

Miniature Limited

## TRANSPORT WINGS

1:72 Mixed-media kit of the


## DC-10-30

Second generation jet airliner

## History, Notes and Instructions

## Introduction

TRANSPORT WINGS kits are model kits of large aircraft. They are suitable for the experienced modeller, who can now own 1:72 models of many of the world's largest airliners and their military transport variants. Because of their size, they are moulded in very heavy ( 2 mm ) plastic, and are supplied with all parts pre-cut. Additional cutting and sanding is required, and the parts are assembled with polystyrene cement, as with any other plastic kit. Resin or metal parts should be attached with super glue (cyanoacrylate) or 5-minute epoxy as the builder prefers.

## History

The DC-10 is a medium to long range airliner. It was a successor to the DC-8 for long-range operations, and competed with the Lockheed L-1011 Tristar, which has a similar configuration. The DC-10 became McDonnell Douglas's first commercial airliner after the merger between McDonnell Aircraft Corporation and Douglas Aircraft Company in 1967.
Production of the DC-10 ended in 1989 with 386 delivered to airlines and 60 to the U.S. Air Force as air-to-air refueling tankers, designated the KC-10 Extender. The DC-10 was succeeded by the McDonnell Douglas MD-11 which entered service in 1990.

## Variants

The DC-10 was manufactured in a number of different variants:
DC-10-10 (122 built)
DC-10-10CF (9 built)
DC-10-15 (7 built)
DC-10-20 : Proposed but unbuilt DC-10-10 powered by Pratt \& Whitney JT9D turbofans.
DC-10-30 (163 built)
DC-10-30CF (26 built)
DC-10-30ER (6 built)
DC-10-30AF (11 built)
DC-10-40 (42 built)
DC-10-50 (none built)
KC-10A Extender (60 built)
KDC-10 (4 built)
MD-10: This was retrofit cockpit upgrade to the DC-10
10 Tanker: A DC-10-10 converted into a firefighting tanker aircraft.

## PARTS LIST

| Vacformed Part | Resin Parts |
| :---: | :---: |
| Fuselage-keel. . . . . . . . . . . . . . . . 1 off | Air conditioning inlets/outlets . . . 1 sprue of 7 |
| Fuselage-left . . . . . . . . . . . . . . . . 1 off | Centre engine bypass duct - left . . . . . 1 off |
| Fuselage-right . . . . . . . . . . . . . . . 1 off | Centre engine bypass duct - right . . . . 1 off |
| Tailplane - top . . . . . . . . . . . . . . . . 1 off | Centre engine intake . . . . . . . . . . . 1 off |
| Tailplane - bottom left . . . . . . . . . . 1 off | Centre engine intake duct - centre . . . . 1 off |
| Tailplane - bottom right . . . . . . . . . . . 1 off | Centre engine intake duct - aft . . . . . . 1 off |
| Wing - bottom left . . . . . . . . . . . . . . 1 off | Engine centre body . . . . . . . . . . . 3 off |
| Wing - bottom right . . . . . . . . . . . . . 1 off | Engine jet pipe - early . . . . . . . . . . 3 off |
| Wing - top left . . . . . . . . . . . . . . . 1 off | Engine jet pipe - late . . . . . . . . . . . 3 off |
| Wing - top right . . . . . . . . . . . . . . . 1 off | Engine pylon . . . . . . . . . . . . . . . 2 off |
| Wing attachment block . . . . . . . . . . . 1 off | Outlet guide vane ring . . . . . . . . . . 3 off |
| Cast Metal Parts | Wing engine bypass duct - left . . . . . . 2 off |
| Miscellaneous | Wing engine bypass duct - right . . . . . 2 off |
| Drain mast. . . . . . . . . . . . . . . . . 3 off | Wing engine intake . . . . . . . . . . . 2 off |
| Engine fan disc . . . . . . . . . . . . . . 3 off | Wing tip - left . . . . . . . . . . . . . . . 1 off |
| Rudder actuator fairing, top . . . . . . . . 1 off | Wing tip - right . . . . . . . . . . . . . . 1 off |
| Rudder actuator fairing, middle . . . . 1 off | Etched Brass Parts |
| Rudder actuator fairing, bottom . . . . 1 off | Centre landing gear |
| Flap hinge - large (inboard) . . . . . . 2 off | Hydraulic bracket (I) . . . . 3 off (1 spare) |
| Flap hinge - medium (centre) . . . . . 2 off | Main landing gear |
| Flap hinge - small (outboard) . . . . . 2 off | Brake rod half (P) . . . . 24 off (8 spares) |
| VHF antenna . . . . . . . . . . . 2 off | Brake rod bracket (E) . . 12 off (4 spares) |
| Centre Landing Gear (CLG) | Hydraulic bracket - 1 (H) 3 off (1 spare) |
| Door (CLG) . . . . . . . . . . . . 2 off | Hydraulic bracket - 2 (L) . . 3 off (1 spare) |
| Leg (CLG) . . . . . . . . . . . . 1 off | Link, half (N) . . . . . . 6 off (2 spares) |
| Retraction jack, CLG . . . . . . . . 1 off | Small door - left (B) . . . . . . . . 1 off |
| Torque link, (common to main \& certre gear 3 off | Small door - right (C) . . . . . . . 1 off |
| Main wheel, CLG . . . . . . . . . . 2 off | Sway-brace bracket (A) . . 2 off (1 spare) |
| Main Landing Gear (MLG) | Miscellaneous |
| Door Strut. . . . . . . . . . . . . 2 off | Angle-of-attack vane (J) . . 3 off (1 spare) |
| Door (MLG), large left . . . . . . . . 1 off | Engine nacelle vane (D) . . 4 off (2 spares) |
| Door (MLG), large right . . . . . . 1 off | Pitot head - large (G) . . . 5 off (2 spares) |
| Leg (MLG) . . . . . . . . . . . . 2 off | Pitot head - small (F) . . . 2 off (1 spare) |
| Mounting (T-bracket), MLG leg . . . . 2 off | Screen washer pipe (K) . . 6 off (4 spares) |
| Retraction jack, (MLG) . . . . . . . . 2 off | Windscreen wiper blade (M) 6 off (4 spares) |
| Sway brace . . . . . . . . . . . . 2 off | Other Items |
| Main wheel (MLG) . . . . . . . . . 8 off | 2 mm polystyrene. . . . . . . . 1 sheet |
| Nose Landing Gear (NLG) | Decals - British Caledonian livery . 1 sheet |
| Scribing template 1 off | Decals - windows \& stencils . . . 1 sheet |
| Door, left (NLG) . . . . . . . . . . 1 off |  |
| Door, right (NLG) . . . . . . . . . . 1 off |  |
| Leg (NLG) . . . . . . . . . . . . 1 off |  |
| Nose wheel . . . . . . . . . . . . 2 off |  |
| Retraction jack, NLG . . . . . . . . 1 off |  |
| Taxi light . . . . . . . . . . . . . 1 off |  |
| Torque link, NLG . . . . . . . . . . 1 off |  |



Etched brass detail parts (Spare items shown in red)


Scribing template

WARNINGS 1 - THIS KIT CONTAINS SMALL AND/OR SHARP PARTS. KEEP THE CONTENTS OF THE KIT AWAY FROM CHILDREN.

## 2 - THIS KIT CAN CONTAIN PRECUT PARTS WITH SHARP EDGES OR CORNERS. BE CAREFUL WHEN YOU HANDLE THESE PARTS BECAUSE THEY CAN CAUSE CUTS OR OTHER INJURIES.

## 3 - USE ALL SOLVENTS, PAINTS, FILLERS AND OTHER MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION. OBEY ALL SAFETY WARNINGS.

A A keel is provided to give structural strength to the fuselage - it is important that you use it because of the size of the model.
B All parts must be cut and/or sanded to the correct profile.
C Large vacuum formed parts can have blemishes from the forming process. Check all external surfaces and fill these blemishes before painting the model.

D The plastic is thick enough to let the modeller sharpen the edges of aerofoils, which can be slightly rounded from the vacuum forming.

## 2 PREPARATION

A Carefully remove any flash or casting seams from all the metal and resin parts.

B Make the three sets of landing gear bay components from the 2 mm plastic sheet supplied.

## 3 HORIZONTAL STABILIZER AND FUSELAGE SUB-ASSEMBLIES.

A. HORIZONTAL STABILIZER (TAIL PLANE)
(1) Sand the tail plane parts to the correct shape.
(2) Cement the top and bottom halves of the tailplane together.
(3) When the tailplane is dry, file and sand the Leading and trailing edges to shape.
(4) Apply any filler that is necessary and sand to shape when the filler is hard.
(5) Scribe any panel detail as required, then polish the tail plane.
(6) Put the tail plane aside until required.

## B FUSELAGE ASSEMBLY

(1) Sand the left and right fuselage halves and the keel to the correct shape.

(2) Cut out the rear doors for the Nose Landing Gear (NLG) and Centre Landing Gear (CLG) bays (the large forward doors of each bay are closed when the landing gear is down).
(3) Cut out the slots in the rear fuselage for the tail plane and wing root support.
(4) Make the NLG and CLG bay parts.
(a) For the NLG cut out these parts from the .080 "/2 mm plastic sheet supplied:

- Roof panel - $50 \mathrm{~mm} \times 22 \mathrm{~mm}$
- Two side panels, each $50 \mathrm{~mm} \times 20 \mathrm{~mm}$
- Front and rear bulkheads to the shape shown below.

(b) For the CLG cut out these parts from the .080 " $/ 2 \mathrm{~mm}$ plastic sheet supplied:
- Roof panel - $50 \mathrm{~mm} \times 22 \mathrm{~mm}$
- Two side panels, each $50 \mathrm{~mm} \times 20 \mathrm{~mm}$
- Front and rear bulkheads to the shapes shown below.


All dimensions in millimeters.
Skech not to scale.
(5) Cut off the centre engine intake. Also use the resin bypass duct halves as templates cut away the rear fuselage until the resin parts fit well as shown in the sketch below.

(6) Put half the thickness of the keel into one fuselage half and cement it in place with liquid polystyrene cement.
(7) File the edge of the fuselage keel to the internal radius of the opposite fuselage half.
(8) Assemble the NLG and CLG bays.
(a) Drill holes in the side panels for the pins on the landing gear legs and nose gear drag link.
(b) Assemble each of the two landing gear bays.

1 Drill holes in the side panels for the pins on the landing gear legs and nose gear drag link.
$\underline{2}$ Assemble the two landing gear bays. For each bay:
a Assemble the two end panels and one side panel to the roof panel. The end panels fit between the side panels as shown in the sketch below.

NLG bay shown,
CLG bay similar.

$\underline{b} \quad$ Put the centre and nose landing gear legs and the drag link in place, then attach the other side panel to hold the legs in place.
(9) Centre engine duct assembly.
(a) Paint the visible interior faces of the three parts of the resin intake duct. Do not paint bonding areas.
(b) Polish the bullet of the engine fan disc and attach it in the short intake tube.

(c) Assemble the three intake duct parts.

(10) NACA intakes and exhaust outlets.
(a) Decide is the exhaust outlet doors are to be open or closed. 1 If they are to be open, cut out the areas for the intakes and the outlets.
$\underline{2}$ If they are to be closed, use the scribing template and scribe the outlines of the doors.
(b) Cut out the holes for the components as shown in the photograph below.

(1) Mark the position of each rectangle on the outside of a fuselage half.
(2) Carefully cut out a rectangle of plastic. Make it undersize and slowly increase the size of the cutout until the resin part is a good fit. Do this for each resin part.
(3) Remove plastic from inside the fuselage until the front of the resin part is flush with the outer surface. If you remove too much plastic, make packers from .005" plasticard to give a good fit.
(4) When you are happy with the fit of all the parts, attach them from the inside of each fuselage half.
(11) Assemble the centre (tail) engine assembly.

(12) Fuselage assembly.
(a) Attach these sub-assemblies to one fuselage half:

- NLG bay
- CLG bay
- Centre engine intake duct
- Centre engine assembly
- Keel (put the keel into the fuselage to half its depth and flood the joint with liquid cement).
(b) When the keel is securely bonded to the fuselage half, file the mating face of the keel to suit the curvature of the other fuselage half.
(c) Attach nose weights to the nose gear bay top surface (approximately 40 g ).
(d) Put the tailplane in place in the two fuselage halves.
(e) Clip the other fuselage half on to the keel, cement it with liquid polystyrene cement and hold the two halves together with adhesive tape until the fuselage is dry.
(f) Fill and sand the joints in the fuselage assembly.

NOTES 1 -We recommend that you put a wooden spar (not provided in the kit) in each wing to prevent the wings drooping with age.

2 - When the wings are assembled, cut off each wing tip and attach the resin wingtips supplied.
A Sand the wing parts to their correct shape and make sure they fit together correctly.

B Prepare a wooden spar for each wing. Assemble the top and bottom of the wings with the spars in place, WITHOUT ANY CEMENT to make sure that they fit correctly.


EXPLODED VIEW OF LEFT WING (RIGHT WING IS MIRROR IMAGE)

C Cut out the main landing gear doors in the wing lower surface.
D Make two sets of main landing gear bay parts. Cut out these parts from the $.080 / 2 \mathrm{~mm}$ plastic sheet supplied:

- Packers to let the T-brackets sit horizontally
- Panels to fill the space between the upper and lower faces of the wing, to give the fore and aft faces of the main landing gear bay structure.
E Cement the wing spars in place, before cementing the wing halves together.

F Cut off and discard each wing tip and attach the resin wingtips as shown below (left side shown, right side similar).


G Fill and sand the joints in the wing assemblies

## WING ENGINE SUB-ASSEMBLIES

A Remove all the flash and feeds from the resin engine parts and pylons.

B Assemble the two engines. The bullet on the cast metal fan discs can be polished if required, before they are glued into the intakes of the engines.


C Attach the intake fences.

## FINAL ASSEMBLY

A Attach the wings to the fuselage. Put the wing attachment block into the cutout in the fuselage. and attach the wings.

B Ft the engine sub-assemblies into the sockets in the under side of the wing and cement them in place.
C Cement the main landing gear legs and side braces in place with super glue or epoxy adhesive.
D Fit the wing main landing gear components as shown below.


LEFT MAIN LANDING GEAR (MLG) SHOWN

- RIGHT MLG OPPOSITE

ETCHED PARTS ARE SHOWN IN YELLOW.

## LETTERS ADJACENT TO PARTS

ARE IDENTIFIER ON ETCHED FRET

* = FOLD ETCHED PART TO FORM CHANNEL BEFORE ASSEMBLY
BOND TWO OF ITEMS N AND P
BACK TO BACK BEFORE ATTACHING THEM

E Fit the centre main landing gear components as shown below.


F Fit the nose landing gear components as shown below.

G. Attach the flap tracks, intake fences and other detail parts in position with super glue. We recommend that you refer to photographs of an actual aircraft if posible.
H Fill any joints and prepare the surface for painting. Add any scribed surface details which are required at this time.
I Paint the model and apply the decals. The window decal sheet includes separate windows with blinds in different positions for use if required as shown below.
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A template is enclosed for the width of the fuselage cheat line. Take care, it is VERY small!!


STENCIL DECALS ON WING ENGINES (RIGHT SIDE)


STENCIL DECALS ON CENTRE (TAIL) ENGINE (RIGHT SIDE)


STENCIL DECALS ON DOOR LEFT REAR LOWER FUSELAGE


STENCIL DECALS ON WING ENGINES (LEFT SIDE)


STENCIL DECALS ON CENTRE (TAIL) ENGINE (LEFT SIDE)


STENCIL DECALS ON CARGO DOOR RIGHT REAR LOWER FUSELAGE


STENCIL DECALS ON RIGHT FORWARD FUSELAGE


STENCIL DECALS ON LEFT FORWARD FUSELAGE



THE LATEST VERSION OF THESE INSTRUCTIONS AND A 1:72 SCALE VERSION OF THIS DRAWING
FROM OUR WEBSITE - www.aim72.co.uk

## VHF antenna


BRITISH CALEDONIAN DC-10-30


## NOTES

## IF THESE INSTRUCTIONS ARE UPDATED, THEY CAN BE DOWNLOADED FROM OUR WEBSITE - www.aim72.co.uk

