This Flight Manual must be carried on board of the motorglider at all times.

This Flight Manual is FAA approved for U.S. registered gliders in accordance with the provisions of 14 CFR Section 21.29 and is required by FAA Type Certification Data Sheet No. …………………

Reg. No. ……………… Ser. No. …………………

Owner : …………………………………………………..
………………………………………………..
………………………………………………..

Austrian edition of operating instructions is approved under § 33 ZLLV, Bundesgesetzblatt 415, Aug 17 1983

Published Nov 15 1985 BAZ—approved on Nov. 22 1985

Approval of translation has been done by best knowledge and judgment. In any case the original text in German language is authoritative.
All manuals for the Hoffmann H 36 can be ordered from:

Hoffmann Aircraft, Richard — Neutra — Gasse 5, P.O. Box 100, A — 1214 Vienna / Austria

**WARNING**

This handbook should not be used for operational purpose unless it is maintained in a current status.
This handbook contains important information for the pilot!

This information is broken down into informative sections in the order shown below.

Section 0  ---------------  Revisions
Section 1  ---------------  General
Section 2  ---------------  Limitations
Section 3  ---------------  Emergency Procedures
Section 4  ---------------  Normal Procedures
Section 5  ---------------  Performance data
Section 6  ---------------  Weight and Balance/Equipment List
Section 7  ---------------  Motor Glider and Systems Descriptions
Section 8  ---------------  Aircraft Handling, Service & Maintenance
Section 9  ---------------  Supplements
Table of Contents
Section 1
General

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Introduction</td>
<td>4</td>
</tr>
<tr>
<td>1.2 Three view drawings</td>
<td>4</td>
</tr>
<tr>
<td>1.3 Description</td>
<td>5</td>
</tr>
<tr>
<td>1.4 Engine</td>
<td>5</td>
</tr>
<tr>
<td>1.5 Propeller</td>
<td>5</td>
</tr>
<tr>
<td>1.6 Approved Fuels</td>
<td>5</td>
</tr>
<tr>
<td>1.7 Approved Lubricants</td>
<td>6</td>
</tr>
<tr>
<td>1.8 Maximum Certified Weights</td>
<td>6</td>
</tr>
<tr>
<td>1.9 Symbols, Abbreviations and Terminology</td>
<td>6</td>
</tr>
</tbody>
</table>
1.1 Introduction:

This handbook contains material required to be furnished to the pilot by JAR 22. It also contains supplemental data supplied by the airframe manufacturer. Each section is divided by tab markers with Emergency Procedures tabbed in red.
1.2 Three View Drawings:

![Three View Drawings of Hoffmann H 36 DIMONA]

**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>16,0 Meters</td>
<td>(52 ft.)</td>
</tr>
<tr>
<td>Length</td>
<td>6,85 Meters</td>
<td>(22 ft.)</td>
</tr>
</tbody>
</table>
Wing Area: 15.20 m² (164 sq. ft.)

Wing Ratio: 16.8

Maximum Gross Weight: 770 kg (1698 lbs.)

Maximum Wing Loading: 50.7 daN/m² (10.38 lbs/sq. ft.)

Airfoil: Wortman FX 63-137

Engine: Limbach L 2000 EB 1.C (59 kw/80 hp, rated at 3,400 Rpm)

Propeller: Hoffmann Ho—V 62 R/L 160 T or L 160 BT

1.3 Description:

The Hoffmann H 36 DIMONA is a two seat motor glider constructed from glass fiber. Design features are unbraced wing, T-type stabilizer, fixed landing gear with steerable tail wheel. All three wheels are covered with fairings. Seating arrangement is side—by—side. Air brakes are provided in the wings upper surface. The aircraft is certified in accordance with JAR 22 in the UTILITY CATEGORY.

1.4 Engine:

Limbach L 2000 EB 1.C, Four cylinders, opposed, air-cooled, direct drive. The engine produces 59 KW/80 Hp at 3,400 RPM.

1.5 Propeller:

Hoffmann Ho—V 62 R/L 160 T or L 160 BT, two blade with a diameter of 160 cm (63 inches). The propeller has three pitch positions controlled by the pilot.

1.6 Fuel:

The approved fuels are Aviation Grade 100 LL or Automotive fuel ‘Super’. The capacity of the fuel tank is 83 liters (22 gal.). The total usable fuel is 83 liters (22 gal)
1.7 **Approved Lubricants:**

Automotive lubricants with SAE ratings compatible with the seasonal temperatures. Refer to Section 8, Servicing for lubrication usage chart.

**CAUTION**

*Under no circumstances should Aviation Grade oil be used!*

1.8 **Maximum Certified Weights:**

The maximum allowable take off weight is 770kg (1698 lbs.)

Maximum weight for non-lifting parts is 560 kg (1236lbs.)

1.9 **Symbols, Abbreviations and Terminology:**

- Liters: Ltr.
- Kilogramms: Kg
- Indicated airspeed: IAS
- Indicated airspeed in Knots: KIAS
- Maneuvering Speed: Va
- Max. speed in rough air: Vb
- Stalling Speed: Vso (Airbrakes retracted)
- Max. speed not to be exceeded: Vne (calm air)
- Max. speed with flaps extended: Vfe
- Stalling speed: Vsl (Airbrakes extended)
- Max. speed with airbrakes extended: Vle
Table of Contents
Section 2
LIMITATIONS

Paragraph:                                      Page
2.1   Category of Airworthiness                8
2.2   Permitted Operations                    8
2.3   Minimum Equipment                        8
2.4   Engine Limitations                      9
2.5   Oil Pressure                             9
2.6   Oil Temperature                          9
2.7   Cylinder Head Temperature                9
2.8   Voltmeter                                9
2.9   Airspeed Limitations and Load Factor Limits 10 - 11
2.10  Airspeed Indicator Markings             12
2.11  Crew Requirements                        12
2.12  Weights                                  12
2.13  Center of Gravity Limitations           13
2.14  Placards and Markings                   14 - 17
2. Operating Limitations

2.1 Category of Airworthiness

Utility (U) according to JAR 22
Certifications basis: JAR 22 (Joint Airworthiness Requirements for gliders and motorgliders) effective 15.3.82

2.2 Permitted Operations:

The H 36 DIMONA is certified for VFR flights. (Day)

Flights into known icing conditions are prohibited.

Approved aerobatic maneuvers are:
All aerobatic maneuvers inclusive spin and flights in clouds are forbidden.

2.3 Minimum Equipment:

1 Airspeed indicator
2.4 Engine Limitations

Engine Type: Limbach L 2000 EB 1C

RPM Limitations (Indicator Markings)

Maximum take off RPM (maximum 5 minutes) 59 KW (So hp.) 3,400 RPM

Maximum ambient atmospheric temperature +38° C (+100 F)

Maximum RPM (METO) 53 KW (72 hp.) 3,000 RPM
Red Line: 3,400 RPM

Caution Range - Yellow Arc 3,000 – 3,400 RPM

Operating RPM - Green Arc 700 – 3,000 RPM

**CAUTION**

Avoid RPM during cruise below 2300 min –1!

2.5 **Oil Pressure:**

- Maximum Oil Pressure (red line) 4 bar (55.8 psi)
- Minimum Oil Pressure (red line) 1 bar (13.9 psi)
- Operating Range (green arc) 1 - 4 bar (13.9 — 55.8 psi)

2.6 **Oil Temperature:**

- Maximum Oil Temperature (red line) 120 C (248 F)
- Operating Range (green arc) 50 - 120 C (122 — 248 F)
- Minimum Temperature (red line) 50 C (122 F)

2.7 **Cylinder Head Temperature:**

- Maximum Cylinder head temperature (red line) 250 C. (482 F)

2.8 **Voltmeter:**

- Maximum voltage with engine running: (red line) 14 VDC

2.9 **Airspeed limitations and load factor limits:**

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H 36 DIMONA

Limitations
Maximum allowable airspeed (calm air)

Vne  275 km/h  149 kts  170 mph

Maximum allowable airspeed (turbulent)

Vb   210 km/h  113 kts  130 mph

Maneuvering speed

Va   176 km/h  35 kts  109 mph

Maximum speed with airbrakes extended

Vle  275 km/h  149 kts  170 mph

Stall speed with airbrakes extended

Vsl  70 km/h  38 kts  44 mph

Stall speed with airbrakes retracted

Vso  70 km/h  38 kts  44 mph

Load Limit Factors:

The following accelerations may not be exceeded (airbrakes retracted, normal maneuvers)

At Maneuvering speed:  + 5.3  - 2.65
At Maximum speed, Vne:  + 4.0  - 1.5

CAUTION

When flying in areas where turbulent weather may be encountered i.e. thunder clouds, wind rotors, standing waves and mountainous terrain, airspeeds between 210 — 275 km/h (113 - 149 kts) are to be avoided (Caution range in yellow colour on the Airspeed indicator)
To reduce the risk of encountering control flutter at Vne the following table should be used to determine Vne at various altitudes.

<table>
<thead>
<tr>
<th>ALTITUDE (m) 0 – 2000</th>
<th>0 - 6500</th>
<th>3000</th>
<th>4000</th>
<th>5000</th>
<th>6000</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ft) 0 - 6500</td>
<td></td>
<td>10000</td>
<td>13000</td>
<td>16500</td>
<td>20000</td>
</tr>
<tr>
<td>Vne (km/h)</td>
<td>275</td>
<td>259</td>
<td>246</td>
<td>233</td>
<td>221</td>
</tr>
<tr>
<td>(kts) 149</td>
<td>140</td>
<td>133</td>
<td>126</td>
<td>119</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**

Maneuvering speed (Va) is the maximum speed at which application of full available aerodynamic control will not overstress the airplane. Increasing altitude increases True Air Speed (TAS).

**Indicated Airspeed Errors**

The following table illustrates airspeed errors (IAS) due to positioning of the pitot pressure and pitot static sources.

Pitot and Static Pressure source: Leading edge Horizontal Stabilizer.
Hoffmann
H 36 DIMONA

Limitations

2.10  **Airspeed Indicator Markings (IAS):**

Red Line  (Maximum allowable Airspeed)
275 km/h  149 kts  170 mph

Yellow arc  (Caution range)
210 — 275 km/h  113 — 149 kts  130 — 170 mph

Green arc  (Normal range)
73 — 210 km/h  42 — 113 kts  48 — 130 mph

Yellow Triangle (approach speed)
95 km/h  51 kts  59 mph

Blue Line (Best climb Airspeed)
95 km/h  51 kts  59 mph

**CAUTION**

Airspeed for the best climb Ratio is:
85 km/h  46 kts  53 mph

2.11  **Crew:**

Minimum Crew — One Person (min. weight 70 kg = 155 lbs)

**CAUTION**

Solo flights may be conducted from the left seat only!

2.12  **Weights:**
Empty Weight: refer to section 6—3, Weighing report

Max. Gross Weight: 770 kg 1698 lbs

Min. Wt. in pilots seat (incl. parachute) 70 kg 135 lbs

Max. Wt. in each seat (incl. parachute) 110 kg 243 lbs

Max. Wt. in baggage compartment 12 kg 27 lbs

CAUTION

Do not overstep the maximum payload stated on p.43

For more detailed loading information refer to section 6, Weight and Balance/Equipment list.

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H 36 Dimona

3.13 Center of Gravity Limitations

The Center of Gravity ranges are:

Forward: 270 mm aft of leading edge, wing root rib

Aft

Up to 740kg:
385 mm aft of leading edge, wing root rib

At 770kg
370 mm aft of leading edge, wing root rib

Between 740 and 770 kg
linear run between
370 and 385 mm

For more detailed Center of Gravity information refer to section 6, Weight and Balance/Equipment list.
2.14 Placards:

Translation of original placards in German language:

<table>
<thead>
<tr>
<th>German</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gepack max 12 kg</td>
<td>Baggage max 12 kg</td>
</tr>
<tr>
<td>Storklappen - Radbremsen</td>
<td>Airbrake .. Wheel brake</td>
</tr>
<tr>
<td>Vollgas-Gas-Leerlauf</td>
<td>Full - throttle - idle</td>
</tr>
<tr>
<td>Brandhahn</td>
<td>Fuel shut off valve</td>
</tr>
<tr>
<td>auf ... zu</td>
<td>open - closed</td>
</tr>
<tr>
<td>ein ... aus</td>
<td>on ... off</td>
</tr>
<tr>
<td>Luftung</td>
<td>Cabin Air</td>
</tr>
<tr>
<td>Heizung</td>
<td>Cabin Heat</td>
</tr>
<tr>
<td>Zündung</td>
<td>Ignition</td>
</tr>
<tr>
<td>Kraftstoffpumpe</td>
<td>Fuel pump</td>
</tr>
</tbody>
</table>
Hauptsicherung - Main fuse
Kopflastig .. Trimmung - Nose down .. trim
Schwanzlastig - nose up
Haubennotabwurf - Canopy emergency jettison
Parkbremse .. - Parking brake
Choke - Choke

Text and position of placards in English language:
see following pages.
Canopy Jettison and Emergency Exit

Purl both RED handles on Canopy frame AFT

Push Canopy up and away

Release safety harness

Stand up and exit aircraft from

left or right sides respectively

When using a manual parachute

Release, wait 2 seconds prior to pulling D—ring.

On lower center console

Airspeed Limits | km/h | kts | mph
--- | --- | --- | ---
Never Exceed VNE | 275 | 149 | 170
Rough Air Vb | 210 | 113 | 130
Maneuvering Va | 176 | 95 | 109
max Gross Weight lbs | 770 | 1698
min Payload (in pilot seat) lbs | 70 | 154
max Payload (in any seat) lbs | 110 | 245
Baggage Maximum lbs | 12 | 26.5
max Payload see Flight manual page 43

Below Canopy Frame Left side

Altitude in ft. 0 - 6500 | 10,000 | 13,000 | 16,500 | 20,000 | Below Canopy Frame Left Side
--- | --- | --- | --- | --- | ---
Vne (KIAS) | 140 | 133 | 126 | 119 |

Labels on operating Handles Upper Centre Console

Nose up — Trim — Nose down

Next to operating Handle

Parking brake — Pull Air Brake
Lever then move parking brake
lever aft

Baggage Maximum
12 kg  26.5 lbs

In Baggage compartment

Hoffmann

H 36 DIMONA Limitations

Fuel Shut Off
Open ------  Closed

Center Console

CAUTION
CANOPY MUST BE CLOSED AND LOCKED BEFORE STARTING ENGINE

Oil Temp.

Oil Pressure

Cylinder Head Temp.

Ignition  ON  OFF

Starter

Main Switch  ON  OFF

next to applicable switch

Fuel Pump  ON  OFF

Main Fuse

Propeller Pitch
2200 RPM ------
Take Off and Cruise
------  1200 RPM
Feather

Next to Propeller Control knob

Strobe Light

Landing Light
Intercom
Position Lights
Instrument Lights

Next to applicable switch
when installed as optional equipment

Tire Pressure
2,1 bar
30 PSI

Outboard side of wheel fairings
Hoffmann
H 36 DIMONA

Limitations
Table of Contents

Section 3
### EMERGENCY PROCEDURES

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Stalls, Power on</td>
<td>10</td>
</tr>
<tr>
<td>3.2</td>
<td>Stalls, Power off</td>
<td>19</td>
</tr>
<tr>
<td>3.3</td>
<td>Spin Recovery</td>
<td>19</td>
</tr>
<tr>
<td>3.4</td>
<td>Engine failure during Take—Off</td>
<td>20</td>
</tr>
<tr>
<td>3.5</td>
<td>Engine failure in flight</td>
<td>21</td>
</tr>
<tr>
<td>3.6</td>
<td>Emergency Landing</td>
<td>21</td>
</tr>
<tr>
<td>3.7</td>
<td>Icing</td>
<td>21</td>
</tr>
<tr>
<td>3.8</td>
<td>Carburetor Icing</td>
<td>21</td>
</tr>
<tr>
<td>3.9</td>
<td>Water Landings</td>
<td>21</td>
</tr>
<tr>
<td>3.10</td>
<td>Engine fire during flight</td>
<td>22</td>
</tr>
<tr>
<td>3.11</td>
<td>Electrical fire during flight</td>
<td>22</td>
</tr>
<tr>
<td>3.12</td>
<td>Canopy Jettison, Aircraft exiting during flight</td>
<td>22</td>
</tr>
</tbody>
</table>

#### 3.1 Stalls, Power On:

On coming stall warning can be recognized by buffeting on the aircraft and a loss of positive control in the stick and pedals. If permitted to continue, the aircraft will stall and roll over on the stalled wing. A
spin may result. When buffeting is encountered relax back pressure on the stick, and if available, add power. Recovery from a clean stall will result in an altitude loss of about 40 meters (130 ft)

3.2  **Stalls, Power Off, Prop Feathered:**

On coming stall warning is buffeting as with power on, however, the aircraft will not roll on a wing and can be held level with aileron and rudder control. The aircraft will sink vertically at a rate of 700 fpm. Stall recovery in this mode is to relax back pressure on the stick.

3.3  **Spin Recovery:**

Reduce power and push control stick full forward. Apply full rudder opposite to spin rotation. Recover smoothly from the dive.

**CAUTION**

The aerodynamic clean form or the DIMONA permits speed to build up rapidly. Vne must not be exceeded. Immediate spin recovery will result in an altitude loss of 280 ft.

**CAUTION**

if, under unfavorable circumstances with engine idle a flat spin will result, recover immediately as above but add power.
3.4 Engine Failure during Take-Off:

Check immediately

<table>
<thead>
<tr>
<th>Component</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel valve</td>
<td>ON position</td>
</tr>
<tr>
<td>Fuel pump</td>
<td>ON position</td>
</tr>
</tbody>
</table>

If these are not the cause of engine failure, and the altitude is less than 300ft, land straight ahead. If more than 300 ft altitude are available, a 180° turn in the glider mode can be made. The propeller should be feathered to reduce drag.
3.5. **Engine Failure during flight:**

Check immediately:
- Fuel Valve - ON position
- Fuel pump - switch ON

If the engine does not start or run, feather prop and establish a glide. Best glide ratio will be accomplished at an airspeed of 105 km/h (57 kts).

3.6 **Emergency Landing:**

Choose a suitable field while altitude is available. Once you have made your decision, stick to it! Observe wind direction and on final approach position the aircraft to land into the wind. Attempt to land to a point with minimum ground roll. Prior to touchdown, all switches - OFF.

Should engine power still be available, the selected landing site should be surveyed while airborne to see if obstacles exist.

After landing - Throttle - Closed, all switches - OFF.

3.7 **Icing**

Attempt to leave the icing area as soon as possible.
If necessary, change altitude to escape icing layer.
Continue to move controls to prohibit lockage from ice.
When the canopy is iced over, the weather window may be opened.
3.8 Carburetor Icing

Throttle - FULL POWER.
Attempt to leave icing area as soon as possible, if necessary, change altitude.

3.9 Water Landing:

Stop engine and feather propeller. On final approach jettison canopy. Land with minimum airspeed. On touchdown protect your face with the left arm. After touchdown release seat harness and exit aircraft.

3.10 Engine fire during flight:

Throttle - full power
Fuel Valve - OFF
Cabin Heat - Push
Cabin air - Pull
Ignition - OFF when engine Stops
Slipping the aircraft can keep smoke and flames from the cockpit
Execute normal landing from a glide

3.11 Electrical Fire during flight:

Main Switch - OFF
Circuit breakers - PULL OFF

The engine will continue to run. Land as soon as practical or at the next airfield
3.12 Canopy Jettison - Aircraft exiting during flight:

With engine running - Throttle CLOSED
Ignition OFF

With engine stopped - Prop feathered - Turn prop feather handle to START

Red Canopy locks, left and right - swing AFT

Place both hands above your head against canopy - PUSH

Release safety harness, evacuate the aircraft, left and right When using a manual parachute release, wait two seconds before activating parachute.
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6</td>
<td>Before starting Engine</td>
<td>28</td>
</tr>
<tr>
<td>4.7</td>
<td>Starting Engine</td>
<td>29</td>
</tr>
<tr>
<td>4.8</td>
<td>Before Take-Off check</td>
<td>30</td>
</tr>
<tr>
<td>4.9</td>
<td>Take-Off and Climb</td>
<td>30</td>
</tr>
<tr>
<td>4.10</td>
<td>Cruise</td>
<td>31</td>
</tr>
<tr>
<td>4.11</td>
<td>Engine Shut-Down and Restart in flight</td>
<td>31</td>
</tr>
<tr>
<td>4.12</td>
<td>Soaring</td>
<td>31</td>
</tr>
<tr>
<td>4.13</td>
<td>Permitted Aerobatic Maneuvers</td>
<td>32</td>
</tr>
<tr>
<td>4.14</td>
<td>Descent and Approach</td>
<td>33</td>
</tr>
<tr>
<td>4.16</td>
<td>Engine Shut-Down</td>
<td>33</td>
</tr>
</tbody>
</table>
4.1 Cockpit Layout and Controls Illustration:
1 - stick
2 - airbrake lever
3 - throttle
4 - trim
6 - fuel shut off valve
7 - parking brake
8 - Rudder pedal adjustment
9 - cabin air
10 - cabin heat
11 - choke
12 - Propeller lever
13 - Ignition switch
14 - Starter button
15 - main switch

4.2 Instrument Console Layout:

16. - airspeed indicator
17 - altimeter
18 - climb speed indicator
19 - COM/AVIONIC
20 - cylinder head temp.
21 - oil temp
22 - oil press
23 - voltmeter
24 - fuel
25 - RPM indicator & hour-meter
4.3 **Lower Console Layout:**

2 - airbrake
3 - throttle
5 - trim
6 - fuel shut off valve
7 - parking brake

4.4 **Preflight Inspection:**

(The areas where these visual checks are to be performed are illustrated in 4.5 “Walk around Guide”).

1. **Ignition OFF - Main Switch OFF**

2. **Open engine cowling - CHECK:**
   - Oil Level
   - Security of engine controls
   - Engine and engine parts for security and damage
   - Foreign objects in engine compartment
   - Close engine cowling

3. **Main Landing Gear - CHECK:**
   - For excessive wear, cuts, abrasions
   - Wheel fairings for condition and security
   - Tire Pressure 2.1 bar (30 psi)

4. **Right Wing - CHECK**
   - Fibre Glass Skin for damage or cracks
   - Ailerons and push pull tubes for security and condition
   - Air Brakes and torque tube for security and condition
   - Wing Tip and position light for security and condition

5. **Aft Fuselage - CHECK**
   - Fibre Glass Skin for damage or cracks
6. Elevator and Horizontal Stabilizer - CHECK:
   Fiber Glass Skin for damage or cracks
   Excessive play in mounting tugs
   Mounting tugs safetied?

7. Rudder and Fin - CHECK:
   Fiber Glass skin for damage or cracks
   Excessive play in mounting tugs
   Rudder connected?
   Remove Pitot tube covert

8. Tailwheel assembly - CHECK:
   Fairing for condition
   Tire pressure 2.1 bar (30 psi)

9. Left wing - CHECK:
   Perform same check as right wing

10. Fuel Tank Drain - CHECK:
    Drain for two seconds. Inspect for dirt or water

11. Cockpit - CHECK:
    Wing quick disconnects LOCKED?
    Controls for freedom of movement
    Required documents
12. **Latching hook — CHECK:**
   Hooks hooked into links and secured?

---

**4.5 Walk around guide:**

---

**4.6 Before starting engine:**
1. Canopy ---- ---- LOCKED
2. Rudder Pedals -------- ADJUSTED
3. Fuel Shutoff Valve -- OPEN
4. Controls -------- FREE
- 5. Airbrake -------- Extend — Retract
6. Parking Brake -------- ON
7. Prop Control ------ MOVE ONE CYCLE
8. Altimeter -------- SET
9. Master Switch ------ ON
10. Fuel Quantity -------- CHECK
11. Baggage ------------ SECURE
12. Seat Harness -------- ON and LOCKED
13. Canopy ----------- RECHECK LOCKED

4.7 Starting engine:

1. All Switches except Master -------- OFF
2. Choke --------------------------------- PULL
3. Throttle -----------------------------OPEN ONE INCH
4. Boost Pump ------------------------------ ON
5. Ignition ------------------------------ ON
6. Propeller Area Clear ------------------- CHECK
7. Starter Button ------------------------ PRESS

After engine starts release starter button. Adjust throttle to 1000 RPM. When engine is running smoothly - close the choke.

8. Oil Pressure ------------------------------ CHECK
   Oil pressure should be in Green Range in 10 seconds
9. Voltmeter ------------------------------ CHECK for 14 VDC
10. Radio and Nav. Equipment --------- ON after Engine runs

Allow engine to run for two minutes at 1000 RPM, then increase RPM to 1500 until the oil temperature indicates 50° C. The 1500 RPM phase can take place during taxiing.
4.8 Before Take-Off Check:

1. Parking Brake ----------- ON
2. Throttle------------- OPEN to 2200 RPM
3. Propeller Lever-------- PULL and RELEASE
   The propeller should now change to Cruise pitch
4. Throttle ------------- OPEN --MAX POWER MAX RPM 2300!
5. Throttle ----------- IDLE RPM
6. Propeller Lever -------- PULL AND RELEASE
   The propeller should now switch back to Take-Off position
7. Throttle ----------- OPEN --- MAX POWER—— RPM 2700 - 2900

CAUTION

If the RPM setting is not obtained repeat steps 5 and 6. If a take-off is attempted with the propeller in cruise position, a significantly longer take-off roll will result!

4.9 Take—Off and Climb:

1. Parking brake --- release
2. Fuel pump --- on
3. Line up in Position
4. Trim --- SET
5. Throttle FULL POWER (Not less than 2700 RPM)
6. Control Stick --- Light forward pressure, steer with rudder at about 80 km/h (50 mph). The aircraft will fly itself from the runway.
7. Controls & Trim ----- ADJUST to obtain climb speed of 95 km/h (59 mph) (Blue line)
8. Fuel Pump ——— At 350 feet ———OFF
9. Engine instruments - CHECK
4.10  **Cruise:**

To change propeller position from Take—Off to Cruise the RPM must be between 2000 and 2200. Pull and release the propeller control. A 500 RPM drop should occur without throttle adjustment. The throttle can then be opened for Cruise power (2500 - 3000 RPM) as required.

**NOTE**

In the cruise mode the throttle can be reduced by 1/3 for fuel economy without a noticeable loss of airspeed.

4.11  **Engine Shut-down and Restart in flight:**

**SHUT-DOWN**

1. Throttle  ---------------------------- Close to IDLE (for 2 minutes)
2. All electrical equipment not needed ---- OFF
3. Ignition  -------------------------- OFF
4. Propeller control  ------------------ PULL - TURN LEFT

The propeller is now feathered and the wind-milling effect on the engine will cease.

**RESTART**

1. Choke (with cold engine)  --------- PULL
2. Ignition  ------------------------- ON
3. Propeller Control  --------------- TURN TO START POSITION

The wind-milling effect should cause the engine to start. Should the speed not produce the wind-milling use the starter to effect RPM.
4. **Throttle**  
----------------------  
**IDLE** (until oil temperature indicates 500 °C).

To return to cruise flight the propeller control must be again set as in Par. 4.10.

4.12 **Soaring:**

When updrafts are encountered reduce power to idle. If positive vertical velocity, shut off engine as in Par. 4.11.

Circle climb while maintaining a speed of 90—95 km/h (56—60 mph). To return to powered flight refer to Par. 4.11.

4.13 **Permitted Aerobatic Maneuvers:**

ALL AEROBATIC MANEUVERS INCLUSIVE SPIN AND FLIGHTS IN CLOUDS ARE FORBIDDEN
4.14 Decent and Approach:

Decent with power as required to obtain 180 km/h (112 mph). When entering pattern the propeller should be switched to START position. When turning base leg reduce power to bring the RPM under 1500 RPM. On final electric Boost Pump - ON, Airspeed — 95 km (60 mph), Yellow Triangle.

4.15 Landing:

Airspeed — Reduce
Airbrakes - as required  
Throttle - Closed  
Touchdown - Back pressure on stick to produce 3 point attitude

CAUTION

Do not apply full airbrake at touchdown. The coupling with the brake system will result in landing with blocked wheels!

4.16  Engine Shut-Down:

Parking Brake --------------- As required  
Throttle ------------------ Closed (idle engine for 2 minutes for cooling)  
Radios and NAV. Equipment ---- Off  
Electrical Switches ----------- Off  
Ignition ----------------- Off  
Master switch --------------- Off

CAUTION

If, due to taxiing the brakes have been used excessively, over-heating may result. Do not set the parking brakes until the brakes have cooled.
4.17 Slip:

4.17.1 Entry and Recovery:

Slip is practicable from 80 km/h (43 kt) (50 mph) to 120 km/h (65 kt) (75 mph).

— Throttle idle
— Apply aileron control in direction of intended slip.
— Apply opposite rudder simultaneous.
— To maintain desired airspeed apply aft stick.
— Use airbrakes additionally if required.

Recover:
— Reset controls in neutral position.

4.17.2 Characteristics:

Yaw up to 35* and bank up to 10* are practicable with full rudder and suitable aileron control. High yaw angles require extensive elevator deflections up to the rear stop of the stick.

NOTE

Stall is not possible in the slip. At rear C.G. positions, nose pitches down slowly. Speed after recovery is not less than 80 km/h (43 kt) (50 mph).

Rates of descent from 3 m/s (600 ft/mm) to 8 m/s (1600 ft/mm) are attainable dependent on airspeed and yaw.
Hoffmann

H 36 DIMONA

Slip

4.17.2 Characteristics cont.: 

At low airspeeds and high yaw angels rudder control force reversal may occur. Recover force does not exceed 20 N (4 pounds). If aileron control is reset to neutral, rudder returns to neutral without assistance.

**NOTE**

Bank angels above 10° cause a turn in slip direction. Airspeeds above 120 km/h (65 kt) (75 mph) cause the same effect.

**CAUTION**

Due to high rates of descent recover from slip at least 20 m (60 ft) above ground level.

4.17.3 Indicated Airspeed Errors:

At yaw angels below 25° indicated airspeed error does not exceed 12% of CAS.

At higher yaw angels airspeed indication is no longer interpretable due to wing wake on the pitot static tube.
<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Take—Off Distances</td>
<td>35</td>
</tr>
<tr>
<td>5.2</td>
<td>Landing Distances</td>
<td>36</td>
</tr>
<tr>
<td>5.3</td>
<td>Rate of Climb</td>
<td>36</td>
</tr>
<tr>
<td>5.4</td>
<td>Cruise Speed</td>
<td>36</td>
</tr>
<tr>
<td>5.5</td>
<td>Range</td>
<td>36</td>
</tr>
<tr>
<td>5.6</td>
<td>Fuel Consumption</td>
<td>36</td>
</tr>
<tr>
<td>5.7</td>
<td>Maximum Altitude</td>
<td>37</td>
</tr>
</tbody>
</table>
5.1 Take-Off Distance:

All figures are based on ICAO standard atmosphere, Gross Weight of 770 kg (1698 lbs). Airfield conditions: calm wind, dry flat surface with short grass.

Take-Off speed: 80 km/h IAS (50 mph)
Climb speed: 85 km/h IAS (53 mph)

<table>
<thead>
<tr>
<th>Field</th>
<th>Outside Air Temp. C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elev.</td>
<td>-15</td>
</tr>
<tr>
<td></td>
<td>185</td>
</tr>
<tr>
<td>m</td>
<td>607</td>
</tr>
<tr>
<td>ft</td>
<td></td>
</tr>
</tbody>
</table>
5.2 Landing Distances:

All figures are based on ICAO atmosphere, Gross Weight of 770 kg (1698 lbs).

Hoffmann

H 36 DIMONA Performance Data
Airfield conditions: Calm wind, dry, flat surface, with short grass.

Approach speed - 95 km/h (60 mph) Yellow Triangle Marking
Touchdown speed - 70-75 km/h (44 -46 mph)

Landing Roll - 198 mtr (643 ft)
Landing Distance (over 50 ft obstacle) 378 mtr (1,228 ft)

5.3 Rate of Climb:

Rate of climb, propeller in START position
95 km/h (60 mph) IAS 2.8 m/s 532 fpm

Rate of climb, propeller in CRUISE position
120 km/h (75 mph) IAS 2.0 m/s 394 fpm

5.4 Cruise speed:

At maximum continuous RPM (3000 RPM)

Straight and Level Flight - 190 km/h (118 mph)

5.5 Range:

At a cruise speed of 180 km/h the range is 960 km (with no reserve).
Wind factor is not considered.

At a cruise speed of 150 km/h at an altitude of 1,500 mtr (5000 ft) the range is 1000 km (with no reserve).
Wind factor is not considered.

5.6 Fuel Consumption:

At an altitude of 1,500 m (5.000 ft) the fuel consumption is:

<table>
<thead>
<tr>
<th>Speed (km/h)</th>
<th>Fuel Consumption (l/h)</th>
<th>Fuel Consumption (US Gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>12</td>
<td>3.16</td>
</tr>
<tr>
<td>180</td>
<td>15</td>
<td>3.95</td>
</tr>
</tbody>
</table>

CAUTION
The fuel quantity indicator has an error factor of ± 10 %. Take-Off with less than 1/4 tank indication is prohibited!
5.7 **Maximum Altitude:**

Aircraft weight; 770 kg, ICAO standard atmosphere.

The DIMONA has demonstrated the ability to climb to 5,500 m NN (18,045 ft).
## Table of contents

**Section 6**

**WEIGHT AND BALANCE**

**EQUIPMENT LIST**

<table>
<thead>
<tr>
<th>Paragraphs</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 Empty Weight</td>
<td>39</td>
</tr>
<tr>
<td>6.2 Reference Datum Line and CG Limits</td>
<td>39-42</td>
</tr>
<tr>
<td>6.3 Weight Report</td>
<td>43</td>
</tr>
<tr>
<td>6.4 Minimum Equipment List (incl. in fleet weight)</td>
<td>44</td>
</tr>
<tr>
<td>6.5 Additional Equipment list</td>
<td>44</td>
</tr>
</tbody>
</table>
6.1 Empty Weight:

The DIMONA is weighed at the factory after the minimum equipment and extra accessories have been installed. The weight and the empty weight CG is entered upon the weight report found in Par. 6.3. Should, at some time the aircraft be repaired, or additional equipment added, the aircraft should be reweighed to adjust the weight report accordingly. After removing or adding equipment a sample weight & balance problem should always be performed to insure the CG limits have not been exceeded.

6.2 Reference Datum Line (RDL) and CG Limits:

The reference datum line (RDL) is the leading edge of the wing at the wing root rib. The aircraft leveling point is the underside of the wing, mid chord. The CG Limits are measured in mm from the RDL aft.

- Forward CG Limit: 270 mm
- Aft CG Limit
Up to 740 kg: 385 mm
At 770 kg: 370 mm

Between 740 and 770 kg linear run between 385 and 370 mm.

Sample Problem:
Pilot 80 kg, Co-Pilot 100 kg,
Baggage 10 kg, Empty Weight 520 kg
Empty Weight CG 340 mm, Fuel 80ltr/57.6kg

<table>
<thead>
<tr>
<th>Arm</th>
<th>Weight</th>
<th>Moment (kg/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Weight</td>
<td>340</td>
<td>520</td>
</tr>
<tr>
<td>1. Pilot</td>
<td>143</td>
<td>80</td>
</tr>
<tr>
<td>2. Pilot</td>
<td>143</td>
<td>100</td>
</tr>
<tr>
<td>Baggage</td>
<td>834</td>
<td>10</td>
</tr>
<tr>
<td>Fuel</td>
<td>834</td>
<td>57.6</td>
</tr>
</tbody>
</table>
The result of the above problem places the CG at 337.3 mm which is within the allowable range. An additional problem may be calculated, for example, that all the fuel is consumed and the aircraft will continue to fly and land as a glider. By removing the 57.6 kg of fuel and the moment, the resultant CG will be 297 mm, still within the allowable CG range.
Empty weight CG limits:

With a min. weight of 70 kg (155 lbs) in pilot’s seat, the CG will be within the allowable range, if the empty weight CG is within the limits shown below:

Empty weight CG
(mm aft of RDL)
Determination of empty weight CG position:

Put \( x_1 \) and \( x_2 \) with their absolute value in mm into the formula

\[
x_L = \frac{x_2 \cdot \sigma_2 - x_1 \cdot \sigma_1}{\sigma_1 + \sigma_2} \quad [\text{mm}]\]

where:

\( X_L \) is the empty weight CG position in mm aft of RDL (reference datum line).
### Weighing Report

<table>
<thead>
<tr>
<th>Date of weighing carried out by:</th>
<th>Equipment first used for weigh (date)</th>
<th>Empty weight kg (lbs)</th>
<th>Empty C of G (behind datum) mm/in.</th>
<th>Empty weight moment</th>
<th>Max. Payload kg (lbs)</th>
<th>Sign</th>
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The empty weight momentum is necessary to calculate the CG for flight (load table)
6.4 **Minimum equipment List:**

The minimum installed equipment, installed at the factory consists of the following:

1. Airspeed indicator  
2. Altimeter  
3. RPM indicator with hour-meter  
4. Oil Pressure Indicator  
5. Oil Temperature Indicator  
6. Cylinder Head Temperature Gauge  
7. Fuel Quantity Indicator  
8. Voltmeter  
9. Standby Compass  
10. Two seats, restraint harness  
11. Loading Plan  
12. Data Plate  

6.5 **Additional Equipment List:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Arm (mm)</th>
<th>weight (kg)</th>
<th>Moment (kg/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<td>8.</td>
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</table>
SECTION 7

7.1 Cockpit Description:

1. Instrument board:

Is in three sections, the flight instruments are on the left, engine' instruments on the right, and tilted for better viewing. The center console is for the installation of COM and NAV equipment. The main switch ON position is down and OFF when turned to the right.

2. Control Stick:

One stick for each seat, with built-in microphone switch.

3. Air Brakes:

The airbrake levers are colored blue and are on the left cockpit side and the middle console. The levers have no down lock due to spring loading.

4. Rudder Pedals:
Two seats, left and right. Pulling the adjusting handle forward of the control stick, and pushing with the feet against the pedals permits forward adjustment. To move pedals aft, pull handle and let pedals snap into the desired rear position.

5. Cockpit Heat:

Pulling the knob permits heat entry thru the cabin heat duct.

6. Choke:

The choke knob closes butterfly valves in both carburetors thru cables. It must not be used to shut down the engine, and under no circumstances should a takeoff be attempted when the choke knob is activated!

7. Throttle Lever:

The throttle lever is on the lower middle console next to the Air Brake Lever. Full throttle = Lever full forward.

8. Trim:

The trim lever (coloured green) is behind the throttle on the middle lower console. To effect trim move lever to the left to clear locking lugs and move in desired trim direction, i.e. lever forward — nose down, lever aft — nose up.

9. Parking Brake:

Is located next to the trim lever on the lower middle console. To engage parking brakes pull firmly on the air brake lever, and move then park brake lever aft. Release air brake lever. To release the park brake, again pull firmly on the air brake lever and move the park brake lever forward. Pulling on the airbrake lever alone will not engage or disengage the brakes, and will damage the partening brake mechanism!

9. Canopy Lock:

Are red levers located left and right on the canopy frame. To close the canopy push shut with the black grips located on the canopy frame, then turn the red levers to lock the canopy. To open the canopy reverse the sequence.

10. Emergency jettison:
The red levers are located left and right on the canopy frame. Use review Emergency Procedures, Par. 3.12.

11. Propeller Control:

The propeller control lever is on the upper middle console. For use review Normal Operations, Par. 4.8.

12. Fuel Shut-Off:

Located on the lower rear, middle console. The valve is open when positioned to line of flight (fore and aft).

13. Seat Adjustment (special equipment)

To adjust for height, pull seat up and reset in lugs to the desired height. To adjust for tilt, seatback pulled forward, and reset the horizontal tube in the desired lugs. Push seat back to original position.
8.1 AIRCRAFT ASSEMBLY:

1. Inspect all bolts and bushings for condition and apply a light coat of grease.

- WINGS -

2. Move the trim lever to full NOSE DOWN position Open latching — hooks.

3. Place the mounting lever on the mounting lug, located in the rear middle console

4. Unhook the wing (either wing) from its hanging mount. By holding it by the wing tip pull the wing outboard on its carrying tube

5. Then walk forward until the wing is 90° from line of flight

6. Rotate the wing until the root ribs are parallel and push wing into fuselage. An assistant at the wing trailing edge should observe the smooth insertion of the two shear bolts. Let latching-hooks snap into links!

7. Move the wing tip up and down lightly while the assistant locks the main mounting bolt by pushing up on the mounting lever. The aileron and airbrake drive units are automatically hooked up.

8. Install the other wing in a similar manner. The wide tread of the DIMONA landing gear allow the mounted wing to support itself and it requires no outside support.
9. After both wings have been mounted remove the mounting lever and install the safety clip in the
main mounting bolts.

- HORIZONTAL FIN & ELEVATOR-

1. Position Fin above Vertical Fin

2. Raise Elevator slightly and firmly, push fin aft against the stop

3. As you push the fin aft guide the elevator drive fork into the elevator lug

4. Lock safety pin

- FINAL ASSEMBLY -

1. Plug in compensation nozzle - if desired

2. Apply tape, if desired to gap between wing and fuselage

CAUTION
Check elevator control for proper connection and inspect elevator actuator inserted in driving fork
8.2 AIRCRAFT DISASSEMBLY:

1. Aircraft disassembly is performed by reversing the steps outlined in 8.1

8.3 TRANSPORTING THE AIRCRAFT:

1. For road transportation a closed trailer should be used. The components should be cushioned and protected against slippage or free movement. Chocks for all three wheels are excellent for this purpose.

2. The fuselage is transportable on the main gear and tail wheel. The fuselage unit should be tied down or blocked to prevent fore and aft and vertical movement. The propeller should be checked to insure enough clearance in the trailer.

3. The wings do not have to be removed for road transportation. The wing remains attached to the fuselage by the telescopic tube. When folded, the wing should be cushioned by a 400 mm wide profile cushion under the butt rib. This will prevent the telescopic tube from damage. An additional profile cushion should be placed about 4 in (13 ft) outboard of the butt rib. The cushion should be at least 300 mm (14 in) high.

The wing should be tied down to prevent rearward movement. The rear shear bolt on the fuselage should be padded to prevent damage to the wing skin.

The horizontal fin and elevator can be placed in the trailer flat or vertically. The retaining straps or profile cushions must be cushioned or padded to prevent damage to the unit.
8.4 STORAGE:

For hangar storage the wings can be folded as in Par. 8.2. The wing tips can be hung from the horizontal fin with the provided support fixtures. The rear shear bolts on the fuselage should be padded to protect the wing skin.

Should the aircraft be placed in extended storage, it is recommended that profile cushions be placed under the wing as in Par. 8.3.3.

The storage room or hangar should have good air circulation in order to preclude moisture build-up.

8.5 CLEANING THE AIRCRAFT:

The entire surface of the DIMONA is painted with a weather proof two component paint. Regardless, the aircraft should be protected against excessive moisture or dampness. The aircraft should not be placed in open or unprotected storage for long periods of time.

Dirt, insects etc. can be removed by washing, using warm water and a mild detergent. For stubborn spots an automotive paint cleaner can be used. For best result the aircraft should be cleaned after the day’s flying is ended.
The lower fuselage surfaces should be inspected for oil and exhaust stains. These can be removed with a cloth moistened with Stoddard solvent or dry cleaning fluid. The areas where oil is present, i.e. breather tubes should be inspected to insure that the oil has not damaged the paint finish.

Polishing the aircraft can be done by using a good quality automotive wax. The Plexiglas canopy should be washed with warm water and a mild detergent. Final cleaning is done with a chamois or a soft cotton cloth. Do not rub or polish dry plastic!

Several good anti-static plastic cleaners are available at Aviation Supply Houses, and can be used.