*The prototype Thomas Morse MB-3 in 1919. It was to become the standard Air Service fighter. (Paul R. Matt Coll.)*

# Thomas Morse Military Racing Airplanes

By THOMAS G. FOXWORTH

Benjamin Douglas Thomas was a man intrigued by the unconventional. Although no relation to the founding Thomas Brothers, he was the driving force behind the Thomas Morse Aircraft Company at Ithaca on the shores of Lake Cayuga in upstate New York. He let his questing mind range far and wide over the myriad ideas for flight that blossomed during the 'twenties, and many ideas found form in the sometimes odd airplanes that bore the Thomas flying-bird signature. He also had to be practical, however, and the impetus that launched the Thomas Morse Company to the ranks of the leading aircraft manufacturing houses of the day was provided by the success of some fairly straight-forward scout planes developed during the First World War. One of these was an undistinguished looking biplane, bulky in its lines, with a two-bay wing arrangement, that was rather awkward for a plane so small. This was the MB-3, conceived during hostilities as a single-seat fighter to be built around the popular Hispano-Suiza 300 hp engine. Its wired-up wings were an adaptation of the "Spad truss", a contemporary means to avoid unduly heavy wing spars.

The first MB-3 was fashioned immediately after the Armistice, and despite its plain appearance it still managed to demonstrate the Thomas ingenuity, if only in detail. When coaxed its Wright-built "Hisso" H-2 engine could develop 340 hp on 1900 RPM's. The coolant radiator was carried on the wing to allow a cleaner nose --in the Boeing-built production versions radiators were mounted on the sides of the fuselage. Ailerons were fitted to the top wing only and despite their curiously lopped-off appearance, the large angular control surfaces provided ample maneuverability. The first MB-3 weighed 1360 pounds empty, 2050 pounds all-up (although, as with all military planes, this figure grew over the years to 2485 pounds) and it carried 65 gallons of fuel, said to be enough for three hours at full throttle at 10,000 feet. The small pursuit was only 20 feet long, had a span of 26 feet, chord of 5'3", gap of 4'7", no stagger, and had 250 square feet of wing area. Its standard armament was two synchronized .30 caliber Browning machine guns with 1500 rounds of ammunition.

Despite its ungraceful lines the MB-3 had plenty of sauce. This was demonstrated by pilot Frank H. Burnside in initial flight tests at Ithaca during early 1919. He climbed the plane to 1,000 feet in just 20 seconds, to 10,000 feet in eight seconds under five minutes, and


*The airplane that established Thomas Morse as a manufacturer of racers. This aging, prototype MB-3, piloted by Capt Harold E. Hartney, almost matched the performance of the specialized Verville-Packard VCP in the 1920 Pulitzer Trophy Race and finished second. (Matt Coll.)*

reached a high speed of 163.68 mph, thus proving the MB-3 could easily have out-performed the best 1918 German fighters. The little MB-3 in 1919 thus represented the pinnacle of development of the speedy biplane in the United States.

The conclusion of the Great War prevented the use of the MB-3 at the front, but it still managed to become the standard fighter for the U. S. Army Air Service. In the years through 1922, 265 of these airplanes were secured. However, only 65 came from Ithaca, the rest having come from the infant Boeing Company. Since the MB-3 never had the chance to fight, its principal achievements were made in the field of air racing. It quickly became successful in the burgeoning racing game and spearheaded a line of Thomas-Morse military racers that would keep the firm in the forefront of aeronautical activity until their absorption by Consolidated.

## RACING IN 1920

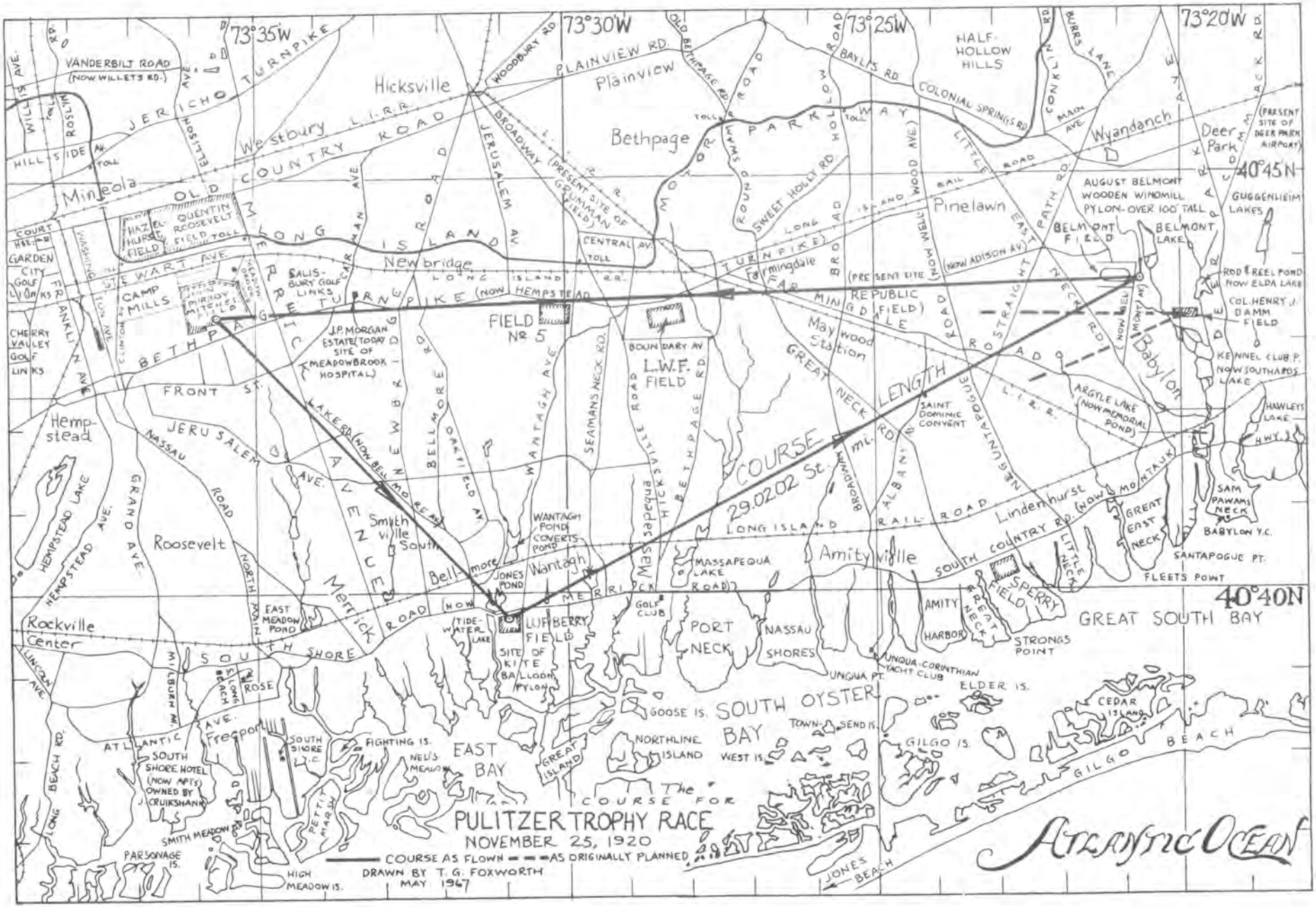
The first race in which Thomas Morse was represented was the Pulitzer Trophy Race held at Mitchel Field near Mineola, Long Island, on Thanksgiving Day 1920. This was the biggest event of the year and 45 planes were entered. Thirty-seven of these started, split up into seven separate "flights", and 25 actually completed the four triangular laps, more than in perhaps any other closed-course air race in history. The winner was Captain Corliss C. Moseley flying the huge Verville-Packard VCP (Verville Chasse Plane) racer, the Army's first specialized racing airplane. Moseley's time of just over 11 minutes per lap (total :44:29.57) at first led the jubilant victors to claim a world's closed-course speed record of 178 mph, and this was publicized widely in the trade journals of the day. But embarrassment was in store for the winners.

The race was planned to have been flown between Mitchel Field, Lufberry Field near Massapequa, and Col Henry J. Damm Field north of Babylon. The Contest Committee had figured the lengths of the course legs as seven miles (Mitchel-Lufberry), 11 miles (Lufberry-Damm) and 15 miles (Damm-Mitchel) for a total of 33 miles, or 132 miles for the four laps. The turning points were to have been marked by war surplus kite balloons. One balloon was indeed raised at Lufberry Field as planned by a LCDR Carpenter assisted by Lt I. A. Kloor and 25 Navy enlisted men from the Rockaway Station who were guests at the South Shore Hotel in Freeport. The hotel was owned by World War I veteran Captain John Cruikshank, who had been instrumental in the construction of Camp Mills adjacent to Mitchel Field.

However, at the eastern end of the triangle the hoped-for balloon didn't arrive in time so a suitable alternate marker had to be selected. The most obvious ready-made structure was the imposing, wooden windmill northwest of Damm Field on the vast estate of August Belmont, who had achieved fame and fortune raising race horses. The windmill stood just east of the old Belmont Racetrack which had been called "Belmont Field" since 1918. From Mitchel Field looking east across the broad Hempstead Plain the windmill dominated the horizon, and it is reported that the windmill was even wrapped with white cloth for the Pulitzer Race!

The winning racer had experienced carburetor difficulty during the contest, hence the tremendous speed

*The second MB-3 entered in the 1920 Pulitzer was this machine, still carrying its McCook Field P-number. The plane was piloted by Lt Leigh Wade but was forced out of the race after the first lap. (Matt Coll.)*


73°35'W
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VANDERBILT ROAD (NOW WILLETS RD.)
JERICHO TURNPIKE
Hicksville
Plainview
Bethpage
Westbury
L.I.R.R.
COUNTRY ROAD
OLD COUNTRY ROAD
Mineola
LONG ISLAND
MERRICK ROAD
Newbridge
CENTRAL AV.
FIELD No 5
L.W.F. FIELD
REPUBLIC FIELD
Farmingdale
Pinelawn
Wyandanch
Deer Park
Babylon
Hempstead
Roosevelt
Rockville Center
Merrick
Bellmore
Wantagh
Seaford
Amityville
Massapequa
Lindenhurst
PORT NEIGH
NASSAU SHORES
AMITY HARBOR
GREAT SOUTH BAY
SOUTH OYSTER BAY
EAST BAY
GOOSE IS.
NORTHLINE ISLAND
GREAT ISLAND
FIGHTING IS.
NEW'S MEADOW
PETTIT MARSH
PARSONAGE IS.
HIGH MEADOW IS.
ELDER IS.
CEDAR ISLAND
GILGO IS.
GILGO BEACH
JONES BEACH
ATLANTIC OCEAN
FLEETS POINT
SANTAPOGUE PT.
STRONGS POINT
UNQUA PT.
UNQUA-CORINTHIAN YACHT CLUB
BABYLON Y.C.
SAM PAWAMS NECK
GREAT EAST NECK
LITTLE NECK
SOUTH COUNTRY RD. (NOW MONTAUK HWY.)
LONG ISLAND RAILROAD
SOUTH SHORE
ATLANTIC BEACH
SOUTH SHORE HOTEL (NOW APTS OWNED BY J. CRUIKSHANK)
SOUTH SHORE Y.C.
FREEPORT
ROSE
LONG BEACH RD.
LINCOLN AVE.
MILBURN AVE.
NORTH MAIN AVE.
GRAND AVE.
HEMPSTEAD AVE.
HEMPSTEAD LAKE
NASSAU ROAD
JERUSALEM AVE.
FRONT ST.
BETHPAGE
CHERRY VALLEY GOLF LINKS
GARDEN CITY GOLF LINKS
CAMP MILLS
SALISBURY GOLF LINKS
HAZEL HURST FIELD
QUENTIN ROOSEVELT FIELD
J.P. MORGAN ESTATE (TODAY SITE OF MEADOWBROOK HOSPITAL)
LAKE RD. (NOW BELLMORE AV.)
NEWBRIDGE RD.
BELLMORE RD.
OAKFIELD AV.
WANTAGH AVE.
SEAMANS NECK RD.
HICKSVILLE RD.
BETHPAGE RD.
BOUNDARY AV.
JONES POND
WANTAGH POND (COVERTS POND)
EAST MEADOW POND
TIDE-WATER LAKE
LUFBERRY FIELD
SITE OF KITE BALLOON PYLON
GOLF CLUB
MASSAPEQUA LAKE
SAINT DOMINIC CONVENT
ARGYLE LAKE (NOW MEMORIAL POND)
MAYWOOD STATION
GREAT NECK LENGTH
COURSE 29.02 St. ml.
BROADWAY
ALBANY
NEW YORK AND MONTAUK RAILROAD
MOTOR PARKWAY
LITTLE ROAD
SWEET HOLLY RD.
BROADWAY (PRESENT SITE OF GRUMMAN FIELD)
OLD BETHPAGE ROAD
ROUND SWAMP ROAD
BAYLIS RD.
COLONIAL SPRING RD.
HALF HOLLOW HILLS
CONKLIN RD.
BURRS LANE
MAIN AVE.
WOODBURY RD.
PLAINVIEW RD.
JERUSALEM AV.
WASHINGTON AV.
FRANKLIN AV.
CLINTON AV.
ELLISON AV.
WILLIS AVE.
ROSLYN
HILL SIDE AV.
TOLL
AUGUST BELMONT WOODEN WINDMILL PYLON - OVER 100' TALL
BELMONT FIELD
BELMONT LAKE
GUGGENHEIM LAKES
ROD & REEL POND NOW ELDA LAKE
COL. HENRY J. DAMM FIELD
KENNEL CLUB P. NOW SOUTHARDS LAKE
HAWLEYS LAKE
HWY.
(PRESENT SITE OF DEER PARK AIRPORT)
(PRESENT SITE OF MINEOLA FAIR GROUNDS)
(NOW ADISON AV.)
(NOW WELLWOOD AVE.)
(NOW BELLMORE)
(NOW MERRICK)
The COURSE FOR PULITZER TROPHY RACE
NOVEMBER 25, 1920
COURSE AS FLOWN
AS ORIGINALLY PLANNED
DRAWN BY T. G. FOXWORTH
MAY 1967

*Capt Harold E. Hartney (r) and aide by Fokker D-7 he flew coast-to-coast and back in 1919. (Nat'l Archives 111-SC-26167)*

attributed to it didn't seem likely. Brigadier General William "Billy" Mitchell, Assistant Chief of the Army Air Service, smelled a fish and ordered an accurate survey made of the race circuit as actually flown. The Coast and Geodetic Survey subsequently found it to be actually 29.0202 miles in length--some four miles less than planned! This revelation knocked the pins out from under the initially advertised speeds, and after the course survey, Moseley's winning speed turned out to be only 156.5 mph with the other contestants' speeds scaled down in proportion.

Two Army MB-3s were included in the initial entries and despite the course-length mix-up one finished the race in rather spectacular fashion. Its pilot was a short, taciturn Canadian of 32 with a bland face but whose bull-dog spirit was indicated by his clipped, "misplaced eyebrow", fighter pilot's mustache. His name was Captain Harold Evans Hartney, USAS, and he drove his mount to second place, managing to stay with the sleek Verville all the way although his plane had just half the Verville's power.

This was all the more remarkable since his MB-3 had in no way been modified or souped-up for racing. Indeed, it was already showing marked evidence of flight weariness since it was actually the second prototype of the original experimental batch of four that had been built for Air Service evaluation in 1919. It was on the basis of those early tests, run by the Engineering Division at McCook Field near Dayton, Ohio, that the initial order for 50 MB-3s had been placed with Thomas Morse by Contract 265 dated June 19, 1920. Hartney's racer was the first MB-3 ever to have been flown, on February 21, 1919. Later, at the Ithaca plant during January 1920, Thomas Morse pilot Burnside had flown it to 168 mph to break an unofficial world speed record for service type airplanes.

The significance of Hartney's second-place (he did the course in :47:00.03 or 148 mph) was not lost on the public relations people at Thomas Morse, and after the race many advertisements ballyhooed the MB-3's superb performance. This paid dividends because the simple fact that a standard pursuit, and a tired prototype at that, could keep up with their best racer made a profound impression on officials of the Air Service. Thomas Morse suddenly found itself established as the manufacturer of racing airplanes. This was a lucky occurrence since it came just as the company was entering difficult times. Ironically, it had lost a large follow-up production contract for 200 of its own MB-3s to Boeing on competitive bids, and this totally unexpected blow had put a serious crimp both in their finances and morale. Furthermore, a twin-engine mail plane, the MB-4, had proven unprofitable as had a couple of trainer designs. Orders for future racers would come just in the nick of time.

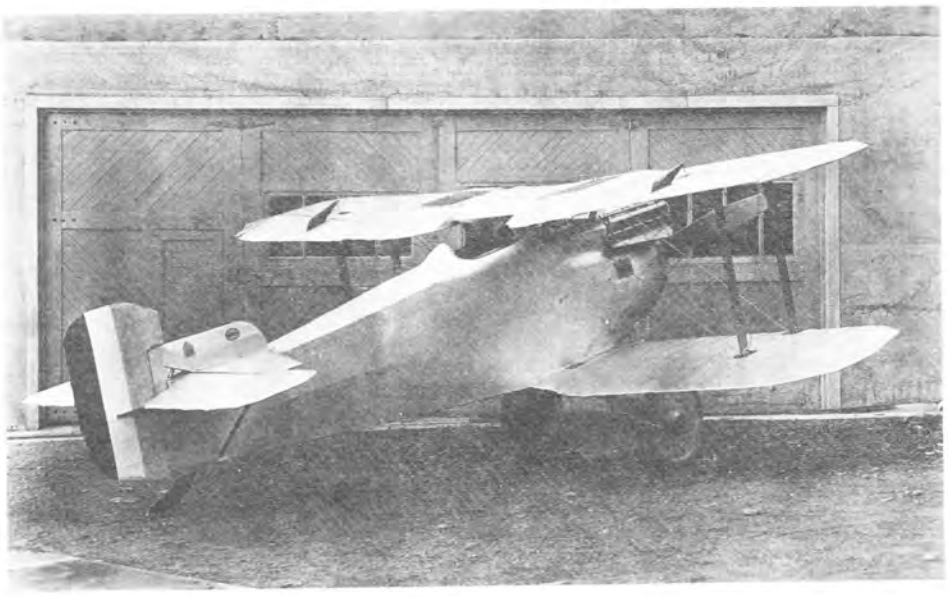
The unexpected performance of the MB-3 in the Pulitzer came as no surprise to those who knew Harold Hartney. This determined pilot had been a lawyer in the U. S., but went back to his native Canada to enlist in 1915. He served in the trenches with the British, transferred to the Royal Flying Corps and fought in the air over Italy and France. When the United States entered the war he transferred to the U. S. Air Service and was rapidly promoted to the temporary ranks of Major and Lt Colonel. He commanded the 1st Pursuit Group in action, instituted the first night fighter operations, scored six official kills during the bloody Meuse-Argonne and Saint Mihiel offensives, won virtually every decoration three grateful nations could bestow, and worked closely with General Mitchell during the closing months of the war. In 1919 he headed the Civil Affairs Division of the Air Service, the true great-grandfather of today's FAA, and he flew a captured German Fokker D-7 coast-to-coast and back in the First Transcontinental Reliability and Endurance Test that was in reality a path-finding effort for the commercial air mail.

He created a great stir among the throngs of onlookers at the Pulitzer since he was the first contestant airborne for the race. His MB-3 number 41 roared into the brisk fall sky at 11:20 followed closely by the other six planes of the race's first "flight." Hartney was also competing for the Aero Club of America's Invitation Class Prize, open to the planes of the first flight, and his time garnered that prize easily. The MB-3 he flew had a wing loading of 8.3 lbs/sq.ft. and a power loading of 6.2 lbs/hp with gross weight of 2095 pounds. Its engine was an American-built Wright-Hispano direct-drive H-2 normally rated at 320 hp at 1800 RPM. This power plant was an 8-cylinder vee affair with a displacement of 1125 cubic inches (as compared to the 2025 cubic inch displacement and 630 hp at 2000 RPM rating for the huge Packard powering the winner). The "Hunter" engine in Hartney's MB-3 was equipped with new Dixie dual magnetos which had given better service than the Sims originally standard on Wright Hissos. The pilot could monitor a Boyce-type C water thermometer, Signal Corps-type A tachometer and Signal Corps-type D altimeter. No provisions had yet been made to include airspeed indicators in the standard equipment list, and so the MB-3s flew without them.

The other MB-3 in the 1920 Pulitzer was also an original MB-3 prototype, carried race number 43 and was flown by 2nd Lt Leigh Wade, who was destined to achieve fame as one of the round-the-world pioneers four years later. After doing the first lap some 45 seconds slower than Hartney, he had a drift wire let go on the second lap and so returned to Mitchel Field.

## RACING IN 1921

The promised racing contracts weren't long in coming. On May 24, 1921 contract number 370 was signed with Thomas Morse calling for three racing biplanes for the Army. These would be called MB-6 and were intended as the Army's entries in the 1921 Pulitzer. They were to be delivered to McCook Field before August 23, which gave Thomas Morse just three months for design and construction. The Army paid $48,000 for these planes and furnished engines, props and instruments, to be installed at the Ithaca factory. The MB-6 was to be capable of taking an engine that would deliver 400 hp at 2000 RPM. However, the same type Wright Hispano H-2s that the 1920 MB-3s used were provided. To meet the terms of the contract the racers had to exceed 175 mph high speed and land at 75 mph or less, the latter being one of the few requirements for participation in the otherwise free-for-all Pulitzer Races. One of the three would be used for



*One of the three MB-6 racers, 68539, built in 1921. Seven feet were clipped from MB-3 wings, making the span a tiny 19 feet. Lt John A. Macready flew this silver beauty in the 1921 Pulitzer at Omaha. (Foxworth Coll.)*


*The white MB-6 which was first tested at McCook Field by Lt. Macready during October 1921. It was equipped with a single radiator located on the port side. (USAF)*

*Within a week of its first flight the white MB-6, the only one flying at McCook Field, had crashed. It was piloted by Capt Corliss C. Mosley who walked away from this wreckage on October 25, 1921. (USAF MF10871)*

static strength tests for which the government specified a minimum of 4g. The other two would be used for racing and flight test. It was further stated in the contract that the top dope coat would be aluminum, but this was later changed to white on one of the planes.

With so little time to engineer and build the three Army racers, and spurred by the success of the standard MB-3 the previous autumn,B. D. Thomas decided to soup up his basic pursuit. The plane that resulted was essentially a clipped-wing MB-3 with a single-bay wing configuration. Seven feet were cut from the MB-3 wing making the span a miniscule 19 feet, and the fuselage was shortened six inches. One water-cooling radiator was mounted on the left side of the fuselage between the wings. The gross weight was trimmed to 2023 pounds--since it was a pure racer there were no provisions for military equipment. Air Service numbers 68537 through 68539 were issued to the three planes.

Despite the fact they were merely cleaning up the MB-3, the work went slowly and two extensions on the contract deadline had to be granted. On September 20 the three MB-6s, never having been flown in Ithaca, arrived crated and untried at McCook Field. Number 68538 was immediately set up for sand-bag structural tests, and as soon as it was determined that the plane met the specified strength requirements number 68537 was placed in flying condition. Lt John A. Macready, a wiry man with an easy grin and kind blue eyes peering out from a seamed, rugged face older than its years, was picked as the test pilot.

This was not Macready's first experience as test pilot of Thomas Morse aircraft. On March 30, 1921, almost seven months before, he had fallen some 9,000 feet in the third prototype MB-3 while on a test flight over the Ithaca factory. At 10,000 feet he had started a dive when he heard a sudden, sharp report. To his horror Macready saw that the entire leading edge of the upper wing had failed and strips of fabric were peeling back in the wind. The plane failed to respond to the controls, despite Macready's every desperate effort, and plummeted out of the sky in a sickening, shrieking spiral. It crashed upside down with terrific force in the center of the Thomas Morse Field, but when the wreckage had been cleared, Macready was found hanging in the straps of his seat bruised but otherwise uninjured. This crash led to necessary structural modifications to the MB-3 design, and Macready went on to finish, in thoroughly professional style, a complete performance analysis of the MB-3 for the Air Service. Without a doubt this quiet, competent test pilot, also known as "the altitude king", was the Wally Schirra of 1921.

On the morning of October 21 he took the MB-6 aloft on its first 15 minute flight and came back very impressed. He had opened the throttle slowly in several passes over the McCook Field measured course, and on his last pass the airspeed indictor showed 182 mph. The MB-6 had a breath-taking rate of sink with power off, yet Macready intimated that although the plane's flying qualities were "tricky (they were) not dangerous." The MB-6 proved to be skittery on the ground as well, for its narrow tread made it hard to land, especially on the often rough pastures then used as air fields.

Captain C. C. Moseley, 1920 Pulitzer victor, was also assigned to the MB-6. On October 23 he made his first flight in 68537. Two days later, on his second flight in this plane, everything went well until he was on final approach when the plane began to sink. He was indicating 105 mph (well above stall), but the little racer was settling much too fast. Moseley came on with a sharp blast of power, but it was too late and the plane sank dramatically into the ground, pancaked hard and somersaulted one and a half times, coming to rest upside down 40 yards from its first point of impact. Even though the plane was crumpled beyond recognition both ahead and aft of the pilot's seat and the wreckage was drenched with fuel from the burst tank, no fire ensued and Moseley escaped virtually uninjured. The plane was beyond repair, and this left only one MB-6 intact in the Army inventory. Still crated and never flown, it was shipped to Omaha, Nebraska for the Pulitzer Race.

At about the same time the three MB-6 racers were contracted for, the Army ordered 12 additional craft by contract 265-S-1, dated May 16, 1921. Two were to be monoplane racers, type MB-7, and were assigned Army serials 64373 and 64374 at the time of contract. The remaining 10 were to be standard MB-3 pursuits. Remarkably, during a period of otherwise bitter policy dispute, this contract represented a rare example of joint Army-Navy administrative cooperation. In actual fact the Navy would acquire all 12 planes by "riding" the Army contract. On requisition CR80Bu21 the 10 MB-3s were assigned Navy serials A-6060 to A-6069, and the two MB-7 racers were to be A-6070 and A-6071. All 12 were originally due for delivery during November 1921. But B. D. Thomas was anxious to prepare at least one of the MB-7s in time for entry in the 1921 Pulitzer, for it would embody his latest unconventional idea.

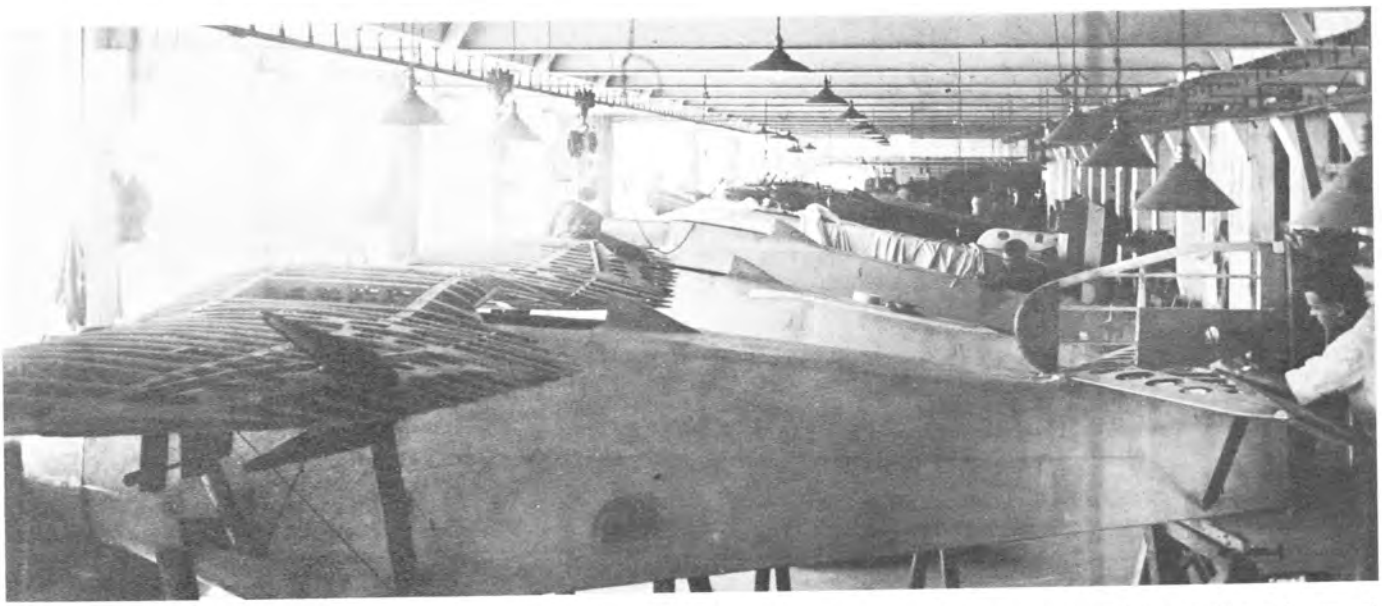
During 1921, Thomas had become quite interested in the "Alula" wing designed by Mr. A. Holle then being developed in England by the Commercial Aeroplane Wing Syndicate, Ltd. Its defenders claimed for this peculiar, bird-like device that it would eliminate span-wise flow and consequent tip losses. This, they said, was achieved by using a thin, unbraced cantilever surface with large incidence at the root gradually changing to a zero-lift, negative incidence at the sharply pointed tip. Planned for load carrying machines flying at moderate speeds, it was suggested that the wing could also be adapted for high speeds due to its favorable drag characteristics. Therefore, during 1921, the charming little Martinsyde "Semi-Quaver", which had elicited many compliments at both the 1920 Gordon Bennett and 1920 Aerial Derby (which it won), had its biplane wings removed and an all-wood, multi-cellular "Alula" wing installed. Flown by the noted British pilot Reginald W. Kenworthy, the "Semi-Alula-Quaver" put up what was certainly a striking demonstration, climbing out initially at something over 45 degrees and at times indicating in excess of 180 mph. It made an absolute shambles of the performance of a Bristol fighter flown alongside for comparison.

For his MB-7 monoplane racer, Thomas modified the Alula design to use a thicker airfoil, a modified USA-27 section, in the interest of spar depth for greater strength. He did away with the sharply tapered tip in the interest of more effective ailerons (and thus apparently did away with much of the originally-claimed advantage for the "Alula" concept), and rather than a gradually changing wash-out of the airfoil, he built a decided "crank" into his wing at the outer lift-strut attachment.

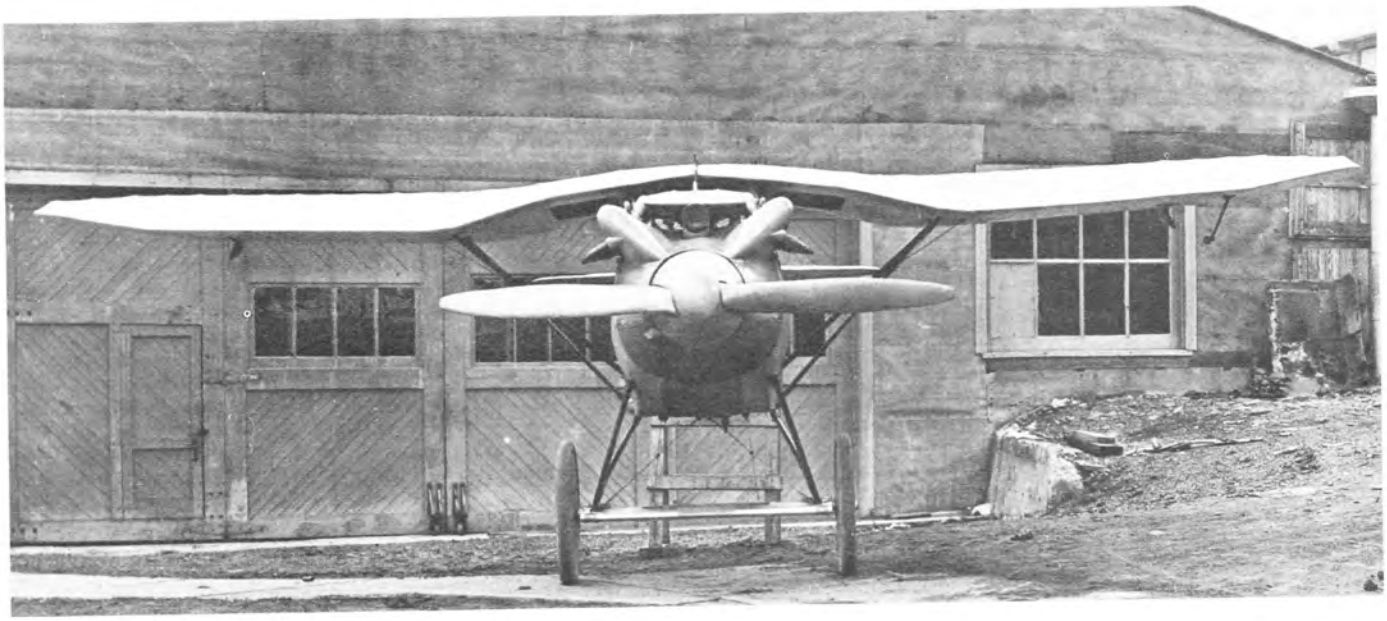
The curious, humped wing that resulted from Thomas' studies had a span of 24 feet and an area of only 112 square feet, a bit sparse for the 2,000 pound racer. With the exception of the wing the MB-7 was almost identical to the MB-3/MB-6. The vertical tail had been enlarged slightly, but the fuselage was very similar to the earlier craft and it was fitted with the same engine, the Wright H-2. Thomas Morse test pilot Paul D. Wilson, who with Burnside had done much of the initial MB-3 testing, managed only to taxi the MB-7 before Harold Hartney arrived at Ithaca to flight test the airplane he was going to race. Actually, like the MB-6, the first MB-7 was barely finished in time for the race. Hartney took it up for its first flight on Monday, October 24, 1921 at Ithaca. A week later it had been shipped to Omaha as one of the two Thomas Morse race entries.

Actually, the 1921 Pulitzer Race had originally been scheduled for Selfridge Field, Mt. Clemens, Michigan during mid-September. However, during the summer, the services withdrew their official entries from the contest and on July 18 the race was cancelled. For several weeks, it had seemed as though the Pulitzer was a dead duck, but at the last moment it was resurrected and rescheduled as an adjunct to the International Aero Congress,


*In 1921 the "Tin-side red-devil" (Martinsyde Semi-Quaver) was converted from a biplane to a monoplane by the installation of an "Alula" wing. Mr. Reginald W. Kenworthy was test pilot. The strange wing design was of great inspiration to B. D. Thomas (Flight)*



*The MB-7 was essentially an MB-3 with a wing patterned after the "Alula" wing. It is seen in this photograph in the Ithaca factory of Thomas Morse being built alongside MB-3s. (Matt Coll.)*



*The first MB-7 after its rollout at Ithaca during the autumn of 1921. Hurriedly tested in October, it was shipped to Omaha, Nebraska to be flown on November 3rd by Capt Hartney in the 1921 Pulitzer Trophy Race. (Matt Coll.)*

a fancy title for a reunion of World War fliers to be held in Omaha during the first week in November. The impetus for this meeting was in fact the Third Annual American Legion Convention planned for Kansas City the last of October and which promised to be a huge and rousing affair. General interest in aviation and particularly air racing was intense in the mid-west and the meet in Omaha followed right on top of the one in Kansas City. In fact, Lloyd Bertaud flew his Curtiss K-12 powered Ansaldo "Balilla" to first place in the American Legion Air Derby on November 2 and to fourth place in the Pulitzer at Omaha the very next day.

Since the military was prohibited from entering their planes in these races the airplane builders had arranged to borrow back their products to enter in the Pulitzer under their own names much as auto manufacturers race their cars under the company flag today. Thomas Morse had secured the loan of the remaining MB-6 (68539) and the one completed MB-7 (64373) from the Army, and Curtiss borrowed a biplane racer from the Navy for the event. Curtiss was also represented by the gaudy red and silver "Cactus Kitten" triplane, an outgrowth of its 1920 Gordon Bennett racer. This plane was entered by its owner, Texan S. E. J. Cox, who named Clarence Coombs to fly it. The Curtiss Co. fielded Bert Acosta, their colorful and hot-blooded civilian test pilot, to man their sleek Navy biplane. Harold Hartney, recently resigned from the Army and installed as Executive Secretary of the Aero Club of America, and Lt Macready, who had taken leave from his military duties at McCook Field, were selected to pilot the two Thomas Morse entries.

The Omaha skies were a cloudless, crystal azure the day of the Pulitzer, the temperature rose to 58 degrees, nice for early November, and a steady northwest breeze rustled the grass of the flying field. An exhilaration was in the air--the first prize was $3,000! The race itself consisted of five laps of a triangular course, this time surveyed with extreme care beforehand and determined to be precisely 30.7191 miles in length. From the soft turf field the racers would proceed to the first turn near Loveland, Iowa. It was marked by a huge, whitewashed circle on the ground in which an oil fire was to be built to guide the fliers. Wind on the day of the race, however, prevented construction of the fire, so the contest was delayed while a huge cross was built at the brow of the bluff. Constructed of cheesecloth, it stood no less than 50 feet high and had a spread of some 30 feet! The second turn, near Calhoun, Nebraska, was indicated by a white, wooden windmill "40 rods" northwest of the Calhoun cemetery. It was also encircled by a whitewash marker but was nevertheless hard to see in the dip behind "cemetery ridge", so a pole topped by a checkered flag was erected. Five times around this course would make a total of 153.595 miles; six planes started the race and four finished. A new requirement restricted the race to planes that could better 140 mph, and this effectively eliminated all craft except pursuits and specialized racers, thus establishing for the Pulitzer its character as a primarily military classic.

At Omaha Hartney's MB-7 was given race number 1, while Macready's MB-6 bore number 2. They were the favorites of the bettors "in the know" even though the two Curtiss machines looked a good deal faster than the chunky Thomas Morse racers. Most aviation folks considered the Wright Hissos more rugged powerplants than the finely tuned Curtiss engines (the C-12 in the Kitten and the CD-12 in the Navy CR). Very few figured the Curtiss engines could stand the gruelling pace. They were wrong. Acosta flashed around the course at incredibly low altitudes and smashed the world's closed-course speed record in one of the finest displays of the fantastic "touch"--the absolute mastery of his plane--for which he was so well known among his contemporaries. Although Coombs flew wild and wide in the strange and tricky Kitten, making sweeping turns and holding to the outer edge of the course with his "Whistling Bill" plate radiators shrieking in the wind (it was his first flight in this machine), the Kitten was the fastest plane on the straightaways and he came in second. The engines in both Curtiss racers performed perfectly.

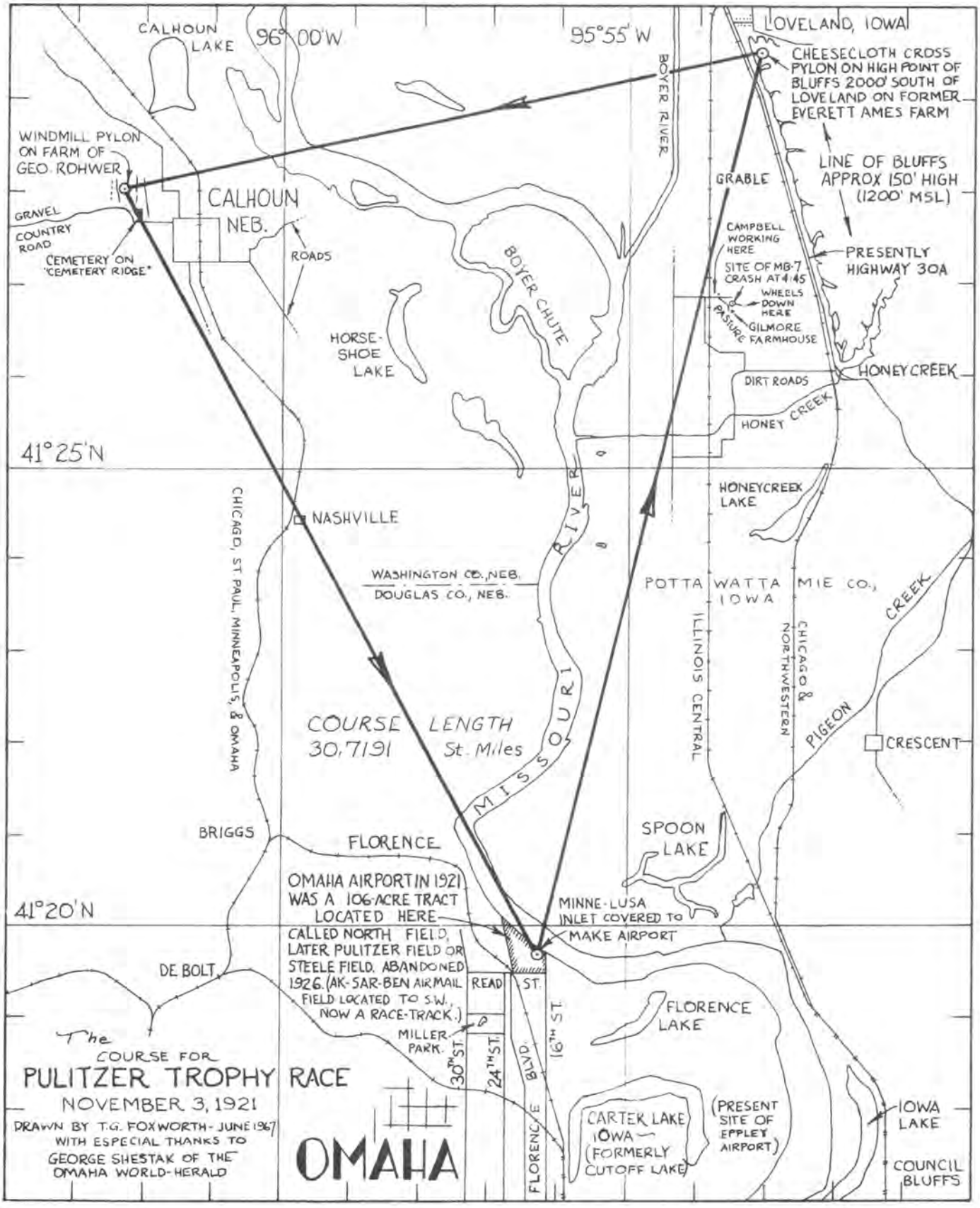
Actually the day had started off quite glumly for the Thomas Morse fans. Early in the morning both racers had been warmed up and both quit suddenly while at full throttle. It appeared to be a faulty siphon attachment on the "sylphon" fuel pumps in both cases. The mechanics and Eddie Mulligan of the Wright Aeronautical Company worked continuously on the planes and after many trials and pump adjustments succeeded in correcting the trouble on the MB-6.

Starter Howard F. Wehrley gave Macready the red-and-white flag minutes after the first two racers were away, and he finished his five laps in :57:20.4 to average 160.72 mph, 16 mph off the pace set by Acosta, but good enough for third place and hailed as probably the prettiest, most consistently flown race of the day. The ten thousand people on the muddy field and the thousands more that lined the course would hear the insistent buzz of the Hisso engine crescendo into a deep, staccato shriek, see the plane appear, slash vertically in a wing-straining turn, a flash-bulb impression of sun-glinted silver literally brushing the pylon, then recede rapidly out of sight, leaving a smoky trail to the horizon. Time after time with professional, almost brutal precision, until the fifth time which, on the electric timer, was almost a perfect multiple of the first, Macready turned the laps. Neither his pace nor his path varied a jot, and it was hard to imagine the variance that guides a human hand during his 15 mechanically perfect turns. Later Macready admitted that "for some reason" he had found the Calhoun turn somewhat difficult, and his engine had overheated but not seriously. He was able to keep the throttle wide open for all five laps.

The MB-6 proved more tricky to fly at full throttle than was apparent to spectators or Macready himself on his earlier test flights. He found a strong tendency for the little racer to hunt longitudinally at high speed, a common characteristic shared by other types of small, over-powered, close-coupled biplane racing craft of this era. As Macready zoomed the MB-6 to 1,000 feet after his last lap the worst fears of his ground crew were realized; the rasping drone of his engine stopped with startling suddenness. He popped the nose down to prevent stalling, and thinking all too clearly of the MB-6's fiendish sink rate, started a shallow turn to attempt a down-wind landing, the most advantageous from his position. Then, as suddenly as it had quit, the engine roared to life again. Macready quickly reefed the plane around, made a normal down-wind leg and landed nicely into the wind.

In the case of Hartney's MB-7, a copper spring was found to be broken in his "sylphon" fuel pump, and this necessitated removing the pump to repair it. By 4:30 PM the reassembled pump was back in the racer, but the engine was still balky. Hartney's wife pleaded with him not to go in the cranky plane, but he knew the MB-7 could be a winner--intrinsically it was the fastest plane at the meet. In addition Hartney had strong feelings against defaulting to Acosta, who had taken third to his second in the Pulitzer the year before. The contest committee had already granted one 20 minute extension, but even this deadline was fast approaching and Hartney was impatient to be off. Under the rules, winning planes had to finish before dark. In another hour the sun would be down, and Hartney had over 150 miles to cover. With a last, frantic wave from his wife he charged into the air and hurtled across the starting line at 4:38 with just two minutes to go. As the MB-7 plunged by it appeared to be much faster than any of the previous racers, but 10 minutes went by, then 15, and still Hartney hadn't reappeared. There were several more minutes of increasingly anxious concern before search planes began taking off. Finally, a farmer telephoned with definite news.

Ed Campbell, a tenant on the Gilmore farm, and his


CALHOUN LAKE
96° 00' W
95° 55' W
LOVELAND, IOWA
CHEESECLOTH CROSS PYLON ON HIGH POINT OF BLUFFS 2000' SOUTH OF LOVELAND ON FORMER EVERETT AMES FARM
BOYER RIVER
WINDMILL PYLON ON FARM OF GEO. ROHWER
LINE OF BLUFFS APPROX 150' HIGH (1200' MSL)
GRABLE
CALHOUN NEB.
GRAVEL COUNTRY ROAD
CEMETERY ON "CEMETERY RIDGE"
ROADS
BOYER CHUTE
CAMPBELL WORKING HERE
SITE OF MB-7 CRASH AT 4:45
WHEELS DOWN HERE
PASTURE
GILMORE FARMHOUSE
PRESENTLY HIGHWAY 30A
HORSE-SHOE LAKE
HONEY CREEK
DIRT ROADS
HONEY CREEK
41° 25' N
HONEYCREEK LAKE
NASHVILLE
CHICAGO, ST PAUL, MINNEAPOLIS, & OMAHA
WASHINGTON CO., NEB.
DOUGLAS CO., NEB.
MISSOURI RIVER
POTTA WATTA MIE CO., IOWA
ILLINOIS CENTRAL
CHICAGO & NORTHWESTERN
PIGEON CREEK
CRESCENT
COURSE LENGTH 30.7191 St. Miles
BRIGGS
FLORENCE
SPOON LAKE
OMAHA AIRPORT IN 1921 WAS A 106-ACRE TRACT LOCATED HERE
MINNE-LUSA INLET COVERED TO MAKE AIRPORT
41° 20' N
CALLED NORTH FIELD, LATER PULITZER FIELD OR STEELE FIELD. ABANDONED 1926. (AK-SAR-BEN AIRMAIL FIELD LOCATED TO S.W., NOW A RACE-TRACK.)
DE BOLT
READ ST.
MILLER PARK
30TH ST.
24TH ST.
FLORENCE BLVD.
16TH ST.
FLORENCE LAKE
CARTER LAKE IOWA (FORMERLY CUTOFF LAKE)
(PRESENT SITE OF EPPLEY AIRPORT)
IOWA LAKE
COUNCIL BLUFFS
The COURSE FOR PULITZER TROPHY RACE
NOVEMBER 3, 1921
DRAWN BY T.G. FOXWORTH - JUNE 1967
WITH ESPECIAL THANKS TO GEORGE SHESTAK OF THE OMAHA WORLD-HERALD
OMAHA

*Remains of the forward section of Hartney's MB-7 after its crash. Photograph was made in the late afternoon, just after the accident and before remains burned. (Foxworth Coll.)*

brother-in-law, Arthur Kady, were shucking corn that day but were not getting a lot done as they watched the racing airplanes passing almost directly overhead. Mrs. Campbell was with her small son at a windmill to the southeast. It was almost with relief that she had thought the race was over because no planes had passed for some time. All day she had been "afraid a plane would fall on the farmstead." Then she heard the small silver monoplane boring over the trees to the south. Hartney was flying close to the ground and doing over 180 mph when his fuel pump failed and the engine quit cold. He soared the racer to nearly 1,000 feet while trying desperately to switch to his gravity-feed reserve tank, but the valve had jammed. Hurriedly searching for a place to land, he tried to set up an approach to the pasture south of the Gilmore farmhouse, the only decent place available. Despite the alarmingly fast speed Hartney needed to maintain control, he was able to handle the MB-7 quite well without power. But it soon became apparent he couldn't make the pasture, so he maneuvered to land into the wind on a small, triangular, plowed field just north of the farmhouse.

It appeared he was in good shape for the landing, but he touched down fast and the landing gear ripped away. The plane veered to the left, slid on its belly for a few yards leaving a foot-deep furrow, then suddenly lurched off like a torpedo and hit on its nose in a brush-covered gully 60 feet further on. Hartney was catapulted from the cockpit and hit the ground with such force that his forehead was skinned by the helmet ripping off. He also suffered a broken thigh bone and a severely fractured hip. Mrs. Campbell had seen the MB-7 "getting lower and lower, then it turned and crashed." She did not see the impact, however. Neither did Campbell nor Kady, but they heard the sudden crunch of wood and metal and raced to the slough where the plane had ended up. They found Hartney who told them, "Telephone my wife and tell her I've sprained my ankle." They carried him the few yards to the farmhouse and tried to make him comfortable with blankets and towels. Today Ed Campbell is the owner of the very same farm, and he still recalls with clarity the details of that November afternoon.

People soon clustered at the site of the accident, and souvenir hunters were hastily stripping the demolished MB-7 of everything portable from its engine to bits of cable. About an hour after the crash, through the carelessness of one Fred Offertag who was smoking a cigar near the wreck and fuel-soaked ground, the remains of MB-7 64373 were burned to ashes.

It is reported that Hartney, on Campbell's cot, wept when he learned the plane was in flames and could not be saved. He told the World-Herald correspondent that the MB-7 was the "prettiest and most graceful plane I ever handled. If I could have stayed in the air I would have beat Acosta by two minutes." Hartney was admitted to Omaha's Methodist Hospital, and although discharged two weeks later for transfer, he spent the next two months in bed. Hartney was destined to have a life-long limp as a result of this crash and was ever after known to his friends as "Gimpy."

The H-2 engines in both Thomas Morse entries had been equipped with the same accessories as those of the MB-3s in the previous year's race, except that in 1921 it was decided to burn a mixture of 40% gasoline and 60% benzole in both racers. The instrument panel of each Thomas Morse sported a Van Sicklen tachometer, Tycos altimeter and even an airpseed indicator--by Precision. Improvements were indeed being made! After the race Macready's MB-6 was disassembled and shipped back to McCook Field. At this time the plane picked up the designation R-2. It was reassembled but no records can be found indicating it was ever flown again. It remained there in storage until October 31, 1924, when it was removed and used for crash tests.

## RACING IN 1922

The military services returned to air racing with a flourish the following year, and the site that had first been selected for the 1921 Pulitzer was once again designated--Selfridge Field near Detroit, home of the 1st Pursuit Group. Contrary to their policy of avoiding air racing in 1921 the services went after each other in 1922 with gusto. Both the Army and Navy ordered several custom-designed specialized racing airplanes and even the least of these small projectiles, as individual as knights at a jousting tournament, was capable of piercing the speed marks of just months before.

Thomas Morse, with a solid reputation now as a manufacturer of quality racers, would be amply represented in 1922. But not until the firm had weathered a bit of difficulty. The Navy would not pay for the MB-7 which had been wrecked at the Omaha race by a Thomas Morse-retained pilot, and BuAer required the firm to replace it. The second MB-7 which had originally been ordered would be delivered for this purpose, yet the first MB-7 and its replacement were now both considered as one aircraft for payment purposes. As a "sop" to Thomas Morse an additional MB-3 (raising the total of MB-3s from 10 to 11) was ordered during December 1921. The eleventh MB-3 was assigned unusued serial A-6070, and all eleven MB-3s were delivered to Quantico MCAS during February 1922. There they formed F Flight, Third Marine Air Squadron, the Marines' first true fighter organization.

The second and last MB-7 was completed in February 1922. Identical in structure to Hartney's 1921 model, it was more powerful than its predecessor, being equipped with the Wright H-3 engine. First Lt Francis "Pat" Mulcahy, a leatherneck who had graduated from Notre Dame in 1914, flown bombers over France in 1918 and served with the Marine contingent in Haiti, was the test pilot on the Navy Board of Inspection and Survey assigned to fly the MB-7. (Today retired General Mulcahy lives quietly on the west coast.) By March 1922, under Navy project 307, the MB-7 was at Mitchel Field awaiting favorable conditions for testing. A further delay was incurred by the wait for a new Hartzell propeller and the completion of a new measured speed course which was being surveyed at Curtiss Field (shown as Hazelhurst Field on the map, p 148). This MB-7 still bore the original Army contract serial number 64374. General Mulcahy's pilot logbook indicates no Navy bureau number for any of his flights in the MB-7. Over the six month period April 14,1922 to October 14, 1922, Mulcahy acquired 5:41 MB-7 time in 17 separate flights.

Mulcahy made his first flight in the MB-7 on April 14,

*Capt Francis P. Mulcahy, a Marine pilot, flew the second MB-7 in the 1922 Pulitzer but did not finish. This aircraft was equipped with the H-3 "Super Hunter", a larger powerplant than used on its predecessor. (National Archives 80-HA-74-1)*

It lasted 11 minutes. Later in the day he made another flight, this one for 14 minutes, but landed prematurely due to engine trouble. He recalls, "The MB-7 was continually a source of trouble due to insufficient cooling of the engine at high power settings." His first speed trial was made April 19, 1922. He averaged 175 mph in nine runs, but on his four best (two east, two west) he managed 180.75 mph. A week later, on the 26th, he made another eight runs and averaged 174. Still not satisfied, he tried once again on the 30th, but after a flight of only 10 minutes he had to make a hurried landing "with the cockpit enveloped in white smoke from the crippled engine. Fortunately I was close to Mitchel Field with ample room for landing but had to slip and fishtail the aircraft to get enough forward visibility to get it safely on the ground. My logbook notation says, 'piston in #2 cylinder crumbled--have to change motor.'" His last speed trial, after the engine change, was run July 25, 1922, and all concerned felt reasonably ready for the upcoming Pulitzer Race. Mulcahy remembers the MB-7 was "comparatively stable and behaved well in the air. Forward visibility was poor, especially on landing, due to wing placement." The MB-7 bore race number 7 in the Pulitzer.

However, B. D. Thomas hadn't stopped racer development with the MB-7. As part of the services' renewed racing program, Thomas Morse early in 1922 received contract 551 which called for two brand new racers to be designated R-5. A penalty clause for failure to achieve a 190 mph high speed was included in the contract. The total price was placed at $81,000 and Army serials 68561 and 68562 were assigned. Two of the latest versions of Colonel Jesse G. Vincent's 1920 Packard (he was also co-designer of the ubiquitous Liberty), each capable of over 600 hp, were furnished by the Army. These 1A-2025 model engines bore serials AS95036 and AS95038.

B. D.'s imagination was as active as ever, and although his two R-5s would suffer aesthetically from the primitive construction techniques of the day, they were boldly constructed entirely of metal. The wing span of 68561 was 29 feet (area 174 sq. ft.) and of 68562 only 25 feet (area 150 sq. ft.). Overall length of the R-5 was 19'9". The R-5 was developed directly from earlier Thomas Morse efforts, the metal MB-9 and MB-10 monoplanes --of which only prototypes were built--with a sprinkling of MB-7 aerodynamics thrown in. Of its two metal forebears, the 2-seat MB-10 trainer had been completed first. Originally intended to accommodate a 200 hp Wright or Lawrence air-cooled engine, it finally mounted a 110 hp LeRhone rotary. It was sluggish with control forces that varied alarmingly with airspeed. Heavy top rudder was required in all turns. The MB-10 suffered its demise during preliminary tests. The MB-9, on the other hand, was a single-seat pursuit powered with the Wright

*The second MB-7 at the 1922 Pulitzer at Selfridge Field. It spent its remaining years in the Marines. (USAF)*

*MB-9 was B. D. Thomas' first attempt to incorporate metal construction in fighter design. Test pilot Frank H. Burnside did much early testing for Thomas Morse. (Matt Coll.)*

*MB-10 two seat trainer, conceived at same time as MB-9 to complement it. Both were flown only as prototypes and exhibited vestiges of the "Alula" principle. (Matt Coll.)*

H-3, but the heavy vibration characteristic of this engine resulted in structural problems which led to the abandonment of the MB-9 program. The TM-22 (R-5) design followed soon thereafter and provided "B. D." another chance to vindicate his ideas on metal construction.

Tubing, slit open and formed into rings, provided the fuselage structure to which .018 corrugated duralumin sheet skin was riveted. The covering from the cockpit forward was smooth sheet aluminum over steel-tube structure. Only the R-5's humped wing, now strangely ugly, faintly recalled the "Alula" principle which otherwise had been completely abandoned. A modified USA-27 airfoil was used (as on the MB-7). Center section incidence was 3°, washed out to 2° negative at the tips, which provided negligible lift in normal flight attitude but was at the angle for minimum drag. Four main spars were employed, fabricated from corrugated dural webs and aluminum extrusions. No ribs were used since the .020 corrugated dural sheet skin provided adequate stiffness. The enlarged center section carried the 66-gallon fuel tank, mounted atop a peculiar truss which was devised to widely distribute the flight loads. B. D. Thomas, notorious for his light, often sparse, aircraft structures, even made use of the engine crankcase as a load-bearing member in the R-5. An underslung, bomb-like affair with an open "fish-mouth" forward housed both the extruded-copper-tube 11" long water radiator and air-cooled oil tank behind it. The tires were 28x3½, the wheels independently sprung.

Both planes were ready for delivery four months from the contract date. The first R-5 (68561) was shipped to Selfridge Field by rail and made its first flight on September 29, 1922, with Captain Frank O'Driscoll "Monk" Hunter at the controls. Considered one of the hottest pilots in the service, Hunter was a 28-year-old veteran of Eddie Rickenbacker's "Hat-in-the-Ring" Squadron. He had bagged nine "Huns" and had won no less than five DSC's while doing it. (Monk Hunter was destined to become Commanding General of the 8th Air Force Fighter Command in 1942, later CG of the 1st Air Force.) His first flight in the R-5 was cut short since the plane was difficult, even dangerous, to fly. Moreover, it developed cooling troubles almost immediately. After the flight new radiators and new clipped wings, as used on the other R-5, were ordered. After the new radiator was installed, Hunter made the second flight in the machine for 11 minutes on October 5. Time was too short to construct another set of short wings, however.

Meanwhile, R-5 68562 arrived at Selfridge and was assigned to Lt Clayton L. Bissell, 26, a seven-victory ace. (He would later be Commanding General of the Air Forces in China, Burma and India during another war.) He had only just returned from a survey of aviation in Europe with Alfred V. Verville, designer of the 1920 Pulitzer winner, and General Billy Mitchell. Hunter's R-5 68561 drew number 47 for the Pulitzer Race; and Bissell's clipped-wing 68562 drew race number 48.

The 1st Pursuit Group, meanwhile, had arrived at Selfridge during June 1922, having transferred from Ellington Field, Texas. Soon after the transfer their brand-new Boeing MB-3A's started arriving in boxcars from Seattle. (Boeing delivered all 200 MB-3A's to the service in the five months between July 29 and December 27, 1922.) The four tactical squadrons in the 1st Pursuit Group then were the 17th, 27th, 94th and 95th. All were thrilled with the breezy little fighter which, despite the ills of its vibration-prone H-3 engine, was exceptionally maneuverable, ruggest, fast and tricky. The MB-3A's made their first squadron flights some three months before the races, and Detroit residents had become used to seeing vees of the boxy little pursuits flitting almost furiously among the summer clouds and sunlight.

Compared to the new super racers that were beginning to arrive at the field and make short, tentative test flights, the MB-3A was certainly outclassed. Although the Army initially entered six MB-3As from the home Group in the Pulitzer, they were soon withdrawn. It was shown on a test hop that the fighter didn't have the gas capacity to complete the Pulitzer distance at full throttle. But they weren't out of competition. On the spur of the moment, a special race was originated for these pursuits to have all to themselves. Interestingly enough, as a pure "horse race" it soon came to far exceed in spectator interest the more sophisticated Pulitzer. The new race was to be a competition between the various squadrons of the 1st Pursuit Group and would outlive the Pulitzer series by a full 10 years.

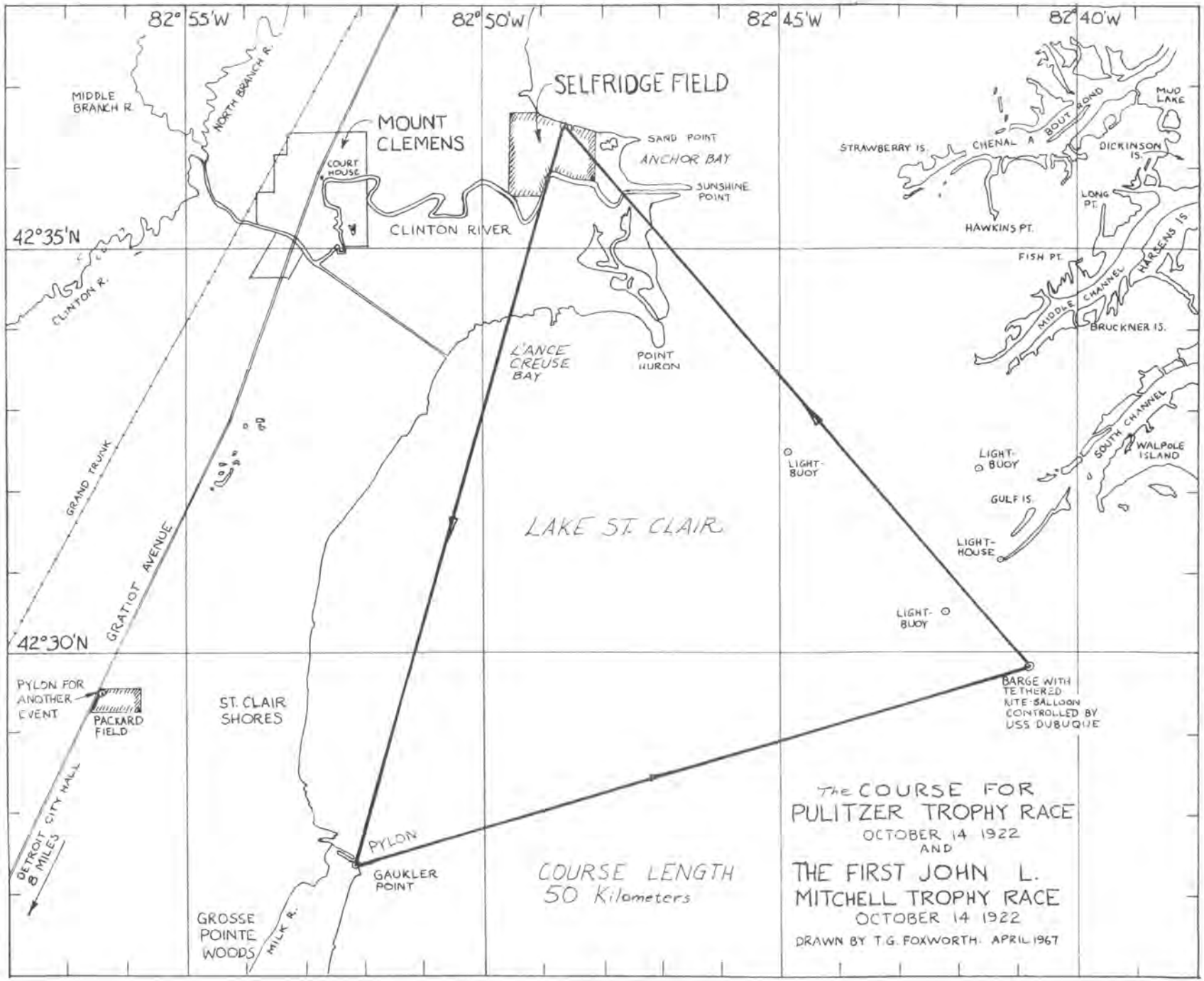
This new race was called the John L. Mitchell Trophy Race and its benefactor was the picturesque, dynamic flying General, Billy Mitchell. A zestful, magnetic figure around whom legends collected, a man with prodigious constitution and limitless enthusiasm, Billy Mitchell was at the peak of his energy and influence during these years. A reporter who described him at the time wrote, "General Mitchell has speed written all over him. He talks, thinks and practices speed...."

Organizing the race was more than just a public relations gesture for the Air Service, it also reflected a solemn side of his nature. For the handsome trophy he donated was in memory of his only brother, John Lendrum Mitchell, Jr., namesake of their United States Senator father and 13 years Billy's junior in age. After graduating from the University of Wisconsin where he had studied engineering, John had taken up aviation under the

*B. D. Thomas, always the proper Englishman, confers with Capt Frank O'D. "Monk" Hunter in the cockpit of the R-5, which he raced in the 1922 Pulitzer. (USAF 10659A.S.)*

*Lt Clayton Bissell, a World War ace like Hunter and Hartney, standing beside the short-wing Thomas Morse R-5 in which he finished tenth in the 1922 Pulitzer. (USAF 10655A.S.)*

*General Billy Mitchell is seen above in the cockpit of his personal MB-3, named "Hawk". At right is portrait of John Lendrum Mitchell, Jr., the General's "kid brother". Killed in France on May 26, 1918, the J. L. Mitchell Trophy was named in his honor and first contested in 1922. Below, General Mitchell and his wife visit his brother's grave in France—notation on the cross reads, "1st Lt. Avia. Sec. Sig. R.S. No. 4". At right below is the lovely* object d'art, *the John L. Mitchell Race Trophy. (Nat'l Archives 18-PU-106M2-1; Mrs. Harriet Mitchell Fladoes; Library of Congress; USAF)*


82° 55'W
82° 50'W
82° 45'W
82° 40'W
42°35'N
42°30'N
MIDDLE BRANCH R.
NORTH BRANCH R.
MOUNT CLEMENS
COURT HOUSE
SELFRIDGE FIELD
SAND POINT
ANCHOR BAY
SUNSHINE POINT
CLINTON RIVER
CLINTON R.
L'ANCE CREUSE BAY
POINT HURON
GRAND TRUNK
GRATIOT AVENUE
LAKE ST. CLAIR
LIGHT-BUOY
LIGHT-BUOY
LIGHT-BUOY
STRAWBERRY IS.
CHENAL A BOUT
MUD LAKE
DICKINSON IS.
LONG PT.
HAWKINS PT.
FISH PT.
MIDDLE CHANNEL
HARSENS IS
BRUCKNER IS.
SOUTH CHANNEL
WALPOLE ISLAND
GULF IS.
LIGHT-HOUSE
PYLON FOR ANOTHER EVENT
PACKARD FIELD
ST. CLAIR SHORES
DETROIT CITY HALL 8 MILES
PYLON
GAUKLER POINT
GROSSE POINTE WOODS
MILK R.
BARGE WITH TETHERED KITE-BALLOON CONTROLLED BY USS DUBUQUE
COURSE LENGTH 50 Kilometers
THE COURSE FOR PULITZER TROPHY RACE
OCTOBER 14 1922
AND
THE FIRST JOHN L. MITCHELL TROPHY RACE
OCTOBER 14 1922
DRAWN BY T.G. FOXWORTH. APRIL 1967

influence of his brother's career and became, during August 1917, one of the first 10 flying cadets to come to the battle zone. On May 26, 1918, while the General was having luncheon at the Cafe Bosquet in Toul, his aide, Captain Kelleher, arrived with a grave expression and the tragic news that John had just been killed. The youth was attempting a landing at Colombey-les-Belles when the rear of the fuselage apparently broke, and he was killed instantly. There had been an especially tender bond between Billy and his "kid brother", and he felt a painful sense of responsibility for John's death. He always thought John's eyes weren't what they should have been, and the tragedy made him resolve to rely more heavily in the future on the objective judgment of doctors regarding a man's fitness for flight.

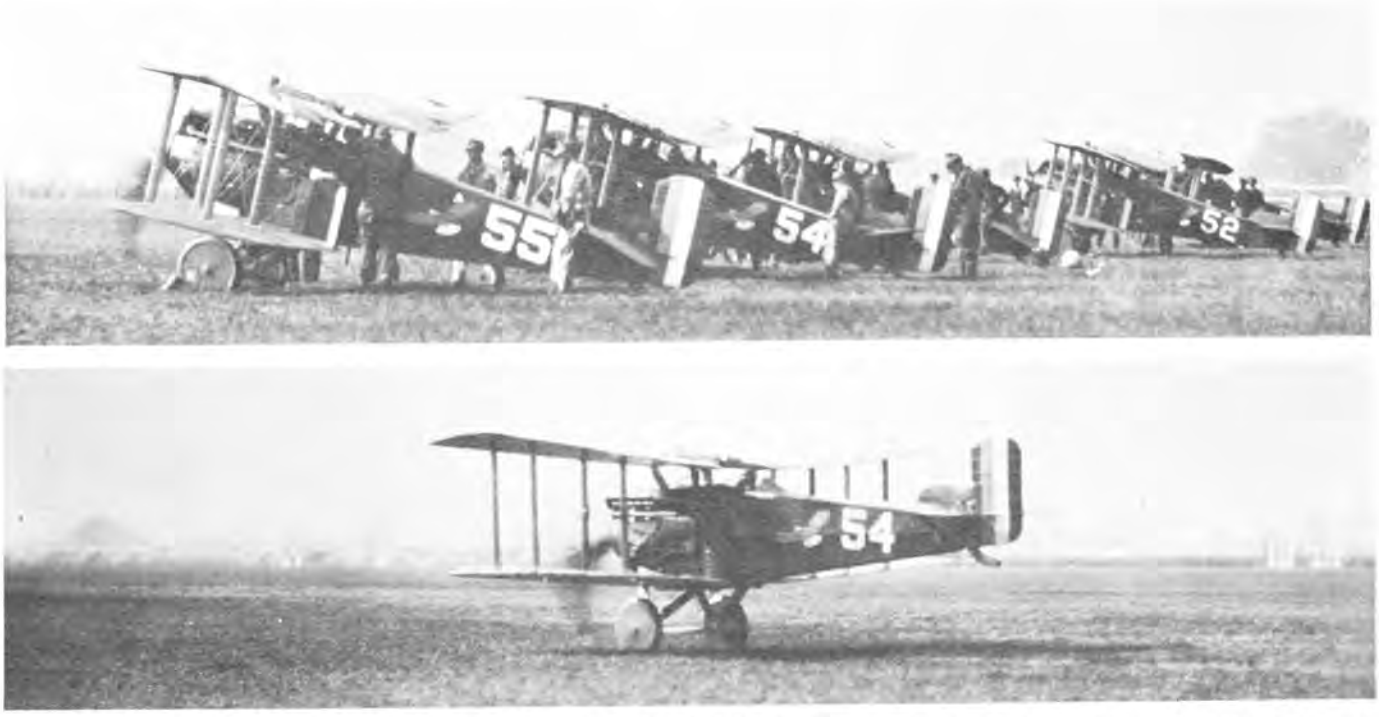
Billy could still remember well the time when little John, then only 13, paid a visit to his company when he was a Captain at Fort Leavenworth. The young officer allowed his little brother to march on maneuvers with the men to Fort Riley, and even wear a special private's uniform fashioned for him by the company tailor. The boy then played the part of a soldier in the field for five days much to his mother's dismay. Years later in France, John, who was still full of deviltry, once took Billy's custom Mercedes and personal driver and had a fling in Paris. The carefree young Lieutenant was quite a hero in the General's car. And then, suddenly, he was dead.

On the day of John's funeral Billy made a flying inspection of the Western Front. Few of the men around him realized how deeply affected he was by his brother's death. Writing to their sister, Harriet, he said, "...John was so much younger that he was like a son.... It hit me... harder than anything ever has..." Throughout his life the event remained fresh in his mind, but he seldom spoke of it. The donation of the race trophy was only a small token of his deep regard for the fallen young aviator. Part of the terms of its donation was that it would be restricted to pilots and planes of the 1st Pursuit Group. The first contest was held at the Selfridge Races in 1922, and the six MB-3A's that had been withdrawn from the Pulitzer became the first six contenders for the John L. Mitchell Trophy.

The two races were contested over the same course, an approximately equilateral triangle of 50 kilometers in length. This was the first year a course of metric dimensions had been adopted, and it was done so that any speed records could be registered with the FAI (the International Aeronautic Federation) without complicated mathematical calculations. Two legs of the course were over Lake St. Clair with the turning point marked by a kite balloon anchored to a moored barge. The Pulitzer contest required five laps of this course, the Mitchell required four.

Second Lt Donald F. Stace at 22 was the "baby of the Group." He had finished West Point in two years, went to pilot training from the Coast Artillery Corps and had only received his wings on June 30, 1922. Assigned as Assistant Group Engineering Officer under Ennis Whitehead upon check-in with the 1st Pursuit Group, Stace worked in the Service Squadron. There was great incentive for the Service Squadron to win the Mitchell Race against the tactical units, so Stace's men cleaned and polished the MB-3 he had been assigned to race until it literally shone. Since the eager young Lieutenant was in charge of engine overhaul, he had his H-3 engine removed and carefully balanced. All appurtenances were removed (even to the radiator shutters and compass on the top wing), struts were faired, the fuselage foot-step was patched over and the entire airplane varnished the night before the race! Meanwhile, Stace was checking out the course. On Friday the 13th, the day before the race, he flew his Spad (number 13, with his personal Black Cat insignia) around the course at increasingly lower altitudes to pick out landmarks. When he strapped into his MB-3A number 54 the next day he had less than 100 hours total pilot time, but he made up for his lack of experience with a strong measure of determination.

The day of the two big races, October 14, dawned bright. A steady, light wind blew, and it was an ideal day for air racing with the exception of a slowly thickening milky haze. By 11:35 the six Mitchell contestants were sitting helmeted in their cockpits, their faces hidden behind expressionless goggles and their little fighters ticking over in readiness for the takeoff. Soon the first pilot taxied his MB-3A slowly away from the rest,




*Brand new Boeing-built MB-3A's lined up for the first John L. Mitchell Trophy Race at Selfridge Field on October 14, 1922. Bottom, Lt. Donald F. Stace's number 54 takes off at the beginning of the race. (Foxworth Coll. and USAF 164916A.C.)*

RESULTS OF THE FIRST MITCHELL TROPHY RACE, OCTOBER 14, 1922

| PLACE | PILOT | NO. | START POSITION | TIME | SPEED |
|---|---|---|---|---|---|
| 1 | Lt D. F. Stace | 54 | 1 | :50:25.73 | 148.0 mph |
| 2 | Capt. A. Guidera | 51 | 6 | :54:48.32 | 136.1 mph |
| 3 | Capt. O. W. Broberg | 55 | 4 | :55:07.87 | 135.3 mph |
| 4 | Lt B. K. McBride | 52 | 2 | :55:23.11 | 134.6 mph |
| 5 | Capt. H. M. Elmendorf | 53 | 5 | :59:48.77 | 124.7 mph |
| - | Lt J. D. Summers | 56 | 3 | OUT LAP THREE | (137 mph average for two laps) |

turned into the wind and opened his throttle. The large white numberals 54 were clearly visible as the plane went jouncing across the grass and slanted into the sky; one by one the others quickly followed. Once aloft they maneuvered for the start, and the slightly out-of-sync drone of the six H-3 engines sounded like a cluster of angry bees. A sudden sharp dive and the race was on! The six MB's ripped by the starting pylon--number 54 was still in the lead, the others right on his tail--and all streaked out of sight to the south. Within minutes the aviators were bending sharply around the pylon at Gaukler Point and heading northeast over the lake toward the moored barge some 10 miles away.

It was now apparent just which factors were going to win this race. Although Stace's efforts had paid off and he had a swifter mount, and Captain H. M. Elmendorf's number 53 appeared somewhat sluggish, for the most part the planes were evenly matched, so it became essentially a contest of flying skill and cool nerve. The man who could best judge his distances on the turns and cut his corners tightest would win. The little planes seemed to almost jostle for position on the straightaways, then come screaming straight for a pylon, rack up on their sides and flip around as though on a wire. Around and around the triangle they flew, Stace gaining about a minute per lap and Elmendorf losing roughly the same. On the third lap Lt James D. Summers returned his number 56 to Selfridge with minor troubles. This left five to continue the fight in a true battle royal, sometimes flying so low they had to pull up to clear trees lining the south side of the field or they left rooster-tails with their prop-wash on the lake. The pilots' disregard for life and limb at the pylons seemed absolutely complete, and it wasn't until the final lap had been flown that the 25,000 people who had flocked to Selfridge Field knew the results.

The Mitchell Race's intense excitement served to whet the crowd's appetite for the Pulitzer Race which immediately followed it, but the swarming battle of MB's had been a huge success on its own merit. It was afterwards always remembered as "The Thomas Morse Race", and General Mitchell, of course, was greatly pleased. The official Air Service organ commented that he had "further endeared himself to the flyers of the Army by being willing to lead in any contest in which the Air Service takes part." Three months later Don Stace, who had soundly trounced his competitors, received the not inconsiderable prize of $400 from the Dodge concern towards a shiny new Dodge Brothers auto! Later Lt L. D. Schulze, pilot of one of the Loening R-4 racers in the Pulitzer, was killed in Stace's MB-3A number 54 while on a gunnery mission.

In contrast to the success of the first Mitchell Race, the results of B. D. Thomas' racers in the Pulitzer werediscouraging. A last ditch attempt to get MB-3s into the big race fell through, and two MB-3s which had been numbered 61 and 62 and hastily modified, to be flown by Lts Thomas K. Matthews and George P. Tourtellot, were withdrawn.

During the morning of race-day, Pat Mulcahy made a short flight to test an additional small water radiator which had been "jury-rigged" below the bottom engine cowl of the MB-7, in the prop slip-stream. It was hoped this would provide sufficient cooling to complete the race at full throttle. It didn't, and Mulcahy had to land with overheat problems on the second lap 30 minutes after takeoff. He'd averaged 145 mph for the first lap. This was his last flight in the MB-7. After the race the aircraft went into storage at the Naval Aircraft Factory at Philadelphia where it remained until it (A-6071) was stricken from the Navy list on May 5, 1925.

The two R-5s, resembling flying washboards with their dull, corrugated duralum skin, finished the Pulitzer in tenth and eleventh spots, the last two places for the specialized racers. Hunter's speed in the race classic was a dismal 149.3 mph and was due in part to a rough-running engine early in the race. He also became disoriented in the haze for several valuable minutes, making his first lap average only 113 mph. Monk brought his average up on subsequent laps with his best being 165 mph. The clipped-wing R-5 flown by Bissell finished the race at 155.5 mph. Neither time was near the 205.8 mph pace posted by the gritty Russell Maughan in the winning Curtiss R-6.

After the race the R-5 still had to complete speed runs for contract fulfillment. Monk Hunter took over


*2nd Lt Donald F. Stace standing by the carefully cleaned up MB-3A in which he won the first Mitchell Race. Stace's helmet was ripped by the wind during the race. (USAF 10630A.S.)*

*The Thomas Morse metal racing plane, type TM-22, Air Service R-5, climbs into the air at the start of the 1922 Pulitzer Trophy Race, piloted by Lt Clayton Bissell. (USAF MF15729)*

*MB-3A's lined up for the second Mitchell Trophy Race at Lambert Field, St. Louis. Insignias of all four squadrons plus the Headquarters Squadron of the 1st Pursuit Group indicate the intense intra-Group rivalry (USAF 11168A.S.)*

the clipped-wing R-5 for these tests, but he was only able to achieve 181.1 mph in his speed runs. Lt Gene Barksdale subsequently attempted to better this mark but failed. However, on October 30 Lt Ennis Whitehead averaged 187.74 mph in six passes over the measured course. On November 8, 1922 Thomas Morse received a check for $75,998.40 from the Air Service. There was a deduction of $1.60 for parts and $5,000 penalty for the two mph under the specified 190 mark.

The two R-5s were disassembled and shipped back to McCook Field. Number 68562 was sent to the assembly section and 68561 assigned to storage. On December 13, 1922 project number P-268 was assigned to R-5 68562, and it was released for test flying January 17, 1923. A few flights, probably less than 20, were made between January and June 1923. Then, on August 15, 1923, it was returned to storage with its sister ship where both remained until February 6, 1924, when they were removed and finished their service by being loaded to destruction with sandbags to determine the strength of their all-metal construction.

## RACING IN 1923

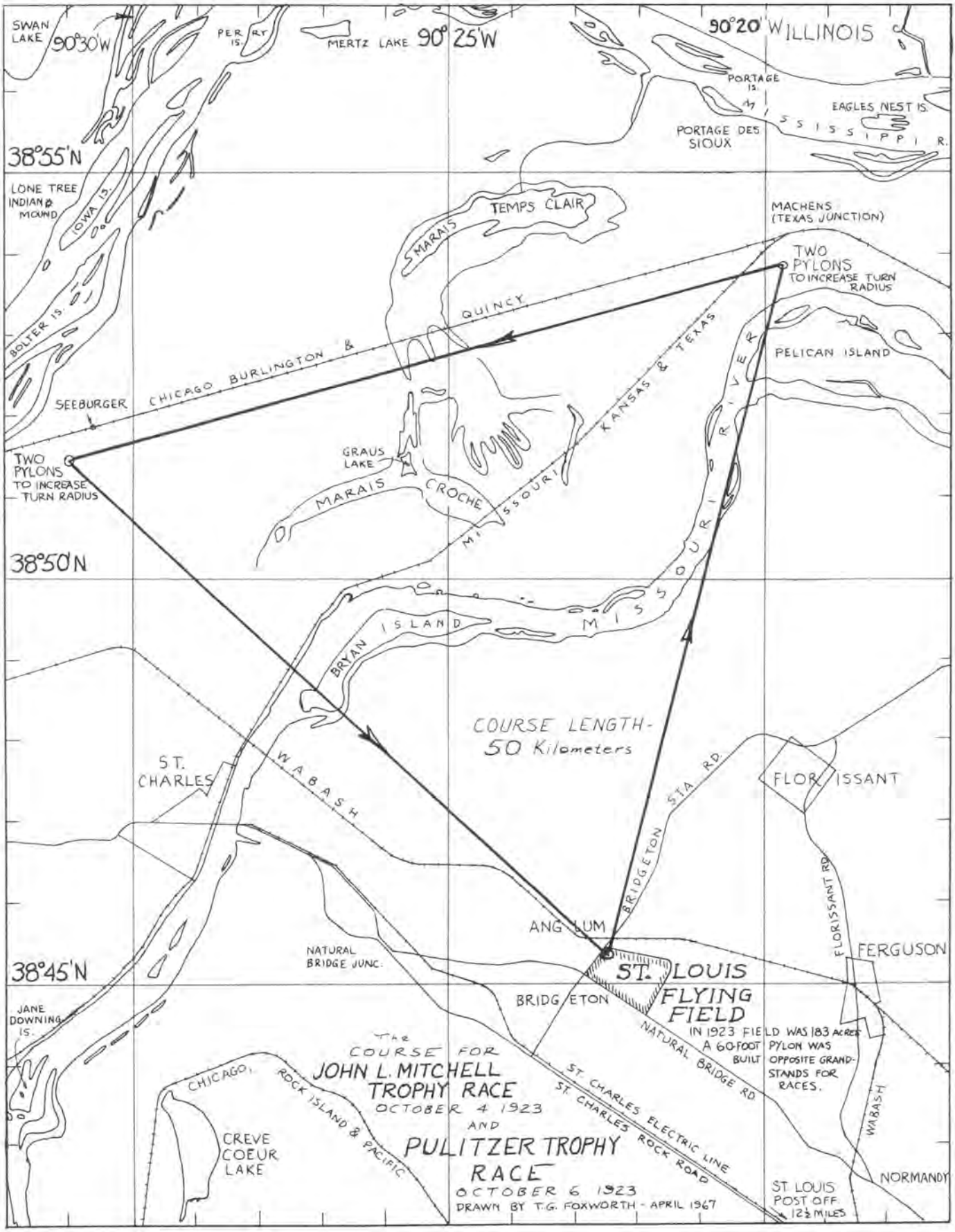
None of this, however, diminished General Mitchell's eagerness to continue the success of the race named for his brother. A year later the races were held at the Lambert Flying Field near Anglum, Missouri, a little farming town just outside St. Louis. Plans were being formulated months in advance for what promised to be the loudest, largest, gaudiest aerial pageant held during that ballyhoo decade. Yet by early August the Mitchell Race was not included in the list of scheduled events nor was mention made of it in any of the handbills or advertising for the races. Nevertheless, the flying General needn't have had any qualms that his special race wouldn't be another rousing success.

Six weeks before the scheduled date of the Air Races the oversight was corrected and the Mitchell Trophy Race was inserted as event 8a, with five planes from the 1st Pursuit Group listed as contestants. By August 20 General Mason M. Patrick, Chief of the Army Air Service, announced the pilots and alternates selected to participate in the race events. The men listed for the Mitchell Trophy, all First Lieutenants, were: Thomas W. Blackburn from Cane Hill, Arkansas, whose alternate was Leland C. Hurd; Thomas K. Matthews from Earlville, Iowa, whose alternate was Hobart R. Yeager; George P. Tourtellot from Dows, Iowa, whose alternate was Arthur J. Liggett; J. Thad Johnson from Johnson City, Texas, a graduate of Trinity College, former high school principal for two years, as well as a Minister of the Gospel, whose alternate was Edward M. Haight; and Russell L. Meredith whose alternate was Louis C. Simon.

Near the end of September this list was modified slightly. It was decided to compete an additional pursuit to keep the race equivalent to that of 1922, and the pilot list was amended to remove Meredith and add Captains Vincent B. Dixon, a 1916 VPI graduate in electrical engineering, and Burt E. "Buck" Skeel, the 29-year-old acting O-in-C of the Group Race Detachment. Skeel hailed from Cleveland, Ohio, and had only entered the Air Service in 1920 after having spent the war in the Infantry. The alternate list was increased by the addition of Frank O'D. Hunter.

Heavy rains left Lambert Field covered with pools of water and caused a three day postponement of the races, yet the events still attracted well over one

*Winner of the second Mitchell Trophy Race was Capt Burt E. "Buck" Skeel, acting commander of the Pursuit Detachment at the races. His marvelous performance in the MB-3A earned him the privilege of flying the specialized Curtiss R-6 in the 1924 Pulitzer. He was to be killed at the start of that race. (USAF 11170A.S.)*


SWAN LAKE
90°30'W
PER RT IS.
MERTZ LAKE
90° 25'W
90°20'W
ILLINOIS
PORTAGE IS.
EAGLES NEST IS.
PORTAGE DES SIOUX
MISSISSIPPI R.
38°55'N
LONE TREE INDIAN MOUND
IOWA IS.
TEMPS CLAIR
MARAIS
MACHENS (TEXAS JUNCTION)
TWO PYLONS TO INCREASE TURN RADIUS
QUINCY
BOLTER IS.
CHICAGO, BURLINGTON & KANSAS & TEXAS
PELICAN ISLAND
SEEBURGER
GRAUS LAKE
MARAIS CROCHE
MISSOURI RIVER
38°50'N
BRYAN ISLAND
MISSOURI
COURSE LENGTH- 50 Kilometers
ST. CHARLES
WABASH
BRIDGETON STA. RD.
FLORISSANT
FLORISSANT RD.
ANGLUM
NATURAL BRIDGE JUNC.
FERGUSON
38°45'N
ST. LOUIS FLYING FIELD
IN 1923 FIELD WAS 183 ACRES A 60-FOOT PYLON WAS BUILT OPPOSITE GRAND-STANDS FOR RACES.
BRIDGETON
JANE DOWNING IS.
THE COURSE FOR JOHN L. MITCHELL TROPHY RACE OCTOBER 4 1923 AND PULITZER TROPHY RACE OCTOBER 6 1923
NATURAL BRIDGE RD
ST. CHARLES ELECTRIC LINE
ST. CHARLES ROCK ROAD
CHICAGO, ROCK ISLAND & PACIFIC
CREVE COEUR LAKE
WABASH
NORMANDY
ST. LOUIS POST OFF. 12½ MILES
DRAWN BY T.G. FOXWORTH - APRIL 1967

RESULTS OF THE MITCHELL TROPHY RACE, OCTOBER 4, 1923

| PLACE | PILOT | NO. | START POSITION | TIME | SPEED |
|---|---|---|---|---|---|
| 1 | Capt. B. E. Skeel | 65 | 6 | :50:54.95 | 146.45 mph |
| 2 | Lt G. P. Tourtellot | 55 | 3 | :52:04.24 | 143.21 mph |
| 3 | Lt T. W. Blackburn | 53 | 1 | :52:51.07 | 141.13 mph |
| 4 | Lt J. T. Johnson | 57 | 5 | :53:34.18 | 139.20 mph |
| 5 | Capt. V. B. Dixon | 56 | 4 | :53:40.22 | 138.94 mph |
| - | Lt T. K. Matthews | 54 | 2 | OUT LAP FOUR | (136.3 mph average for three laps) |

hundred thousand people. They streamed to the field in endless queues of mud-spattered autos and in veritable armies of hikers. As well, an avalanche of kaleidoscopic and tattered Standards, Canucks and Jennies, bearing all manner of barnstormers and gypsy fliers, converged on St. Louis and, like some helter-skelter quilt-work, sat awkwardly staked out in the weeds of little pastures surrounding Lambert Field. Yet what a contrast the shiny new racers and powerful little fighters parked in neat rows by the hangars were. Their drum-tight fabric and engines that purred like sewing machines seemed terribly business-like compared to the patched and slightly drooping planes which had carried the barnstorming gypsies wheezing across the prairies to land them here in the midst of the largest organized air circus the world had ever seen.

The Mitchell contestants were to fly four laps of the Pulitzer course, as in 1922, for a total of 200 kilometers. To make the competition even keener a choice incentive had been provided. It was learned that the winning pilot in the Mitchell Race would fly the Army's hottest custom racer in the following year's Pulitzer classic.

The Mitchell Race was the second event of the day, and mechanics were gripping hands to swing the club-like propellers by 12:45. The engines coughed to life and helmet straps were fluttering in the slipstream as the pilots sought to taxi into position. Mechanics gripped the tails of the planes to move them around against the drag of their clumsy tailskids, and others were hanging onto wingtips to help guide the little fighters to the takeoff line. The takeoff was at precisely one o'clock. As in 1922 all the pilots were flying identical planes so the race promised to be a fight of skill right down to the finish line.

Blackburn was first into the air followed at one-half minute intervals by Matthews, Tourtellot, Dixon, Johnson and Skeel. The six MB-3A's climbed steeply to one thousand feet as they circled to the southwest, when suddenly Blackburn peeled off and screamed straight for the brightly checkered starting pylon. The others were right behind him in hot pursuit and, conforming to regulations, all turned the starting pylon in the order of takeoff. Almost before the spectators realized what was happening, the race was on! Skeel made his dive with full throttle (a maneuver that would cost him his life in the Pulitzer Race a year later) and the stubby fighters disappeared to the north, strung out at a distance of about three miles.

By the third pylon Skeel had already passed Johnson and was driving hard for Dixon. Soon Blackburn was seen churning in from the hazy northwestern sky, engine all out, about 100 feet off the deck. He bent it steeply around the pylon and was off on lap two. Skeel overtook Dixon between pylons 2 and 3 on the second lap, and Blackburn, Tourtellot, Matthews and Skeel whipped by the starter's pylon in that order to start lap three. Soon Skeel had slid by Matthews and, coming down the stretch of the third lap, he was pressing Tourtellot. Here Matthews started having trouble with his gasoline feed and, after his pylon turn to complete the third lap, he landed leaving his five colleagues to fight it out. As the three leaders entered the home stretch, the last five miles of the final lap, Skeel was straining hard but couldn't quite make it past Blackburn and Tourtellot. Dixon and Johnson appeared not far behind, maneuvering furiously for last place. Suddenly Tourtellot seemed to be in trouble. His engine sputtered for a split second and then quit! He had run completely out of fuel but was valiantly keeping his plane aloft in a flat glide. The pilots in the timers' stand were shouting, "Hold 'er! Hold 'er!" at the top of their lungs but Tourtellot's speed was bleeding off too fast. So he deliberately nosed the fighter down, pancaked hard on the graded earth, and the resulting bounce carried him across the finish line in full flight! In the stirring finish the first three MB's plunged by the pylon in a blur, one on a completely dead-stick, and seconds later the other two roared by. The final results of the race were based on elapsed time.

But that was the end. Thomas Morse-inspired racers had had their day in the sun. B. D. Thomas' ingenious, unconventional airplanes were all soon retired, and for the most part, forgotten.

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