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MALTA
332nd FIGHTER GROUP
HISTORICAL
REPLICA
PROJECT



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Table of Contents

Cover.....	1
Table of Content.....	2
Mission Statement.....	3
Introduction.....	4
Goals and Objectives.....	5
History of Red Tails.....	6
The Project.....	7-8
Aircraft Comparison.....	9
The Project Status & Fund Raising Progress.....	10
How can you help.....	11-12
Appendix A.....	13-15





Mission Statement

The 332nd Fighter Group Historical Replica Project (FGHRP) mission is to build a fully flyable composite 70% scale kit replica of a P-51D model aircraft that represent and symbolizes the Tuskegee Airmen Red Tail's contribution in history who served our country with honor during WWII.

This replica of a P-51D model aircraft, painted in the Tuskegee Airmen famous Red Tail paint scheme, will be utilized to draw attention to and provide an education lesson for our young men and women about the Tuskegee experience. In addition, it will highlight their impressive achievement in aviation to show and inspire young men and women in a direction toward aviation and aerospace careers.



332nd FGHRP Vision





Introduction

The 332nd FGHRP is a special project that is part of a parent program known as Motivation and Learning through Aviation (MALTA) founded by Ben L. Henderson. MALTA is a program that was incorporated in May of 2007. It is a volunteer, non-profit, 501(c) (3) organization designed to use aviation subjects as a teaching tool to accomplish its desired objectives through constructive aviation related activities. The MALTA program is designed to enhance basic skills such as communications, science, mathematical and hands-on skills as it relates to aviation. MALTA is dedicated to maintaining the traditions and preserving the legacy of a group of brave men who viewed education as the key to opportunity. These brave men were known as the Tuskegee Airmen and were the first generation of African American military aviators to serve our country with honor during World War II (WW II).

There are numerous Tuskegee Airmen, Inc. (TAI) Chapters, Young Eagle Programs sponsored by TAI chapters, and Experimental Aircraft Associations (EAA) that introduce young men and women to aviation and the wonders of flight. MALTA's 332nd FGHRP goal is to collaborate with these organizations at Airshows, TAI Youth Program events, etc, to educate and provide an opportunity for the public to meet Tuskegee Airmen original members and hear their stories, in addition to an opportunity to get pictures and books autographed by the members. The Airshow venue and TAI sponsored Young Eagle Programs provide a unique opportunity to present a replica of the famed Red Tail P-51. The public will enjoy the sights and sounds of this historic aircraft and meet actual members who flew the aircraft, hear their stories first hand, and learn the untold history of the Tuskegee Airmen. These are stories from and about heroes that parents would want their children to hear and become aware of; stories of Courage, Patriotism, and most of all...Perseverance.





Goals and Objectives

The main goal of this organization is to inspire and motivate youth to continue to learn and find a positive direction in life, while becoming an asset to their community and fellow human beings. This will be accomplished through hands on training, classroom instructions in a stimulating setting by, flying an airplane in the simulator and actual in-flight flying by a skilled flight instructor.

The overall objective will be to take 50 young teenagers and allow them to completely build a fully flyable composite 70% size scale kit replica of a P-51D Mustang aircraft in less than 18 months while being assisted by MALTA's staff.





History of Red Tails

The Tuskegee Airmen black fighter pilots, in the face of racism, became known and feared by the Germans as "Schwartzte Vogelmenschen" (Black Birdmen) and as the "Fighting Red Tail Angels" to the American bomber crews they protected, and racked up an impressive combat record in the skies over Europe and North Africa. Flying more than 200 missions as fighter escort on long-range bombing raids, the Tuskegee Airmen never lost a bomber to enemy fighters. They flew more than 15,000 combat sorties in 15,000 missions and destroyed more than 600 enemy aircraft. Of the 992 black aviators trained at Tuskegee Army Airfield, 66 were killed in combat and 32 were taken as prisoners in Germany.

Due to the rigid pattern of segregation that prevailed in the United States during WW II, the training of 926 Black military aviators was concentrated at an isolated, specially constructed army airfield near Tuskegee, Alabama, and at Tuskegee Institute. The first contingent of the 99th Pursuit Squadron (later designated as fighter squadron), was a group of enlisted technical and administrative specialists, who had been trained at the U. S. Army Air Corps Technical Training School at Chanute Field, Rantoul, Illinois. These individuals established a superior grade point average during their training period April to November 1941.

Four hundred and fifty (450) Black fighter pilots, under the command of Colonel Benjamin O. Davis, Jr. (later to become the United States Air Force's first Black Lieutenant General), fought the aerial war over North Africa, Sicily, Italy, Southern France, and Europe flying P-40, P-39, P-47, and P-51 aircraft. These gallant men flew 16,553 sorties and completed 1,578 combat missions while assigned to the U.S. Army's XII (Tactical) and XV (Strategic) Air Forces. The 99th Fighter Squadron, already distinguished by its impressive combat record in North Africa, Sicily, Italy and over the Anzio beachhead, was joined by the 100th, 301st, and 302nd Fighter Squadrons, comprising the 332nd Fighter Group.





The Project

As mentioned, this special project is one-tenth the cost of a full-scale project. On average, full-scale aircraft purchases or restoration projects can begin at \$1.5 million and continue upward to \$2 to \$5 million. The 332nd FGHRP has committed itself to **raising \$180,000** to complete this project, which is significantly lower than full-scale cost. The Project Manager, Wilbert “JR” Robinson, Jr., has invested approximately \$30,000, of the required \$180,000, of his own money to get this project off the ground because he feels this project is important enough to keep the history of the Tuskegee Airmen alive. This Project will be built in nine (9) Subkit stages for completion. These stages are as follows:

- Stage One(1) – Airframe
- Stage Two(2) – Fuselage
- Stage Three(3) – Wing
- Stage Four(4) – Wing Fuel System Kit
- Stage Five(5) – Landing Gear
- Stage Six(6) – Flight Controls
- Stage Six(7) – Instruments
- Stage Seven(8) – Cockpit Items
- Stage Eight(9) – Firewall Forward (Engine)

Providing a tangible aircraft such as a full scale P-51D model aircraft as a static display, operate on location, and fly to numerous events for an education program is very expensive. To operate a full-scale aircraft cost on average cost approximately \$363/hr and approximately \$20k-40k/yr to maintain. To operate a 70% scale replica aircraft cost on average cost approximately \$72/hr and approximately \$3k-5k/yr to maintain. Restoration of a full-scale aircraft will cost approximately \$2 million just to complete the project. Completion of a 70% scale replica aircraft painted in the Tuskegee Red Tail paint scheme will cost approximately \$180k. Bottom line is that the cost of building and operating a replica aircraft is more cost effective than the full-scale aircrafts. In addition, it draws a larger audience due to it smaller size than the full-scale models. We have included an Aircraft Comparison Chart to illustrate why the replica is more cost effective to operate and to show how they differ in static and operational performances.

The MALTA mission for its 332nd FGHRP is to build a composite fully flyable 70% scale replica of a P-51D model aircraft that is significantly cheaper and more cost effective to accomplish the same goals and objectives as full-scale projects. Completion of the 332nd FGHRP will present a unique opportunity to the public, not only the with sight and sounds of a historic replica aircraft, but more importantly, an opportunity for the public to meet members who actually flew the aircraft, hear their stories first hand, and learn more about this untold history.





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The Project

The Kit Featured in July 2007
“*KITPLANES MAGAZINE*”

FLY FOR LESS & ENJOY IT MORE
The Waix: Sporty Handling, 135 mph For \$30k

KITPLANES

DREAM IT. BUILD IT. FLY IT.

Wild Horses!
300 hp - 225 mph
Big-Inch V-8 Fury!
The Legendary Mustang
Is A P-51 You Can Build

Rules of the Rules
Let Lockwood's 912
School Make You
An Expert

Buy It, Let Otto Fly It
All You Need To Know About Autopilots

Sport-Pilot Confidential
Sonex Designer John Monnett Speaks

JULY 2007





Aircraft Comparison

Aircraft Comparison to Full Scale		
	North American P-51D Mustang	Legendary Aircraft P-51 Mustang Replica
<u>Scale</u>	<u>Full size</u>	<u>70% scale</u>
Type	Long range escort fighter / interceptor	replica fighter / sport
Crew	1, pilot	2, pilot & passenger
Armament	six .50 caliber machine guns, 1000 lb bomb load, or six 5 inch rockets	six mock .50 caliber machine gun muzzles, six mock scale rockets, two mock 1000 lb. bombs
Construction material	Aluminum Monocoque	Fiberglass / Carbon fiber composite
Length	32' 3"	22' 6"
Wingspan	37'	25'5"
Wing Area	235 sq./ft.	111 sq./ft.
Wing loading (@ gross weight)	49.3 lb./sq.ft.	22.5 lb./sq.ft.
Height	13'8"	9'3"
Empty weight	7000	1800
Gross weight	11600	2500
Engine	Rolls Royce (Packard) 12 cylinder V-1650-7 Merlin 61 series, water cooled, piston engine	Chevrolet Gen III, Gen IV, 8 cylinder, LS2 or LS7 water cooled, piston engine
Horsepower	1450 hp	400 hp / 470 hp
Propeller	4 blade, aluminum, constant speed	4 blade, 86" composite, constant speed
Fuel capacity	269 gallons in wing and fuselage tanks / 150 gallons in drop tanks	60 gallons in wing tanks / 24 gallons in drop tanks
Fuel burn (estimated @ cruise power)	75 gph	15 gph
Range (nautical miles)	1000 standard / 2080 with drop tanks	900 standard / 1250 with drop tanks
Cruise speed	275 mph	225 mph
Max speed	437 mph @ 25,000 ft.	N/A
Ceiling	41900	18000
Climb rate	3475 ft./min.	3000 ft./min.
VNE	N/A	340
G loading @ max weight	N/A	6+ / 4-





Price	\$1,300,000.00 (average market price)	\$69,500.00 (airframe kit price)
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The Project Status & Fund Raising Progress

Currently, Stage 1 and 2 are complete, less the Stage 2 subkit hardware. We have begun Stage 3 but progress has stalled due to lack of funding. The Project Manager, Wilbert “JR” Robinson, Jr., has invested \$30,000 of his own money to get this project off the ground because he feels that it is important to keep the history of the Tuskegee Airmen alive. Excitement is starting to build because the project is starting to look like a P-51.

We predict Stage 3 (wing) can be completed in 3-4 calendar months from the day funding is received. If funding continues coming in, completion of Stages 4 and 5 will allow us to mate the wing to the fuselage. The aircrafts wing sections are the projects most delicate need and critical path to getting the aircraft up and flying. Having the wing finished will be a major accomplishment. The urgency for funding and sponsorship dollars has become increasingly vital in trying to complete the project by the summer of 2011.

Your financial support of the 332nd FGHRP will make a difference in when this airplane is able to take to the sky and carry its historic message across the nation. Although we are trying to complete the stages in chronological order, we will accept any donation toward any stage you wish to donate. No contribution should be considered too small to make a real difference! Please keep in mind, all donations are tax deductible. 100% of the funds raised go directly to building this significant replication of our history.

Quick Reference List

This is a quick reference list of the remaining Stages needing funding via donation, grants or sponsorship.		
STAGE TWO	FUSELAGE HARDWARE	\$4,565
STAGE THREE	WING	\$21,607
STAGE FOUR	WING FUEL SYSTEM	\$2,265
STAGE FIVE	LANDING GEAR	\$12,227
STAGE SIX	COCKPIT	\$2,640
STAGE SEVEN	INSTRUMENTS	\$40,000
STAGE EIGHT	FLIGHT CONTROLS	\$5,340
STAGE NINE	FIREWALL FORWARD	\$47,820





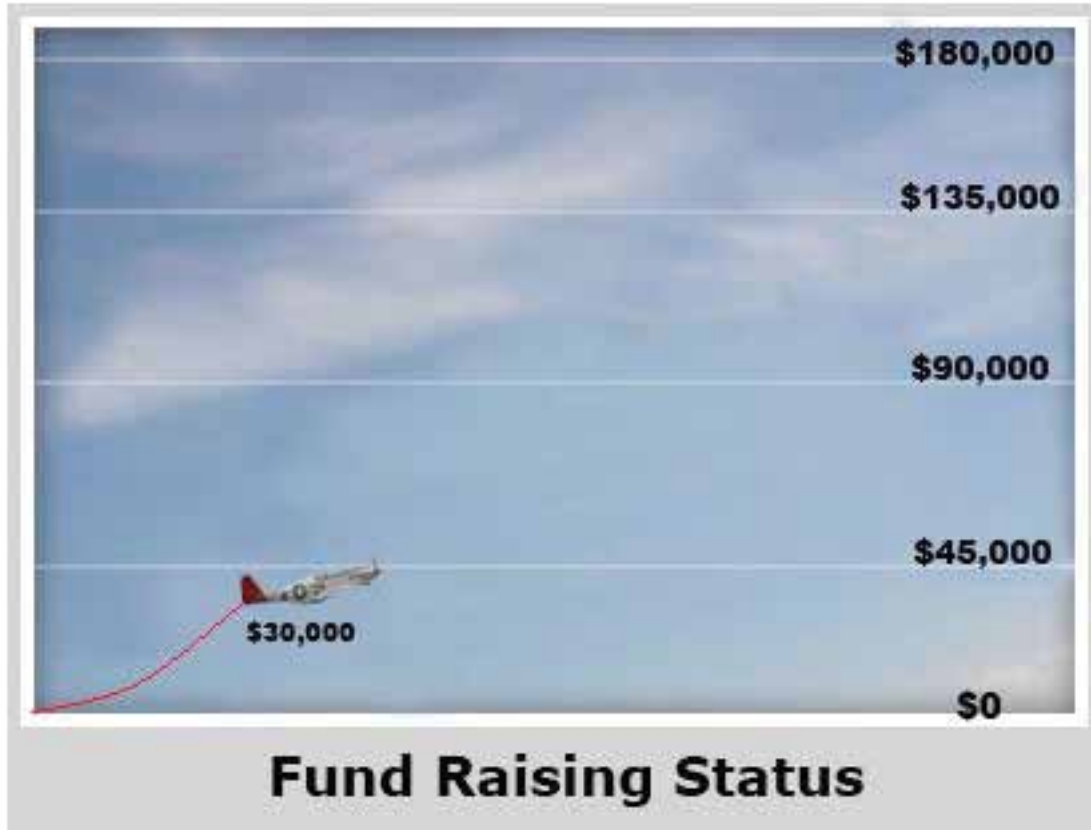
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*****Addition \$45,000 for special tooling, fueling for the 40 hours of test flying required by FAA, aircraft painted in the Tuskegee Airmen famous red tail paint scheme, and support for the youth program that will enable them to participate in the program*****





How your donation will help get the project off the ground



Our preference is to continue building the project in the chronological order stated in the Quick Reference List of the stages, which will allow the project to be completed in a shorter period of time. Our first goal is to raise the monies to complete Stage 3 (\$21,607). Again, no contribution should be considered too small to make a real difference! Any contribution toward Stage 3 or any other stage, to reach our goal, is appreciated.

We have set a fund raising goal of \$180 thousand for us to get the project completed and flying. Sponsorship and donations from individuals, businesses, corporations, and foundations are the vital contributions needed for the success of the 332nd FGHRP. Your contributions are vital to successfully meeting the mission final goal of raising money to the support the 332nd FGHRP. All proceeds and donations will help support the





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educational program by providing a realistic icon that will attract the attention of our young men and women by allowing them to bring their imagination to life of what the experience must have been like to fly the Tuskegee Airmen's Red Tail Mustang. All donations are tax-deductible and can be made with Visa or MasterCard.

This itemized Subkit Stage Chart, in Appendix A, not only shows the stages we still need sponsorship or donations for but also shows the list of items that will be included in the subkits. We accept partial or full sponsorship or donations toward any of the stages requiring fund raising.





Appendix A

Itemized Fund Raiser Funds Needed

Stage 2

MUSTANG FUSELAGE HARDWARE STAGE 2	FUNDS NEEDED
Rudder hardware	\$245.00
Horizontal hardware	\$65.00
Elevator hardware	\$490.00
Tail fairing hardware	\$85.00
Fuselage hardware	\$1,830.00
Cowling sheet metal	\$945.00
Cowling hardware	\$165.00
Radiator hardware	\$415.00
Liner	\$325.00
Fuselage Total	\$4,565.00

Stage 3

MUSTANG WING STAGE 3	FUNDS NEEDED
Aileron composite	\$975.00
Aileron hardware	\$490.00
Flap composite	\$1400.00
Flap hardware	\$490.00
Wing composites	\$13,865.00
Wing hardware	\$845.00
Wing fairing composites	\$485.00
Wing fairing hardware	\$255.00
Gunbay door composites	\$525.00
Gunbay door hardware	\$480.00
Wing tips	\$265.00
Wing tip hardware	\$22.00
Landing gear door composites	\$635.00
Landing gear door hardware	\$500.00
Landing gear outer door closeouts	\$375.00





Wing Total	\$21,607.00
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Stage 4

MUSTANG WING GEAR STAGE 4	FUNDS NEEDED
In Wing Fuel System Kit	\$2,265.00

Stage 5

MUSTANG LANDING GEAR STAGE 5	FUNDS NEEDED
Right main landing gear components	\$3,675.00
Left main landing gear components	\$3,675.00
Tailwheel components	\$2,875.00
Main gear installation hardware	\$295.00
Tailwheel installation hardware	\$72.00
Gear control package	\$1,635.00
Landing Gear Package	\$12,227.00

Stage 6

MUSTANG COCKPIT ITEMS STAGE 6	FUNDS NEEDED
Control stick grip	\$135.00
Seat harness, front or rear seat	\$415.00
Front seat upholstery	\$275.00
Interior heating / cooling group	\$640.00
D style canopy (included with airframe kit)	\$800.00
Canopy latch, upgrade to standard latch	\$375.00
Cockpit Package Total	\$2,640.00

Stage 7

MUSTANG COCKPIT ITEMS STAGE 7	FUNDS NEEDED
Instruments	\$40,000.00





Stage 8

MUSTANG FLIGHT CONTROLS STAGE 8	FUNDS NEEDED
Rudder control hardware / cables	\$315.00
Control stick assembly	\$2,245.00
Control stick mounting hardware	\$180.00
Aileron Control Hardware	\$875.00
Elevator Control Hardware	\$1,110.00
Flap Control Hardware	\$615.00
Flight Control Total	\$5,340.00

Stage 9

Misc Firewall Forward Items Stage 9	FUNDS NEEDED
LS1 / LS6 base engine package (includes engine, PSRU, all ancillaries)	\$35,000.00
Propeller speed reduction unit only, standard ratio	\$10,000.00
Radiator, aluminum w/ optional plumbing bungs	\$845.00
Radiator plumbing, firewall to radiator	\$325.00
Engine Mount Kit Total	\$1,650.00
Firewall Forward	\$47,820.00

