Revised 1-3-75

WARRANTY

The Taylorcraft Aviation Corporation warrants each new airplane or part manufactured by them to be free from defects in material and workmanship when used under normal conditions for 6 months after delivery of the plane from the factory to the original retail purchaser or first user.

This warranty is limited to replacing or repairing at the factory any part or parts, at its option, which have been returned to the factory with transportation charges prepaid, and which in its opinion are defective. A new warranty period is not established for replacements. Replacements are warranted for the remainder of the original warranty period.

The repair or replacement of defective parts under this warranty will be made by Taylorcraft or the dealer without charge for parts or labor for removal, installation and/or actual repair of such defective parts at the option of Taylorcraft.

The provisions of this warranty do not apply to any aircraft equipment, accessories or service parts manufactured or sold by Taylorcraft which have been subject to misuse, negligence or accident, or which have been repaired or altered outside our factory in any way so as in the judgement of Taylorcraft to affect adversely its performance, stability and reliability, nor normal maintenance services (such as engine tune-up, cleaning, control rigging, brake and other mechanical adjustments, maintenance inspections, etc.) and replacement of service items (such as spark plugs, brake linings, filters, hoses, etc.) made in connection with such services or required as maintenance, nor to normal deterioration of trim and items such as paint or upholstery due to wear and exposure.

The Taylorcraft Aviation Corporation makes no warranty with respect to engine, instruments, propellers, tires, wheels or other trade accessories, inasmuch as they are warranted by their respective manufacturers.

The Taylorcraft Aviation Corporation is not responsible to any purchaser or any party or parties, for any representation, undertaking, promise or warranty made by representatives selling its products beyond those herein expressed.

This warranty is in lieu of all warranties and representations, in fact or by law, and all other obligations or liabilities on the part of the Taylorcraft Aviation Corporation.

This warranty is not valid unless owner/operator complies with all portions of the Owners Manual.

FORWARD

This manual has been compiled with the view of giving the private owner or operator of Taylorcraft Airplanes sufficient knowledge of the construction, operation and care of the airplane so that the service and satisfaction built into it may be obtained.

Carelessness in one form or another is the true source of practically all airplane mishaps. Neglect of, or improper inspection on the ground is the hardest form of carelessness to overcome. While we all condemn reckless flying, improper care on the ground cannot be too strongly pointed out as the most dangerous form of recklessness. Be sure, therefore, when taking delivery of your Taylorcraft Airplane that you know how to care for it, and if you cannot give it thorough and regular care, put it in the hands of a competent mechanic and give him free use of this manual.

In case of doubt concerning any service or operating problems not covered in this manual, or obtainable through our sales representatives, consult the factory which will assist you in obtaining economical and efficient service from your Taylorcraft.

TAYLORCRAFT MODEL F19 SPORTSMAN 100

SPECIFICATIONS AND PERFORMANCE

CONTINENTAL ENGINE O-200A, 100 HP AT 2750 RPM
METAL-PROP

LENGTH	22 FT. 1-1/4"
HEIGHT	6 FT. 6"
WING SPAN	36 FT.
AIRFOIL	NACA 23012
WING AREA	183.71 SQ. FT.
WING LOADING	8.17 LBS./SQ. FT.
SEATS	2 SIDE-BY-SIDE
EMPTY WEIGHT	870 LBS.
USEFUL LOAD	630 LBS.
GROSS WEIGHT	1500 LBS.
POWER LANDING	15 LBS./HP
FUEL CAPACITY	24 GAL. (21 USEABLE)
FUEL CONSUMPTION (80 OCTANE)	5.5 G.P.H.
OIL CAPACITY	6 QT.
BAGGAGE CAPACITY	72 LBS.
TAKEOFF ROLL (FULL LOAD)	300 FT.
RATE OF CLIMB (1ST MINUTE)	775 FT.
BEST RATE OF CLIMB SPEED	73 MPH.
TOP SPEED	127 MPH.
CRUISE	115 MPH.
RANGE	400 MI.
STALL SPEED (FULL, GROSS)	43 MPH.
SERVICE CEILING	18,000 FT.

YOUR TAYLORCRAFT

GENERAL DESCRIPTION

The Taylorcraft, Model F-19, is a two-place, side-by-side, high wing, strut braced monoplane.

Fuselage and wings are covered with FAA TSO C15 Grade A Fabric. For safety, high grade butyrate dope, which is fire resistant after cured, is used to provide cloth tautness and finish.

Power is supplied by the Continental O-200-A Engine developing 100 HP at 2750 RPM. The engine is insulated against excessive vibration with rubber bushings at the motor mount attachment points resulting in smooth, noise-free operation.

Unrestricted vision is attained through the use of a one-piece moulded windshield, large door windows and rear side windows.

Cabin control cables are concealed adding to the comfort of the spacious cabin. Engine and flight controls are readily accessible from both seats. The baggage compartment capacity is 72 lbs.

The shock absorbing system consists of bungee cord assembly attached to two extensions of the main gear at the center line of the fuselage and the main structure of the fuselage. Ease in ground handling is assured with a steerable, leaf spring tail wheel and positive action mechanical brakes.

FUSELAGE

The fuselage is composed entirely of steel tubing welded into a unit structure. All members are of SAE 4130 steel. The fuselage frame structure is coated with rust preventive primer at the factory. Saltwater seaplane fuselage has a special corrosion protection.

WINGS

The wings are built-up structures having two solid spruce spars braced with steel tubular compression struts and stamped aluminum three section ribs. This type construction lends itself to ease in repair at a minimum cost.

Proper amount of incidence is built into fuselage fittings and Dihedral is fixed by the length of the front strut. This will assure stable flying characteristics for years to come. After the plane is out in service, any slight change in balance causing wing heaviness can be corrected by varying length of the rear strut.

AILERONS

Ailerons are also a built-up structure with solid spruce spars and stamped aluminum ribs. Ailerons are attached to the wings through magnesium hinge brackets to absorb vibrations.

TAIL SURFACES

The tail surfaces are built up with steel tubing framework and formed steel ribs. Fin and horizontal stabilizers are wire braced.

LANDING GEAR

Landing gear is built of steel tubing forming two separate units. Heavy duty shock cords are used for each unit as shock absorbers. A stop cable is provided to prevent the shock cord being stretched beyond its elastic limit.

CONTROLS

The control system has dual wheels attached to an H column to control the elevators and ailerons. Flexible steel cables are used throughout the control system to transmit motion. To keep friction at a minimum, all pulleys are mounted on graphite bronze bushings. The trim tab control is located overhead, forward center and is to compensate for slight nose or tail heaviness.

ENGINE CONTROLS

The engine controls consist of ignition switch, throttle, mixture control, carburetor heat control, gas shut-off and primer. Operating instructions are shown on the instrument panel or on the knobs.

FUEL SYSTEM

The fuel system consists of a twelve-gallon fuel tank located in front of the instrument panel in the fuselage. Only nine gallons of this fuel may be safely used. Fuel gauge indicator shows content of fuselage fuel tank only. This gauge is calibrated to read empty when usable fuel of fuselage tank is consumed. In addition to the fuselage tank, two auxilliary six-gallon tanks are installed in the wings. Selector valve for each auxilliary tank is located under the instrument panel. Fuel from wing tank, one tank at a time, must be transferred to the fuselage tank in level flight and only when main tank is approximately 1/4 full. Fuel is gravity fed to the carburetor from the fuselage tank.

ELECTRICAL SYSTEM

Your Taylorcraft is equipped with navigation lights with provision for anti-collision light, landing light and cabin light installation. A 12-volt battery is installed either in the baggage compartment or on the firewall.

Electrical system also consists of 60 AMP alternator and electrical starter. A 10 AMP fuse is placed in the navigation light system. Fuseholder is located on the instrument panel. Spare fuse is located on the inside of the door of right glove compartment.

The ammeter indicates the flow of current, in amperes, from the alternator to the battery or from the battery to the aircraft electrical system. When the engine is operating and the master switch is "ON" the ammeter indicates the charging rate applied to the battery. In the event the alternator is not functioning or the electrical load exceeds the output of the alternator, the ammeter indicates the discharging rate of the battery. See appendix A of Approved Flight Manual for electrical system information. Care must be exercised in charging the battery. It should not be charged over 7 amperes for more than 30 minute period. If the charging rate is excessive or if one cell is broken down, the battery will boil causing acid to leave the battery and perhaps come in contact with parts of the aircraft which may result in a failure.

CABIN LIGHT (OPTIONAL)

Cabin light may be mounted on the bracket at the center of cabin top truss. The light illuminates the instrument panel.

ANTI-COLLISION LIGHT (OPTIONAL)

Your Taylorcraft is wired for anti-collision light installation. This light may be mounted on the top of vertical stabilizer. The light should not be used when flying through clouds or overcast, particularly at night during these conditions. The flashing light may reflect from water droplets or particles in the atmosphere producing vertigo and loss of orientation.

LANDING LIGHT (OPTIONAL)

Landing light may be installed in the left wing. The bracket holding the light can be rotated up to 5 degrees. The wing is wired for landing light.

PREFLIGHT INSPECTION

1. INSIDE CABIN
   (a) Free control wheel.
   (b) Check fuel quantity indicator.
   (c) Push in fuel shut-off valve.
   (d) Set trim at neutral position.

2. AT TAIL SURFACES
   (a) Inspect tail surface hinges - check rudder stop.
   (b) Check brace wires for tautness.
   (c) Check trim tab for security and neutral position.
   (d) Apply moderate force on elevators in opposite direction to detect looseness.
   (e) Disconnect tie-down rope.
   (f) Check anti-collision light (if installed) for damage.

3. AT RIGHT WING
   (a) Inspect aileron hinges for security
   (b) Remove tie-down rope or chain.
   (c) Check lift struts for nicks and cuts and attaching hardware for safety.
   (d) Check wing fabric top and bottom.
   (e) Inspect navigation light for damage - check wing bow.
   (f) Drain fuel from wing tank for four (4) seconds (about two ounce quantity) to check for presence of water and sediment.
   (g) Remove cap and check fuel level in wing tank.
   ((h) Check tire for cuts and proper inflation.

4. AT ENGINE COMPARTMENT
   (a) Check oil level - Do not operate with less than four (4) quarts.
   (b) Check cleanliness of firewall and lower cowl to determine any oil leaks.
   (c) Check looseness of muffs and flexible tubing.
   (d) Inspect propeller and spinner for abrasion and security.
   (e) Check carburetor air filter screen for restriction by foreign matter.
   (f) Open quick drain valve on fuel filter and drain fuel for four (4) seconds to clear and check presence of water and sediment. Close drain valve.
   (g) After engine check fasten cowl lids securely.
   (h) Check windshield for nicks and looseness.
   (i) Remove cap and check visually amount of fuel in tank.

5. AT LEFT WING - Inspect left wing in similar manner as right wing.
   (a) Check airspeed pitot tube at jury strut for restriction by foreign matter.

6. GENERAL
   Check bottom of fuselage cover for cleanliness and torn fabric.

OPERATING INSTRUCTIONS AND CHECK LIST

BEFORE STARTING, PERFORM PREFLIGHT INSPECTION

STARTING THE ENGINE

Fuel shut-off valve - On
Carburetor Heat - Cold
Mixture - Rich
Primer - As required
Throttle - Open 1/4"
Propeller area - Clear
Master Switch - On
Ignition Switch - Start (Release when engine starts)
Oil Pressure - Check (30-60)

BEFORE TAKE-OFF

Flight controls - Check
Elevator Trim - Neutral
Throttle setting - 1700 RPM
Oil Pressure - 30-60 PSI
Oil Temperature - 100°F minimum
RPM drop - Carburetor Heat On - 50-125 @ 1700 RPM
Magnetos drop - 0-100 @ 1700 RPM
Cabin Doors - Latched

TAKE-OFF

NORMAL TAKE-OFF

Carburetor Heat - Cold
Throttle - Full "Open"
Elevator Control - Advance forward lifting tail slightly - Airplane will accelerate to take-off speed within 300 ft. depending on gross weight and weather conditions.
Climb Speed - 75 MPH

MAXIMUM PERFORMANCE TAKE-OFF

Carburetor Heat - Cold
Brakes - Hold
Throttle - Full "Open"
Brakes - Release
Elevator Control - Advance elevator control slightly forward to obtain fast acceleration. Hold elevator control for three-point take-off position. Proper execution of the above will result in lift-off 2 or 3 miles above stalling speed.
Climb Speed - Lower nose gradually to obtain higher airspeed and assume normal climb speed of 75 MPH.

ROUGH FIELD TAKE-OFF

Follow maximum take-off procedure.

OBSTACLE TAKE-OFF

Follow maximum take-off procedure
Climb Speed - Lower nose to best angle of climb speed (55-60 MPH). After clearing obstacle assume climb speed of 75 MPH.

CLIMB:

NORMAL CLIMB
Air speed - 75 to 80 MPH
Power - Full Throttle
Mixture - Rich

MAXIMUM PERFORMANCE CLIMB
Air speed - 73 MPH
Power - Full Throttle
Mixture - Rich

CRUISING
Power - 2000 to 2750 RPM (Cruise at 2750 RPM not recommended for long period of time). Recommended high cruise 2500 RPM.
Elevator trim - Adjust
Mixture - Rich (Lean to maximum RPM above 5000 ft. Pres. Alt.)

BEFORE LANDING
Mixture - Rich
Carburetor Heat - Apply full heat before closing throttle.
Air Speed - 65 MPH
Elevator Trim - Adjust

NORMAL LANDING
Touch down - Three-point position
Landing Roll - Hold control wheel all the way back to keep tailwheel on ground during landing roll.
Braking - Not needed except in extreme cross-wind conditions.

AFTER LANDING
Carburetor Heat - Cold

SECURE AIRCRAFT
Mixture - Idle cut-off
All Switches - OFF
Parking Brake - Set
Controls - Locked

CROSSWIND PROCEDURE

TAKE-OFF
Hold downwind rudder to prevent airplane from weather-vaning into the wind, apply aileron control into the wind.

CLIMB
As soon as airplane is definitely airborne, slight turn is made towards the low wing to establish just enough crab to take care of drift.

LANDING APPROACH
Lower windward wing slightly and slip into the wind.

LANDING
Keep airplane in straight line by rudder.

CARE OF YOUR TAYLORCRAFT

Care of your Taylorcraft on the ground is as important as safely flying it. Proper inspection, lubrication and maintenance of your airplane at scheduled intervals cannot be too strongly pointed out. This manual has been compiled in great detail providing you the necessary information to take care of your Taylorcraft.

EXTERIOR CARE

Taylorcraft can be kept clean by washing with mild soap and water. Never use abrasive soap or detergent. Dry the surface with a soft cloth or chamois. You may wax the exterior but it is unnecessary.

If it is necessary to remove ice during cold climate, prepare de-icing solution containing 40% isopropyl alcohol and 60% water. While applying solution, keep it away from plastic windshield and windows since solution will damage plastic.

Windshield and windows may be cleaned with aircraft windshield cleaner to be used with plastic windshield. Always use soft cloth or chamois to wipe the plastic material. Never use alcohol, gasoline or glass cleaner to clean plastic. Windshield may be waxed with commercial wax. Apply a thin, even hand-rubbed coat with a soft cloth.

Wipe propeller occasionally with an oily cloth. Small nicks on the propeller may start crack propagation and hence should be dressed out as soon as possible.

INTERIOR CARE

Vacuum clean upholstery and carpet. Wipe clean with a damp cloth. Never use any chemicals to brighten headliner and control knobs. Never use any chemicals to brighten the interior.

TIE DOWN

Head the airplane into the prevailing wind and set the controls by securing the wheel all the way back with the safety belts. Rudder controls do not normally require locking as rudder is held in place by the tail wheel springs. However, for long term storage outside, or where it is suspected the wind could change and blow from the tail, a clamp can be used to secure the rudder. Two pieces of wood, felt covered with a screw and wing nut should do the job very well. This assembly is fastened at the bottom of the rudder, the screw going between the vertical stabilizer and rudder.

If high winds are anticipated, or airplane is to be parked unattended, it is recommended that the airplane be moored. To moor the airplane, attach ropes to tail wheel leaf springs and to mooring rings (optional equipment) near each wing strut end. Stake ropes to the ground, leaving enough slack to allow for shrinkage of ropes due to moisture or rain.

If your airplane is not equipped with mooring rings, tie the mooring ropes to the outer end of the front lift strut. If mooring stakes are not available and new ones are being driven, do not drive straight into the ground directly under the tie down point but drive diagonally into the ground several feet away from the tie down point to fix a 90° angle between the rope and the stake when tied.

LUBRICATION CHART

ENGINE

It is recommended that oil be changed each 20 to 30 hours. Your Taylorcraft is delivered with non-additive mineral oil to promote faster ring seating and oil control and should be used for the first 25 hours. After break-in period, detergent oil should be used. Use MHS 24 approved oils only.

AMBIENT AIR TEMPERATURE	RECOMMENDED OIL VISCOSITY
Above 40°F	SAE 40
Below 40°F	SAE 20 or 10W-30

When operating air temperatures overlap, use the lighter oil.

Following is the list of MHS approved detergent oils.:

COMPANY	BRAND NAME
Continental Oil Company	Conco Aero S No. 65 (SAE 30) Conco Aero S No. 80 (SAE 40)
Gulf Oil Corporation Kendall Refining Company	Gulfpride Aviation Series D Kendall Aviation Oil Type D
Socony - Mobile	Aero Red Bank HD (SAE 50) Aero Grey Band HD (SAE 40) Aero White Band HD (SAE 30)
Standard Oil of California	RPM Aviation Oil (Compounded)
Texaco Inc.	Texaco Aircraft Engine Oil D 100 Texaco Aircraft Engine Oil D 80

Control Column & Rudder Bearings: SAE #40 mixed with graphite.
Aileron Pulleys: SAE #10
Wheel Bearings: Good grade of bearing grease
Universal Joints & Control Sprockets & Chain: SAE #10 Oil
Control Column: Powdered Graphite or DOW DC4 Compound
Aileron Bellcrank & Hinges: SAE #10 Oil
Tail Wheel Axle Bearing: Good grade of bearing grease
Door Latches & Hinges: Powdered graphite or graphited oil
Tail Surface Hinges: Powdered graphite or graphited oil

CONTROLS IN FUSELAGE

In the fuselage the main points to be lubricated are in the control system. The shafts of the control wheels slide through bakelite bearings. A small amount of grease on the shafts will make a smoother working control at this point.

The Following Points On The Control Column Should Be Oiled Frequently:

1. The universal joint at the top of the control column.
2. There is also an oil hole on the top of the control column to lubricate the shaft of the universal joint.
3. The sprocket chain links.
4. The bearings at the bottom of the control column.
5. All pulley bearings and faces of pulleys.

NOTE: There are two pulleys for the aileron cable at the top front of the cabin and two more at the rear of the cabin. The front two can be reached by removing center section of headliner.

On the right side of the floor just in front of the door are three pulleys carrying the elevator cables and one of the rudder cables. There is one pulley on the left side of the floor carrying the other rudder cable. These pulleys should be oiled and checked frequently. There are also cable guides in the rear of the fuselage that may be seen by removing center section of headliner that should be checked every 20 hours for frayed cables. There are also cable guides under the seat which may be inspected by lifting edge of the seat canvas. Inspection covers at the rear of the fuselage provide access to the elevator control cable ends and these points should be oiled frequently.

CONTROLS IN WINGS

The aileron control horn which is located in the wing at the center aileron hinge bracket may be reached by removing the cover plate on the top of the wing. Oil placed in the hole of the control horn will lubricate the bearing. The ball joints and drag link at this point should be checked for looseness. Looseness due to wear may be removed by tightening the ball stud seat in the end of the drag link. The bronze bearings in the aileron hinge brackets should be oiled frequently. When wear occurs here, new bushings and hinge pins may be installed.

TAIL SURFACES

The hinge joints on all tail surfaces should be oiled frequently. When looseness occurs, new bushings and hinge pins will correct this condition.

LANDING GEAR

The roller bearings in the landing wheels should be lubricated with graphite grease, being careful not to get grease on the brake drum or band. Oil the hinge bearings frequently at the top of the landing gear between the fittings on the fuselage and landing gear.

On planes equipped with a swivel type tail wheel, oil the swivel bearing and grease the ball bearings in the hub of the tail wheel.

NOTE: It is important that the bumpers on the fuselage truss under the shock cord be inspected every 20 hours and replaced when needed.

INSPECTION SERVICE & INSPECTION PERIODS

FAA requires that all planes have a periodic (annual) inspection as prescribed by the administrator and performed by a person designated by the administrator. In addition, 100-hour periodic inspection made by an "appropriately-rated mechanic" are required if the plane is flown for hire.

A periodic check should be made of the latest FAA regulations to insure that all data requirements are met.

I To Be Displayed In The Aircraft At All Times:

(a) Aircraft airworthiness certificate (Form FAA-1362B)
(b) Aircraft registration certificate (Form FAA-500A)
(c) Aircraft radio station license (Form FCC-404, if transmitter is installed)
(d) Current appropriate operation manual

II To Be Carried In The Aircraft At All Times:

(a) Weight and balance and associated papers (latest copy of the Repair and Alteration Form. Form FAA-337, if applicable)
(b) Aircraft equipment list.

III To Be Mde Available Upon Request:

(a) Aircraft log book
(b) Engine log book

The Taylorcraft Aviation Corporation recommends that the above items be carried in the airplane at all times. Regulation of other nations may require other documents and data, and we suggest that owners of exported aircraft check with their aviation officials to determine their individual requirements.

INSPECTION INSTRUCTIONS

ENGINE OPERATION: Continental O-200A

Run engine to minimum 120 degrees oil temperature - check full throttle static RPM (consult specifications for propeller used).
Check magnetos 0-100 RPM drop at 1700 RPM.
Check carburetor heat 50-125 RPM drop at 1700 RPM.
Check ignition switch for operation.
Check idle RPM 600-700 RPM with carburetor heat off.
Oil pressure 30-60 lbs., 50 good.

ENGINE MOUNT AND ATTACHMENTS:

Check engine mount for damage and cracks at gussets or in corners.
Inspect protective finish on mount. Sand and touch up bare areas.
Inspect engine shock mounts for worn and/or deterioration every 50 hours of operation. If this condition exists, replace or check engine to mount bolts using a dye penetrant or magnetic particle type of inspection.
These bolts must also be checked and replaced, if necessary, every 100 hours.
All engine to mount bolts should be torqued to 180 to 190 inch pounds. Rough engine operation and improper gound handling can cause premature bolt failure.

COWLING BAFFLES:

Clean and inspect engine cowling for dents and cracks at hinges and reinforcement.
Check for tension adjustment on cowl doors at fasteners. Tension prevents vibration and cowl cracking.
Check baffles for cracks and felt installation to prevent chafing.

MAGNETOS, WIRING AND SHIELDING:

Check magnetos for secure attachment.
Check breaker point housing for excessive oil.
Check plug wiring connections at magnetos and insulation for deterioration and chafing.
Check for grommet at baffles and at firewall.

OIL DRAIN AND SAFETY PLUG:

Drain oil and check for metal particles.
Remove, clean and check oil screen for metal particles, drain plug and inlet oil temperature housing.
Reinstall oil drain plug.
Change oil filter if installed and check flexible lines for deterioration.

SPARK PLUG SERVICE:

Remove plug, bomb blast and clean.
Plugs with badly burned electrodes should be replaced.
Reset gap, consult manufacturers charts.
Reinstall using thread lubricant and new gaskets to prevent leakage and seizing. Torque to 300 to 360 inch lbs.

30
350

CARBURETOR AND HEATER:

Check carburetor for mounting security.
Inspect carburetor bowl for cracks, particularly at inlet.
Drain carburetor float chamber and check inlet finger screen safety.
Operate throttle in cockpit to be sure that throttle arm hits stops in open and closed positions without binding or sticking.
Check operation of mixture control for binding or sticking and full rich position.

CARBURETOR AND HEATER: (cont'd)
Inspect carburetor air box for security and cracks, heater valve for full travel.
Check intake system for leaks and cracks.
Clean air filter in kerosene and saturate with #10 oil and allow to drain before installation.

FUEL LINES AND STRAINER:
Check fuel lines for leaks and hose deterioration.
Check hose supports for security and chafing.
Drain and clean fuel strainer and resafety.
Check for stains around fuel system indicating leaks.
Check all connections for tightness.

EXHAUST STACK:
Check stack flanges for security, cracks and leaks.
Remove all heater and shrouds and inspect for corrosion, cracks and leaks that might transfer gas to the cockpit, particularly through the cabin heater system.
Check tailpipe and stacks for security at all clamps and joints.
Check cabin heater box and control valve for operation.
Check cabin and carburetor heat flexible tubing for security and general condition.

ENGINE CONTROLS AND FIREWALL:
Check firewall for open holes and gas leaks from engine compartment (if open holes, use Pro-Seal 700).
Check all controls for grommets and sealant.

PROPELLER:
Remove spinner and check for cracks or dents in spinner and back plates.
Check propeller cracks and protective finish.
Propeller flange bolts are to torque from 300 to 360 inch lbs.

COCKPIT AND BAGGAGE AREA:
SEATS: Check general condition.
Check condition of safety belts, airworthiness directive on seat belts, if frayed, replace.
Check baggage area plywood - if deteriorated or ripped, replace.

WINDSHIELD:
Check weatherstripping for security in channels and for leaks.
Check plastic windshield and side windows for cracks, crazing, distortion and discoloration.

POWERPLANT INSTRUMENTS:
Check powerplant instruments for mounting security.
Check connections and plugs.
Check placards and limitation markings.
Tachourmeter: Red Line - 2750 RPM.
Oil Pressure: Red Line - 10 PSI & 100 PSI.
Green Arc - 30-60 PSI.
Oil Temperature: Red Line - 100°F & 240°F.
Green Arc - 100° - 240°F.

FLIGHT INSTRUMENTS:
Check flight instruments for mounting security.
Check placards and limitation markings.
Airspeed: Red Line - 136 MPH

DOOR LATCH AND HINGES:
Check door hinges and rivets for looseness.
Check door latch plunger for complete extension to prevent doors opening while taxiing.
Check door for proper fit or damage resulting in air leaks.

ENGINE CONTROLS:
Check minture control operation for smoothness.
Check carburetor heat control for smooth operation.
Check throttle for smooth operation and operation of friction lock.
Check primer for operation and leaks behind the panel.
Check ignition switch for panel and terminal security.

RUDDER PEDALS AND LINKAGE:
Check rudder pedal assembly for play and travel freedom.
Lubricate hinges and torque tube bearings and check for safety.
Check rudder pedal return spring for attachments.

CABLES AND PULLEYS:
Check all cables for broken strands.
Remove butt fairings and check top deck aileron pulleys for wear and security.
Check aileron pulleys at both ends of panel.
Remove floorboards and check pulleys.

FLIGHT CONTROL OPERATION:
Check aileron, rudder and elevator controls from cockpit for smooth operation.
Check wheel for neutral position with controls surfaces streamlined.

TRIM TAB CONTROLS:
Check elevator trip control for smooth operation.
Check indicator against trim tab for proper position.

WING FUEL SELECTOR VALVE:
Check fuel valve for smooth operation.
Check placard for "ON and OFF" position and operating restrictions.
Check valve for leaks.

LANDING GEAR:
Shock cord - for broken strands and elongation.

AXLES AND WHEELS:
Remove wheels, wash, check and relubricate bearings.
Check brake shoes for wear and drums for scoring,
Install wheel and axle nut only tight enough to remove any play.

TIRES AND FAIRINGS:
Check tires for 29 lbs. of air pressure. 29#
Replace tires that have cord showing.
Check gear fairings for security and chafing.

WINGS AND AILERONS:
Wing fabric: Check left and right wing fabric for holes, cracks or checks in the finish and open drain grommets at each rib bay trailing edge.
Fabric usually deteriorates on the upper surface of the wing or along the trailing edge.
Install inspection grommets at drag wire fitting to inspect drag wires for tension and wing ribs and compression members for damage.

STRUTS - LIFT:
Check right and left wing strut fittings for elongation by having someone lift up and down on the wing.
Check bolts for fitting attachment to the spar.
Check struts for dents or cracks, also sight down strut trailing edge to ascertain that struts are straight.
Check strut and forks and fork lock units.

WING BOLTS:
Check strut attachment bolts to be sure there are no threads in bearing, that nuts are not bottoming on unthreaded part of bolts, and bolts are properly safetied.

AILERON HINGES:
Check aileron hinge bracket legs for security at rear spar and housing.
Check hinge pins for wear and safety. Worn or loose pins must be replaced.
It may be necessary to replace steel hinges on aileron if worn.

AILERON CONTROLS:
Remove inspection covers and check the two cables on each wing for interference and chafing.
Check travel, 23^{o} Up, 23^{o} Down
Check the six turnbuckles in the center top of fuselage for safety and not more than three threads showing outside of barrel.
To locate broken strands at fairleads or pulleys, slide a cloth over the cable. All cables with broken strands are to be replaced.

WING ROOT FAIRINGS:
Check left and right wing root fairings for tension.
Check all metal screws for security and the fairing for cracks.

EMPENNAGE: STABILIZER
Check stabilizer fabric condition and drain grommets for restrictions.
If the fabric strength is suspected, a Seybooth Tester may be used to accurately test the strength.
Lift up and down on stabilizer checking for excessive play.

FIN:
Inspect vertical fin for fabric condition and finish.
Check for wrinkles, dents and signs of internal damage.

RUDDER:
Inspect fabric cover on the rudder for fabric and dope condition.
Check bottom of rudder for an open drain grommet.
Check rudder for alignment and possible internal damage usually indicated by a wrinkle in the fabric.
Inspect rudder hinge pins for wear and safety.

RUDDER: (cont'd)
Check hinge bushings for play. These bushings are pressed in and should be replaced when worn.
Check rudder travel, 26° Right, 26° Left.

ELEVATORS:
Check fabric condition and finish on the elevators.
Check for open drain grommets along the elevator trailing edge.
Sight one elevator against the other for alignment.
Check hinge pins and bushings for wear and replace any worn pins or bushings.
Check elevator cable horns for safety, worn bolts and clearance in travel.
Check elevator travel, 27° UP, 25° Down.

EXTERNAL BRACING:
Check empennage rigging wires for corrosion and cracks or nicks that might result in failure.
Check fittings for alignment with the wire and bolts for safety.
Rigging wires should be taut with little hand deflection.
Check each wire to be sure there are no loose fork lock nuts.

RUDDER AND ELEVATOR CONTROLS:
Check rudder elevator horns for worn bolts and safety with no threads in bearing.
Check fittings for alignment with the cable and freedom of travel.
Check top and bottom cable turnbuckles for safety and a maximum of three threads showing outside the barrel.

ELECTRICAL SYSTEM:
Check battery drain for any restrictions.
Check battery mounting area for any acid spills.
Remove battery and check battery box.
Check all cable terminals for corrosion and looseness at connections.
Check cable insulation for nicks or burns and for any bare conductor showing.
Turn master switch on and then turn light switch ON.
Check all lights for proper operation and ammeter for discharge reading.
With engine running, check alternator by checking ammeter indicating charge current.

SERVICE

When in need of service, contact the nearest Taylorcraft representative of factory. The factory maintains a service department to assist the representatives and you to obtain the most service from your airplane.

HOW TO ORDER PARTS

When ordering parts, always give the following information to the Taylorcraft representative or factory: (Parts Catalogue is available at a nominal price)

1. The model, serial no., and registration number of your plane. (The model and serial number can be found on the metal plate attached to the door sill, left side.)
2. The part number and name of the piece wanted, whenever possible. If you cannot find the part number, give as complete a description as possible of the part required and location, stating right or left. A sketch is frequently of assistance in filling orders.
3. Quantity needed. This is important.
4. If representatives do not carry the part needed, state: To whom the shipment is to be made, address to where parts are to be sent, transportation - Parcel Post, Airmail, Air Express, United Parcel, Railway Express or Motor Freight.
5. Parts will be shipped C.O.D. unless certified check or money order accompanies the order.
6. Parts ordered to be shipped by Motor Freight or Air Express must be accompanied by a money order or certified check.
7. For engine service, contact the engine manufacturer's service station directly.

NOTE: In order to avoid delays, all communications should be addressed to the attention of the Service Department.

RIGGING INFORMATION

As the airplane is built entirely in jigs, it requires no rerigging to disassemble and reassemble the wings. There are only two points where any wing adjustment may be made.

The front wing struts being jig built have no adjustment.

To check the rigging of the wings and tail, stretch a cord across the wings at the front spar and level the ship with a line level placed over the center of the cabin. Stretch a second cord across the wings at the rear spar and level with the line level. The rear strut adjustment is used to accomplish this. The bolt at the point of attachment of the wing strut with the wing fitting must first be removed. A long screwdriver may be used to move the adjusting nut as required.

In flight testing, if the airplane flies either wing heavy, the rear strut adjustment may be used to correct this by washing the opposite wing out, or the heavy wing in.

If the airplane flies nose heavy, both wings may be washed in, or if tail heavy, both wings may be washed out for correction.

The tail is rigged level and perpendicular while the ship is level. An ordinary level used along the rear tube or the stabilizer and rear tube of the fin will accomplish this. The wires should be rigged snug but not too taut. A low bass tone is satisfactory.

INSTRUCTIONS FOR INSTALLING PLEXIGLAS WINDSHIELD

This windshield is manufactured from the finest grade of plexiglas available and is easily installed if these instructions are carefully followed.

1. Check windshield for scratches or distortion.
2. Allow windshield to remain in heated room (not less than 70°F.) for 6 hours before cutting, drilling or fitting.
3. Remove old windshield and use as pattern to make a paper template.
4. Lay template over windshield and mark outline.
5. Trim to size by using a metal cutting band saw or hack saw. If using a hack saw along straight edges, it is recommended that the edge be supported with two pieces of wood and clamp with a "C" clamp. Also as final resort, mechanic can use heat lamp and pair of tin snips. After all operations sand rough edges smooth.
6. Place windshield in position on airplane. Drill slightly oversized holes on top.

   Remove papers after completion by picking up edge and peeling.

IMPORTANT: Use drill slightly larger than fastening bolts to allow for natural expansion and contraction of the windshield. Do not use high speed drill bit or fast motor. If drill is cold, warm it by gripping it in your hand until room temperature.

Install windshield in heated room or hangar.

INSTRUCTION FOR FUEL TANK REMOVAL

On rare occasions it may be necessary to remove the fuel tank. To accomplish this, remove the control wheels and the front instrument panel which will give access to the tie rods that support the tank. Next remove the caps from the control column bearings and drop the column to the floor. Several engine controls and attachments must also be removed. Remove the forward tie-rod nuts next to the firewall and pull the rods. The tank is then free to be removed down and out through the cabin.

TAYLORCRAFT AVIATION CORPORATION
Alliance, Ohio

Airplane Flight Manual
for the
Model F-19 (Serial Nos. F-001 & up)

Serial No. F-117

Registration No. N3794T

This document must be kept in the airplane at all times.
Compliance with the Limitations Section of this Flight Manual
is required by law.

FAA APPROVED: Delores D. Costa
for
KEITH D. ANDERSON, Chief
Engineering & Manufacturing
Branch
Federal Aviation Admins.
Great Lakes Region
DesPlaines, Illinois

Date: July 3, 1973

Revised: June 27, 1974

RECORD OF REVISION

REV. NO.	PAGES AFFECTED	DESCRIPTION	DATE	*APPROVED BY
1	All	All pages re-numbered		Richard A. Paul
	2	Inserted "Record of Revision Page"		
	3	Tach - added Green Arc Marking	10/18/75	
	4	Added "VFR Night"		
	5	Added Placard for Anti-Collision Light		

*For Chief of Engineering & Manufacturing Branch, Federal Aviation Administration, Great Lakes Region.

NOTE: Revised material is indicated by black vertical line.

I. Limitations

The following limitations must be observed in the operation of this airplane:

A. Engine - Continental O-200A with CMC oil cap retainer assembly 637130

B. Engine Limits - for all operations 2750 RPM (100 HP)

C. Fuel - 80 Octane Minimum Aviation Gasoline

D. Oil - Use only detergent oil meeting Continental Engine Specification MHS-24

E. Engine Instrument Markings

1. Oil Temperature - Redline (Maximum) 240°F (Minimum) 100°F
   Green Arc (Normal Operation) 100°F - 240°F

2. Oil Pressure - Redline (Maximum) 100 PSI (Minimum) 10 PSI
   Green Arc (Normal Operation) 30-60 PSI

3. Tachometer - Redline (DO NOT EXCEED) 2750 RPM
   Green Arc (Normal Operation) 1950-2500 RPM

F. Airspeed Limits (Calibrated Airspeed)

	Normal Category	Utility Category
Never Exceed	136 MPH	141 MPH
Maximum Structural Cruising	108 MPH	104 MPH
Meneuvering	87 MPH	86 MPH

G. Flight Load Factors

	Normal Category	Utility Category
Maximum Positive	3.8	4.4
Maximum Negative	-1.52	-1.76
Maximum Weight	1500#	1380#

H. Propellers - Fixed Pitch Metal - McCauley
Model 1A105/SCM 6950
Model 1B90/CM 7443

Prop
Red climb

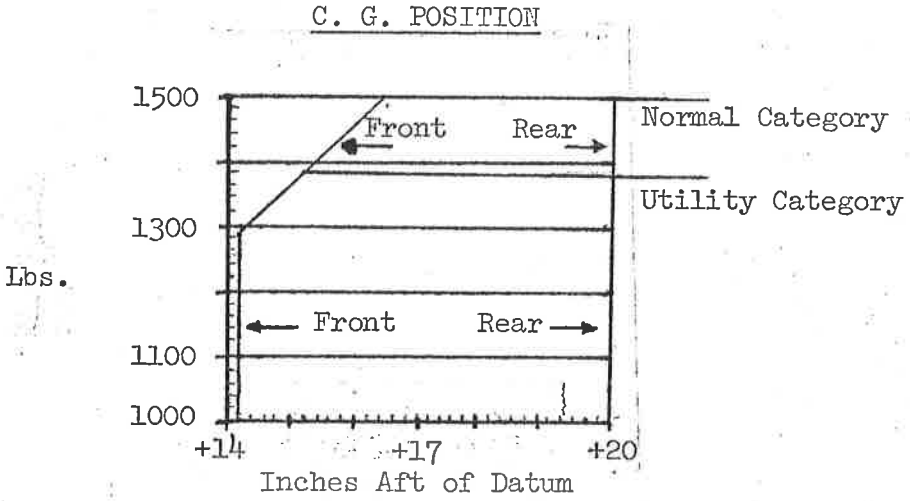
has 69-50 prop
Bathtub 70

climb 74 43

J. C. G. Range - Normal: (+16.1) to (+20.0) at 1500 lbs.
(+14.2) to (+20.0) at 1280 lbs. or less

Utility: (+15.1) to (+20.0) at 1380 lbs.
(+14.2) to (+20.0) at 1280 lbs. or less

STRAIGHT LINE VARIATION BETWEEN POINTS GIVEN



1. Datum - located at leading edge of wing

2. Maximum baggage - 72 lbs.

NOTE: It is the responsibility of the pilot to insure that the airplane is properly loaded. (See Weight and Balance Section, Appendix A)

K. Placards - The following placards must be displayed:

1. On the instrument panel in full view of the pilot:

a. "Operate in normal or utility category in compliance with the Approved Flight Manual."
"Airplane marked for normal category only."
"Acrobatics (including spins) prohibited in normal category."
"VFR Day only." **or "VFR Day/Night only" (when approved night lights are installed)**
"No smoking"

b. "Refill main tank in level flight and only when main tank is less than half full."

c. Above fuel shut-off valve:
"Main tank usable fuel 9 gallons."

d. Above each transfer valve:
"Auxiliary wing tank usable fuel 6 gallons."

e. Turn off anti-collision light in visible moisture conditions. (When anti-collision light is installed)

2. Maximum baggage 72 lbs.

L. Fuel Systems

1. Fuel to engine feeds from main tank only.

2. Fuel quantity gauge indicates contents of fuselage tank only.

3. The fuel remaining in the tank when the quantity indicator reads "zero" cannot be safely used in flight.

M. Maneuvers

1. Normal Category - No acrobatic maneuvers (including spins) approved.

2. Utility Category - Acrobatic maneuvers are limited to the following, with entry speeds as shown:

a. Chandelles - 90-100 MPH

b. Lazy Eights - 90-100 MPH

c. Steep Turns - 90-100 MPH

d. Stalls - (Except Whip Stalls) 40 MPH

e. Spins - 40 MPH

f. No inverted maneuvers approved.

N. Airspeed Instrument Markings and their significance (Calibrated Airspeeds)

1. Red Radial Line marks the NEVER EXCEED SPEED which is the maximum safe airspeed - 136 MPH

2. Yellow Arc on indicator denotes range of speed which should be conducted with caution and only in smooth air - 108-136 MPH

3. Green Arc denotes normal operating speed range - 45-108 MPH

II. Procedures

A. Except as noted above, all operating procedures for this airplane are conventional.

B. Operation of fuel system -

Fuel to the engine feeds from the main tank only, and wing tank fuel must be transferred to the main tank.

The main fuel tank has a total capacity of 12 gallons; however, only 9 gallons can be safely used in flight.

The two auxiliary wing tanks hold a total of 12 gallons usable fuel (6 gallons in each tank). This fuel will transfer completely to the main tank only during level flight. Care must be exercised while transferring wing fuel to avoid overfilling the main tank. It is recommended that wing fuel be transferred one tank at a time, and only, after the main tank has been emptied sufficiently to accept 6 gallons of fuel.

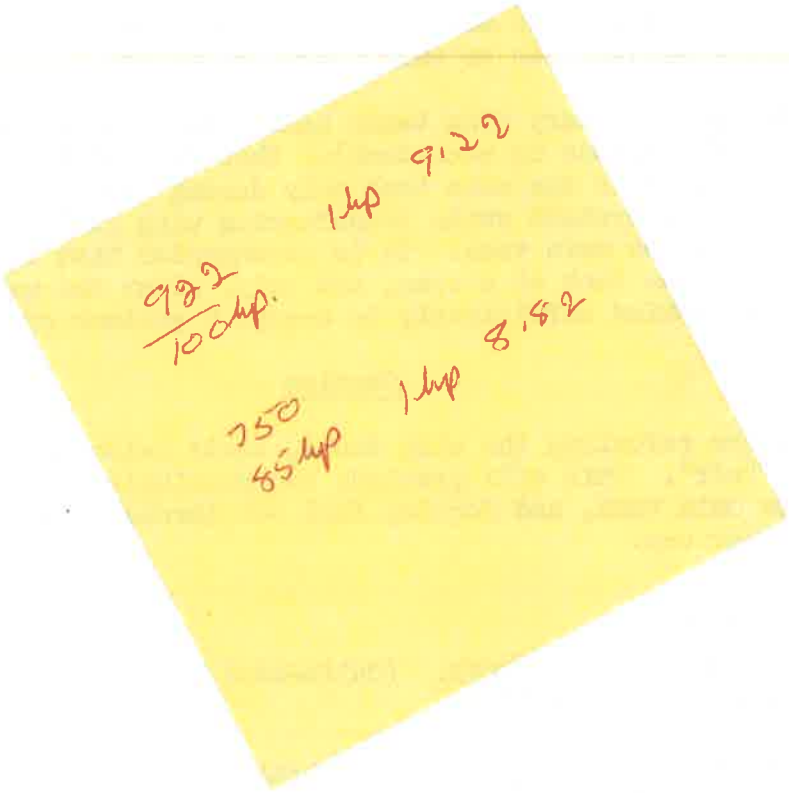
Caution

Before refueling the wing tanks, their selection valves must be "off". This will preclude the possibility of overfilling the main tank, and forcing fuel out through the fuselage tank filler cap.

III. Performance

A. Best R/C speed 70 MPH. (Calibrated Air Speed) with 1A105/SCM6950 Prop

B. Best R/C speed 65 MPH. (Calibrated Air Speed) with 1B90/CM7443 Prop


9.22
1kg
922
100kg
8.82
1kg
750
85kg

TAYLORCRAFT AVIATION CORP.
MODEL F19 FLIGHT MANUAL
APPENDIX A

ELECTRICAL SYSTEM INFORMATION

ELECTRICAL SYSTEM LOAD INFORMATION GIVEN HERE IS FOR CONTINUOUS OPERATION:

ITEM	AMPS
NAV. LIGHT	5.0
ANTICOLLISION LIGHT	5.0
LANDING LIGHT	7.7
CABIN LIGHT	.33
RADIO	
TURN & BANK	.75
CLOCK	.33
TOTAL*	19.11

* MAX. ALLOWED 11 AMPS. SERIAL NO. F-001 THRU F-004
MAX. ALLOWED 34 AMPS. SERIAL NO. F-005 & UP

CAPACITY CAN BE INCREASED UP TO 48 AMPS BY CHANGING THE SIZE OF WIRE CONNECTING ALTERNATOR AND AMMETER AS FOLLOWS:

SERIAL NOS. F-001 THRU F-004	FROM #12 TO #6
SERIAL NOS. F-005 & UP	FROM #8 TO #6