CESSNA C150

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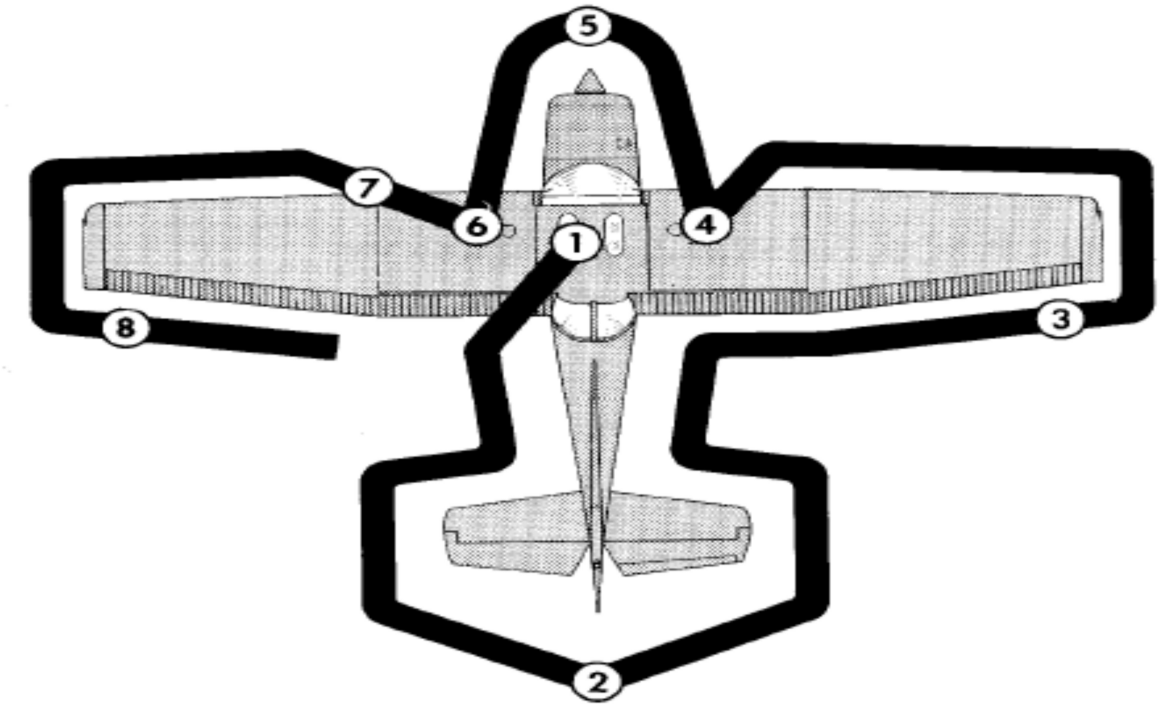
PRE-FLIGHT CHECK – AIRCRAFT WALK-AROUND

Visual inspection is defined as follows: check for defects, cracks, detachments, excessive play, unsafe or improper installation as well as for general condition. For control surfaces, visual inspection also involves additional check for freedom of movement and security. Red lubber lines on bolts and nuts shall be intact.

Fuel level indicated by the cockpit-televels should be verified by visual check of actual fuel quantity embarked in the tanks.

Fuel drainage operation must be carried out with the aircraft parked on a level surface. Set Cockpit Fuel Selector Valve to on prior to drain fuel circuit nose section valve.



Technical log book - Training of record keeping in the technical logbook
Proceed with the external control of the aircraft by following the order below, based on the representation above:

CABIN

1. Pilot's Operating Handbook	*AVAILABLE IN THE AIRPLANE*
2. Control Wheel Lock	*REMOVE*
3. Ignition Switch	*OFF*
4. Avionics Master Switch	*OFF*
5. Master Switch	*ON*

WARNING

When turning on the master switch, using an external power source, or pulling the propeller through by hand, treat the propeller as if the ignition switch were on. Do not stand, nor allow anyone else to stand, within the arc of the propeller, since a loose or broken wire, or a component malfunction could cause the propeller to rotate.

6. Fuel Quantity Indicators	*CHECK QUANTITY*
7. External and Interior lights	*ON (if night flight is contemplated—check to ensure that all are working)*
8. Pitot Heat	*ON (if flight in instrument conditions is contemplated – check to ensure that pitot tube is warm to touch within 30 seconds)*
9. Lights and pitot heat	*OFF*
10. Master Switch	*OFF*
11. Fuel valve	*ON*

EMPANNAGE

1. Rudder Gust Lock — *REMOVE*
2. Tail Tie –down — *DISCONNECT*
3. Control Surfaces — *CHECK for freedom of movement and security*

RIGHT WING - TRAILING EDGE

1. Aileron — *CHECK freedom of movement and security*
2. Flap — *CHECK Attachment and Movement*

RIGHT WING

1. Wing tie down — *DISCONNECT*
2. Main Wheel Tire — *CHECK for proper inflation, cuts, wear*
3. Brake lines — *CHECK for leaks*
4. Fuel sump — *CHECK before first flight of day, and after each refueling, drain fuel sample from sump, checking for water and other contaminants*
5. Fuel Quantity — *CHECK VISUALLY*
6. **Fuel Filler Cap** — ***SECURE***

NOSE

1. Engine Oil — –4 q min –5 q max for flights less than 3 hours-6 q max
2. Engine Oil cap — ***SECURE***
3. Before first flight of day, and after each refueling, pull out fuel strainer knob for 4 sec
4. Propeller and spinner — *CHECK for nicks and cracks*
5. Air intake — *CHECK for obstructions*
6. Nose wheel strut — *CHECK for inflation,*
7. Nose wheel tire — *CHECK for inflation, cuts, wear*
8. Nose tie down — *REMOVE*

LEFT WING

1. Wing tie down — *DISCONNECT*
2. Pitot tube — *REMOVE COVER – CHECK for obstruction, damage*
3. Main Wheel Tire — *CHECK for proper inflation, cuts, wear*
4. Brake lines — *CHECK for leaks*
5. Stall warning vane — *CHECK*
6 Fuel sump — *CHECK before first flight of day, and after each* refueling, drain fuel sample from sump, checking for water and other contaminants
7. Fuel Quantity — *CHECK VISUALLY*
8. Fuel Filler Cap — *SECURE*

LEFT WING - TRAILING EDGE

1. Aileron — *CHECK freedom of movement and security*
2. Flap — *CHECK Attachment and Movement*

Avoid blowing inside Pitot-tube and inside airspeed indicator system's static vents as this may damage instruments.

COCKPIT INSPECTIONS

1. Preflight Inspection	*COMPLETE*
2. Seats, Belts, Shoulder Harnesses	*ADJUST and LOCK*
3. Fuel Shutoff Valve	*ON*
4. Avionics Master Switch	*OFF*
5. Radios, Electrical Equipment	*OFF*
6. Brakes	*TEST and SET*
7. Circuit Breakers	*CHECK IN*

ENGINE STARTING

1. Mixture	*RICH*
2. Carburetor Heat	*COLD*
3. Prime	*AS REQUIRED (up to 3 strokes).*
4. Throttle	*OPEN 6 mm*
5. Propeller Area	*CLEAR.*
6. Master Switch	*ON*
7. Beacon/Strobes	*ON*
8 . Brakes	*ON*

Standard call out > *PROP CLEAR*<

9. Ignition Switch	*START (release when engine starts).*
10. Throttle	*ADJUST for 1000 RPM.*
11. Oil Pressure	*CHECK.*
13. Ammeter	*STARTER DISENGAGED (Charging)*
14. Flaps	*UP*
15. Radios/Avionics	*ON and Frequency Set*
16. Transponder	*STANDBY (Set 7000 or Assigned Squawk)*

BEFORE TAXIING

1. Altimeter	*SET*
2 Transponder	*STAND BY*
3. Direction indicator:	*set in accordance with the magnetic compass*
4. Parking brake:	*OFF*
5 Taxi Light:	*ON*

Standard call out >*LEFT FREE, RIGHT FREE*<

TAXIING

Standard call out >*CHECK BRAKES*<

1. Brakes:	*CHECK*
2. Steering:	*CHECK*
3. Flight instruments:	*CHECK altimeter and variometer, artificial horizon alignement and turn indicator coherent with steering direction, balanceball free into the opposite direction.*

PRIOR TO TAKEOFF / RUN UP

1. Brakes:	*ON, brake pedal press*
2 Cabin Doors	*CLOSED and LATCHED*
3. Flight Controls	*FREE and CORRECT*
4. Elevator Trim	*TAKE OFF*
5 Flight Instruments	*CHECK and SET*
6 Throttle	*1700 RPM*
7 Ignition magnetos test:	
a Select LEFT,	*check speed drop within 150 rpm;*
b. Select BOTH:	*check propeller speed 1700 rpm;*
c. Select RIGHT:	*check speed drop within 150 rpm,*
d. *Maximum difference of speed between*	*LEFT and RIGHT 75 rpm,*
e. Select BOTH:	*check propeller speed 1700 rpm .*
8 Carburettor heat test:	
a. Pull selector fully out	
b. Propeller speed:	*check 100 rpm drop*
c. Push selector	*fully in*
d. Propeller speed:	*check 1700 rpm*
e. Ammeter	*CHARGING*
g. Engine Instruments	*TEMP & PRESSURE*
h. Suction Gauge	*CHECK*
9. Throttle	*IDLE*
10 Throttle Friction Lock	*ADJUST*
11. Radios/Avionics	*SET*
12. Mixture	*RICH*

Standard call out >*TAKE-OFF BRIEFING*<

TAKEOFF BRIEFING

I'LL TAKE-OFF RWY… SURFACE CONDITION (WET/DRY), WIND… ROTATION 55, CLIMB SEED VY 75. IN CASE OF EMERGENCY ON THE GROUND ABOARD TAKE-OFF . IN CASE OF ENGINE FAILURE UP TO ALT=500 FT AGL LAND STRAIGHT AHEAD, IN CASE OF ENGINE FAILURE ALT>500 AGL TURN AROUND AND LAND ON RWY WITH TAIL WIND, VG=70
TAKE – OFF BRIEFING COMPLETED

LINE-UP

Standard call out >*APPROACH SECTOR FREE*<

1 Parking Brake	*RELEASE, check full in*
2 Fuel Shutoff Valve	*ON*
3 Pitot heat	*as required*
4 Transponder	*set ALT*
5 Strobe	*ON*

TAKEOFF

On uncontrolled fields, before line up, check runway wind direction and speed and check for traffic on final

NORMAL TAKEOFF

1 Wing Flaps *0*
2 Parking brake: *OFF*
3 Carburetor Heat *OFF*
4 Check magnetic compass and gyro direction indicator alignment
Standard call out ***>RUNWAY IDENTIFIED<***
5 Throttle *FULL OPEN.*
Standard call out ***>T/O POWER SET>***
6 Engine instruments: *CHECK*
Standard call out ***> CHECKED<***
>BRAKES RELEASED<
>SPEED RISING<
7 Elevator Control *LIFT NOSE WHEEL at 55 KIAS.*
Standard call out ***>ROTATION<***
>POSITIVE CLIMB<
>SAFE ALTITUDE<
8 Climb Speed *75 KIAS*
9 Flaps: *UP at safe altitude retract*
10 Landing Light: *OFF*
11 Propeller speed: *reduce*
Standard call out ***>AFTER T/O CHECKLIST COMPLITED<***

SHORT FIELD TAKEOFF

1. Wing Flaps *10*
2. Parking brake: *OFF*
3. Carburetor Heat *OFF*
4. Check magnetic compass and gyro direction indicator alignment
Standard call out ***>RUNWAY IDENTIFIED<***
5. Brakes *SET pedal press*
6. Throttle *FULL OPEN.*
Standard call out ***>T/O POWER SET>***
7. Engine instruments: *CHECK*
8. Brakes *RELEASE.*
Standard call out ***> CHECKED<***
>BRAKES RELEASED<
>SPEED RISING<
9. Elevator Control *SLIGHTLY TAIL LOW*
Standard call out ***>ROTATION<***
>POSITIVE CLIMB<
>SAFE ALTITUDE<
10 Climb Speed *68 KIAS (until all obstacles are cleared).*
11 Flaps: *UP at safe altitude retract*
12 Lnding Light: *OFF*
13. Propeller speed: *reduce*
Standard call out ***>AFTER T/O CHECKLIST COMPLITED<***

CLIMB

1. Set power — *at or below maximum continuous*
2. Check engine instruments within limits
3. Carburetor heat as needed,

Monitor and manually compensate asymmetrical fuel consumption by switching fuel selector valve. Switch on the electric fuel pump prior to swap the fuel feeding from one tank to another.

BEFORE LANDING

Standard call out >*APPROACH BRIEFING*<

1. Fuel valve: *select the fullest tank*
2. Landing Light: *ON*
3. On base leg *Flaps: set T/O* ***75***
On final leg: *Flaps: set Land* ***65***
4. Carburetor heat: *as needed,*

Standard call out >*BEFORE LANDING CHECKLIST COMPLETED*<

BEFORE LANDING BRIEFING

I'LL LAND RWY…. SURFACE CONDITIONS (WET/DRY). WIND……
I'LL LAND WITH …..(FULL / T/O) FLAPS POSITION. T/O FLAPS AFTER BASE APCH SPEED 75 KTS, FULL FLAPS ON FINAL APCH SPEED 65 KTS.
ALTIMETERS SET AND CHECKED, LANDING BRIEFING COMPLETED

FINAL

1. Flaps — *check 0/TO/FULL*
2. Landing Light: *check ON*
3 Carburetor heat: *as needed*

Standard call out >*FINAL CHECK*<

BALKED LANDING/MISSED APPROACH

Standard call out >GO-AROUND<

1. Throttle: *Full*
2. Carburetor heat: *OFF*
3. Speed: keep over *65*, climb to V_Y or V_X as applicable
4. Flaps position: *TO*
5. Flaps: *UP at safe altitude retract*

AFTER LANDING

1. Flaps: *UP*
2. Landing light: *OFF*
3 Taxi light: *ON*

Standard call out >*RUNWAY VACATED*<

5 Transponder *Stand by*
6 Strobe *OFF*

PARKING/SHUT DOWN

1. Parking brake: *ENGAGE*
2. Keep engine running at 1000 rpm for about one minute in order to reduce latent heat.
3. Avionic equipment: *OFF*
4 Mixture *IDLE/CUT-OFF*
5. Magnetos: *OFF, keys extracted*
6. Strobe light: *OFF*
7. Master & Generator switches: *OFF*
8. Fuel selector valve: *OFF*

POSTFLIGHT CHECKS

CABIN
1. Ignition Switch *OFF*
2. Avionics Master Switch *OFF*
3. **Master Switch** ***OFF***
4. External and Interior lights *OFF*
5. Pitot Heat *OFF*
6. Lights and pitot heat *OFF*
7. Fuel valve *OFF*
EMPANNAGE
1. Rudder Gust Lock *ON*
2. Tail Tie –down *CONNECT*
3. Control Surfaces *CHECK for freedom of movement and security*
RIGHT WING - TRAILING EDGE
1. Aileron *CHECK freedom of movement and security*
2. Flap *UP*
RIGHT WING
1. Wing tie down *CONNECT*
2. Main Wheel Tire *CHECK for proper inflation, cuts, wear*
3. Brake lines *CHECK for leaks*
4. Fuel Filler Cap *SECURE*
NOSE
1. Propeller and spinner *CHECK for nicks and cracks*
2. Air intake *CHECK for obstructions*
3. Nose wheel strut *CHECK for inflation,*
4. Nose wheel tire *CHECK for inflation, cuts, wear*
5. Nose tie down *ON*
LEFT WING
1. Wing tie down *CONNECT*
2. Pitot tube *COVER – CHECK for obstruction, damage*
3. Main Wheel Tire *CHECK for proper inflation, cuts, wear*
4. Brake lines *CHECK for leaks*
5. Stall warning vane *CHECK*
LEFT WING - TRAILING EDGE
1. Aileron *CHECK*
2. Flap *UP*

EMERGENCY PROCEDURES

Section includes checklists and detailed procedures to be used in the event of emergencies. Emergencies caused by a malfunction of the aircraft or engine are extremely rare if appropriate maintenance and pre-flight inspections are carried out.
Before operating the aircraft, the pilot should become thoroughly familiar with the present manual and, in particular, with the present section. Further, a continued and appropriate training should and self study should be done. In case of emergency the pilot should acts as follows:

1. Keep control of the aeroplane.
2. Analyse the situation
3. Apply the pertinent procedure
4. Inform the Air Traffic Control if time and conditions allow.

Following definitions apply:
Land as soon as possible*: land without delay at the nearest suitable area at which a safe approach and landing is assured.*
Land as soon as practical*: land at the nearest approved landing area where suitable repairs can be made.*

ENGINE FAILURES

ENGINE FAILURE DURING TAKEOFF RUN.

1. Throttle	*IDLE*
2. Brakes	*APPLY*
3. Wing Flaps	*RETRACT*
4. Mixture	*IDLE CUT-OFF*
5. Ignition Switch	*OFF.*
6. Master Switch	*OFF.*

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF.

1. Airspeed	*70*
2. Mixture	*IDLE CUT-OFF.*
3. Fuel Shutoff Valve	*OFF*
4. Ignition Switch	*OFF.*
5. Wing Flaps	*AS REQUIRED.*
6. Master Switch	*OFF*

ENGINE FAILURE DURING FLIGHT

1. Airspeed	*70.*
2. Carburetor Heat	*ON.*
3. Best Field	*SELECTED*
4 Primer	*IN and LOCKED.*
5. Fuel Shutoff Valve	*ON.*
6. Mixture	*RICH.*
7. Ignition Switch	*BOTH (or START if propeller is stopped).*

FORCED LANDINGS

EMERGENCY LANDING WITHOUT ENGINE POWER

1. Airspeed	*70 flaps up*
2. Mixture	*IDLE CUT-OFF.*
3. Fuel Shutoff Valve	*OFF.*
4. Ignition Switch	*OFF.*
5. Wing Flaps	*AS REQUIRED*
6. Master Switch	*OFF.*
7. Doors	*UNLATCH PRIOR TO TOUCHDOWN.*
8. Touchdown	*SLIGHTLY TAIL LOW.*
9. Brakes	*APPLY*

PRECAUTIONARY LANDING WITH ENGINE POWER

1. Airspeed	*70*
2. Wing Flaps	*20°.*
3. Selected Field	*FLY OVER, noting terrain and obstructions, then retract flaps upon reaching a safe altitude and airspeed.*
4. Radio and Electrical Switches	*OFF.*
5. Wing Flaps	*FULL (on final approach).*
6. Airspeed	*65 KIAS.*
7. Master Switch	*OFF.*
8. Doors	*UNLATCH PRIOR TO TOUCHDOWN.*
9. Touchdown	*SLIGHTLY TAIL LOW.*
10. Ignition Switch	*OFF.*
11. Brakes	*APPLY*

FIRES

FIRES DURING START ON GROUND

1. Cranking	*CONTINUE, to get a start which would suck the flames and accumulated fuel through the carburetor and into the engine.*
If engine starts:	
2. Power	*1700 RPM for a few minutes.*
3. Engine	*SHUTDOWN and inspect for damage.*
If engine fails to start:	
4. Cranking	*CONTINUE in an effort to obtain a start.*
5. Fire Extinguisher	*OBTAIN (have ground attendants obtain if not installed).*
6. Engine	*SECURE.*
a. Master Switch	*OFF.*
b. Ignition Switch	*OFF.*
c. Fuel Shutoff Valve	*OFF.*
7. Fire	*EXTINGUISH*
8. Fire Damage	*INSPECT*,

ENGINE FIRE IN FLIGHT

1. Mixture	*IDLE CUT-OFF*
2. Fuel shutoff valve	*OFF*
3. Master switch	*OFF*
4. Cabin heat and air	*OFF (except wing root vents)*
5. Airspeed	*85 KIAS (if fire is not extinguished, increase glide speed to find an airspeed which will provide an in combustible mixture)*
6. Forced landing	*EXECUTE (as described in Emergency Landing Without Engine Power)*

ELECTRICAL FIRE IN FLIGHT

1. Master Switch	*OFF*
2. All other switches	*OFF (except ignition switch)*
3. Vents/Cabin Air/Heat	*CLOSED*
4. Fire Extinguisher	*ACTIVATE (if available)*
5. Aircraft Cabin	*VENTILATE*
If fire appears out and electrical power is necessary for continuance of flight:	
6. Master Switch	*ON*
7. Circuit Breakers	*CHECK for faulty circuit, do not reset.*
8. Radio/Electrical Switches	*ON one at a time, with delay after each until short circuit is localized.*
9. Vents/Cabin Air/Heat	*OPEN when it is ascertained that fire is completely extinguished.*

CABIN FIRE

1. Master Switch	*OFF*
2. Vents/Cabin Air/Heat	*CLOSED (to avoid drafts).*
3. Fire Extinguisher	*ACTIVATE (if available).*
4. Aircraft Cabin	*VENTILATE*
5. Land the airplane as soon as possible.	

WING FIRE

1. Navigation Light Switch	*OFF*
2. Strobe Light Switch	*OFF (if installed)*
3. Pitot Heat Switch	*OFF (if installed)*

Perform a side slip to keep the flames away from the fuel tank and cabin, and land as soon as possible, with flaps retracted.

ELECTRICAL POWER SUPPLY SYSTEM MALFUNCTIONS

AMMETER SHOWS EXCESSIVE RATE OF CHARGE (full scale deflection)

1. Alternator	*OFF*
2. Alternator Circuit Breaker	*PULL*
3. Nonessential Electrical Equipment	*OFF*
4. Flight	*TERMINATE as soon as practical*

LOW-VOLTAGE LIGHT ILLUMINATES DURING FLIGHT

Ammeter Indicates Discharge. Illumination of the low-voltage light may occur during low RPM conditions with an electrical load on the system such as during a low RPM taxi. Under these conditions, the light will go out at higher RPM. The master switch need not be recycled since an over-voltage condition has not occurred to de-activate the alternator system.

1. Radios	*OFF*
2. Alternator Circuit Breaker	*CHECK IN*
3. Master Switch	*OFF (both sides)*
4. Master Switch	*ON*
5. Low-Voltage Light	*CHECK OFF*
6. Radios	*ON*

If low-voltage light illuminates again:

7. Alternator	*OFF*
8. Nonessential Radio and Electrical Equipment	*OFF*
9. Flight	*TERMINATE as soon as practical.*

LANDING EMERGENCY

DITCHING

1. Radio	*TRANSMIT MAYDAY on 121.5 MHz, giving location and intentions and SQUAWK 7700 if transponder is installed.*
2. Heavy Objects (in baggage area)	*SECURE OR JETTISON.*
3. Approach -- High Winds, Heavy Seas	*INTO THE WIND*
Light Winds, Heavy Swells	*PARALLEL TO SWELLS.*
4. Wing	*Flaps Full*
5. Power	*ESTABLISH 300 FT/MIN DESCENT AT 55 KIAS.*
6. Cabin Doors	*UNLATCH.*
7. Touchdown	*LEVEL ATTITUDE AT 300 FT/MIN DESCENT*
8. Face	*CUSHION at touchdown with folded coat.*
9. Airplane	*EVACUATE through cabin doors. If necessary, open windows and flood cabin to equalize pressure so doors can be opened.*
10. Life Vests and Raft	*INFLATE.*

LANDING WITH A FLAT NOSE TIRE

1. Pre-landing checklist:	*Complete*
2. Flaps:	*Land*

3. Land and maintain aircraft NOSE HIGH attitude as long as possible.
As aircraft stops

4. Engine securing:	*Perform*
5. Airplane evacuation:	*Perform*

LANDING WITH A FLAT MAIN TIRE

If it's suspected a main tire defect or it's reported to be defective:

1. Pre-landing checklist:	*Complete*
2. Flaps:	*Land*

3. Land the aeroplane on the side of runway opposite to the defective tire to compensate the change in direction which is to be expected during final rolling

4. Touchdown with the GOOD TIRE FIRST and hold aircraft with the flat tire off the ground as long as possible by mean of aileron and rudder control.
As aircraft stops

5. Engine securing:	*Perform*
6. Airplane evacuation:	*Perform*

AIRPLANE EVACUATION

With the engine secured and propeller stopped (if practical):

1. Parking brake:	*ON*
2. Seat belts:	*unstrap completely*
3. Headphones:	*REMOVE*
4. Door:	*OPEN*

5. *Escape away from flames/ hot engine compartment/ spilling fuel tanks.*

RECOVERY FROM UNINTENTIONAL SPIN

If unintentional spin occurs, the following recovery procedure should be used:

1. Throttle: *IDLE (full out position)*
2. Rudder: *full, in the opposite direction of the spin*
3. Stick: *centralize and hold neutral*

As the spin stops:

4. Rudder: *SET NEUTRAL*
5. Aeroplane attitude: *smoothly recover averting speeds in excess of VNE and maximum load factor*
6. Throttle: *Readjust to restore engine power.*

Keep full rudder against rotation until spin has stopped.
One complete turn and recovery takes around 500 feet.

RECOVERY FROM A SPIRAL DIVE

If a spiral is encountered, proceed as follows:

1. Close the throttle.
2. Stop the turn by using coordinated aileron and rudder control to align the symbolic airplane in the turn coordinator with the horizon reference line.
3. Cautiously apply elevator backpressure to slowly reduce the airspeed to 70 KIAS.
4. Adjust the elevator trim control to maintain a 70 KIAS glide.
5. Keep hands off the control wheel, using rudder control to hold a straight heading.
6. Apply carburetor heat.
7. Clear engine occasionally, but avoid using enough power to disturb the trimmed glide.
8. Upon breaking out of clouds, resume normal cruising flight.

ICING

INADVERTENT ICING ENCOUNTER

1. Turn pitot heat switch ON.
2. Turn back or change altitude to obtain an outside air temperature that is less conducive to icing.
3. Pull cabin heat control full out to obtain maximum defroster air temperature. For greater air flow at reduced temperatures, adjust the cabin air control as required.
4. Open the throttle to increase engine speed and minimize ice buildup on propeller blades.
5. Watch for signs of carburetor air filter ice and apply carburetor heat as required.
   An unexpected loss in engine speed could be caused by carburetor ice or air intake filter ice.
6. Lean the mixture for maximum RPM, if carburetor heat is used continuously.
7. Plan a landing at the nearest airport. With an extremely rapid ice build-up, select a suitable "off airport" landing site.
8. With an ice accumulation of 1/4 inch or more on the wing leading edges, be prepared for significantly higher stall speed.
9. Leave wing flaps retracted. With a severe ice build-up on the horizontal tail, the change in wing wake airflow direction caused by wing flap extension could result in a loss of elevator effectiveness.
10. Open left window and, if practical, scrape ice from a portion of the windshield for visibility in the landing approach.
11. Perform a landing approach using a forward slip, if necessary, for improved visibility.
12. Approach at 65 to 75 KIAS depending upon the amount of ice accumulation.
13. Perform a landing in level attitude.