within 500') in airspace hit this form to the address indicated below, to document ass) formations. Upon approval, the applicant will be rsement: LARGE FORMATION FLIGHT LEAD.
An FFI Flight Lead or Check Pilot mus	st sign below, indicating his recommendation.
LIST FORMATION FLI	GHTS (greater than 12 A/C)

of A/C in flight

LARGE FORMATION FLIGHT LEAD RECOMMENDATION BY FLIGHT LEAD OR CHECK PILOT

Type of experience (clinic, etc)

Flight Lead or Check Pilot Name (print)	FFI#
Flight Lead or Check Pilot Signature	Date

Comments:

Date

Mail form to:

Formation Flying, Inc. 3443 Modena Circle Las Vegas, NV 89120