

Attachment 17

Sundance Expanded External Checks Checklist for AS350B2



SUNDANCE HELICOPTERS

AS350B2 FLIGHT MANUAL

EXPANDED EXTERNAL CHECKS CHECKLIST

References:

- 1. SECTION 4 – Normal Procedures**
- 2. SECTION 8.4 - Daily Operating Checks**

Sundance Helicopters, Inc.
AS350B2 Expanded External Checks Checklist

Tasks prior to External Checks

Aircraft Maintenance Logbook "Can" – ensure correct "Can", check forms, check Deferred Items, check AD's

Aircraft fuel sample - check cleanliness, color, and sign sheet

Area around aircraft - check for FOD and unobstructed.

Electrical / Fuel checks – **EXT PWR/BAT** switch –**ON** (perform these checks quickly to save battery power).

Fuel quantity – as required (Canyon fuel = 62%), or order by telling the fuel truck driver, or calling Signature Flight Support (702) 739-1172, or 128.87 mhz

Cockpit electricals:

Horn – check audible

Caution/Warning panel – check all lights illuminate

Fuel pump switches – ON, check individually with fuel pressure gage and C/W light

Voltage – check (minimum is 25 volts, press "CRANK" switch, (minimum should not drop below 18 volts required for starting). If below 18 volts, request an external power start (EPU) from maintenance. *Aircraft may not start below 15 volts.*

External lights – in cockpit turn on and check "Anti Collision" lights, "Position" lights, Strobes (if installed), landing lights, taxi lights, and pulse lights, **then** turn off "Position lights (if appropriate), Strobes (if installed), landing lights, taxi lights, and pulse lights.

NOTE: As you walk around check below the aircraft for any fuel leaks while the battery and fuel pumps are on.

FDC Air Filter – Check "cat-eye" light, turn switch on (UP) and ensure door opens, turn switch off (DOWN) and ensure door closes

EXT PWR/BAT switch –**OFF**

Left/Right side crew compartment

Crew door - check condition, weather stripping, operation, and shock strut.

Flight controls – check security

Cockpit Checklist – check installed
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Sundance Emergency Procedures Extract- check installed

Under seat – check for the following

Flight Manual – check installed, check weight and balance

Flight publications – check for the following installed and current

VFR Charts - Las Vegas VFR Sectional,
- Las Vegas VFR Terminal,
- Grand Canyon VFR Sectional

Flashlight – check installed and operational one 2 “D” cell flashlight, or equivalent

Check for installation of:

Airworthiness certificate

Aircraft registration

Aircraft Maintenance Log (“Can”) - place on pilot seat (to remind the pilot to sign off the preflight later)

NOTE: Do not initial the preflight block until the preflight is completed

Fire extinguisher – check mounting security, pin installed and proper charge (needle “in the green”).

EXTERNAL CHECKS

Station 1 – Front

Main rotor blade – check condition

Engine and Main Gear Box (MGB) cooler inlet- check clear and condition

Windshield – check condition and cleanliness.

Trim String (attached and not locked down)

Pitot tube- general condition, not clogged, and security (not loose)

DVD bubble – check security and cleanliness

Station 2 - Left Side

Left aft passenger compartment

Left rear passenger door – check condition and operation (**don't slam the door open or closed**)

Left aft passenger compartment – check seats, seat belts (must be secured if by a sliding door), shoulder harnesses (if installed), and Safety Cards/Placards

Survival/signaling kit, first aid kit– if installed here. Secured.

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Baggage Compartment.

Open door - check all items secured.
Shock absorbers – check secure and not leaking
Close door – check secure and door light (on C/W panel) not illuminated.
ELT- check security (if installed here)

Landing Gear

Cross Members – check condition and security
Skids - visual check, springs are not flat (able to see gap through rear end of skids)

Left MGB Cowl.

MGB support struts – check security, no damage, free to rotate and security.
MGB oil level in view. Cap on, correct fluid level, and locking arm in place.
Fuel filter bypass – check bypass button not visible, no fuel leaks, fuel shut off for security.
MGB Temperature & Chip detectors- secure.
“Dog Bone” - check for security and torque stripes.
Push Pull control rods, accumulators & solenoids for Hydraulics – check not leaking or damaged.
MGB oil lines to fan – check security and not leaking.
FFCL cable – check condition.
Rotor brake – check condition and security.
Air conditioner compressor – check security, check clutch is free to turn, and no excess oil on cowling wall from wheel.
Nr phonic sensor – check security.
MGB deck – check general condition of deck for fluid leaks and tools.
Cowl Door - check closed and secured.

Fuel Cap – visually and physically check secured!

Lower Level Fairings.

All lower fairings secured and locked in place.
Engine cowling fasteners – release.

CAUTION! *Be very careful when climbing and descending the aircraft during this check. Like a mountain climber, use three (3) points of contact at all times to prevent injury from falling!*

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Lower Main Rotor area

- Collective lever - unlock
- General condition of mast - check
- Uniball – check that “stovepipe” can rotate
- Stationary scissor – check condition and security (not loose).
- Rotating scissor – check condition and security (not loose).
- Pitch change links – check condition, security, and proper safeties.
- Rubber boot around swash plate – check condition (not damaged) and security
- MGB cowling - look down through the top to see if hydraulic oil cap is installed and properly secured.

Upper Main Rotor area **Note: While completing these checks turn the blades one full revolution and listen for unusual noises.**

- Droop stop ring - check for general condition, cracks, and properly greased.
- “12 disciple” bolts – check condition and properly safety wired.
- AVD (Ant-vibration device) - check springs in vibration dampener for condition, then pluck and listen to sound.
- “Chinese hat” – check for cracks, attachment, and secured.
- Spherical thrust bearing - check condition, no excess cracks and damage due to wear.
- Sleeves – check condition, no cracks, damage, attachment of bolts, and diaper pins installed and facing the right direction.
- Frequency adapters – check for cracks around rubber and star flex attaching point is secured.
- Star flex – check condition and no excess cracking on edges.
- Rotor blades – check condition of blade roots, and visual inspection of entire blade length.
- Static lines – check properly attached and secure
- FDC air filter - check condition and unobstructed.
- Collective lever – lock down

Engine – Left side. (unlatch engine cowling on both sides and secure open with support strut)

CAUTION - Be careful that you don't put your hands or fingers anywhere they could be hurt in the event the cowling accidentally closes!

- Fuel line going to FCU is in good condition, no leaks.
- Fuel control cable to FCU – check template for Fuel Flow Control Lever (FFCL) is full aft (shut off position).
- Anticipator cable – check turnbuckle and attachment to Fuel Control Unit (FCU).
- No fuel leaks around the FCU.
- Check Fuel and Oil lines-condition and no leaks.

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Check starter solenoid and igniter/injector are secured.
Bleed valve – check condition, open valve, and security of lines
Oil input & return lines- attached and not leaking.
Oil pump – check condition and security
Nf tach generator – check condition and security.
Oil bypass clogging indicator has not bypassed.
Oil pressure transmitter – check attached and secured.
Oil pressure switch – check attached and secured.
Ng aft bearing – check oil line and chip detector for condition and security.
P2 air line to labyrinth seal in reduction gearbox –check condition and security.
T4 temperature probes – check security.
Fire Detectors – check condition of the detectors and wiring.
Engine mounting points – check secured.

Aft Storage Compartment

Door – open, check security of door, and door strap or door shock strut
Check window cleaner secure and not leaking and cheese cloth available
GOM – check installed
First Aid kit – check (if installed here)
Electrical panel cover - secured.
Loose objects – secured (if able)
Door – close, check secure

STATION 3 – LEFT SIDE OF TAIL BOOM

Left side Tail boom.

Outer skin - check for cracks, wrinkles.
Attaching point for tail boom to main fuselage – check condition and security
Tail rotor drive shaft cover – check attached, condition, and fasteners are in place.
Horizontal Stabilizer – check condition, security, no loose wires inside tail boom, and attaching bolt secure with no rotation.
Left (Red) position light – check condition and security.
Tail Rotor Gear Box – check proper oil level, no leaks around left side of gearbox.
Vertical fins – check top and bottom for secure, condition, and not loose.
Tail (aft) position light (white) – check security, condition, and not loose.
Tail stinger - check security, condition, and not loose. Feel bottom for excess wear or damage.
Weights- installed (tap test)

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STATION 4 – RIGHT SIDE TAIL BOOM.

Tail Rotor.

Tail rotor blades - check general condition of skin (front and back) and trim tabs
Impact indicating finger – check tabs are not bent or damaged.
Blades - shake gently for any sound of a cracked spar.
Push one blade fully forward and check vertical play on pitch change links.
Push blades alternately and look at elastomeric bearing for separation and cracks (AD states to “flap it”)
Half shell bearings - check for cracked elastomer bonding (rubber and metal) or damage due to wear.
Tail rotor gear box magnetic chip plug – check condition and security
Tail rotor gear box – check for oil leaks around gear box or on tail boom.
Tail rotor swashplate- check for bent tang.
Tail rotor bell crank - check for proper gap (vertical play) and no excess movement.
3 safety wires - check for proper installation
9 cotter pinned and/or castellated nuts – check attached and bolts in the right way.

Tail Boom.

Tail rotor drive shaft cover – check properly attached, not damaged and correct installation of fasteners
Outer skin - check for cracks, dents, and wrinkles
Horizontal stabilizer – check secure, no loose wires inside tail boom and attaching bolt secure with no rotation, right side (blue/green) position light (and strobe if installed)– condition and security.
Attaching point for the tail boom and main fuselage – check condition and security.

STATION 5 – RIGHT SIDE OF AIRCRAFT

Engine – right side.

Engine deck - visual inspection of general condition (i.e. oil or fuel leaks)
Starter/Generator – check condition, attachment, security, oil leaks, all electrical wires attached and not loose.
Torque transmitter – check condition, security, and no loose wires.
Check Ng tach (tachometer) generator – check condition and security.
Engine mounting points – check condition and security.

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Main fuel lines – check for conditions, security, and leaks
T4 probes – check condition and security.
Mo1 & Mo5 chip detector plugs - check condition, leaks, and security
Fire detectors - check condition and security, check wiring.
Oil vent line – check secured and not damaged.
Oil line coming to and from oil tank – check condition, no leaks.
Starter fuel/igniters – check security and condition.
Exciter boxes – check security and condition.
Bleed valve – check condition and security.
Engine cowling - close and lock **BOTH** sides.

Right MGB Cowl.

MGB support struts - check condition, security, and ability to rotate by hand..
Air frame engine oil filter (if installed) – check condition, leaks and clogging indicator hasn't "popped".
Oil tank and lines – check condition, security, temperature probe, and operation of oil fan.
Hydraulic oil tank – check condition, security, oil level, and cap properly secured.
Hydraulic pump – check security, no leaks around pump or in lines, condition of belt and pulley.
Hydraulic filter/clogging indicator – check condition and clogging indicator not "popped" (if installed).
Hydraulic servo, accumulator and solenoids, push/pull tube – check condition and security.
MGB pressure switch – check wires for security and condition..
FDC air filter differential switch – check condition and security.
MGB oil filter – check condition and security.
MGB deck – check general condition, security (no leaks, tools or FOD).
MGB cowling- check general condition, "piano wire" installed correctly, and latches secured

Right side baggage compartment.

Baggage door – open, check weather stripping and all items secured.
Shock absorbers – check secure and not leaking
DVD equipment – check condition and security, video card installed, and all switches in correct position.
Air conditioner equipment – check secured and all circuit breakers in.
Baggage door – close, check secure and door light (on C/W panel) not illuminated.
ELT (if installed)- check security

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Landing Gear

Cross Members – check condition and security

Skids - visual check, springs are not flat (able to see gap through rear end of skids)

Right side passenger compartment

Right side rear passenger door – check condition and operation

Right side passenger compartment – check seats, seat belts, shoulder harnesses, and availability of personal floatation devices.

Airsickness bags – check adequate amount installed, condition, and easy availability to all passengers

Right side crew compartment

Crew door - check condition, weather stripping, operation, and shock strut.

Tour Equipment

Headsets – check correct amount, proper installation, and condition

“BAT” switch – **depressed** (ON)

“AVIONICS” switch or button (if installed) – activate to “ON” position.

DMP switch – **ON** (up)

Pilot headset – check audio and microphone.

All passenger headsets

– check the volume of the narration audio in each passenger headset (normally 6 headsets) in both English (in position 1) and another language (in position 2).

-- Headset volume should be set at approximately 80% of maximum.

-- All passenger microphones – check condition and volume

DMP switch – OFF

DVR (video system) master switch – ON

DVR monitor button – press ON

Outside camera – check operation by panning to the left and right of nose, then position as desired

Inside camera – check and ensure in focus and level in passenger compartment.

DVR record switch – check to ensure record function is operational, and then turn off record function

DVR master switch - OFF

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Aircraft Maintenance Log (“Can”)

Preflight- ensure dated and preflight initialed.

If preflighting for yourself and flying this aircraft next - secure the “Can” under the rear passenger seat.

If you’re preflighting but not flying next - place the “Can” on the pilot’s seat so the next pilot will be able to easily find it to check status.

Before departing, do you have the 5 “F”s?

Food

Fuel

Film

Forms

Folks

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TURN AROUND CHECK (TA)

The turn around check consists in:

- checking fluid levels
- a rapid check of the main and tail rotor blade skins,
- checking that all loads are securely tied down, baggage compartment doors and cowlings are correctly locked.

Before departing, do you have the 5 "F"s?

- Food
- Fuel
- Film
- Forms
- Folks