REDUCE PILOT
WORKLOAD

SAFER, MORE
CONFIDENT
COMMAND

AUTO-RECOVER
TO NEUTRAL
ATTITUDE

LESS THAN
15 POUNDS

HeliSAS®

Autopilot and Stability Augmentation System
for light and medium helicopters

HeliSAS Autopilot and Stability Augmentation System

Lightweight, easy to install, affordable, expandable

The HeliSAS Autopilot and Stability Augmentation System from Genesys Aerosystems brings the tremendous safety and workload reduction advantages of stability augmentation—once reserved for military and transport category helicopters—to a wide range of light and medium helicopter models.

Weighing less than 15 pounds, the HeliSAS sets a new standard for helicopter safety and productivity. It dramatically reduces pilot workload while providing precise control during all modes of flight, regardless of wind conditions or shifts in weight.


The HeliSAS Autopilot and Stability Augmentation System is currently STC'd on popular light and medium helicopters and new STC's are being added on an ongoing basis. Visit genesys-aerosystems.com for the latest updates.
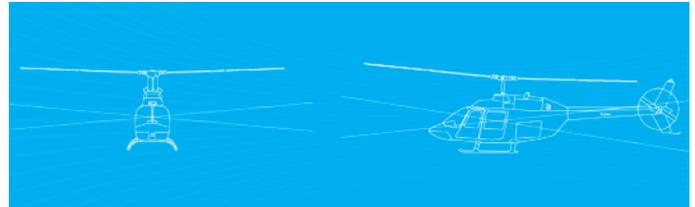
Designed to be engaged at all times—"SAS on" before takeoff and "SAS off" after landing—HeliSAS provides unmatched stability and ease of handling. While the pilot may override the HeliSAS at any time with manual cyclic inputs, the attitude stabilization and force feel features enhance handling characteristics to mitigate inadvertent cyclic control inputs that could result in dangerous attitudes. Roll trim limits are +5° to -5° and pitch trim limits are +11° and -6°.


In situations like whiteouts or brownouts where a pilot may lose visual reference, the HeliSAS is invaluable in maintaining a safe and stable attitude.
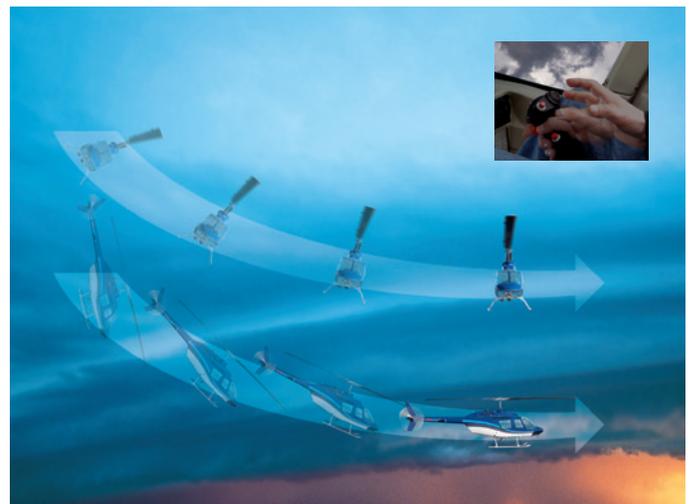

In the event that a pilot loses visual reference due to limited visibility, releasing the cyclic causes the helicopter to automatically recover to a near-level attitude.

Optional

| GPS/VOR/ LOC/GS | Autopilot Control Panel | HSI |

| ADAHRS or ADI | Flight Control Computer |

| Roll Servo | Pitch Servo |
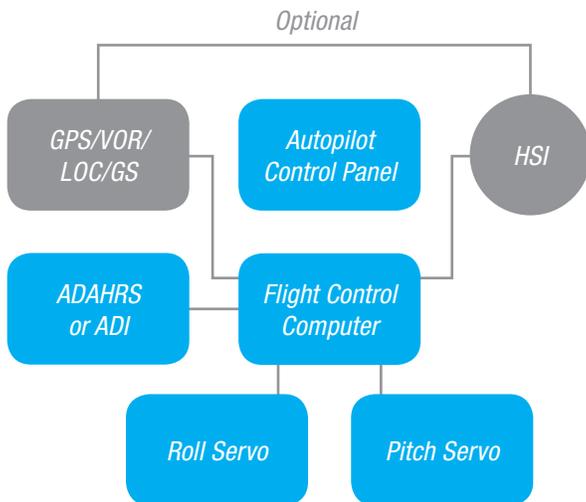
HeliSAS is available in three configurations to address a variety of mission requirements:

1. Stability Augmentation System Only

2. Stability Augmentation System with Beep Trim

3. Stability Augmentation System and Autopilot with Beep Trim
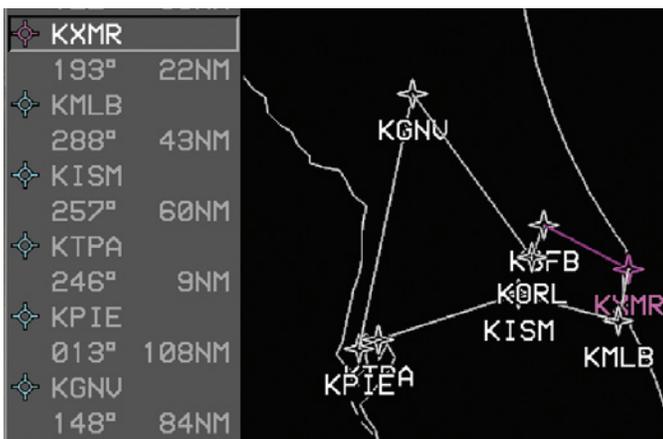
The HeliSAS autopilot integrates with the graphic Flight Management System of the Genesys Aerosystems EFIS. Autopilot functionality includes: Altitude; Heading hold; Track GPS course; Track VOR; Track ILS; Backcourse localizer; VNAV approach with WAAS-capable GPS; and VNAV enroute with Genesys Aerosystems EFIS.

All three configurations provide important workload reduction and safety enhancements:

Significant stability improvement. Pilots with no helicopter experience have successfully hovered a HeliSAS-equipped helicopter with very little practice.

Automatic recovery to near-level flight. If the helicopter is inadvertently flown to an extreme attitude, releasing the cyclic when the HeliSAS is engaged will automatically return the helicopter to a neutral attitude.

Further, the HeliSAS Autopilot system provides many of the functions found in very heavy, expensive helicopter autopilots, but at a fraction of the cost and weight. The following descriptions* refer to the control panel pictured below:

SAS. Engages system to provide attitude stabilization at all speeds.

HDG. Selects the desired heading the pilot wants to fly. If a Horizontal Situation Indicator (HSI) is installed, HeliSAS will fly to and maintain the heading selected by the heading bug. If there is no HSI, the HDG function will maintain the existing GPS track.

NAV. The active GPS, VOR, or Localizer course will be automatically intercepted and tracked when NAV is engaged. VOR and Localizer coupling require an HSI. GPS does not.

BC. Intercepts and flies a back course localizer approach (requires an HSI).

ALT. Maintains the existing altitude for an indefinite period.

VRT. Vertical navigation allows automatic flying of ILS glide slope or GPS VNAV if a WAAS-enabled GPS is installed. Both functions require an HSI.

Genesys Aerosystems HeliSAS® Autopilot and Stability Augmentation System

System Overview

- System consists of only seven primary components:

1. Digital Flight Control Computer
2. HeliSAS Control Panel
3. Attitude Gyro or ADAHRS (purchased separately)
4. Pitch Servo
5. Roll Servo
6. Cyclic Control Buttons (purchased separately)
7. Installation Kit

1. Digital Flight Control Computer

- Functions as SAS computer
- Provides attitude hold function

2. HeliSAS Control Panel

- Installed with full autopilot, provides the functions of:
  - HDG: Heading Select and hold
  - ALT: Altitude hold
  - NAV:
    1. VOR intercept and tracking
    2. Localizer intercept and tracking
    3. GPS intercept and tracking
    4. BC: Localizer backcourse tracking
  - VRT:
    1. Glide slope intercept and tracking
    2. VNAV

3. Attitude Gyro or Air Data / Attitude and Heading Reference System (ADAHRS)

- State-of-the-art technology provides the most accurate attitude control

- Genesys Aerosystems ADAHRS is installed with integrated system (display and HeliSAS)

4. Pitch Servo

- Controls aircraft rotation about its lateral axis
- Provides cyclic stick anchoring (position holding) with "SAS On"
- Provides artificial force gradient and re-centering when cyclic is displaced from anchor point

5. Roll Servo

- Controls aircraft rotation about its longitudinal axis
- Provides cyclic stick anchoring (position holding) with "SAS On"
- Provides artificial force gradient and re-centering when cyclic is displaced from anchor point

6. Cyclic Control Buttons

- Existing cyclic control can be used in most cases
- A trim button is required
- An autopilot / SAS release/engage button is required

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