



FIA FORMULA 1 WORLD CHAMPIONSHIP



2024 SPANISH GRAND PRIX

21 - 23 June 2024

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To	All Teams, All Officials	Date	21 June 2024
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Title Car Presentation Submissions

Description Car Presentation Submissions

Enclosed 2024 Spanish Grand Prix - Car Presentation Submissions.pdf

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The FIA Formula One Media Delegate



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**Car Presentation – Spanish Grand Prix
ORACLE RED BULL RACING**

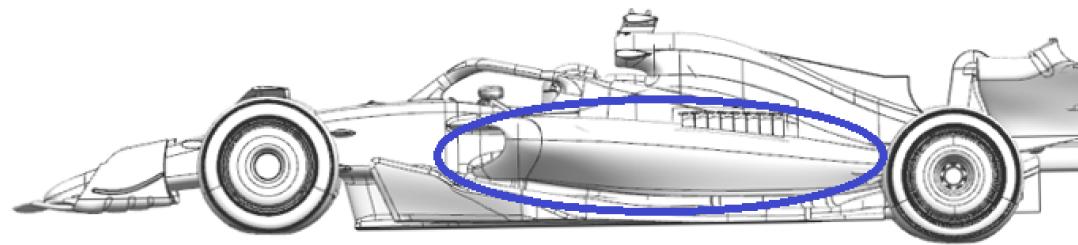
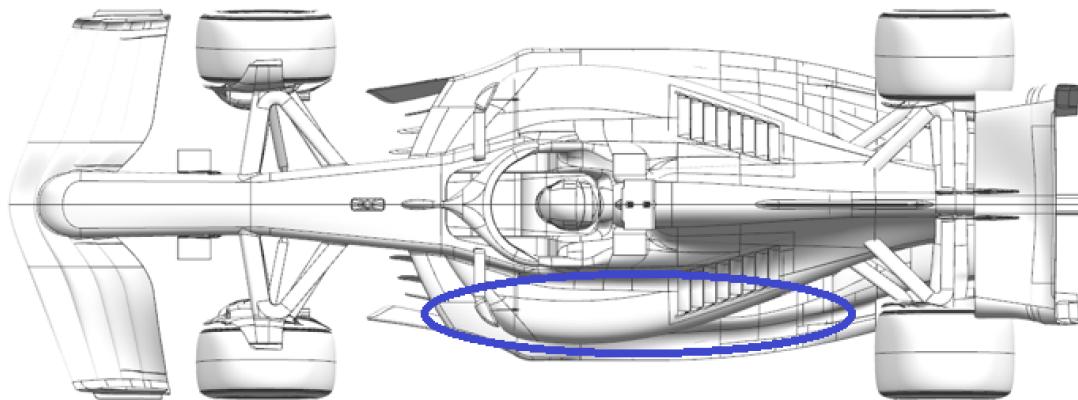
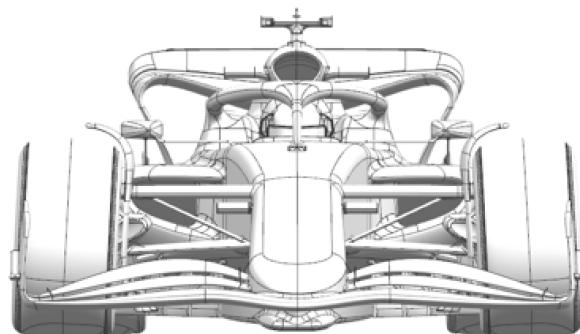
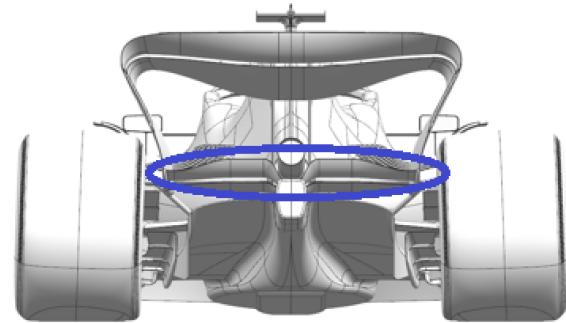
	Updated component	Primary reason for update	Geometric differences compared to previous version	Brief description on how the update works
1	Sidepod Inlet	Circuit specific - Cooling Range	Revised sidepod inlet geometries	with potentially warm races ahead in Europe, the sidepod inlet geometries have been revised based upon simulation results to exploit higher pressure inlet air for greatest cooling efficiency and therefore least number of exit louvre openings.
2	Coke/Engine Cover	Circuit specific - Cooling Range	Change to the engine cover side panels to match the new sidepod inlet profiles	Changes to this region of the car were triggered by the new sidepod inlet geometry.
3	Floor Body	Circuit specific - Cooling Range	Floor altered to meet the new engine cover split line.	The floor assembly change is to accommodate the engine cover and sidepod inlet changes
4	Beam Wing	Performance - Local Load	beam wing elements have been extruded into a revised endplate geometry	To exploit available air pressure the beam wing span has been increased to meet a new endplate offering more local load
5	Rear Wing Endplate	Performance - Local Load	Lower third of the endplate has moved outboard	Accommodates a wider span beam wing as described above.



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R10 Red Bull Racing





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MERCEDES-AMG PETRONAS FORMULA ONE TEAM

No updates submitted for this event.



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SCUDERIA FERRARI

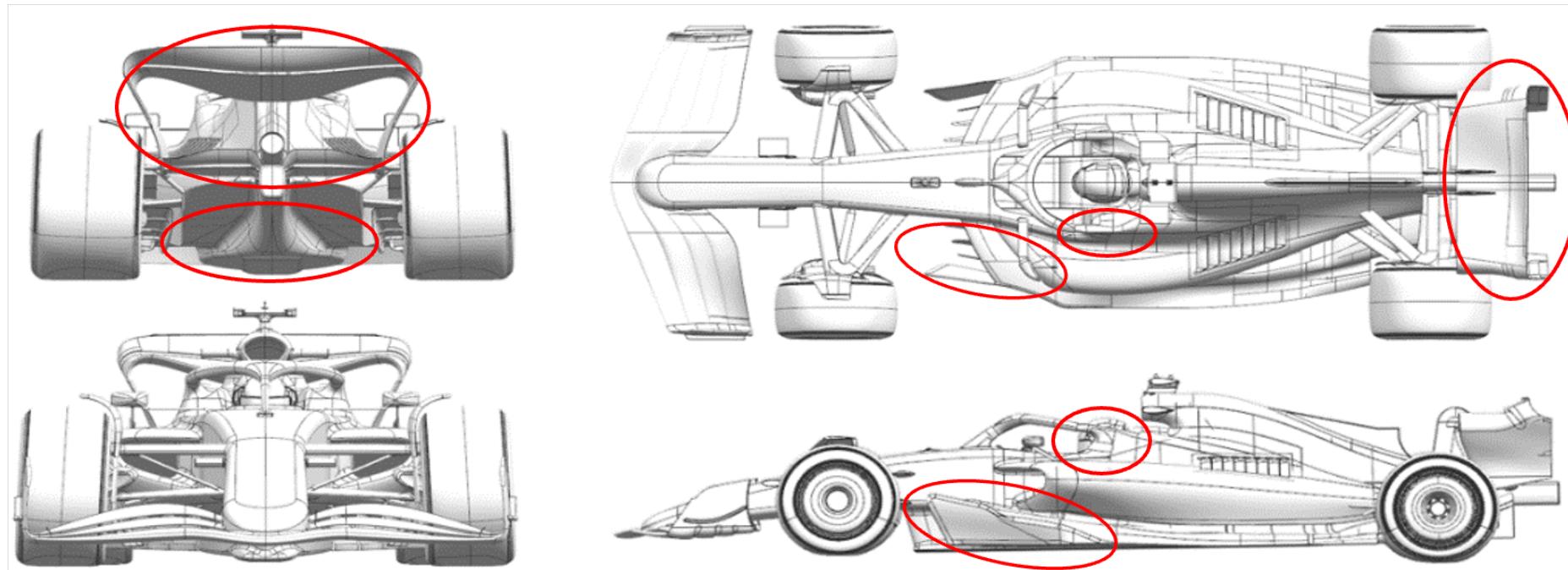
	Updated component	Primary reason for update	Geometric differences compared to previous version	Brief description on how the update works
1	Rear Wing	Circuit specific - Drag Range	Higher Downforce Top Rear Wing and Lower Rear Wing designs	Introduction of more loaded Top and Lower Rear Wing main and flap profiles. Allowing different modulations, this update extends the car polar in order to offer more possibilities on mid/high downforce tracks.
2	Coke/Engine Cover	Performance - Flow Conditioning	Increased Sidepod / Coke undercut	The new bodywork features a reworked undercut that improves flow quality over the floor edge and towards the back of the car.
3	Floor Fences	Performance - Flow Conditioning	Redistributed floor fences camber	Aim of redistributing front floor fence loading was to improve flow quality delivered to the rear floor / diffuser
4	Floor Body	Performance - Flow Conditioning	Lowered front floor roof	Working in conjunction with the updated front floor fences arrangement, with the objective of improving flow quality towards the back of the car
5	Floor Edge	Performance - Local Load	Rearward floor edge volume increased	This minor geometrical update is an optimization around the improved flow energy coming from upstream, returning local load gains whilst controlling the vorticity release in the diffuser
6	Diffuser	Performance - Local Load	Reworked diffuser / boat / keel expansion	Benefiting from tidier upstream flow structures, the diffuser expansion, together with boat and keel volumes optimization, has allowed to extract more local load gains



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7	Halo	Performance - Flow Conditioning	Updated halo trailing edge and cockpit device	Following the geometry introduced in Imola, the cockpit device has been further optimized and is another step at improving the management of the losses travelling downstream
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MCLAREN FORMULA 1 TEAM

No updates submitted for this event.



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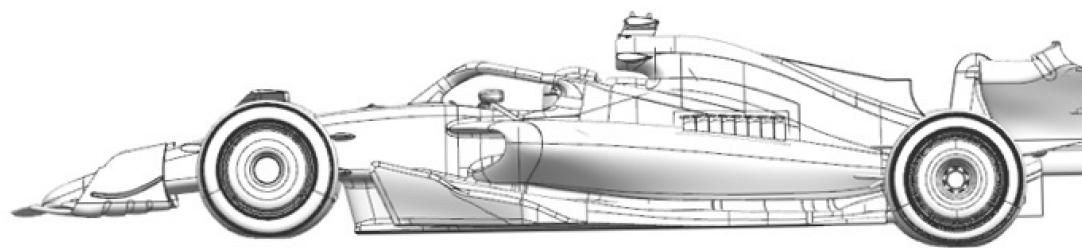
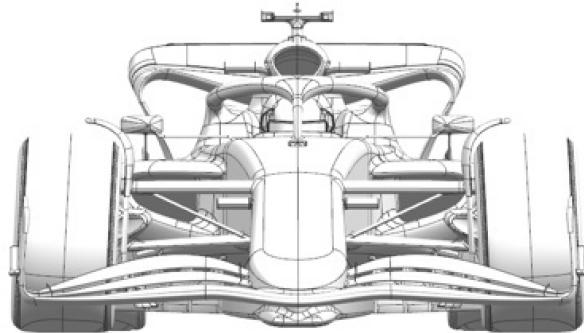
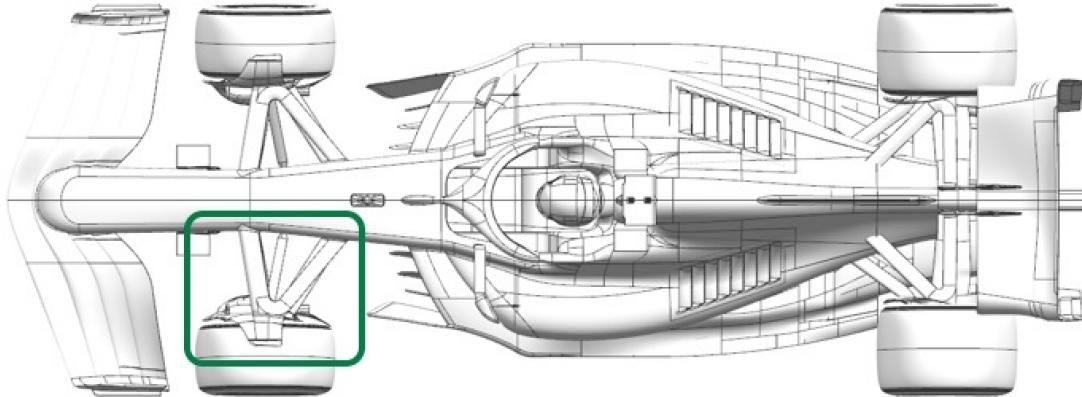
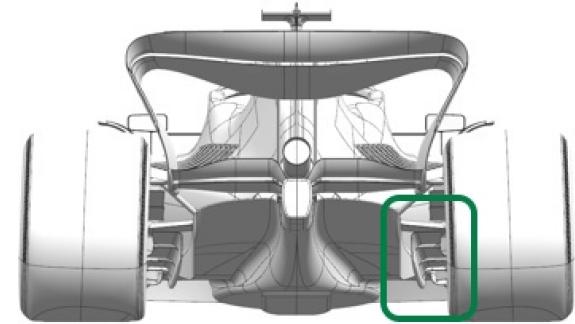


ASTON MARTIN ARAMCO FORMULA ONE TEAM

	Updated component	Primary reason for update	Geometric differences compared to previous version	Brief description on how the update works
1	Front Suspension	Performance - Local Load	Suspension fairings with revised twist distribution.	The update to the front corner geometry improves the local interactions between the suspension fairings and the external duct to improve local load.
2	Front Corner	Performance - Local Load	Brake duct scoop and exit update to a new shape.	The update to the front corner geometry improves the local interactions between the suspension fairings and the external duct to improve local load.
3	Rear Corner	Performance - Local Load	Lower deflector position modified with a different lower edge trim applied.	The revised position of the lower deflector in combination with the changes to the lower edge offer increased load on the device and surrounding areas.



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BWT ALPINE F1 TEAM

No updates submitted for this event.



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WILLIAMS RACING

No updates submitted for this event.



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VISA CASH APP RB FORMULA ONE TEAM

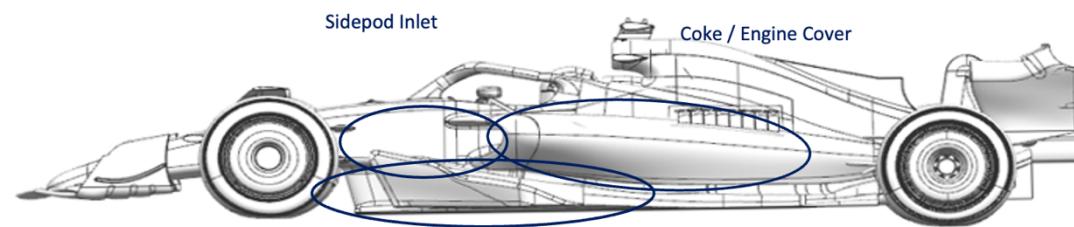
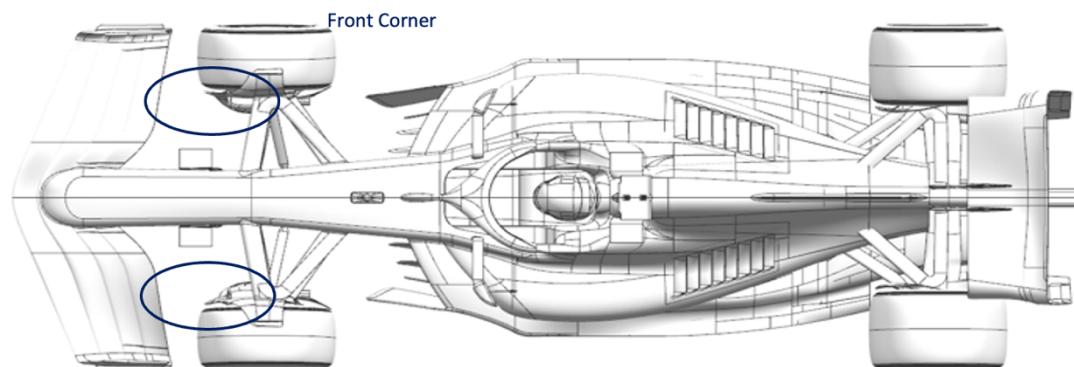
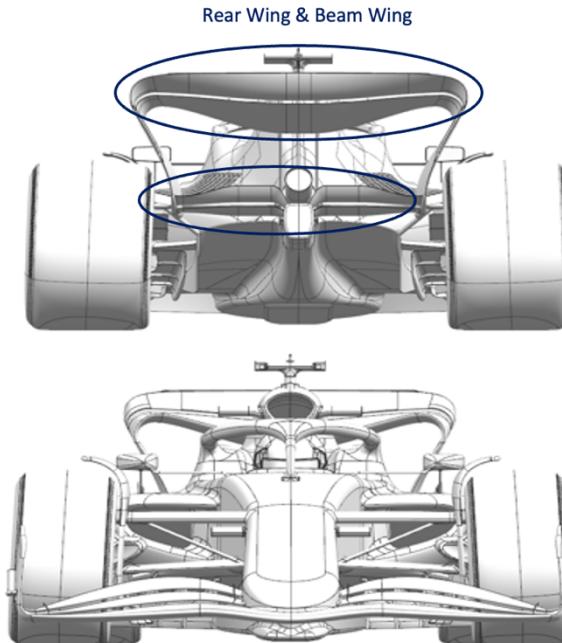
	Updated component	Primary reason for update	Geometric differences compared to previous version	Brief description on how the update works
1	Front Corner	Circuit specific - Cooling Range	The front brake cooling duct has been reverted to the specification used prior to Monaco.	The reduced brake cooling requirement for Spain vs Monaco or Canada allows smaller ducts to be used. With less air needed for cooling, that energy can be used for efficient downforce generation elsewhere on the car.
2	Coke/Engine Cover	Performance - Flow Conditioning	The engine cover top surface and lower surface in the area of the sidepods has been reprofiled.	The combined change of bodywork & sidepod inlet helps to condition the flow over the top of the bodywork and around the side to improve the flow to the rear of the car and to the floor edge, improving the performance of the floor and rear wing.
3	Sidepod Inlet	Performance - Flow Conditioning	The sidepod leading edge has been reprofiled to suit the new bodywork.	In combination with the bodywork, this helps improve flow quality passing down the side of the car.
4	Floor Body	Performance - Local Load	The height and shape of the forward floor has been updated, with the fences modified to suit.	The changes made across the forward floor and fences modify the load distribution of the forward floor, generating additional local load whilst minimising any negative effects on downstream flow quality.
5	Rear Wing	Performance - Local Load	A new rear wing for medium-high downforce tracks. Rear wing profiles have been redesigned to improve the pressure coefficient (C_p) profiles for efficiency.	Improved efficient load generation of the rear wing, targeting a drag level of interest at this & future events.



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6	Beam Wing	Circuit specific - Drag Range	Compared to Monaco, the camber & incidence of the elements is reduced, positioning this wing as an intermediate step between that used at previous high & medium downforce circuits.	The loading of the beam wing is designed to work in combination with the upper wings expected to be used at Spain, to target the appropriate drag level and provide aerodynamic support to the upper wing and diffuser.
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Floor Body & Fences



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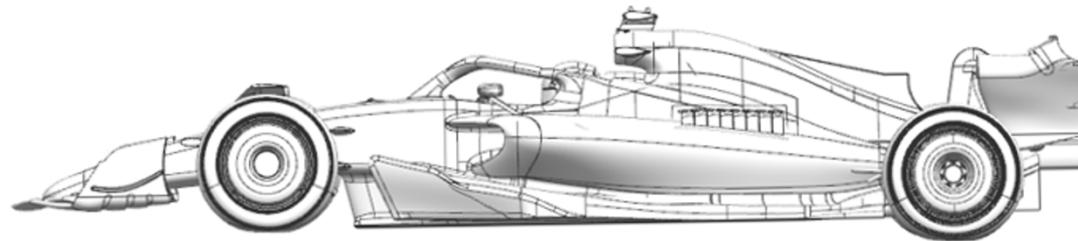
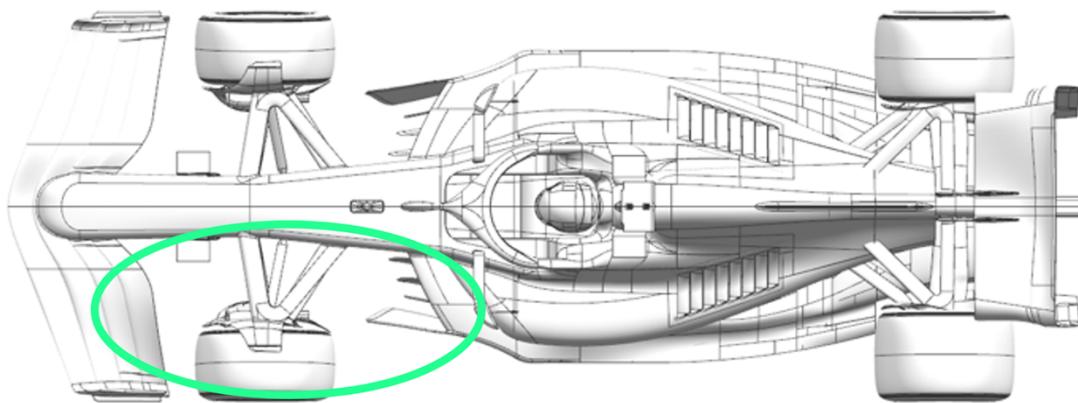
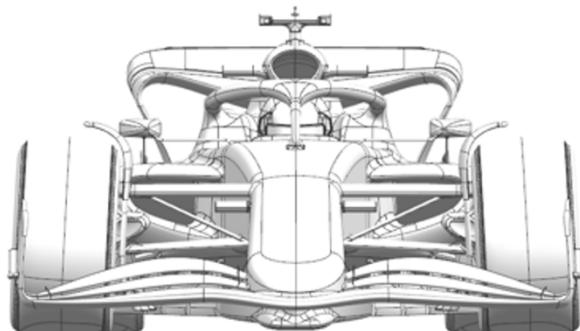
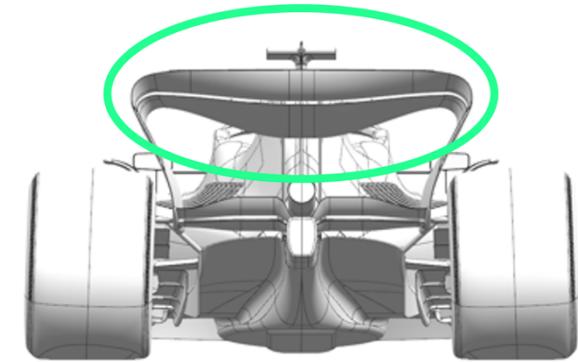


STAKE F1 TEAM KICK SAUBER

	Updated component	Primary reason for update	Geometric differences compared to previous version	Brief description on how the update works
1	Rear Wing	Performance - Flow Conditioning	Redesigned pylon, main plane and flap with detached outboard tips.	Together with the previously introduced mono pylon, the updated rear wing is linked to the new generation of rear wings and is characterised by a new version of flap, improving the aerodynamic efficiency of the car.
2	Front Corner	Performance - Flow Conditioning	Redesigned exit ducts of the front brake duct.	The updated front brake ducts are being introduced to further improve the aerodynamic flow and answer the cooling needs of the car in this weekend's race.



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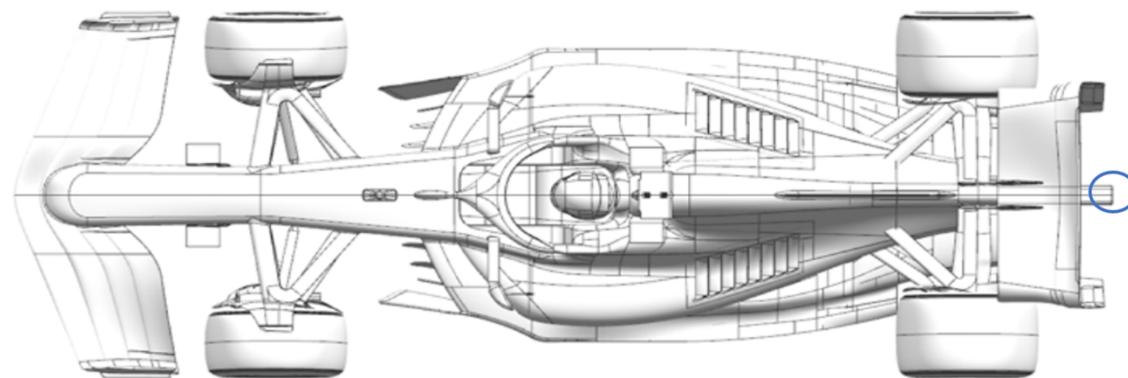
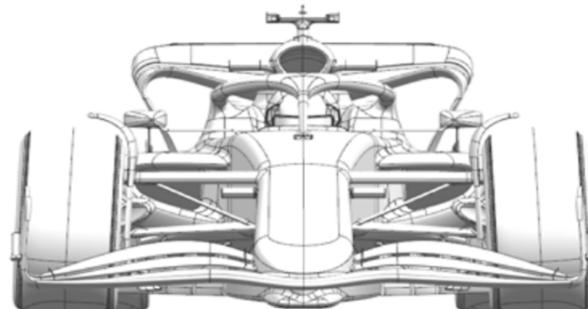
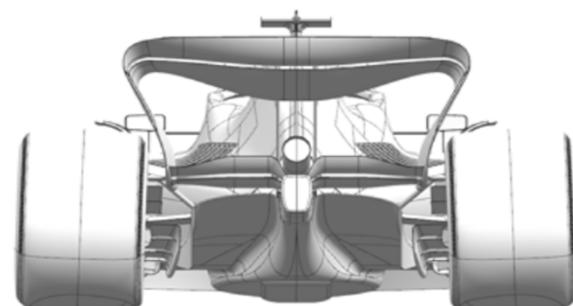


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MONEYGRAM HAAS F1 TEAM

	Updated component	Primary reason for update	Geometric differences compared to previous version	Brief description on how the update works
1	Rear Impact Structure	Local Load	Upwashing Flick on RIS trailing edge	Introduction of a small winglet on the RIS, which increases the local upwash resulting in a marginal load increase.



Rear Impact Structure Winglet

