D1

JOINT SERVICES

RECOGNITION *Journal*





Vol. 22 JULY 1967 No. 7

JULY 1967 Vol. 22 No. 7

JOINT SERVICES

RECOGNITION JOURNAL

The *Joint Services Recognition Journal* is a monthly publication produced by the Directorate of Flying Training (R.A.F.), Ministry of Defence, and prepared in collaboration with the Admiralty Board, the Army Department and the Ministry of Technology. Applications for copies can only be accepted from the Services or other official bodies, and must be submitted through the normal official publications supply channels—**not** to the Editorial Office or direct to the Ministry of Defence.

The Journal is produced solely for official use and must not be sold to members of the public. Contributions and correspondence should be addressed to the Editor, *Joint Services Recognition Journal*, Ministry of Defence, Room 409, Old War Office Building, Whitehall, London, S.W.1.

CONTENTS

Feature	Page
Badger and Lightning *(cover)*	169
The Silhouette *(editorial)*	170
Index to Aircraft Reference (Silhouette) Editions—June and July 1967	171
Reference Section (Part 2) with silhouette, photo and text on 200 types	172

This edition is Part Two of two issues covering all major types currently flying at the time of preparation. This July edition contains the second and final part of the reference issues, together with an index for the combined reference sections.

THE SILHOUETTE

What is the fascination of the silhouette?—whether it be of an aeroplane, a ship, a tank or a human figure. Its fascination is—or should be—that it leaves the beholder with something on which to exercise his imagination. The impact is lost and the imagination confused if features of the object are outlined by white lines. The more personal silhouettes beloved by our parents and grandparents were mostly profiles of those near and dear to them. White lines were unnecessary to outline eyes, ears, mouth, etc.: these features were left to the imagination which made silhouettes so popular in days gone by. Their simplicity demanded and obtained the attention they deserved. However, the subject of the silhouette was usually known to the viewer for without knowledge of the subject from real life a silhouette conveys less meaning.

Why did aircraft silhouettes come into existence? Simply because the first observers saw them in this way against the sky. Over the years the tendency to outline details in aircraft silhouettes with white lines has increased and in many cases it has become, in effect, a technical diagram of the aircraft. Therefore the effectiveness of the silhouette is in some degree lost, and so too is its usefulness in Recognition Training. Indeed, beginners in aircraft recognition find too many white lines distracting and confusing which is contrary to the object of the silhouette. The eye should be forced to the outline whilst the intrinsic character of the aircraft should be learned by other means.

This is not to say that some white lines should not appear—some are quite justified if they indicate protruding details though sometimes it is difficult to draw the line, so to speak, between those which are essential and those which are not. The silhouette forms only part of the recognition training material and is virtually a visual summary of its character. It is a foundation on which to build experience of the aircraft. To try to learn the silhouette as such on its own is putting the cart before the horse. Its use must be co-ordinated with actual observation of the real thing in photograph form—silhouettes may be used as a means to and end and not as an end in themselves.

Readers must forgive these somewhat elementary observations but it is a fact that white lines are used to such an extent that the true object of the silhouette is somewhat overlooked.

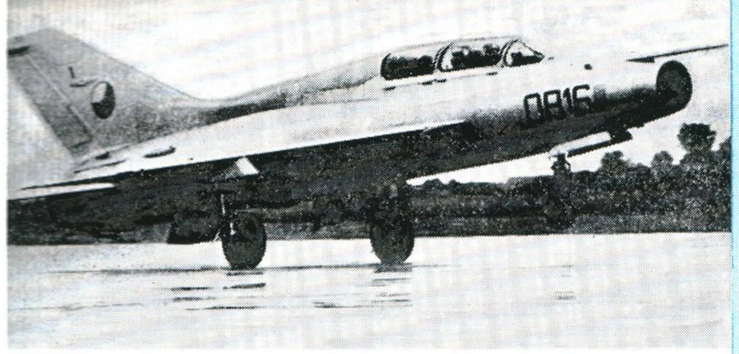
In this particular edition of the *Journal* it will be seen that silhouettes have been reproduced in a size that a large number of the lines have disappeared. Nevertheless, the main character of the aircraft remains and attention is drawn to outline. Hence the importance of preserving the true silhouette for, to reiterate it is by *outline* that aircraft are identified—and the simpler the silhouette the more readily it impresses the imagination.

INDEX TO AIRCRAFT REFERENCE (SILHOUETTE) EDITIONS—JUNE AND JULY 1967

(N.B. Pages 141–168 JUNE 1967 ISSUE, Pages 169–196 JULY 1967 ISSUE)

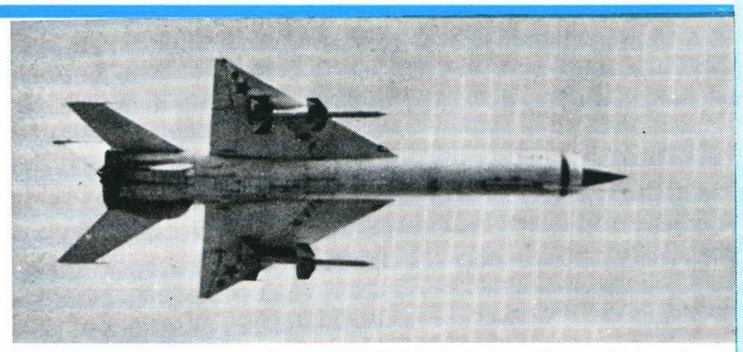
	Page
Aermacchi MB326	179
Aero (see Super Aero)	
Aero Commander	159
Agwagon	188
Aiglet	184
Airedale	184
Albatross	153
Alcotan	156
Alizé	180
Alouette	194
Alycon	187
Ambassadeur	188
Ambassador	166
Andover C.1	164
Anson	165
Apache	160
Argosy	152
Argus	150
Atlantic	153
Auster A.O.P.9	184
Azor	156
Aztec	160
B-52	147
Badger	146
Baron	160
Basset	160
Beagle (II-28)	156
Bear	149
Beaver	181
Belfast	148
Bell 204	168
(*see also* Iroquois)	194
Beverley	152
Bies	185
Bird Dog	181
Bison	145
Blinder	145
Boeing 707/720	147
Boeing 727	143
Boeing-Vertol 107	192
Bonanza	186
Brantly B-2	168, 196
Breguet 941	150
Bretagne	159
Brewer	154
Brigadyr	183
Britannia	150
Broussard	183
Buccaneer	173
Buckeye	180
Buffalo	164
Camel	146
Camp	164
Canadair 540 (*see* Cosmopolitan)	
Canberra	155
Caravelle	143
Cargomaster	148
Caribbean (*see* Tri-Pacer)	
Caribou	164
Carvair	151
Cat	148
Catalina	153
Centurion	182
Cessna 150	168, 182
Cessna 172	181
Cessna 180	182
Cessna 310	161
Cessna 401/402	161
Cessna 411	161
Cessna Skyknight	161
Cessna T-37	180
Cherokee	188
Cherokee Six	168, 188
Chicasaw (*see* Whirlwind)	
Chinook	192
Chipmunk	185
Choctaw (*see* Wessex)	
Classic	143
Cleat	149
Clod	162
Cmelak	180
Coach	157
Coke	165
Colt	188
Comet	144
Commanche	188
Commando	157
Constellation	151
Consul	166
Cookpot	146
Coot	151
Convair 240	158
Convair 340	158
Convair 440	158
Convair 600	158
Convair 880	148
Convair 990	148
Coronado (*see* Convair 990)	
Cosmopolitan	158
Crate	157
Creek	183
Crusader	176
Crusty	144
Cub (An-12)	147
Cub (*see* Piper Cub)	
Dakota	157
DC-3 (*see* Dakota)	
DC-4	151
DC-6	152
DC-7	152
DC-8	147
DC-9	144
Debonair	186
Delfin	179
Delta Dagger	174
Delta Dart	174
Destroyer	154
Djinn	196
Dominie T.1	144
Dornier Do.27	184
Dornier Do.28	166
Dove	159
Dragon Rapide	188
Draken	174
Drover	152
EC121	151
Electra	150
Etendard	175
Expeditor	159
Fagot	167
Fan Jet Falcon	145
Farmer	167
Fiat G-91	172
Fiddler	175
Fishbed	167
Fishpot	172
Fitter	172
Flamant	166
Flamingo	162
Flashlight	154
Flipper	172
Freedom Fighter	173
Freighter	165
Fresco	167
Friendship	163
Fuji-T1 (*see* Hatsutaka)	
Galeb	178
Gannet	180
Gawron	183
Gemini	163
Globemaster II	149
Gnat	175
Grand Commander	159
Grumman C-2	165
Guarani II	162
Gulfstream	164
Halcon	156
Hansajet	144
Hare	194
Harke	191
Harp	194
Harrier	174
Harvard	185
Hastings	152
Hatsutaka	179
Hawkeye	165
Heli-Baby	196
Helio Twin	162
Hen	195
Herald	163
Hercules	148
Heron	152
Hiller 12E	195
Hiller E4	195
Hindustan HT-2	185
Hip	191
Hog	195
Hoodlum	196
Hook	191
Hoplite	191
Horse	192
Hound	193
HS125	144
HS748	164
Hughes 200	196
Hunter	177
Huskie	194
Husky	184
Hustler	148
Instructor	186
Intruder	178
Invader	157
Iroquois	194
Iskra	180
Islander	163
Jackaroo	189
Javelin	174
Jet Commander	144
Jet Provost	178
Jetstar	143
Junak	187
Jungmann	189
Jungmeister	189
King Air	161
Lansen	177
LASA 60	182
Lear Jet	144
Liftmaster (*see* DC-6)	
Lightning	176
Lockheed T-33	176
Lockheed U-2	155
Madge	153
Magister	179
Mallard	153
Mallow	153
Mandrake	155
Mantis	179
Marlin	153
Marquis	160
Martin 404	156
Martin B-57	155
Martin RB-57	155
Marut	176
Mascot	156
Max	187
Mentor	185
Meta Sokol	188
Meteor T.T.20	155
Midget	167
Mirage	175
Mitchell	157
Mohawk	163
Mongol	172
Mooney 21	186
Moose	185
Morava	162
Mouse	187
MU-2	160
Mule	188
Musketeer	187
Mystère	177
Navaho	166
Navion	187
Neptune	154
Noralpha	187
Noratlas	190
Nord 262	163
Nord 260	163
Nord 3400	183
Norecrin	187
One-Eleven	144
Orion	150
Otter	168, 181
Packet	190
Paris	179
Pawnee	188
PD808	145
Pembroke	165
Phantom II	173
Piaggio P-136	154
Piaggio P-149	186
Piaggio P-166	154
Pioneer	184
Piper Cub	181
Porter	183
Portofino	154
Potez 840	151
Prentice	185
Provider	164
Provost	186
Queen Air	161
Rallye	188
Ranger	168, 195
Raven (*see* Hiller E4)	
Retriever	191
Riley Dove	159
SA-330	191
Saab-29	167
Saab-105	167
Sabre	177
Sabreliner	145
Saeta	179
Safir	186
Sahara	152
Santa Maria (*see* LASA 60)	
Scandia	156
Scimitar	177
Scout	195
Seabat (*see* Wessex)	
Seahouse (*see* Wessex)	
Sea King	193
Seasprite	193
Seastar	178
Sea Vixen	190
Seminole	161
Shackleton	149
Shawnee	192
Siebel SI204	162
Sikorsky S-61	192
Sikorsky S-62	192
Sikorsky S-65	193
Silver Star (*see* Lockheed T-33)	
Sioux	195
Skeeter	196
Skycrane	191
Skyhawk	174
Skyhook	168, 196
Skylane	182
Skylark	182
Skymaster (Cessna)	190
Skymaster (Douglas) (*see* DC-4)	
Skyraider	180
Skyray	175
Skyvan	163
Skywagon	181
Skywarrior	154
Starfighter	173
Starlifter	147
Starliner	151
Stratofortress (*see* B-52)	
Stratofreighter	149
Stratotanker	147
Super 18	159
Super Aero 45	163
Super Caravelle	143
Super Constellation	151
Super Cub (*see* Piper Cub)	
Super Dakota	157
Super Freighter	165
Super Frelon	191
Super Mystère	177
Super Sabre	172
Super Skylane	182
Super Skymaster	190
Super Skywagon	181
Super VC10	143
Talon	173
Terrier	184
Texan (*see* Harvard)	
TF-102A	174
Thunderchief	172
Thunderflash	178
Thunderjet	178
Thunderstreak	178
Tiger Moth	188
Tracer	166
Tracker	166
Trader	166
Transall C-160	164
Travel Air	160
Trener	185
Trident	143
Tri-Pacer	181
Turbo Porter	183
Tutor	179
Twin Bonanza	160
Twin Commanche	161
Twin Otter	162
Twin Pioneer	162
UTVA-60	184
Valetta	158
Vampire	190
Vanguard	150
Varsity	158
Vautour	156
VC10	143
Venom	190
Victor	146
Vigilante	175
Viking	158
Viscount	150
Voodoo	173
Vulcan	146
Warning Star	151
Wasp	194
Wessex	193
Whirlwind	193
Widgeon (Grumman)	153
Widgeon (Westland)	196
Wilga	183
Winjeel	186
YF-12	146
YS-11	159
Yukon	150





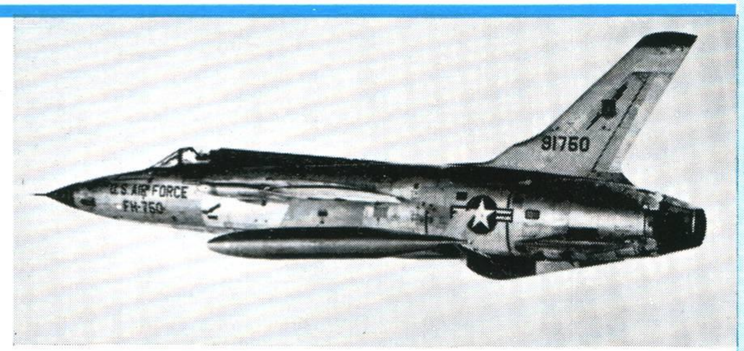
MONGOL Successor to the Midget, this MiG-21 U.T.I. two-seat advanced and combat proficiency trainer differs from the standard MiG-21 fighter in having a second cockpit inserted aft.
Span 25 feet





FLIPPER Demonstrated at the 1961 Aviation Day display in Moscow, this is probably a Mikoyan design aircraft but so far there is no evidence of quantity production or Service use.
Span approx. 30 feet



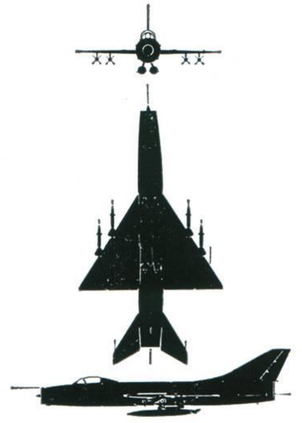


THUNDERCHIEF As yet exclusive to the U.S.A.F., the main Service versions of this strike fighter are the single-seat F-105D fighter and the two-seat F-105F trainer. Span 35 feet



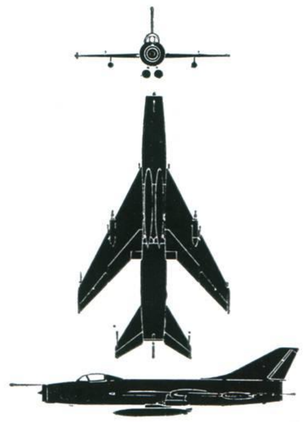


FIAT G-91R Italian single-seat reconnaissance fighter in service in various versions in Italy and the Federal German Republic.
Span 28 feet



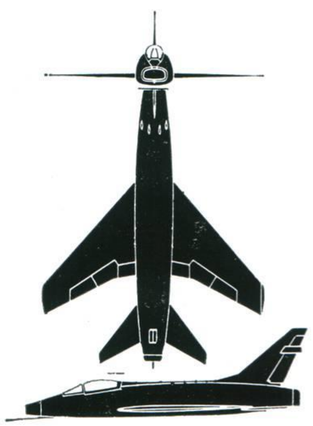


FISHPOT Contemporary of the MiG-21, this Sukhoi Su-9 all-weather interceptor shares the same basic fuselage and tail as the Su-7 but has a delta wing. It is exclusive to the Soviet armed forces.
Span 31 feet





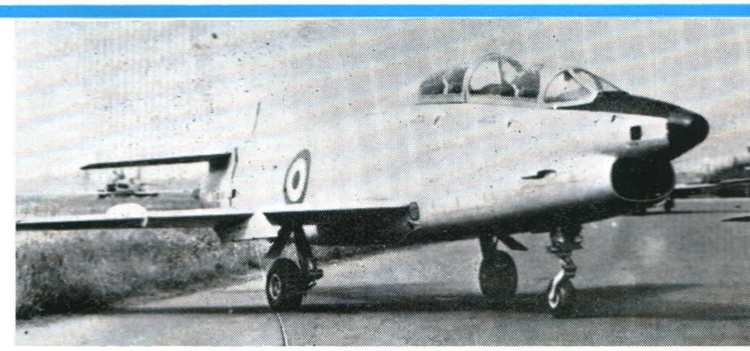
FITTER This Sukhoi Su-7 ground-attack fighter employs the same basic fuselage and tail as the Su-9 but has a severely-swept wing. It is almost exclusive to the Soviet Air Force. Span 32 feet



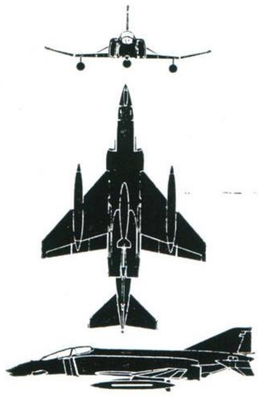


SUPER SABRE The U.S.A.F., Nationalist Chinese, French, Danes and Turks operate this fighter which serves in two versions, F-100D single-seat fighter bomber and F-100F two-seat operational trainer. Span 39 feet





FIAT G-91T This is a tandem two-seat advanced training development of the G-91R (opposite) retaining tactical fighter capabilities and is in service with the Italian and Federal German Air Forces.
Span 28 feet





PHANTOM II F-4 Various models of this McDonnell interceptor and strike aircraft, including the F-4B (silhouette), serve with the U.S. forces while the F-4K (photo) and F-4M are being developed for the Royal Navy and R.A.F. respectively. Span 38 feet





PHANTOM II RF-4 Two slightly larger, unarmed tactical reconnaissance versions of the basic F-4 serve with the U.S. forces as the RF-4B and RF-4C, the latter being depicted. Span 38 feet





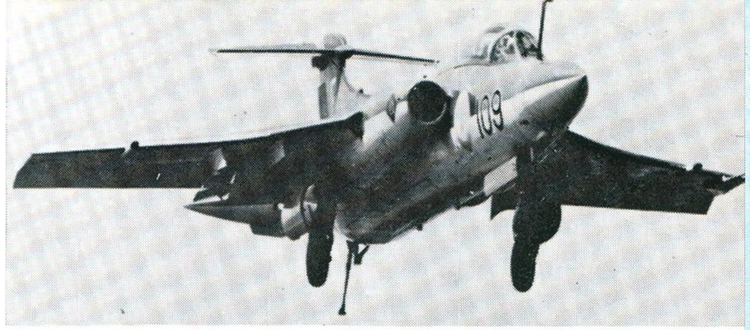
FREEDOM FIGHTER Ordered by the U.S.A.F. primarily for supply to Allies and friendly nations, the Freedom Fighter is produced in F-5A single-seat fighter and F-5B two-seat fighter/trainer versions. Span 25 feet





TALON Twin jet trainer for the U.S.A.F. as the T-38. Is externally similar to the F-5B version of the Freedom Fighter but differs appreciably structurally. Span 25 feet





BUCCANEER S.1 Currently serving with the Royal Navy as a carrier-borne strike aircraft, the Buccaneer S.1 is being supplemented by the S.2 version (below). Span 42 feet





BUCCANEER S.2 This re-engined version of the Buccaneer is more powerful than the S.1 and is in service with the Royal Navy and the South African Air Force. Span 42 feet



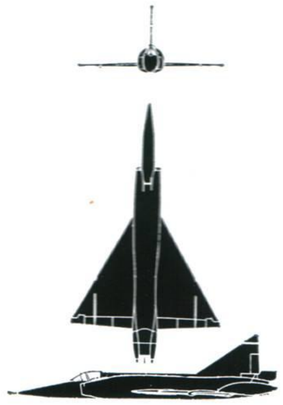


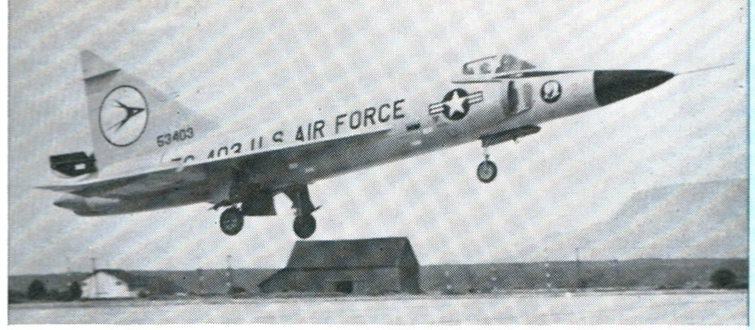
STARFIGHTER Assembled in the U.S.A., Canada, Japan and in Western European countries, this Lockheed F-104 fighter serves in several versions including a two-seat version with revised canopy. Span 22–24 feet



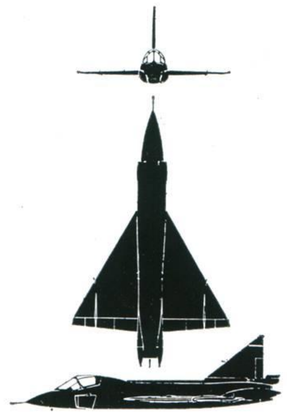


VOODOO A fighter in U.S.A.F. (F-101 versions), R.C.A.F. (CF-101B) and Nationalist Chinese service with nose variations according to fighter and reconnaissance roles. The U.S.A.F. F-101C single-seat version has a smaller canopy. Span 40 feet



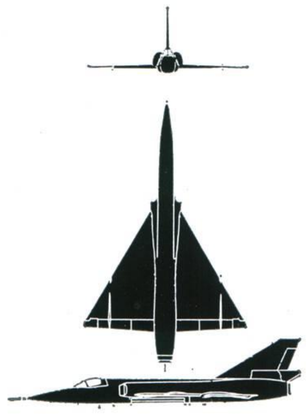


DELTA DAGGER All-weather interceptor, F-102A in United States service, exclusive to the U.S.A.F. and Air National Guard, is currently in service in the single version depicted. Span 38 feet





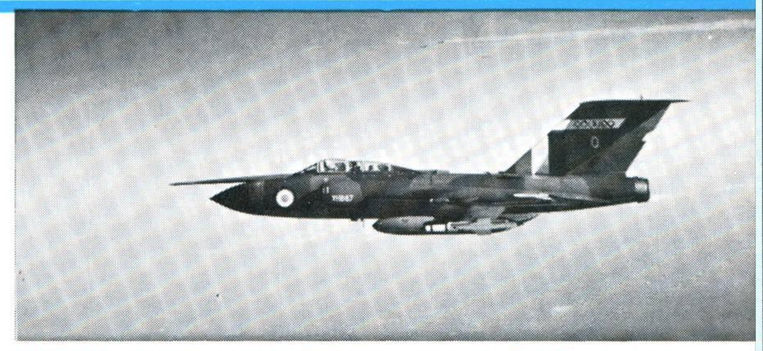
TF-102A Side-by-side two-seat combat proficiency trainer derived from F-102A Delta Dagger, opposite, and noticeably shorter than the single-seat interceptor. Span 38 feet





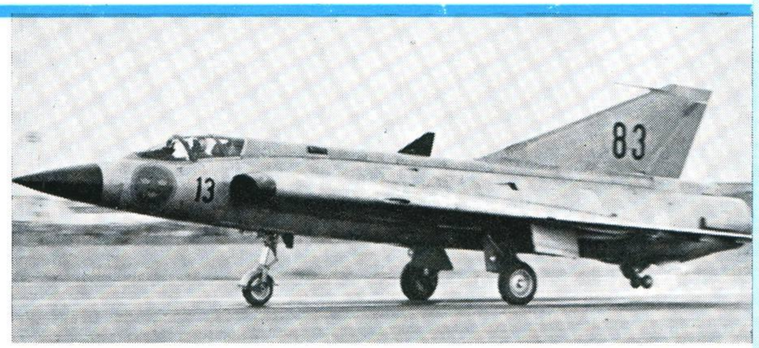
DELTA DART The F-106 Delta Dart, developed from the F-102 Delta Dagger above, is in U.S.A.F. service in two versions: F-105A single-seat intercepter and F-106B two-seat dual purpose version with revised canopy. Span 38 feet





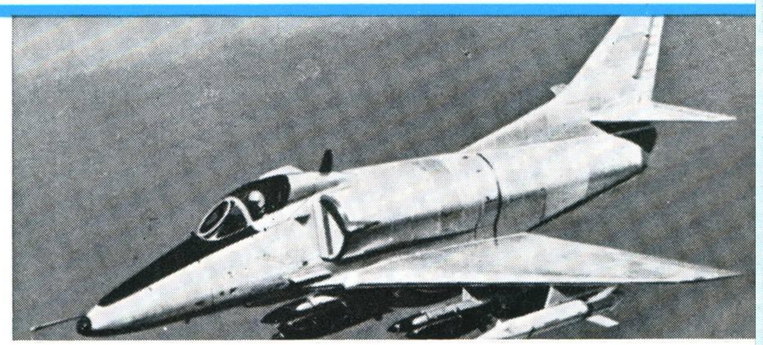
JAVELIN A delta-wing fighter, exclusive to the R.A.F., of which a few of the T.3, F.A.W.7 and F.A.W.9 versions remain in service. Span 52 feet





DRAKEN In the Royal Swedish Air Force, the Draken (Dragon) operates in several versions according to role with variations in nose and canopy shape. Span 31 feet



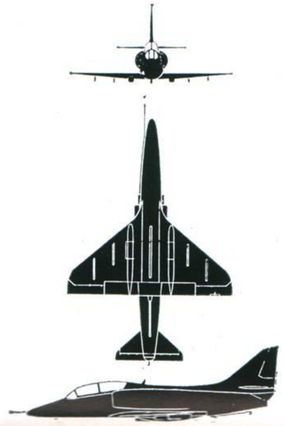


SKYHAWK A-4 This shipboard attack-bomber by Douglas exists in several versions, is operated by the U.S. Navy and Marine Corps, the air arms of Argentina and Israel, and is on order for the Royal Australian Navy. Span 27½ feet





HARRIER The Hawker Siddeley P.1127 which is in production for the R.A.F. as the Harrier, has also been evaluated by the U.S. Army and the West German Luftwaffe and a few examples are flying in those countries. Span 23 feet





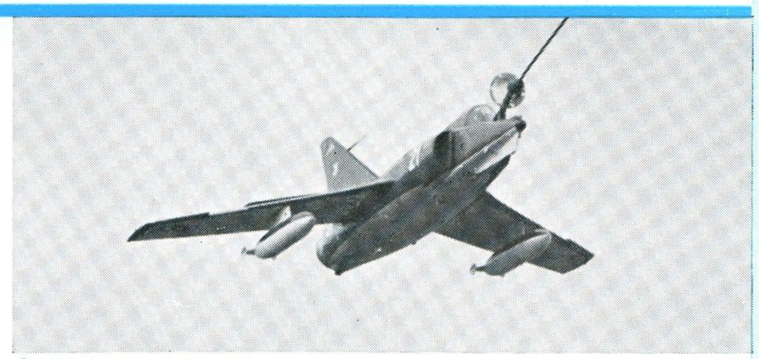
SKYHAWK TA-4E This tandem two-seat combat trainer has been adapted from the Skyhawk A4-B for the U.S. Navy. Production model differs from the prototypes in having canopy fairing into the dorsal fin. Span 27½ feet





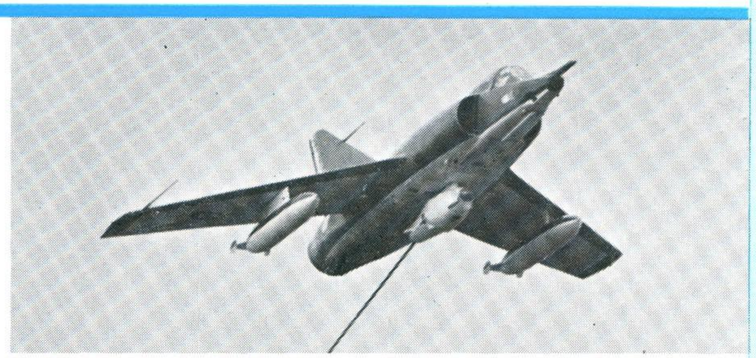
FIDDLER Russian two-seat long range all-weather fighter and reconnaissance-strike aircraft allegedly designed by Yakovlev. Undercarriage retracts into the fairings beneath the wings and wing-mounted Ash air-to-air missiles can be carried.
Span 56 feet (approx.)





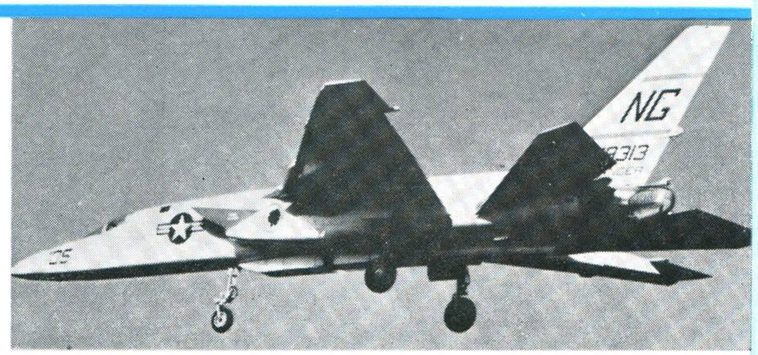
ÉTENDARD IVM The French Navy's Dassault IV-M interceptor/close support fighter has a retractable flight refuelling probe mounted immediately ahead of the cockpit and is the only European shipboard aircraft capable of attaining Mach 1 in level flight. Span 31½ feet





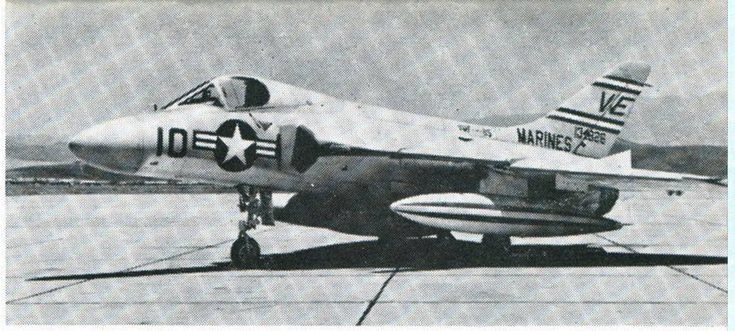
ÉTENDARD IVP This unarmed tactical reconnaissance version of the Étendard IVM has a modified nose incorporating a fixed refuelling probe and may be seen with a "buddy" flight refuelling pack beneath the fuselage. Span 31½ feet





VIGILANTE The U.S. Navy's A-5 Vigilante is in service in three main versions with minor differences in forward fuselage shape. RA-5C version (photo) has a long ventral pack carrying cameras and radar. Span 53 feet





SKYRAY This Douglas F-6A day intercepter and strike fighter has now been relegated to U.S. Navy reserve units and training.
Span 33½ feet



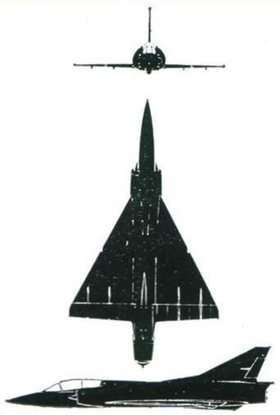


GNAT FIGHTER This Hawker Siddeley lightweight fighter has been supplied to Finland and Yugoslavia and has also been built under licence in India for the I.A.F. Span 22 feet



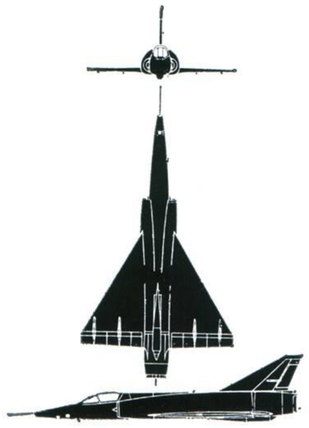


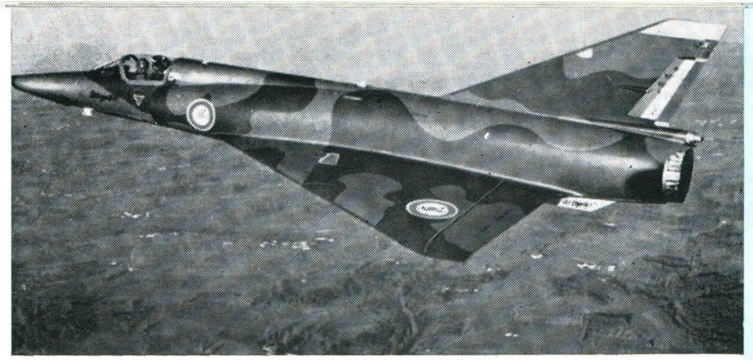
GNAT T.1 This two-seat advanced trainer version of the Gnat fighter serves with the R.A.F. and differs from the single seater in having longer wings and fuselage, a larger canopy and a taller fin and rudder. Span 24 feet





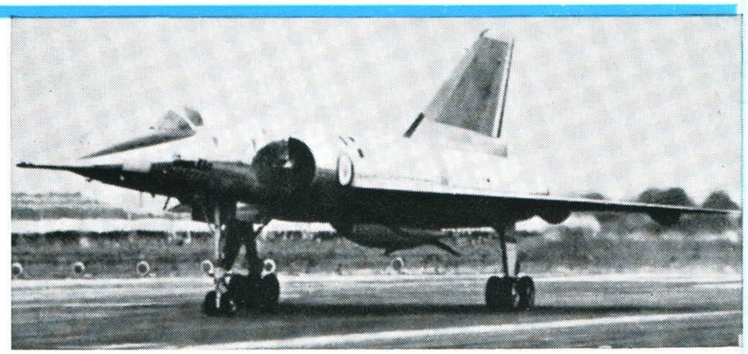
MIRAGE IIIB Two-seater trainer version of the Mirage III built in limited quantities for the French, Australian, Swiss and South African Air Forces. Span 27 feet



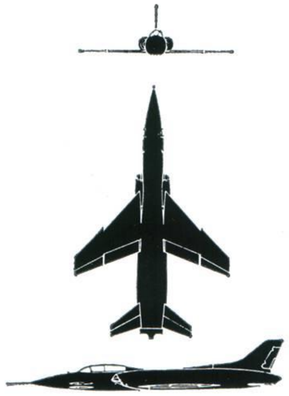


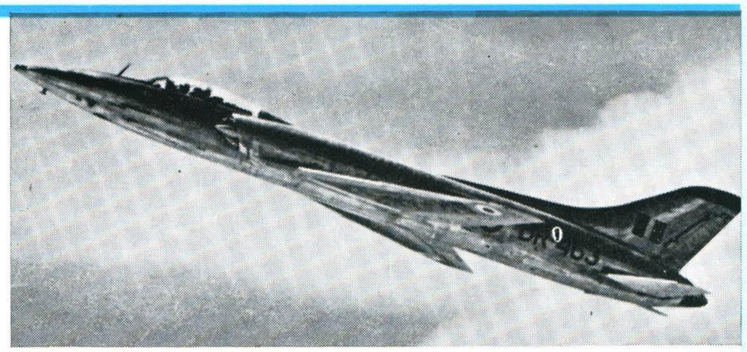
MIRAGE IIIR Several versions of Mirage III series are in French, Australian, Israeli, Lebanese, South African and Swiss service, with variations in nose shape and canopy. The IIIR reconnaissance version is depicted. Span 27 feet





MIRAGE IV Sixty-two examples of this Dassault supersonic two-seat strategic bomber which can be flight-refuelled are being built for France's Forces Aériennes Stratégiques. Span 39 feet



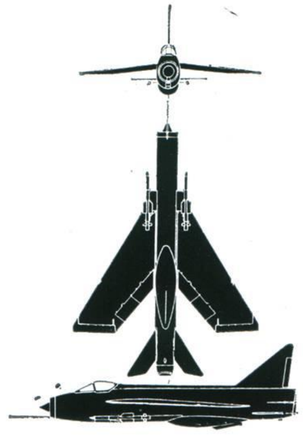


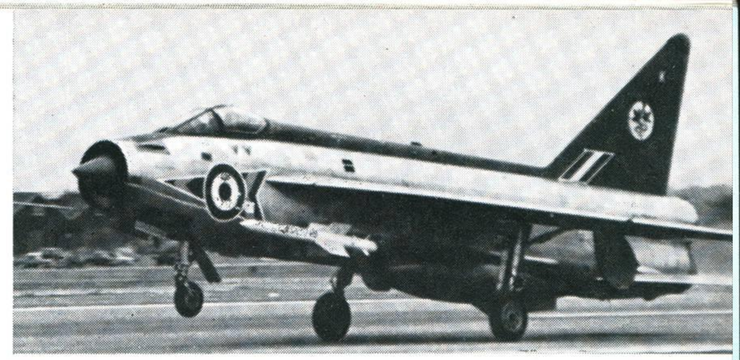
MARUT India's first home-built jet fighter, the Hindustan HF-24 Marut (Wind Spirit) is now in service with the Indian Air Force. Span 29½ feet



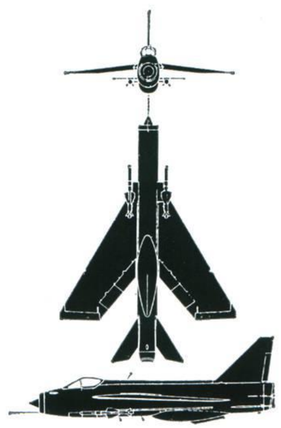


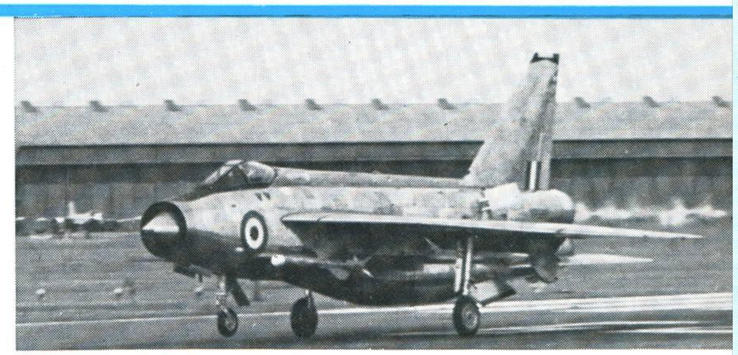
LIGHTNING F.6 Current production version of the single-seat Lightning interceptor for the R.A.F. with outboard leading edge extension, larger ventral fuel pack and other detail changes. Similar version ordered for Kuwait and Saudi Arabia as the F.53. Span 35 feet



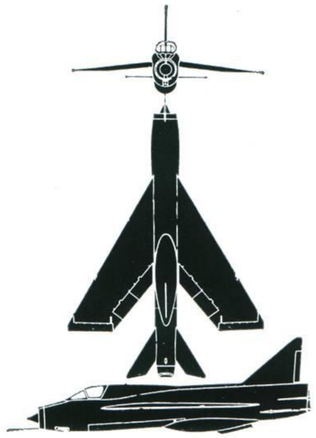


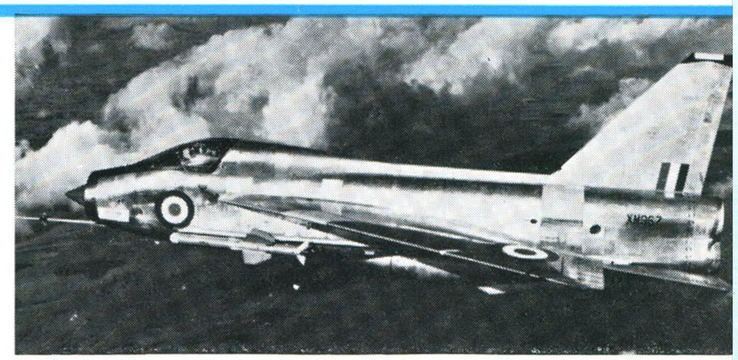
LIGHTNING F.2 Currently the oldest version of the Lightning remaining in R.A.F. squadron service. Four examples were supplied to the Royal Saudi Air Force as F.52s Span 35 feet





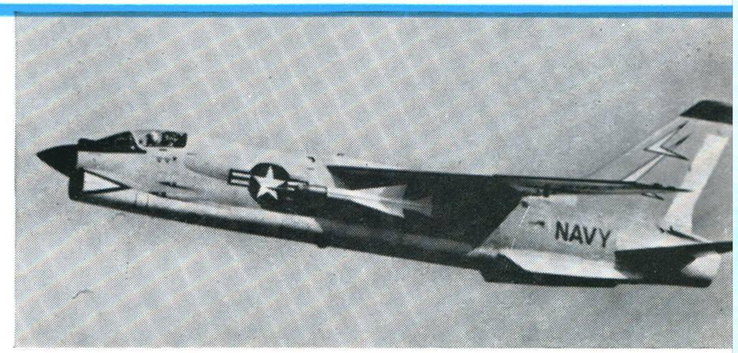
LIGHTNING F.3 Still in R.A.F. squadron service but progressively being converted to F.6 standards, this version was the first to feature a cambered wing and enlarged fin and rudder. May be seen with overwing ferry tanks. Span 35 feet





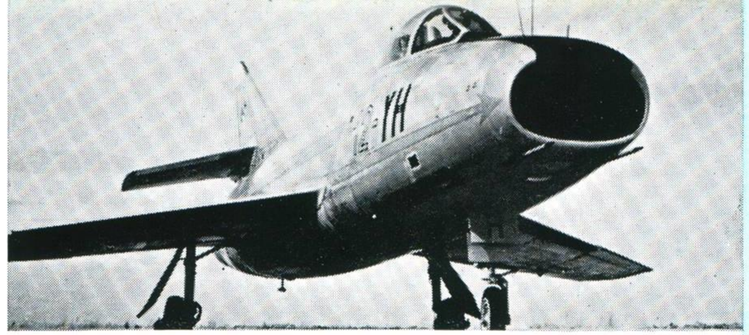
LIGHTNING T.4 R.A.F.'s two-seat side-by-side version of the Lightning F.2. A similar trainer based on the F.3 is designated T.5. Two T.4s have been supplied to Royal Saudi Air Force as T.54s and both Saudi Arabia and Kuwait have ordered some T.5s as T.55s. Span 35 feet





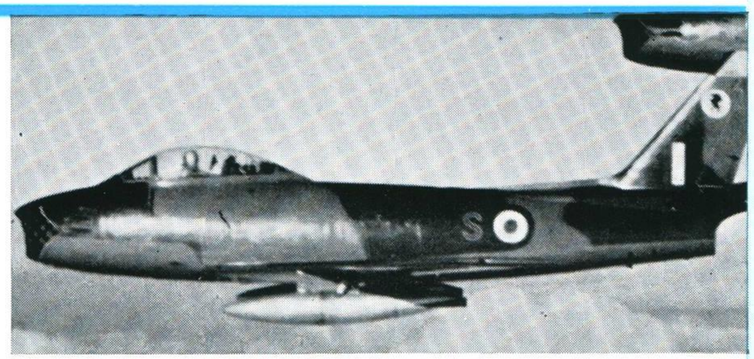
CRUSADER Apart from 42 supplied to the French Navy, the F-8 Crusader is exclusively a U.S. Navy and Marine Corps aircraft. It is produced in several versions with variations mainly in the nose shape. Span 36 feet





SUPER-MYSTÈRE The Super-Mystère, with an increase to the wing sweepback of the Mystère, is in service in French and Israeli forces. Span 34½ feet



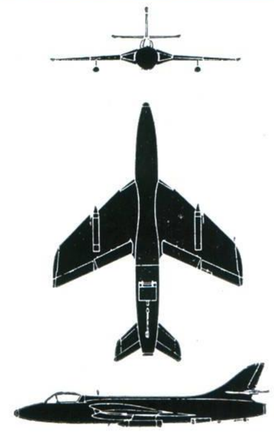


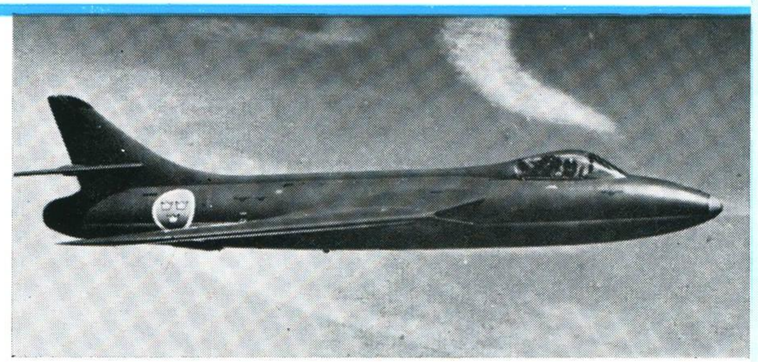
SABRE Famous jet fighter of the 'fifties, the F-86 Sabre is still serving with the air forces of 21 countries. Span 39 feet





SCIMITAR Although no longer in first-line service in the Royal Navy, this aircraft is still used by the Navy for training purposes. Span 37 feet





HUNTER (Fighter variants) Some 2,000 produced in Britain and Europe for service in the R.A.F., R.N., and various air forces world wide. Span 34 feet





MYSTÈRE IVA Expected to be phased out of French Air Force service this year, the Mystère IVA is also operated by the Indian and Israeli Air Forces. Span 36½ feet



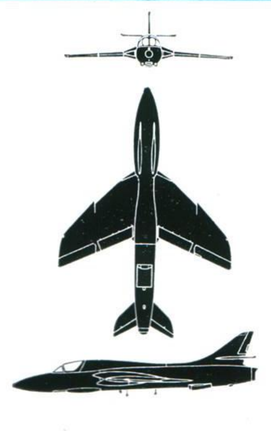


SABRE-D The F-86D, F-86K and F-86L all-weather fighters, with characteristic radar nose, no longer serve in the U.S.A. but still equip several foreign air forces. Span 37 feet





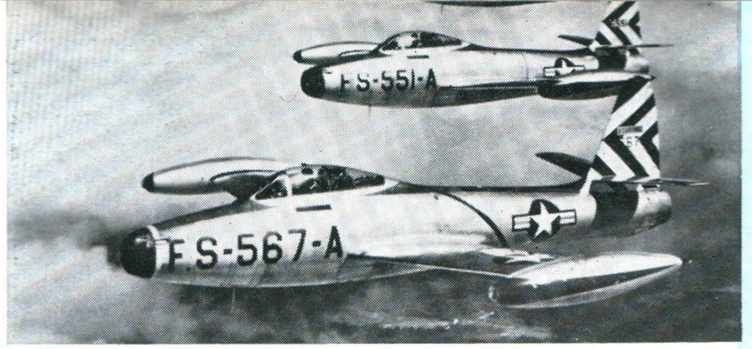
LANSEN Swedish fighter in service in A32 all-weather attack version, J32B all-weather fighter version armed with Sidewinders and S32C version with slightly modified nose to carry cameras for reconnaissance. Span 43 feet





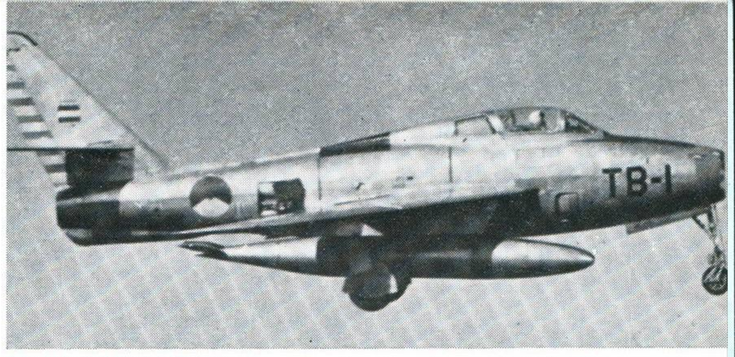
HUNTER (Trainer variants) Two-seat trainer versions of the famous Hawker fighter are serving in various air forces of the world. Span 34 feet





THUNDERJET Although no longer in service in the U.S.A. or the NATO countries, the F-84G Thunderjet fighter-bomber is still used by the Air Forces of Iran, Thailand and Yugoslavia. Span 36 feet





THUNDERSTREAK Swept-wing development of the Thunderjet, the F-84F Thunderstreak is still used by Western European countries as a fighter-bomber and also serves with America's Air National Guard. Span 34 feet





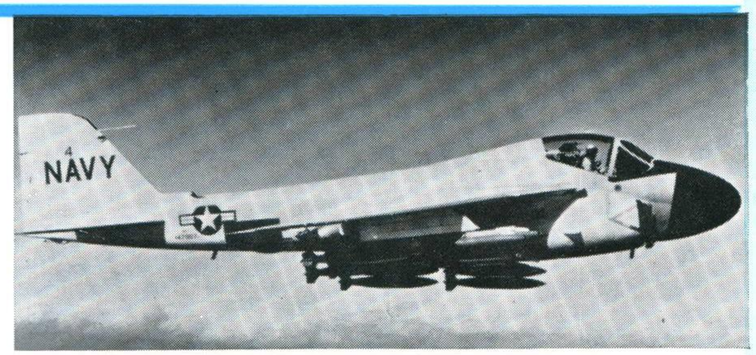
THUNDERFLASH Reconnaissance fighter version of the F-84F Thunderstreak, the RF-84F Thunderflash is still widely used—mainly by NATO forces. Span 34 feet





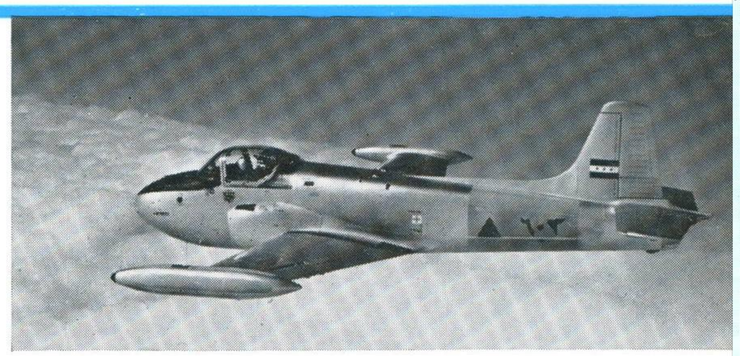
GALEB This Yugoslav-built jet trainer, known as the Soko G2-A Galeb (Gull), is exclusive to the Yugoslav Air Force. Span 38 feet





INTRUDER A shipborne attack aircraft exclusive to the U.S. Navy as their A6-A, the Intruder can launch various weapons including Bullpup missiles. Span 53 feet





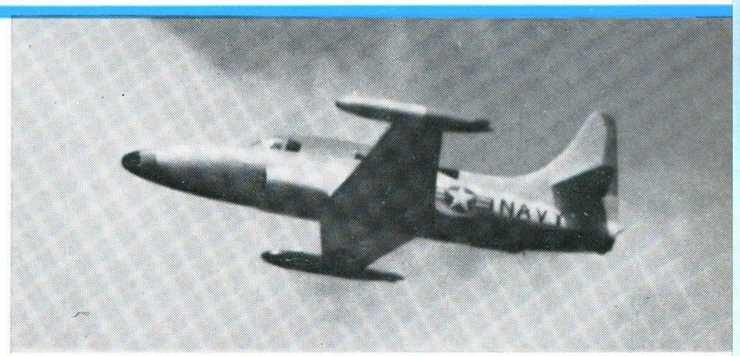
JET PROVOST Standard jet trainer of the R.A.F. in T.3 and T.4 versions, similar in outline. Exports, including armed versions, have been made to Ceylon, Iraq, Kuwait ,Sudan and Venezuela. Span 37 feet





LOCKHEED T-33 A widely-used jet trainer that was derived from America's first Service jet fighter, the F-80 Shooting Star, and built in the U.S.A., Canada and Japan. Span 39 feet





SEASTAR Developed from the Lockheed T-33, the Seastar provided the U.S. Navy with a multi-purpose aircraft and is currently used for training as their T-1A. Span 43 feet





HATSUTAKA The Fuji T-1 Hatsutaka (Baby Hawk) is a Japanese-built jet trainer produced in two versions according to power unit fitted. Armament, including Sidewinder missiles, can be carried.
Span 34 feet



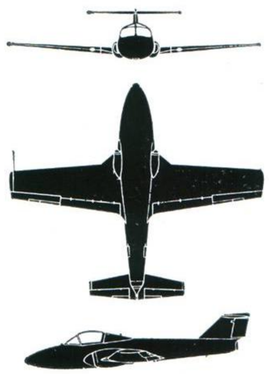


PARIS This French-built twin-jet aircraft is produced in several versions according to role as a jet trainer with armament to a six-seat light executive transport. Span 33 or 38 feet according to version



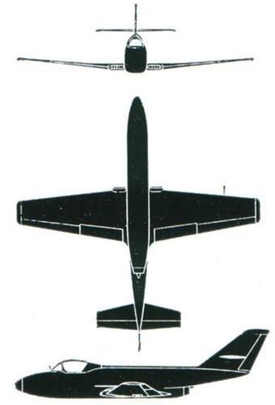


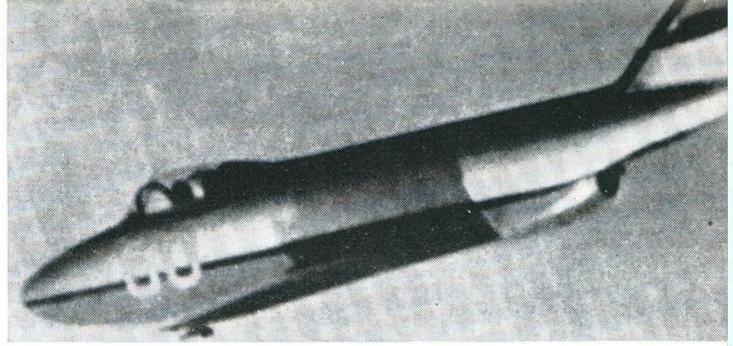
AERMACCHI MB326 This Italian jet trainer is in service in Italy, Ghana and Tunisia and is to be built in Australia for the R.A.A.F. Span 33 feet





TUTOR This two-seat jet trainer was developed by Canadair for the R.C.A.F. as the CT-114 and an armed version has been ordered for the Royal Malaysian Air Force. Span 36 feet





MANTIS Single-seat model of Russia's Yak-30 Magnum two-seat jet basic trainer, the Yak-32 has the Tripartite name of Mantis.
Span 32 feet



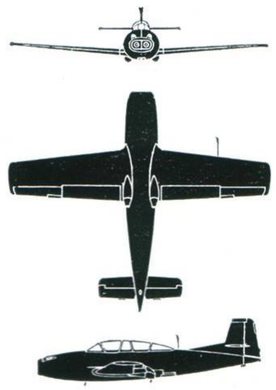


MAGISTER Built in France, Germany, Finland and Israel, the Magister has been exported to many other countries in jet trainer, executive and naval training versions as the Zephyr. Latest version in French service is the higher-powered Super Magister.
Span 37 feet





DELFIN The Czech-built L-29 Delfin (Dolphin) tandem two-seat basic trainer is in service with the air arms of Czechoslovakia, Bulgaria, East Germany, Hungary, Indonesia, Rumania, Russia and Syria. Span 34 feet





SAETA This Spanish two-seat jet trainer, E-14 of the Spanish Air Force, is being built in Egypt as the Al Kahira. The Saeta (Arrow) and Al Kahira carry nose armament. Span 36 feet





CMELAK The Czechoslovak-built Z-37 Cmelak (Bumble Bee) is an agricultural and light utility aircraft and is in quantity production.
Span 40 feet



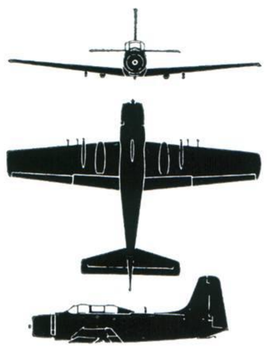


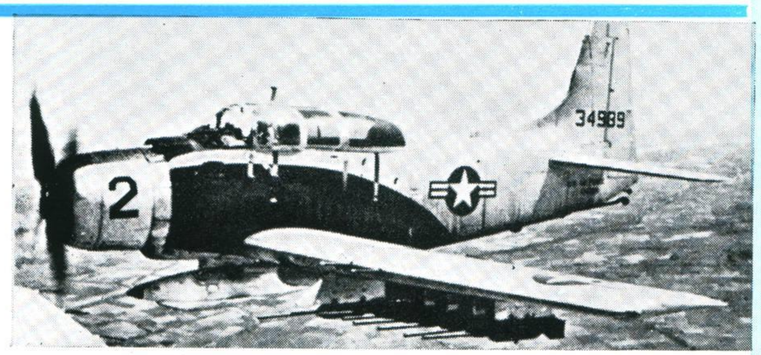
BUCKEYE The North American T-2 Buckeye all-through naval aviation trainer, exclusive to the U.S. Navy, serves in single-engined T-2A and twin-engined T-2B forms. Silhouette and photo depict T-2B.
Span 36–38 feet





GANNET A.E.W.3 The airborne early warning version of the Gannet, exclusive to the Royal Navy, can be distinguished by its large ventral radome.
Span 54 feet





SKYRAIDER A-IE Two-seat "multiplex" version of the Douglas Skyraider, capable of being converted by ready-made kit system for any one of numerous roles. Used by U.S. forces and South Vietnamese Air Force.
Span 51 feet





ISKRA Produced in Poland, the Iskra (Spark) tandem-seat jet trainer has nose armament and attachments for the carriage of underwing stores.
Span 33 feet



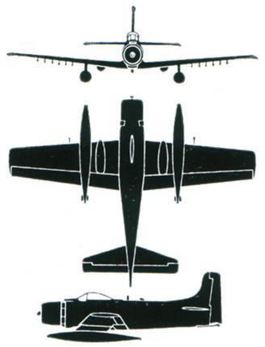


CESSNA T-37 Jet trainer of the U.S.A.F. and seven other air forces, this aircraft can be adapted as a light attack aircraft.
Span 34 feet





ALIZÉ Produced by Breguet, the Alizé (Trade-wind) is a carrier-borne anti-submarine aircraft in service with the French and Indian Navies.
Span 51 feet





SKYRAIDER A-IJ Single-seat day bomber version of Douglas A-I Skyraider and similar to A-IH with which it serves in U.S. Navy attack squadrons. A-IH has also been supplied to South Vietnam and earlier A-ID model still serves with French and Cambodian Air Forces.
Span 51 feet



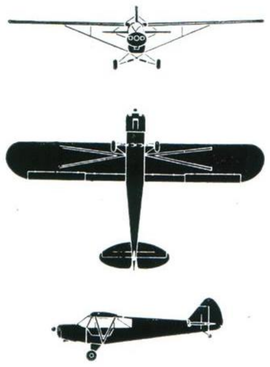


OTTER The Canadian DHC-3 Otter, U-1 of the U.S. Army and U.S. Navy, is in civil and military use world wide with wheel, float or ski-type undercarriage. Span 58 feet



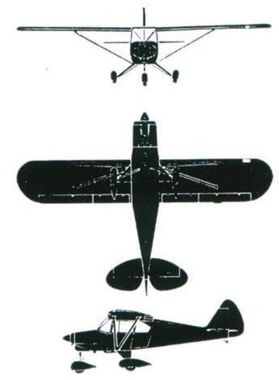


BEAVER The Canadian DHC-2 Beaver is in use world wide including the British Army as Beaver A.L.1 and in the U.S. Army as U-6A. Models may be fitted with float or ski undercarriage. Span 48 feet



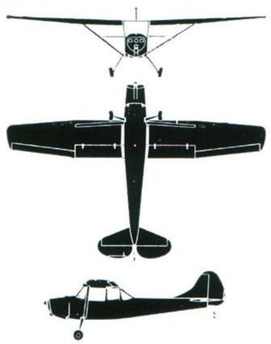


PIPER CUB Of nearly 20,000 Cubs and over 8,350 of the almost identical Super Cubs built, many remain in both civil and military roles world wide. Super Cub is depicted in photo and silhouette. Span 35 feet



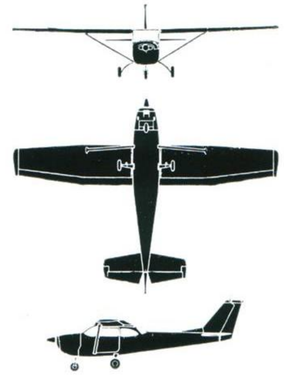


TRI/PACER/CARIBBEAN Developed from the famous Cub series, both the Tri-Pacer and the Caribbean economy version have been built in large numbers. About 50 Tri-Pacers and 14 Caribbeans are currently on the U.K. civil register. Span 29 feet



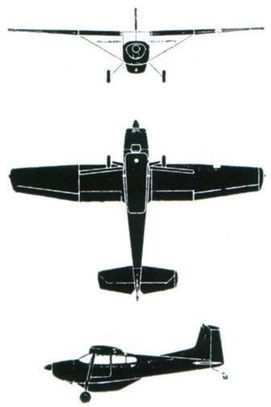


BIRD DOG Proven on the Korean battlefields, over 3,300 Bird Dogs have been built by Cessna, while others have been built under licence by Fuji in Japan. Span 36 feet



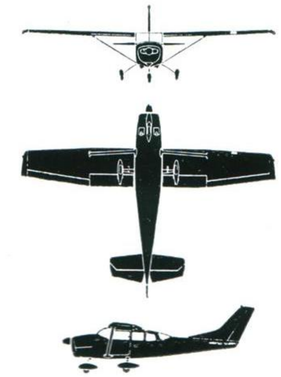


CESSNA 172 This American lightplane, sometimes with unswept fin and rudder, is also built in France under licence. The U.S. Army has adopted the type, less wheel spats and other refinements, as the T-41 basic trainer. Span 36 feet





SKYWAGON Liaison aircraft of the South African Air Force, who ordered 25, some 700 Cessna Skywagons have been built and are used mainly by private owners, chiefly on the American continent. Span 36 feet





SUPER SKYWAGON An improved version of the Skywagon with double cargo doors in starboard side of fuselage. In common with the Skywagon it can be fitted with a cargo pack (photo). Span 37 feet



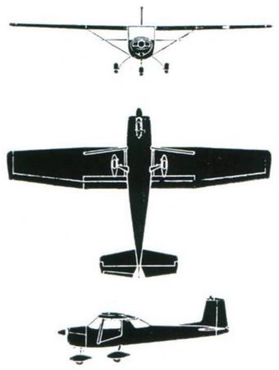


SKYLANE Another widely-used Cessna light-plane and sometimes seen with unswept fin and rudder. The Skylane is also being built in France and military users include the Canadian Army.
Span 36 feet



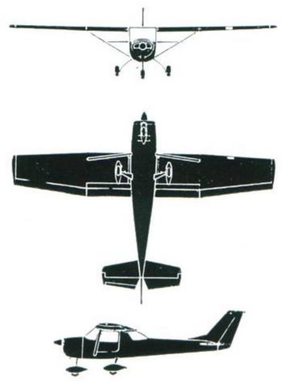


SUPER SKYLANE Passenger version of the Super Skywagon with de luxe furnishing. Span 37 feet





CESSNA 150E Successor to the Models 120 and 140, the 150 is the baby of the Cessna all-metal high-wing family. Early versions, up to the 150E (depicted), have an unswept fin and lack the wrap-around rear window of the 150D et seq. Span 33 feet





CESSNA 150F This 1960 model of the Cessna 150 introduced to the series swept vertical tail surfaces. Span 33 feet



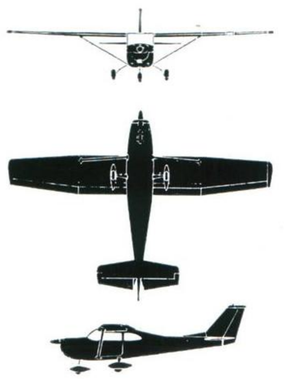


CESSNA 180 This light aircraft is widely used in America as a tourer and among military users are the Australian Army and Indonesian Police. Span 36 feet





CENTURION The Cessna 210 Centurion was the first single-engined aircraft in the Cessna range to introduce swept fin and rudder and a fully-retractable undercarriage. Span 37 feet



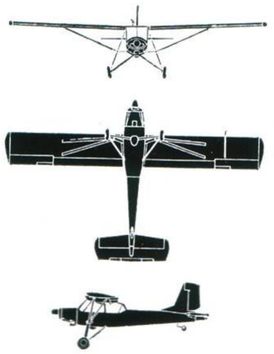


SKYLARK Although no longer in production, the Cessna 175 Skylark is widely used including examples in the United Kingdom.
Span 36 feet



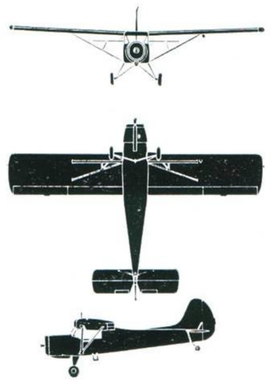


LASA 60 Sometimes known as the Santa Maria, this Lockheed-designed utility aircraft has been built in Mexico for the Mexican Air Force as the LASA-60 and also in Italy by Macchi as the AL60.
Span 39 feet





BRIGADYR The Czech L-60 Brigadyr has been supplied to the Czech Air Force and many others are used in East European countries, including Russia, for ambulance, utility or agricultural duties.
Span 46 feet



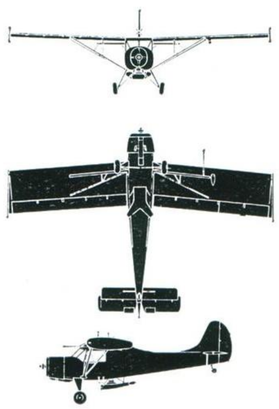


CREEK The several versions of the Yak-12 light liaison aircraft of the Soviet forces (and also built in Poland) show variations mainly in engine cowling shape and cabin window layout. Span 41 feet



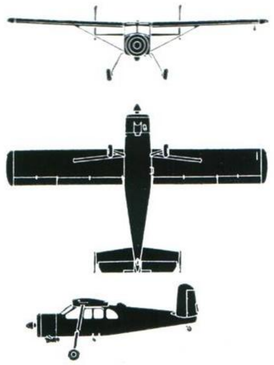


WILGA A Polish utility aircraft, the PZL-104 Wilga (Thrush) can be adapted for several roles and is being built under licence in Indonesia as the Gelatik (Rice Bird). Span 36 feet



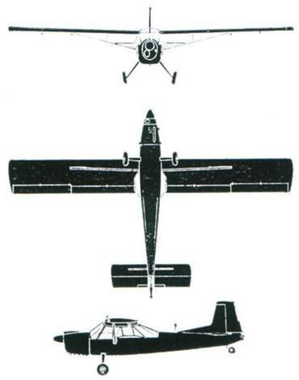


GAWRON The PZL-101 Gawron (Rook) is extensively used in Poland, where it is built, and in other countries mainly of the Soviet Bloc. Ambulance, liaison or agricultural versions are available.
Span 42 feet





BROUSSARD Over 300 of these light transports were built for the French forces and various African countries and a few have been adapted for civil use. Span 45 feet





NORD 3400 Light observation and casualty evacuation aircraft of the French Army, of which 150 were built. Span 43 feet





PORTER The Swiss Pilatus PC-6 Porter general utility STOL aircraft serves with the Swiss Air Force and various other military and civil operators. A number are used in Vietnam. Span 50 feet





TURBO PORTER This aircraft has a longer (3 feet) and more pointed nose than the Porter (opposite) and is being built both in Switzerland and in the U.S.A. Span 50 feet



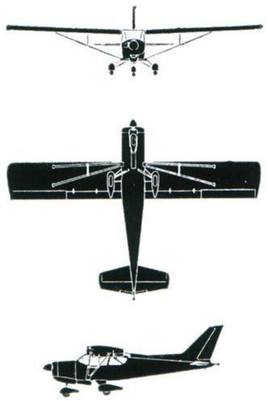


HUSKY The Beagle Husky, which exists in two-seat and three-seat models, has also been built under licence in Portugal.
Span 36 feet



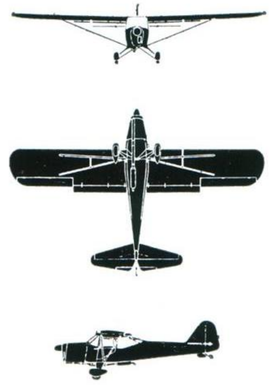


AUSTER A.O.P.9 Standard A.O.P. fixed wing aircraft of the British Army until replaced by helicopters, the Mk. 9 is also in Indian and South African service. Span 36 feet



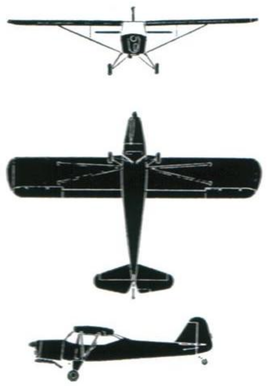


AIREDALE More than 40 examples of this refined development of the traditional Auster monoplane were built by Beagle and most of them are operated in Europe. Span 36 feet



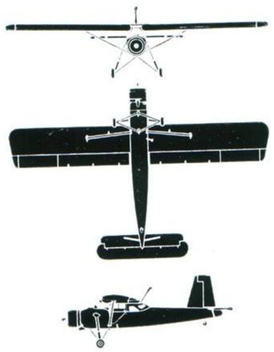


TERRIER This Beagle conversion of the military Auster A.O.P.6 is used as a club aircraft and is suitable for glider-towing.
Span 36 feet



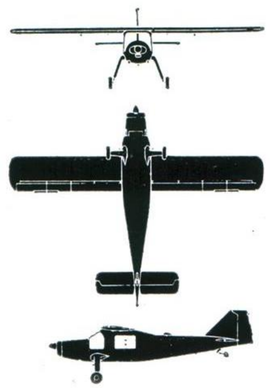


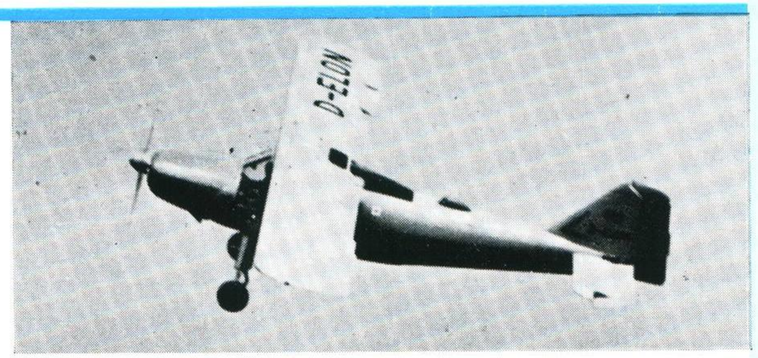
AIGLET Based on the earlier 3-seat Autocrat, the Aiglet 2-seater, of which some 70 were built, is typical of post-war refinements of Auster designs which include the four-seat Autocar.
Span 32 feet (Aiglet) 36 feet (Autocar)





PIONEER Apart from the C.C.1 version of the R.A.F., Pioneers serve the armed forces of Ceylon, Malaya and Muscat and Oman.
Span 50 feet



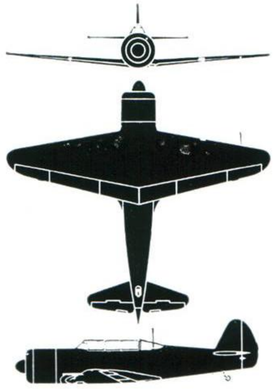


DO.27 Of over 700 Do.27s built in Germany, over 400 were delivered to the Federal Republic forces. As the CASA-127, the Do.27 has also been built in Spain. Span 39 feet



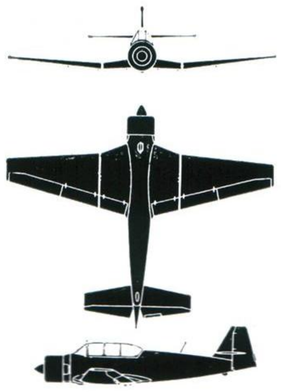


UTVA-60 The Yugoslav UTVA-60 is basically a four-seat utility aircraft but is also available fitted with floats, agricultural spraying rigs or with stretchers for ambulance work. Span 37 feet





MOOSE The Yak 11 trainer, built in Russia and Czechoslovakia, has been supplied to several countries in two main versions, one with conventional and the other with tricycle undercarriage.
Span 31 feet





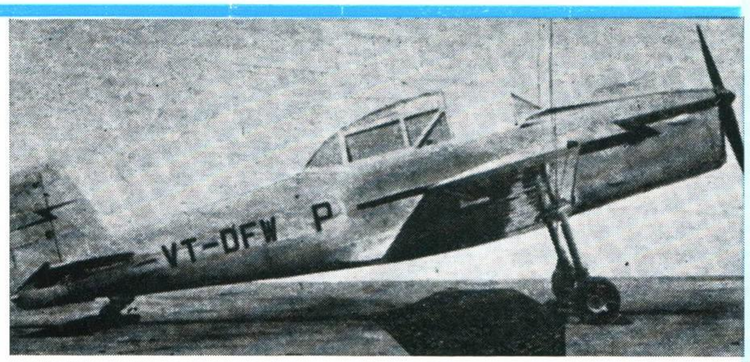
BIES Polish basic trainer in Polish Air Force and civil use, the Bies (Dare-Devil) is equipped for day and night flying training and can carry armament.
Span 34 feet



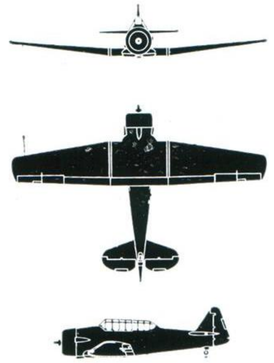


TRENER Over 1,600 examples of the Zlinn Z26 series of basic trainers have now been built, various models differing in undercarriage (fixed or retractable) and cockpit canopy design. The Z326 Trener-Master version (illustrated) can carry wing-tip tanks.
Span 35 feet





HINDUSTAN HT-2 Primary trainer of the Indian forces, this Indian-designed and built aircraft has been supplied to the Ghana Air Force and one was presented to Indonesia.
Span 35 feet



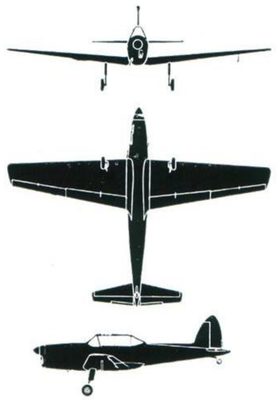


HARVARD About 2,000 examples of this famous trainer, the T-6 Texan, are still used by the air arms of nearly forty countries.
Span 42 feet



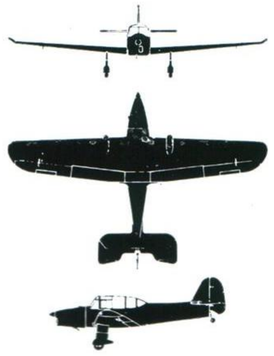


MENTOR Built in America, Canada and Japan and assembled in the Argentine, the Beech T-34 Mentor is widely used as a trainer in ten air arms.
Span 33 feet



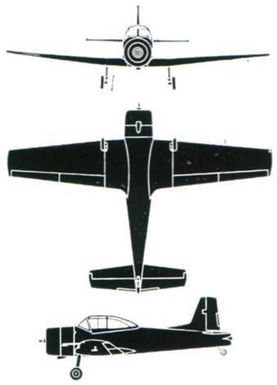


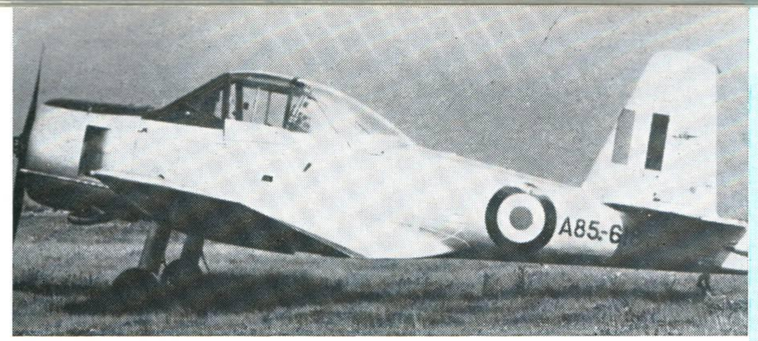
CHIPMUNK Over a thousand of these Canadian trainers were built in the U.K. and sixty in Portugal. No longer a standard R.A.F. trainer, a few remain in British service and many are in civil use including one with a Rover turboprop engine.
Span 34 feet





PRENTICE A few of these aircraft are believed to remain in military service in the Argentine and India, and a few more were converted in Britain for civil use.
Span 46 feet



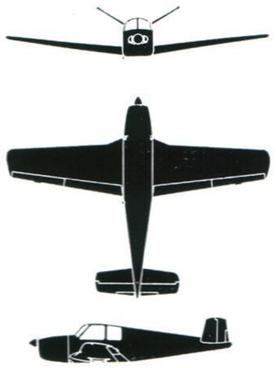


WINJEEL Limited production basic trainer built in Australia for the R.A.A.F. of which a few examples are still flying. Winjeel is aboriginal for Eagle. Span 39 feet



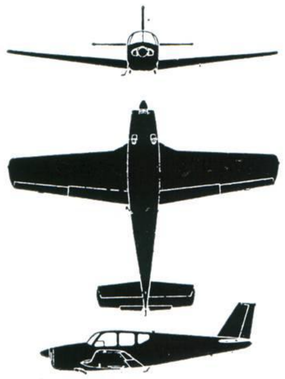


PIAGGIO P.149 Basic trainer of the Federal German forces, built in Italy and Germany, which can be used in a liaison role seating up to five persons. Span 36½ feet



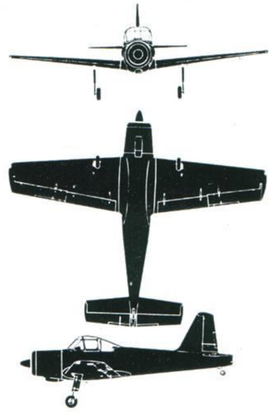


BONANZA More than 8,000 of these V-tail Beech Model 35 four-to-six seaters have been built and nine are currently on the British civil register. Span 33 feet



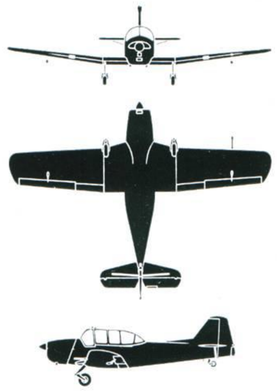


DEBONAIR Basically a Bonanza with a conventional tail, the Beech Model 33 has been built in several versions with minor refinements and one example is currently on the British civil register. Span 33 feet



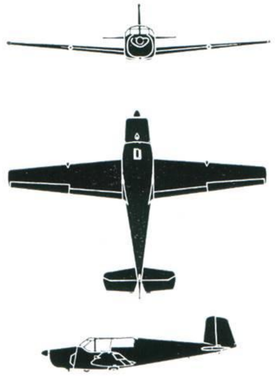


PROVOST Although now entirely supplanted at R.A.F. Flying Training Schools by the Jet Provost, armed versions have been supplied to other air forces and it is used as a trainer by the Irish Air Corps. Span 35 feet





INSTRUCTOR This aptly-named Fokker S.11 primary trainer was built in Holland, Italy and Brazil and is used by the air arms of those countries and also by the Israeli Defence Force. Span 36 feet



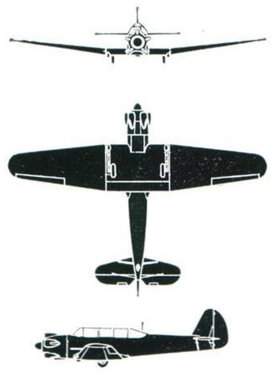


SAFIR The Saab-91 is in military use for training and liaison purposes in Sweden, Austria, Ethiopia, Finland, Norway and Tunisia. Span 35 feet





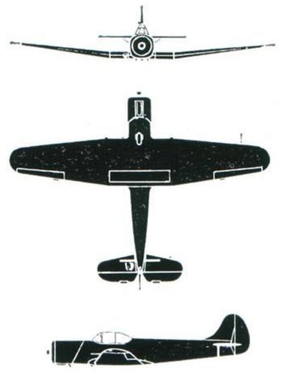
MOONEY 21 An American four-seat cabin monoplane, built in several versions, with total production of some 2,000. The Mooney Master is similar with fixed undercarriage. Span 35 feet

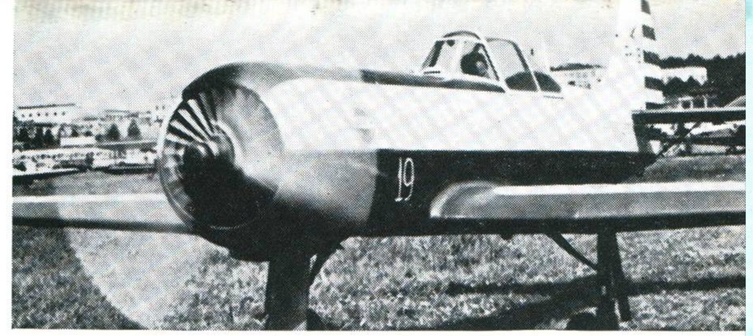




MAX The Yak-18 and -18A primary trainer produced in several versions including tricycle undercarriage. A single-seat version, the YAK-18P, is described in the opposite column.

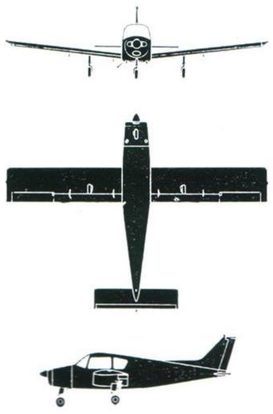
Span 34 or 35 feet according to version.





MOUSE This Yak-18P single-seat trainer is derived from the Yak-18 (opposite). Two versions are in service, the Yak-18P (silhouette) and the Yak-18PM (photograph) with rear-positioned cockpit. Both types have undercarriage variations.

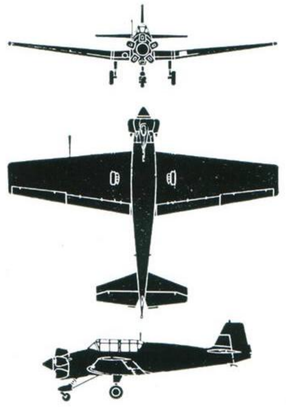
Span 35 feet





MUSKETEER Four-seat lightplane by Beech built in several versions with different engines. Five were on the British civil register early in 1967.

Span 33 feet





JUNAK The Polish LWD Junak (Young Man) primary trainer is built in Mk. 2 and 3 versions, the latter differing in having a tricycle undercarriage.

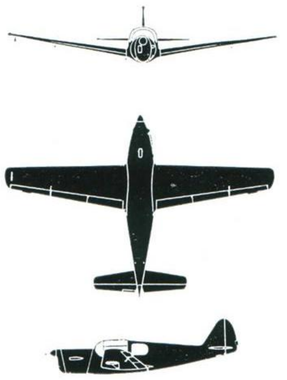
Span 33 feet





NAVION The North American Navion, later built by Ryan, was built in its hundreds up to 1951 and has been followed by the Navion Aircraft Co.'s very similar Rangemaster (not shown).

Span 33 feet





NORECRIN French four-seat club aircraft of which nearly 500 were built.

Span 34 feet





ALCYON French-built basic trainer used by French armed forces, the Cambodian Government and French civil operators.

Span 37 feet





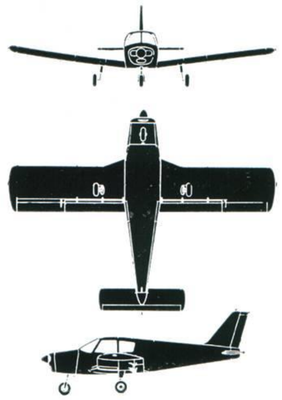
NORALPHA Civil and military aircraft built by Nord and still in limited use in France.

Span 38 feet



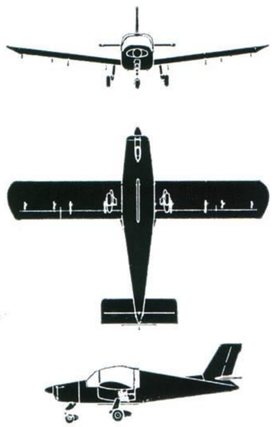


COMMANCHE Built in several versions with variations to tail shape, the four-to-six seat Piper Commanche has been built in its thousands. Span 36 feet



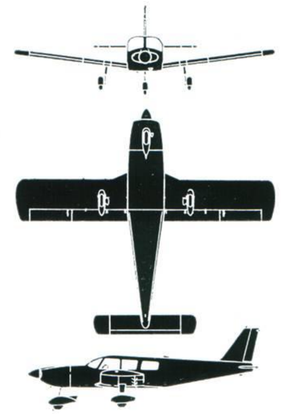


CHEROKEE Another of the Piper series of cabin monoplanes, the Cherokee is produced in several versions and 114 were registered in the U.K. in January, 1967. Span 30 feet



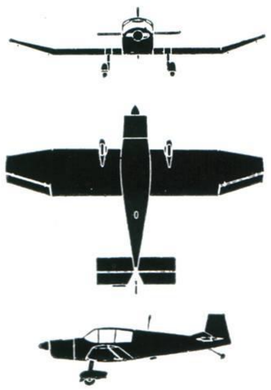


RALLYE The Rallye series of light aircraft has been built in France in several versions with the names Super Rallye, Rallye Club and Rallye Commodore. Span 31 feet





CHEROKEE SIX This six-seat version of the popular Cherokee (above) has a lengthened (by 4 feet) fuselage, a wider cabin—reflected in the wing span—and a larger tailpane. Span 33 feet





AMBASSADEUR This popular French lightplane has been produced in several versions and is being licence-built in the U.S.A. Of similar appearance but with swept tails are the Mascaret and Excellence. Span 29 feet



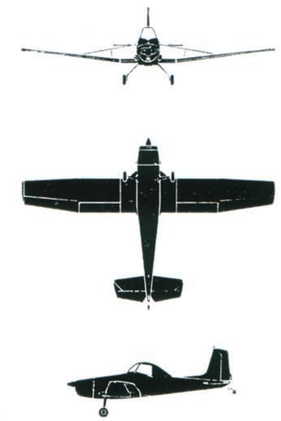


META SOKOL A Czech light monoplane in 3- and 4-seat versions and unusual in having a "reversed tricycle" undercarriage. Late production versions have provision for wingtip tanks. Span 34–35 feet



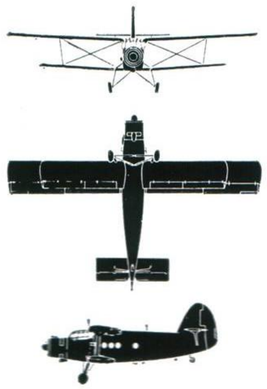


PAWNEE A widely-used agricultural aircraft by Piper of which some three thousand have been built. Span 36 feet



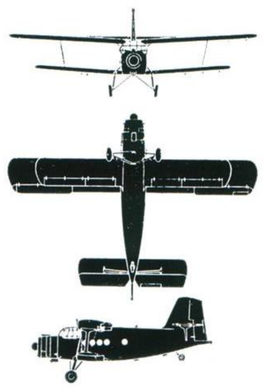


AGWAGON New agricultural monoplane from Cessna now in quantity production. Span 40 feet



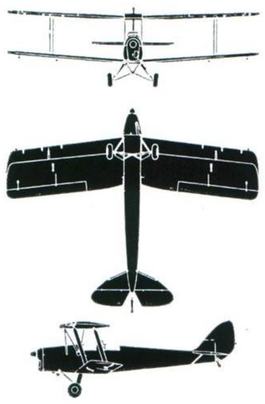


COLT Designed originally for agricultural duties the An-2 utility transport is widely used by Communist Bloc Air Forces and may be seen further afield including Cuba. Span 60 feet



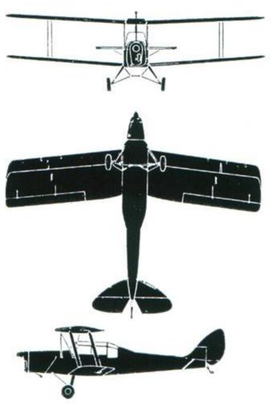


COLT AN-2M The seventeenth and latest version of basic An-2, of which more than 5,000 were built between 1949 and 1962. An-2M features redesigned engine cowling and tail and modified undercarriage. Both wings have double slotted flaps. Span 60 feet



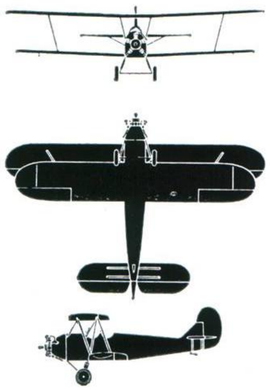


TIGER MOTH Famous wartime trainer of the British and Commonwealth Air Forces, the Tiger Moth is still flying in numbers. Span 29 feet



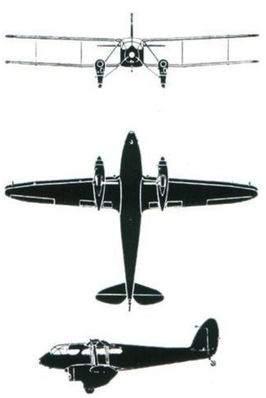


JACKAROO Conversion of the Tiger Moth with widened centre fuselage to accommodate two pairs of side-by-side seats. Has enclosed cockpit and an agricultural version carries spray bars. Span 30 feet



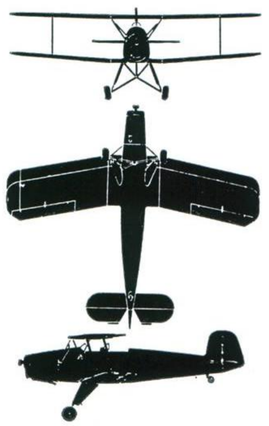


MULE By far the most widely-used biplane in Eastern Europe, the Po-2 Mule is used with several variations including enclosed cockpit and agricultural spray bars. Span 37 feet



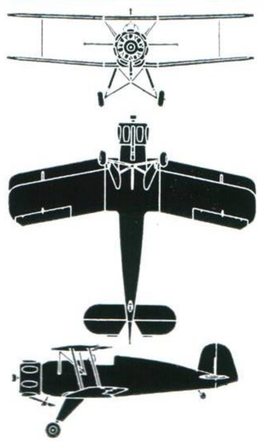


DRAGON RAPIDE The pre-war D.H.89 Dragon Rapide became the Dominie in service. For the 100 (approx.) surviving, the reporting name reverts to Dragon Rapide to avoid confusion with the new Dominie. Span 48 feet



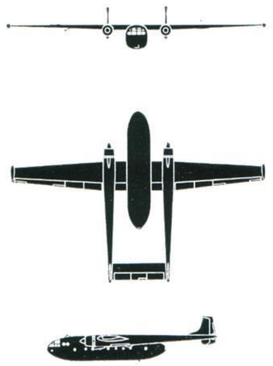


JUNGMANN This veteran German two-seat aerobatic biplane remains in widespread use in Europe. Span 24 feet



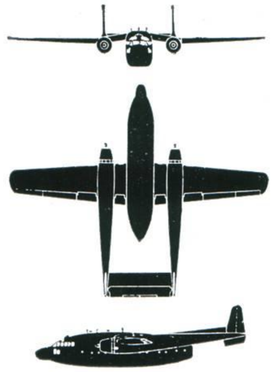


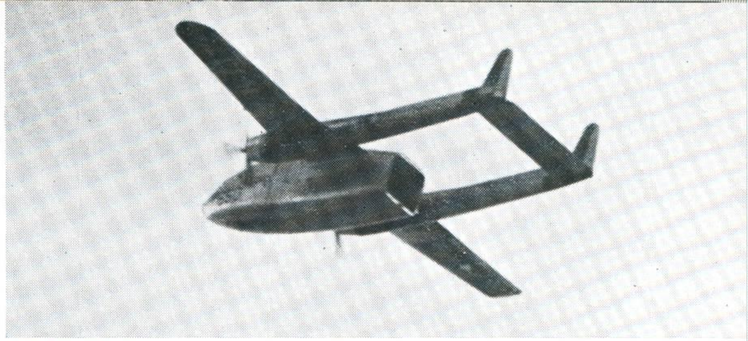
JUNGMEISTER Examples of this famous German pre-war single-seat advanced aerobatic biplane are currently flying in several countries, including Spain, Switzerland, France, Germany and the U.S.A. Some have in-line engines. Span 24 feet





NORATLAS With or without wingtip mounted turbojets, according to version, this French tactical transport serves in French, Western German, Israeli, Nigerian, Portuguese and Tanzanian forces.
Span 107 feet



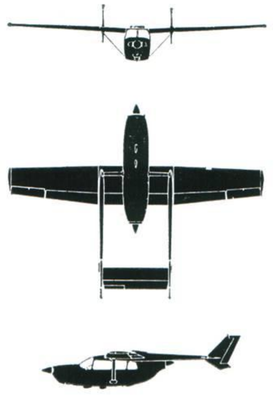


PACKET Serving in seven air forces including reserve elements of the U.S.A.F., the C-119 Packet is also called the Boxcar or Flying Boxcar.
Span 109 feet





CESSNA SKYMASTER Twin-tandem engined lightplane, three examples of which appear on the British civil register. Cessna is included in the reporting name to avoid confusion with the DC-4 Skymaster transport.
Span 38 feet



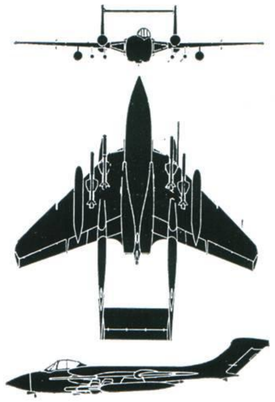


CESSNA SUPER SKYMASTER Development of the four-to-six seater Cessna Skymaster (opposite) with retractable instead of fixed undercarriage.
Span 38 feet



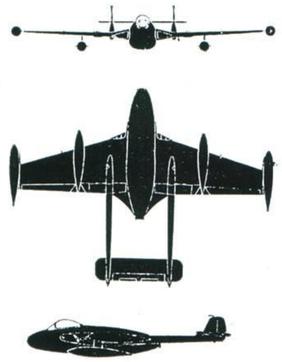


SEA VIXEN F.A.W.1 Late production examples of this original mark of Sea Vixen are being progressively up-dated to F.A.W.2 standard (see opposite column) for the Royal Navy.
Span 50 feet



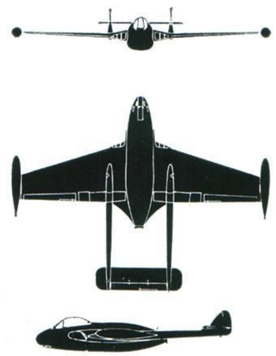


SEA VIXEN F.A.W.2 Standard Service model of the Sea Vixen, the Royal Navy's F.A.W.2 differs from its predecessor in having tail booms of deeper section which extend forward over the wing leading edges and contain extra fuel tanks.
Span 50 feet



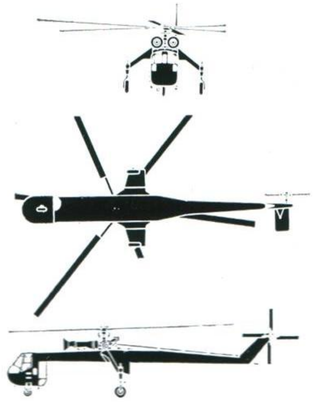


VENOM The Sea Venom F.A.W.52 of the R.N. and F.A.W.53 of the R.A.N., are still in limited use as are the F.B.50 versions of the Swiss and Venezuelan Air Forces and the licence-built Aquilon of the French Navy.
Span 50 feet





VAMPIRE T.11 Vampire T.11s are still on R.A.F. strength as are T.22s with the Royal Navy. T.11s and earlier marks still serve in several air forces.
Span 38 feet





SKYCRANE The Sikorsky S-64 was built to meet Federal German requirements, and as the CH-54A is used by the U.S. Army. It may be fitted with various types of pods to suit it for various tasks.
Length 70 feet





HIP A development of the Hound in Aeroflot service, the Mi-8 Hip seats 28 passengers. A cargo version can carry two medium-sized cars.
Length 49 feet



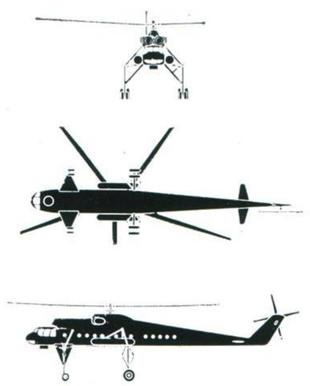


HOPLITE Developed from the Hare, the Mil Mi-2 is in Aeroflot service as a six-to-eight seat helicopter and is also being built under licence in Poland.
Length 57 feet





MOJAVE The CH-37 of the U.S. Services is the Mojave in U.S. Army service and this is the accepted reporting name.
Length 65 feet



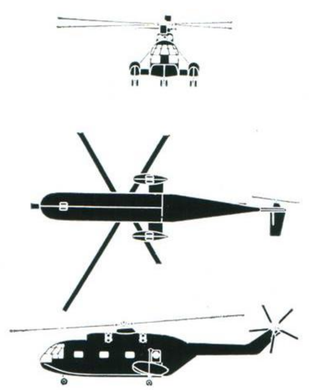


HARKE A development of the Hook (below) this Mil Mi-10 crane-type helicopter is extensively used by the Soviet Army for uplifting surface-to-surface missiles, artillery, tracked vehicles, etc. Latest model has a supplementary cockpit beneath the front fuselage and a shorter undercarriage.
Length 120 feet





HOOK Currently the world's largest helicopter, the Mil Mi-6 is in both civil and military service, military versions having been delivered to the U.A.R. and Indonesia. When used as a flying crane the auxiliary wings can be removed.
Length 122½ feet



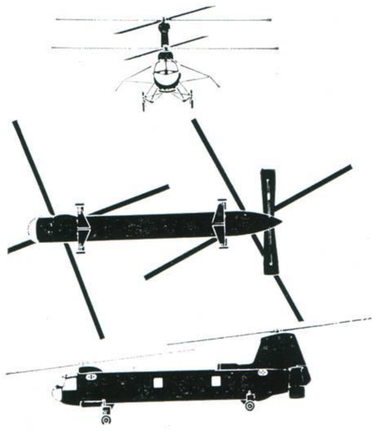


SUPER FRELON The Sud-Aviation Super Frelon (Super Hornet) was evolved from the smaller experimental Frelon and is in production for the French Navy and South Africa.
Length 62 feet





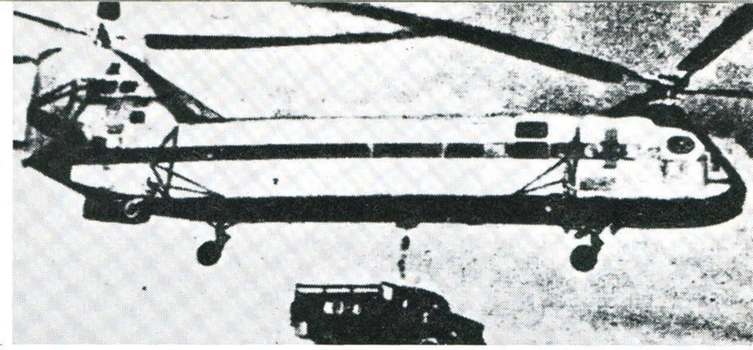
SA-330 Sud Aviation has developed this helicopter to meet a French Army requirement and quantity production is now being initiated.
Length 45½ feet



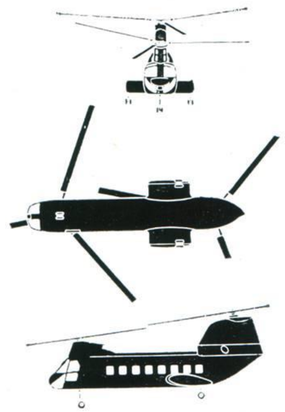


BELVEDERE Standard general-purpose and transport helicopter of the R.A.F. is the Belvedere HC.1. Length 54 feet



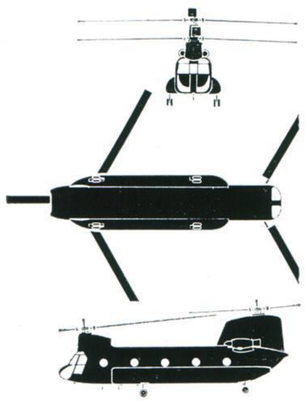


HORSE Standard twin-rotor military helicopter of the Soviet forces. Civil versions have been built for Aeroflot.
Length 70 feet





BOEING-VERTOL 107 In civil and military roles the Boeing-Vertol 107 is the HKP-4 in Swedish service, CH-113 of the R.C.A.F. and CH-113A Voyageur of the Canadian Army. Length 45 feet



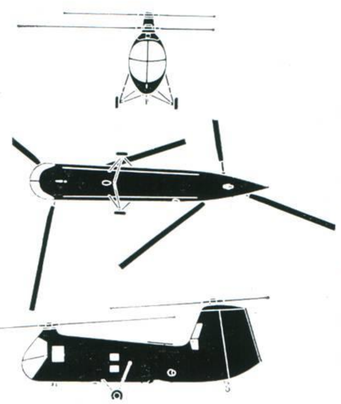


CHINOOK The U.S. Army's Boeing Vertol CH-47A helicopter has been tested as a transport for ballistic missiles and a small number have been armed and armoured for evaluation in Vietnam.
Length 51 feet





SHAWNEE Supplied to the French, Federal German, Canadian and Japanese forces, the Boeing-Vertol 43 is the CH-21 of the U.S. Forces. A modified version, the Vertol 44, was supplied to Sweden and the similar, earlier, Model 42 was the Workhorse.
Length 52½ feet



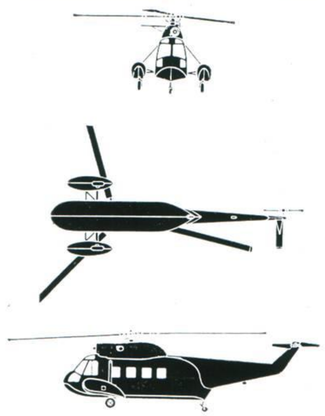


RETRIEVER Liable to be withdrawn in the near future is the Boeing-Vertol UH-25 helicopter serving in the U.S., Canadian and French Navies. Length 32 feet



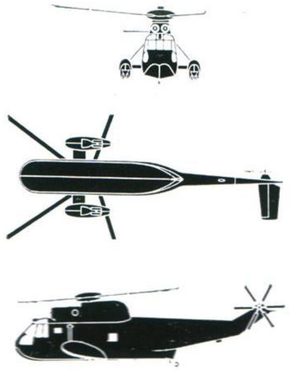


SIKORSKY S-61 Produced in several versions, the S-61 serves in several airlines, including B.E.A. Length 59 feet





SIKORSKY S-62 The HH-52A of the U.S. Coast Guard, the Sikorsky S-62 has also been supplied to the Indian Air Force, the Thai Police and the Japanese Air Self-Defence Force.
Length 45 feet





SEA KING Military version of the Sikorsky S-61, the Sea King has been adopted by U.S., Canadian, Danish and Japanese forces. A British version is being developed by Westland for the Royal Navy.
Length 55 feet





HOUND Russian counterpart of the S-55 Whirlwind, Hound is in military and civil service in quantity in Communist Bloc countries and has been exported to several countries outside the Bloc.
Length 55 feet





WESSEX H.A.S.1 The widely-used Sikorsky S-58 is H-34 in the U.S. forces where it is the Seahorse of the Marines, Seabat of the Navy and Choctaw of the Army. Used by the R.A.F. as the Wessex H.A.S.1 and H.C.2 and by the Royal Navy as the H.U.5.
Length 50 feet





WESSEX H.A.S.3 Under development for the Royal Navy as a successor to the Wessex H.A.S.1, the H.A.S.3 differs in having a search radar dome aft of the extended rotor head fairing. The basically similar Wessex Mk. 31 is in service with the Royal Australian Navy.
Length 48 feet



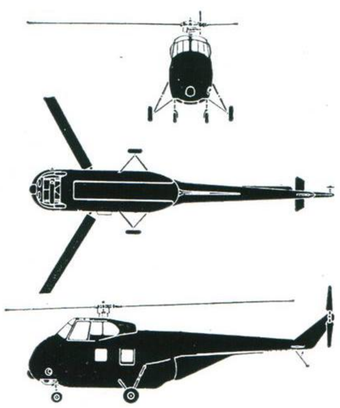


SEASPRITE UH-2 of the U.S. Navy, the Seasprite is built by Kaman.
Length 37 feet





SIKORSKY S-65 CH-53A Sea Stallion heavy assault helicopter of the U.S. Marine Corps, the Sikorsky S-65 has also been ordered for the U.S.A.F. as the HH-53B for service with Aerospace Rescue and Recovery Service.
Length 67 feet



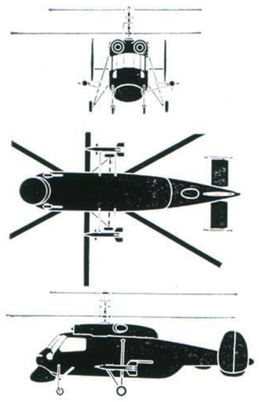


WHIRLWIND The widely-used Sikorsky S-55, H-19 of the U.S. forces, in which it is the Chickasaw of the U.S. Army. Used by both fhe Royal Navy and Royal Air Force.
Length 42 feet



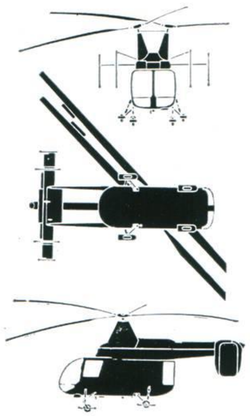


WHIRLWIND (Gnome-engined) With a modified nose to accommodate the Gnome engine, the Series 3 Westland-Sikorsky S-55 helicopters are in production for the British Services and export.
Length 44 feet



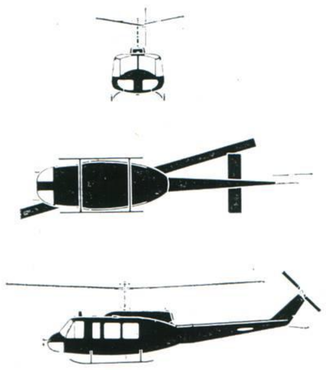


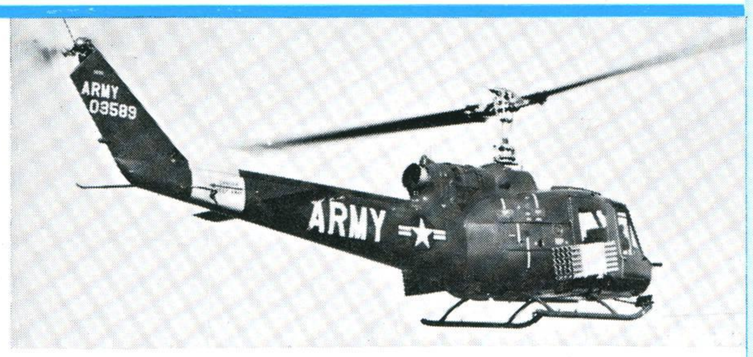
HARP Believed to be the first Russian helicopter intended specifically for both hunter and killer roles in anti-submarine warfare, the Kamov Ka-20 uses a rotor system similar to Hog. Length 30 feet





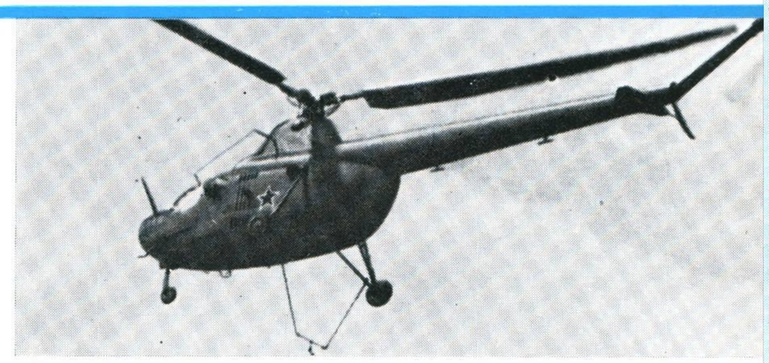
HUSKIE The Kaman HH-43 series of helicopters are used mainly by the U.S. Forces. Length 25 feet



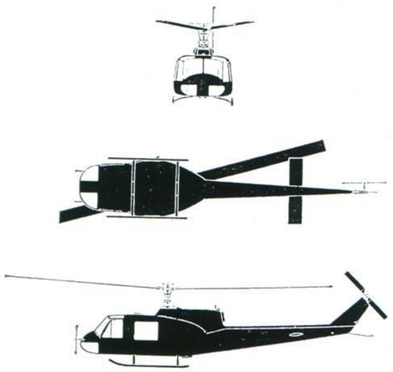


IROQUOIS Widely used in several versions by the armed forces of the U.S. as the UH-1 and by several countries overseas, the Bell Iroquois has been developed from the Bell 204 and is also licence-built in Italy. Photo shows UH-1D version (Bell 205) with lengthened cabin. Length 42 feet





HARE In production for nearly 15 years, the Russian Mil MI-1 helicopter was built in three and four-blade rotor versions. Polish developments are described below. Length 40 feet



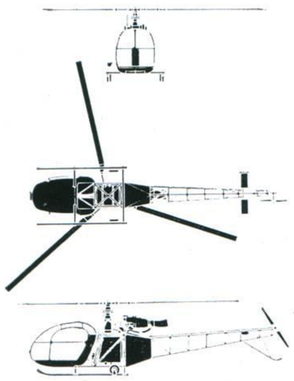


BELL 204 Used by the U.S. Armed Forces as the UH-1A, UH-1B and UH-1E Iroquois, this helicopter has been supplied to several other nations and is licence-built in Japan by Fuji and in Italy by Agusta. Photo shows Agusta-Bell 204-B. Length 42 feet





HARE (Polish versions) From the licence-built Hare (SM-1, photo), the WSK (Equipment Manufacturing Centre) in Poland developed the SM-2 (silhouette) with a completely new forward fuselage. Length 40 feet



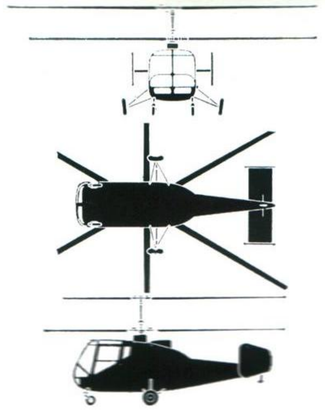


ALOUETTE II With a total production run of 1,000 expected to be completed this year, this French Sud Aviation helicopter is widely used in military and civil roles. Length 32 feet





ALOUETTE III Seating seven, to the five of the II version, this Alouette (Skylark) is also in the service of many nations besides the French forces and is to be licence-built in India. Length 33 feet





HEN Russian Kamov Ka-15 two-seat helicopter for military and civil utility roles including agricultural and ambulance uses.
Length 19½ feet





HOG Kamov Ka-18 four-seat helicopter developed from the Hen, opposite.
Length 23 feet



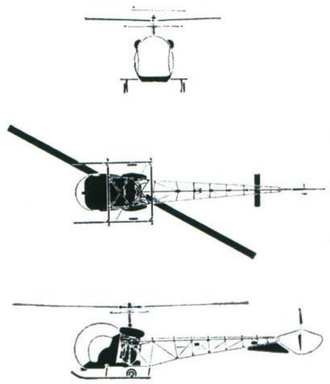


HILLER 12E The OH-23G Raven of the U.S. Army, the Hiller 12E is in R.N. service as the Hiller H.T.2 and serves the Canadian Army and R.C.A.F. as the CH-112.
Length 28½ feet



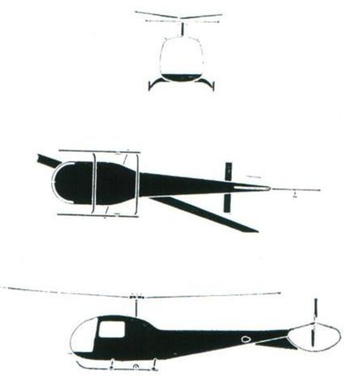


HILLER E4 This derivative of the Hiller 12E has a lengthened cockpit and serves the U.S. Army as the OH-23F Raven. Photograph shows the civil version.
Length 30 feet





SIOUX The Sioux A.H.1 is the British Army's Westland-built version of the widely-used Bell 47G including the OH-13 (also designated Sioux) of the U.S. Army and TH-13 of the U.S. Navy.
Length 32 feet





RANGER Another version of the Bell Model 47, built in the U.S.A. and Italy for military and civil use.
Length 32 feet





WASP Standard anti-submarine helicopter of the Royal Navy as the Wasp A.S.1, this aircraft differs from the Scout, opposite, by its equipment, wheeled undercarriage and folding tail. Also used by the navies of Brazil, Holland, New Zealand and South Africa.
Length 30 feet





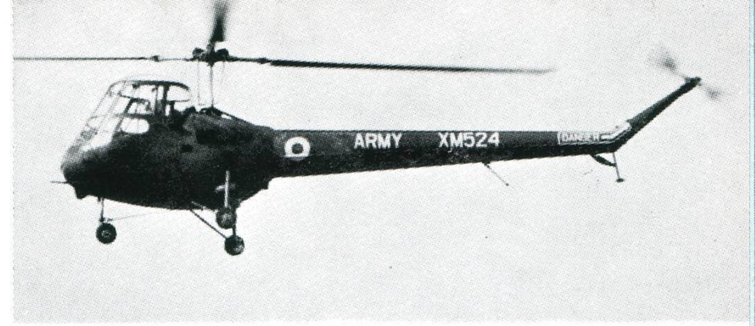
SCOUT To the same basic design as the Wasp (opposite) the Scout A.H.1 is the standard general-purpose helicopter of the British Army. Also supplied to Australia, Bahrain, Uganda and Jordan.
Length 31 feet



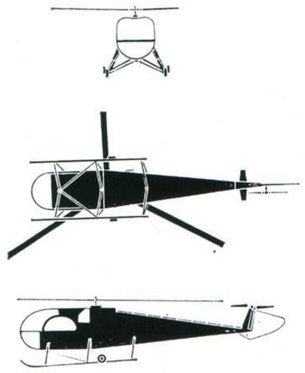


WIDGEON A refined version of the Sikorsky S-51 Dragonfly, the Widgeon, built exclusively by Westland, is in civil and limited military use. Length 41 feet



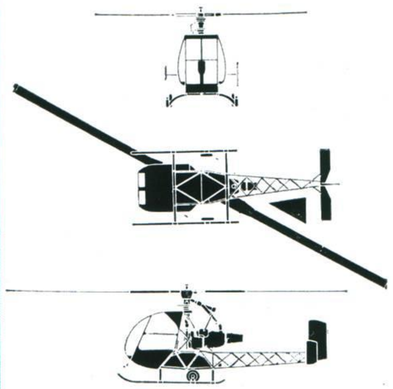


SKEETER Only the A.O.P.6 Skeeter remains in British service but Skeeters are currently serving with the German and Portuguese armed forces. Length 26½ feet





BRANTLY B.2 American two-seat helicopter marketed in the U.K., the Brantly B.2 is produced in several versions with visual variations mainly in the cabin shape. Length 22 feet





DJINN Sud-Aviation built 150 of these light helicopters, mainly for French Army use. Photo shows a Djinn fitted with agricultural spray rig. Length 17 feet



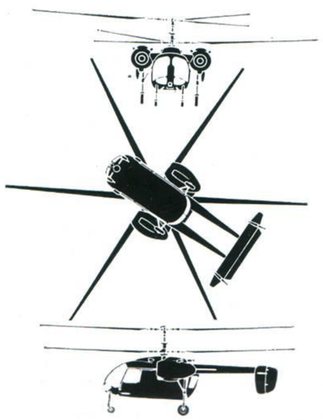


HELI-BABY A two-seat utility helicopter, designed and built in Czechoslovakia, built in two main versions. Length 28 feet



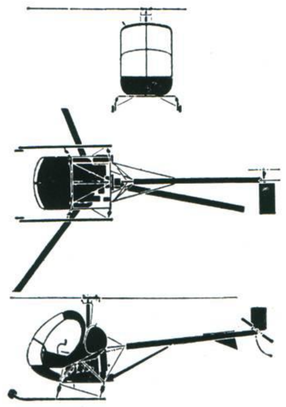


SKYHOOK A Cessna helicopter built in limited numbers. Length 33 feet





HOODLUM Production deliveries of this Kamov Ka-26 light utility helicopter began in 1966 and six are scheduled to fly in the U.K. Length 25 feet





HUGHES 200 Originally known as the Hughes 269A, this two-seat light utility helicopter serves with the U.S. Army as the TH-55A and has been delivered to the armed forces of several other countries. The civil version, the Model 300, is in large-scale use. Length 22 feet

Printed for Her Majesty's Stationery Office by William Clowes & Sons, Limited, London and Beccles. 149192. 19,500. 7/67