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# DIAMOND DA40 PILOTS MANUAL

*BY LIONHEART CREATIONS LTD.*



# INTRODUCTION

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THIS IS THE SLEEK AND FUTURISTIC DIAMOND STAR DA40 XLS BY DIAMOND AIRCRAFT CORPORATION. THE DIAMOND STAR FEATURES 4 SEATS, AND OPTIONAL EXPANDED REAR CARGO AREA, THE MODERN MULTI-FUNCTION DISPLAY SYSTEM, A FLIP UP CANOPY STRUCTURE FOR THE FRONT PASSENGERS AND A REAR GULLWING DOOR FOR THE REAR SEAT PASSENGERS. THE BACK SEATS CAN FOLD DOWN FOR CARGO.

THE DIAMOND STAR FEATURES A 180 HP LYCOMING IO-360, COUPLED TO A 3 BLADED CONSTANT SPEED PROP, ENABLING A COMFORTABLE CRUISE SPEED OF 150 KNOTS AT 75% THROTTLE.

FEATURES THAT COME WITH THIS VIRTUAL DIAMOND STAR PACKAGE ARE;

- \* MFD PANEL SYSTEM
- \* DETAILED AND FUNCTIONAL VIRTUAL COCKPIT OR VC
- \* OPTIONAL REMOVEABLE WHEEL SKIRTS FOR GRASS FIELD LANDINGS AND ROUGH AIRSTRIPS
- \* DETAILED ANIMATED PILOT
- \* REAR SEATS ARE CLICKABLE AND FOLD DOWN
- \* FLEXING WINGS THAT RAISE UP AS AIRSPEED INCREASES
- \* VIBRATION IN WINGS WHEN ON THE GROUND, ENGINE IS RUNNING
- \* ALTERNATE NIGHT LIGHTING SYSTEMS WITH BOTH DOME LIGHT, AND INSTRUMENTS ONLY NIGHT TIME ILLUMINATION THAT FEATURE 'SOFT GLOW' FOR HIGH REALISM NIGHT FLYING

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DIAMOND STAR WITH WHEEL SKIRTS ON

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# PERFORMANCE AND SPECS

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ENGINE LYCOMING IO-360-M1A  
HORSEPOWER 180 HP  
PROPELLER MT 3-BLADE COMPOSITE  
CONSTANT-SPEED

AIRWORTHINESS CATEGORY NORMAL AND  
UTILITY

LENGTH 26 FT 5 IN  
HEIGHT 6 FT 6 IN  
WING SPAN 39 FT 6 IN

MAXIMUM TAKEOFF WEIGHT 2,645 LBS  
USEFUL LOAD 860 LBS  
(STANDARD EQUIPPED AIRPLANE)

FUEL CAPACITY, USABLE 50 GAL  
FUEL AVGAS 100LL

TAKEOFF DISTANCE, GROUND ROLL 1,175 FT  
TAKEOFF DISTANCE, 50-FOOT OBSTACLE  
1,700 FT  
LANDING DISTANCE, GROUND ROLL 1,155 FT  
LANDING DISTANCE, 50-FOOT OBSTACLE  
2,093 FT  
RATE OF CLIMB, SEA LEVEL 1,120 FT/MIN  
MAXIMUM OPERATING ALTITUDE 16,400 FT  
MAXIMUM SPEED 157 KTAS

CRUISE SPEED AT 75% 150 KTAS/10 GAL/HR  
STALL SPEED, FULL FLAPS 49 KIAS

MAXIMUM DEMONSTRATED CROSSWIND 20  
KTS  
RANGE, AT 75% 45 MINUTE RESERVE 720 NM  
RANGE, AT 55% 45 MINUTE RESERVE 785 NM

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# EXTERIOR FEATURES

3 BLADED  
CONSTANT  
SPEED PROP

NEWEST  
DIAMOND STAR  
XLS COWLING

AERO DYNAMIC  
NOSE GEAR  
FAIRING

REMOVEABLE  
WHEEL SKIRTS

T-TAIL REAR  
CONTROL  
SURFACES

UPWARDS  
OPENING CANOPY  
AND GULLWING  
DOOR

FLEXING WINGS  
THAT VIBRATE  
WITH ENGINE  
RUNNING

ANIMATED  
LANDING GEAR  
FLEX WITH  
BUMPS IN  
TERRAIN



WING STEP

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# INTERIOR FEATURES

HIGH DETAIL  
AUX GAUGES

LIGHT  
SWITCHES  
CONSOLE

HIGH DETAIL  
MFD  
SYSTEM

FUNCTIONING  
ANIMATED  
KEY SWITCH  
WITH  
ANIMATED  
KEY FOB  
THAT  
SWINGS

HIGH DETAIL  
ENGINE  
CONTROLS  
CENTER



ELT SWITCH  
ARMABLE

CLICKABLE  
BREAKER  
SWITCHES

WHEEL  
SKIRTS  
HIDDEN  
SWITCH CLICK  
TO HIDE /  
UNHIDE

PILOTS VENT  
WINDOWS,  
CLICK TO OPEN

HIGH DETAIL  
DIAMOND  
RUDDER  
PEDAL  
ASSEMBLIES

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DIAMOND STAR DA40 XLS CABIN



# PFD SCREEN

FLIP  
BACKUP TO  
ACTIVE

FLIP NAV1  
TO NAV2  
SELECTION

HEADING  
MANAGEMENT  
FOR  
AUTO PILOT

MAXIMIZE  
AND  
MINIMIZE  
CLICK  
ZONE

ALTIMETER  
MANAGEMENT  
KNOB  
FOR AUTO  
PILOT

ENGINE  
READOUT

GPS MINI  
WINDOW

GPS / NAV  
SELECTION

WIND  
DIRECTION  
WINDOW

NAV  
POPUP  
WINDOWS

CLOCK  
AND  
TIMER

ALERTS

FLIP  
BACKUP  
TO ACTIVE

FLIP COM1  
TO COM2  
SELECTION

CRS  
NEEDLE  
SETTING

BARO  
SETTING

RANGE  
AND PAN  
CONTROL

INOP  
BUTTONS

INOP  
KNOB



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# PFD SCREEN

SLIP  
INDICATOR

TURN AND  
BANK  
INDICATOR

ARTIFICIAL  
HORIZON

AIRSPEED  
INDICATED

TRUE  
AIRSPEED

COMPASS

VARIOUS BEARING  
POPUP WINDOWS

AUTO PILOT  
SIGNALS

COM RADIO

ALT  
SETTING

ALTIMETER

VSI  
INDICATOR  
KOHLSMAN  
READOUT

CLOCK

TRANSPON  
DER  
WINDOW



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# MFD SCREEN

NAV  
RADIOS

NAV RADIO  
FREQ  
SELECTOR

HEADING  
MANAGEMENT  
FOR  
AUTO PILOT

AUTO PILOT  
CONTROL  
CONSOLE

ALTIMETER  
CONTROL  
FOR AUTO  
PILOT

ENGINE  
SYSTEM  
READOUT  
SELEC.

MAP  
NORTH, UP,  
OFF SELEC.

DAY  
NIGHT  
SELEC.

CHECK  
LISTS

GPS /  
NAV  
TRAFFIC  
INOP

NEAREST  
MENU

COM  
RADIOS

COM FREQ  
SELECTION  
CENTER

CRS  
CONTROL

BAROMETR  
IC SETTING

PAN AND  
ZOOM  
CONTROL

FLIGHT  
PLAN  
MANAGEMENT  
CENTER

FMS  
SELECTOR

SCREEN  
CENTER  
PLANE



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# LIGHTS MANAGEMENT

INSTRUMENTATION  
LIGHTING;  
SOFT GLOW  
SYSTEM

DOME  
LIGHT  
(BRIGHT)

LANDING  
LIGHT

TAXI LIGHT

NAV  
LIGHTS

STROBE  
LIGHTS



BACKUP  
EMERGEN  
CY VACUUM

AUX AIR SPEED  
INDICATOR

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# CENTER CONSOLE

IGNITION  
SWITCH

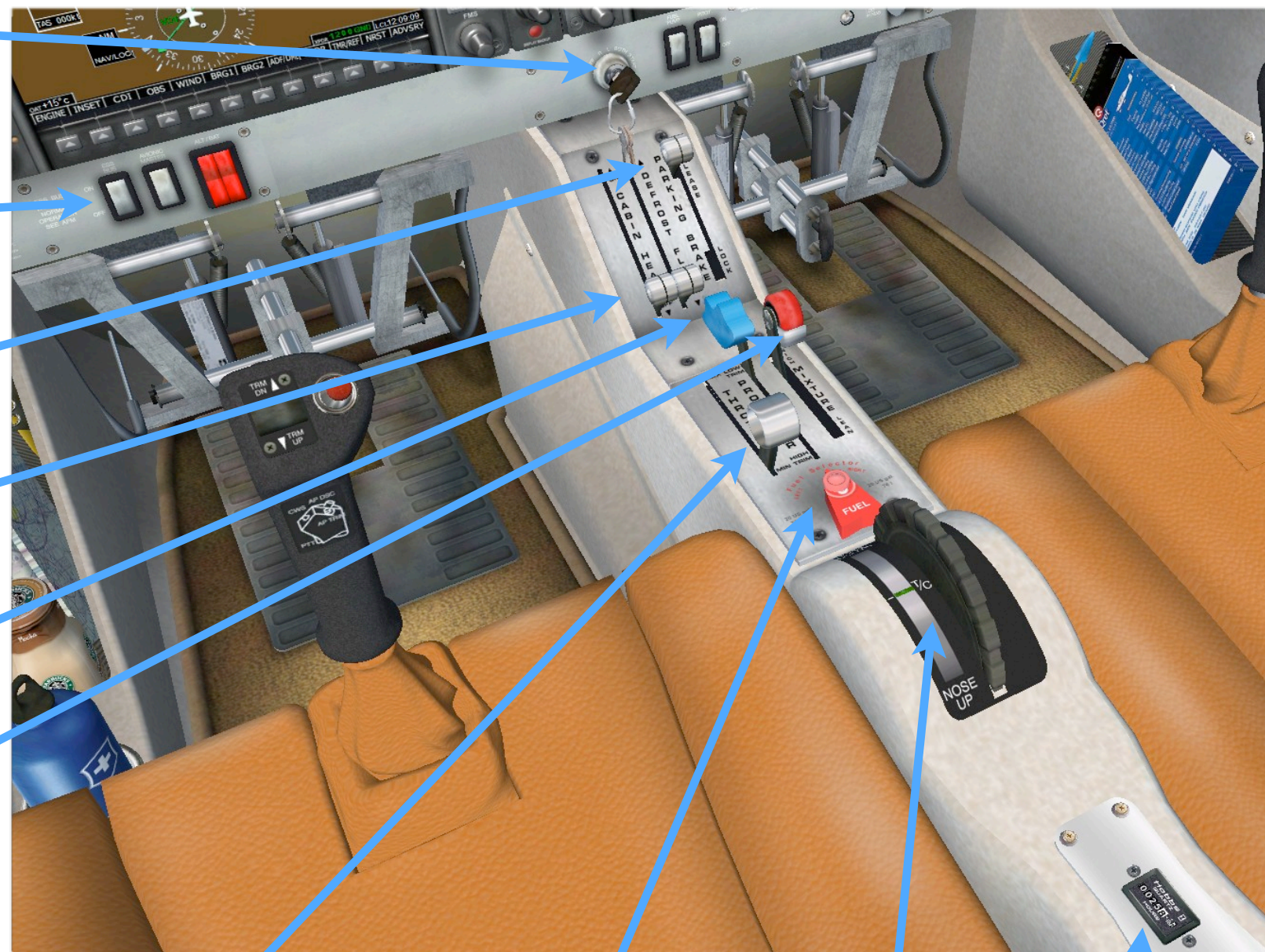
MAIN  
ELECTRICS  
CONTROLS

PARKING  
BRAKE

HEATER  
AND  
DEFROST

PROP  
CONTROL

MIXTURE  
CONTROL



THROTTLE

FUEL  
SELECTOR

TRIM  
WHEEL

HOBBS  
TIME  
METER

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TAXI FOR TAKEOFF

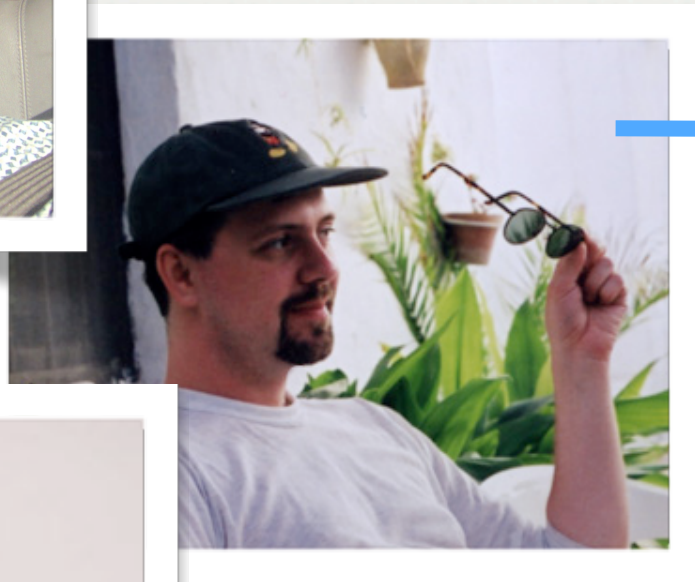


# DA40 TEAM AT LHC

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□ BILL ORTIS; TEAM  
LEADER, GRAPHICS,  
AIRFILES, MODELING



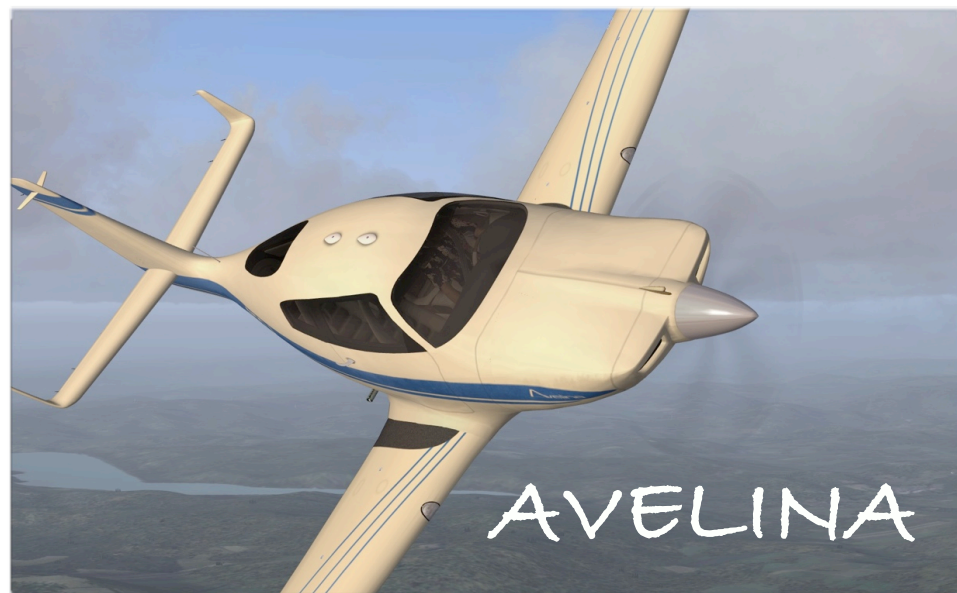
□ JOHN MACNEIL;  
PRINCIPAL MODEL  
MAKER



□ DWIGHT FURLEIGH;  
PRINCIPAL GAUGE  
PROGRAMMER

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OTHER AIRCRAFT BY LIONHEART CREATIONS LTD.

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