



TOMARK, s.r.o.
Strojnícka 5
080 01 Prešov

SERVICE BULLETIN

OPTIONAL

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SB issue by AEROSERVIS s.r.o DOA ref. EASA 21J.094
Technical content of this document is approved as part of
EASA Major Change No.: 10081826 approval.

MODEL AFFECTED:	Viper SD-4 RTC and Viper SD-4 Night VFR aircrafts Aircrafts in conformity with EASA.A.606, Issue 3, 01.April 2019
APPLICABILITY:	Criterion A) <u>Aircrafts</u> Viper SD-4 RTC aircrafts S/N: 31613 or later. <i>(if older, contact TOMARK, s.r.o before starting work)</i> Viper SD-4 Night VFR aircrafts S/N: 30181 or later. <i>(if older, contact TOMARK, s.r.o before starting work)</i> Criterion B) <u>Two DYNON SkyView classic SV-D1000 displays installed</u> Each Viper SD-4 RTC or Viper SD-4 Night VFR aircraft equipped by two DYNON SkyView classic SV-D1000 displays during aircraft manufacturing, repair, maintenance or general overhaul or any other exchange action.
SUBJECT:	Installation of two DYNON SkyView HDX displays (SV-HDX1100) ATA System: 31-10 INDICATING/RECORDING SYSTEMS - Instrument & Control Panels. 34-20 NAVIGATION - Attitude & Direction.
COMPLIANCE:	Implement this Service Bulletin when replacement of the original DYNON SkyView classic SV-D1000 displays by DYNON SkyView HDX SV-HDX1100 displays was identified as practical.
COMPLIANCE CATEGORY:	CAT - 4 - Application is optional
DESCRIPTION:	TOMARK, s.r.o. as holder of EASA.A.606 in cooperation with AEROSERVIS, s.r.o. as DOA holder identified that DYNON SkyView classic SV-D1000 displays installed on Viper SD-4 RTC or Viper SD-4 Night-VFR aircraft models, are interchangeable with DYNON SkyView HDX SV-HDX1100 displays.
REASON:	The originally used DYNON SkyView classic SV-D1000 displays are unavailable and production has been discontinued.
MANPOWER:	Persons with approved qualifications for the corresponding aircraft type. EASA Part 145, Part M or Part ML Maintenance organization
LABOR TIME:	1 person, approx. 4÷6 working hours

MATERIAL:	<p><u>Required tools for replacement:</u></p> <ul style="list-style-type: none"> ☛ Phillips screw driver PH2 ☛ 10 mm open-ended/ring spanner ☛ USB flash disk ☛ Special rivet (pressing) pliers ☛ Nut extender series 39006 for nut (pressing) plier ☛ Vacuum cleaner + suction hose ☛ Flat screwdriver ☛ Size 2 hex screwdriver ☛ Drill (drilling machine) ☛ Ø 3.2 mm drill bit ☛ Ø 4.8 mm drill bit 																					
	<p><u>Interchangeability of parts:</u></p> <p>➤ Damaged used parts are unserviceable and must be scrapped.</p>																					
	<p><u>Required parts for replacement:</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">NEW part P/N (Viper SD-4 order/stock No.)</th> <th style="text-align: center;">Qty per aircraft</th> <th style="text-align: center;">Description</th> <th style="text-align: center;">OLD part P/N (Viper SD-4 order/stock No.)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">SkyView SV-HDX1100 display</td> <td style="text-align: center;">2</td> <td style="text-align: center;">DYNON SkyView HDX 10" display</td> <td style="text-align: center;">SkyView SV-D1000</td> </tr> <tr> <td style="text-align: center;">P/N 102897-000.</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Panel Plate</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: center;">M3x10 Series 39006</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Rivet nut 3 x 10</td> <td style="text-align: center;">-</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		NEW part P/N (Viper SD-4 order/stock No.)	Qty per aircraft	Description	OLD part P/N (Viper SD-4 order/stock No.)	SkyView SV-HDX1100 display	2	DYNON SkyView HDX 10" display	SkyView SV-D1000	P/N 102897-000.	2	Panel Plate	-	M3x10 Series 39006	2	Rivet nut 3 x 10	-				
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<p><u>Special compounds/treatments/fluids</u></p> <p>➤ N/A</p>																						
REFERENCES:	<p>/1/ System Installation Guide SkyView HDX (Document 101320-038, Revision AM) or the latest issue</p> <p>/2/ Pilot's User Guide SkyView HDX (Document 102949-011, Revision K) or the latest issue</p> <p>/3/ Aircraft Flight Manual Supplement (Document TOM-TC-01-AFM-S03 or TOM-TC-15-AFM-S01)</p> <p>/4/ Maintenance Manual (Document TOM-TC-01-AMM for Viper SD-4 RTC or TOM-TC-15-AMM for Viper SD-4 Night VFR)</p>																					
WEIGHT and BALANCE:	<p>Change of weight - none</p> <p>Moment of inertia - none</p>																					
ELECTRICAL LOAD DATA:	<p>Power consumption increase by 400 mA in normal operation mode.</p>																					
SUPPORT INFORMATION:	<p>Any possible support for Viper SD-4 RTC aircrafts contact: TOMARK s.r.o., Strojnícka 5, 080 01 Prešov, Slovak republic https://www.tomarkaero.com/kontakt/, E-Mail: service@tomarkaero.com</p>																					

ACCOMPLISHMENT INSTRUCTIONS:**WARNING !**

- ! Before the replacement of the SkyView displays, shut down the engine and wait for a decrease of its temperature, if the engine was warmed up for the operating/flight temperature.
- ! Park the airplane in a sufficiently large parking area.
- ! To prevent accidental movement, secure with a parking brake in the airplane's cockpit (see /4/) or secure the wheels with chocks.

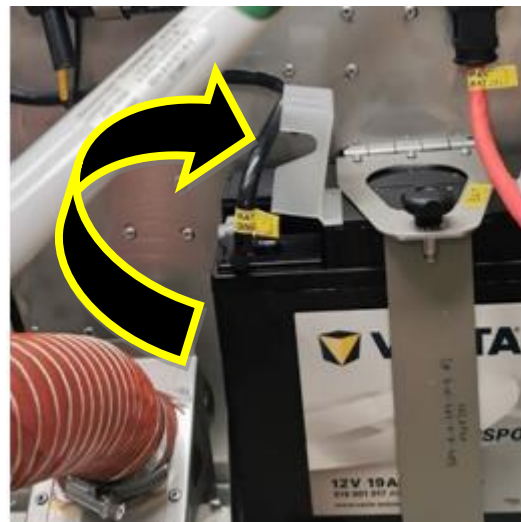
A) Remove upper engine cowling and disconnect battery.

1. Remove the top engine cowling according to TOM-TC-01-AMM or TOM-TC-15-AMM /4/ Chapter 71-00-01. Push and turn by 90° to the left the Phillips screwdriver PH2 to unlock the 2x CAMLOCK screws at the front of the upper engine cowling, between the propeller spinner and the intake openings, on both sides of front part of the upper engine cowling.



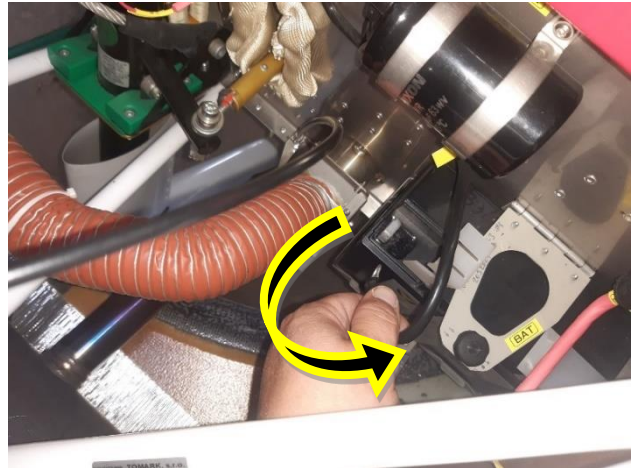
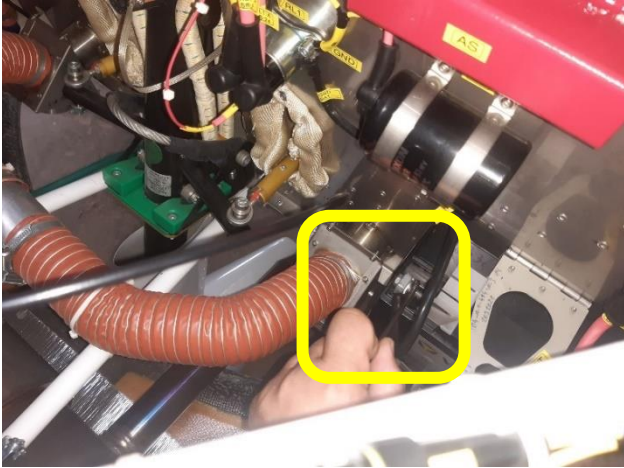
Release the upper cowling from the screws and pull it forward (in the flight direction). Then lift it evenly on both sides.

2. On the left side (in the flight direction) at the bottom of the firewall, there is the aeroplane's battery. Unlock and tilt aside the protective plastic covers.



Disconnect battery terminals from onboard electric bus before you start working with the electric system! Loosen and unscrew the hex screw with a nut on the minus pole of the battery – the black cable on the right side of the battery (in the flight direction). Use a 10 mm open-ended/ring spanner for the loosening.

Place the loosened black cable away from the battery's minus pole, so that its accidental release and a restored contact with the minus pole of the battery is prevented.



B) Demounting of DYNON SkyView classic SV-D1000 displays

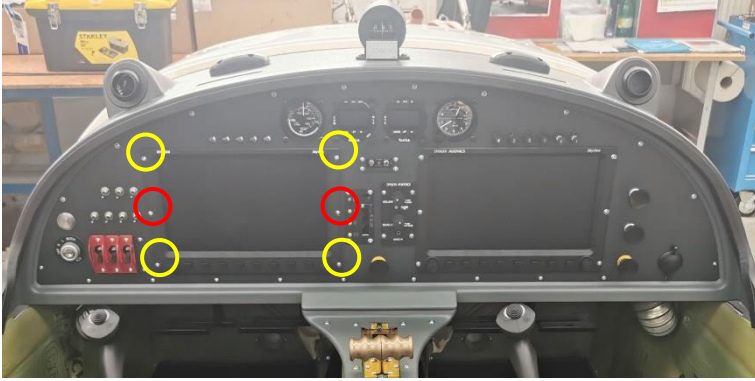
1. Before demounting the displays, it is necessary to make a backup of the left and right display settings on a USB key. The USB data ports of each display are located in the right and left corners under the dashboard.
2. The backup of individual displays will be performed according to the procedure in the Dynon SkyView D1000 User's Manual.



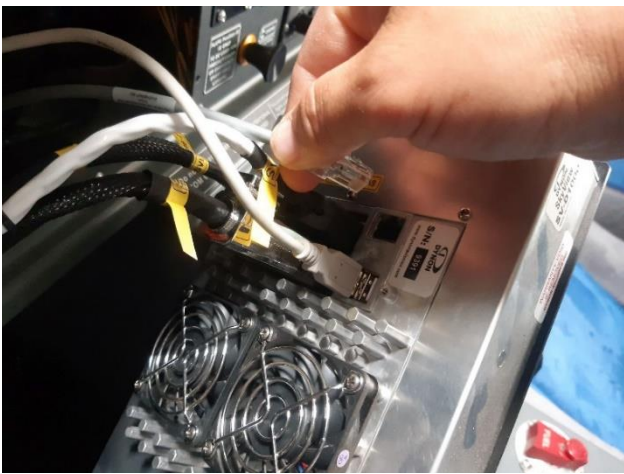
3. Open the aeroplane's canopy (cockpit). For better access, it is recommended to sit in the pilot's seat (left side in the flight direction) during the replacement of the left SkyView EFIS display, and to sit in the right seat (right side in the flight direction) during the replacement of the right SkyView EFIS display.



4. Loosen the 4 screws in the corners of the SkyView display with a size 2 hex screwdriver. When unscrewing the 2 middle screws, hold the SkyView display to prevent its falling and damage!



5. Take the SkyView display out of the instrument panel. On its rear side, after releasing the plastic lock, disconnect the Ethernet connector, then the USB connector, and all 3 data D-sub connectors (SVL10DB9B-1, SVL10DB9B-2, SVL10DB37B), secured by screws on the connectors' bodies. Place the SkyView classic SV-D1000 display on the shelf.



6. Repeat steps B1 to B5 for the right display.

C) Installing of DYNON SkyView HDX SV-HDX1100 display

1. After demounting the Dynon SkyView classic SV-D1000 display, take the Dynon SkyView HDX SV-HDX1100 display and insert it into the SkyView mounting hole. Attach it with two M3x14 DIN 7985 A2 screws in the top part of the display.



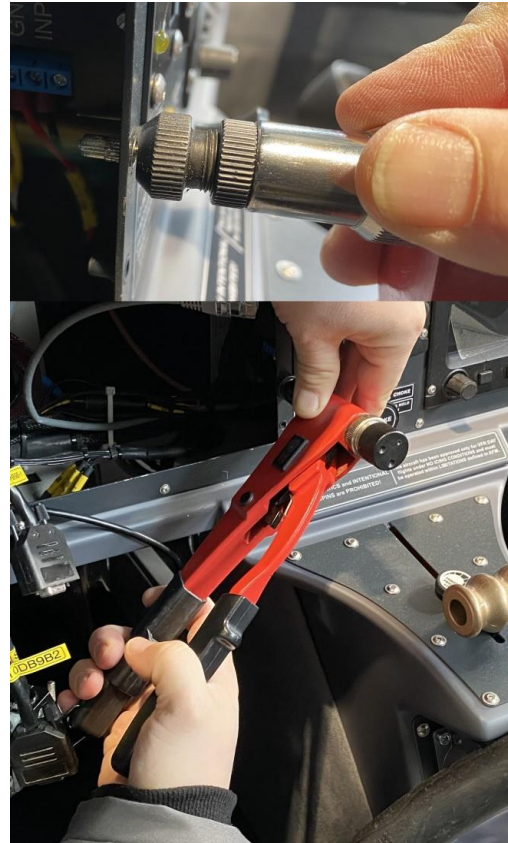
2. Once the display is screwed in, take a drill with a \varnothing 3.2 mm drill bit and mark the bottom holes for mounting the display by short drilling into the dashboard.



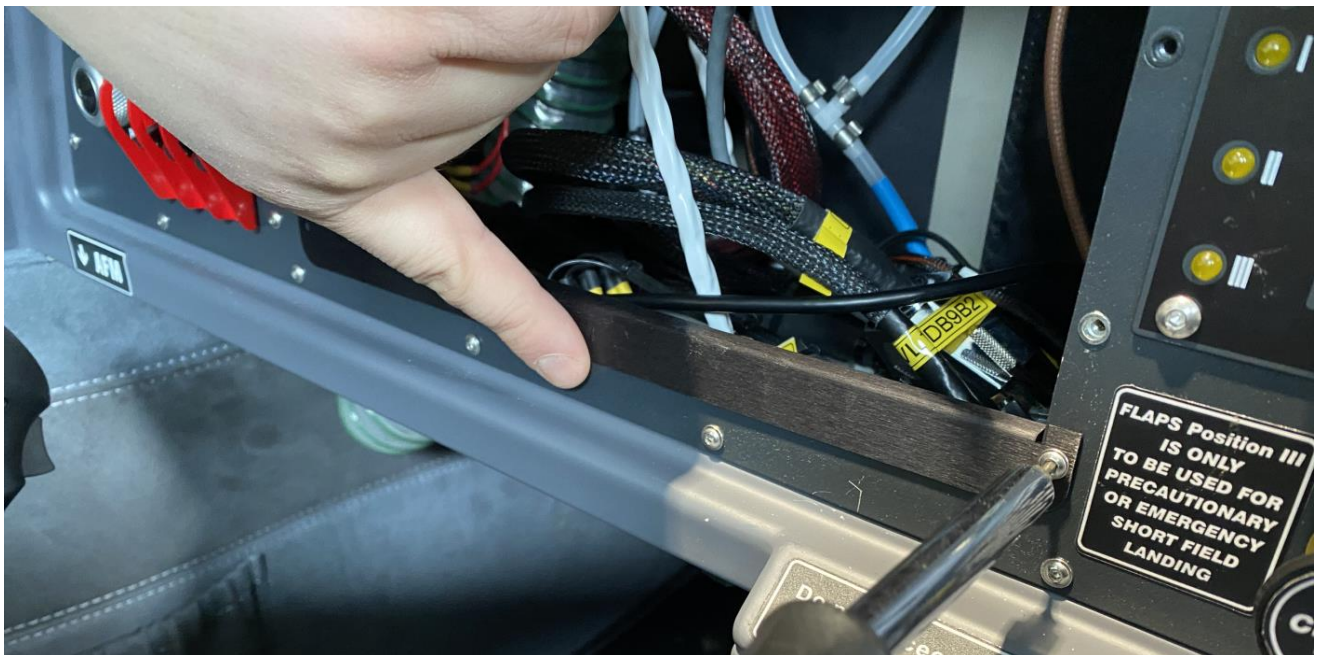
3. After the holes are marked unscrew the top screws and demount the display. Finish drilling the holes with the help of a vacuum cleaner, positioning the suction hose so that it sucks out the produced chips while drilling.
4. After drilling the holes with the \varnothing 3.2 mm drill bit, repeat the drilling procedure with the \varnothing 4.8 mm drill bit.

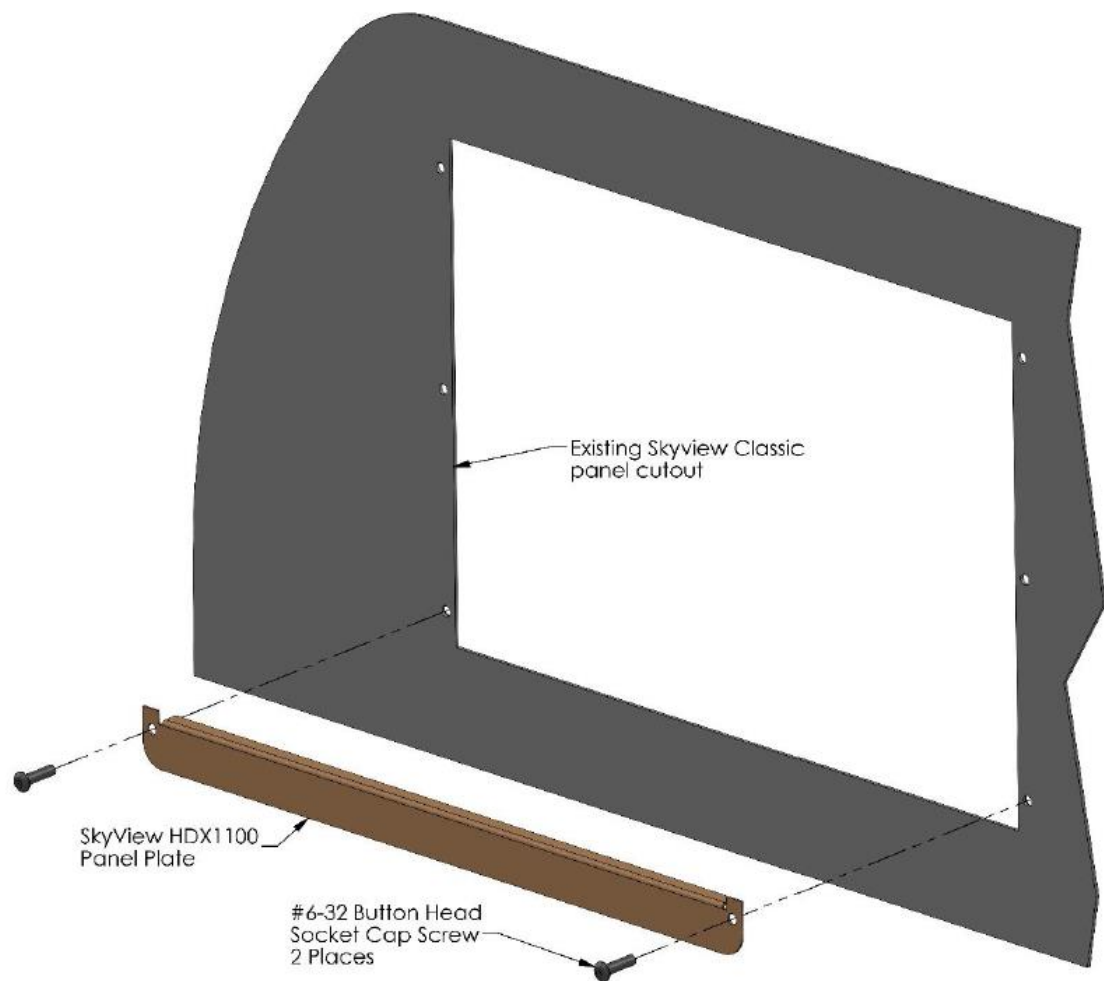


5. After drilling the holes, the mounting of the rivet nuts follows. Special pressing pliers are then used to carefully press the nuts onto the dashboard. Use the M3x10 riveting nut series 39006 and respective extender for riveting pliers. When pressing, take care to exert sufficient force on the pliers to press the nut firmly enough, but at the same time not to destroy it by stripping the threads.



6. After pressing the nuts, mount the "filler" Panel Plate (P/N 102897-000) /1/ by attaching it with the two socket screws (use the screws M3x12 AN9084 A2 with the original display installation) by a size 2 hex screwdriver.

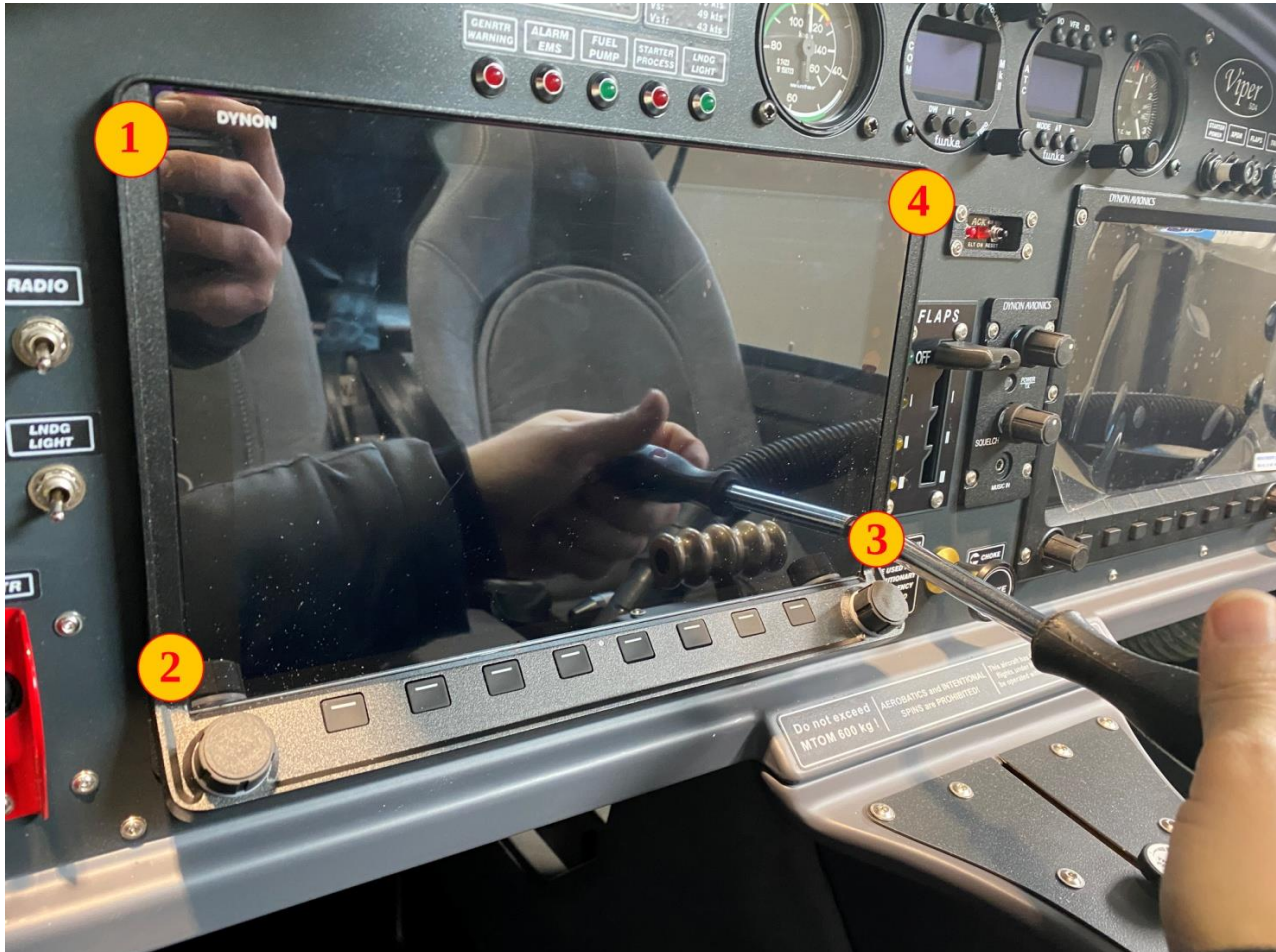




7. After the Panel Plate mounted, connect and mount the SkyView HDX 1100 display itself. When plugging in the connectors, proceed as for unplugging, but in reverse order (section B) 5).



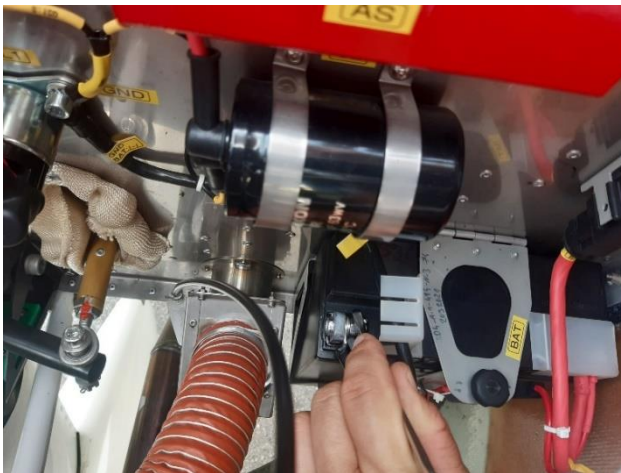
8. Mount the connected SkyView HDX 1100 display in the modified mounting hole on the instrument panel. Use four M3x14 DIN 7985 A2 screws to secure the display.



9. Repeat the entire installation procedure for the second display. After mounting, it is necessary to upload the data from the backup to the individual displays. Upload the backup from the right SkyView D1000 to the right SkyView HDX 1100. And upload the backup from the left SkyView D1000 to the left SkyView HDX 1100. Instructions for restoring the backup must be done from the installation manual for the SkyView HDX 1100 /1/.

D) Connect battery and reinstall upper engine cowling.

1. Check the battery state. Check the battery charge level. If needed charge the battery fully.
2. In the engine compartment, reconnect the minus pole of the battery (disconnected black cable) and tighten the screw on the minus pole of the battery. Cover the battery contact with the original plastic cover.



3. Perform pre-flight inspections. Follow the instructions as presented in section 4.2 Pre-flight Inspections of the TOM-TC-01-AFM /1/.

Pay close attention to the sites affected by the work carried out in accordance with this bulletin and navigation, strobe and landing lights functionality.

4. Install the upper engine cowling according to TOM-TC-01-AMM or TOM-TC-15-AMM /4/ Chapter 71-00-01. Put the upper engine cowling on the slide-in locks, press it backwards, and attach and lock it at the front with the original screws. The pin locks along the perimeter of the upper engine cowling must fit in until the stop on the lower engine cowling and the front of the cockpit. Subsequently, lock 2x CAMLOC screws on the upper engine cowling by pushing and turning them 90° to the right with the Phillips screwdriver PH2.



E) Final actions

1. Insert the TOM-TC-01-AFM-S03 or TOM-TC-15-AFM-S01 /3/ AFM supplement into the existing AFM in accompanied aircraft documentation.
2. Make records to the airplane documentation (Service Log-Book) – regarding this Service Bulletin accomplishment.
3. Execute engine test in accordance to instructions given in AFM Chapter 4 and and verify that all information on the display is displayed correctly according AFM Chapter 2.
4. Process the documentation required for release aircraft back to service.
5. Send information about the bulletin implementation to airplane manufacturer (TOMARK, s.r.o) with evidence; e.g. copy/photocopy of records in airplane documentation (Service Log-Book).

Compiled by: Radek Raida
Position: Head of Airworthiness Dpt.
AEROSERVIS, s.r.o.
Date: 30.MAR 2023

Approved by: Miroslav Mikel
Position: CVE - Panel 6.
AEROSERVIS, s.r.o.
Date: 30.MAR 2023