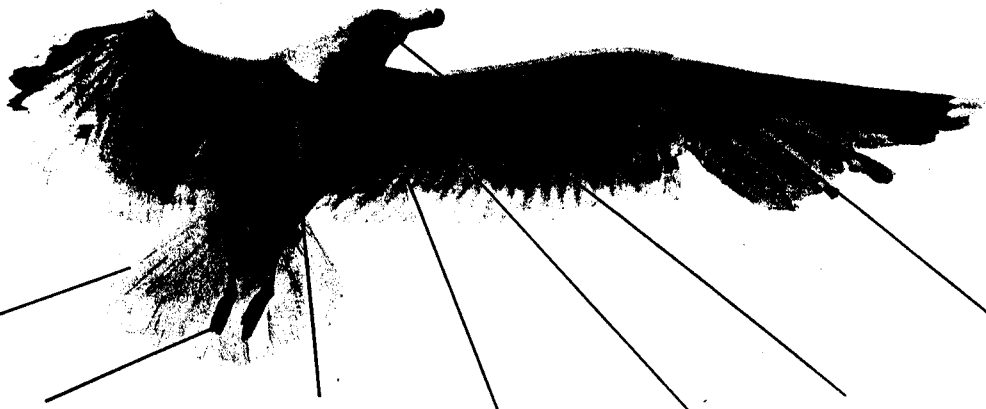


Man Improves on Nature



1. Flight control is an incredibly complex, as yet not fully understood operation. Tail feathers play a part in maneuvering—for balance, equalizing, and lateral and vertical direction changes. Some birds use spread tail feathers to gain lift.

2. Retractable landing gear. In landing, feet are extended and the toes grasp a branch or whatever, with the feet braking and the legs cushioning.

3. He's over half muscle. The pectorals here in the breast move the wings. To provide enough fuel for these muscles, birds eat more in relation to their size than people do (despite the expression "eats like a bird"). They are known to fly great distances non-stop in migration. Speeds of 60 and 70 mph are commonly reported.

4. Skeleton especially suited for flying. Small thin bones. Long bones are hollow, so, lighter. Birds cannot perspire; to keep cool they have built-in "air conditioning" Lungs pump cooling air into hollow bones and air pockets in the body. Most birds seldom fly higher than 3,000 feet.

5. Brains are not his strong suit. (Witness, "birdbrain.") Crows are considered the brightest of the lot. They seldom fall for scarecrows.

6. Superb visibility. Birds see landmarks 65 miles away. How they navigate their migrations, over landmarkless open seas and at night, is still a mystery.

7. Slowing down for a landing is aided by spreading the wings to full upstroke, which gives the gull a parachute effect. Tail feathers also provide braking. Probably the lowest landing speed is achieved by crane-like birds (they need slow, soft landings to protect their thin, delicate legs).

1. Flight control is positive even at low speeds. The horizontal stabilizer is a full one hundred square feet in area. Notice how high it's placed. That's to keep it out of the way of the jet efflux, which minimizes sonic fatigue.

2. Retractable landing gear with dual wheels all around that provide better braking. Double disc brakes on all main wheels. Positive anti-skid units. Ground adherence boosted by 70 degree lift dump position of flaps. Chined nose wheel tires deflect runway water and slush away from the engines.

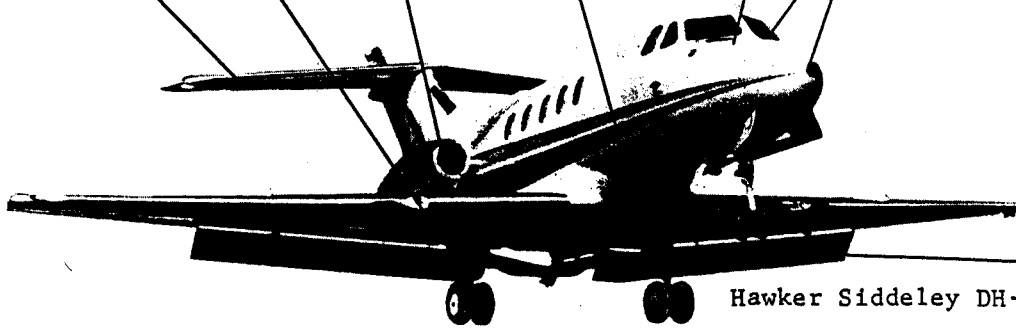
3. Our muscle power is provided by two Bristol Siddeley Viper 522 engines—the most powerful straight turbojet engine on any business jet, 3,360 pounds of thrust each. Costs per mile are extremely low. Engines are rugged, reliable and proven. Range: 1550 miles with 2000-pound maximum payload. Speed over 500 mph.

4. Skeleton (airframe, if you will) tested the equivalent of two flights daily for 27 years. The passenger cabin is spacious. Room to stand up and walk around. Room to spread out in. Comfort for 8 passengers (or luxury for 6, with divan, desks and swivel lounge chairs). Air conditioned. Fully pressurized for comfort at all altitudes, even 40,000 feet.

5. Our brain center is here. All controls, instruments and panels functionally grouped. Complications of power control avoided by "sophisticated simplicity" in control systems, for greater reliability.

6. Superb visibility. 1 1/4" laminated fail-safe birdproof glass, kept clear by four separate systems. Radar nose compartment with big airliner-sized 24" radar for a birds-eye view in any weather.

7. Slowing down for a landing is aided by opening the air brakes above and below the wing. Deceleration is smooth and positive. Four-position flaps extend over 55% of the wingspan, for safe landings at a low, 95-knot approach speed. The DH125 can operate out of airfields less than 4,500 ft. in length, fully loaded (no fully loaded business jet can use a shorter airfield).



Hawker Siddeley DH-125 Executive Jet