
The
WORKMASTER
Workmaster
G-APMH
by Auster

IN AGRICULTURE

Aerial spraying and dusting is now an accepted aid to modern farming, and the increasing number of aircraft used has led to the need for aircraft to be specially developed for the job. Auster Aircraft Ltd., have built agricultural aircraft for over a decade and during this time have gained much first-hand experience in their design and production.

To a specification evolved by one of Europe's largest operators of agricultural aircraft, Auster have now produced the WORKMASTER —a rugged weight-lifter with a capacity and performance well in advance of any similarly powered aircraft.

The welded-steel airframe, well-proven in all climates, has been retained. Maintenance time and costs are greatly reduced by the positioning of access panels at all major servicing points, whilst easy repair is assured by the use of a fabric covering. Exceptionally tough lift-struts and attachments accommodate the high all-up-weight at which the aircraft is designed to fly.

Many new features are built into the WORKMASTER to increase its work capacity and protect its pilot. Closely linked with these is the exclusive cabin arrangement which accommodates both the pilot and a 100 Imperial Gallon spray tank—plus a second passenger seat.

PERFORMANCE

Workmaster operators will find its abundant power quickly leads to bigger profit margins through a greater work capacity. The 180 h.p. Lycoming motor and the Workmaster's specially developed propeller not only enables the 100 Gallon load to be carried with ease, but leaves power to spare, giving increased safety margins under all conditions of flight. An 80 m.p.h. spraying speed gives the WORKMASTER a 30 per cent advantage over most other contemporary light aircraft. The higher speed also gives excellent 'zoom' characteristics enabling climbing turns after spray runs to be made in safety.

At take-off acceleration is rapid. Trials in widely varying conditions have shown that, even when fully loaded, the WORKMASTER is airborne after a run of only 175 yds. A steep climb follows easily clearing obstacles often encountered on temporary airstrips used for spraying operations.

In flight, the aircraft is easy to handle. Harmony of control and stabilities has been achieved to an exceptional degree and trim changes with power variation have been virtually eliminated. Aileron control in particular is light and highly responsive.

Crop-level flying is therefore made safer and more accurate than ever before.

GREATER SAFETY

The very low altitudes involved during aerial crop treatment necessitate the incorporation of many features ensuring the maximum safety to both pilot and aircraft in emergencies.

Of primary importance is the position of the high capacity spray tank. In the WORKMASTER it is positioned ALONGSIDE the pilot thus minimising the risk of injuring him (by crushing) in an accident. Only the WORKMASTER amongst current light aircraft offers this arrangement. The tank is specially shaped to give the pilot excellent panoramic visibility, and incorporates an instantaneous jettison valve enabling the entire contents to be dumped in under 5 seconds. The lightened aircraft climbs steeply away in emergencies. The pilot's seat is strengthened and has a 25g shoulder-type harness made from chemical-resistant terylene. Frequent collisions with birds during operations are less hazardous for WORKMASTER pilots, as a double-thickness windscreen is fitted giving high-impact resistance. Other safety features worthy of mention are the low pressure, oversize tyres. The wheels are equipped with hydraulically-operated disc brakes, which are independently controlled by well placed heel pedals. The undercarriage and the remainder of the structure is stressed to withstand a rate of sink of 11.8 ft. per sec. at normal landing weight. Rough or soft-surfaced strips can therefore be used almost continually under conditions that would bog down other aircraft with normal sized wheels.

The rear cabin roof consists of a large clear-vision panel. This panel is readily removable to facilitate easy fitment of the fluid tank or, alternatively, for loading of freight, etc., which may be carried in its place.

SPRAY GEAR INSTALLATION

Either boom-and-nozzle or rotary atomiser spray gear can be fitted. The tank is capable of carrying up to 100 Imperial Gallons of spray fluid, and is specially designed and constructed to combat metal fatigue and corrosion.

In the case of the spray-bar installation, atomisation of the fluid is effected by forcing it, by means of a windmill-driven pump, through nozzles in the spray-bar. Output and droplet characteristics can be adjusted by substitution of different nozzles of which there is a very wide choice. Normal maximum capacity of the pump is between 20 and 30 gallons per minute, corresponding approximately to a coverage at single application of about three gallons per acre.

The second system again employs a windmill-driven pump, but in this case rotary atomiser units are used in lieu of the spray-bar. Four of these units are mounted on the underside of the wing, and atomisation in this case is effected by forcing the fluid through a rotating gauze cylinder. This system is excellent when consistently small droplet sizes are required.

In both installations Polythene pipes are extensively used, ensuring maximum safety and resistance to corrosion.

ALL ROUND EFFICIENCY

By flying faster, longer and carrying more, the WORKMASTER means more acreage treated per day than operators have ever dreamed of. Quick, simple maintenance, and easy access to all servicing points ensures ready-to-go availability around-the-clock.

Easy loading at a convenient height cuts turn round times to a minimum and maintains a high daily work capacity.

SPECIFICATION

CONSTRUCTION

POWER UNIT: 180 h.p. (182 c.v.) Lycoming 0-360—A Series.
FUSELAGE: Welded steel tubing, fabric covered.
WINGS: High-wing, braced to fuselage by streamlined struts. Wood spars. Light alloy and steel ribs. Fabric covered.
AILERONS: Slotted type. Light alloy ribs, wood spars. Fabric covered.
FUEL SYSTEM: One 16 gall. (73 litres) tank in wing root (an additional 16 gall. tank is fitted in the other wing root for ferrying purposes).
OIL SYSTEM: Oil sump capacity, 1½ Imp. gallons (8 U.S. quarts) (7.6 litres).
FLAPS: Split trailing edge type. Light alloy skin.
TAIL UNIT: Welded steel frame. Fabric covered. Horn-balanced rudder and elevators.
LANDING GEAR: Welded steel tubular frame, with rubber shock absorber cords.
TAIL WHEEL: Fully castoring, with telescopic strut employing rubber rings in compression, pneumatic static conductive tail-wheel.

DIMENSIONS AND LOADING

Span	**36′ 0″ (11m.)**
Length	**23′ 5″ (7.15m.)**
Height (propeller vertical, tail on ground)	**8′ 1½″ (2.37m.)**
Tailplane span	**10′ 0″ (3m.)**
Wheel track	**6′ 3″ (1.9m.)**
Wing gross area	**185 sq. ft. (17.14 sq.m.)**
Maximum A.U.W.	**2,650 lb. (1,200 Kg.)**
Wing loading at 2,650 lb.	**14.3 lb./sq.ft. (70 Kg./sq.m.)**
Power	**180 h.p. (182 c.v.)**
Power loading at 2,650 lb.	**14.7 lb./h.p. (65 Kg./C.V.)**

Spray tank capacity 100 Imp. gallons (120 U.S. galls.) (455 litres).

PERFORMANCE

Figures quoted relate to I.S.A. conditions with 5 knot wind and special agricultural propeller.

AGRICULTURAL AIRCRAFT FITTED WITH MICRONAIR SPRAYING EQUIPMENT

Weight	Typical Sprayload, Pilot and 50 gallons (Water-Base) 2,350 lb.	Maximum A.U.W. 2,650 lb.
Maximum speed at 1,000 ft.	109 m.p.h.	106 m.p.h.
Maximum cruise speed at 1,000 ft.	93 m.p.h.	90 m.p.h.
Take-off run	135 yds.	175 yds.
Stalling speed (flaps down)	34 m.p.h.	36 m.p.h.
Initial rate of climb (flaps up)	750 ft/min.	630 ft/min.
Initial rate of climb (take-off flap)	710 ft/min.	590 ft/min.
Total distance to clear 50 ft.	315 yds.	425 yds.

Recommended spraying speed range: 60 m.p.h. to 80 m.p.h. I.A.S.
Average cruising fuel consumption: 8.75 imp. gal/hr.
(Sprayload and fuel consumption during spraying operations will depend upon the operational conditions)

THREE/FOUR SEAT PASSENGER AIRCRAFT

	(A) 1,790 lb. (Pilot only) 16 galls. fuel	(B) 2,550 lb. max. A.U.W. 32 galls. fuel	(C) With Special Propeller for optimum cruise
Unstick run	78 yds.	120 yds.	
Total distance to clear 50 feet	162 yds.	240 yds.	
Landing run	80 yds.	115 yds.	
Initial rate of climb	1,470 ft/min. 7.4 m/sec.	850 ft/min. 4.3 m/sec.	
Service ceiling	21,000 ft. 6,400 m.	15,000 ft. 4,570 m.	
Economic cruise	113 m.p.h.	102 m.p.h.	112 m.p.h.
Range	225 miles	420 miles	430 miles
Stalling speed, flaps down	31 m.p.h. I.A.S.	37 m.p.h. I.A.S.	37 m.p.h. I.A.S.

Greater capacity than ever before

OVERSIZE TYRES

1. Oversize low pressure tyres with large contact area enable the WORKMASTER to use muddy airstrips without fear of bogging down or nosing over. An engineer holds a wheel taken from a typical spray-plane to show the relative size of the WORK-MASTER'S wheel.

EASY ACCESS CUTS COSTS

2. Simple twin-fasteners retain the wrap-round engine cowls. Full accessibility to the engine reduces maintenance time to a minimum, thus ensuring that the aircraft is always in top line condition for each day's work in busy seasons.

ROTARY ATOMISER GEAR

3. Various types of spray-equipment are available for the WORKMASTER. This illustration shows the wing-mounted "Micronair" rotary atomisers which are in service in many countries. Alternative equipment is the standard boom and nozzle gear. Both have been proved in service to be reliable, efficient, and require little attention.

FOR SAFER FLYING

4. An adjustable 25g shoulder-harness of corrosion-resistant terylene webbing is provided with the pilot's seat which is stressed against 9g.

For Business or Pleasure

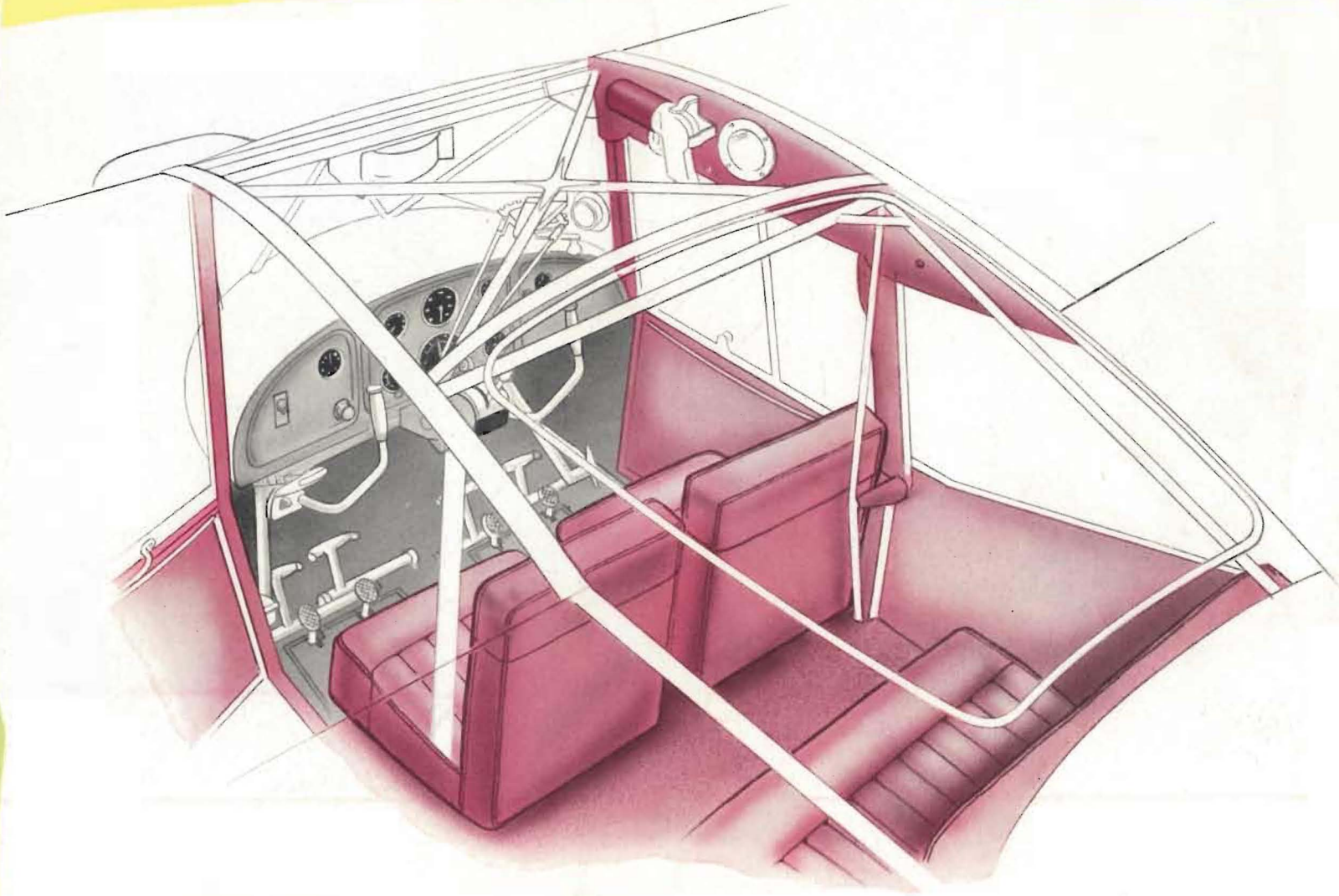
The abundant power, high performance and wide cabin of the Workmaster make it sufficiently versatile to undertake many duties other than agricultural work.

In its passenger role, the Workmaster is a most efficient and economical aircraft. There is ample power under all conditions, e.g., operation from high altitude airfields. For all-the-year operation in any territory, floats or skis may be fitted.

Easy to handle, it can take off and land in very short distances. It is ideal for use from small private fields or in high, tropical countries.

The interior is upholstered in either hard wearing Vynide, or real leather the colour of which may be selected by the customer to tone with the exterior finish.

A large perspex roof and windows provide excellent visibility for all occupants in every direction. In addition to extremely low maintenance costs, the Workmaster carries three, or occasionally four, persons (or their equivalent) one hundred miles in approx. 53 mins. using only about 7 gallons of fuel. A REALLY ECONOMICAL AIRCRAFT.



AUSTER AIRCRAFT LTD.,

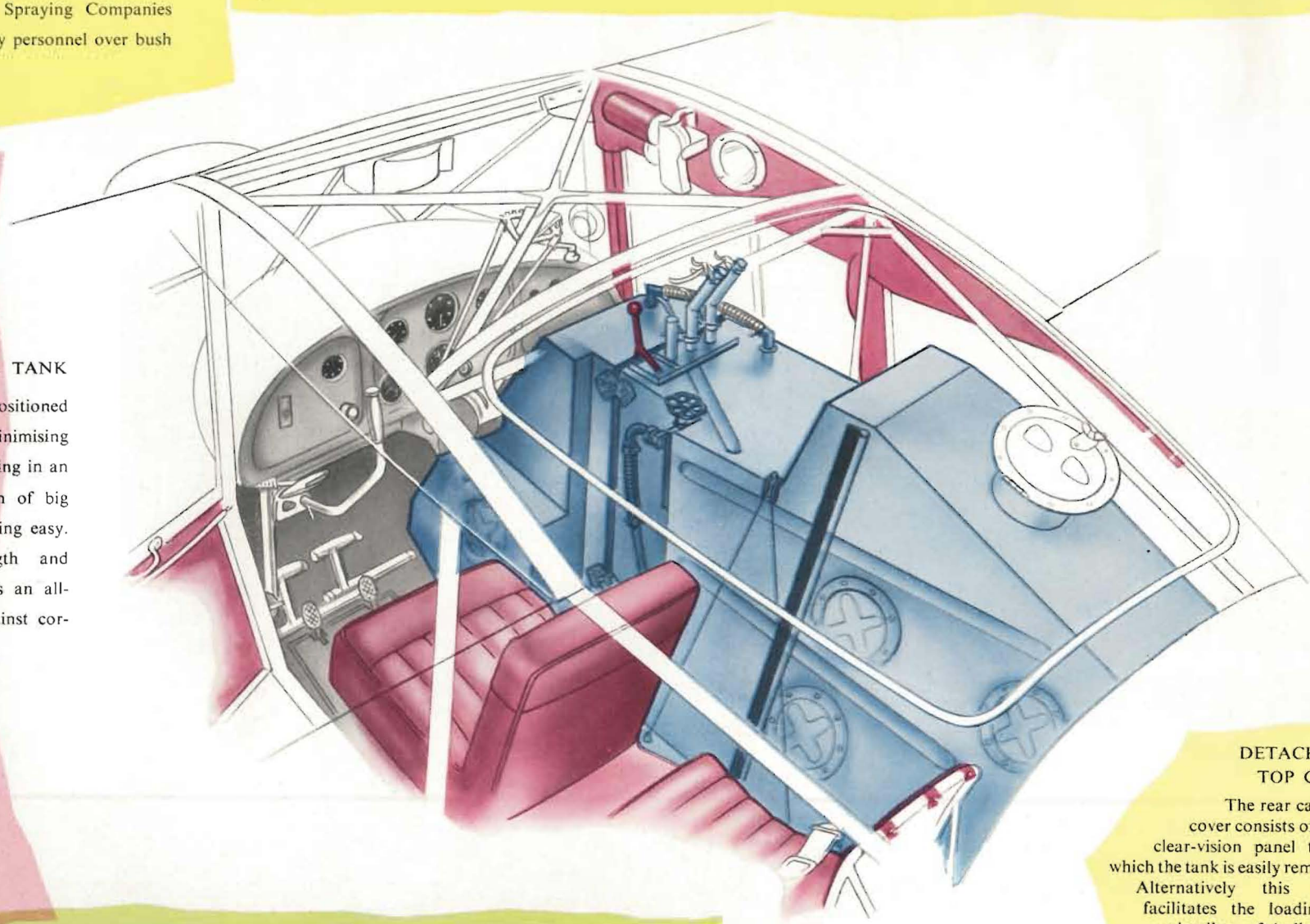
Rearsby Aerodrome · Rearsby · Leicester · England

Telephone: REARSBY 321 (6 lines)

Telegrams & Cables: AUSTER LEICESTER

Exclusive Cabin Arrangement

Only the Workmaster features a cabin which combines a safety-mounted 100 Imperial Gallon tank with TWO seats. This latter feature is considered by the foremost Aerial Spraying Companies to be essential for transporting key personnel over bush territory.



LONG-LIFE ALL-WELDED TANK

The 100 Gallon tank is positioned ALONGSIDE the pilot, thus minimising the risk of injury due to crushing in an accident. Adequate provision of big inspection panels makes cleaning easy. Built-in baffles add strength and eliminate surge. The tank is an all-welded structure designed against corrosion and fatigue cracks.

DETACHABLE TOP COVER

The rear cabin top cover consists of a large clear-vision panel through which the tank is easily removable. Alternatively this feature facilitates the loading and unloading of bulky items of freight which may be carried in lieu of the tank.

Practical Profitable Dependable