

Piper Aircraft Corporation

1980

Specifications/Performance
Standard Equipment

Brave 300

PA 36-300



Specifications

POWER PLANT

Engine	Lycoming IO-540-K1G5
H.P. and RPM	300 @ 2700

WEIGHTS

Maximum take-off weight (Normal category) (lbs./kg)	3900/1769
Maximum take-off weight (Restricted category) (lbs./kg)	4400/1996
Maximum landing weight (Normal category) (lbs./kg)	3900/1769
Maximum landing weight (Restricted category) (lbs./kg)	3900/1769

STANDARD EMPTY WEIGHT

No dispersal equipment (lbs./kg)	2198/997
With spray dispersal equipment (lbs./kg)	2314/1050
With solid dispersal equipment (lbs./kg)	2310/1048

(Standard empty weight includes: Unusable fuel, full operating fluids and full oil)

STANDARD USEFUL LOAD (Restricted category)

No dispersal equipment (lbs./kg)	2202/999
With spray dispersal equipment (lbs./kg)	2086/946
With solid dispersal equipment (lbs./kg)	2090/948

HOPPER CAPACITY

Standard (gals./ft. ³)/(L/m ³)	(225/30)/(852/.85)
Optional (gals./ft. ³)/(L/m ³)	(275/38)/(1041/1.08)

MAXIMUM HOPPER LOAD

Standard (lbs./kg)	1900/862
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WING AREA/WING LOADING/POWER LOADING

Wing area (ft. ² /m ²)	225/20.9
Wing loading	
Normal category (lbs./ft. ²)/(kg/m ²)	17.3/84.6
Restricted category (lbs./ft. ²)/(kg/m ²)	19.6/95.5
Power loading	
Normal category (lbs./hp)/(kg/hp)	13.0/5.9
Restricted category (lbs./hp)/(kg/hp)	14.7/6.7

USABLE FUEL

Standard (U.S. gal./L)	86/325.5
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OIL CAPACITY (U.S. gal./L)

3/11.4

DIMENSIONS

Wing Span (ft./m)	38.8/11.8
Length (ft./m)	26.8/8.2
Height (ft./m)	7.5/2.3

Performance

Without Dispersal Equipment

HIGH SPEED, OPTIMUM ALTITUDE (TAS) (mph)/(km/h) 148/238

CRUISE SPEEDS/RANGE (BEST POWER MIXTURE)

Power %	Cruise Altitude (ft./m)	Cruise Speed (TAS) (mph)/(km/h)	Range with 45 Minute Reserve (Miles/Kilometers)
75	5500/1675	142/228	565/910
65	9300/2835	138/222	590/950
55	11,200/3415	126/203	615/990

CRUISE SPEEDS/RANGE (BEST ECONOMY MIXTURE)

Power %	Cruise Altitude (ft./m)	Cruise Speed (TAS) (mph)/(km/h)	Range with 45 Minute Reserve (Miles/Kilometers)
75	5500/1675	142/225	640/1030
65	9300/2835	136/219	675/1085
55	11,200/3415	124/200	705/1135

Ranges include fuel allowance for start, taxi, take-off, climb, cruise, descent and a 45 minute reserve

RATE OF CLIMB AT SEA LEVEL

3900 lbs./1769 kg (fpm)/(m/min.)	770/235
3100 lbs./1406 kg (fpm)/(m/min.)	1100/335

STALL SPEED CAS (POWER OFF) (3900 lbs.)

Flaps 30° (mph)/(km/h)	62/100
Flaps 0° (mph)/(km/h)	72/116

TAKE-OFF DISTANCE — 15° FLAPS

Normal procedures at (lbs./kg)	3900/1769
Ground run (ft./m)	960/293
Total distance over 50 ft. obstacle (ft./m)	1525/465

LANDING DISTANCE — 30° FLAPS

Normal procedures at (lbs./kg)	3900/1769
Ground roll (ft./m)	700/213
Total distance over 50 ft. obstacle (ft./m)	1650/503

Performance

With Equipment Installed

HIGH SPEED, OPTIMUM ALTITUDE (TAS)

Spray dispersal equipment (mph)/(km/hr)	126/203
Solid dispersal equipment (mph)/(km/hr)	119/191

CRUISE SPEEDS/RANGE (BEST POWER MIXTURE)

WITH SPRAY DISPERSAL EQUIPMENT 4100 LBS.

Power	Cruise Altitude (ft./m)	Cruise Speed (TAS) (mph)/(km/h)	Range with 45 Minute Reserve (Miles/Kilometers)
%			
75	5500/1675	118/190	460/740
65	5500/1675	103/166	450/725

CRUISE SPEEDS/RANGE (BEST POWER MIXTURE)

WITH SOLID DISPERSAL EQUIPMENT 4100 LBS.

Power	Cruise Altitude (ft./m)	Cruise Speed (TAS) (mph)/(km/h)	Range with 45 Minute Reserve (Miles/Kilometers)
%			
75	5500/1675	108/174	415/665

Ranges include fuel allowance for start, taxi, take-off, climb, cruise, descent and a 45 minute reserve at 45%.

RATE OF CLIMB AT SEA LEVEL WITH SPRAY DISPERSAL EQUIPMENT

4400 lbs./1996 kg (fpm)/(m/min.)	375/114
3500 lbs./1587 kg (fpm)/(m/min.)	675/206

RATE OF CLIMB AT SEA LEVEL WITH SOLID DISPERSAL EQUIPMENT

4400 lbs./1996 kg (fpm)/(m/min.)	320/ 98
3500 lbs./1587 kg (fpm)/(m/min.)	580/222

TAKE-OFF DISTANCE, WITH SPRAY DISPERSAL EQUIPMENT — 15° FLAPS

Normal procedures at (lbs./kg)	4400/1996
Ground run (ft./m)	1350/ 411
Total distance over 50 ft. obstacle (ft./m)	2090/ 637
Normal procedures at (lbs./kg)	3500/1587
Ground run (ft./m)	960/ 293
Total distance over 50 ft. obstacle (ft./m)	1385/ 422

TAKE-OFF DISTANCE, WITH SOLID DISPERSAL EQUIPMENT — 15° FLAPS

Normal procedures at (lbs./kg)	4400/1996
Ground run (ft./m)	1470/ 448
Total distance over 50 ft. obstacle (ft./m)	2225/ 678
Normal procedures at (lbs./kg)	3500/1587
Ground run (ft./m)	970/ 296
Total distance over 50 ft. obstacle (ft./m)	1395/ 425

LANDING DISTANCE, WITH SOLID OR SPRAY DISPERSAL EQUIPMENT — 20° FLAPS

Normal procedures at (lbs./kg)	4400/1996
Ground roll (ft./m)	760/ 232
Total distance over 50 ft. obstacle (ft./m)	1470/ 448
Normal procedures at (lbs./kg)	3500/1587
Ground roll (ft./m)	560/ 171
Total distance over 50 ft. obstacle (ft./m)	1110/ 338

LANDING DISTANCE, WITH SPRAY OR SOLID DISPERSAL EQUIPMENT — 30° FLAPS

Normal procedures at (lbs./kg)	4400/1996
Ground roll (ft./m)	710/ 218
Total distance over 50 ft. obstacle (ft./m)	1475/ 448
Normal procedures at (lbs./kg)	3500/1587
Ground roll (ft./m)	525/ 160
Total distance over 50 ft. obstacle (ft./m)	1065/ 325

Standard Equipment

Standard Empty Weight: 2198 lbs.
(Includes: unusable fuel, full operating fluids and full oil)

POWER PLANT AND PROPELLER

Engine: Lycoming IO-540-K1G5, 6 cylinder, rated at 300 hp
MCP @ 2700 RPM, with wide flange cylinder base, dual
ignition with individual Bendix magnetos, and Bendix RSA
fuel injection system
Constant speed propeller with spinner
Engine cooling baffles
Throttle control system
Vernier mixture control system
Propeller control system
Manual alternate air control system
Engine oil cooler
Engine cowling
Engine air filter, dual
Engine oil filter
Dynafocal type engine mount
Engine exhaust system dual outlet
Engine oil system quick drain
Quick opening cowling sides
Engine ignition system shielding
Fuel and oil lines
28 volt electric starter
Engine ignition switches
Engine cooling louvers

INSTRUMENTS

Sensitive altimeter (inches HG)
Magnetic compass
Ammeter
Fuel quantity gauge
Manifold pressure and fuel flow gauge
Oil pressure and temperature gauge
Airspeed indicator
Stall warning horn
Tachometer

ELECTRICAL SYSTEM

Alternator, 28 volt, 70 ampere
Battery, 24 volt, 17 ampere hour
Electrical circuit breakers
28 volt voltage regulator
Electrical switches

FUEL SYSTEM

140 micron fuel filter
Fuel pump, engine driven
Fuel pump, 28 volt electric
Fuel system strainers
Bladder type fuel tanks with foam (89 gallon total, 86 gallons
usable)
Fuel shutoff valve and control
Low fuel pressure warning light

AGRICULTURAL

Wire cutter (main gear)
Wire cutter-deflector (windshield to fin)
30 cubic foot hopper (225 gallon)
Corrosion resistant paint (overall) — white
Corrosion resistant primer (overall)
Remote reading hopper gauge

AIRCRAFT FEATURES

Control system bearings
Parking brake (hand operated)
Hydraulic brakes (toe operated)
Control cables (corrosion resistant)
Compass deviation card
Pilot compartment, fully enclosed
Flap system and control
Pilot headrest
Control stick lock
Trim paint — red and black
Rudder pedals (adjustable)
Pitot-static system
Fin pressurization scoop (rear fuselage)
Quick release doors (pilot compartment)
Quick removable panels, fuselage
Aircraft tie-down rings (wings)
Pilot seat (vertically adjustable)
Pilot seat belt
Pilot shoulder harness (w/inertia reel)
Pilot control stick
Tailwheel installation, 10 inch steerable
Tires and tubes, 8.50 x 10 (main)
Tire and tube, 10 inch (tail)
Trim system and control (elevator)
Windshield cleaning access windows
Ventilation system and controls (pilot compartment)
Tow bar rings (main wheels)
Hand hold on aft of fuselage (left/right sides)

The performance information is based on an airplane flown at gross weight under standard sea level atmospheric conditions except as noted and based on the latest data available at the time of publication approval. Take-off and landing performance is optimum. Actual performance depends on pilot techniques, operating surfaces and other factors. It is the responsibility of the pilot to determine that all operations are conducted within approved limits of design gross weight, center of gravity, and in accordance with the FAA-approved Airplane Flight Manual which is the only official source of operating parameters and performance information.

In accordance with GAMA format, range provides for taxi, take-off, climb at MCP, cruise at stated mixture and descent with 45-minute reserve at maximum range power. Empty weight includes unusable fuel, full operating fluids and full oil.

Piper Aircraft Corporation reserves the right to make changes in specifications, materials, equipment or prices at any time without prior notice or to discontinue models as required.

Your Piper Dealer has listings of a wide variety of optional equipment and avionics. Items most frequently chosen by owners are packaged for factory installation at substantial price savings.



**MORE AIRPLANE
FOR THE DOLLAR**

PIPER AIRCRAFT CORPORATION
LOCK HAVEN, PENNSYLVANIA 17745
A BANGOR PUNTA COMPANY
MEMBER OF GAMA

**Brave 300 — strongly built,
pilot-protective, corrosion-proofed,
easy to maintain and repair.**

- Quick-change spray system, with high, medium and low volume versions, can apply liquid chemicals at rates up to 19 gallons per acre in variable swath width to 80 feet. Booms mounted aft of wing minimize drag and are in full view of pilot.
- Landing and taxi lights, anti-collision wingtip strobes, navigation and instrument lights are all available in the Brave.
- Aerodynamically clean, full cantilever wing, a carry-through structure that does not interfere with hopper design, features high strength main spar attachment, laminated spar construction and energy-absorbing leading edges and tips.
- Landing gear is rugged and simplified. Large 8.50 x 10 tires and 10" Scott Tailwheel facilitate operations from rough or soft fields. Hydraulic disk brakes (toe operated) are easily and quickly serviced.
- Wire deflector in front of windshield is supplemented by a heavy steel cable which runs back to rudder tip to deflect utility wires. Main landing gears are also fitted with wire cutters.
- Raised cockpit is 38" wide allowing for maximum pilot comfort. Seat is well contoured with lumbar support and ventilation. Seat and canted rudder pedals are adjustable.
- Full shoulder harness with inertia reel permits unrestricted freedom of movement.
- Sealed cockpit area uses filtered "ram air" with positive cockpit pressure to provide excellent ventilation.
- High-mounted cockpit, sloping nose, wrap-around rear window and overhead window give pilot "super" vision. Doors on both sides have quick-release hinges for fast emergency exit.
- Solid one-piece heavy duty cockpit floor is sealed and uncluttered.
- An optional high-volume heater in sealed cockpit area eliminates need for cumbersome clothing on chilly mornings.
- Reinforced fiberglass hopper is available in 30 and 38 cu. ft. versions. Large top hatch expedites loading of solids, and liquids can be loaded through the hatch or the optional side loader.
- Plastic loading door is unpainted and hopper is translucent so pilot sees contents. Exterior sight gauge has been added for convenience during ground loading of liquids. Clear glass window in back of hopper aids pilot in monitoring contents.



Entire plane can be disassembled—wings removed, fuselage stripped to bare frame, canopy and hopper removed readily.

Steel truss fuselage structure is heli-arc welded chrome moly steel tubing graded in strength and stability for energy absorption.

Durable metal and plastic covering used throughout. Vulnerable areas such as wing and empennage tips and rear belly panel are removable; easily repaired and serviced.

Side and belly panels can be removed with quick-release fasteners in minutes, for access to every fuselage component.



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Lock Haven, PA 17745

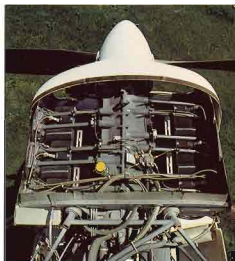
Member of GAMA

Brave 300 — New and Powerful

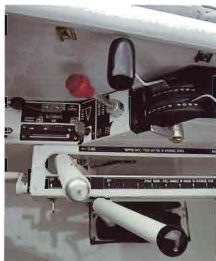
The Brave 300 is especially designed for the operator who needs the extra performance provided by a rugged, reliable 300 hp engine with a money saving 1200 hr. TBO. The powerplant is the Lycoming 6 cylinder, dual ignition engine with Bendix fuel injection and constant speed propeller. This proven engine, used for many years in a variety of Pipers including the retractable Lance and the load-hauling Cherokee Six, is legendary for reliability and trouble-free operation far from maintenance bases. In the Brave 300 it provides added performance to the ag operator faced with large acreage to cover and with demanding conditions of terrain and altitude. You have a choice of 30 and 38 cu. ft. hoppers (225 and 275 gallons), and of quick-change spray systems in high, medium and low volume, plus an all-purpose spreader for solids in your choice of stainless steel or aluminum.



All purpose streamlined spreader, in stainless steel or aluminum, applies dry chemicals at rates from 5 to 200 lbs. per acre.



Brave's powerplant, the world-proved 300 hp Lycoming, is instantly accessible. Cowling is easily removed and spark plugs, oil filter, and air cleaner are all readily accessible.



All controls for powerplant and dispersal equipment are carefully arranged on the left side of the cockpit for easy operation by the pilot.



Brave's super long range fuel cells—87 usable gallons total—are standard, and mounted in wing roots and linked to a header tank to operate as a single fuel supply. Tanks are filled with polyurethane safety foam which acts as an infinite baffle and provides maximum slosh suppression.

In the Brave's instrument panel, upper and lower instruments are separated by a large protective roll. Essential instruments—air speed, spray pressure gauge, tach and manifold pressure gauge—are in pilot's line of sight as he concentrates attention outside airplane.

