

October 7 ,2004

To: US Department of Transportation
Docket Management System
400 7Th Street SW
RM PL401
Washington, DC, 20591-0001

Federal Aviation Agency
Office of Rule Making
800 Independence Ave.
RM 810
Washington, DC. 20591

Sir,

Enclosed find a petition from ASC, USUA, and the NAPPF, titled, Petition For Exemption From Federal Aviation Regulation Part 103.1(e) (1) To Permit Members Of Aero Sports Connection, United States Ultralight Association, And The North American Powered Parachute Federation, To Conduct Flight Activities In Ultralight Vehicles That Exceed 254 Pounds Empty Weight Due To The Addition Of Safety Equipment Outside Of The Current Scope Of Part 103.1(e) (1) .

This letter is to explain briefly the history of Ultralight flying and some of the many factors involving this multi faceted sport, as related to FAR 103. Also, to point out some operational peculiarities, and the intent of the petition.

Powered aircraft that were compliant under FAR 103, as of 1982 evolved from at least two different cultures. The first being hang gliders which were equipped with a self-launch power unit. The second being homebuilt airplanes, that fell within the parameters of FAR 103. These aircraft were for the most part equipped with engines, derived from chainsaws, gokarts, and small industrial engines.

These engines were of marginal power output, and required to be run at full power most of the time. This resulted in unreliable operation. Most of these engines are no longer in production.

Eventually, larger snowmobile type engines became available. These engines develop enough power that they can be operated at lower power settings, which results in greatly increased reliability. These engines have also evolved into more reliable engines, based on 20 some years of evolution, on their own.

The use of these more reliable engines has mandated an increase in structure to accommodate the increased weight of the engines. Also, the installation of other safety related devices as brakes, better landing gear, self-starters, and basic instruments, have added some weight, without increasing performance or range. These improvements have resulted in a much safer and sturdier aircraft. These aircraft while simple in design and construction, are more sophisticated than at first appears. This is especially true of the weight shift and autogyro.

In addition, new engines are appearing, which are of the 4-cycle design, meeting national emission standards. These particular engines are of suitable horsepower for 103 type aircraft, but weigh more than the older 2 cycle engines.

Because of limited oversight, those not intimately involved, would not be aware of the cultures and many different conditions, in which these aircraft operate. The use of these aircraft, includes social events as much actual flying.

The recent enactment of Sport Pilot and LSA regulations, have created a hardship on owners operating under FAR 103, exceeding 254 pounds empty weight, but otherwise compliant.

This new regulation requires these aircraft to be registered as ELSA aircraft, and the pilots to be certified as Sport Pilots. The cost of complying with this regulation is prohibitive, considering the use of these aircraft. The cost will surely amount to many hundreds of dollars annually, including annual state fees. In addition, some states restrict the flying of registered aircraft from private land not approved as an airport, where as, FAR 103 Vehicles are exempt.

Due to the low speeds of these aircraft, they can become a hazard in the traffic mix of higher speed aircraft and the fact that adding the weight of additional fuel as per FAR 91.151, could become a structural issue, these aircraft are best operated under FAR 103, as presently.

In addition, because of light wing loading, most are operated only during early morning and late afternoon hours.

To operate within the restrictions of FAR 103 is the desire of many owners.

This study would in no way deter a Ultralight pilot from becoming a Sport Pilot and availing themselves of its many benefits.

There is only anecdotal data at present, as to the safety record of these aircraft. This study will result in valuable data, which can be used by the insurance industry to rate this category of aircraft and the FAA.

We are asking to conduct a Safety Study, per our petition.

We believe that the data derived from this study, will show that these aircraft, are indeed as safe as other categories of aircraft. These aircraft have been operating at the weights asked for in the petition, for many years, with no apparent adverse results. In fact the FAA has already broken this ground by approving Exemptions, 5001F, and 4610.

These exemptions, which have expired, were for special equipment for operation by disabled pilots. The extra weight allowed was 96 pounds, or a cap of 350 pounds total.

This is the weight we are asking for in our petition, 330 pounds plus 24 pounds for the Ballistic parachute. This petition will replace the expired disabled pilot exemptions, 5001F, and 4610.

Also, there are many small manufactures and kit suppliers of these aircraft in the US. To regulate these manufactures out of business will have an adverse effect on the economy and the sport, by eliminating the availability of reasonable priced aircraft in this category.

It is the promise of an inexpensive aircraft, which gains the interest of many new to the sport, initially. These individuals, very frequently go directly to a higher rating, and a higher performance aircraft. Many will go on to the ranks of Sport Pilot, and some will advance to GA.

It may be said by some, that Sport Pilot would be better served by the absorption of these aircraft into its ranks. This is very short sighted thinking. Since these otherwise compliant 103 aircraft can be registered as XLSA, they could be legally flown with a much higher fuel load, and at a gross weight of 1320 pounds. Most of these aircraft were designed for gross weights up to 650 pounds. This is indeed encouraging a dangerous practice.

This study will incur a negligible cost to the FAA.

This study will create a documentation of ultralight aircraft as spelled out in AC 103-7, which has not been accomplished to this date.

On behalf of all the Ultralight flyers, ASC, USUA, and NAPPF, I am submitting this petition for your consideration.

Respectfully,

Richard H. Carrier
4234 4th S.
St Petersburg, Florida 33705

Member, ASC, EAA, USUA,
Private Pilot, A&P.
727-824-6340

Petition Follows:

October 7, 2004

To: U.S. Department of Transportation
Docket Management System
400 7th Street, S.W. Room PL 401
Washington, DC 20591-0001

PETITION FOR EXEMPTION

FROM FEDERAL AVIATION REGULATION PART 103.1e(1)

TO PERMIT MEMBERS OF THE AERO SPORTS CONNECTION, THE EXPERIMENTAL AIRCRAFT ASSOCIATION, THE UNITED STATES ULTRALIGHT ASSOCIATION, AND THE NORTH AMERICAN POWERED PARACHUTE FEDERATION, TO CONDUCT FLIGHT ACTIVITIES IN ULTRALIGHT VEHICLES THAT EXCEED 254 POUNDS EMPTY WEIGHT DUE TO THE ADDITION OF SAFETY EQUIPMENT OUTSIDE THE CURRENT SCOPE OF PART 103.1(e) (1).

Petitioner: Aero Sports Connection, Inc. (ASC)
 United States Ultralight Association (USUA)
 North American Powered Parachute Federation, Inc.
(NAPPF)

PETITION SUMMARY

Petition for exemption from Federal Aviation Regulation Part 103.1e(1) to permit members of the Aero Sports Connection (ASC), the United States Ultralight Association (USUA), and the North American Powered Parachute Federation (NAPPF), to conduct flight activities in single-seat ultralight vehicles that exceed 254 pounds empty weight due to the addition of safety equipment outside the current scope of part 103.1e(1), for the purpose of permitting ASC, USUA, and NAPPF, to create the Ultralight Vehicle Safety Equipment research baseline per FAA Advisory Circular 103-7, paragraph 22. This petition is submitted based on research work by ASC member, Richard Carrier.

And:

Petition for exemption from Federal Aviation Regulation (FAR) Part 103.1e(1) to permit members of the Aero Sports Connection, the United States Ultralight Association, and the North American Powered Parachute Federation to conduct flight activities in ultralight vehicles of not more than 350 pounds empty weight to accommodate the special equipment needed by physically disabled persons as previously approved by the FAA in Exemption No. 5001F, Docket No. 24800, dated August 25, 2000.

REASON & BACKGROUND FOR PETITION

When FAR Part 103 was adapted in 1982, the typical ultralight vehicle consisted of a basic aircraft and engine without brakes, self-starters, improved

suspension systems, or special equipment for disabled persons. Having grown out of the hang glider movement, ultralight vehicles were all extremely weight efficient and all secondary considerations of safety were sacrificed in consideration of reducing weight to make flight possible.

As the ultralight vehicle has matured and developed, basic designs and methods to achieve safe flight have additional margins for flight and ground safety that have resulted in additional weight items that have become standard. A prime example was the introduction of the ballistic parachutes, which was accepted by both the FAA and the ultralight community as a critical safety of flight component.

The ultralight community now feels the margin of ground safety could be raised to a higher standard by changing the wording of FAR 103.1(e)(1) to allow simple and proven safety devices like brakes, electric self-starter system, upgrading the landing gear systems, Gyrocopter pre-rotator systems and Gyrocopter horizontal stabilizer systems. The addition of these systems could easily prevent serious hand propping and pre-rotating injuries. Similarly, the lack of brakes on all types of ultralight vehicles has resulted in severe injuries caused by a taxiing ultralight being forced off the taxi/landing surface area and/or the operator attempting to use his legs to stop the movement of the ultralight to avoid this situation and/or running into other aircraft.

There continues to be a need for persons with disabilities to operate ultralight vehicles above the basic FAR 103 weight limit of 254 pounds empty weight. ASC, USUA, and NAPPF, have determined the need for this special weight exemption still exists and that, to the best of our knowledge, there have been no accidents or problems operating under FAA Exemption No. 5001F or No. 4610, both of which have expired.

TECHNICAL STANDARDS

ASC, USUA, and NAPPF request this exemption from FAR 103.1(e)(1) to allow ASC, USUA, and NAPPF members the ability to conduct FAR 103 ultralight vehicle operations in safer vehicles.

As part of this exemption, ASC, USUA, and NAPPF, will establish Technical Standards Committees as described in FAA Advisory Circular (AC) 103-7, paragraph 22 through 24. This committee will:

1. Make acceptable findings will be based on individual make & model of ultralight vehicles or individual aircraft in the field. Subsequent operators of that make & model of ultralight vehicle may use the acceptable findings without having another inspection made, provided that there are no changes or modifications to the configuration, components, engine, propeller arrangements, or safety equipment of the basic model originally reviewed by the committee and the vehicle operator meets the minimum training requirements.
2. Ensure the additional weight allowance of the requested safety equipment will not exceed:
 - a. Brakes, 10 pounds
 - b. Self-starter system, 36 pounds
 - c. Improved landing gear system, 30 pounds
 - d. Gyrocopter pre-rotator system, 30 pounds
 - e. Gyrocopter horizontal stabilizer, 20 pounds
3. Ensure the additional weight allowance of the requested special operating equipment for persons with disabilities of 96 pounds. This special weight exemption may only be issued to:

- a. Persons who have physical disabilities which make them unable to safely fly an ultralight vehicle without special equipment; and
 - b. Persons who need to fly the specially equipped ultralights for flight-testing, demonstrations, and flight training.
4. Under the terms of this exemption, review and issue findings on additional ultralight vehicle safety equipment and submit those findings to the exemption holder. After review the exemption holder may forward recommended changes to AFS-800 for operational use approval.
5. Upon finding of compliance, issue a copy of the finding form and this exemption to the operator of each ultralight vehicle covered by this exemption, who must have in his/her possession a copy of the concurrence sheet and this exemption.

The Ultralight Technical Standards Committee or A&P Mechanic will use the following Technical Standards Committee Finding sheet to make all the above determinations.

Minimum standards for Technical Standards Committee member management are as defined in the attached addendum. These standards include requirements for committee member qualification, training, review and control. Critical review processes are also defined. Each of the exemption holders will maintain standards that, as a minimum, meet these requirements.

Technical Standards Committee Finding Sheet

(Instructions: Applicable to single-seat ultralights only. Complete all blanks, insert N/A in blanks not applicable to this particular review, check off or enter the appropriate data in the applicable blanks)

Issued to: _____ Ultralight Make/Model: _____
 Address: _____ Serial Number: _____
 _____ Registration Number: _____
 _____ Pilot Registration Number: _____
 Engine Make/Model: _____ Propeller Make/Model: _____
 Wing (trike or ppc), make and model _____ Rotor Blade Make/Model: _____

Total Empty Weight..... _____
 - Exclusion for parachute system weight (24 lbs)..... _____
 () hand-deployed () ballistically deployed () installed and operational

- Exclusion for float system weight....._____
- o () weighed in landplane configuration only
- o () weighed in floatplane configuration only, 60 pounds
- o () standard allowance for floats-only, 60 pounds
- o () standard allowance for amphibious floats, 60 pounds
- o () standard allowance for amphibious fuselage, 50 pounds

- Exclusion for safety equipment weight....._____
- o () brakes, 10 pounds
- o () self-starter system, 36 pounds
- o () improved landing gear system, 30 pounds
- o () gyrocopter pre-rotator system, 30 pounds
- o () gyrocopter horizontal stabilizer, 20 pounds

- Exclusion for equipment for persons with disabilities weight....._____
- o () 96 pounds
- o list equipment: _____
- _____
- _____
- _____

- Exclusion for other ultralight vehicle safety equipment weight....._____
- o list equipment & weight
- _____
- _____
- _____

- Fuel on board at weighing (6 lbs per gallon)....._____

TOTAL WEIGHT ALLOWANCES _____

NET EMPTY WEIGHT (minus weight allowances and fuel) (less than 254)

Technical Standards Committee Finding Sheet, page 2

Vehicle registration # _____

Fuel tank evaluation (maximum 5 gallons) measured _____ gallons

Stall Speed evaluation per AC103-7 (24 knots maximum) stall speed _____ knots

(Safety note: It is recognized that stall speed may increase with this added weight allowance and therefore this exemption may not be allowed to all ultralight vehicles.)

Maximum straight and level full power speed evaluation per AC103-7 (55 knots maximum) _____ knots

(Under certain conditions this paragraph may require additional verifications such as prop pitch limitations or other physical parameters that would show

compliance with maximum speed. Such additional definition shall be noted here and attached as part of the required documentation.)

Based on the vehicle review, this committee finds the specified vehicle, as equipped, to be compliant with FAR 103 and its exemptions as authorized under exemption # _____

To any official reviewer: Verification of compliance must be on record with the noted exemption holder. Please call the listed exemption holder for formal verification:

Exemption # _____, Aero Sports Connection 269-781-4021
Exemption # _____, North American Powered Parachute Federation, Inc.
Exemption # _____, United States Ultralight Association 301-695-9100

Issued by: () Ultralight Technical Standards Committee:

Signature Signature Signature

Printed name & Organization Printed name & Organization Printed name & Organization

() A&P Mechanic; Name: _____ Certificate Number

DATE OF ISSUANCE OF THIS DOCUMENT: _____

This document is valid for two years, or for as long as the associated exemption and their extensions remain valid, which ever is shorter. The exemption and this document may be renewed. Such renewal must be appropriately documented.
Page 2 of 2

REASON & BACKGROUND FOR PETITION

The second part of this exemption deals with future rulemaking action. ASC, USUA, and NAPPF will use this exemption to conduct a two-year study whereas accident data will be gathered on ultralight vehicles covered by this exemption. ASC, USUA, NAPPF, and the FAA will use all data collected to establish an ultralight vehicle safety equipment baseline for possible rulemaking changes to FAR 103 or related documentation.

Under the two-year study program ASC, USUA, and NAPPF will:

1. Require all owners of ultralight vehicles operating under the terms of this exemption to submit a semi-annual safety report to the exemption holder. The semi-annual safety report will consist of the following items:
 - a. Owners name
 - b. Ultralight vehicle make & model, and registration number
 - c. Hours flown during the semi-annual reporting period

- d. List of any accidents or incidents and their relation to the use of this additional safety equipment.
- e. List of injuries that resulted from these accidents and/or incidents
2. Consolidate semi-annual safety reports by make and model of ultralight vehicle and forward them to the FAA, AFS-800 for their safety review.
3. Note: there will be no reporting requirements for ultralight owners authorized increased weight for vehicles modified with disability equipment.

ASC, USUA, and NAPPF firmly believe that the use of these additional safety devices will result in greater public safety.

Between 1982 and today ASC, USUA, and NAPPF is aware that there has not been sufficient research conducted by either the FAA or general aviation organizations to establish a greater basis for amending FAR 103. We feel, by approving this petition, the FAA will be taking a step toward promoting safer ultralight vehicle flight and ground safety.

ASC, USUA, and NAPPF are requesting this research exemption be granted for a period of 2 years.

INTEREST OF THE PETITIONER

The Aero Sports Connection (ASC), the United States Ultralight Association (USUA), and the North American Powered Parachute Federation, Inc. (NAPPF) are 501(c) (4) non-profit associations as granted by the Internal Revenue Service. ASC, USUA, and NAPPF bring together aviation enthusiasts, operators and ultralight vehicle owners who are dedicated to the continued safety and growth of aviation, the preservation of its history and a commitment to aviation's future. ASC, USUA, and NAPPF programs, activities and events are known throughout the world for supporting aviation safety and promoting personal enjoyment and responsibility within an aviation lifestyle. ASC, USUA, and NAPPF all share the goal of promoting aeronautical educational experiences by providing its members and the general public with access to the world of flight.

As such, ASC, USUA, and NAPPF feel that the granting of this exemption will provide the possibility of future growth in all general aviation related activities by promoting safety in this national recreational activity.

The motives of this exemption request is to seek, through research, a reduction of burden on the citizens, a reduction in government involvement and expenditures, as well as assurance of public safety. This proposal meets those goals. The proposed research project serves the purpose of encouraging flight proficiency and safety, while promoting additional flight activity and the resultant positive economic impact that such increased activity has on all segments of sport and general aviation. This economic impact includes increased commerce for manufacturers of aircraft and parts, as well as service providers.

SAFETY ISSUES

The safety of its member pilots and the general public is a fundamental concern of ASC, USUA, and NAPPF.

The petitioners recognize that the FAA's fundamental concern is the general public safety. This exemption will provide a greater level of safety than the current FAR 103 rules.

To ensure a high level of safety during this research project, ASC, USUA, and NAPPF will:

1. Require all ultralight operators, operating under the terms of this exemption, to hold a minimum of an ultralight pilot registration issued by ASC, USUA, or NAPPF, or be authorized for solo flight by an exemption holding instructor or Sport Pilot Instructor.
2. Require all ultralight vehicles operating under the terms of this exemption to be registered with ASC, USUA, or NAPPF.
3. Require all ultralight operators, under the terms of the exemption, to be members of the exemption holding organization.

PUBLIC INTEREST ISSUES

The database created by this exemption will be sufficient to develop a baseline of research information for the FAA to make a reasonable decision on allowing future ultralight vehicle safety equipment.

The resulting safety benefits of the requested changes are expected to be immediate reductions in personal injury and property damage. This exemption process allows for a full and appropriate assessment of the potential improvements to ultralight vehicle safety, and provides a means of documenting those that are justified.

Each owner operating an ultralight vehicle under the terms of this exemption will present their copies of this exemption and the Technical Standards Committee Finding Sheet to the FAA, ASC, USUA, or NAPPF for inspection upon request. Most commonly, these documents will be presented to ASC, USUA, or NAPPF ultralight instructors prior to flight training solo or ground observed evaluation flights to prove the aircraft is a legal Part 103 ultralight.

The FAA, ASC, USUA, and NAPPF reserve the right to terminate any program participant who fails to comply with the terms of this exemption. Failure to submit semi-annual reports to the exemption holder is cause for termination from the program. Upon termination, the individual would be required to comply with the FAR 103 ultralight vehicle weight limitations.

After completion of this 2-year study, or after appropriate extensions, ASC, USUA, and NAPPF will recommend to the FAA appropriate recommendations based on the study results.

DESCRIPTION OF THE RELIEF SOUGHT

ASC, USUA, and NAPPF are seeking a 2-year exemption for the purpose of conducting research on the viability of allowing additional ultralight vehicle safety equipment that is currently beyond the scope of FAR 103.1(e)(1). This exemption would allow ASC, USUA, and NAPPF to approve and allow ultralight vehicle manufacturers and current ultralight vehicle owners to add brakes (10 pounds additional weight allowance), self-starter systems (36 pounds additional

weight allowance), improved landing gear systems (30 pounds additional weight allowance), Gyrocopter pre-rotator systems (30 pounds additional weight allowance), Gyrocopter horizontal stabilizer systems (20 pounds additional weight allowance), and other safety equipment as approved by the ASC, USUA, and NAPPF Technical Standards Committee

ASC, USUA, and NAPPF are seeking an exemption from FAR.1(e)(1) to allow persons with disabilities to operate ultralight vehicles with up to 96 pounds of special safety and operational equipment. This exemption, on request is a renewal of expired FAA Exemption 5001F and 4610.

ASC, USUA, and NAPPF will grant operating authority to persons with disabilities through the use of the Technical Standards Committee Finding Sheet and this exemption.

ASC, USUA, and NAPPF further request that consideration be given to non-publication of the summary of this petition based on FAR 11.27(j)(3)(1) which recognizes the time critical nature of this request and the similarity to changes made for floatation devices under the training exemptions.

October 7, 2004

James Stephenson
President/CEO
Powered

Aero Sports Connection, Inc.
Parachute Federation, Inc

Dale Hooper
Executive Vice President
United States Ultralight
Association

Jim Sweeney
North American

Addendum 1

Technical Standards Committee Membership Standards

The following represents the minimum standards for Technical Standards Committee membership. The key areas of concern are: qualification, training, review and correction.

Qualification:

Each exemption holder shall have written procedures in force assuring the following minimum qualifications for membership as a technical standards committee member:

- 1) Minimum age of 21 years
- 2) Able to read, speak and understand English
- 3) Membership in good standing in the exemption holders organization

4) A minimum of three letters of reference from credible and respected members of the aviation community attesting to their knowledge of ultralight vehicles and the trustworthiness and ethics of the proposed member.

Training

Each exemption holder shall have written procedures outlining vehicle evaluation and assessment. Each technical committee member shall become familiar with the written procedures and sign a statement stating they will comply with these written procedures.

Review

Each exemption holder shall have written procedures in force that perform office reviews of each technical committee decision and evaluate the continued appropriate operation of each technical committee member. Any inconsistencies of operation are to be reviewed under the "correction procedures". No committee member may serve on a committee reviewing an ultralight while concerns are under review under the "correction procedures".

Correction Procedures

Each exemption holder shall have written procedures in force to review and evaluate any inconsistencies in operation or written complaints against technical standards committee members. This procedure shall have as a minimum:

- 1) A complaint reporting system requiring a written and signed complaint to initiate a peer review. (An office complaint will result from inconsistencies documented on technical committee decision reviews.)
- 2) A notification in writing to the technical committee member both removing the member from service and informing the member of the allegation and initiation of investigation.
- 3) The collection of data on the matter including witness and documentation evidence.
- 4) A written request to the technical committee member presenting all of the evidence and asking for a response on all matters involved. Failure to respond shall be sufficient cause for permanent removal of the member from the technical committee system.
- 5) A peer review by three respected members of the community who are to remain anonymous. These members must decide if the case is to be dropped, if the member is to be removed from service, or if additional investigation is needed. In any case, where it is found that an aircraft review has been mishandled, and for which a member is removed from service, all other aircraft for which that member has served as a technical committee member shall be required to submit for re-review in order to remain under the exemption.
- 6) Other sanctions may be imposed by the exemption holder on technical committee members who are found to have failed in their duty.

Appeal procedures shall allow for a one-time return for review. This appeal may only be initiated by formal written request from the sanctioned technical committee member. A second and separate peer review committee shall perform this review. Findings of the second committee are final.

Identification

Exemption holders who follow procedures meeting the above requirements may select and recognize technical standards committee members. These members are to be identified in such a way that their authority to sit on a technical

committee is shown in writing and verifiable by phone through the exemption holder's database.

Membership in the Committee

The Technical Standards Committee will be comprised of members of ASC, USUA, or NAPPF individually or any combination there of.