

# DIAMOND HK 36 TC Checklist

P/N 6146-XTR

## Normal Procedures

Challenge	Response
<b>PREFLIGHT</b>	
Critical Assembly Check	.AS REQUIRED
Positive Control Check	.COMPLETE
Cabin Checks	.COMPLETE
Loading	.CHECK
Main bolts	.VERIFY SECURE
Documents	.CHECK
Ignition	.OFF
Master switch	.ON
Mode select switch	.POWER FLIGHT
All circuit breakers	.IN
Fuel quantity	.CHECK
Master switch	.OFF
Mode select switch	.SOARING
Cabin	.ITEMS SECURED
Canopy	.CHECK
Cowl flap	.CHECK OPS
Air Brakes	.OPEN
Fuel Tank Drain	.INSPECT FUEL
Left Main Landing Gear	.INSPECT
Check strut	
Check wheel fairing	
Check tire and brakes	
Ensure correct inflation	
Left Wing	.INSPECT
Check wing, aileron, and winglet for proper mounting	
Check stall warning horn	
Check aileron control system	
Check air brake system	
Left Fuselage	.INSPECT
Vertical Stabilizer	.INSPECT
Check skin	
Check rudder security	
Check for excessive play	
Check rudder control system	
Remove Pitot tube cover	
Check Pitot tube	
Horizontal Stabilizer	.INSPECT
Check for proper mounting	
Check skin condition	
Check elevator	
Check elevator control system	
Right Fuselage	.INSPECT
Right Wing	.INSPECT
Check wing, aileron, and winglet for proper mounting	
Check aileron control system	
Check air brake system	
Right Main Landing Gear	.INSPECT
Check strut	
Check wheel fairing	
Check tire and brakes	
Ensure correct inflation	

**Challenge****Response****PREFLIGHT (continued)**

Oil and Coolant Levels	.CHECK
Check oil level	
Ensure coolant level is 1/8 or more of reservoir	
Check engine compartment	
Check coolers	
Propeller	.INSPECT
Check propeller blades	
Check spinner	
Nose Landing Gear	.INSPECT
Check strut	
Check wheel fairing	
Check tire	
Ensure correct inflation	
Air Brakes	.CLOSE & VERIFY FULL RETRACTION

**PROPELLER FEATHER CHECK / START (1st flight of day)**

Rudder Pedals	.ADJUST
Seat Harnesses	.FASTEN
Fuel Valve	.OPEN
Controls	.FREE & CORRECT
Air Brake	.CHECK OPERATION & LOCK
Parking Brake	.SET
Electrical Consumers	.OFF
Canopy	.CLOSED & LOCKED
Master Switch	.ON
Mode Select Switch	.POWER FLIGHT
Propeller Control	.TAKE-OFF
Fuel Quantity	.CHECK
Cowl Flap	.OPEN
Electric Fuel Pump	.ON
Fuel Light	.OUT
Throttle Control	.IDLE
Choke	.AS REQUIRED
Propeller Area	.CLEAR
Ignition Switch	.START
Throttle Control	.1000 RPM
Oil Pressure	.GREEN (10s)
Choke	.OFF
Electric Fuel Pump	.OFF
Propeller/Ignition	.FEATHER/OFF (Quick Sequence)
Propeller Control	.TAKE-OFF (Verify Change)
Electric Fuel Pump	.ON
Fuel Light	.OUT
Throttle Control	.IDLE
Choke	.AS REQUIRED
Propeller Area	.CLEAR
Ignition Switch	.START
Throttle Control	.1000 RPM
Oil Pressure	.GREEN (10s)
Choke	.OFF
Electric Fuel Pump	.OFF
Electrical Consumers	.ON AS REQUIRED

## Challenge

## Response

### ENGINE START (after 1st flight of day)

Rudder Pedals	.ADJUST
Seat Harnesses	.FASTEN
Fuel Valve	.OPEN
Controls	.FREE & CORRECT
Air Brake	.CHECK OPERATION & LOCK
Parking Brake	.SET
Electrical Consumers	.OFF
Canopy	.CLOSED & LOCKED
Master Switch	.ON
Mode Select Switch	.POWER FLIGHT
Propeller Control	.TAKE-OFF
Fuel Quantity	.CHECK
Cowl Flap	.OPEN
Electric Fuel Pump	.ON
Fuel Light	.OUT
Throttle Control	.IDLE
Choke	.AS REQUIRED
Propeller Area	.CLEAR
Ignition Switch	.START
Throttle Control	.1000 RPM
Oil Pressure	.GREEN (10s)
Choke	.OFF
Electric Fuel Pump	.OFF
Electrical Consumers	.ON AS REQUIRED

### TAXIING

Ensure adequate wing clearance at all times. The wings on this aircraft are both low and long.

Taxiing on the taxiway centerline DOES NOT ensure adequate clearance.

If the wing clearance is in doubt, shut down the engine, get out of the aircraft, and verify that the clearance is adequate.

Advise ATC that you will be doing this if you are at a tower-controlled field.

Advise any aircraft taxiing near or toward you that you will be doing this at a non-towered field.

### BEFORE TAKEOFF CHECK

Brakes	.SET (HOLD)
Flight Instruments	.SET
Trim	.SET
Oil Temperature	.CHECK
Choke	.OFF
Throttle Control	.1700 RPM
Ignition Circuits	.CHECK DROP (50-150 RPM, Max Diff of 50 RPM)
Carburetor Heat	.CHECK DROP
Throttle Control	.2000 RPM
Propeller Control	.CRUISE (Drop to 1800 RPM)
Propeller control	.TAKE-OFF
Repeat 3 times	
Ignition Switch	.CHECK ON BOTH
Throttle Control	.FULL (2500 RPM, ±50)
Power Plant Instruments	.GREEN
Throttle Control	.1000 RPM

## Challenge

## Response

### TAKEOFF AND CLIMB

Cowl Flap .....	.OPEN
Electric Fuel Pump .....	.ON
Transponder .....	.ALT
Propeller Control .....	.TAKE-OFF
Throttle Control .....	.FULL
Elevator .....	.NEUTRAL
Lift Nose .....	.43 KTS
Climb .....	.MIN 51 KTS
Power Plant Instruments .....	.GREEN
Altitude Over 330 Ft. AGL	
Electric fuel pump .....	.OFF
Fuel pressure light .....	.CHECK OFF
Adjust propeller RPM .....	.GREEN

### IN-FLIGHT ENGINE STOP

Throttle Control .....	.IDLE
Electrical Consumers .....	.OFF
Ignition .....	.OFF
Propeller Control .....	.FEATHER
Cowl Flap .....	.CLOSE
Mode Select Switch .....	.SOARING
Master Switch .....	.ON
Transponder/Radio .....	.ON AS REQUIRED

### IN-FLIGHT ENGINE START

**Important** — Prior to any airborne restart procedure, turn the aircraft toward your predetermined emergency landing airport and establish an appropriate final glide speed for that destination.

Electrical Consumers .....	.OFF
Master Switch .....	.ON
Mode Select Switch .....	.POWER FLIGHT
Electric Fuel Pump .....	.ON
Cowl Flap .....	.OPEN
Choke .....	.ON AS REQUIRED
Throttle Control .....	.IDLE
Propeller Control .....	.TAKE-OFF
Ignition Switch .....	.BOTH (START AS REQUIRED)
Oil Pressure .....	.CHECK
Choke .....	.OFF AS REQUIRED
Electric Fuel Pump .....	.OFF
Electrical Consumers .....	.ON AS REQUIRED
Oil Temperature .....	.CHECK
Throttle Control .....	.2000 RPM
Propeller Control .....	.CRUISE (Drop to 1800 RPM)
Propeller control .....	.TAKE-OFF
Repeat 3 times	

### APPROACH

Throttle Control .....	.AS REQUIRED
Carburetor Heat .....	.ON AS REQUIRED
Trim .....	.AS REQUIRED
Air Brakes .....	.AS REQUIRED

**Challenge****Response****POWER-ON LANDING**

Propeller Control	.TAKE-OFF
Electric Fuel Pump	.ON
Throttle Control	.AS REQUIRED
Carburetor Heat	.ON
Cowl Flap	.OPEN
Trim	.AS REQUIRED
Air Brakes	.AS REQUIRED
Sideslip	.AS REQUIRED
Approach Speed (Weather Permitting)	.57 KTS
Touchdown	.MAIN GEAR
Wheel Brakes	.AS REQUIRED

**BALKED LANDING WITH THE ENGINE RUNNING**

Air Brakes	.RETRACT
Carburetor Heat	.OFF
Throttle	.FULL
Climb	.MIN 51 KTS
Power Plant Instruments	.GREEN
Altitude Over 330 Ft. AGL	
Electric fuel pump	.OFF
Fuel pressure light	.CHECK OFF
Adjust propeller RPM	.GREEN

**POWER-OFF LANDING**

Trim	.AS REQUIRED
Air Brakes	.AS REQUIRED
Approach Speed (Weather Permitting)	.57 KTS
Touchdown	.MAIN GEAR
Wheel Brakes	.AS REQUIRED

**AFTER LANDING**

Electric Fuel Pump	.OFF
Transponder	.OFF
Propeller Control	.TAKE-OFF
Air Brakes	.LOCK

**ENGINE SHUT-DOWN**

Throttle Control	.IDLE
Parking Brake	.SET
Electrical Consumers	.OFF
Ignition	.OFF
Master Switch	.OFF
Mode Select Switch	.SOARING

**POST FLIGHT**

Aircraft	.SECURE
Paperwork	.COMPLETE
Tiedowns, Chocks, & Covers	.AS REQUIRED
Final Walk Around Inspection	.COMPLETE

# Emergency Procedures

**Challenge** **Response**

## CANOPY JETTISON

Red Canopy Locks (LH & RH) ..... **SWING 180° REARWARD**  
 Canopy ..... **PUSH UP & REARWARD**

## BAILING OUT (WITH PARACHUTE)

Canopy ..... **JETTISON**  
 Seat Harness ..... **RELEASE**  
 Aircraft ..... **EVACUATE**  
 Parachute (After 2 Seconds) ..... **ACTIVATE**

## SPIN RECOVERY

Rudder ..... **FULL OPPOSITE**  
 Control Stick ..... **FORWARD, AILERONS NEUTRAL**  
 After Spin Stops, Rudder ..... **NEUTRAL**  
 Recover Smoothly from Resulting Dive

## ENGINE FAILURE DURING TAKEOFF

Fuel Valve ..... **OPEN**  
 Electric Fuel Pump ..... **ON**  
 Propeller Control ..... **TAKE-OFF**  
 Ignition Switch ..... **BOTH**  
 Choke ..... **OFF**  
 If less than 260' AGL, land straight ahead.

Before Touchdown  
     Fuel valve ..... **CLOSED**  
     Ignition ..... **OFF**  
     Master switch ..... **OFF**

## IN-FLIGHT ENGINE RESTART WITH DISCHARGED BATTERY (1000' LOSS)

**Important** — Prior to any airborne restart procedure, turn the aircraft toward your predetermined emergency landing airport and establish an appropriate final glide speed for that destination.

Electrical Consumers ..... **OFF**  
 Fuel Valve ..... **OPEN**  
 Master Switch ..... **ON**  
 Mode Select Switch ..... **POWER FLIGHT**  
 Choke ..... **AS REQUIRED**  
 Throttle Control ..... **IDLE**  
 Ignition Switch ..... **BOTH**  
 Airspeed ..... **86 - 97 KTS**  
 Propeller Control (Move Slowly) ..... **TAKE-OFF**  
 Oil Pressure (10s) ..... **AVAILABLE**

Choke ..... **AS REQUIRED**  
 RPM and Throttle ..... **AS REQUIRED**  
 Electrical Consumers ..... **ON**  
 Continue Flight Normally  
 Determine Reason for Battery Discharge

*Highlighted Items Should be Committed to Memory*

**Challenge****Response****PROPELLER STUCK IN FEATHER POSITION**

**Important** — Prior to any airborne restart procedure, turn the aircraft toward your predetermined emergency landing airport and establish an appropriate final glide speed for that destination.

Electrical Consumers	.OFF
Fuel Valve	.OPEN
Master Switch	.ON
Mode Select Switch	.POWER FLIGHT
Electric Fuel Pump	.ON
Fuel Pressure Warning Light	.OFF
Choke	.AS REQUIRED
Throttle Control	.IDLE
Ignition Switch	.BOTH
Propeller Control	.TAKE-OFF
Ignition Switch	.START UNTIL PROPELLER IN WORKING POSITION
Oil Pressure (10s)	.AVAILABLE
Choke	.AS REQUIRED
RPM and Throttle	.AS REQUIRED
Electric Fuel Pump	.OFF
Electrical Consumers	.ON
Continue Flight Normally	
Determine Reason for Difficulty after Landing	

**ENGINE FAILURE DURING CRUISE**

Fuel Valve	.OPEN
Electric Fuel Pump	.ON
Choke	.OFF
Carburetor Heat (at OAT <50° F)	.ON
Ignition Switch	.BOTH
Fuel Quantity	.CHECK
If unable to restart.	
Throttle control	.IDLE
Ignition	.OFF
Propeller	.FEATHER
Fuel valve	.CLOSED
Master switch	.OFF
Airspeed	.57 KTS
Suitable landing field	.DETERMINE
Cowl flap	.CLOSE

**CARBURETOR ICING**

Carburetor Heat	.ON
Carburetor Heat	.OFF AS REQUIRED

**CARBURETOR FIRE**

Fuel Valve	.CLOSED
Throttle Control	.FULL
Cabin Air	.CLOSED
Cabin Heat	.OFF

**ELECTRICAL FIRE**

Master Switch	.OFF
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*Highlighted Items Should be Committed to Memory*

## Challenge

## Response

### MALFUNCTION OR FAILURE OF PROPELLER SPEED CONTROL

Throttle Control . . . . . **KEEP RPM IN ADMISSABLE RANGE**  
 Airspeed . . . . . **REDUCE**

### ICING

Leave Icing Area

Continue to move controls to prohibit lockage.

If Canopy Is Iced Over:

Weather window . . . . . **OPEN**

Cabin heat . . . . . **OPEN FULLY**

### ILLUMINATION OF FUEL PRESSURE WARNING LIGHT

Electric Fuel Pump . . . . . **ON**

If Light Extinguishes . . . . . **LAND AT NEAREST AIRFIELD**

If Light Does Not Extinguish . . . . . **PREPARE FOR POSSIBLE EMERGENCY LANDING**

### EMERGENCY LANDING ON WATER

Parachute Harness . . . . . **OPEN**

Seat Harness . . . . . **TIGHTEN**

Airspeed . . . . . **NORMAL TOUCHDOWN**

Protect Face with One Arm during Touchdown.

Seat Harness . . . . . **RELEASE**

Red Canopy Locks (LH & RH) . . . . . **SWING 180° REARWARD**

Canopy . . . . . **PUSH UP & REARWARD**

Aircraft . . . . . **EVACUATE**

*Highlighted Items Should be Committed to Memory*

## V-SPEEDS

### Airspeed

### IAS knots

<b>V<sub>NE</sub></b>	<b>Never exceed speed.</b>	<b>141</b>
<b>V<sub>NO(RA)</sub></b>	<b>Maximum structural cruising (normal operating)/Rough air speed.</b>	<b>113</b>
<b>V<sub>A</sub></b>	<b>Maneuvering speed (max gross weight).</b>	<b>95</b>
<b>V<sub>ABF</sub></b>	<b>Maximum admissible speed with air brakes fixed in half extended position.</b>	<b>81</b>
<b>V<sub>R</sub></b>	<b>Rotation speed.</b>	<b>43</b>
<b>V<sub>LOF</sub></b>	<b>Aircraft liftoff speed.</b>	<b>49</b>
<b>V<sub>Y</sub></b>	<b>Best rate of climb speed.</b>	<b>57</b>
<b>V<sub>X</sub></b>	<b>Best angle of climb speed.</b>	<b>51</b>
	<b>Recommended lowest airspeed for approach. (Weather conditions may require a higher speed for safety.)</b>	<b>57</b>
	<b>Best glide ratio speed (maximum lift drag ratio).</b>	<b>57</b>
	<b>Minimum descent rate speed (232 ft./min.).</b>	<b>52</b>
<b>V<sub>S0</sub></b>	<b>Stall speed with air brakes retracted (0° bank).</b>	<b>42</b>
<b>V<sub>S1</sub></b>	<b>Stall speed with air brakes extended (0° bank).</b>	<b>44</b>