TAYLORCRAFT

BC12D

SERVICE MANUAL

INDEX

THE TAYLORCRAFT BC12D

The Taylorcraft BC12D is a two place, side by side, high wing strut braced monoplane. Basic construction consists of welded tube, fabric covered fuselage. Wings are fabric covered, wood spar, with formed aluminum alloy ribs.

Power is supplied by the Continental A65-8 engine developing 65 horsepower at 2300 RPM. The engine is insulated against excessive vibration with rubber bushings at the motor mount attachment points, resulting in smooth, noise - free operation.

Any of several propellers may be used. Refer to latest revised copy of FAA Specification Sheet A-696. A copy appears in the appendix of this publication.

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 50 lbs. (30 lbs. for the seaplane version) allowing the accommodation of small suitcases and other small items.

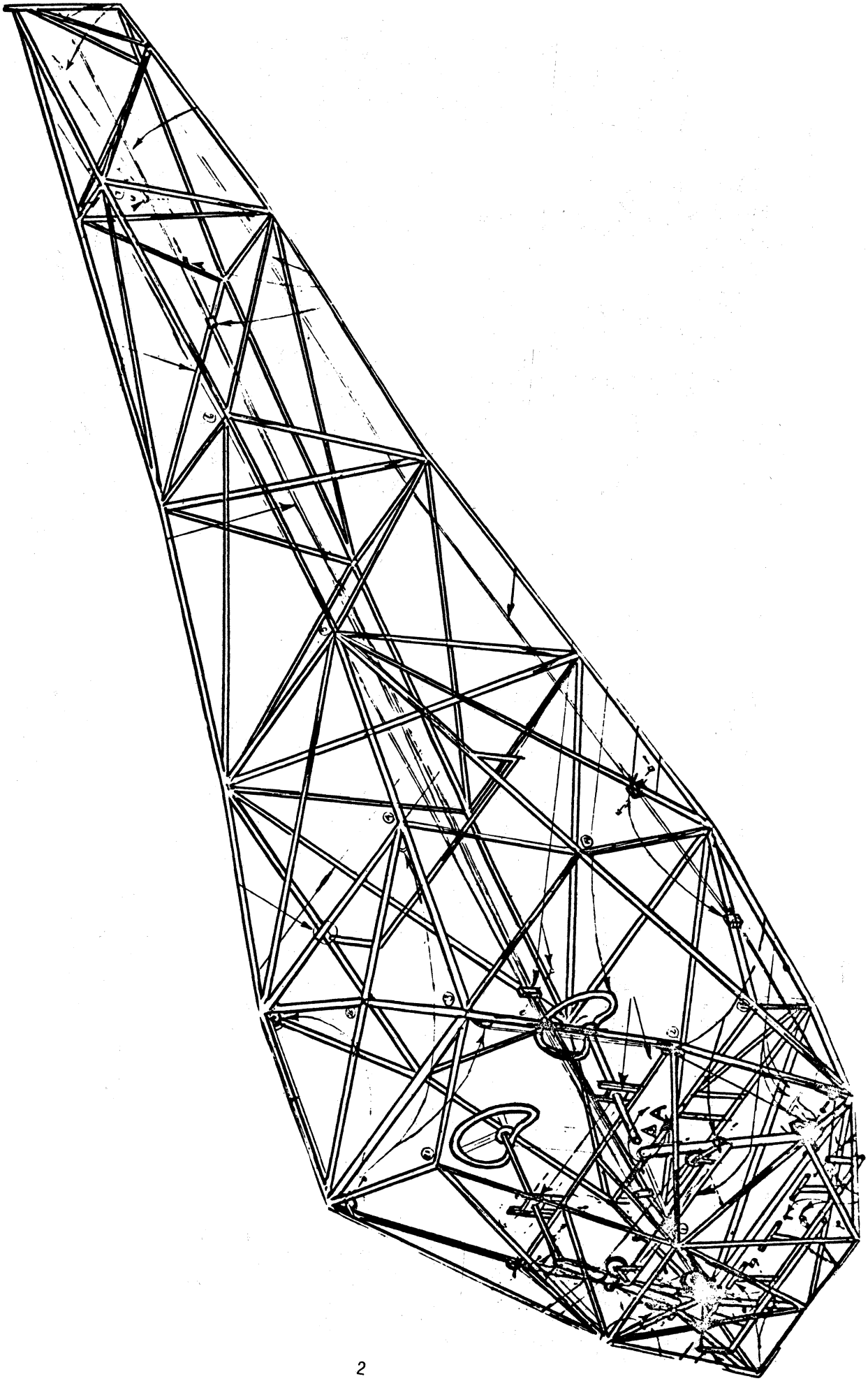
The shock absorbing system consists of bungee cord assembly attached to two extensions of the main gear at the center line of the fuselage and the main structure of the fuselage. Ease in ground handling is assured with a steerable leaf spring tail wheel and positive acting mechanical brakes.

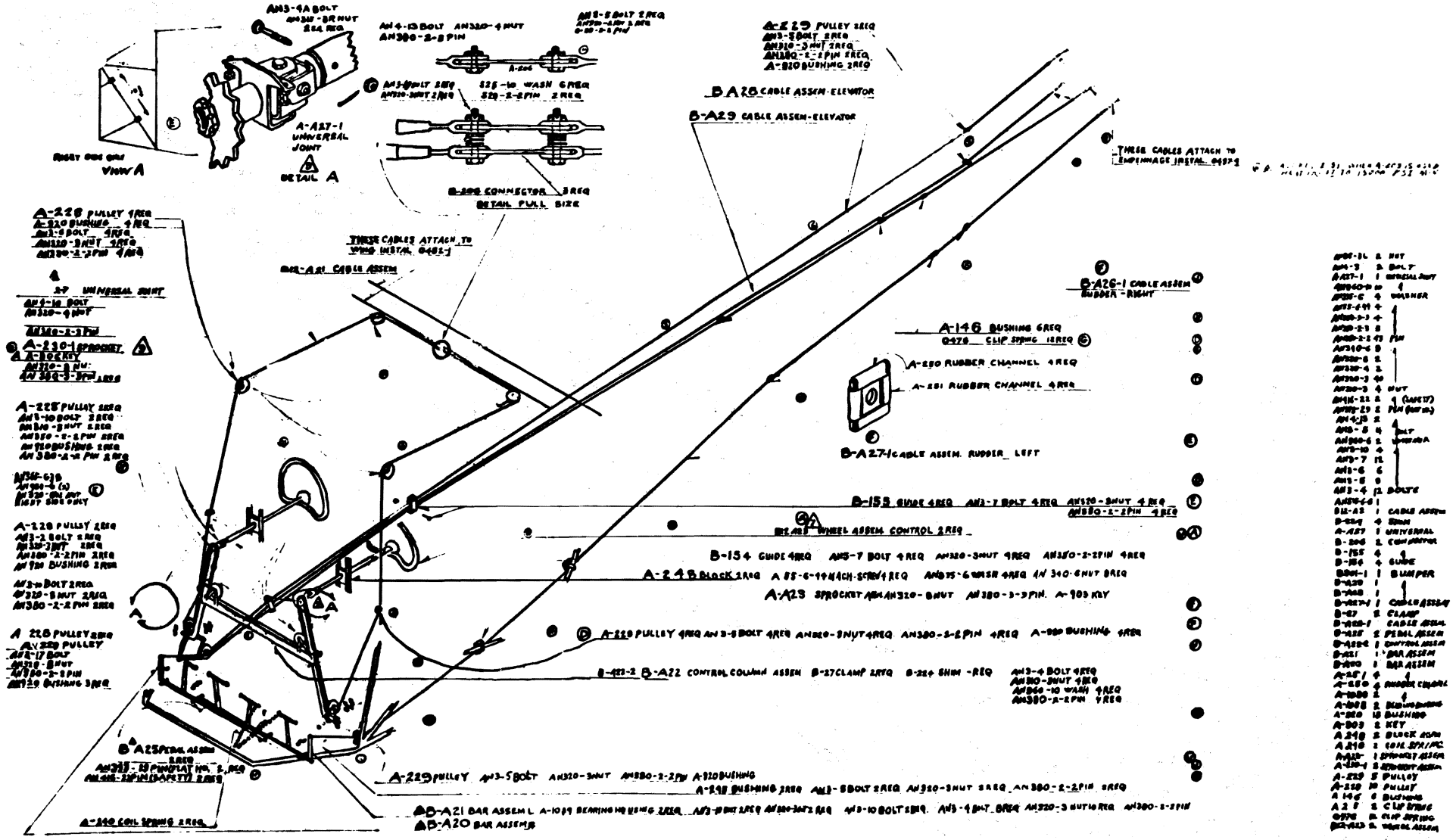
FUSELAGE FRAME

Basically, the fuselage frame consists of 1025 and X4130 tubing acetylene welded to form the body structure of the fuselage.

Tubing members are shown on the accompanying drawing in order that they may be identified in the event repairs are necessary in the field. Tubing size and type are shown on the fuselage frame drawing.

The entire fuselage structure is coated with rust preventative primer at the factory. Upon making any repairs in the field, care should be taken to thoroughly clean the repaired areas and recoat with rust preventative primer. Zink chromate or palidin has been found to be an excellent corrosion proofing and adds materially to the life of the structure.





AN960-3L	2	NUT
AN4-13	2	BOLT
A-A27-1	1	UNIVERSAL JOINT
AN960-10	10	
AN515-6	4	WASHER
AN3-6A	4	
AN3-3-3	4	
AN380-2-3	8	
AN380-2-2	43	PIN
AN960-6	8	
AN960-4	2	
AN960-3	40	
AN320-3	4	NUT
AN515-22	2	(SAFETY)
AN380-2-2	2	PIN (SAFETY)
AN4-13	2	
AN3-8	4	BOLT
AN960-6	2	WASHER
AN3-10	4	
AN3-7	12	
AN3-6	6	
AN3-5	8	
AN3-4	12	BOLTS
AN515-6-8	1	
B12-A3	1	CABLE ASSEM
B-224	4	SHIM
A-A27	1	UNIVERSAL
B-208	2	CONNECTOR
B-155	4	
B-154	4	GUIDE
B201-1	1	BUMPER
B-A220	1	
B-A28	1	
B-A29-1	1	CABLE ASSEM
B-27	2	CLAMP
B-A26-1	1	CABLE ASSEM
B-A25	2	PEDAL ASSEM
B-A22-1	1	CONTROL ASSEM
B-A21	1	BAR ASSEM
B-A20	1	BAR ASSEM
A-257	4	
A-250	4	RUBBER CHANNEL
A-1089	2	
A-1088	2	BEARING HOUSING
A-210	18	BUSHING
A-903	2	KEY
A-248	2	BLOCK ASSY
A-A16	1	COIL SPRING
A-A23	1	SPROCKET ASSEM
A-A22-1	1	CONTROL ASSEM
A-229	5	PULLEY
A-228	10	PULLEY
A-146	6	BUSHING
A 27	2	CLIP SPRING
0278	2	CLIP SPRING
AN4-13	2	WHEEL ASSEM

WING FRAME

The wing frame consists of laminated Spruce spars re-inforced at the butt and strut attachments with three ply Spruce pads. All ribs are one piece hydro-formed aluminum, re-inforced at the spar openings.

Spar butt attachment and strut attachment fitting holes are re-inforced with micarta bushings pressed and glued to the spar blank. Kem wood primer is applied to the spar as a protective coating, and should be re-applied to any exposed wood after splicing or repairs.

Methods of finish and splicing are covered in FAA manual 18, which may be obtained from the Superintendant of Public Documents, Washington 25, D. C.

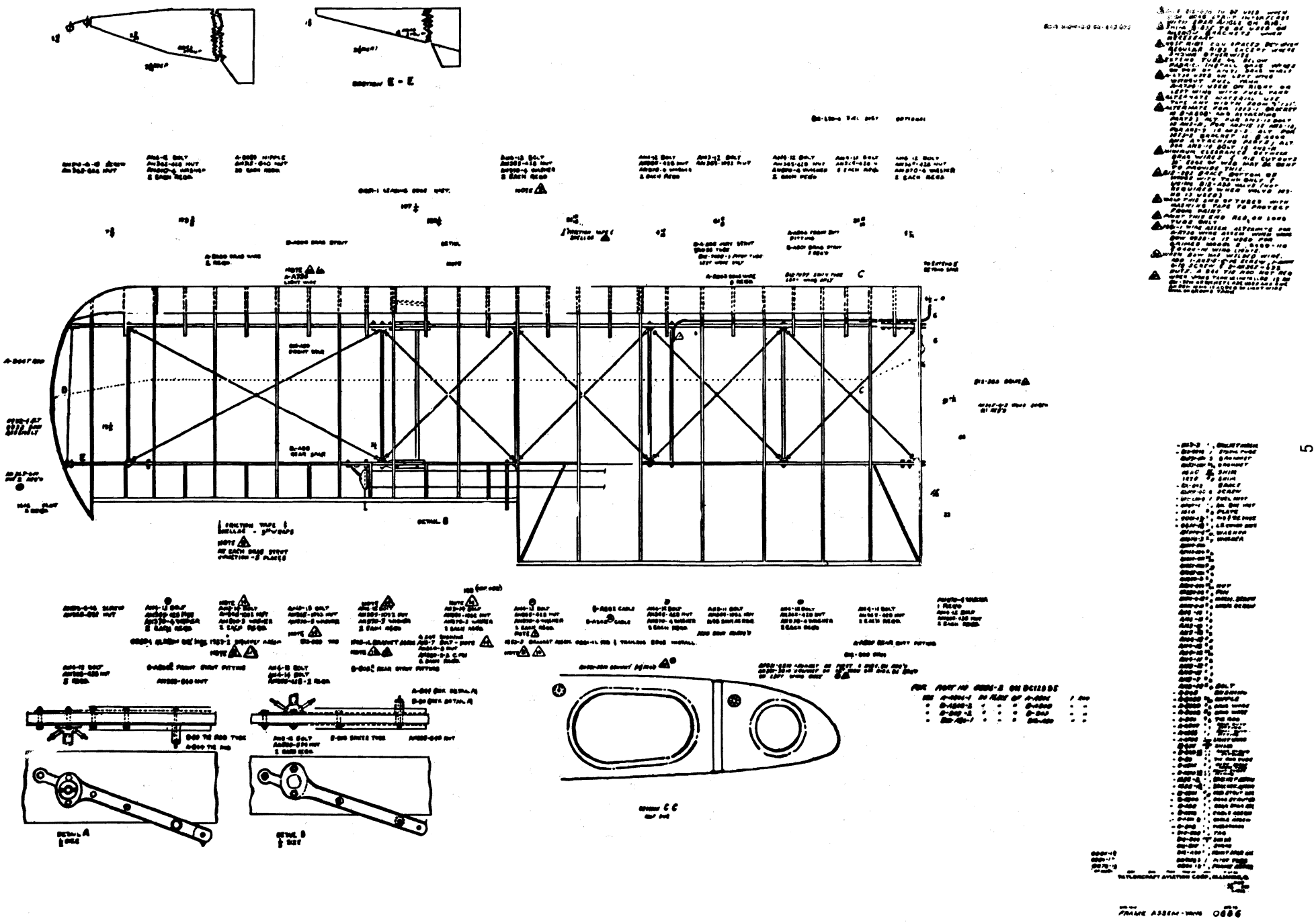
Spar butt fittings are X4130 steel, clevis type. Damaged or worn spar butt fittings should never be welded or bushed but should be replaced complete and may be ordered by giving the number shown on the accompanying drawing.

The wings are attached to the fuselage with AN4-13 bolt and AN365-4 nut, rear spar and AN5-15 bolt and AN365-5 Nut front spar. These bolts pass through the spar fittings and fuselage spar attachment fittings. The spar butt attachment fittings are designed to fit snugly to the fuselage fittings and should not be bushed or shimmed. The front spar strut attachment fittings include tie down rings. The rear strut is attached with a bolt through the spar and the strut upper end fitting.

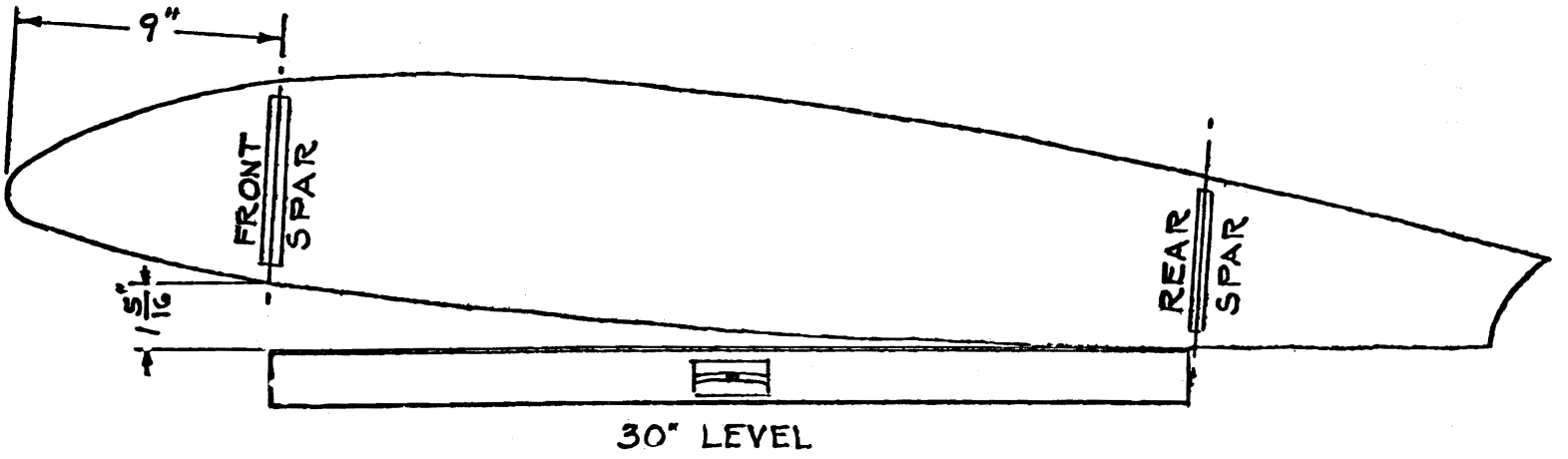
Position light wiring is provided in each wing and is attached to the drag wire intersections running from the fuselage to the wing tip.

Rigidity between front and rear spars is accomplished by the use of ten drag wires and five compression struts. The drag wires are heat treated steel, 125,000 PSI Rockwell test and in no instance should they be replaced with soft wire. Care should be used when rebuilding or repairing the wing to avoid the use of tools such as pliers which might scratch or crack these wires. A small scratch in this material may develop into a crack and structural failure.

The compression struts are X4130 round steel tubing, not heat treated. These compression assemblies are bolted to the rear and front spars. The leading edges are reinforced with .016 24ST½H aluminum. Replacement of these parts should be ordered by numbers shown on the drawing.



FIRST FULL RIB FROM TIP - ABOUT 26" FROM TIP



LEFT & RIGHT WING ARE RIGGED IN THIS MANNER

PLANE TO BE IN LEVEL POSITION

SURFACE OF STABILIZERS ARE PARALLEL TO THRUST LINE

TAYLOR CRAFT	
ANGLE OF RIB FOR CORRECT WASH OF WINGS	

SPECIFICATIONS and PERFORMANCE DATA

Gross weight: Landplane 1200 Lbs.
Seaplane 1278 Lbs.

Consult latest FAA 337 for empty weight and useful load as well as current weight and balance.

PERFORMANCE:

Never Exceed Speed : Landplane 140 MPH
Seaplane 129 MPH

Cruising Speed : 95 MPH

Best Approach Speed : 60 MPH

Stall speed, power off, gross weight : Approx. 35 MPH

Rate of climb, full power, gross weight : 500 FPM

Fuel capacity : 18 Gal., 12 gal. fuselage tank at minus 9'' and 6 gal. wing tank at plus 24'' aft of datum.

Fuel consumption : 4.2 gal. per hour.

Range : (No reserve) 4 Hrs. 30 Min.
427 miles, no wind condition.

Center of gravity range : Landplane plus 14.8 to plus 17.9
Seaplane plus 14.8 to plus 18.3

Datum location : Leading edge of wing.

Leveling means : Upper surface of horizontal stabilizer.

GROUND HANDLING and GENERAL MAINTENANCE

1. Head the airplane into the prevailing wind and set the controls by securing the wheel all the way back with the safety belt. 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.

2. If high winds are anticipated or airplane is to be parked unattended it is recommended that the airplane be moored. To moore 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 so as to fix a 90 degree angle between the rope and the stake when tied.

LEVELING and RIGGING PROCEDURE

Level in a fore and aft direction by supporting tail on stand and placing bubble level on the horizontal stabilizer. When bubble is centered in level, the aircraft is longitudinally level.

To level aircraft laterally, place bubble level on one of the top fuselage cross members or the seat cross tube. For weight and balance computation it is not necessary to level aircraft laterally. However, for rigging wings this step is very necessary.

RIGGING INFORMATION:

As the airplane is built entirely in jigs, it requires no re-rigging 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 a 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 adjustment 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.

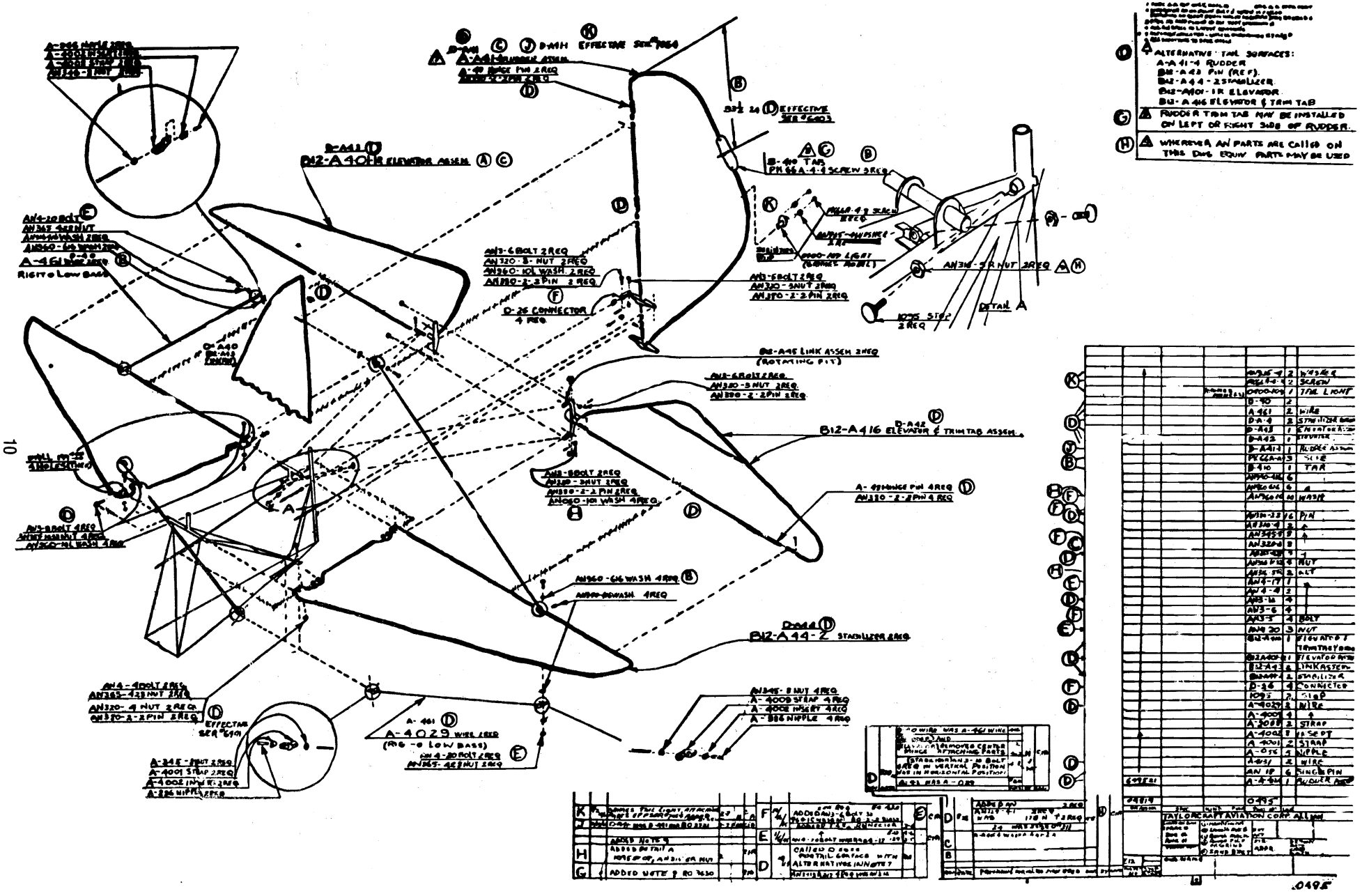
The tail is rigged level and perpendicular while the ship is level. An ordinary level used along the rear tube of the stabilizer and rear tube of the fin will accomplish this. The wires should be rigged snug but not too taut. A low bass tone is satisfactory.

TAIL ASSEMBLY RIGGING:

Level the stabilizers at the rear spar with the airplane in level position. Adjustment is accomplished by tightening and loosening of the tail brace wires. Take up as many turns as the opposite wires are let out, to keep the same tension on the wires. Take up all slack and put a slight amount of tension on the wires. On the test flight note the tail surfaces. If the wires are too loose the surfaces will vibrate an undue amount.

CONTROL SURFACE TRAVELS:

Aileron	23 degrees up	23 degrees down
Elevators	27 degrees up	25 degrees down
Elevator tab	25 degrees up	30 degrees down
Rudder	26 degrees R.	26 degrees L.


B12-A401 ELEVATOR ASSEM.
B12-A416 ELEVATOR & TRIM TAB ASSEM.
B12-A44-2 STABILIZER ASSY
A-4029 WIRE ASSY
AN4-10 BOLT
AN365-1032 NUT
AN960-10 WASHER
A-461 WIRE ASSY
RIGHT OR LOW BASS
AN3-6 BOLT 2 REQ
AN320-3 NUT 2 REQ
AN960-10L WASH 2 REQ
AN380-2-2 PIN 2 REQ
D-26 CONNECTOR 4 REQ
B-410 TAB PN 66A-4-4 SCREW 3 REQ
AN3-5A NUT 2 REQ
1075 STRAP 2 REQ
DETAIL A
B12-A415 LINK ASSEM 2 REQ (ROTATING PIT)
AN3-6 BOLT 2 REQ
AN320-3 NUT 2 REQ
AN380-2-2 PIN 2 REQ
AN3-5 BOLT 2 REQ
AN320-3 NUT 2 REQ
AN380-2-2 PIN 2 REQ
AN960-10 WASH 4 REQ
A-493 HINGE PIN 4 REQ
AN380-2-2 PIN 4 REQ
AN3-5 BOLT 4 REQ
AN960-10L WASH 4 REQ
AN960-616 WASH 4 REQ
AN960-10 WASH 4 REQ
AN4-4 BOLT 2 REQ
AN365-428 NUT 2 REQ
AN320-4 NUT 2 REQ
AN380-2-2 PIN 2 REQ
EFFECTIVE SER # 6104
AN3-5 BOLT 4 REQ
AN365-428 NUT 4 REQ
A-4009 STRAP 4 REQ
A-4002 INSERT 4 REQ
A-816 NIPPLE 4 REQ
A-345 NUT 2 REQ
A-4001 STRAP 2 REQ
A-4002 INSERT 2 REQ
A-816 NIPPLE 2 REQ
A-461 WIRE ASSY 2 REQ (RIGHT OR LOW BASS)
AN4-20 BOLT 2 REQ
AN365-428 NUT 2 REQ
ALTERNATIVE TAIL SURFACES:
A-A414 RUDDER
B12-A43 PIN (REF.)
B12-A44-2 STABILIZER
B12-A401-1R ELEVATOR
B12-A416 ELEVATOR & TRIM TAB
RUDDER TRIM TAB MAY BE INSTALLED ON LEFT OR RIGHT SIDE OF RUDDER.
WHEREVER AN PARTS ARE CALLED ON THIS DWG EQUIV PARTS MAY BE USED
TAYLORCRAFT AVIATION CORP ALLEN
.0495

WINDOWS and WINDSHIELDS:

Plexiglass is used throughout assuring a minimum of discoloration due to exposure. Door windows are aluminum reinforced, sliding in felt insulated channel, which is an integral part of the door frame assembly.

Plexiglass is secured in the rear windows with Aluminastic compound and reinforced with aluminum alloy channel. This method of installation insures a watertight seal.

The one piece moulded windshield provides unobstructed visibility never before offered in the light plane field.

CARE OF PLEXIGLASS:

To clean PLEXIGLASS, flush the surface with plenty of water using the bare hand to feel and dislodge caked dirt or mud. A grit-free soft cloth or chamois may be used, but to guarantee against the introduction of dirt and possible scratching, the bare hand is preferable.

Kerosene or hexene (not aviation or ethyl gasoline) may be used to remove grease or oil.

DO NOT USE acetone, carbon tetrachloride, fire extinguisher or deicing fluids or lacquer thinners since these strong solvents attack and may soften the PLEXIGLASS. NEVER USE DIRTY OILY RAGS TO CLEAN PLEXIGLASS.

DO NOT USE kitchen scouring compounds which contain abrasives and will scratch PLEXIGLASS.

If, after washing, no scratches are apparent on the Plexiglass surface apply wax as directed below. However, if the surface shows a number of minor scratches, it is possible to remove or reduce most of them by applying a suitable polish by hand. Use a small pad of soft grit-free cloth. Several applications may be necessary, but the majority of scratches can be reduced and visibility markedly improved within a relatively short time.

To protect the surface and to fill in minor hairline scratches, a coating of wax is applied again with a soft clean cloth. A waxed surface is easier to keep clean, and to a certain extent resist further scratching. Apply a thin film of wax and bring to a high gloss by rubbing with a large pad of soft clean cloth.

CAUTION:

Rapid changes in temperature should be avoided (i.e., moving from warm hanger to extreme cold) which will cause rapid contraction and breakage. Allow fifteen minutes after Plexiglass has cooled before starting engine. Vibration increases the possibility of breakage during cooling.

WINDSHIELD

The windshield may be changed by simply removing the bolts and clamps around its edges and replacing it with a new windshield.

GAS TANK

On rare occasions it may be necessary to remove the gas tank. To accomplish this, remove the control wheels and the front instrument panel which will give access to the tie rods which 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.

TO ADJUST BRAKES

MODEL 6C2B, 6C3B, 6C4B WHEELS

1. Remove wheel, unhook brake springs and remove shoes.
2. Loosen 10/24 nut on one end of each shoe enough so that end plate can slide and yet maintain some friction between adjustable end plate and shoe.
3. Reassemble brake shoes and springs.
4. Screw in adjustment wedge screw (adjacent plate which has lock nut loosened) one turn and try wheel and drum over brake. Continue tightening wedge screws one turn at a time and testing wheel brake drum over brake until a noticable drag is developed by each shoe. If the range of the adjustment wedge is insufficient, lock its 10/24 nut firmly and continue with the adjustment on the opposite end of the shoe by the same methods. WARNING: Never force the adjustment wedge screw when the 10/24 lock nut has not been previously loosened.
5. With the brake drum over the brake assembly, apply brake firmly, release brakes with the 10/24 nuts loosened, usually results in clearance enough to remove the drag. If either of the shoes still drags, it will be necessary to back out the wedge adjustment screw, on that shoe, one-half turn and again apply the brake firmly, with the wheel drum in place and check for drag.
6. After satisfactory adjustment is obtained, remove the shoes and tighten the 10/24 nuts firmly to lock adjustment and plates.
7. Finally, tighten wedge adjustment screw slightly and reassemble brake.

WORN LININGS

If the brake linings are worn down to the rivet heads, brakes should be relined before adjustment is attempted. See the bulletin on relining brakes.

ADJUSTMENT OF BRAKE SHOES ON

MODEL 6C2HB, 6C4HB and 6C5HB WHEELS

1. Unhook lock springs from adjustment nuts located outside of brake dust shields.
2. Screw in adjustment nuts until a heavy drag is produced on each shoe. Back out each nut one-half turn.
3. Apply brake firmly, release and check for drag. If still too much drag on either shoe, the corresponding adjustment nut must be backed out one-sixth turn at a time, brakes applied, released and checked for drag until sufficient clearance is obtained.
4. After a satisfactory adjustment is obtained, the lock springs are engaged in the holes in the adjustment nut.

BRAKE LINING INSTALLATION IN 6C SERIES BRAKE

CAN BE INSTALLED WITHOUT ANY SPECIAL TOOLS

1. Lightly grind ends of lining until lining is right length for a snug fit in drums.
2. Push lining in drum with gap in lining centered between the rivets which are 1-1/2" between centers. Start by hand, then place a board over lining and tap down until it is flush with edge of drum.
3. Using drum as a jig, drill rivet holes through lining, from outside, with an ordinary 9/64" drill.
4. Remove lining from drum with a claw hammer or other flat ended bar, using care to raise it evenly all around the circumference.
5. Countersink lining, with countersink drill, to correct size for rivet head (5/16") to 3/32" depth.
6. Replace lining in drum with holes aligned.
7. Place rivets in drum and rivet by setting head of rivet on end of a 5/16" rod held in a vise and hitting tubular end of rivet with hammer. Care should be taken not to hit the aluminum drum and not to hammer the rivet more than necessary, as there is danger of distorting the drum with excessive pounding.

NOTE:

As brake lining service shops have a standardized set-up for automobile brake work and do not care for special jobs, it is recommended that this work be taken to a small machine shop or garage where there is a drill press or electric drill available.

If a special long shank countersink is used, it is not necessary to remove the lining from the drum in order to countersink it.

Information for any service shop tools can be furnished upon request.

ELECTRICAL EQUIPMENT

All models of Tayolrcraft have the wings wired for lights, and on those that are not equipped with navigation lights the wires are strung through the wing and taped to the wing bow at the extreme tip. The fuselage is not wired unless wiring is ordered at the factory, and it will be necessary to wire the fuselage and rudder if lights are installed.

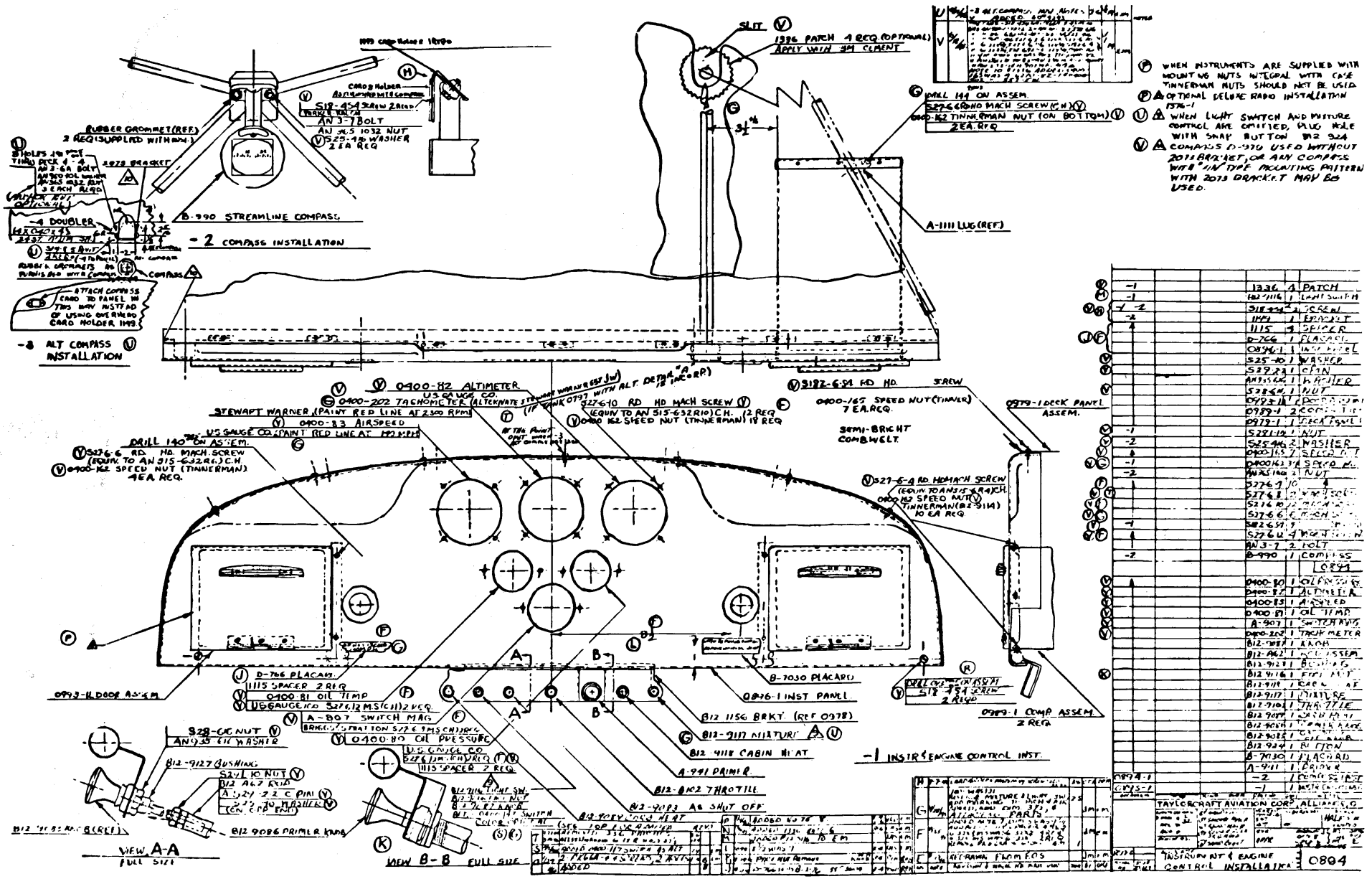
The battery is placed on the floor immediately ahead of the seat, slightly to the left of the center of the ship and is grounded to the fuselage framework under the seat. The system is fused in the positive lead where it comes out of the battery box and the fuse should always be replaced by a fuse of the same capacity as the original installation.

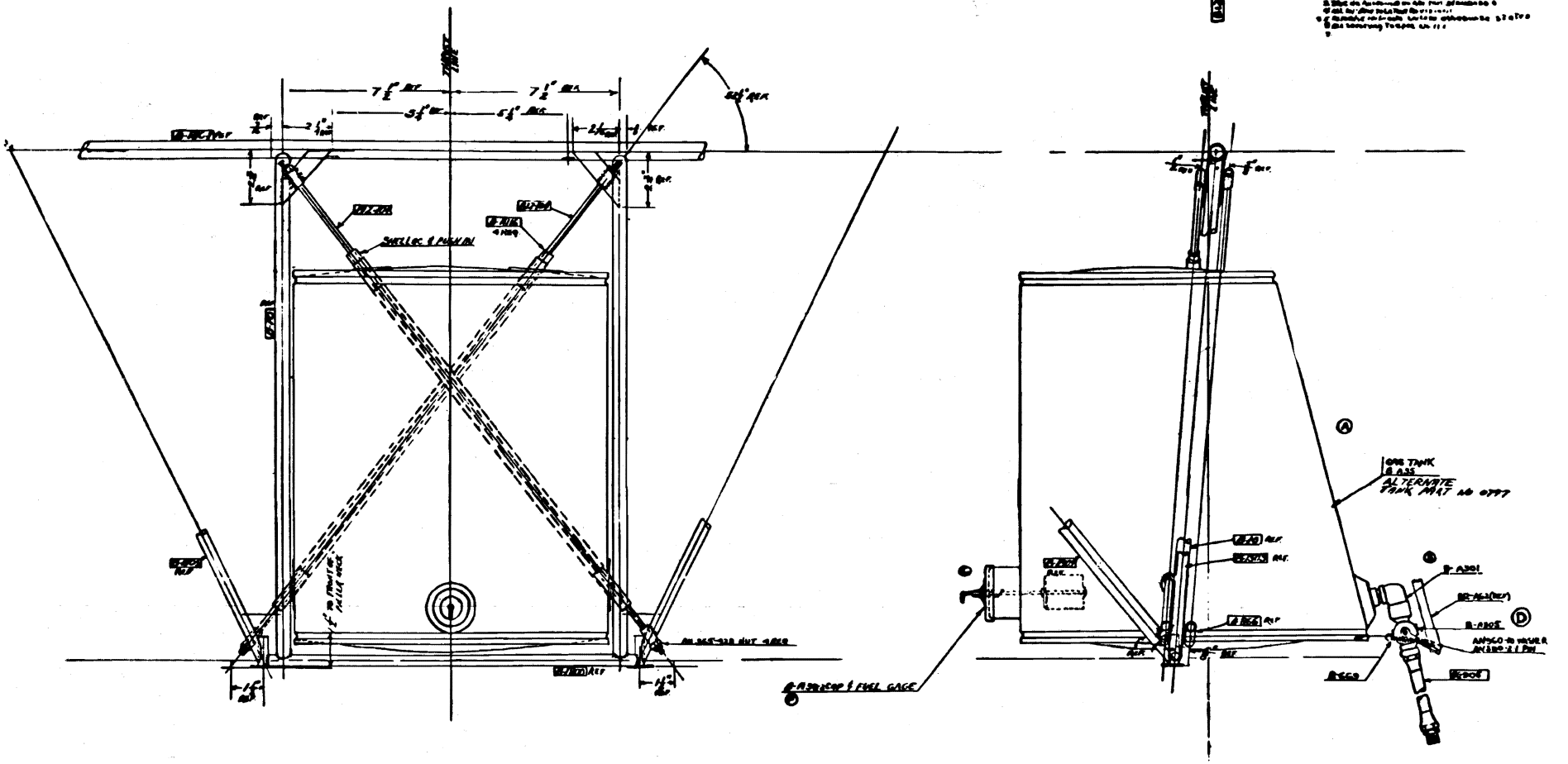
If the ship is equipped with a battery, care must be exercised in charging, as small aircraft batteries should not be charged over 2-1/2 amperes in excess of any outside draw such as lights or radio for more than a fifteen minute period.

If the ship is equipped with a generator, charging rate should be held down either by a brake or adjustment, and if the battery is charged outside, charging should never exceed 2-1/2 amperes.

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 ship which may result in a failure.

If the battery is charged out of the airplane, there is not the danger of damage to the airplane, but the battery is likely to be injured if the charging rate is excessive.


SLIT
1336 PATCH 4 REQ (OPTIONAL) APPLY WITH 3M CEMENT
WHEN INSTRUMENTS ARE SUPPLIED WITH MOUNTING NUTS INTEGRAL WITH CASE TINNERMAN NUTS SHOULD NOT BE USED.
OPTIONAL BEFORE RADIO INSTALLATION 1376-1
WHEN LIGHT SWITCH AND MIXTURE CONTROL ARE OMITTED, PLUG HOLE WITH SNAP BUTTON B12 9114
COMPASS D-990 USED WITHOUT 2078 BRACKET, OR ANY COMPASS WITH "N" TYPE MOUNTING PATTERN WITH 2073 BRACKET MAY BE USED.
RUBBER GROMMET (REF) 2 REQ (SUPPLIED WITH AN-1)
2078 BRACKET
AN3-6A BOLT
AN960 10L WASHER
AN365 1032 NUT
2 EACH REQD
-4 DOUBLER
B-990 STREAMLINE COMPASS
-2 COMPASS INSTALLATION
ATTACH COMPASS CARD TO PANEL IN THIS WAY INSTEAD OF USING ON RING CARD HOLDER 1149
-8 ALT COMPASS INSTALLATION
A-1111 LUG (REF)
WALL 144 ON ASSEM.
S276-6 RD HD MACH SCREW (6 CH)
0400-162 TINNERMAN NUT (ON BOTTOM)
2 EA. REQ
3½
S18-454 SCREW 2 REQD
AN 3-7 BOLT
AN 365 1032 NUT
S23-416 WASHER 2 EA REQ
CARGO HOLDER
0400-82 ALTIMETER U.S. GAUGE CO.
0400-202 TACHOMETER (ALTERNATE STEWART WARNER 8 DIGIT JW)
STEWART WARNER (PAINT RED LINE AT 2300 RPM)
0400-83 AIRSPEED
U.S. GAUGE CO. (PAINT RED LINE AT 190 MPH)
DRILL 140 ON ASSEM.
S276-6 RD. HD. MACH. SCREW (EQUIV TO AN 515-632R6) C.H.
0400-162 SPEED NUT (TINNERMAN) 4 EA REQ.
S276-10 RD HD MACH SCREW (EQUIV TO AN 515-632R10) C.H. 12 REQ
0400-162 SPEED NUT (TINNERMAN) 12 REQ
S182-6-94 RD HD SCREW
0400-165 SPEED NUT (TINNER) 7 EA. REQ.
SEMI-BRIGHT COMBWELT
0979-1 DECK PANEL ASSEM.
S276-4 RD HD MACH SCREW (EQUIV TO AN 515-632R4) CH.
0400-162 SPEED NUT (TINNERMAN) (B12-9114) 10 EA REQ
D-796 PLACARD
1115 SPACER 2 REQ
0400-81 OIL TEMP
U.S. GAUGE CO S276-12 MS (CH) 2 REQ
A-807 SWITCH MAG
0400-80 OIL PRESSURE
U.S. GAUGE CO S276-12 MS (CH) 2 REQ
1115 SPACER 2 REQ
0993-1 DOOR ASSEM
B-7030 PLACARD
0876-1 INST PANEL
B12-1156 BRKT (REF 0978)
B12-9117 MIXTURE
B12-9118 CABIN HEAT
A-991 PRIMER
B12-8062 THROTTLE
B12-9093 A6 SHUT OFF
B12-9089 LOW HEAT
S18-454 SCREW 2 REQ
0989-1 COMP ASSEM 2 REQ
S28-6 NUT
AN935 6L WASHER
B12-9127 BUSHING
S24-10 NUT
B12 A67 RIVET
A-24-22 C PIN
AN960 10 WASHER
B12 9086 PRIMER KNOB
-1 INSTR & ENGINE CONTROL INST.
VIEW A-A FULL SIZE
VIEW B-B FULL SIZE
0894
INSTRUMENT & ENGINE CONTROL INSTALLATION
TAYLORCRAFT AVIATION CORP. ALLIANCE, O.
PARTS
RETAINING FROM EOS

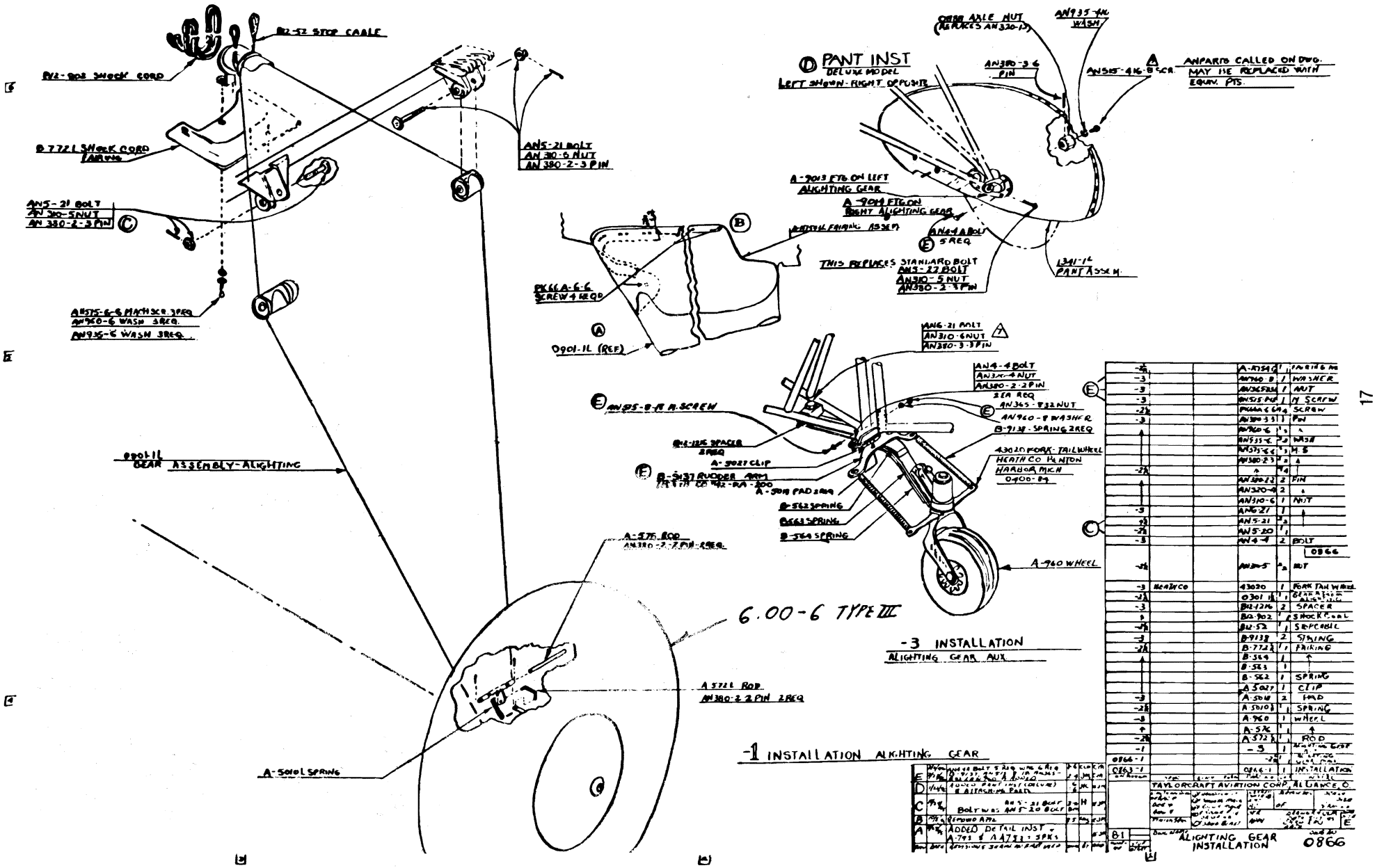


INSTALLATION DWG BIZ-L108-1 FOR FUSEL BLADES
USE PART NO 3576 IN PLACE OF BC-395
ALL OTHER PARTS SAME AS BIZ-L108

TAYLORCRAFT AVIATION CORP., ALLIANCE, O.

FUSELAGE GAS TANK INSTALLATION

BIZ-L108


BUZ-52 STOP CABLE
BUZ-302 SHOCK CORD
B-772L SHOCK CORD FAIRING
AN5-21 BOLT AN 310-5 NUT AN 380-2-3 PIN
AN5-21 BOLT AN 310-6 NUT AN 380-2-3 PIN
AN515-6-6 MACH SCR 3 REQ
AN960-6 WASH 3 REQ
AN935-6 WASH 3 REQ
0901-1L GEAR ASSEMBLY-ALIGHTING
A-5721 ROD AN380-2-2 PIN 2 REQ
A-5010L SPRING
6.00-6 TYPE III
A-5721 ROD AN380-2-2 PIN 2 REQ
-3 INSTALLATION
ALIGHTING GEAR AUX
-1 INSTALLATION ALIGHTING GEAR
D PANT INST DELUXE MODEL
LEFT SHOWN - RIGHT OPPOSITE
CRES AXLE NUT (REPLACES AN320-10)
AN935-416 WASH
AN515-416-8 SCR
ANPARTS CALLED ON DWG. MAY BE REPLACED WITH EQUIV. PTS.
AN380-3-6 PIN
A-9013 FTG ON LEFT ALIGHTING GEAR
A-9014 FTG ON RIGHT ALIGHTING GEAR
AXLE FAIRING ASSY
AN4-4 BOLT 5 REQ
THIS REPLACES STANDARD BOLT AN5-27 BOLT AN310-5 NUT AN380-2-3 PIN
1341-1L PANT ASSY
PK6LA-6-6 SCREW 4 REQD
0901-1L (REF)
AN6-21 BOLT AN310-6 NUT AN380-3-3 PIN
AN4-4 BOLT AN310-4 NUT AN380-2-2 PIN 2 EA REQ
AN515-8-16 R SCREW
AN365-832 NUT
AN960-8 WASHER
B-9138 SPRING 2 REQ
B-1125 SPACER 2 REQ
A-5027 CLIP
B-5437 RUDDER ARM
A-5018 PAD 2 REQ
B-562 SPRING
B-563 SPRING
B-564 SPRING
43020 FORK-TAILWHEEL HEATH CO HUNTON HARVOA MICH 0900-84
A-960 WHEEL
TAYLORCRAFT AVIATION CORP. ALLIANCE, O.
ALIGHTING GEAR INSTALLATION
0866

ENGINE INSTALLATION

GENERAL:

Continental A65-8A. T. C. 205. Horizontally opposed four cylinder, air cooled with 3-7/8'' bore and 3-5/8'' stroke.Total piston displacement is 171 cubic inches and compression ratio 6.3 to 1.

Rated horsepower at sea level, 65 hp at 2300 RPM. Recommended cruising 2150 RPM.

NOTE: Recommended cruising RPM should be static or the maximum RPM shown on the tachometer when the engine is run up prior to flight with carburetor heat off.

OIL REQUIRED:

Warm weather SAE 40
Cold weather SAE 30

Oil pressure 10 - 35 lbs.
Oil Temperature Minimum - 120 degrees F.
Maximum - 220 degrees F.

Carburetor:

Stromberg NA - S3A1

Fuel required:

73 Octane minimum. The next highest Octane may be used if the recommended fuel is not available, ie, 80 or 90 Octane permissible.

Fuel consumption:

4.25 US gallons per hour.
3.52 Imperial gallons per hour.

Ignition:

Bendix, Scintilla or Eiseman magnetos. Champion C26 Spark Plugs.

Firing order:

1 -2 - 3 - 4

Spark Advance:

30 degrees Before-Top-Dead-Center with both magnetos. Left magneto fires lower spark plugs, right magneto fires upper plugs.

MOUNT:

Attachment of engine to fuselage is provided by the engine mount assembly, fabricated of 1010, 1025 and X4130 steel tubing engineered to lessen vibration transmission to the fuselage. Four AN bolts attach the mount to the fuselage and four AN bolts attach the engine to the mount. Rubber bushings are provided by the engine manufacturer to insulate further against vibration at the engine mount attachments.

BAFFLES:

Two side and two rear baffles make up the basic cylinder barrel and cylinder head pressure cooling system. Aluminum alloy sheet is used in the fabrication of these parts. Air, upon entering the upper front of the nose cowling is forced around the cylinder fins of the engine assembly. Air from the upper cowling and baffle chamber is passed through flexible aluminum tubing to muffs at the junction of the exhaust stack "Y" on each side of the engine. The air is heated upon contact with the exhaust stacks, the left muff and stack assembly providing heated air for cabin heater, the right muff and stack assembly providing heated air for the carburetor heater assembly.

INTER-CYLINDER BAFFLES:

Two baffles are incorporated below and between the cylinder heads and barrels on each side of the engine. Supported with a spring and rod assembly these units complete the baffle system for the engine cylinders. It is very important that these inter-cylinder baffles are in place at all times to prevent leakage of the pressure in the upper baffle system resulting in improper cooling.

CRANKCASE BAFFLES:

These baffles are provided to force cool air around the crankcase of the engine. Outside air enters through the lower front nose cowling building up pressure at the front of the crankcase.

HEAT CONTROL:

Flow of the heated air to the carburetor heater and cabin heater is controlled from the engine control panel.

CARBURETOR HEATER:

This assembly controls the flow of heated air from the baffle system to the carburetor venturi. A butterfly valve connected to the carburetor heater control cable directs the airflow to the carburetor, when heat is desired, or through the outlet at the bottom of the air scoop assembly when not in use.

Proper functioning of the heater butterfly valve may be determined as follows :

Set throttle at cruising RPM, 2150 RPM. Pull heater control on, RPM should drop not less than 75 RPM, not more than 200 RPM.

If no change is noted, check butterfly valve for proper seating.

A65-8 Continental Service Instructions, Overhaul Manuals and Parts catalogs are available at a nominal price. A complete overhaul of these engines is not considered a major repair and any A&P mechanic is licensed to do this work provided he has the proper equipment.

STARTING and STOPPING ENGINE :

Be sure area is clear and only qualified people start engines. Always seat operator in the aircraft. Do not try to start engine with tail wheel tied down and assume this is safe. Aircraft have been known to slip the tail ropes and cause extensive damage.

STARTING PROCEDURE :

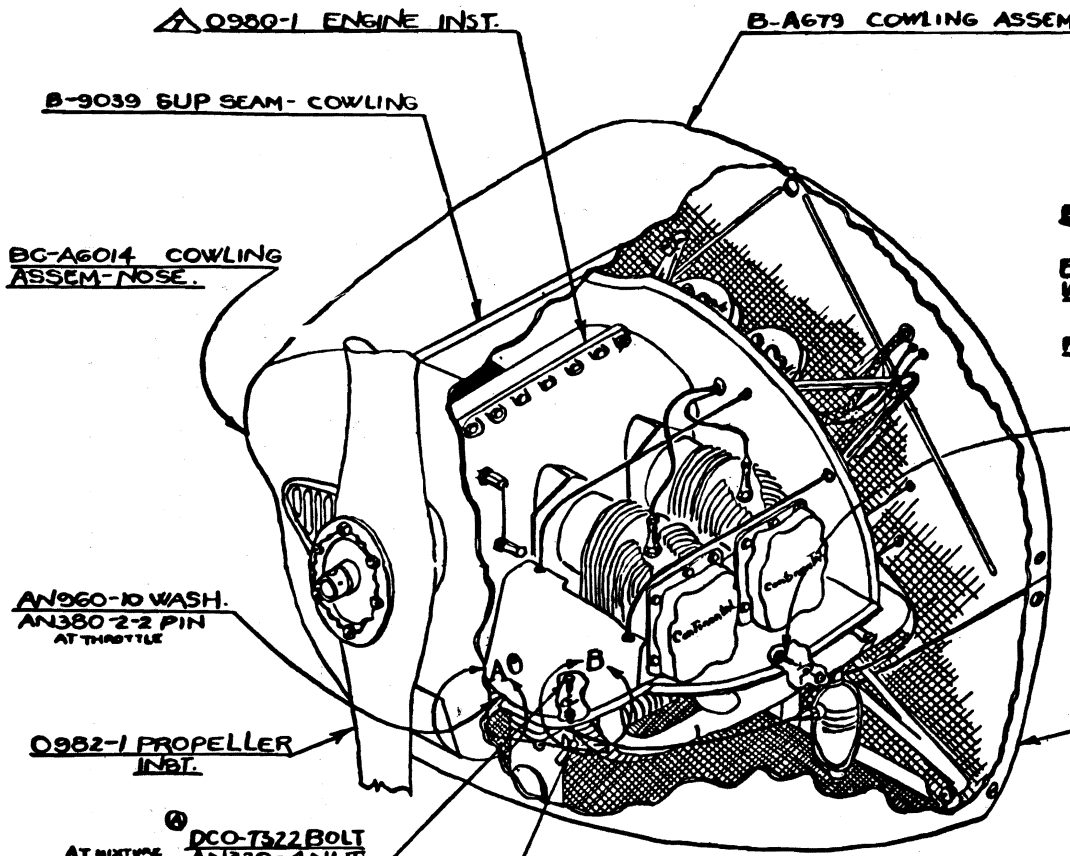
Switch off.
Fuel on.
Brakes on.
Prop man commands "Switch off"? Operator answers "Switch off" only after checking switch visually and by feel.
Prop man commands "Brakes"? Operator answers "Brakes" only after firmly pressing brakes.
Prop man then tries to move aircraft so as to check that brakes are actually holding plane firm.

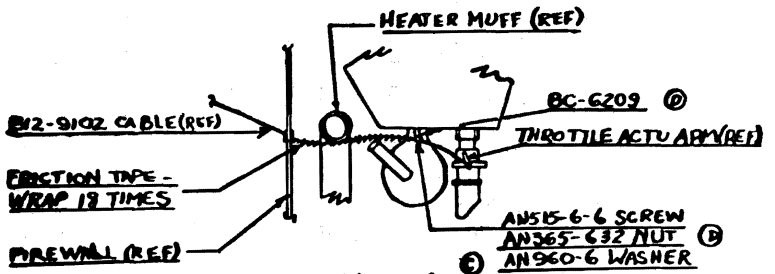
CAUTION : DO NOT DISREGARD ANY ITEM IN ABOVE CHECK LIST.
PEOPLE ARE STILL GETTING KILLED BY PROPELLERS.

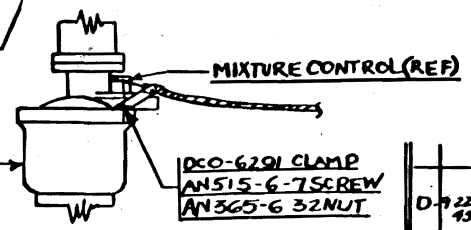
Prop man then pulls the prop through several compressions. If the engine is in good condition and the weather warm no priming is necessary. He then commands " Contact" to which the operator replies "Contact" turning the switch on. A quick twist and the engine should start smoothly. The throttle should be open 1/10th during the starting procedure.

If the engine does not start immediately it may have too much fuel in the induction system. The switch is turned off, the throttle opened all the way and the prop pulled through several times in the normal direction of rotation. It is a common misconception that to rotate the prop backwards clears the engine. There is no basis for this thinking.

To stop the engine reduce the throttle until the engine is turning about 800 RPM. Turn the ignition switch off and as it stops open the throttle to the stop. This will reduce preignition which causes the engine to keep running.







VIEW B

VIEW A
FROM OPP SIDE

				B-669	1	SPRING
				AN960-6	1	WASHER
				AN515-6-6	1	SCREW
				BC-6209	1	CLAMP
		COMMERCIAL	FRICTION	TAPE		½ X 25
				AN960-10	1	WASH.
				AN380-2-2	1	PIN
						0868
				AN320-4	1	
				AN365-632	2	
				AN320-3	2	NUT
				AN515-6-7	1	SCREW
				DCO-T322	1	
				D-6114	2	BOLT
				0982-1	1	PROPELLER
				BCA6014	1	COWL G-NOSE
				B-A679	1	COWL G-SEAM TOP
				0980-1	1	ENGINE INST.
				DCO-6291	1	CLAMP
				B-A681	1	COWL G-BOT.
0868-1				B-9039	1	SLIP SEAM
0863-1				0868-1	1	INST.

D	9-22-45	AN960-6 WASHER ADDED (CALLOUT E) AN365-632 NUT AN515-6-6 SCREW ¾" (FOSS) ADDED BC-6209 CALLOUT E ¾"	1-9	TR	EM
C	9-6-45	ADDED VIEW-A ADDED TO NOTE 6	1-9	TP	EM
B	9-28-45	ADDED DCO-6291 AN515-6-7 AN365-6 32 NUT & AN960-6 WASHER INCONEL R.O. 310 T	2-3	TB	EM
A	9-27-45	DCO-T322 WAS AN4-4	2-3	TP	EM
REV	DATE	REVISION & ISSUE NO. FIRST USED		BY	CHK

H	2-1-46	0858-3 ADDED	1-9 KT	F	12-29-45	ADDED B-669 SPRING CALLOUT	2-3 CTB CTA
G	12-14-45	FRICTION TAPE CHANGED FROM ¾ TO ½	1-9 CTB EM	E	11-5-45	D-6114 WAS AN3 x 3	1-9 CTB CTA

65 HP & 85 HP SEE NOTE 7

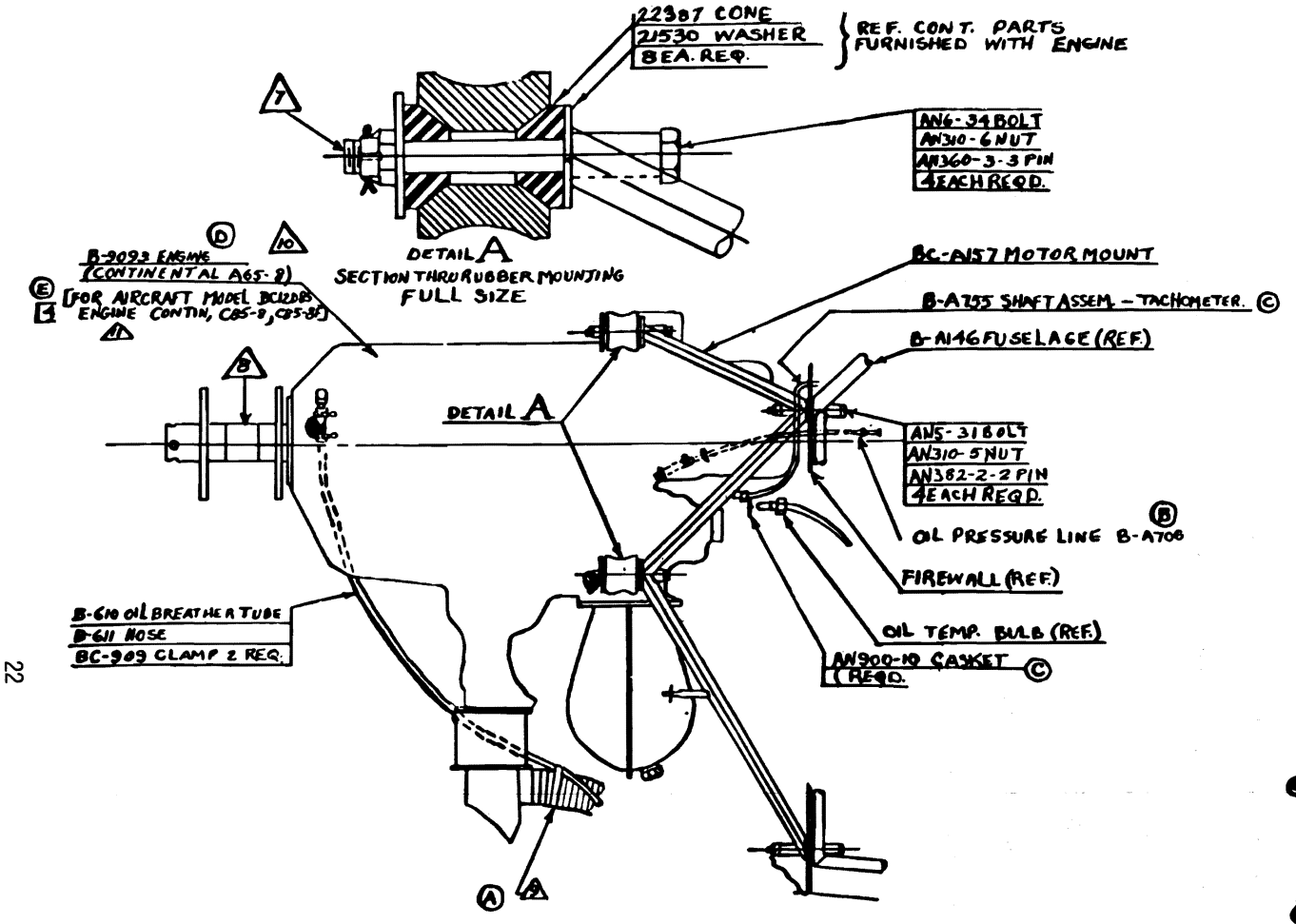
TAYLORCRAFT AVIATION CORP., ALLIANCE, OHIO

POWER PLANT INST.

0868

D

21



NOTES: 1. FOR C.A.A. REF. ONLY, PARTS etc. ON C. A. A. APPD. ENGN.
2. WHERE USE OF EQUIV. BOLT IS SHOWN IT CALLS A BOLT HAVING AN SAE OR EQUIV. STRENGTH (i.e. MARK) MAY BE USED ★
3. BOLT NO. AND PART NO. ARE TEXT, STANDARD ★
4. ALL ARE SUBJECT TO LATEST REVISIONS.
★ 5. ASTERISK INDICATES – UNLESS OTHERWISE STATED
6. ALL SAFETYING TO SPEC. NO. 112.

⚠ DRAW UP NUTS ON AN 6 BOLTS TO A TORQUE OF FROM 65 TO 75 IN. LBS. (REF. CONTINENTAL MEMO REPORT #5010)

⚠ PROPELLER SHAFT HUB & EXPOSED METAL PARTS NOT PROPERLY RUST PROOFED TO BE COATED WITH PAR-AL-KETONE "B" OR EQUIVALENT THINNED WITH EQUAL PARTS OF LEAD FREE GASOLINE.

(A) ⚠ FASTEN WITH ½ INCH FRICTION TAPE - 6 WRAPS.

(D) 10 ALTERNATE ENGINE, O400-195 (CONTINENTAL A65-8F) FLANGED CRANKSHAFT.

⚠ 0980-2, MODEL BC12D85 USE 2575 INSTEAD OF ORIGY USE C-85 ENGINE IN PLACE OF A-65 AS DETAILED (E)

0980

(E)			B-A755	1	SHAFT-ASSEM	
	-1		AN900-10	1	GASKET	
		TAPE FRICT			½ x 40	
	-1		B6-909	2	CLAMP	
	-1		B-611	1	HOSE	
	-1		B-610	1	TUBE-OIL BREATHER	
(B)			B-A706	1	OIL PRESS. LINE	
	-1		BC-A157	1	MOUNT	
	-1		AN382-3-3	4	PIN	
	-1		AN382-2-2	4	PIN	
	-1		AN310-6	4	NUT	
	-1		AN310-5	4	NUT	
	-1		AN6-34	4	BOLT	
	-1		AN5-31	4	BOLT	
	-1		BC-L657	1	COWLING INSTALL.	
	-1		BC-L680	1	ATT. FITTINGS INST.	
(D)	-1	⚠ ⚠	B-2093	1	ENGINE-CONT.	
	0980-1	⚠	0966-1	1	FUEL INSTALL.	
	0868-1		0990-1	1	ENGINE INSTALL.	
	ON ASSEM.	STOCK	PART NO.	UNIT	WT. LL	

REV.	DATE	REVISION & SERIAL NO. FIRST USED	DRAWN	BY	APPD
E	9/3/46	MODEL BC12D85 & CONTINENTAL C85-8 & C85-8F ADDED	2-4	KT	AW
D	8/21/46	B-2093 FOR A-65-8 NOTE ⚠ ADDED	1-3 1-4	AK	EM
C	2-7-46 11-30-45	ADD. B-A755 ADDOR. TEMPAULS & AN900-10	1-4 1-4	RS RS	CIA CIA
B	12-8-45	B-A706 WAS OCA 701-E09599	1-4	RS	CIA
A	9-4-45	REVISED DWG OF REAR LINE & ADDED NOTE 9 N/A	2-4	LDS	E.M.

BC-12D

TAYLORCRAFT AVIATION CORP. ALLIANCE, O.

ENGINE INSTALLATION CONTINENTAL A-65 & C85

0980

LUBRICATION CHART

ENGINE:

#30 winter, #40 summer. It is recommended the oil be changed every 25 hours of engine running time for maximum engine life. Detergent oil, Shell W, may be used if used consistantly from overhaul. For the first 25 hours however use non additive mineral oil to allow the rings to seat and allow the oil consumption to stabilize.

Control column & Rudder bearings : SAE #40 mixed with graphite.

Aileron pulleys : SAE #10

Wheel bearings : AN-G-5

Universal joints & control sprockets & chain : SAE# 10 oil.

Control column : Powdered graphite or Dow DC4 compound

Aileron bellcrank and hinges : SAE #10 oil.

Tail wheel axle bearing : AN-G-15

Door latches and hinges : Powdered graphite.

Tail surface hinges : Powdered graphite.

INSPECTION INSTRUCTIONS

ENGINE OPERATION :

Run engine to minimum 120 degrees oil temperature - check full throttle static RPM (consult specifications for propeller used).
Check magnetos 75 RPM drop at 1800 RPM.
Check carburetor heat 100 RPM drop at full throttle.
Check ignition switch for operation.
Check idle RPM 550 - 600 RPM with carburetor heat off.
Oil pressure 10 - 35 lbs., 30 good.

ENGINE MOUNTS 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 rubber shock mounts for rubber deterioration and tension.
Engine mount bolts should be tightened to 60 to 80 inch lbs.
Check mount bolts for safety.

COWLING AND 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 leather installation to prevent chafing.

MAGNETOS, WIRING AND SHIELDING (IF INSTALLED) :

Check magneto for secure attachment.
Check breaker point housing for excessive oil.
Check points for gap pitting. For correct gap.
Check plug wiring connections at magneto and insulation for deterioration and chafing.
Check for grommets 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 plugs, abrasive blast and clean.
Plugs with badly burned electrodes should be replaced.
Reset gap to .016 C26 plugs, consult manufacturers charts for others.
Reinstall using thread lubricant and new gaskets to prevent leakage and seizing. Torque to 300 to 360 inch lbs.

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 (if installed) for binding or sticking and full rich position.
Inspect carburetor air box for security and cracks - heater valve for full travel.
Check rubber intake hose connections for deterioration and clamp security.
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 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 zink chromate putty or some other recommended commercial brand.)
Check all controls for grommets and sealing putty.

PROPELLER :

Remove spinner and check for cracks or dents in spinner and back plates.
Check propeller for separated laminations, cracks, loose metal tipping and protective finish. Blade track within 1/16".
Wood propeller hub bolts are to torque from 140 to 150 inch lbs.
Metal propeller hub bolts are to torque 350 to 375 inch lbs.

COCKPIT AND BAGGAGE AREA :

Seats: Check general condition.
Check condition of safetybelts, Airworthiness Directives on seat belts - if frayed, replace.
Check baggage area canvas - 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 discolor - ation.

POWERPLANT INSTRUMENTS :

Check powerplant instruments for mounting security.
Check connections and plugs.
Check placards and limitation markings.

Tachometer: Red line - 2300 RPM

Oil pressure: Red line 10 PSI & 35 PSI

Oil temperature: Red line - 220 degrees F.
Green arc - 120 to 220 degrees F.
Yellow arc - 40 to 120 degrees F.

FLIGHT INSTRUMENTS :

Check flight instruments for mounting security.
Check connections and plugs.
Check placards and limitation markings.

Air speed: Red line - 140 MPH Landplane
129 MPH Seaplane

DOOR LATCH AND HINGES :

Check door hinge 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 mixture control for panel placard and operation smoothness.
Check carburetor heat for panel placard and smoothness of operation.
Check throttle for smooth operation and operation of friction lock.
Check primer for operation and leaks behind the panel.
Check cabin heat for panel placard and full travel of heater butterfly valve.
Check ignition switch for panel and terminal security.
Check for placard - Off, left, right and both.

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 springs for attachment.

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 control surfaces streamlined.

TRIM TAB CONTROLS :

Check stabilizer trim control for smooth operation.
Check indicator against stabilizer for proper position.

FUEL SELECTOR VALVE :

Check fuel valve for smooth operation.
Check placard for "On" and "Off" positions.
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 end play.

TIRES AND FAIRING :

Check tires for 20 lbs. of air pressure.
Replace tires that have cord showing.
Check gear fairings for security and chafing.

LANDING GEAR :

Hoist aircraft (by engine mount at firewall) and check gear bushings, vee bushings are replaceable if worn.
Check for skin wrinkles indicative of inside damage.

WING FITTINGS :

With wing root fairings removed,inspect wing fittings with a flashlight and magnifying glass for minute cracks in the ears.
Check bolts to be sure there are no threads in bearing and bolts are properly safetied.
Check wing fitting holes for elongation by having some one pull up and down on wing tips.

LANDING GEAR FITTINGS :

Remove both landing gear fairings and inspect all fittings with flashlight and magnifying glass for signs of cracks or hole elongation.

FUSELAGE STRUCTURE :

Through inspection openings and through the baggage compartment cover,check the condition of all tubing for rust, damage and protective coating.
Check all wood stringers for damage and security.

DEBRIS ACCUMULATION :

Check the bottom of the fuselage and fabric under floor boards for bolts, nuts and other objects that might jam controls or pulleys.
Check the rear of fuselage for open drain grommets.
If considerable dirt or oilexists on the fuselage bottom use a non-caustic soap and wash out the dirt to prevent fabric rot.

CONTROL CABLES AND PULLEYS :

Check for broken control cable strands by sliding a cloth over the cable in vicinity of fairleads.
Check upper and lower elevator turnbuckles for safety and maximum of three threads showing outside of barrel.
Check stabilizer control for slippage. Increase tension by tightening nut on idler pulley.

FAIRINGS :

Check all fairings for cracks and missing screws.

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 fittings 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 some one 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 end forks and fork lock nut.

WING BOLTS :

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

AILERONS :

Check both ailerons for wrinkles which are possible signs of structural damage.
Check each rib bay for an open drain grommet.
Check condition of fabric and finish, refinishing any dope cracks, checks or ringworm.

AILERON HINGES :

Check aileron hinge legs for security at rear spar and false spar.
Check hinge pins for wear and safety. Worn or loose pins must be replaced.

AILERON CONTROLS :

Remove inspection covers and check the two cables in each wing for interference and chafing.
Check the two pulleys in each wing for condition, wear and safety. Lubricate pulley bearings.
Check travel, 23 degrees up, 23 degrees down.
Check the four aileron horn bolts for wear, threads in bearing and safety.
Check the six turnbuckles in the center top of fuselage for safety and not more than three threads showing outside the 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 the 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 the 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.
Check hinge bushings for play. These bushings are pressed in and should be replaced when worn.
Check rudder travel, 26 degrees left, 26 degrees right.

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 degrees up, 25 degrees 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 check 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 and elevator horns for worn bolts and safety with no threads in bearing.
Check horns 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.
Sight the cables through the fuselage for interference and chafing.

FLOATS OR SKI INSTALLATION :

Sight check rigging.
All brace wires tight and safetied.
Water ballast if carried.
No leaks in floats. Structure checked.

FAA REQUIREMENTS :

Check all airworthiness directives for applicability and compliance.
Check for presence of airworthiness form.
Check for presence of Certificate of Registration.
Check for Operations Limitations Form.
Above items are required in cockpit when aircraft is currently licensed.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

	A-696
	Revision 15
	TAYLORCRAFT
BC	BCS12-D
BCS	BC12-D1
BC-65	BCS12-D1
BCS-65	BC12D-85
BC12-65(Army L-2H)	BCS12D-85
BCS12-65	BC12D-4-85
BC12-D	BCS12D-4-85
	November 1, 1967

AIRCRAFT SPECIFICATION NO. A-696

Type Certificate Holder

Feris Flying Service
Hinsdale Airport
Route 1
Hinsdale, Illinois 60521

I - Model BC, 2 PCLM, Approved August 24, 1938
Model BCS, 2 PCSM, Approved April 5, 1939

Engine	Continental A-50-1 (see item 114(a) for optional engines)	
Fuel	73 min. grade aviation gasoline	
Engine limits	For all operations, 1900 r.p.m. (50 hp.)	
Propeller limits	Diameter: Maximum 83 in.	
Airspeed limits	Landplane: Level flight or climb	105 m.p.h. (91 knots) True Ind.
	Glide or dive	131 m.p.h. (114 knots) True Ind.
	Seaplane: Level flight or climb	95 m.p.h. (83 knots) True Ind.
	Glide or dive	129 m.p.h. (112 knots) True Ind.
C.G. range	Landplane: (+14.5) to (+19.7)	
	Seaplane: (+15.1) to (+19.4)	
Empty wt. C.G. range	Landplane: (+15.3) to (+18.5)	
	Seaplane: (+15.9) to (+18.3)	
	When empty weight C.G. falls within pertinent range, computation of critical fore and aft C.G. positions is unnecessary. Ranges are not valid for non-standard arrangements.	
Maximum weight	Landplane: 1100 lb. (S/N's 1407 and up are eligible at 1150 lb.)	
	Seaplane: 1228 lb.	
No. of seats	2 (+23)	
Maximum baggage	30 lb. (+40)	
Fuel capacity	12 gal. (-9). See item 115 for auxiliary tank.	
Oil capacity	4 qt. (-21)	
Control surface movements	Elevators	Up 25° Down 27°
	Rudders	Right 26° Left 26°
	Ailerons	(Not available)
Serial Nos. eligible	1001 and up	
Required equipment	Landplane: 1 or 4, 104, 202, 203, 210(a), 401	
	Seaplane: 1 or 4, 104, 205, 401	

II - Model BC-65, 2 PCLM, Approved July 22, 1939
Model BCS-65, 2 PCSM, Approved October 7, 1939
(Same as Model BC except engine installation)

Engine	Continental A-65-1 (see item 114(b) for optional engines)	
Fuel	73 min. grade aviation gasoline	
Engine limits	For all operations, 2350 r.p.m. (65 hp.)	
Propeller limits	Static r.p.m. at full throttle:	
	A-65-1 engine, not over 2300, not under 2070	
	Optional engines, not over 2250, not under 2070	
	No additional tolerance permitted.	
	Diameter: (landplane) not over 83 in., not under 70 in.	
	(seaplane) not over 79 in., not under 70 in.	
Airspeed limits	Landplane: Level flight or climb	105 m.p.h. (91 knots) True Ind.
	Glide or dive	131 m.p.h. (114 knots) True Ind.
	Seaplane: Level flight or climb	95 m.p.h. (83 knots) True Ind.
	Glide or dive	129 m.p.h. (112 knots) True Ind.

C.G. range	Landplane: (+14.5) to (+19.7) Seaplane: (+15.1) to (+20.1)
Empty wt. C.G. range	Landplane: (+15.3) to (+18.5) Seaplane: (+15.9) to (+19.0) When empty weight C.G. falls within the pertinent range, computation of critical fore and aft C.G. positions is unnecessary. Ranges are not valid for non-standard arrangements.
Maximum weight	Landplane: 1100 lb. (S/N's 1407 and up are eligible at 1150 lb.) Seaplane: 1228 lb. (S/N's 1432 and up are eligible at 1278 lb.)
No. of seats	2 (+23)
Maximum baggage	30 lb. (+40)
Fuel capacity	12 gal. (-9). (See item 115 for auxiliary tank).
Oil capacity	4 qt. (-21)
Control surface movements	Elevators Up 27° Down 25° Rudder Right 26° Left 26° Ailerons (Not available)
Serial Nos. eligible	1001 and up
Required equipment	Landplane: Items 1, 2, 3, 4 or *8; 104, 202, 203, 210(a), 401 Seaplane: Items 1, 3, 4 or *8; 104, 205, 401

III - Model BC12-65 (Army L-2H), 2 PCL-SM, Approved April 7, 1941
Model BCS12-65, 2 PCL-SM, Approved April 7, 1941

(Same as Model BC-65 except for minor structural changes and added elevator trim tab).

Engine	Continental A-65-7 (see item 114(c) for optional engines)
Fuel	73 min. grade aviation gasoline
Engine limits	For all operations, 2300 r.p.m. (65 hp.)
Propeller limits	Static r.p.m. at full throttle: not over 2250, not under 2070. No additional tolerance permitted. Diameter: not over 72 in., not under 70 in.
Airspeed limits	Landplane: Level flight or climb 105 m.p.h. True Ind. Glide or dive 140 m.p.h. True Ind. Seaplane: Level flight or climb 95 m.p.h. True Ind. Glide or dive 129 m.p.h. True Ind.
C.G. range	Landplane: (+14.2) to (+20.0) Seaplane: (+14.2) to (+20.0) with Edo floats (item 205) (+14.6) to (+20.0) with Heath floats (item 211)
Empty wt. C.G. range	Landplane: (+14.8) to (+17.9) Seaplane: (+14.8) to (+18.3) with Edo floats (item 205) (+15.2) to (+18.3) with Heath floats (item 211)
Maximum weight	Landplane: 1200 lb. Seaplane: 1278 lb.
No. of seats	2 (+23)
Maximum baggage	Landplane: 50 lb. (+40); Seaplane: 30 lb. (+40).
Fuel capacity	18 gal. (12 gal. in fuselage (-9) and 6 gal. in wing (+24))
Oil capacity	4 qt. (-21)
Control surface movements	Elevators Up 27° Down 25° Elevator tab Up 25° Down 30° Ailerons Up 25° Down 25° Rudder Right 26° Left 26°
Serial Nos. eligible	2401, 2501, 2503, 2504, 2529 and up and all USAF numbers. Use manufacturer's numbers if available.
Required equipment	Landplane: 1, 2, 4, 5 or *8; 104, 108, 202, 203, 210(a), 401 Seaplane: 1 or 4, 104, 108; 205, 401

IV - Model BC12-D, 2 PCLM, Approved November 23, 1945
Model BCS-12D, 2 PCSM, Approved February 19, 1946

(Same as Model BC12-65 except for alternate tail surface, revised aileron travel, alternate one piece windshield and other miscellaneous structural and non-structural changes). (Model BC12-D1 eligible as Model BC12-D when items 601 and 204 and 6 gal. right-hand wing tank are installed).

Engine	Continental A-65-8 (see item 114(d) for optional engines)
Fuel	73 min. grade aviation gasoline
Engine limits	For all operations, 2300 r.p.m. (65 hp.)

Propeller limits	Static r.p.m. at full throttle: not over 2250, not under 2070. No additional tolerance permitted. Diameter: not over 72 in., not under 70 in.
Airspeed limits	Landplane: Level flight or climb 105 m.p.h. True Ind. Glide or dive 140 m.p.h. True Ind. Seaplane: Level flight or climb 95 m.p.h. True Ind. Glide or dive 129 m.p.h. True Ind.
C.G. range	Landplane: (+14.2) to (+20.0) Seaplane: (+14.2) to (+20.0) with Edo floats (item 205) (+14.6) to (+20.0) with Heath floats (item 211)
Empty wt. C.G. range	Landplane: (+14.8) to (+17.9) Seaplane: (+14.8) to (+18.3) with Edo floats (item 205) (+15.2) to (+18.3) with Heath floats (item 211) When empty weight C.G. falls within pertinent range, computation of critical fore and aft C.G. positions is unnecessary. Ranges are not valid for non-standard arrangements.
Maximum weight	Landplane: 1200 lb. Seaplane: 1278 lb.
No. of seats	2 (+23)
Maximum baggage	Landplane: 50 lb. (+40) Seaplane: 30 lb. (+40)
Fuel capacity	18 gal. (12 gal. fuselage tank at -9 and 6 gal. wing tank at +24).
Oil capacity	4 qt. (-21)
Control surface movements	Elevators Up 27° Down 25° Elevator tab Up 25° Down 30° Ailerons Up 23° Down 23° Rudder Right 26° Left 26°
Serial Nos. eligible	6402 and up
Required equipment	Landplane: 1, 2, 3, 4 or *8; 104, 108, 202, 203, 210(a), 401 Seaplane: 1, 3, 4 or *8; 104, 108, 205, 401

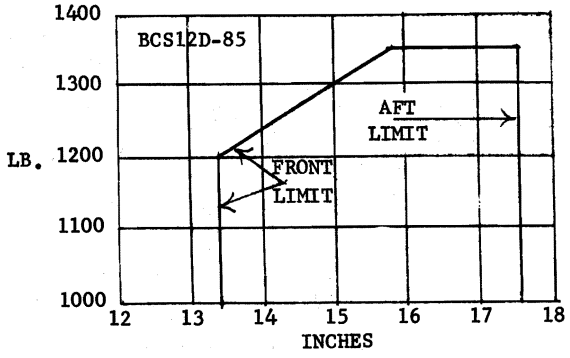
V - Model BC12-D1, 2 PCL-SM, Approved September 10, 1946
Model BCS12-D1, 2 PCL-SM, Approved September 10, 1946
(Same as Model BC12-D except for elimination of left hand door (item 601), parking brake (item 204) and 6 gal. R/H wing tank)
(Model BC12-D1 eligible as BC12-D when items 601 and 204 and 6 gal. right-hand wing tank are installed)

Engine	Continental A-65-8 (see item 114(d) for optional engines)
Fuel	73 min. grade aviation gasoline
Engine limits	For all operations, 2300 r.p.m. (65 hp.)
Propeller limits	Static r.p.m. at full throttle: not over 2250, not under 2070. No additional tolerance permitted. Diameter: not over 72 in., not under 70 in.
Airspeed limits	Landplane: Level flight or climb 105 m.p.h. True Ind. Glide or dive 140 m.p.h. True Ind. Seaplane: Level flight or climb 95 m.p.h. True Ind. Glide or dive 129 m.p.h. True Ind.
C.G. range	Landplane: (+14.2) to (+20.0) Seaplane: (+14.2) to (+20.0) with Edo floats (item 205) (+14.6) to (+20.0) with Heath floats (item 311)
Empty wt. C.G. range	Landplane: (+14.8) to (+17.9) Seaplane: (+14.8) to (+18.3) with Edo floats (item 205) (+15.2) to (+18.3) with Heath floats (item 311) When empty weight C.G. falls within the pertinent range, computation of critical fore and aft C.G. positions is unnecessary. Ranges are not valid for non-standard arrangements.
Maximum weight	Landplane: 1200 lb. Seaplane: 1278 lb.
No. of seats	2 (+23)
Maximum baggage	Landplane: 50 lb. (+40) Seaplane: 30 lb. (+40)
Fuel capacity	12 gal. (-9)
Oil capacity	4 qt. (-21)

Control surface movements	Elevators	Up	27°	Down	25°
	Elevator tab	Up	25°	Down	30°
	Ailerons	Up	23°	Down	23°
	Rudder	Right	26°	Left	26°
Serial Nos. eligible	6402 and up.				
Required equipment	Landplane: 1, 2, 3, 4 or *8; 104, 108, 202, 203, 210(a), 401				
	Seaplane: 1, 3, 4 or *8; 104, 108, 205, 401				

VI - Model BC12D-85, 2 PCL-SM, Approved September 30, 1948
Model BCS12D-85, 2 PCL-SM, Approved September 30, 1948
(same as Model BC12-D except for increased power and gross weight, fuel system changes auxiliary wing fuel tank, revised wing fittings and minor structural changes)

Engines	Continental C85-8F
Fuel	80 min. grade aviation gasoline
Engine limits	For all operations, 2575 r.p.m. (85 hp.)
Propeller limits (with item 6)	Static r.p.m. at maximum permissible throttle setting (no additional tolerance permitted):
	Landplane: not over 2350, not under 2100
	Seaplane: not over 2310, not under 2010 (exception: not under 2100 with item 205(a)
	Diameter: Landplane - not over 72 in., not under 68 in.
	Seaplane - not over 72 in., not under 70 in.
C.G. range	Landplane: (+14.2) to (+20.0)
	Seaplane: (+15.8) to (+17.6) at 1351 lb.
	(+13.4) to (+17.6) at 1200 lb. or less
	Straight line variation between points given



Empty wt. C.G. range	Landplane: (+14.8) to (+17.9)					
	Seaplane: (+13.7) to (+15.1)					
	When empty weight C.G. falls within the pertinent range, computation of critical fore and aft C.G. positions is unnecessary. Ranges are not valid for non-standard arrangements.					
Maximum weight	Landplane: 1280 lb.					
	Seaplane: 1351 lb.					
No. of seats	2 (+23)					
Maximum baggage	Landplane: 50 lb. (+40)					
	Seaplane: 30 lb. (+40)					
Fuel capacity	18 gal. (12 gal. tank in fuselage at -9 and 6 gal. tank in wing at +24)					
Oil capacity	4-1/2 qt. (-21)					
Control surface movements	Elevators	Up	27°	Down	25°	
	Elevator tab	Up	25°	Down	30°	
	Ailerons	Up	23°	Down	23°	
	Rudder	Right	26°	Left	26°	
Serial Nos. eligible	12001 and up					
Required equipment	Landplane: 1, 4, 6, 7 or *9; 104, 108, 202, 206, 210(a), 401					
	Seaplane: 1, 4, 6, 7 or *9; 104, 108, 205, 401					

VII - Model BC12D-4-85, 2 PCL-SM, Approved July 13, 1949
Model BCS12D-4-85, 2 PCL-SM, Approved July 13, 1949
(Same as Model BC12D-85 except for engine, baggage compartment, side windows and sky-lights)

Engine	Continental C85-12F
Fuel	80 min. grade aviation gasoline
Engine limits	For all operations, 2575 r.p.m. (85 hp.)
Propeller limits (with item 6)	Static r.p.m. at maximum permissible throttle setting (no additional tolerance permitted): Landplane: not over 2350, not under 2100 Seaplane: not over 2310, not under 2010 (exception: not under 2100 with item 205(a)) Diameter: Landplane - not over 72 in., not under 68 in. Seaplane - not over 72 in., not under 70 in.
Airspeed limits	Landplane: Level flight or climb 105 m.p.h. (91 knots) True Ind. Glide or dive 142 m.p.h. (124 knots) True Ind. Seaplane: Level flight or climb 95 m.p.h. (83 knots) True Ind. Glide or dive 128 m.p.h. (111 knots) True Ind.
C.G. range	Landplane: (+14.2) to (+20.0) Seaplane: (+15.8) to (+17.6) at 1351 lb. (+13.4) to (+17.6) at 1200 lb. or less Straight line variation between points given. (See Figure under Section VI)
Empty wt. C.G. range	Landplane: (+14.9) to (+16.3) Seaplane: (+13.8) to (+14.3) When empty weight C.G. falls within the pertinent range, computation of critical fore and aft C.G. positions is unnecessary. Ranges not valid for non-standard arrangements.
Maximum weight	Landplane: 1280 lb. Seaplane: 1351 lb.
No. of seats	2 (+23)
Maximum baggage	Landplane: 50 lb. (+70) Seaplane: 30 lb. (+70)
Fuel capacity	18 gal. (12 gal. tank in fuselage at -9 and 6 gal. tank in wing at +24)
Oil capacity	4-1/2 qt. (-30)
Control surface movements	Elevators Up 27° Down 25° Elevator tab Up 25° Down 30° Ailerons Up 23° Down 23° Rudder Right 26° Left 26°
Serial Nos. eligible	4-13010 and up
Required equipment	Landplane: 1, 4, 6, 7 or *9; 104, 108, 202, 206, 210(a), 401 Seaplane: 1, 4, 6, 7 or *9; 104, 108, 205, 401

Specifications Pertinent to All Models

Datum	Leading edge of wing
Leveling means	Upper surface of horizontal stabilizer
Certification basis	Part 04 of the Civil Air Regulations effective as amended to May 1, 1938. Type Certificate No. 696 issued.
Production basis	None. Prior to original certification, an FAA representative must perform a detailed inspection for workmanship, materials and conformity with the approved technical data, and a check of the flight characteristics.
Export eligibility	Eligible for export to all countries, subject to the provisions of Advisory Circular 21-2, except as follows: Canada - Landplane and seaplane eligible with the exception of Model BC12-D1. Model BC12-D1 eligible provided auxiliary door (item 601) is installed. - Skiplane not eligible; however, structure complies with Canadian requirements as follows: (1) At 1100 lb. maximum weight - landing gear per dwg. B-A50, ski height 10 in., tread 72 in. (centerline of ski 5.19 in. out from center of bolt attaching diagonal streamlined member to axle). (2) At 1150 and 1200 lb. maximum weight - landing gear per dwg. B-A515, ski height 9 in., tread 72 in. (centerline of ski 5.19 in. out from center of bolt attaching diagonal streamline member to axle).

Equipment: A plus (+) or minus (-) sign preceding the weight of an item indicates net weight change when that item is installed. Approval for the installation of all items of equipment listed herein has been obtained by the aircraft manufacturer except those items preceded by an asterisk (*). This symbol denotes that approval has been obtained by someone other than the aircraft manufacturer. An item so marked may not have been manufactured under an FAA monitored or approved quality control system, and therefore conformity must be determined if the item is not identified by a Form FAA-186, PMA or other evidence of FAA production approval.

Special Note: So that all items of equipment might be in their proper categories, the following items were renumbered as indicated:

1/ Item 1 was formerly item 103(a)
2/ Item 2 was formerly item 103(b)
3/ Item 3 was formerly item 103(c)
4/ Item 4 was formerly item 103(d)
5/ Item 5 was formerly item 103(e)
6/ Item 6 was formerly item 103(f)
7/ Item 7 was formerly item 103(g)
8/ Item *8 was formerly item 103*(h)
9/ Item *9 was formerly item 103*(i)
10/ Item 114 was formerly item 308
11/ Item 115 was formerly item 312
12/ Item 116 was formerly item 313
13/ Item 117 was formerly item 315
14/ Item 202 was formerly item 101
15/ Item 203 was formerly item 102
16/ Item 204 was formerly item 107
17/ Item 205 was formerly item 151
18/ Item 206 was formerly item 302
19/ Item 207 was formerly item 304
20/ Item 208 was formerly item 305
21/ Item*209 was formerly item*316
22/ Item 210 was formerly item 317
23/ Item*211 was formerly item*320
24/ Item*212 was formerly item*321
25/ Item 401 was formerly item 105
26/ Item 402 was formerly item 306
27/ Item 403 was formerly item 314
28/ Item 601 was formerly item 106

Propellers and Propeller Accessories

1/	1. Approved wood (fixed or adjustable pitch). (See static limits under individual models and item 205(a) for minimum static r.p.m. limits for Models BCS12D-85 and BCS12D-4-85)	All Except BC12D-4-85 & BCS12D-4-85 10 lb. (-46)	BC12D-4-85 & BCS12D-4-85 10 lb. (-50)
2/	2. Beech R003 controllable, hub R-002-101 or R-003-100, blades R-002-205-72. Diameter 72 in. Pitch at 27 in. sta.: low 11-3/4° high 17-3/4°. (Pitch limits under individual models are not applicable to these propellers). Includes Beech mechanical propeller control.	BC-65, BC12-65 BC12-D & BC12-D1 +20 lb. (-47)	
3/	3. McCauley 1A90 with the following limits: Static r.p.m. at maximum permissible throttle setting: Landplane: not over 2210, not under 1960 Seaplane: not over 2210, not under 2070 No additional tolerance permitted. Diameter: not over 74 in., not under 72.5 in.	BC-65, BCS-65, BC12-D, BCS12-D, BC12-D1 & BCS12-D1 +21 lb. (-46)	
4/	4. Hartzell ground adjustable, hub HA-12U, blades 7414 to 6814 or 7214M to 6814M. Eligible at diameter and static r.p.m. limits shown above for fixed pitch wood models.	All Except BC12D-4-85 & BCS12D-4-85 18 lb. (-46)	BC12D-4-85 & BCS12D-4-85 18 lb. (-50)
5/	5. McCauley 1A90 with the following limits: Static r.p.m. at maximum permissible throttle setting: not over 2250, not under 2070. No additional tolerance permitted. Diameter: not over 74 in., not under 72.5 in.	BC12-65 21 lb. (-46)	
6/	6. Lewis L11CK-45 or any other fixed pitch wood propeller eligible for the engine power and speed and meeting static r.p.m. and diameter limits noted for the various models eligible.	BC12D-85 & BCS12D-85 10 lb. (-46)	BC12D-4-85 & BCS12D-4-85 10 lb. (-50)

Propellers and Propeller Accessories (con.)

7/	7. McCauley 1A90 with the following limits:	BC12D-85 & BCS12D-85	BC12D-4-85 & BCS12D-4-85
	Static r.p.m. at maximum permissible throttle setting: not over 2350, not under 2170.		
	No additional tolerance permitted	+21 lb. (-46)	+21 lb. (-50)
	Diameter: not over 71 in., not under 69.5 in.		
8/	*8. Sensenich M74CK, fixed pitch metal.	BC-65,	
	Static r.p.m. at maximum permissible throttle setting:	BC12-D	BCS-65
		BC12-D1	BCS12-D
	Landplane: not over 2210, not under 1960	BC12-65	BCS12-D1
	Seaplane: not over 2210, not under 2070	21 lb. (-46)	21 lb. (-50)
	No additional tolerance permitted		
	Diameter: not over 74 in., not under 72.5 in.		
9/	*9. Sensenich M74CK-2 fixed pitch metal.	BC12D-85	BC12D-4-85
	Static r.p.m. at maximum permissible throttle setting: not over 2350, not under 2170.	BCS12D-85	BCS12D-4-85
		21 lb. (-46)	21 lb. (-50)
	No additional tolerance permitted.		
	Diameter: not over 72 in., not under 70 in.		

Engines and Engine Accessories

No aircraft of these models shall be eligible for original certification with single ignition engines after August 1, 1941. In addition, no aircraft of these models shall be eligible for recertification with single ignition engines unless such aircraft were either previously certificated with single ignition engines or were originally certificated prior to August 1, 1941.

	104. Carburetor air heater (dwg. BC-L601)	
	108. Enclosed engine cowl (all except BC, BCS, BC-65, BCS-65)	
	109. McDowell starter installation (BC-12D, BCS-12D, BC12D-85) (BC-A6014 nose cowl must be installed)	11 lb. (- 34)
	110. McDowell starter installation using horizontal operating handle (BC12-D, BCS12-D)	13 lb. (- 34)
	111. Exhaust muffler, Ryan Aero. Co. dwg. 52112 (with items 114(b)(1) and (2) only)	2 lb. (- 40)
	112. Oil filter, Fram PB-5, Kit No. 510. Weight includes 1 qt. oil	4 lb. (- 20)
	(a) Fram Instln. dwg. No. 61544 (BC, BCS, BC12-65, BCS12-65)	
	(b) Fram Instln. dwg. No. 61524 (BC12-D, BCS12-D, BC12-D1, BCS12-D1)	
	113. Starter (Delco-Remy 1109656) (BC12D-4-85 only)	16 lb. (- 24)
10/	114. Engines (Continental, see Engine Specs. Nos. 190 and 205)	(- 33)
	(a) Models BC, BCS	
	(1) A-50-2	+6 lb.
	(2) A-50-3 or A-50-8	+10 lb.
	(3) A-50-4	+3 lb.
	(4) A-50-5	+13 lb.
	(5) A-50-7	No weight change
	(b) Models BC-65, BCS-65	
	(1) A-65-3, A-65-3J, A-65-8 or A-65-8J	+10 lb.
	Engine limits: for all operations, 2300 r.p.m. (65 hp.)	
	(2) A-65-7 or A-65-7J	No weight change
	Engine limits same as (b)(1).	
	(c) Models BC12-65, BCS12-65	
	(1) A-65-7J, A-65-8, A-65-8F, A-65-8J	No weight change
	Engine limits same as (b)(1)	
	(d) Models BC12-D, BCS12-D, BC12-D1, BCS12-D1	
	(1) A-65-8F, A-65-8J	No weight change
	Engine limits same as (b)(1)	
11/	115. Auxiliary 6 gal. fuselage fuel tank installation (fuel arm +35) (BC, BCS, BC-65, BCS-65)	8 lb. (+ 30)
12/	116. Enclosed type engine cowl (dwg. BL-L628) (BC, BCS, BC-65, BCS-65)	9 lb. (- 18)
13/	117. Revised engine mount (dwg. BC65-A128) (for engines incorporating integral rubber bushings)	Negligible wt.

Landing Gear and Floats

201.	Two main wheel-brake assemblies, 6.00-6, Type III	
	(a) Cleveland Aircraft Products Co. Model 6.00 DHB Wheel assembly No. C-38500HMA Brake assembly No. C-7000	+4 lb. (+ 2)
14/ 202.	Two main wheels, 6.00-6, Type III, Firestone 604	9 lb. (+ 2)
15/ 203.	Tail skid	
16/ 204.	Parking brake	1 lb. (- 9)
17/ 205.	Edo float installation	
	(a) Model 60-1320 floats	165 lb. (+ 20)
	Auxiliary fin (required on all models except BCS12D-85 and BCS12D-4-85 unless the seaplane aft C.G. limit for maximum weight is reduced to +18.9). (When propeller item 1 or 6 is installed on Models BCS12D-85 or BCS12D-4-85 the minimum static r.p.m. limit is increased to not under 2100 r.p.m.) As an alternate method of installing these floats, Taylorcraft clamp-on fuselage fittings, P/N's 2554, 2555 and 2556 may be used.	4 lb. (+176)
	(b) Model 92-1400 floats	181 lb. (+ 19)
	Auxiliary fin (required on all models except BCS12D-85 and BCS12D-4-85)	4 lb. (+176)
18/ 206.	Tail wheel assemblies	(+193)
	(a) 6 x 2.00 steerable with brake (Baxter)	+5 lb.
	(b) 6 x 2.00 steerable (Aircraft Associates)	+3 lb.
	(c) 6 x 2.00 full swiveling (Firestone Industrial)	+3 lb.
	(d) 6 x 2.00 steerable (Lake State Products 5-40-31)	+4 lb.
	(e) 6 x 2.00 steerable (Heath)	+4 lb.
	(f) Maule SFS-12, SS-12, SAFS-12, SFS-1-2-P8	+4 lb.
	(g) Steerable (Lang D-501, formerly Decker)	6 lb.
	(h) Scott Model 3-24B, steerable, full swiveling	6 lb.
19/ 207.	Two main wheel-brake assemblies, 6.00-6, Type III Firestone Model 6C3HB	+4 lb. (+ 2)
20/ 208.	Wheel streamlines (dwg. A-9015 or A-9016)	6 lb. (+ 2)
21/*209.	Skis (eligible on any airplane of these models provided the propeller installation meets the minimum 9 in. ground clearance. The maximum weight for the skiplane will be the same as for the corresponding landplane or that shown in parenthesis after each ski model, whichever is less)	Use act. wt. change
	(a) Marston 1200 (max. 1200 lb.)	
	(b) Air Transport 1220-480 (max. 1220 lb.)	
	(c) Air Transport 1224-580-1 (max. 1220 lb.)	
	(d) Federal SC-1 (max. 1400 lb.)	
	(e) Piper S-1000 (max. 1200 lb.)	
	(f) Jennings TY-2 (max. 1200 lb.)	
	(g) Federal SA-1 (max. 1200 lb.)	
	(h) Aviation Service B (max. 1650 lb.)	
	(i) Richards 1-B (max. 2220 lb.)	
	(j) Washington Aircraft (max. 1200 lb.)	
	(k) Heath 655 (max. 1210 lb.)	
	(l) Federal SC-2 (max. 1650 lb.)	
	(m) Aviation Service A (max. 1100 lb.)	
	(n) Federal SA-1A (max. 1300 lb.)	
	(o) Jacobsen (formerly Escanaba) EAS-100 (max. 1200 lb.)	
	(p) Richards 1-A (max. 1600 lb.)	
	(q) Marston MFS-1600 (max. 1600 lb.)	
	(r) Heath 725 (max. 1450 lb.)	
	(s) Aero. Sales & Service AS-6.00 (max. 1320 lb.)	
	(t) Jack Carr Service 16 (max. 1600 lb.)	
	(u) Fairbanks MF-5 (max. 1310 lb.)	
	(v) Heath 725A (max. 1450 lb.)	
	(w) Federal SK4-1 (max. 1400 lb.)	
	(x) Call S2 (max. 1800 lb.)	
	(y) Federal A-1500 (max. 1500 lb.), Federal Instln. dwg. 11R232	

Landing Gear and Floats (con.)		
21/*209. (con.)		
(z) Federal A-1500A (max. 1500 lb.), Federal Instln. dwg. 11R232		
(aa) Federal A-1850 (max. 1850 lb.), Federal Instln. dwg. 11R232		
(ab) Federal A-2000 (max. 2000 lb.), Federal Instln. dwg. 11R232		
(ac) Federal A-2000A (max. 2000 lb.), Federal Instln. dwg. 11R232		
(ad) Federal CA-1850-6 (max. 1850 lb.), Federal Instln. dwg. 11R232		
(ae) Wesco A-15, Western Aircraft Equipment Co. dwg. 148, 202, 203.		
(af) Wesco A-20, Western Aircraft Equipment Co. dwg. 148, 202, 203.		
22/ 210. Two main-wheel tires, 6.00-6, Type III with regular tubes		
(a) 2-ply rating	12 lb.	(+ 2)
(b) 4-ply rating	+5 lb.	(+ 2)
23/*211. Heath 1460A float installation, 172 lb. including auxiliary fin, 4 lb. (+176) (BCS12-D and BCS12-D1 only)	+122 lb.	(+ 25)
24/*212. Wheel fenders, Consolidair Model 16 (Consolidair instln. dwg. 0029).	10 lb.	(+ 2)
Electrical Equipment		
310. Battery and box		
(a) 6 v.	9 lb.	(+ 10)
(b) 12 v.	15 lb.	(+ 10)
(c) 12 v. (BC12D-4-85 and BCS12D-4-85)	16 lb.	(+ 70)
319. Position lights	2 lb.	(+ 77)
(a) Grimes B (6 v.)		
(b) Grimes D (6 v.) (BC12-D, BC12D-85 and BCS12-D only)		
(c) Grimes D (12 v.) (BC12-D, BC12D-85, BCS12D-85, BC12D-4-85 and BCS12D-4-85)		
322. Generator (Delco-Remy 1101876) (BC12D-4-85 and BCS12D-4-85 only)	10 lb.	(- 24)
323. Voltage regulator (Delco-Remy 1118323) (BC12D-4-85, BCS12D-4-85)	1 lb.	(- 18)
Interior Equipment		
25/ 401. Wheel type control		
26/ 402. Cabin heater (Taylorcraft BC-L606 or BC-L630)	2 lb.	(- 22)
27/ 403. Stick type control	Negligible wt.	
Miscellaneous (not listed above)		
28/ 601. Auxiliary door	+5 lb.	(+ 25)

NOTE 1. Weight and balance report including list of equipment included in certificated empty weight and loading instructions when necessary must be provided for each aircraft at the time of original certification.

NOTE 2. Left hand wing tank eligible as 6 gal. auxiliary on all models except BCS-65 and BC12D-85.

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