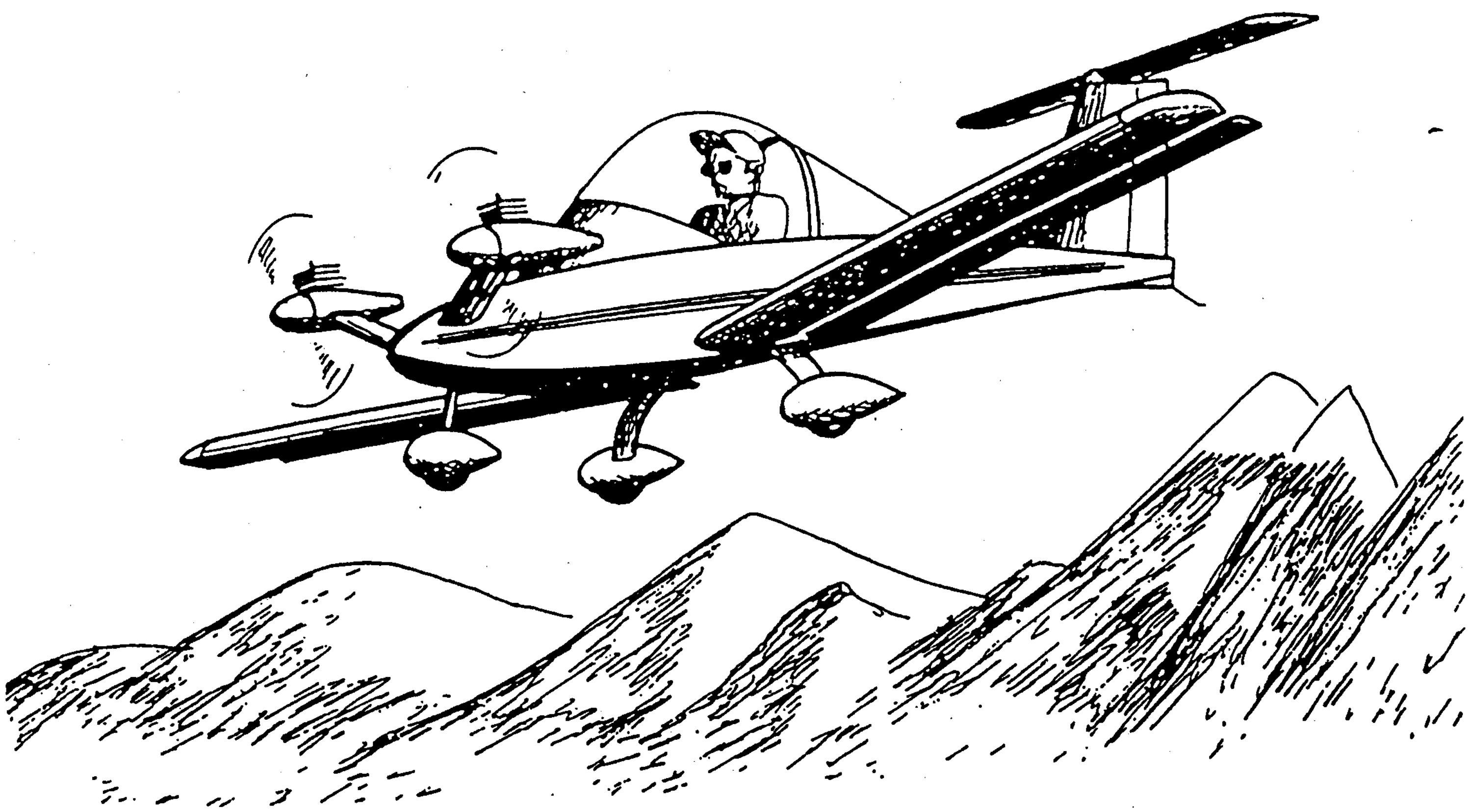
CRICRI

FLIGHT MANUAL



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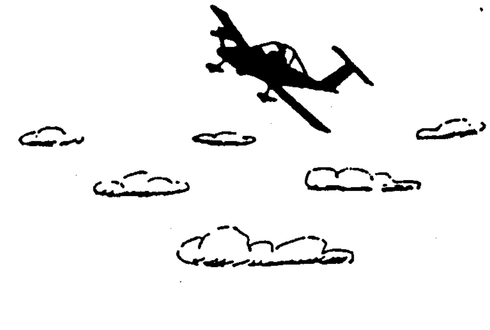


CRICRI MC 15

FLIGHT AND MAINTENANCE MANUAL

SUMMARY

1 General

2 Operating limitations

3 Use

4 Emergency procedures

5 Performance

6 Maintenance

1 GENERAL

1.1 Dimensions

- Wing span	4.90 m.
- Length	3.90 m.
- Wing area	3.10 m2
- Aspect ratio	7.8

1.2 Weight

- Empty equipped	78 kg	(172 lbs)
- Maximum at take-off	170 kg	(375 lbs)

1.3 Category

- Utilitarian, or aerobatic.

1.4 Engines

- Two JPX PUL 212 D and G engine. 15 HP at 6000 rpm.

1.5 Propellers

- Two 2-blade composite CM/AS 695 - 200 - 103.

1.6 Fuel Tank

- A 23 liter fuselage tank (6 US gallons).

1.7 Fuel

- Either premium grade automobile gasoline or 100-130 airplane fuel with 3 % two-stroke oil.

1.8 Landing gear

- Principal : Composite blade. Total stroke : 160 mm. Tire pressure : 1.8 bar
- Forward : Telescopic with elastic suspension. Total stroke : 130 mm. Wheel interlocked with the rudder bar. Tire pressure : 0.8 bar.

1.9 Controls and cabin equipment

- Elevator control system : Central stick. Artificial stress from rubber bands. Trim on the right side.
- Aileron control : Artificial stress from rubber bands. Trim on the rear surface of the stick.
- Rudder control : Adjustment in flight. Artificial stress from rubber bands.
- Flaps : Control on the left side. Three positions : crusing, take-off and landing.
- Engine contacts : left side.
- Drum brakes with cables on the main wheels. Central brake grip on the stick.
- Ventilation : 2 scoops at the bottom of the fuselage in front of frame 4.

1.10 Disassembly

- Quick assembly and disassembly of the wings using the two main pins, 4 secondary pins and 2 rod ends located on opposite sides of the cabin at wing level.

2 OPERATING LIMITATIONS

2.1 Design speeds

- Vne : Speed never to exceed : 160 mph.
- Va : Maximum manoeuvering speed : 115 mph.

At this speed, the controls, and in particular the ailerons, can be deflected to extreme positions, provided however you don't exceed the load factors set forth farther on. Beyond this speed, reduce progressively the deflection so that you don't exceed the angular acceleration produced at Va.

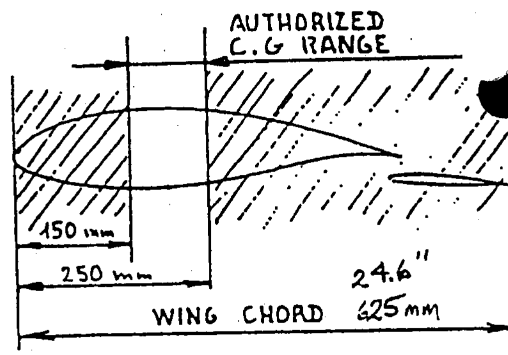
- Vf : Maximum speed flaps down
  - take-off deflection (12°) : 80 mph.
  - Landing deflection (27°) : 80 mph.
- Maximum cross wind : 12 mph.

2.2 Weight

Maximum weight at take-off : 170 kg (375 lbs)
Maximum fuel for aerobatic use : 15 liters (4 US gallons).

2.3 Center of gravity limitations

- Forward limit : 24 % of the wing chord or 150 mm. behind the leading edge.
- Rear limit : 40 % of the wing chord, or 250 mm. behind the leading edge.



2.4 Limit load factors in symmetrical manoeuvers

Limit load factors are those beyond which certain elements of the structure begin to undergo permanent deformation. They should never be exceeded and should be approached only accidentally.

If you reach these factors, stop the plane and inspect the structure.

- Flaps up, positive + 6 G
- Flaps up, negative - 3 G

- Flaps down + 2 G

2.5 Maximum load factors in symmetrical manoeuver use

For an "experimental plane", the load use factors have volontarily been limited to half the breaking load.

They consequently represent the maximum values which can be reached in aerobatic use, provided, however, you don't exceed the fatigue life of the plane (see following chapter).

- Flaps up, positive + 4.5 G
- Flaps up, negative - 2.25 G

The flight envelope MC 15 symmetrical manoeuvers, corresponding to these two cases, are represented on Chart 1.

On dissymmetrical manoeuver use, the max load factors should be reduced to 2/3 of the above values.

2.6 Fatigue life

An ultimate load factor "9 G" means that the structure should break at a load factor of 9 G the first time it reaches this value. The same structure subjected many times to repeated loads, even if these loads never exceed the limit, can eventually break; alternating loads markedly reduce resistance to static fracture. This phenomenon is attributable to "structural fatigue".

An estimate of the fatigue life of MC 15s used in aerobatics has led to the results below. This estimate has been made taking into account, along with normal correction factors, a margin of safety of 20% with regard to the residual resistance of a "fatigued" structure. It is valid for a plane built according to tolerances and with the care and precautions indicated in the Construction Manual but should be considerably reduced in the case of faulty work (marred metal, misdirected scoring, nicked rivet hole, etc.)

			Estimated Ultimate fatigue life	Estimated Useful fatigue life
Load factor at	+5	-2.5	8000 cycles	1000 cycles
"	+4	-2	56000 "	10000 "
"	+3	-1.5	630000 "	130000 "
"	+2	-1	1200000 "	3000000 "

As you can see, a regular increase, even though modest, of the load factor causes a considerable reduction in the fatigue life. Generally speaking, each time the usage limit is increased 1 G the fatigue life is shortened about ten times.

When the wing spar is reinforced with the aid of "optional stiffener" 10106 the above fatigue life is multiplied by about ten.

Since the wing spar is the part which is subjected to the most fatigue in this plane, it would be prudent to change the flying surfaces (flaps not included) at the end of the fatigue life.

2.7 Engines

- Speed never to be exceeded : 6500 rpm.
- Maximum power : use full engine throttle only for take-off, climb, and aerobatics. (Because of engine life potential).
- Maximum continuous power at Z = 0 : 80 % of maximum power. This power is obtained :
    - Either by reducing the maximum speed by 300 rpm at a given airspeed.
    - Or, in level flight, by bringing back the throttles until the airspeed stabilizes 10 % below the maximum airspeed obtained at full throttle in level flight.

- Maximum continuous power at Z = 2000 m. (6500 ft)
  Beyond an altitude of 2000 m. you can leave the engines at full throttle (power lower than 12 hp).
- Maximum temperature : limit the temperature at the cylinder head (thermoculasse) to 450° F.

2.8 Usable fields

The CRICRI wheels, being of small diameter, function best, obviously, on hard surfaces.

Nevertheless, thanks to the flexibility of the suspension, this plane seems to do well also on properly leveled fields of short grass.

It would be wise to avoid fields that are too bumpy or rocky.

2.9 Temperature limit

A metal assembly glued with epoxy is comparable to a "plastic" assembly. You should consequently reduce a bit the use limits under very warm conditions.

3 USE

3.1 Transport

Plane anchored and protected in its trailer.
Accelerometer locked.
Wing pin box, on board.

3.2 Assembly

- Plane on the ground, fit the wings in place, flaps in flight position.
- Put the two main pins in place and ~~tighten.~~ Lock
- Put the four secondary pins in place and ~~tighten.~~ Lock
- Attach the flap linkages and check the correct ~~tightening~~ Locking of the ball joint tips.
- Unlock the accelerometer.

3.3 Center of gravity

Check that the C.G. stays within the limits set out in the paragraph "operating limitation". For that use the table in Chart 3, starting with the center of gravity and weight of your plane equipped but empty.

3.4 Fueling

40:1 33:1

Prepare in a jerrycan a mixture of gasoline (premium automobile or 100-130 airplane gasoline) to which you add 2.5 to 3% prescribed two stroke oil. Shake well. Transfer to fuel tank. Screw in the cap all the way (seal). In aerobatics, fuel should be limited to 15 liters. (See Ch.2.2)

3.5 Pre-flight check

- Cockpit. Contact off. Fuel tank cap screwed in. Instruments set at zero. Seat attachments and harness checked.
- Fuel tank vent clean and open.
- Fuselage: general condition.
- Total and static pressure points clean and open.
- Horizontal tail: general condition, joints and rod connections.
- Vertical tail: general condition, rudder, joints, and cable attachments.
- Wing surface: general condition. Fittings and flap articulations. Seal of wing-fuselage junction.
- Main landing gear: condition of support fittings and of silent-block. Brakes. Tire condition and 1.8 bar pressure. Fairing attachment.
- Nose gear: normal flexibility of the suspension, condition of tire and 0.8 bar pressure. Fairing attachment.
- Engines: check the flexibility of the suspension and its centering. Condition of arm fairing. Condition and attachment of engine fairing. Sparkplug wire in proper position and condition. Systematically glance at the tightening marks of all visible bolts (drop of paint visible). Identify source of any abnormal oil leakage.
- Carburetor. Clean. General condition. Bolts. No change in position of richness screw. Throttle cable attachment. Condition of fuel line.

- Propellers and spinners: Clean. General condition. Bolts.
- Canopy: Clean. General condition. Hinges. Latchs. Seal.

3.6 Pilot entry

Standing on the seat, support yourself on the edges of the fuselage around the main frame. Slide your legs in. Adjust the rudder bar. Attach the harness. Tighten the straps.

3.7 Starting the engines

Gasoline valves R and L open. Contact off. Brakes on. The engines are started by an assistant. Close the carburetor entry (by hand). Push in the decompression valve. Turn the propeller to draw up gasoline until it drips under the carburetor elbow. Wind the cord around the starting cord pulley. Push the throttle control a little (about 1 inch). Contact on. Pull the cord. As soon as the engine starts, keep a speed of about 3500-4000 rpm beyond rough running for about 20-30 seconds in order to allow it to warm up a bit. After that it should idle smoothly.

Once the engine is warm, it is not necessary to draw up gasoline. If the engine is barely warm, draw up gasoline very little. (one or two turns only) Check the speed and smoothness of the idle (1600-1800 rpm). Check the full throttle speed (5000-5200 rpm). Do not go to the power check beyond a cylinder head temperature of 440-460°F. Check that a rapid increase in engine speed is possible without gap or hesitation.

3.8 Taxiing

Close and lock the canopy. Flaps in take-off position (12°). Adjust ventilation. Release brake. Taxi slowly and try the brakes. Turns are made only with pedals (steerable nose wheel). The difference in engine speeds is unimportant. It will have no effect.

Rapid taxiing is not a problem. The airplane is stable and visibility is perfect. But beware, it is sensitive. Avoid braking as much as possible. You will save the tires, the brakes, and fuel.

Crosswinds (maximum 12 mph) don't pose any particular problems.

3.9 Take-off

Before taking off, check the instruments, then:

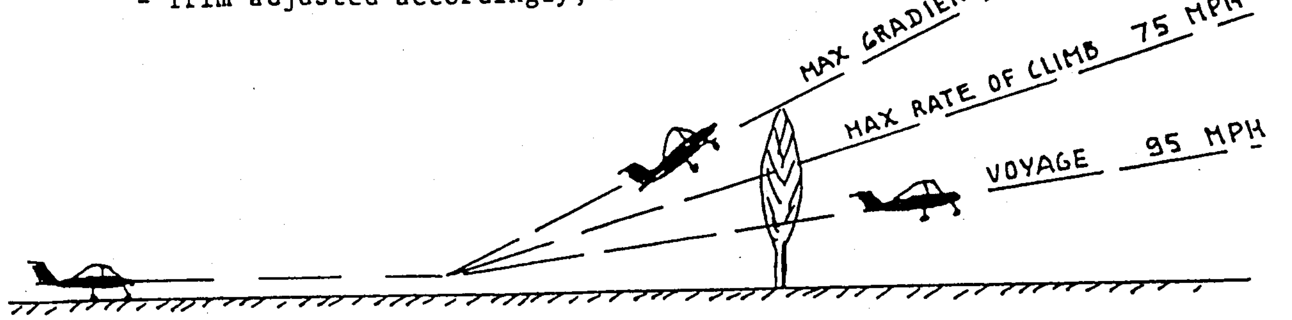
- Landing gear, altimeter.
- Controls free. Correct carburetion.
- Propellers.
- Gas flow open. Tank adequately filled. Cap screwed in.
- Harness attached. Once again, wing pins and ball joint tips and flap rods. Flaps at take-off position. Canopy locked.
- Exterior. No approaching airplane.
- Adjustment of take-off tab position according to C.G. position.

In order to take off: get lined up, full throttle. At about 55 mph (about 10 seconds) pull gently on the stick (Warning: artificial effort gives an impression of firmness. It is always such during low speed flights).
On rough ground, taxi with the stick a bit back and take-off at about 45-50 mph.

In a crosswind (max 12 mph) or irregular winds (gusts) increase these speeds a bit.

3.10 Climb

- Full throttle.
- Flaps brought back to cruising position (slowly because sensitive) beyond Z = 150 ft and before reaching Vi = 80 mph.
- Max gradient speed (obstacle) : 62 mph.
- Max rate of climb speed : 75 mph.
- Climbing speed "voyage" (distance) : 95 mph.
- Maximal temperatures of cylinder heads : 420 - 440°F (otherwise increase speed)
- Normal full throttle is approximately 5500 rpm.
- Trim adjusted accordingly, stick released.



3.11 Flight in calm atmosphere

- Maximal speed in level flight : Full throttle. Engine speed approximately 6400 rpm. Faired airplane Vi about 135 mph.
- Fast cruising : Bring the throttle levers back so that the speed is equal to 90% of the maximal level flight speed. From an altitude of 6500 ft on, full throttle should be used all the time : engine power becoming less than 12 HP.

- "Long distance" cruising : Power needed to bring the indicated airspeed back to about 95 - 100 mph.
- Maximum flight time : Power for Vi = 80 mph.
- Full throttle diving speed : Never exceed speed : 160 mph. Limit power to 6500 rpm.

Caution : Because of artificial stress on the controls, stick load becomes very light at overspeed. Do not forget this, particularly in case of aerobatic flight maneuvers and begin very slowly.

3.12 Flight in gusty atmosphere

In extremely gusty weather the airplane can reach its max. load factor at a speed of 115 mph. It is therefore best never to exceed this speed in such a case. Also, be aware that a speed which is too slow (comfort) exposes one to stalls at gusts. In the above case, always use a 100 - 115 mph speed range.

In aerobatic flight gust load factors are added to maneuvering ones. In order not to exceed the established load factors (Chart 1) the higher the gust load factors the more the maneuvering loads should be decreased. [illegible] flight during very gusty weather

3.13 Stall

Idling in horizontal flight (Variometer 0ft/mn).

- Cruising configuration Vs = 56 mph.
- Take off configuration Vs = 51 mph.
- Landing configuration Vs = 45 mph.

Stall warning signs are fairly subtle. Stall can be a little dissymetrical. The nose down attitude noticed after stall is about 20 to 30°. Immediate recovery if the stick is eased foward. Slight loss of altitude.

Here again, the airplane is at low speed and the pulling effort to bring the airplane to stall, stick practically at the extreme back position, is relatively great (artificial effort). Same explanation for the feeling of heaviness during the following recovery.

3.14 Spin

It is very hard to get the CRICRI to spin. When one succeeds, the exit maneuver is simple : Bring the controls back to centerline or better still, slightly past it. All controls can also be let go. Spin exit in less than one turn.

3.15 Approach

- Let the airplane decelerate to Vi = 80 mph before bringing the flaps to take-off (12°) or landing configuration (27°).
- Normal approach speed = 70 mph.
- Trim adjusted accordingly.
- If need be, be aware that the greatest lift to drag approach ratio is obtained with flaps in take-off position (12°) at Vi = 70 mph.
- Return to full throttle is possible whatever the flap deflection.

Caution : Slotted flaps covering the entire span are very efficient. Do not handle them roughly. Never raise the flaps near the ground whatever the speed may be.

3.16 Landing

Low position

- Approach speed Vi = 65 - 70 mph.
- Round off progressively without trying to stall. Be careful of the unusual ~~height~~ of the seat. Do not round off too high.
- Touch down very slightly nose up at Vi = 53 to 56 mph.

If the landing is missed, return to full throttle before slowly raising the flaps.

In cross-winds, approach slightly banked or at a diagonal. Rectify just before impact. Afterwards, direct with the pedal. In this case, as well as in irregular winds, increase the above speeds a little.
To keep running bring flaps back up (3°). Avoid hard and long braking when the fuel level is low : risk of unpriming sinking hose pipes.

3.17 Stopping the engines

Switch off the contacts.

3.18 Moving the airplane on the ground

Push the airplane by the horizontal tail. If need be, push down on the tail to raise the front wheel for easier handling.

3.19 Mooring

On horizontal ground: face the wind, flaps up 3°. Brake. Fasten by the holes of the flap support arms.

If possible protect with a padded covering: On such low airplanes dropping cameras, handbags and other tools is not infrequent...

3.20 Storing

The best way to store the airplane, whatever the length of time, is to place it in its trailer sheltered from bad weather, dust, shocks etc; and preferably in a dry garage.

If possible, clean and dry the airplane before closing the trailer.

In order to avoid condensation in the tank it is best to fill it up before storing.

3.21 Operating the MC 15 in aerobatic flight

Thanks to the way the engines are fed and lubricated they can operate non-stop in any position.

- Fuel : 4 US gallons maximum (15 liters).
- Power rating : Full throttle. But 6500 rpm maximum rating.
- Inverted flight : Do not go under an indicated airspeed of Vi = 90 mph.
- Slow, fast, hesitation rolls and rolling turns ; Same minimum Vi as above : 90 mph.

  Do not practice sharp deflections to the extreme position over Vi = 115 mph. From this speed on, either limit the amplitude or the deflection speed so that the rate of roll does not exceed the maximal value obtained at 115 mph.
- Loops : Minimum entrance speed : Vi = 150 mph. Load factor : 4 "G".
- Half cuban and reverse half cuban : Vi = 150 mph. 4 "G".
- Stall turn : Not recommended because very difficult to perform.
- Snap roll : Forbidden ("T" tail)

Notice : Considering the slight stick load rating in overspeed it is indispensable to use an accelerometer for aerobatic flight in CRICRIs.

4 EMERGENCY PROCEDURES

4.1 Engine fire

- Close the gas.
- Go full throttle until the engine stops.
- Cut the contact.

4.2 Icing

Until now no icing tendancy has been noticed on these types of engines. However, if a power drop occurs in icy weather, the only answer would be to hit the throttle lever a few times at full throttle.

4.3 Engine failure

If an engine fails keep the cruising configuration if the indicated airspeed Vi is over 70 mph.

Upon approach and at landing remember that the flaps deflection accentuates the yaw caused by the engine dissymetry. Therefore, with flaps in landing configuration restore power to an engine very progressively.

4.4 Restarting an engine in flight

- Open the decompression valve (if the engine is equipped with a control system).
- Push the throttle control a little (as for starting on the ground).
- Keep contact switch on.
- Increase speed until the engine starts.

4.5 Makeshift landing

If both engines are irremediably out of order:

- Close both fuel valves.
- Turn the contact switch off.
- Tighten the harness straps.

Highest lift to drag ratio : flaps at 12° configuration and Vi = 70 mph.

Land in landing configuration, flaps down at 27°. If the runway is unsure refuse the ground until stall.

5 PERFORMANCE

The performances are given for an airplane which corresponds in all respects to the definition in the set of plans and at a total maximum power of 30 HP.

5.1 Stalling speeds "Vs"

Figuring on chart 2a they are in relation to weight and the three flaps deflections : cruising 3°, take-off 12°, landing 27°.

These are indicated speeds, therefore unrelated to altitude and temperature. They are obtained by allowing the airplane to decelerate with the variometer at 0 ft/mn.

5.2 Take-off runs

Figuring on chart 2b they are in relation to weight and altitude. Given in standard atmosphere in zero wind and on a hard horizontal runway. For a grassy runway increase the distances by 25 to 30% The airplane is in take-off configuration flaps at 12°.

5.3 Take-off distances to 50 ft.

Figuring on chart 2c, under the same conditions as above. The 50 ft. clearance speed is 1.3 times the stalling speed in take-off configuration.

5.4 Maximum rates of climb

Figuring on chart 2d they are in relation to altitude and airplane weight. The airplane in cruising configuration. Standard atmosphere. The indicated speed corresponding to the maximum rate of climb is approximately 75 mph.

5.5 Maximum speeds in linear horizontal flight

Figuring on chart 2e they are in relation to altitude and weight. Cruising configuration, engines full throttle.

5.6 Landing distances from 50 ft.

Figuring on chart 2f they are in relation to altitude and airplane weight. The 50 ft. clearance speed is 1.4 times the stalling speed in landing configuration. Average deceleration considered during landing run = 0.3 G.

6 MAINTENANCE

The aim of MC 15 maintenance is to keep it in good working condition for as long as possible.

This good condition may be altered in several ways :

- Through wear : (tires, pistons, diaphragms...etc.). In this case replace worn parts.

- Through fatigue : This is the case of elements subjected to high rates of vibration (linking bar, engine mount, resonator, propellers...etc.) or a large number of cycles under heavy stress (wing spar in aerobatic flight for example). These parts must be inspected frequently in the places receiving the most stress and in particular around holes, angles, section breaks, scratches, welding, assembly parts...etc. Cracks show up at an advanced state of fatigue. These fatigue cracks are not always visible to the naked eye. They can only be detected using a magnifying glass at the minimum, or better using fluorescent penetrant inspection or X-ray. If a fatigue crack appears on a non critical part which is clearly visible (canopy, fairing...etc.) drill a small hole about 0.1 inch at its far end to stop its development. Then keep watch. If, on the other hand, it appears on a vital part (linking bar, spar, bell crank...etc.) it is urgent and imperative to replace it.

- Through abrasion : This is the case of leading edges and in particular those of the propeller blades. In this case re-do the surface using fine abrasive paper and renew the protection if necessary.

- Through corrosion : This principally depends on the type of atmosphere the airplane is kept in. In case of corrosion traces strip the surface and protect it accordingly. Try to keep it in a more favorable atmosphere.

- Through aging : This is the case of elastomers in general, bonding...etc. (bungee cords hose pipes...). Arrange for their periodic replacement.

- Diverse accidents, shocks, scratches : Repair according to ans and allowances. For light scratches on the canopy use an appropriate polish and even very fine abrasive paper if the scratch is deep.

- Diverse deposits : Dirt, mud, carbonization, clogged filters air vent or airspeed indicating system obstruction. Check, clean, unclog.

  Maintain outside surfaces like those of a car : Wash with soapy water, rinse, dry. Avoid water penetrating into joints and diverse circuits.

  In case of condensation or closing up of the airspeed indicating ... instrument side and blow into the

The following list gives an idea of the maintenance to be carried out.

Item	When needed	25^H	50^H	100^H
6.1 Wings				
Flap support arm : checking of attachments				●
Assembly pins : fitting and lubrication.	●			
Spherical bearings : cleaning, lubrication.		●		
Rod ends : cleaning, lubrication.		●		
6.2 Flaps				
Flap-to flap attachment : checking.			●	
Fixing of ball joint on root side.			●	
Fixing of lower hinge fittings.				●
6.3 Horizontal tail				
Hinge ball joint : fitting, play and lubrication.			●	
6.4 Vertical tail				
Spar : condition at hinge fittings and on top of frame 13 (last rivet).			●	
6.5 Rudder				
Joints and starting point of cables : checking			●	
6.6 Canopy				
Hinges : checking, cleaning, lubrication.		●		
Latch : " " "			●	
Sealing: "	●		●	
6.7 Main landing gear				
Tires : state and pressure 1.8 bar.	●			
Brakes : checking, cleaning.	●			
Brake cables : checking, tension, lubrication.	●		●	
Fiberglass leg : checking.				●
Clamp : checking.		●		
Lower rod : checking, cleaning, lubrication.			●	
Nuts and bolts : checking.				●
6.8 Nose gear				
Tire : state and pressure 0.8 bar.	●			
Outer sliding tube : cleaning, lubrication.	●			
Inner sliding tube : " "			●	
Bearing block : checking for wear.			●	
Interlinking cables : tension, lubrication.			●	
Guide pulley : cleaning lubrication			●	
Nuts and bolts : checking.				●
6.9 Flying control				
Control linkage : joints, bellcranks : cleaning.				
Checking condition of fittings, lubrication.			●	
Nuts and bolts : checking				●

Item	When needed	25^H	50^H	100^H
6.10 Motor suspension				
Centering and attachments of motor suspension : checking.			●	
Linking bar : look for cracks where spindles 50119 pass through holes.			●	
Linkage piece 50016 : condition and tightness.		●		
6.11 Engines				
Chamber combustion and top of piston : decarbonizing.	(1)			
Exhaust : overall state, gasket : decarbonizing.	(1)			
Nuts and bolts : general checking (paint marks).		●		
Wiring and connections : checking		●		
Spark plug : cleaning and electrode gap adjustment (0.020" - 0.025").		(1)		
Spark plug : systematic replacement			●	●
Breaker : state and spacing of breaker points (0.014" - 0.016").			(1)	
Spark advance : (0.10" - 0.11")			(1)	
Carburetor : overall cleaning.	●			
Carburetor : gas filter.			●	
Carburetor : idle : adjustment.	●			
6.12 Fuel system				
Sinking hose pipes and filters : checking.			●	
Fuel lines : condition and attachment.			●	
Fuel tank : condition and attachment.				●
Fuel tank air vent : checking.		●		
6.13 Propellers				
Spinners : state (cracks) and attachment.		●		
Blades : overall state.	●			
6.14 Airspeed indicating system				
System : cleanliness, condition and sealing.		●		

6.15 Special conditions

Spark plug : respect the stipulated type : NGK type B9 EV. A poorly adapted spark plug may not only cause functioning troubles but may also give out without warning.

Every 25 hours check the cleanliness and the color of the electrodes and liners : black, greasy, sooty indicates a mixture that is too rich. Light coffee color, clean shows proper carburation. White indicates a mixture that is too lean.

After cleaning (wire brush) adjust electrode spacing between 0.020" - 0.025". Coat the thread with a little graphite lubricant and tighten without excess 15ft x lbs. Replace ignition cable and be sure it is fully inserted.

(1) See 6.6.15

To be sure of proper functioning it is best to replace the spark plugs every 50 to 80 hours even if they still seem to be accomplishing their task.

Breaker : Every 50 hours check state of breaker points. In case of slight deterioration face them with the help of a small, fine, flat file or with very fine (n° 600 - 800) abrasive paper. Then, clean perfectly using a brush or a spray of compressed air. Check the spacing of the breaker points and eventually readjust them between 0.014" and 0.016".

Lubricate the cam felt and breaker pin : 1 or 2 drops of fluid graphite oil maximum.

Spark advance : At the same time, check that the spark advance is still 0.10" - 0.11".
To do this insert a sheet of cigarette paper between the contacts. Place the crankshaft 30 to 40° before dead top center and turn slowly in the normal direction of rotation pulling lightly on the cigarette paper. When it begins to slip the piston should be 0.010" - 0.011" below dead top center.

Engine decarbonizing : between 25 and 100 hours according to the quality and % of oil. Wait until the cylinder head is completely cool before removing. Decarbonize the chamber combustion and piston top.

Check the state of the cylinder gasket. A certain number of functioning disorders are caused by its non-impenetrability.

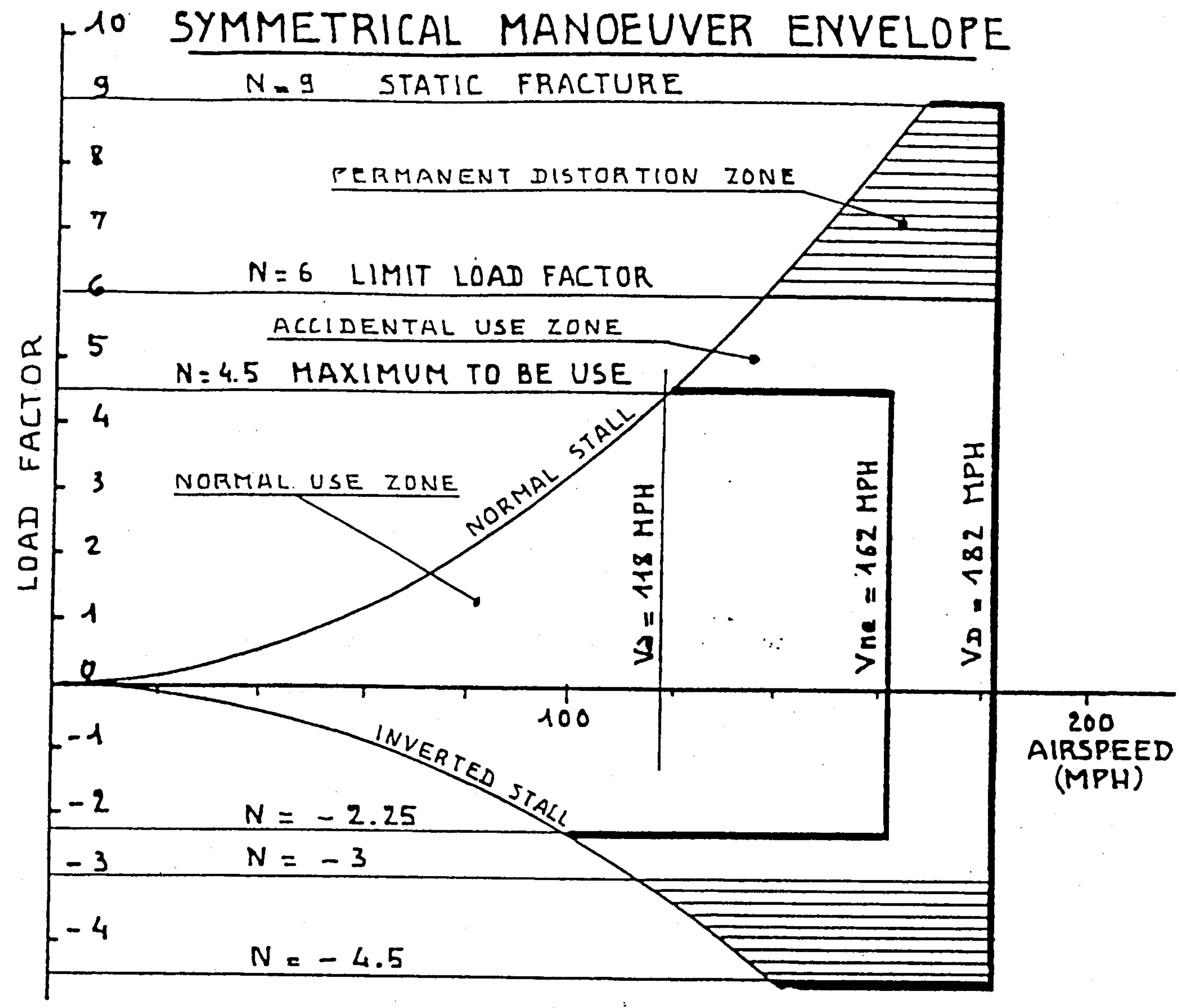
In case of disassembly lubricate the cylinder walls well. Tighten the four nuts regularly, 1/4 turn by 1/4 turn in the form of a cross until reaching a 17 ft×lbs. torque. If the joint is new re-check the nuts after one hour of functioning.

Exhaust decarbonizing : id engine in relation to mixture. The section of little outlet holes is conditioned by noise and power. Watch that it remains open as time goes on.

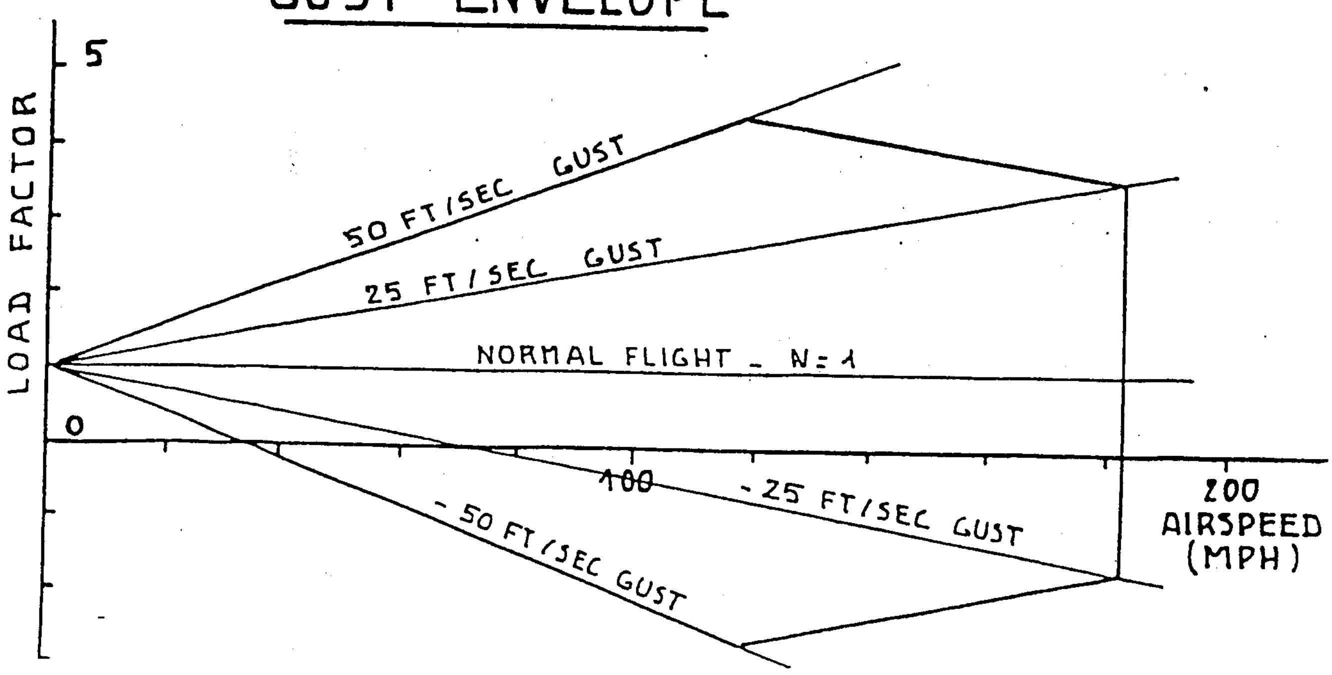
CRICRI MC 15 – FLIGHT ENVELOPE

CHART 1

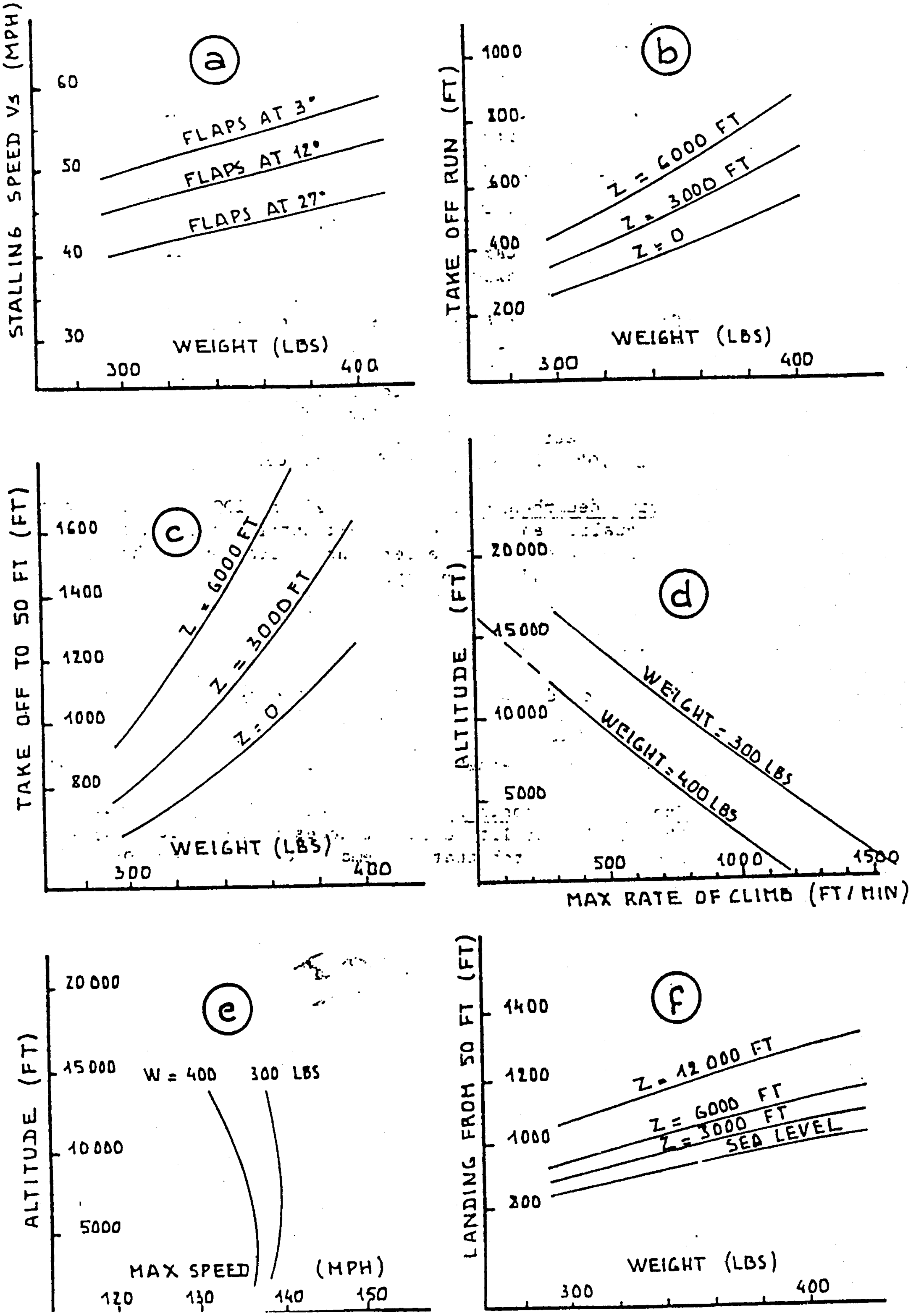
SYMMETRICAL MANOEUVER ENVELOPE

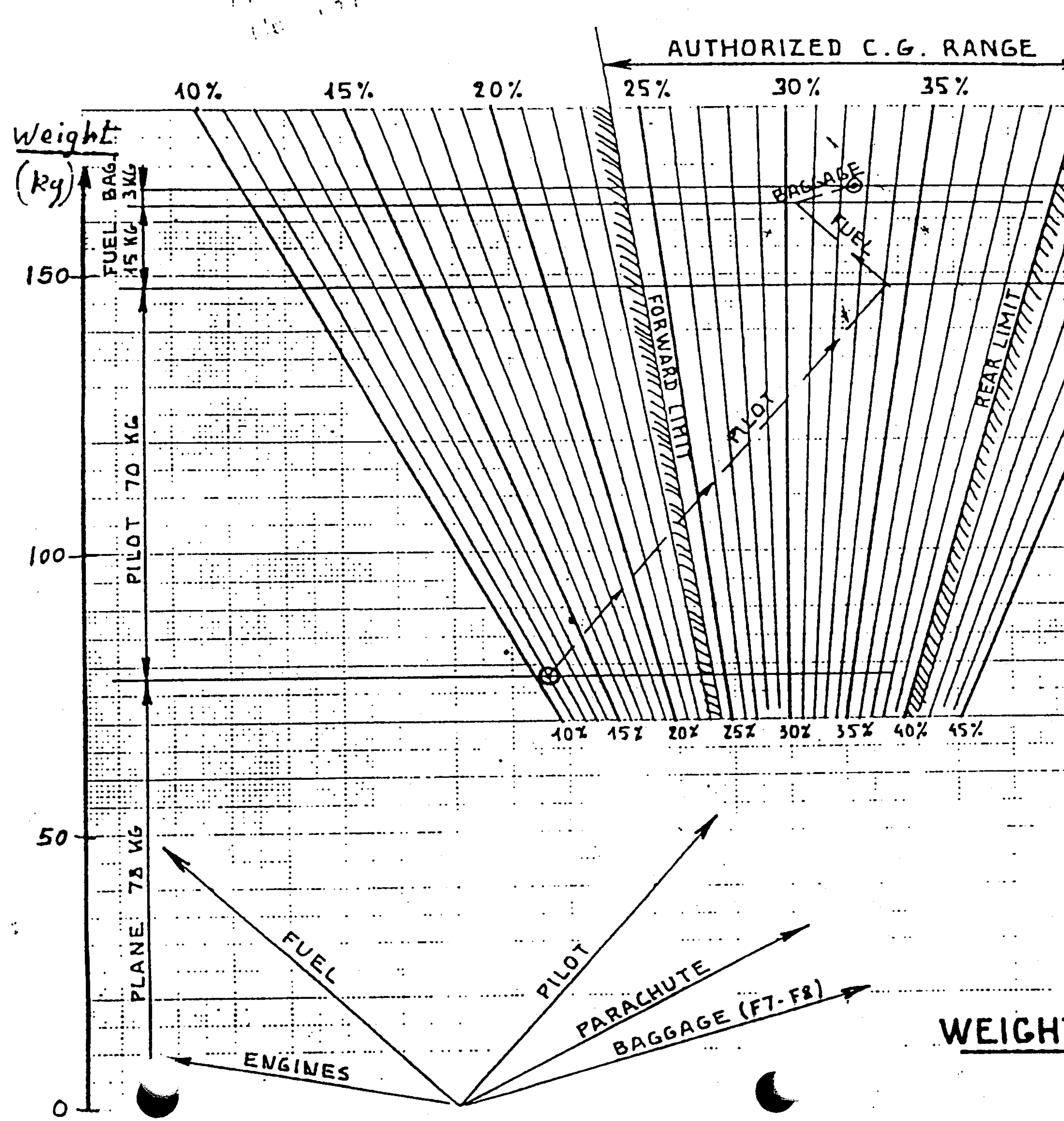


GUST ENVELOPE



CRICRI MC 15 – PERFORMANCE





DIRECTIONS FOR USE

PLOT THE MASS AND CENTER OF GRAVITY, OBTAINED BY WEIGHING, OF EQUIPPED BUT EMPTY AIRPLANE

ADD EACH MASS (INDIFFERENT ORDER) ONE AFTER THE OTHER FOLLOWING THE DIRECTIONS PARALLEL TO THOSE SHOWN AT THE BOTTOM OF THE GRAPH FOR EACH ENTRY

EXAMPLE

EQUIPPED BUT EMPTY PLANE = 78 KG - CG = 11%

PILOT = 70 KG
FUEL = 15 KG
BAGGAGE = 3 KG

READ: TOTAL WEIGHT = 166 KG
CENTER OF GRAV. = 32.5%

CRICRI MC 15

WEIGHT AND BALANCE CHART