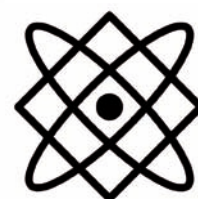


SUNSCAN

Manuel de construction
User manual assembly



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A

Pose des inserts filetés Fitting threaded inserts



Insert fileté M4 (ou #8-32)
M4 (or #8-32) threaded insert



Insert fileté M3 (ou #4-40)
M3 (or #4-40) threaded insert



Insert fileté pas Kodak 1/4 pouce
1/4 inch threaded insert (Kodak)



Insert fileté M2
M2 threaded insert



Fer à souder
Soldering iron

250° C
482° F



Vidéo
«comment installer un insert ?»
Video
«how to install an insert ?»

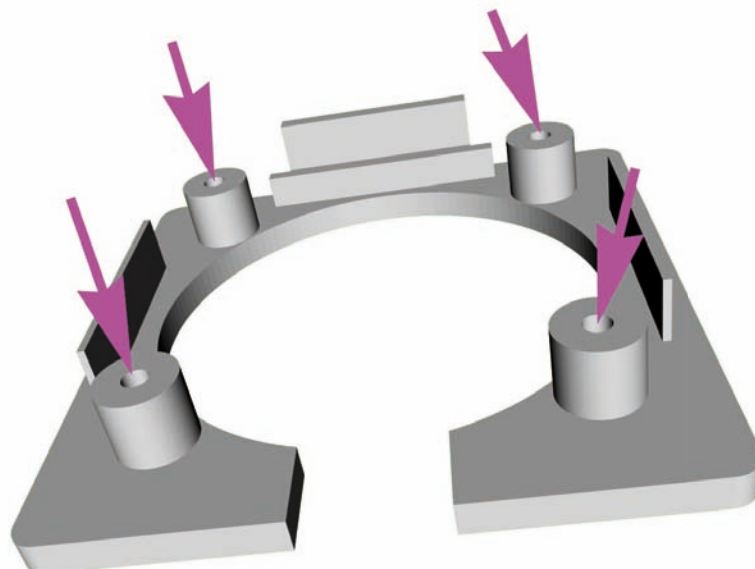


A0

Boîtier supérieur caméra
Camera case top
(Ref. #22-3)



M2



STAROS Projects

A1

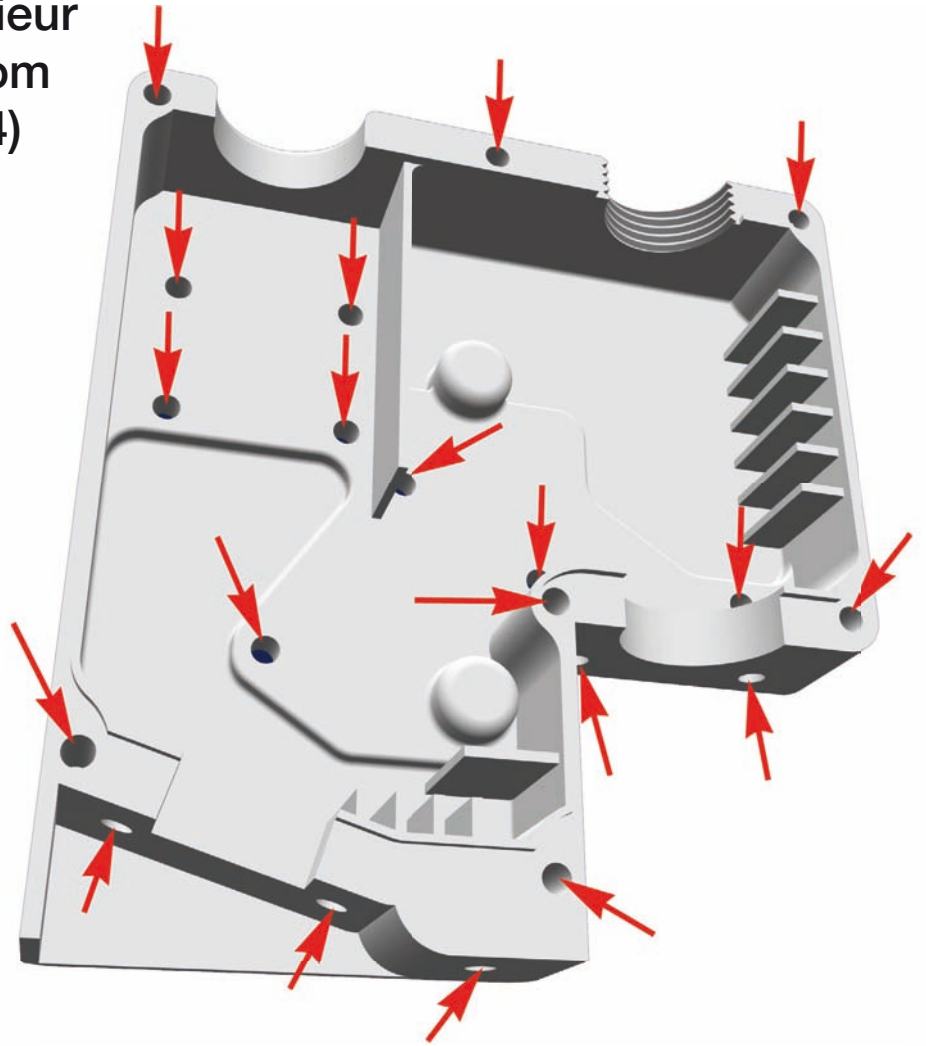
Boîtier inférieur
Case bottom
(Ref. #2-4)



x20



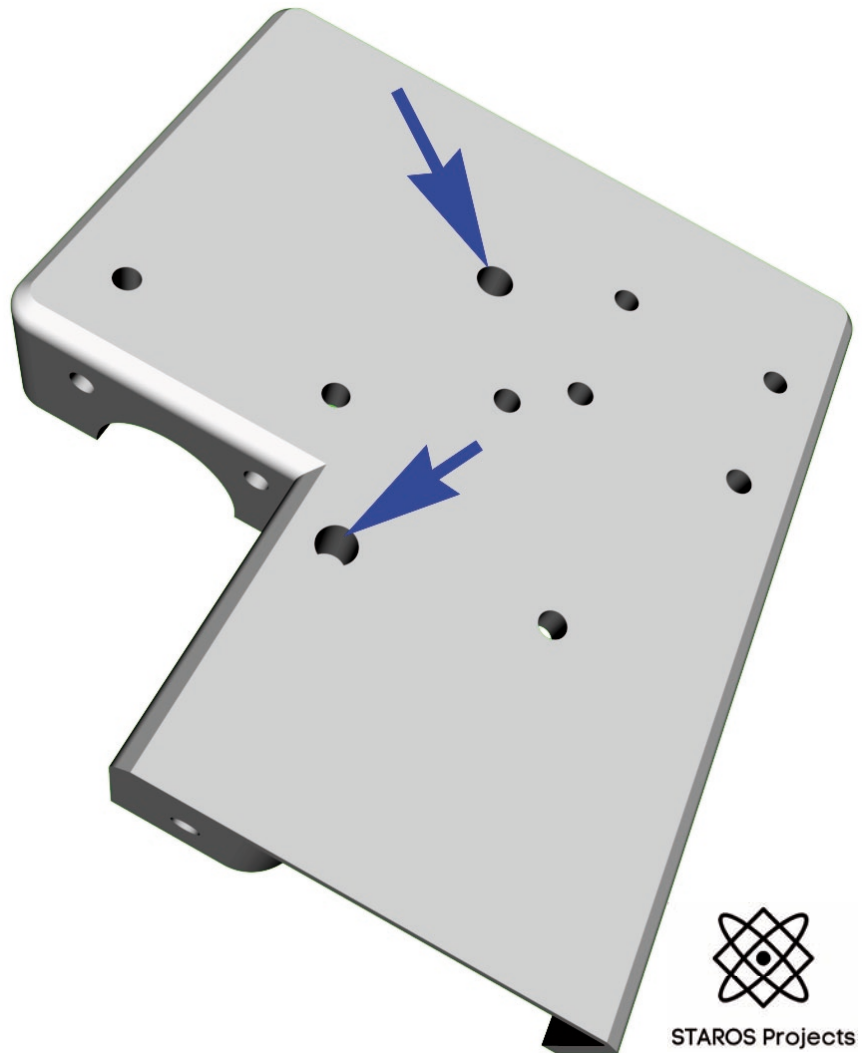
M4 (#8-32)



x2



Kodak 1/4



STAROS Projects

A2

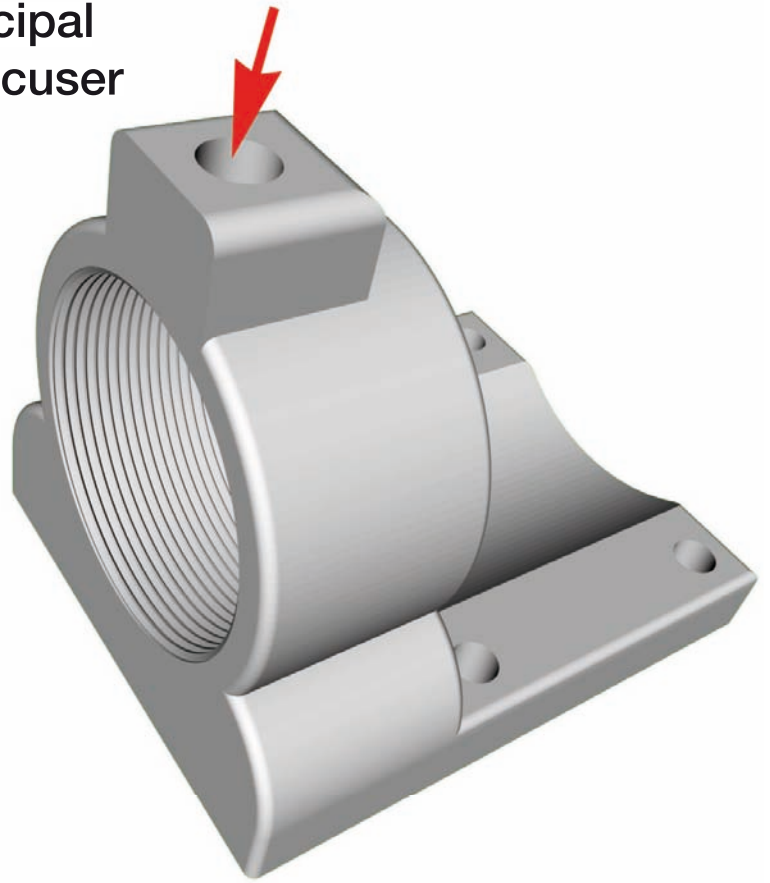
Focaliseur principal
Main refractor focuser
(Ref. #3-2)



x1



M4 (#8-32)



A3

Supports collimateur et fente
Collimator and slit supports
(Ref. #9-2 & #19-1)



x5



M3 (#4-40)

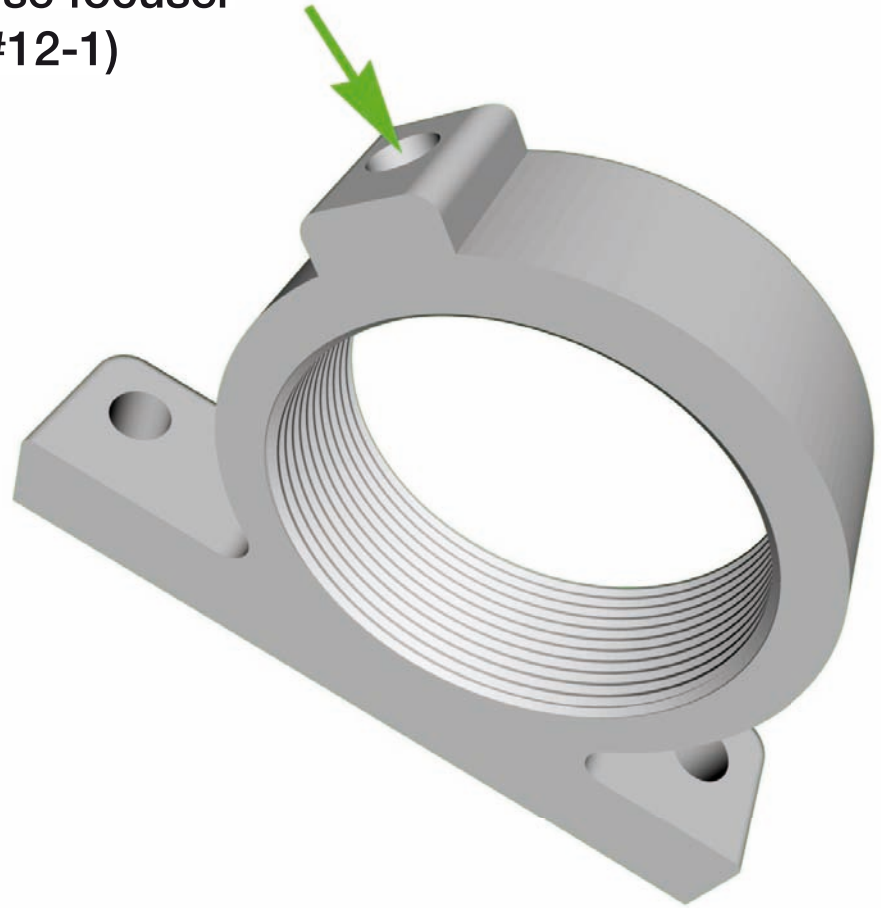


A4

Focaliseur de la camera
Camera lens focuser
(Ref. #12-1)



M3 (#4-40)

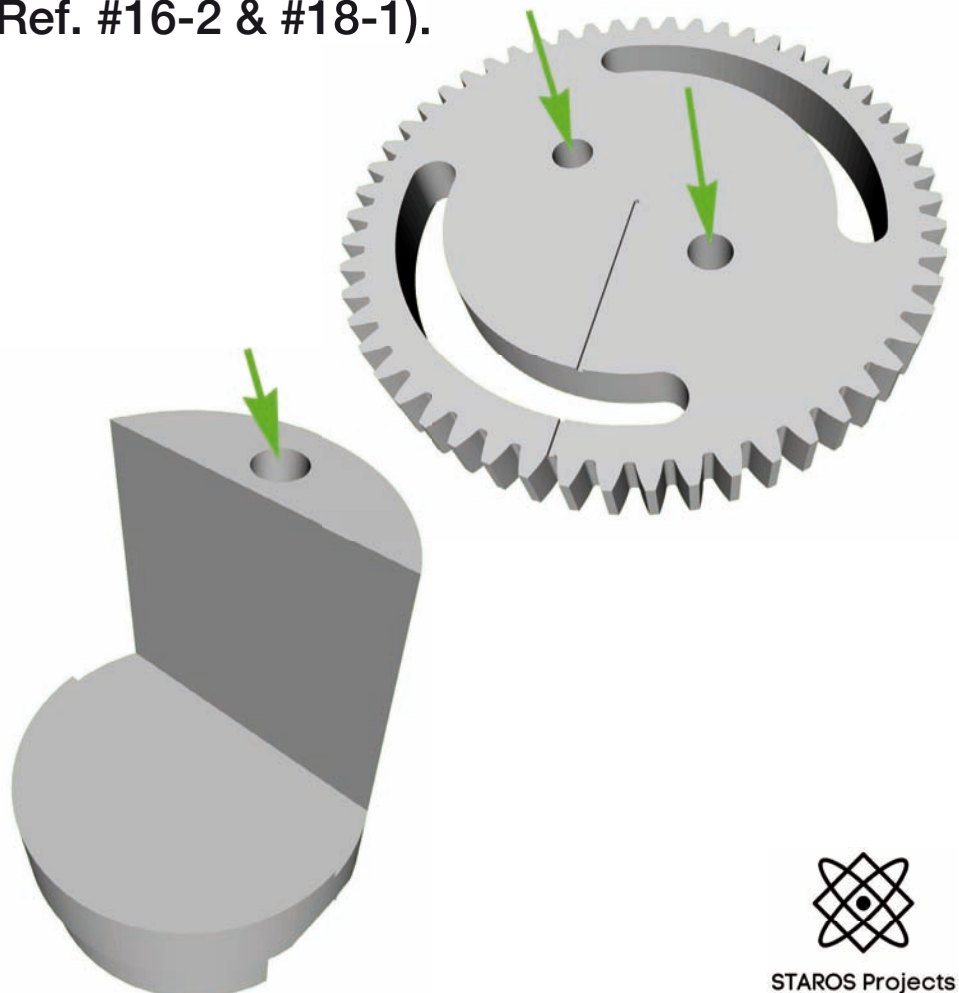


A5

Support réseau et molette réglage
Grating handle and gear tuning
(Ref. #16-2 & #18-1).



M3 (#4-40)



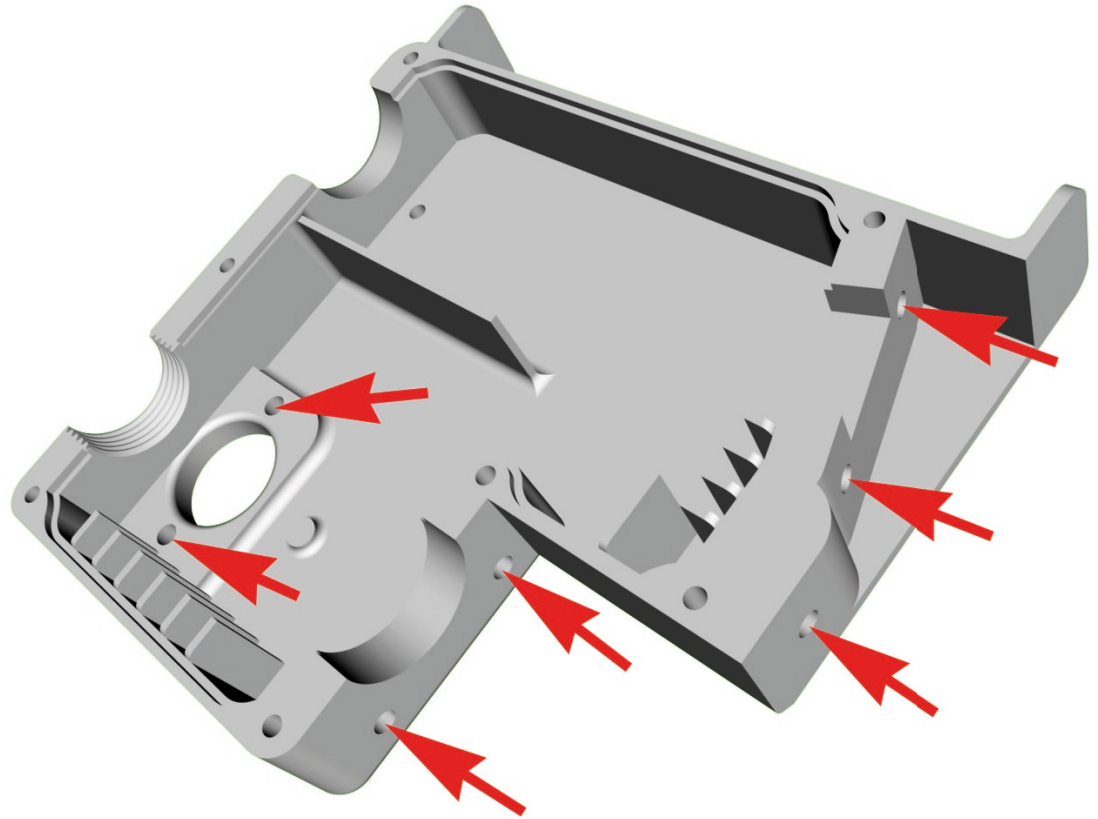
STAROS Projects


A6

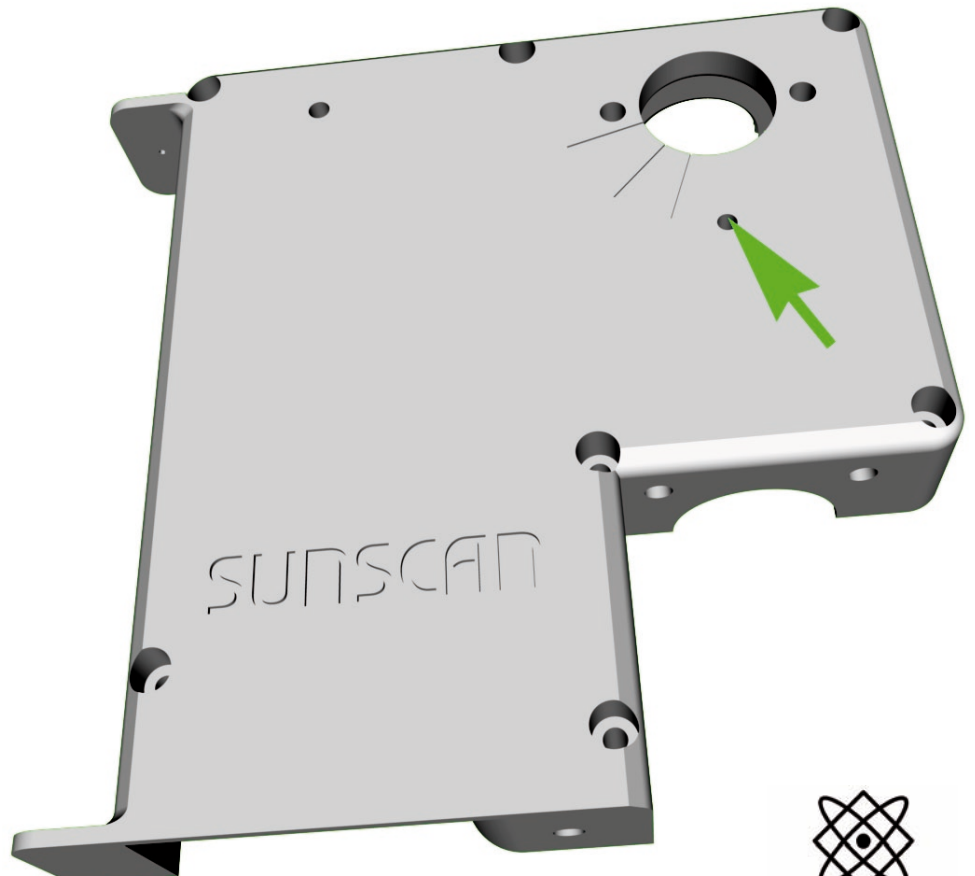
Boîtier supérieur
Case top
(Ref. #1-5)



 M4 (#8-32)



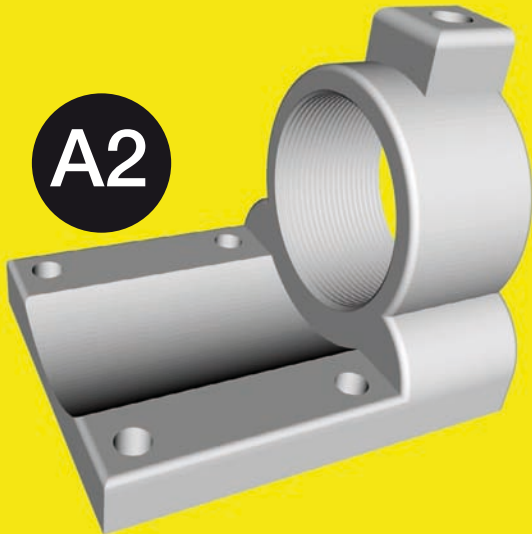
 M3 (#4-40)



B

Assemblage du focuser principal Main focuser assembly

A2



Support focuser du réfracteur principal
Main refractor focuser support



Support filtre densité
Density holder
(Ref. #13-3)



Tube réfracteur principal
Main refractor tube
(Ref. #4-3)



Bridage réfracteur
Refractor clamping
(Ref. #5-2)



Lentille Φ 25mm focale 200 mm
Lens Φ 25mm focal 200 mm



Filtre neutre ND 0,9
Neutral density filter ND 0,9



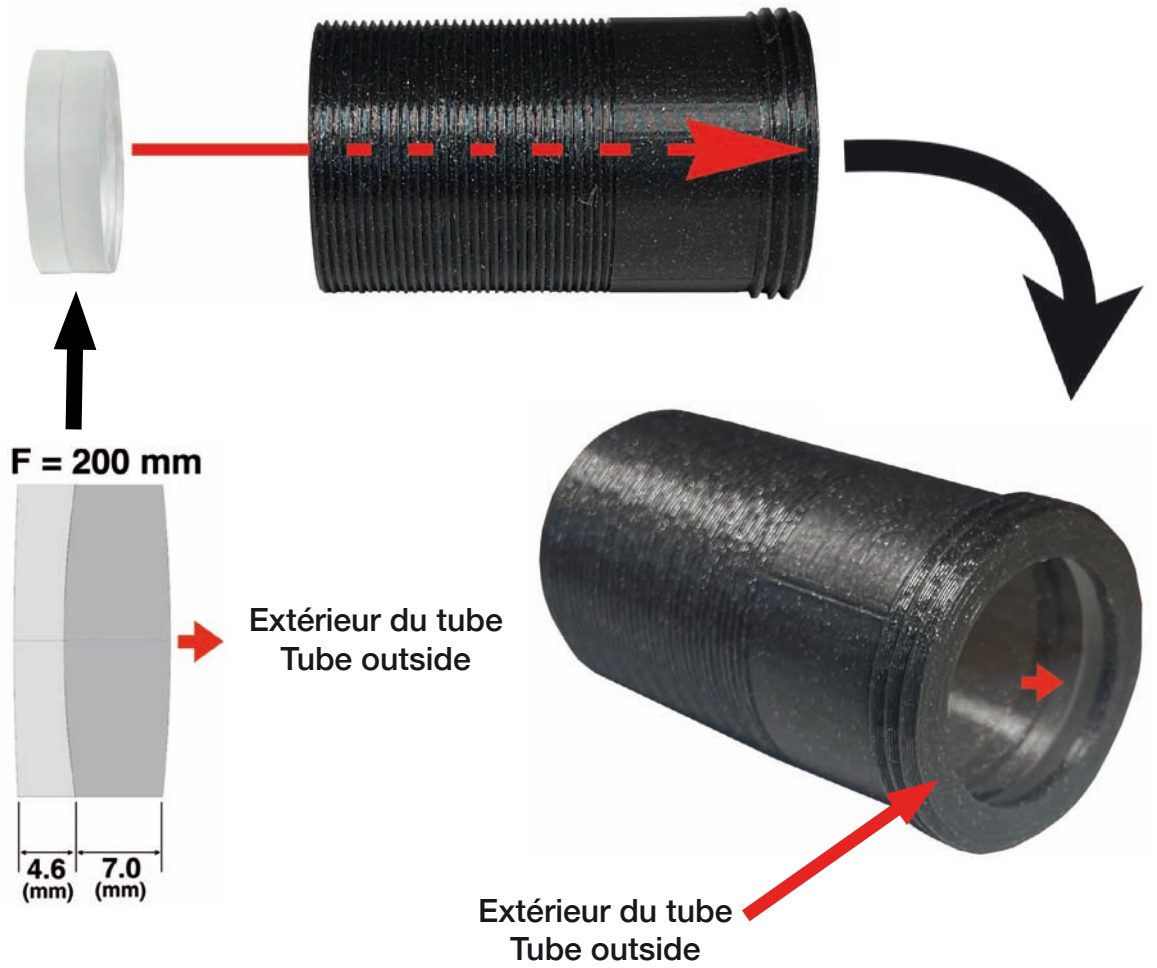
x4

Vis M4 (ou #8-32) L=12 mm
M4 (or #8-32) screw L=12 mm

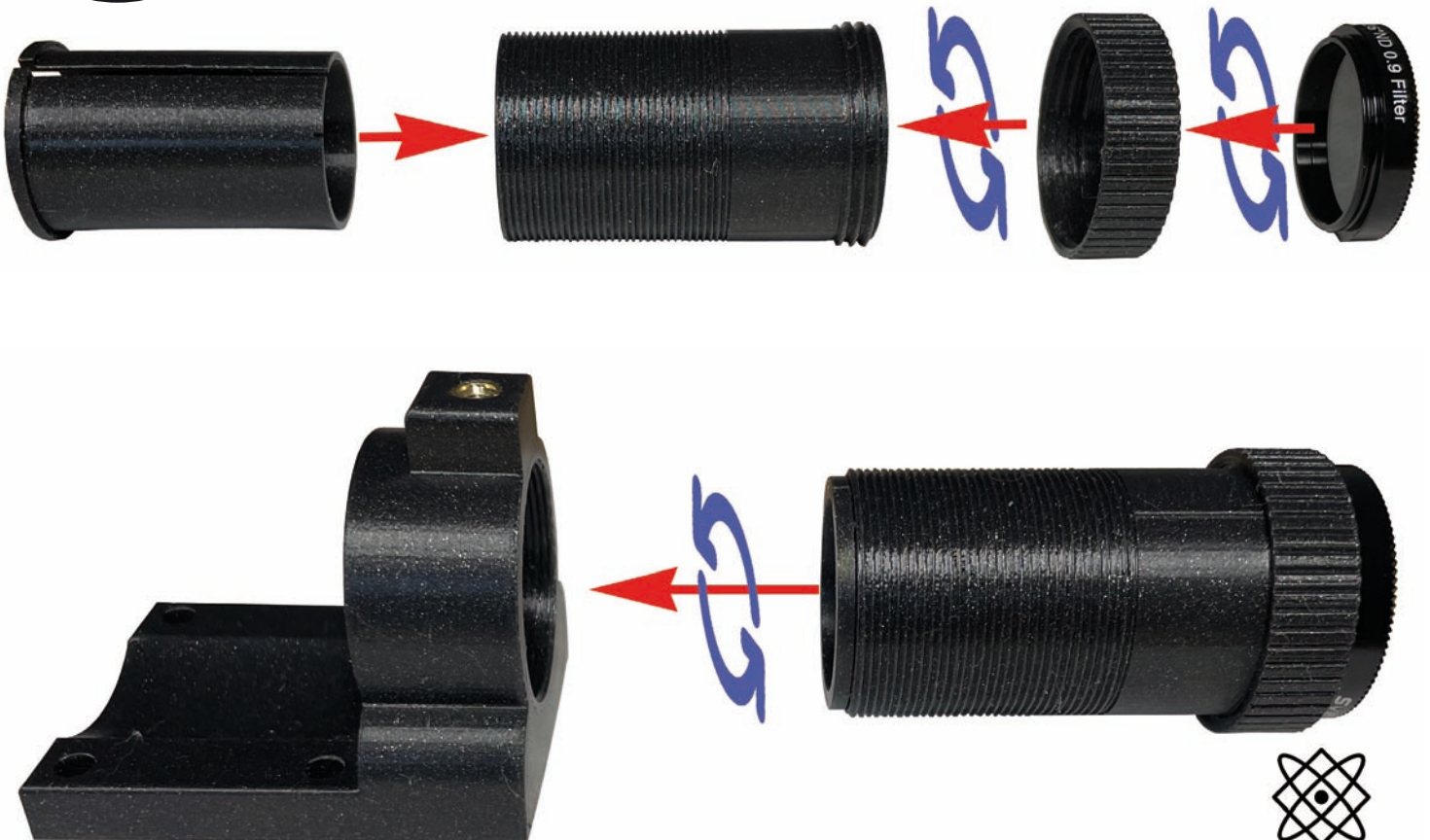


Clé allen pour vis M4
Allen wrench for M4 screw

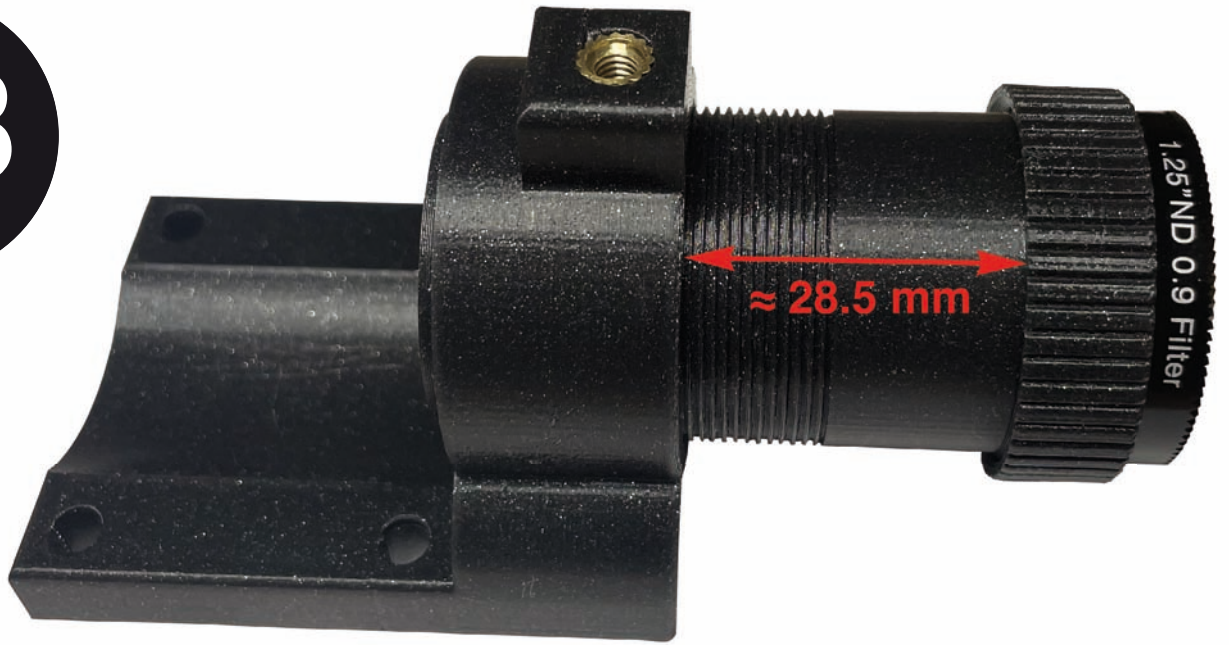
B1



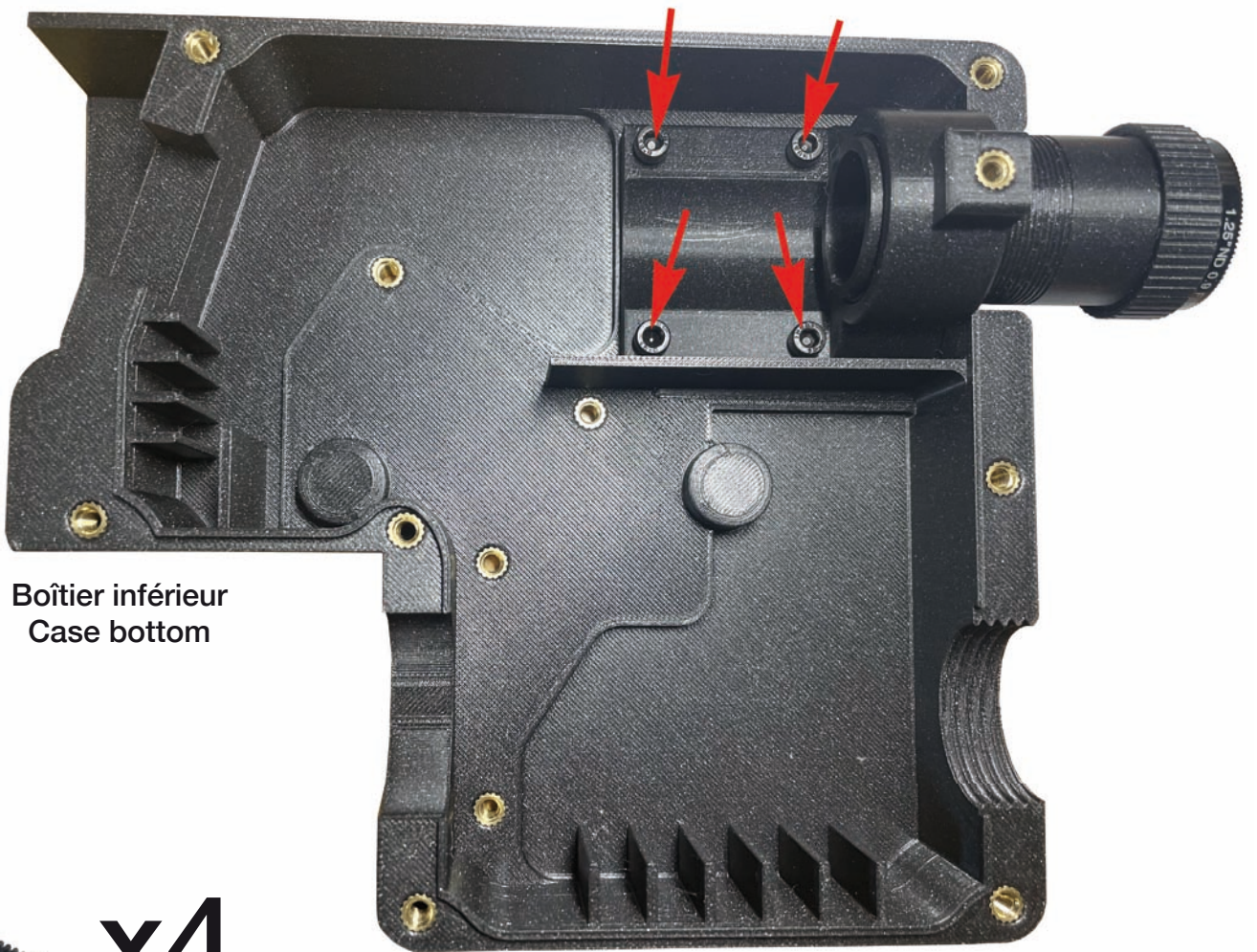
B2



B3



B4



A1

Boîtier inférieur
Case bottom



x4



M4 (ou #8-32) L=12 mm
M4 (or #8-32) L=12 mm



STAROS Projects



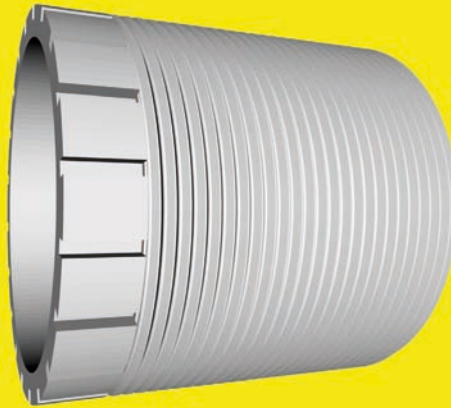
Assemblage support objectif caméra

Camera lens support assembly

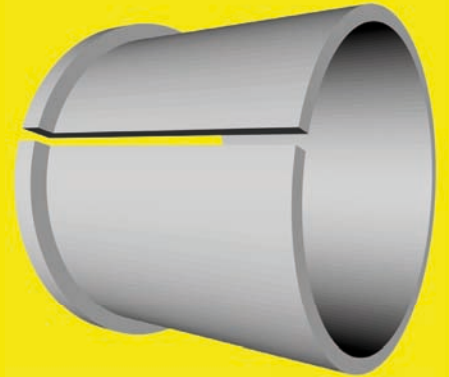


A4

Support lentille caméra
Camera lens support



Tube lentille caméra
Camera lens tube
(Ref. #7-3)



Bridage lentille camera
Camera lens clamping
(Ref. #8-3)



x1

Vis M3 (ou #4-40) L=10 mm
M3 (or #4-40) screw L=10 mm



x2

Vis M4 (ou #8-32) L=12 mm
M4 (or #8-32) screw L=12 mm

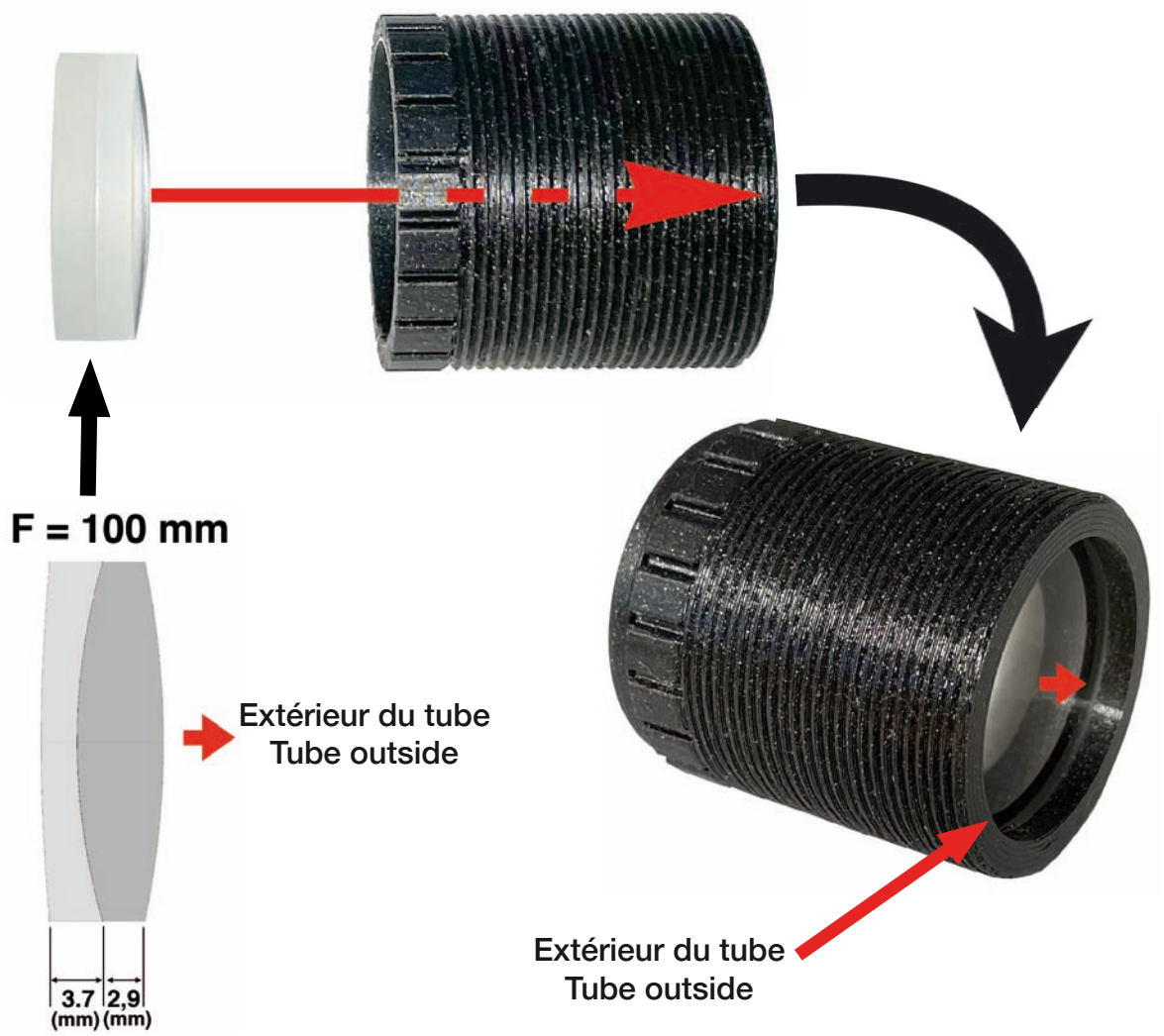


Lentille Φ 25mm focale 100 mm
Lens Φ 25mm focal 100 mm

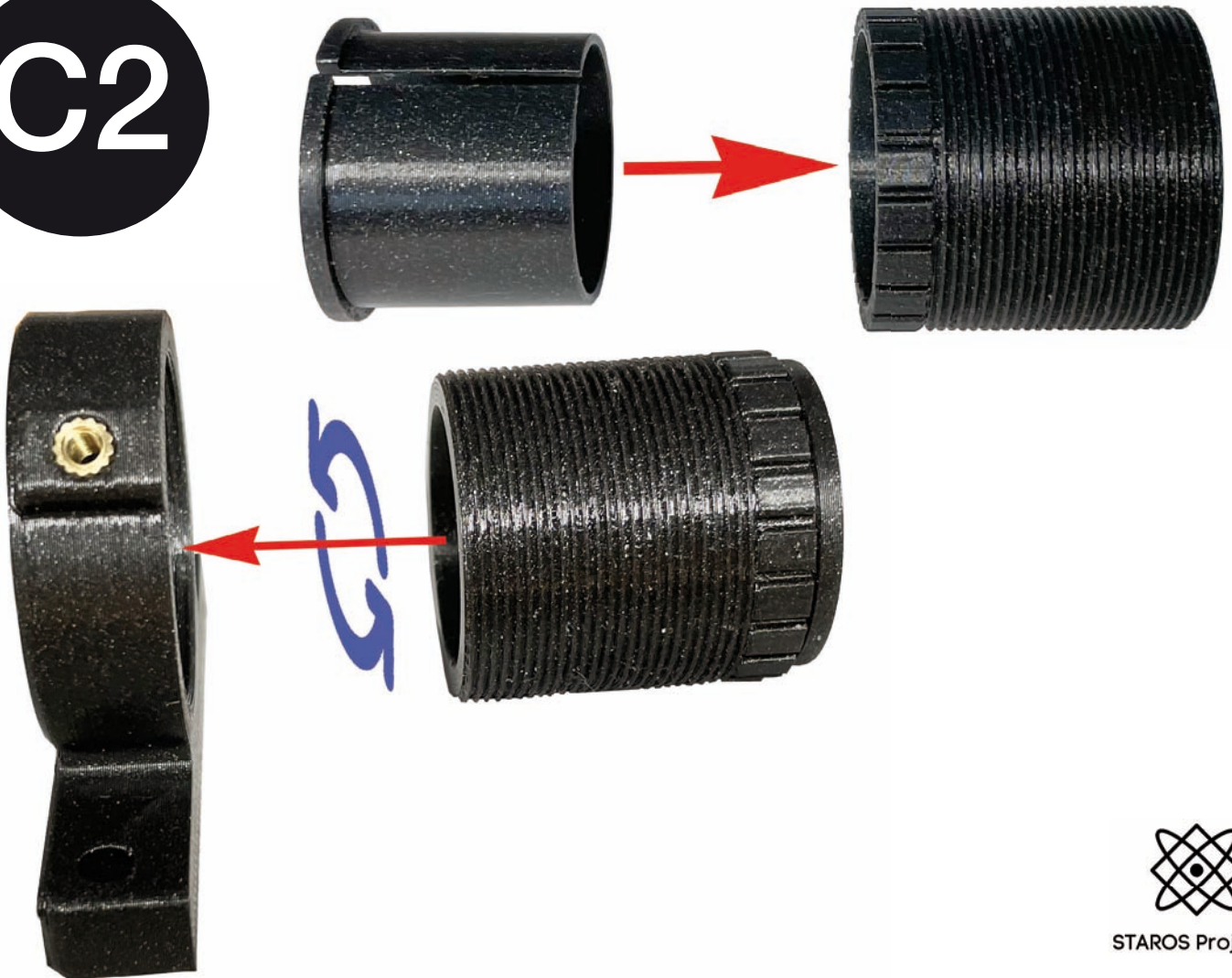


Clés allen pour vis M3 et M4
Allen wrench for M3 and M4 screw

C1



C2



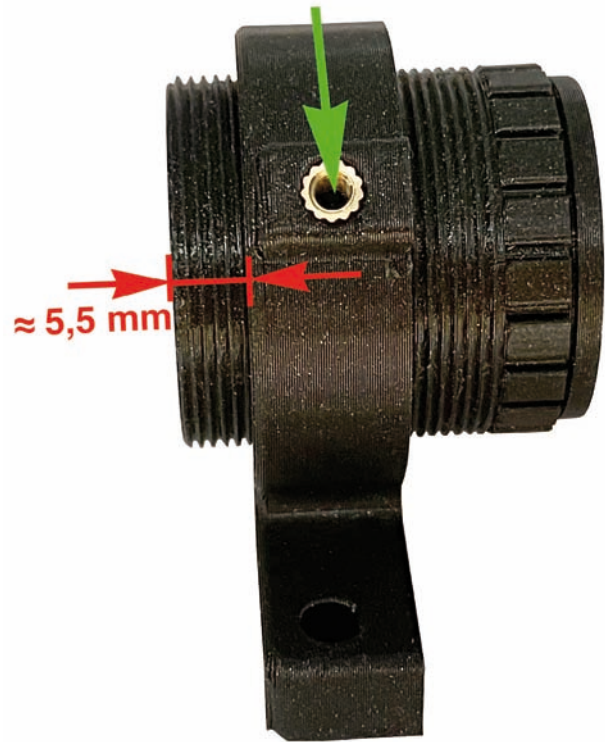
C3



x1



M3 (ou #4-40) L=10 mm
M3 (or #4-40) L=10 mm



C4

A1

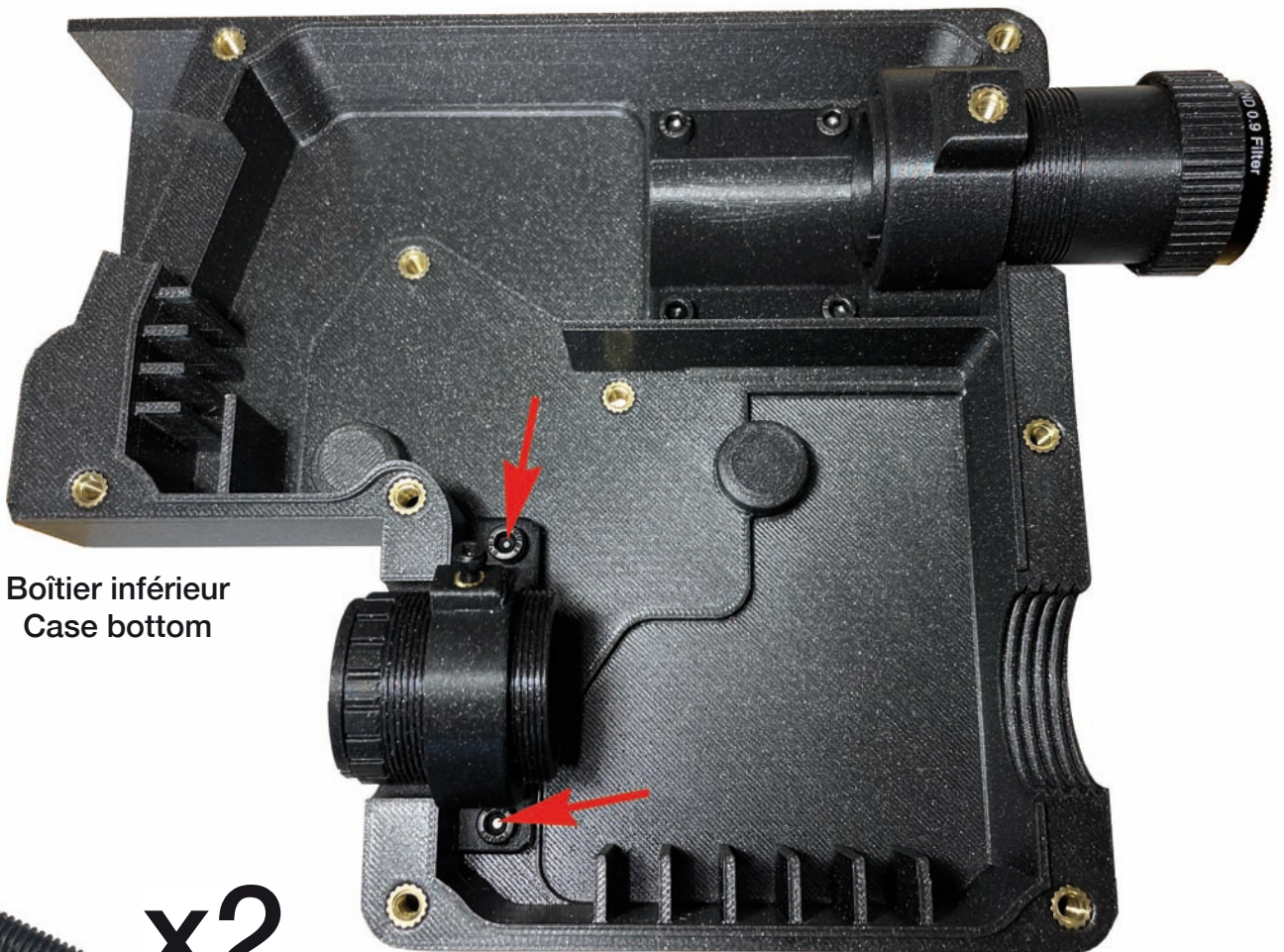
Boîtier inférieur
Case bottom



x2

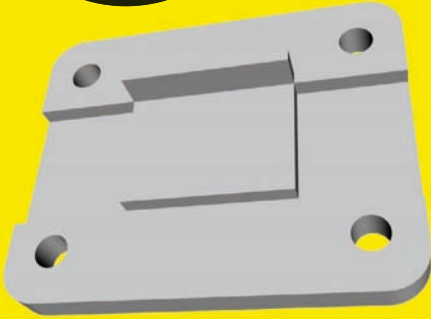


Vis M4 (ou #8-32) L=12 mm
M4 (or #8-32) screw L=12 mm

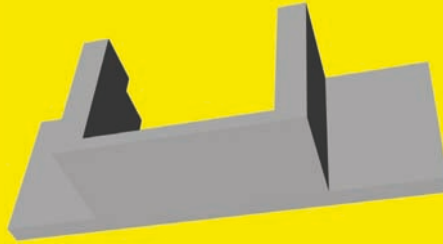


D

Assemblage du support du miroir
Mirror support assembly



Interface miroir
Mirror interface



Support de miroir
Mirror stand



Miroir 23 x 16 x 5 mm
Mirror 23 x 16 x 5 mm

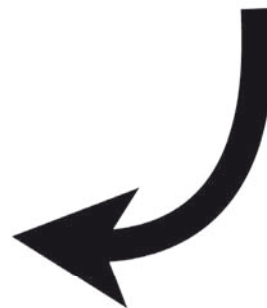


Vis M4 (ou #8-32) L=8 mm
M4 (or #8-32) screw L=8 mm

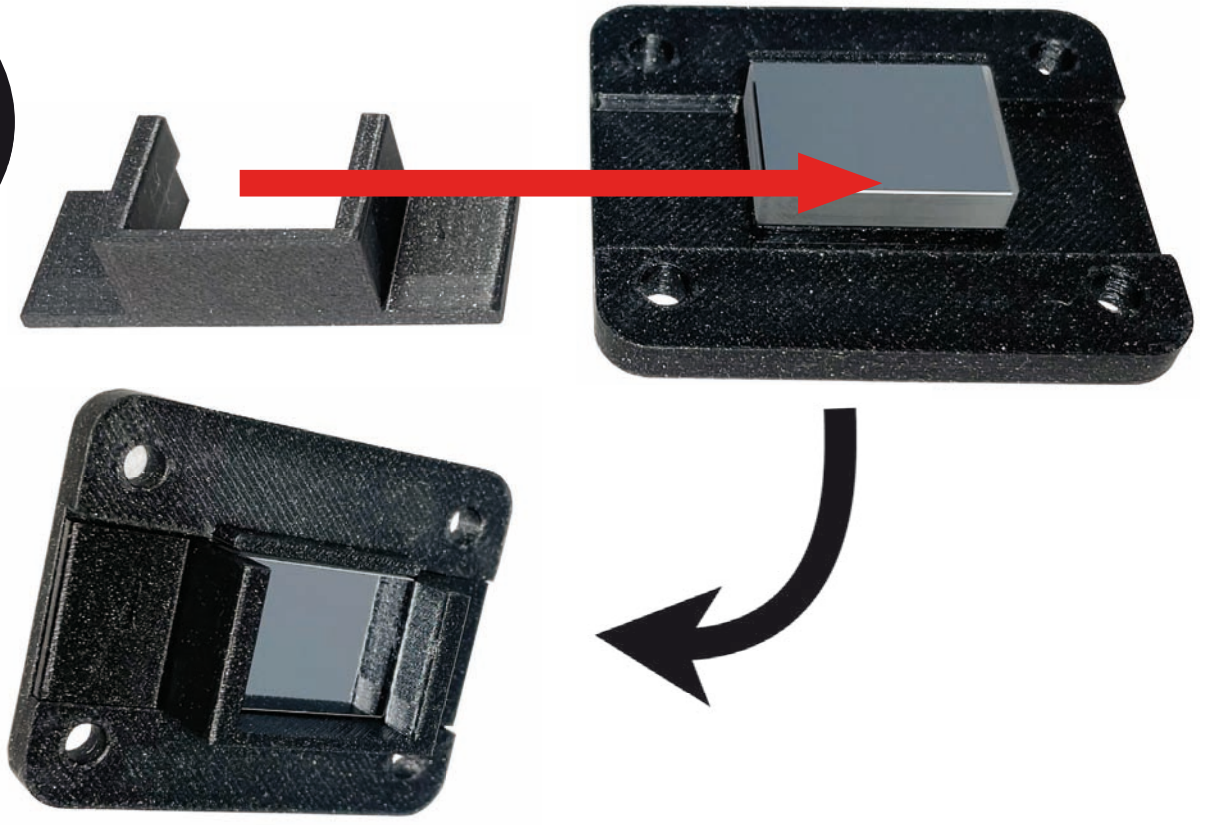


Clés allen pour vis M4
Allen wrench for M4 screw

D1



D2



D3



A1

Boîtier inférieur
Case bottom

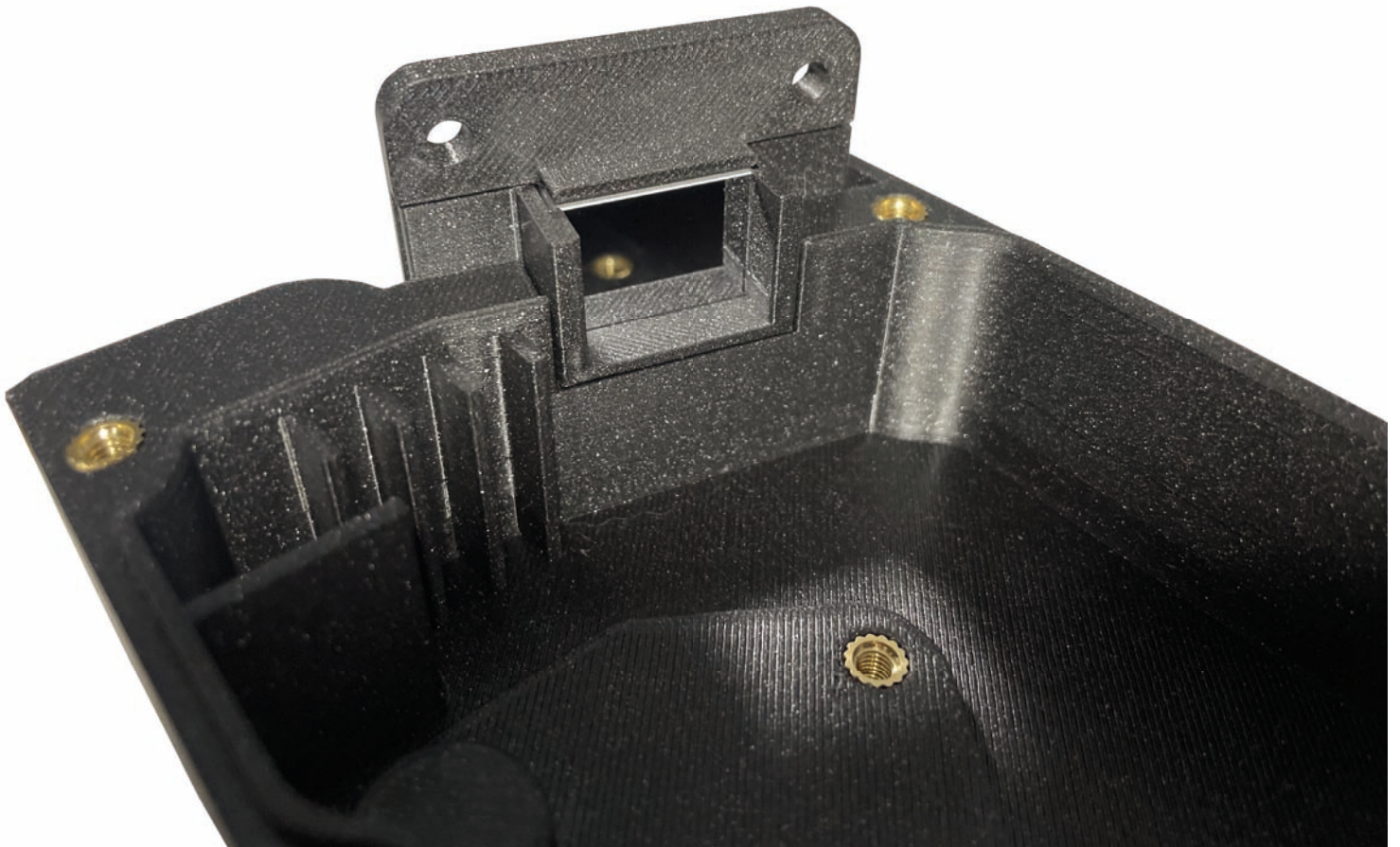
D4



x2



M4 (ou #8-32) L=8 mm
M4 (or #8-32) L=8 mm



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E

Assemblage support de fente Slit support assembly



Fente 2 positions 7 et 10 μm
2 position slit 7 and 10 μm



Bridage fente
Slit clamp
(Ref. #28-1)

A3



Support de fente
Slit bench
(Ref. #19-2)



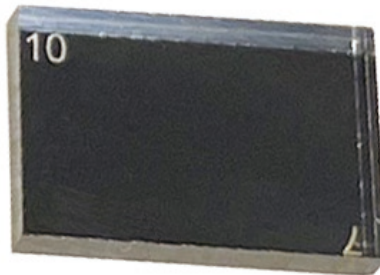
x2

Vis M3 (ou #4-40) L=8 mm
M3 (ou #4-40) screw L=8 mm

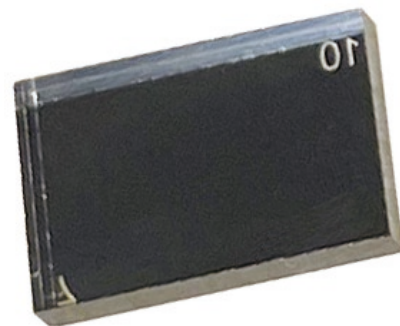


Clés allen pour vis M3
Allen wrench for M3 screw

E1



Face coté miroir
Glass side



Face coté chrome
Chrome side

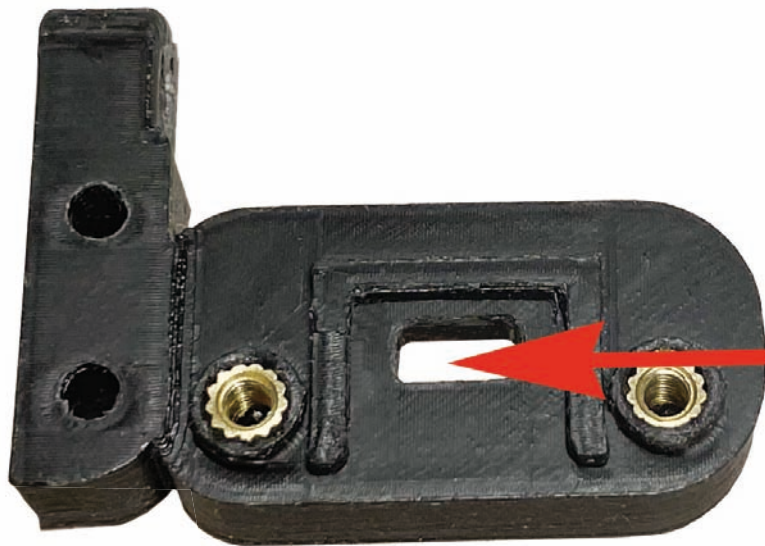


La fente comporte 2 faces différentes, l'une est en verre, l'autre est chromée. Dans le montage du SUNSCAN il faut disposer la partie chromée du coté exposé au Soleil.

The slit has 2 different faces: one is glass, the other chrome-plated. When mounting the SUNSCAN, the chrome-plated side should face the sun.



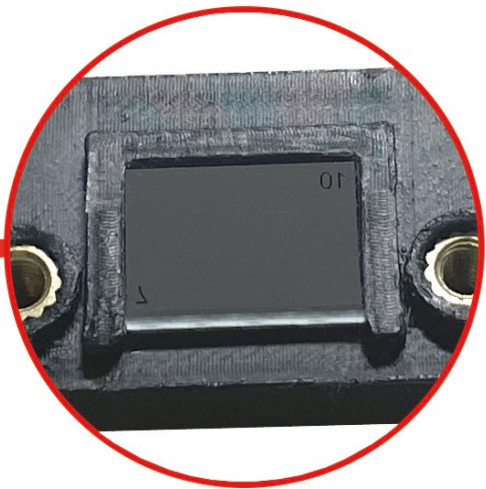
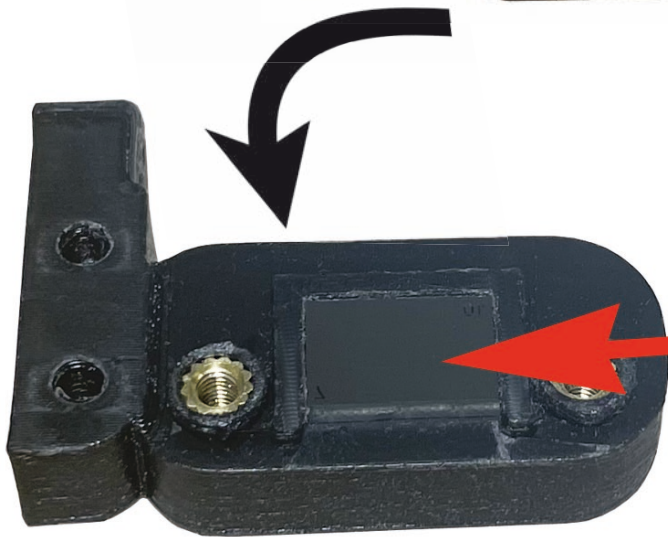
E2



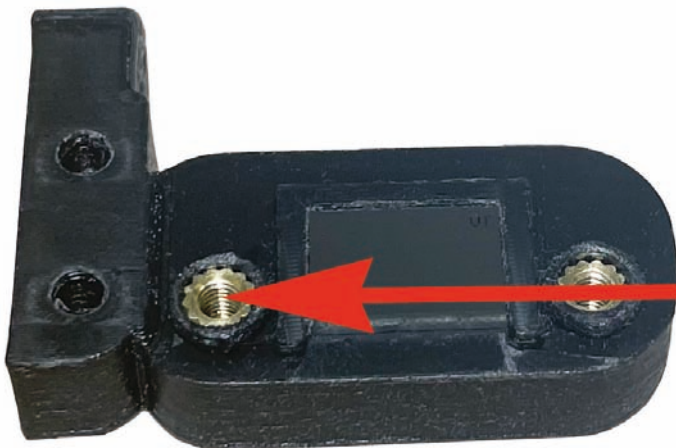
Face coté chrome
Chrome side face



Chiffres à l'envers
Upside-down numbers

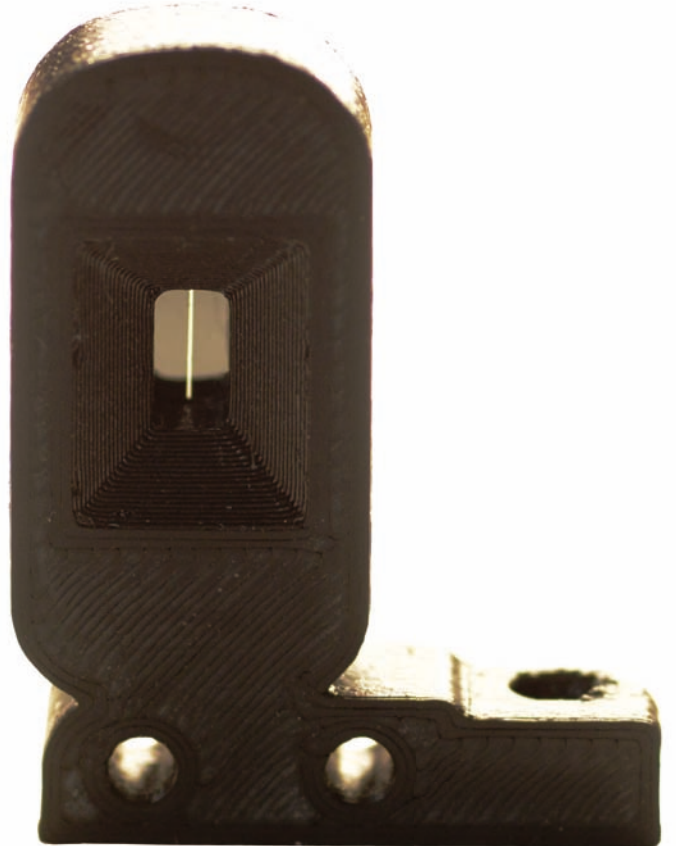


E3



STAROS Projects

E4



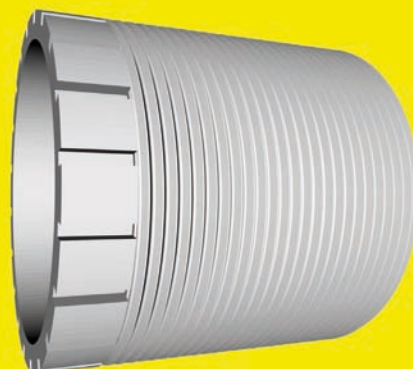
F

Assemblage du collimateur Collimator assembly

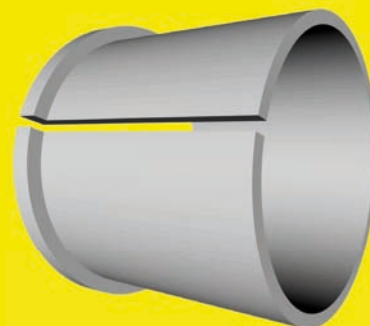


A3

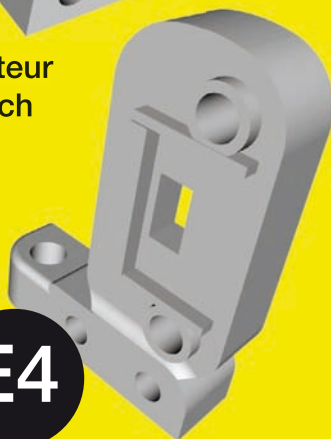
Support collimateur
Collimator bench



Tube lentille caméra
Camera lens tube
(Ref. #7-3)

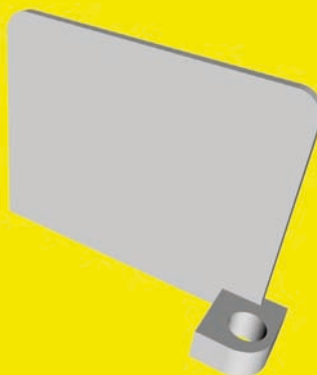


Bridage lentille caméra
Camera lens clamping
(Ref. #8-3)



E4

Support de fente
Slit bench



Cloison fente
Slit partition
(Ref. #15-1)



Lentille Φ 25mm
 focale 75 mm
 Lens Φ 25mm
 focal 75 mm



x1

Vis M4 (ou #8-32) L=12 mm
M4 (or #8-32) screw L=12 mm



x1

Vis M4 (ou #8-32) L=16 mm
M4 (or #8-32) screw L=16 mm



x1

Vis M3 (ou #4-40) L=10 mm
M3 (or #4-40) screw L=10 mm



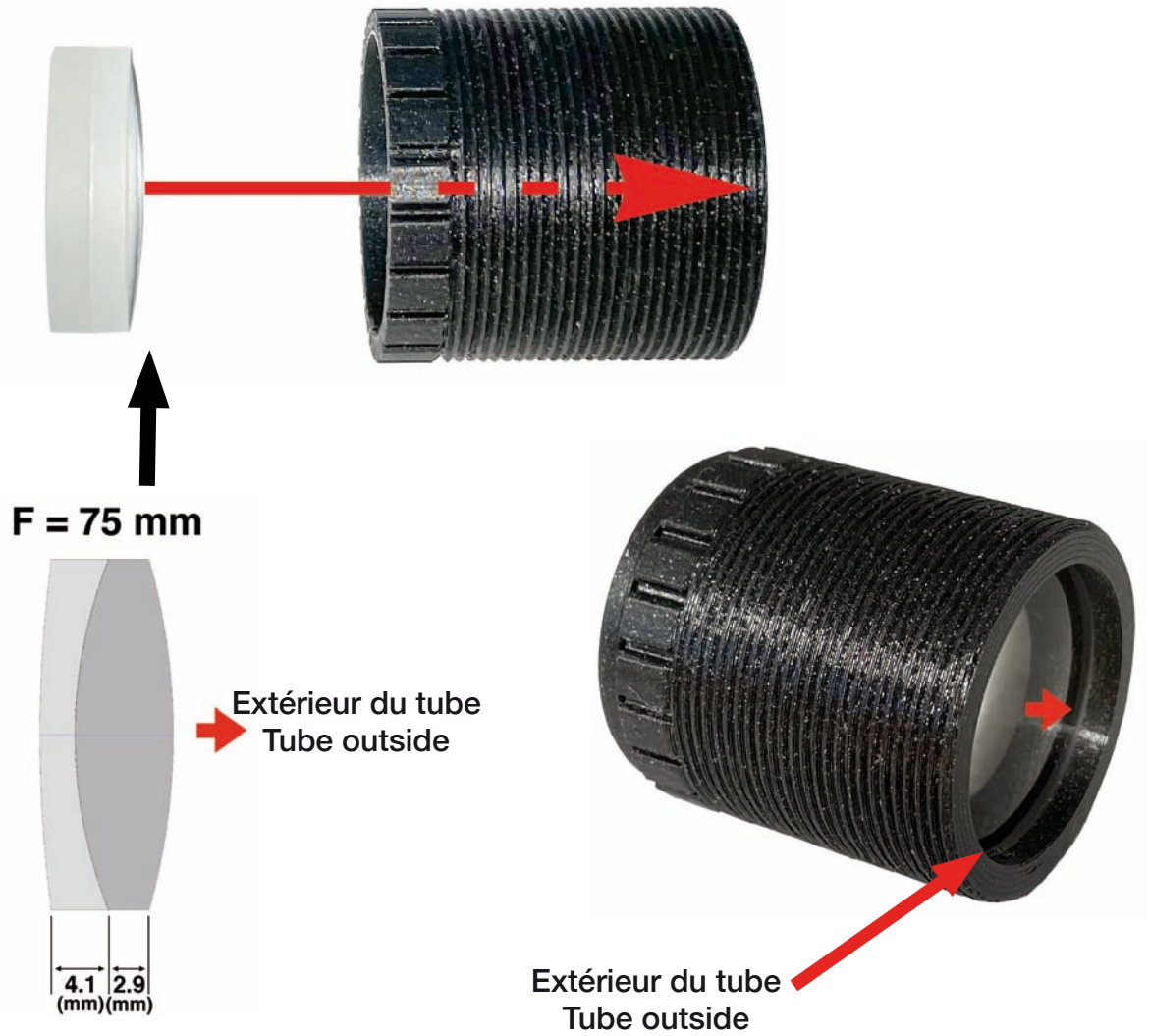
x2

Vis M3 (ou #4-40) L=16 mm
M3 (or #4-40) screw L=16 mm

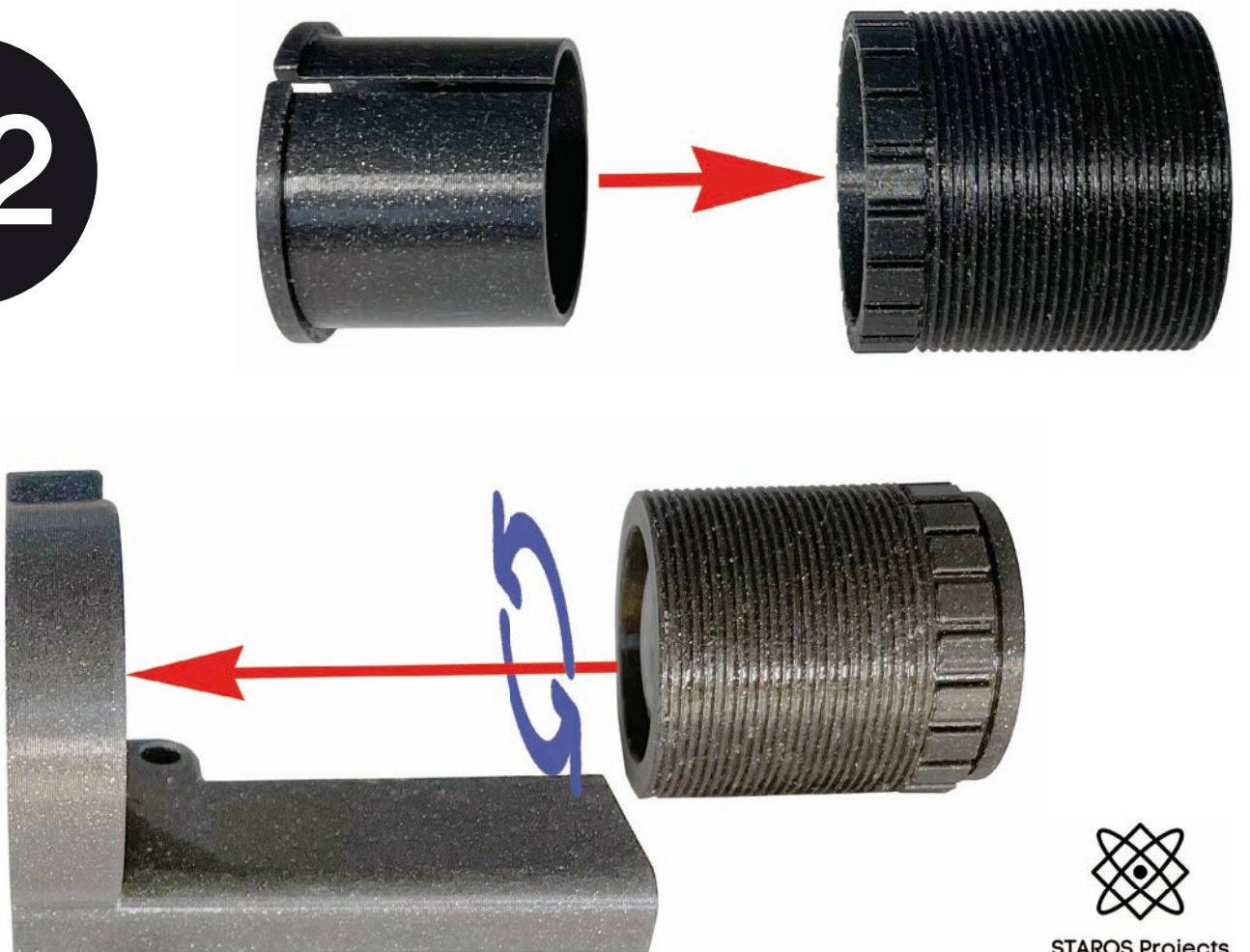


Clés allen pour vis M3 et M4
Allen wrench for M3 and M4 screw

F1



F2



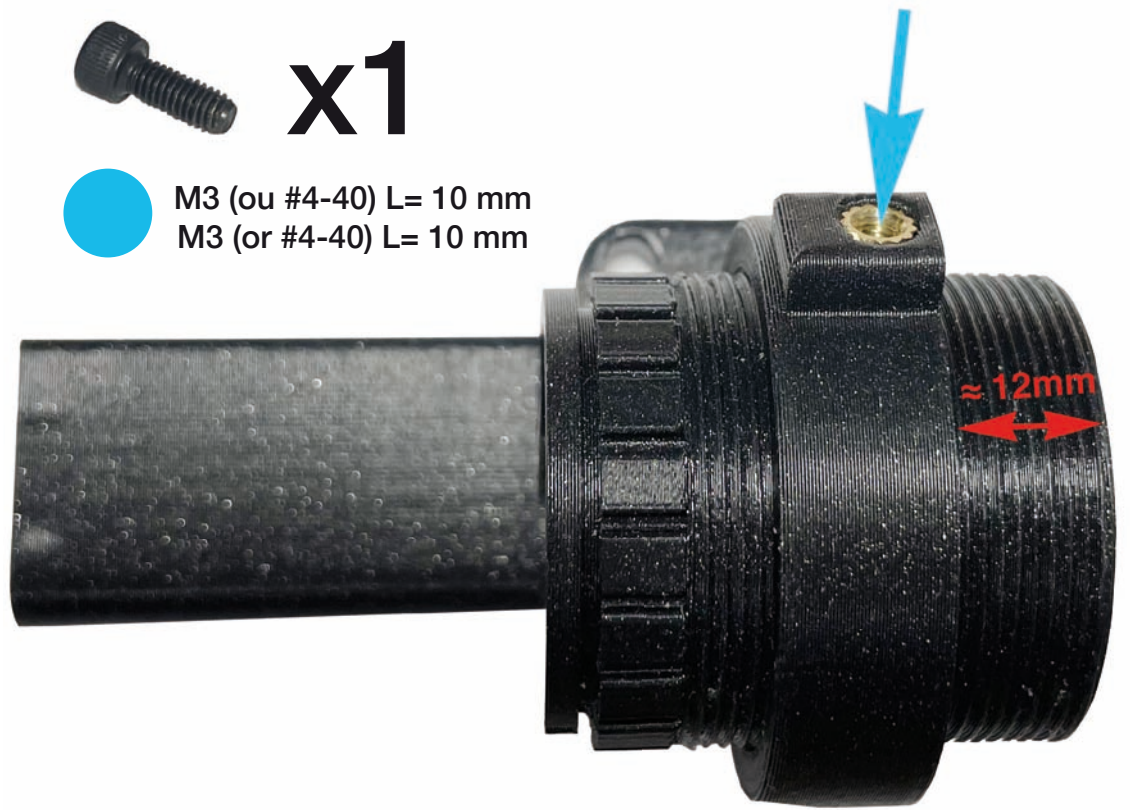
F3



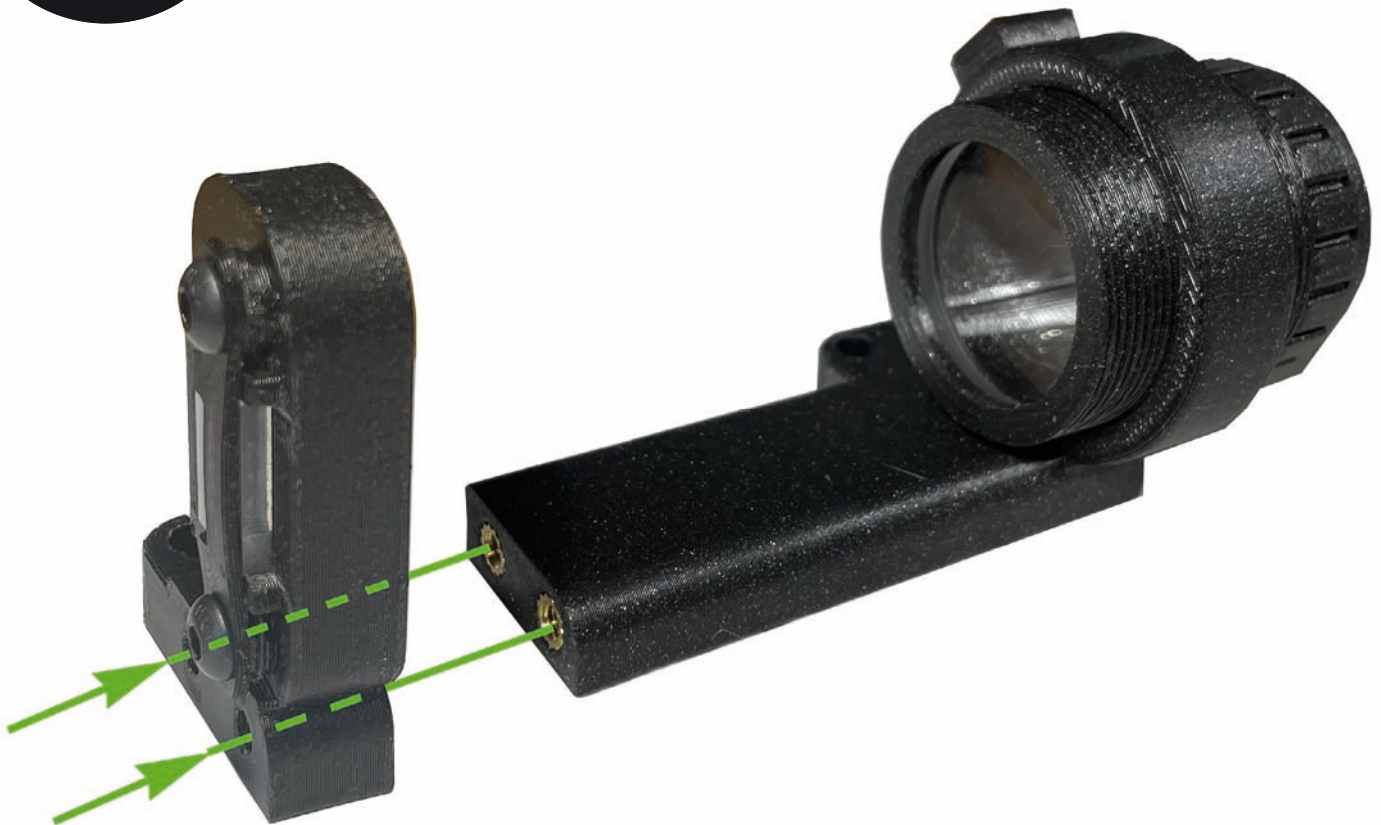
x1



M3 (ou #4-40) L= 10 mm
M3 (or #4-40) L= 10 mm



F4



x2



M3 (ou #4-40) L= 16 mm
M3 (or #4-40) L= 16 mm



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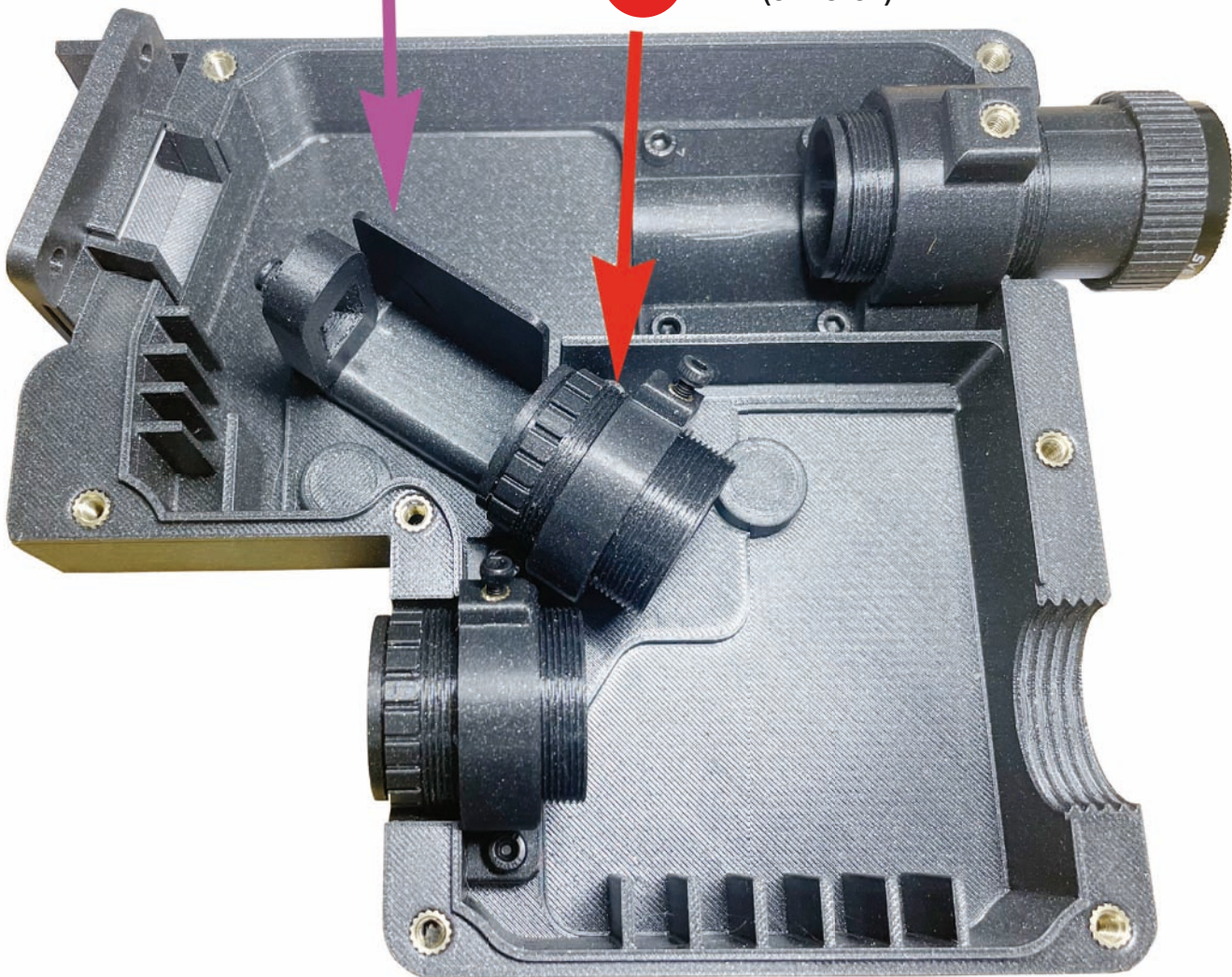
F5



M4 (ou #8-32) L=16 mm
M4 (or #8-32) L=16 mm



M4 (ou #8-32) L=12 mm
M4 (or #8-32) L=12 mm



G

Assemblage du support réseau Grating support assembly



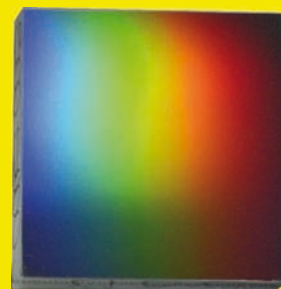
A5

Roue dentée réseau
Grating gear



A5

Support réseau
Grating handle



Réseau 2400 traits/mm
25 x 25 x 6 mm
Grating 2400 grooves/mm
25 x 25 x 6 mm



Train d'entraînement
Drive train
(Ref. #17-1)



Fixation réseau
Grating attachment
(Ref. #20-1)



x2

Vis M3 (ou #4-40) L=14 mm
M3 (or #4-40) screw L=14 mm



x1

Vis M3 (ou #4-40) L=12 mm
M3 (or #4-40) screw L=12 mm



x2

Vis M4 (ou #8-32) L=10 mm
1 rondelle
M4 (or #8-32) screw L=10 mm
1 washer



x1

Vis M3 (ou #4-40) L=10 mm
1 rondelle
M3 (or #4-40) screw L=10 mm
1 washer



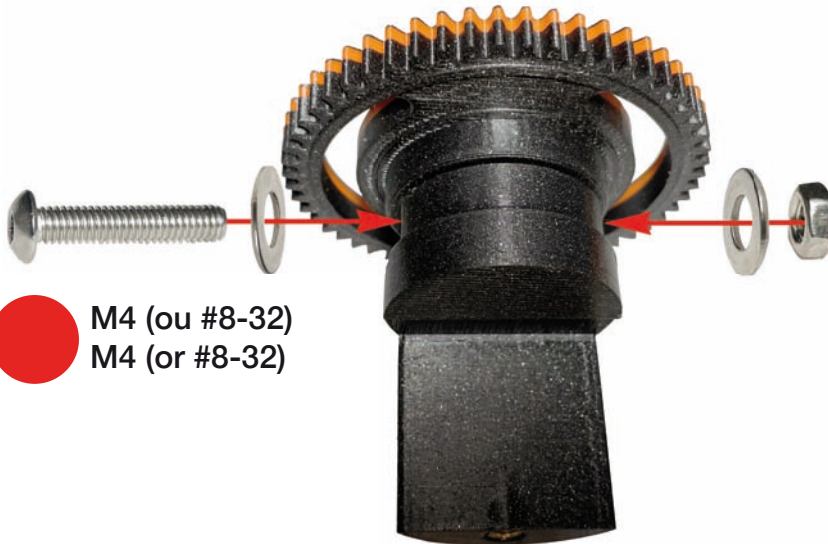
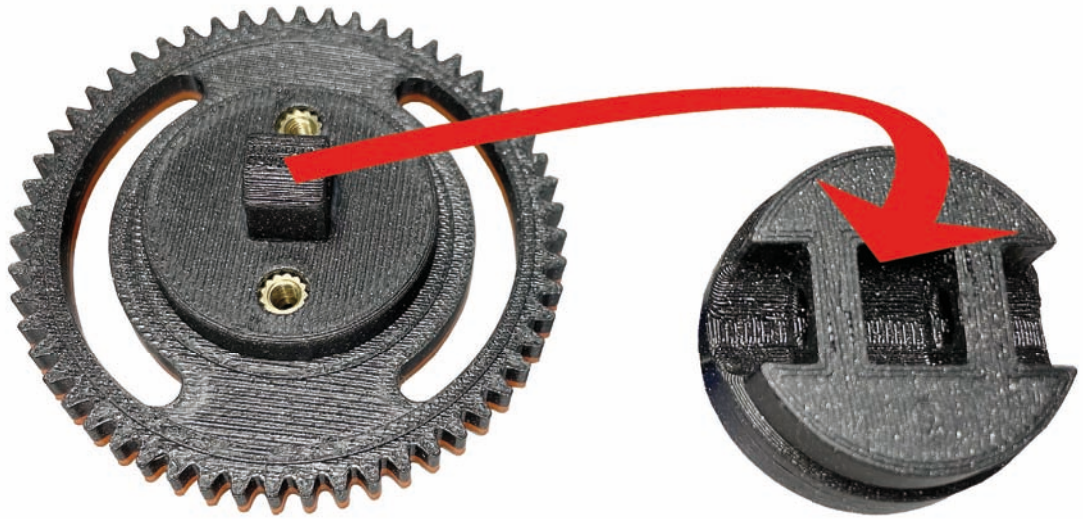
x1

Vis M4 (ou #8-32) L=20 mm
2 rondelles, 1 écrou
M4 (or #8-32) screw L=20 mm
2 washers, 1 nut



Clés allen pour vis M3 et M4
Allen wrench for M3 and M4 screw

G1



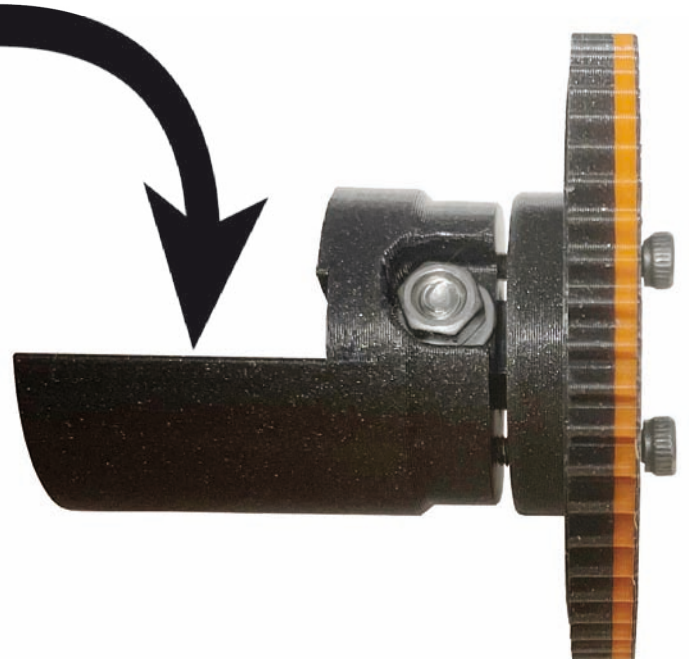
M4 (ou #8-32)
M4 (or #8-32)

G2



Ne pas serrer les 2 vis, elles ont pour usage d'ajuster l'angle de tilt du réseau.

Do not tighten the 2 screws; their purpose is to adjust the tilt angle of the grating.

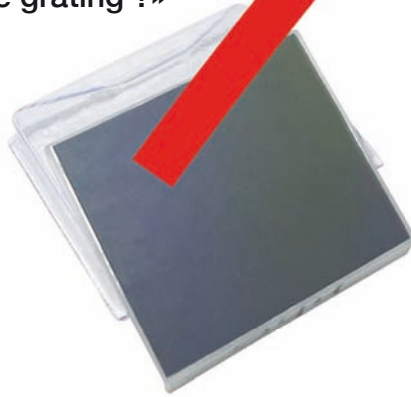


x2

M3 (ou #4-40) L=14 mm
M3 (or #4-40) L=14 mm

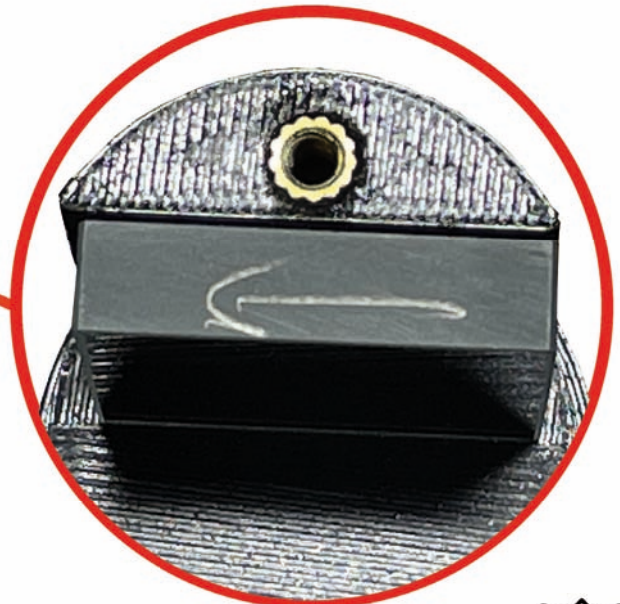
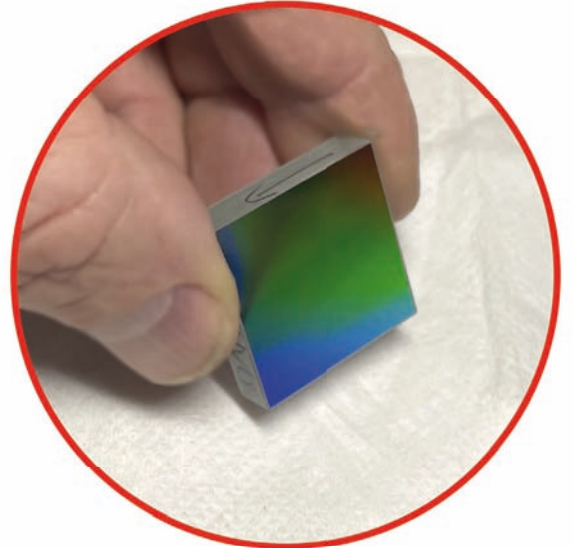


Vidéo
«comment installer le réseau ?»
Video
«how to install the grating ?»



Ne jamais toucher la surface du réseau, ni tenter de le nettoyer, il sera irrémédiablement détruit. Manipuler le réseau en le prenant avec précaution sur les bords.

Never touch the surface of the grating, nor attempt to clean it, as it will be irreversibly destroyed. Handling the grating with care by its edges.



G4

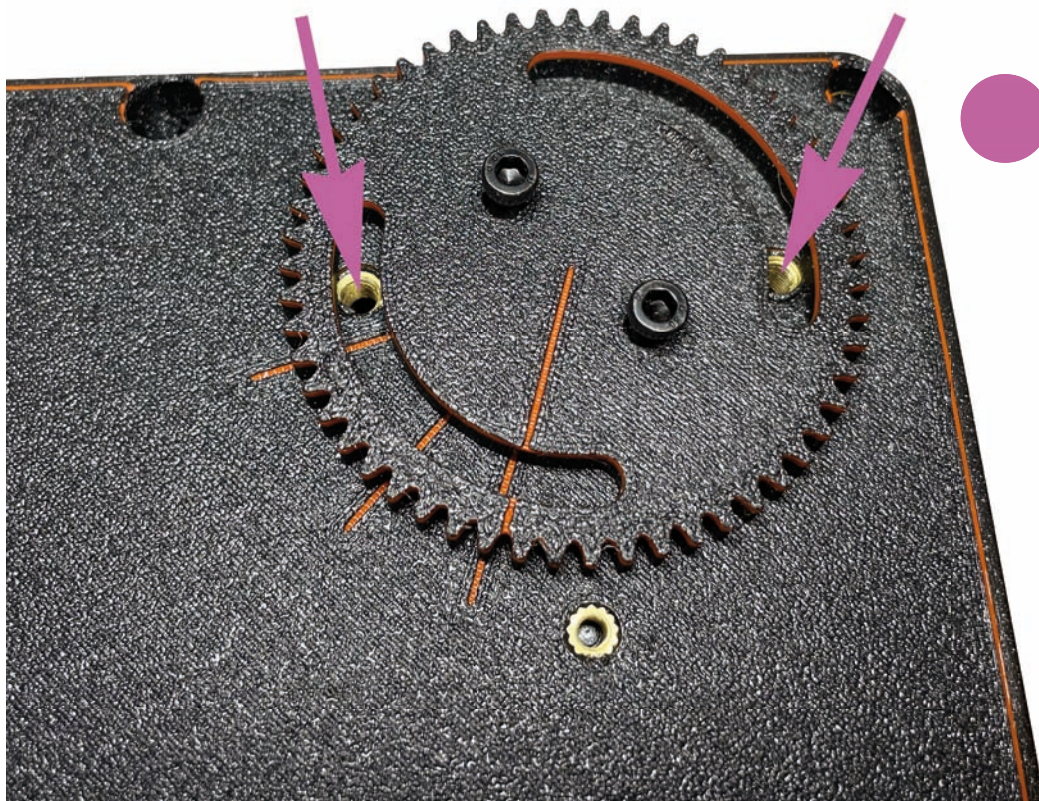


M3 (ou #4-40) L=10 mm
M3 (or #4-40) L=10 mm



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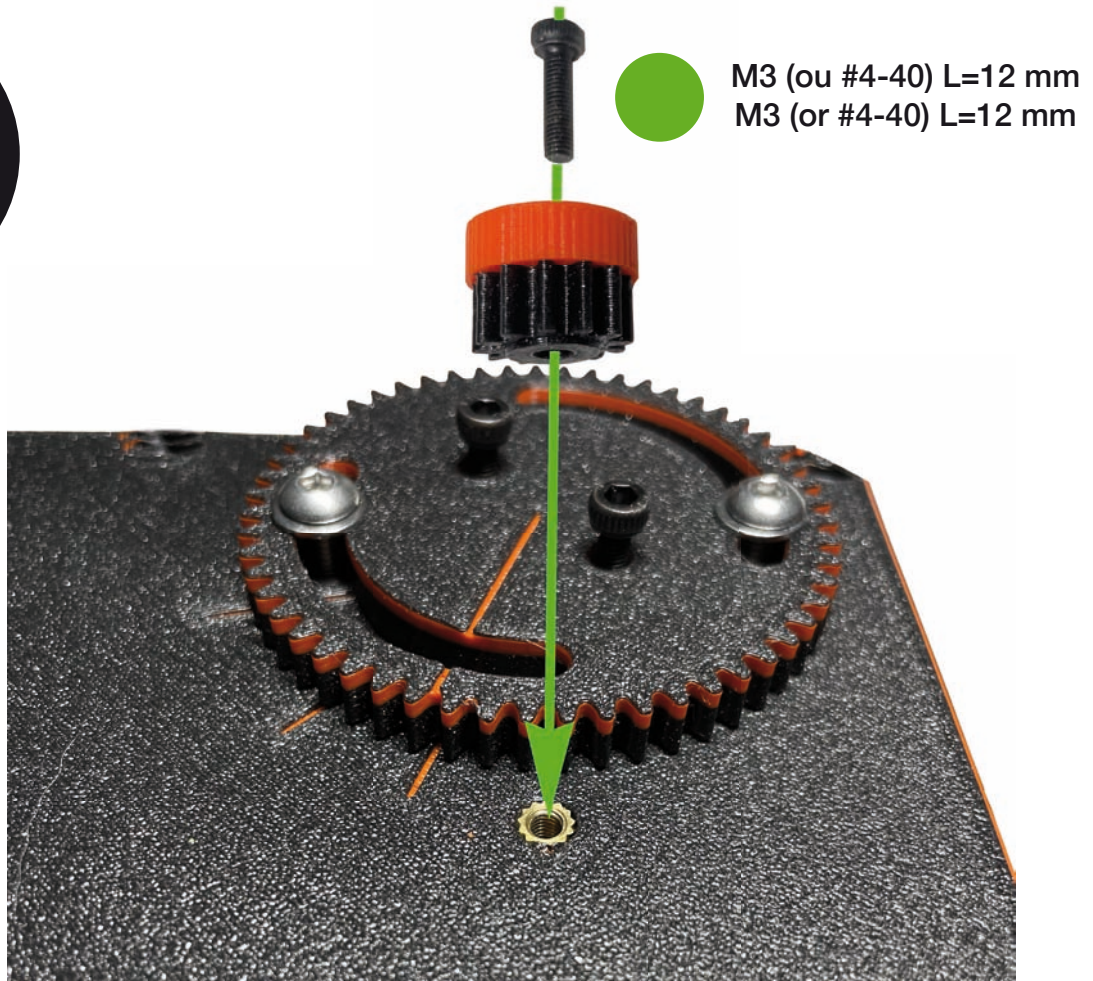
G5



M4 (ou #8-32) L=10 mm
M4 (or #8-32) L=10 mm



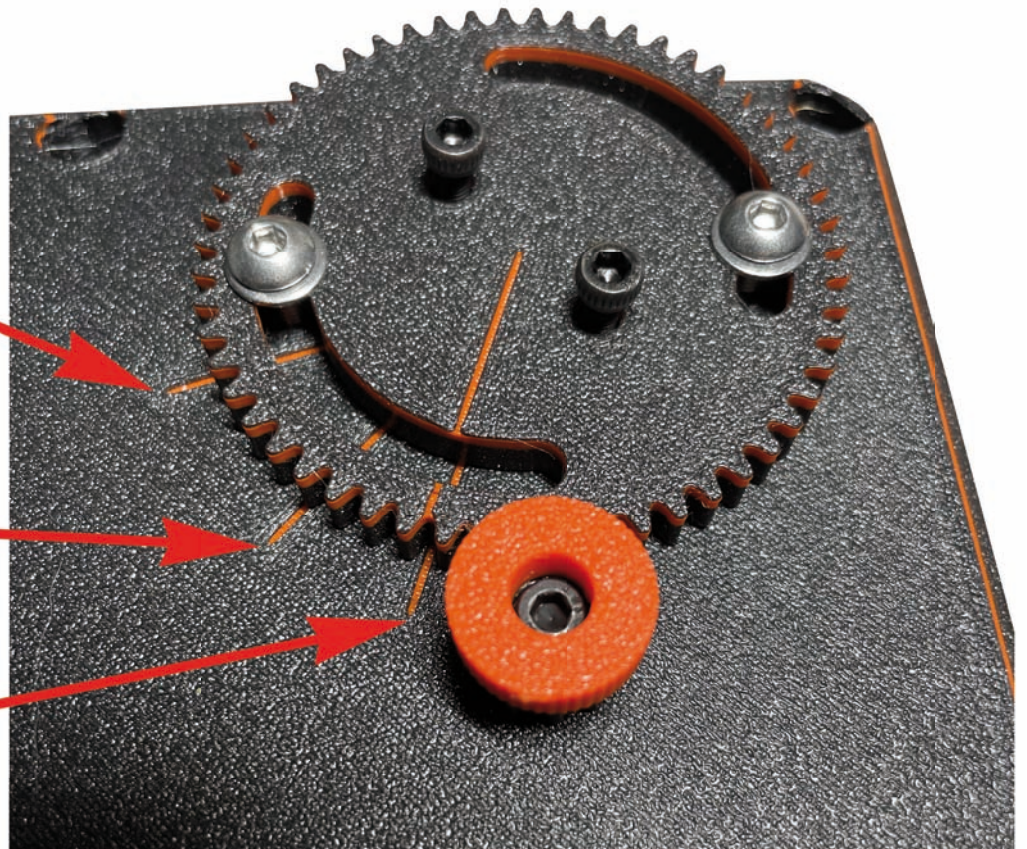
G6



Ordre zéro
Zero order

Calcium K

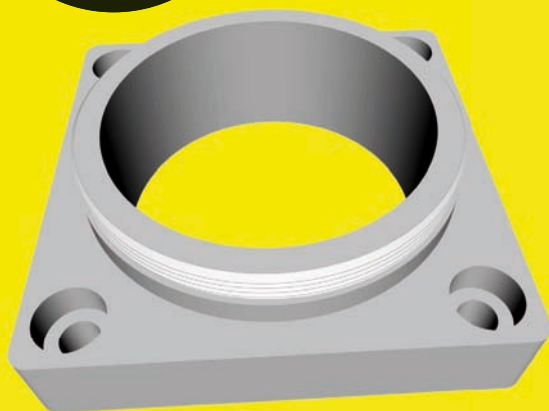
H alpha



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H

Assemblage focuser externe External focuser assembly



Interface M42
M42 interface
(Ref. #14-3)



x2

Vis M4 (ou #8-32) L=14 mm
M4 (or #8-32) screw L=14 mm

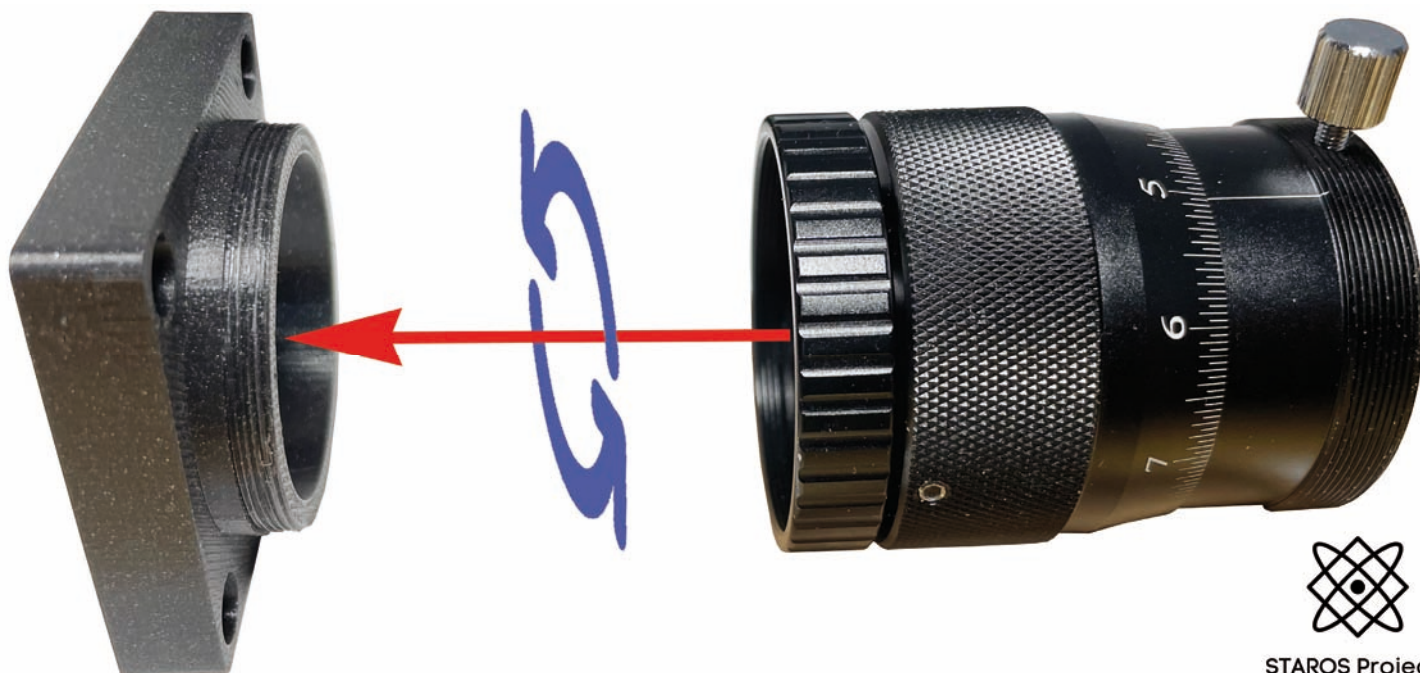


Focuser hélicoïdal
Helical focuser

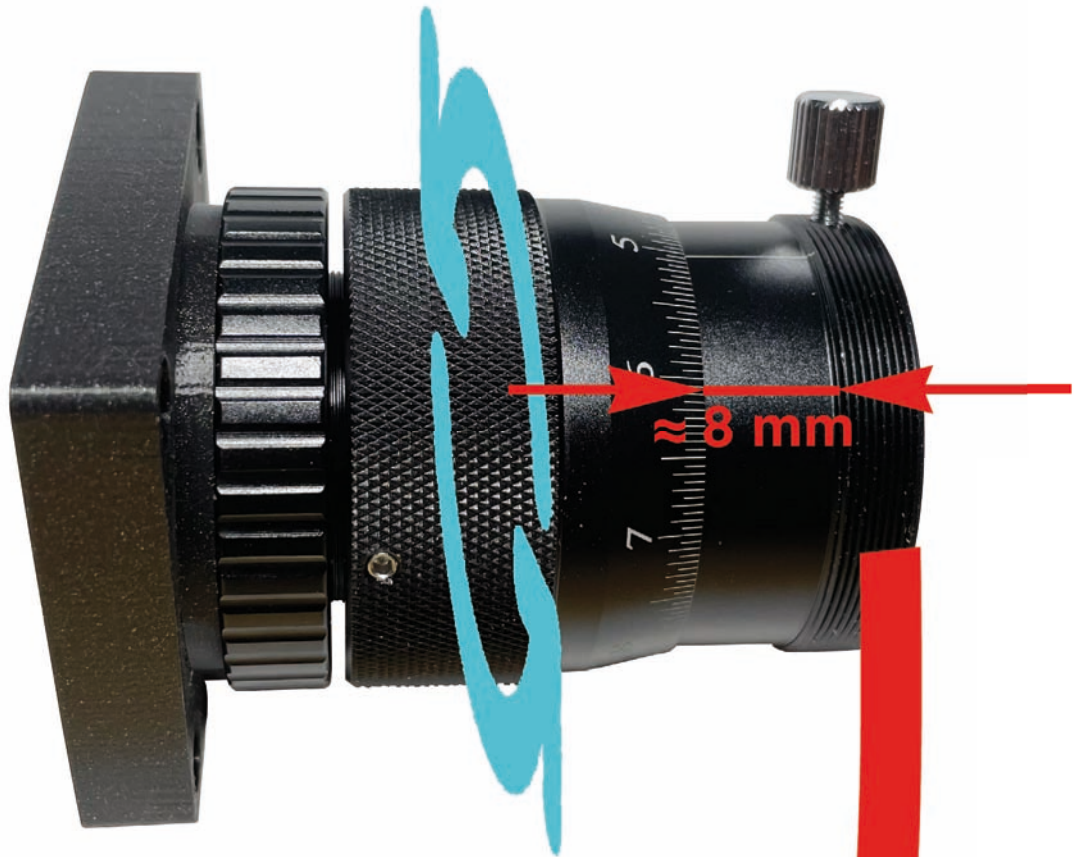


Clé allen pour vis M4
Allen wrench for M4 screw

H1



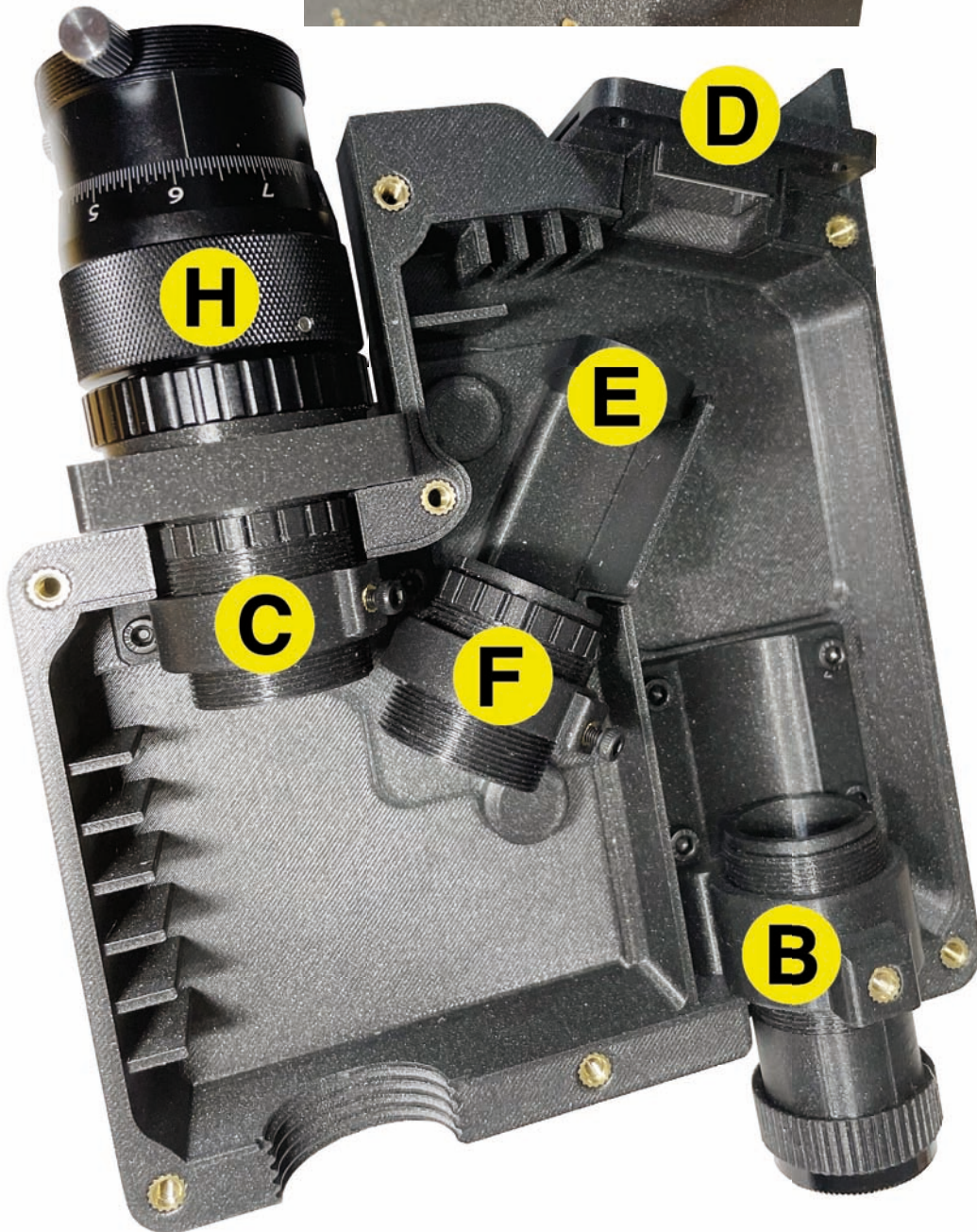
H2



H3



M4 (ou #8-32) L=14 mm
M4 (or #8-32) L=14 mm





Assemblage des 2 boîtiers Case botom and top assembly



x1

Vis M4 (ou #8-32) L=20 mm
M4 (or #8-32) screw L=20 mm



Bouchon à vis
Screw cap
(Ref. #6-2)



x2

Vis M4 (ou #8-32) L=8 mm
M4 (or #8-32) screw L=8 mm



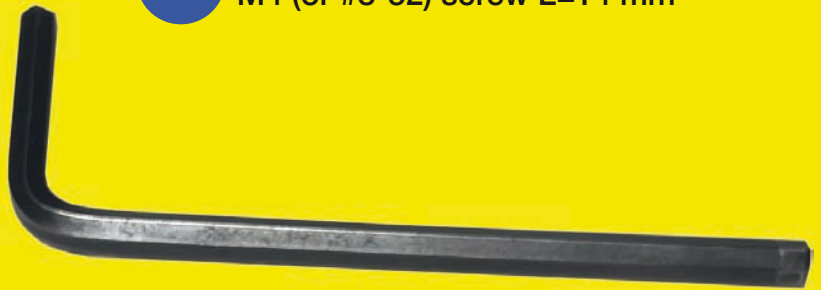
x2

Vis M4 (ou #8-32) L=14 mm
M4 (or #8-32) screw L=14 mm



x7

Vis M4 (ou #8-32) L=30 mm
M4 (or #8-32) screw L=30 mm



Clés allen pour vis M4
Allen wrench for M4 screw



Cette partie indique les pièces et la procédure pour assembler les boîtiers inférieur et supérieur. Cette étape nécessite que le SUNSCAN soit réglé selon les indications de la notice de réglage.

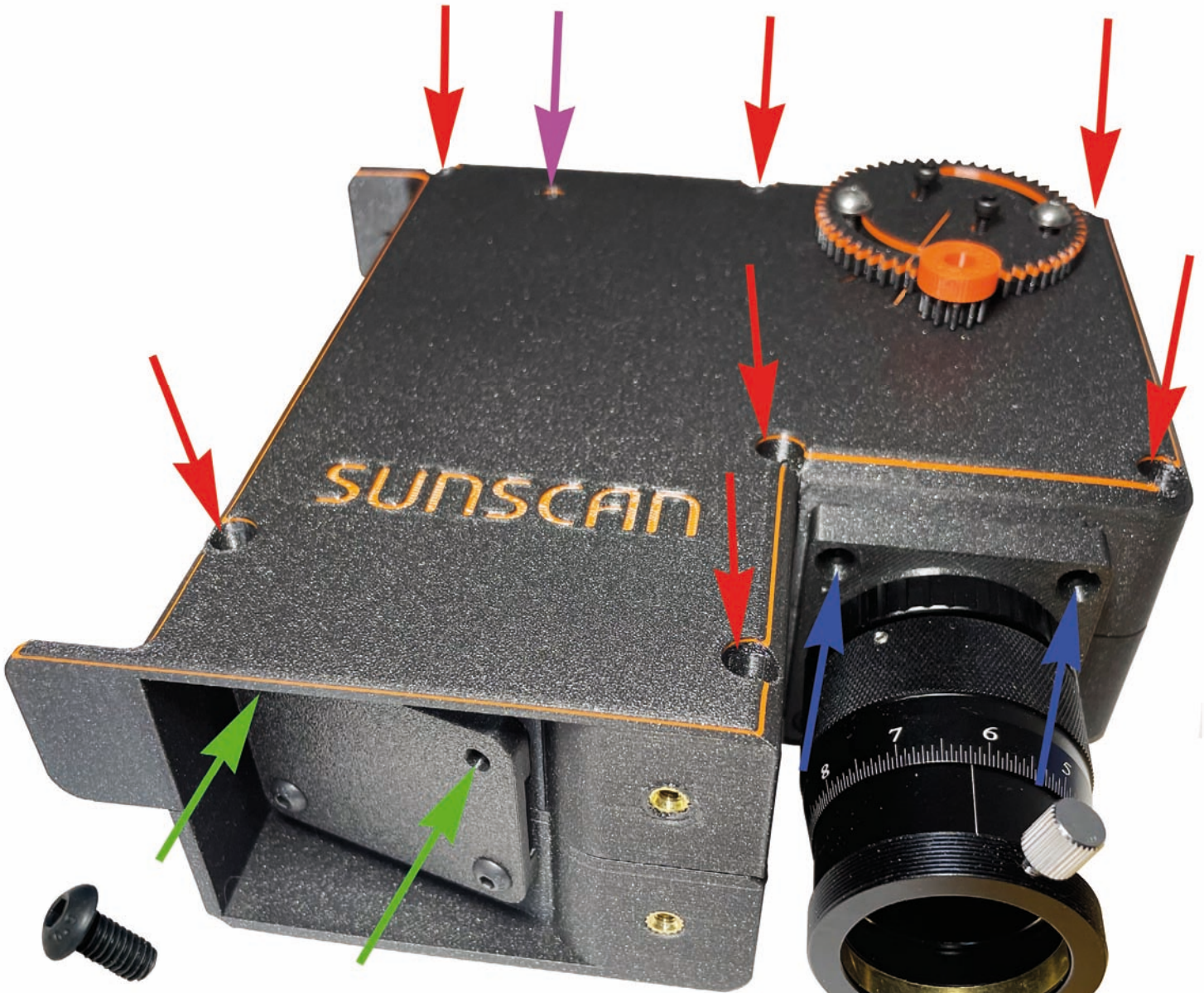
This section describes the parts and procedure for assembling the upper and lower case. This step requires the SUNSCAN to be adjusted as indicated in the adjustment instructions.



11



M4 (ou #8-32) L=20 mm
M4 (or #8-32) L=20 mm



M4 (ou #8-32) L=8 mm
M4 (or #8-32) L=8 mm



M4 (ou #8-32) L=14 mm
M4 (or #8-32) L=14 mm



M4 (ou #8-32) L=30 mm
M4 (or #8-32) L=30 mm



12

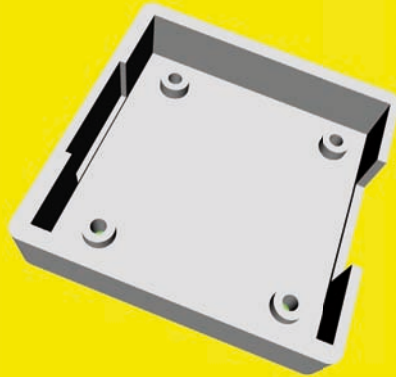


J

Assemblage support caméra Camera case assembly



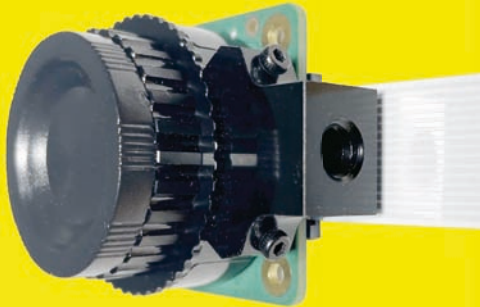
Capot caméra supérieur
Camera case top



Capot caméra inférieur
Camera case bottom
(Ref. #23-2)



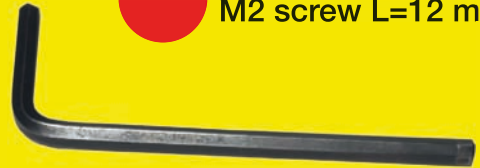
Capot caméra supérieur
Camera case top
(Ref. #24-3)



Caméra officielle HQ - monture C vers CS
(capteur Sony IMX477)
Official Camera HQ - C to CS Mount
(Sony IMX477 sensor)

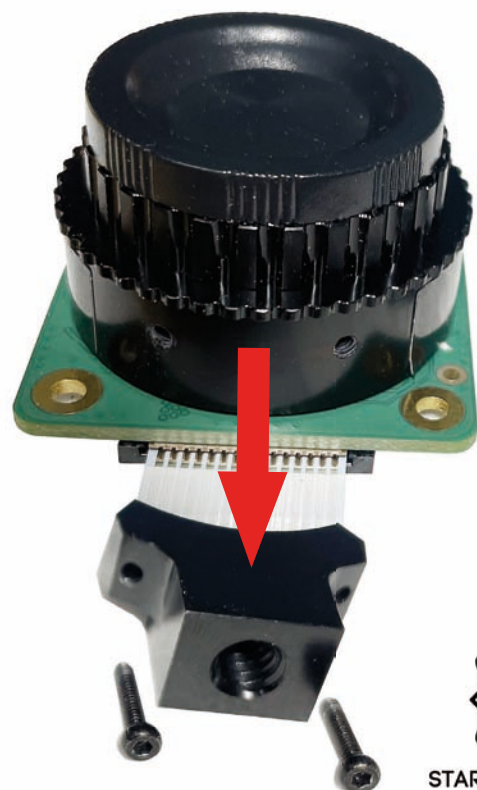


Vis M2 L=12 mm
M2 screw L=12 mm

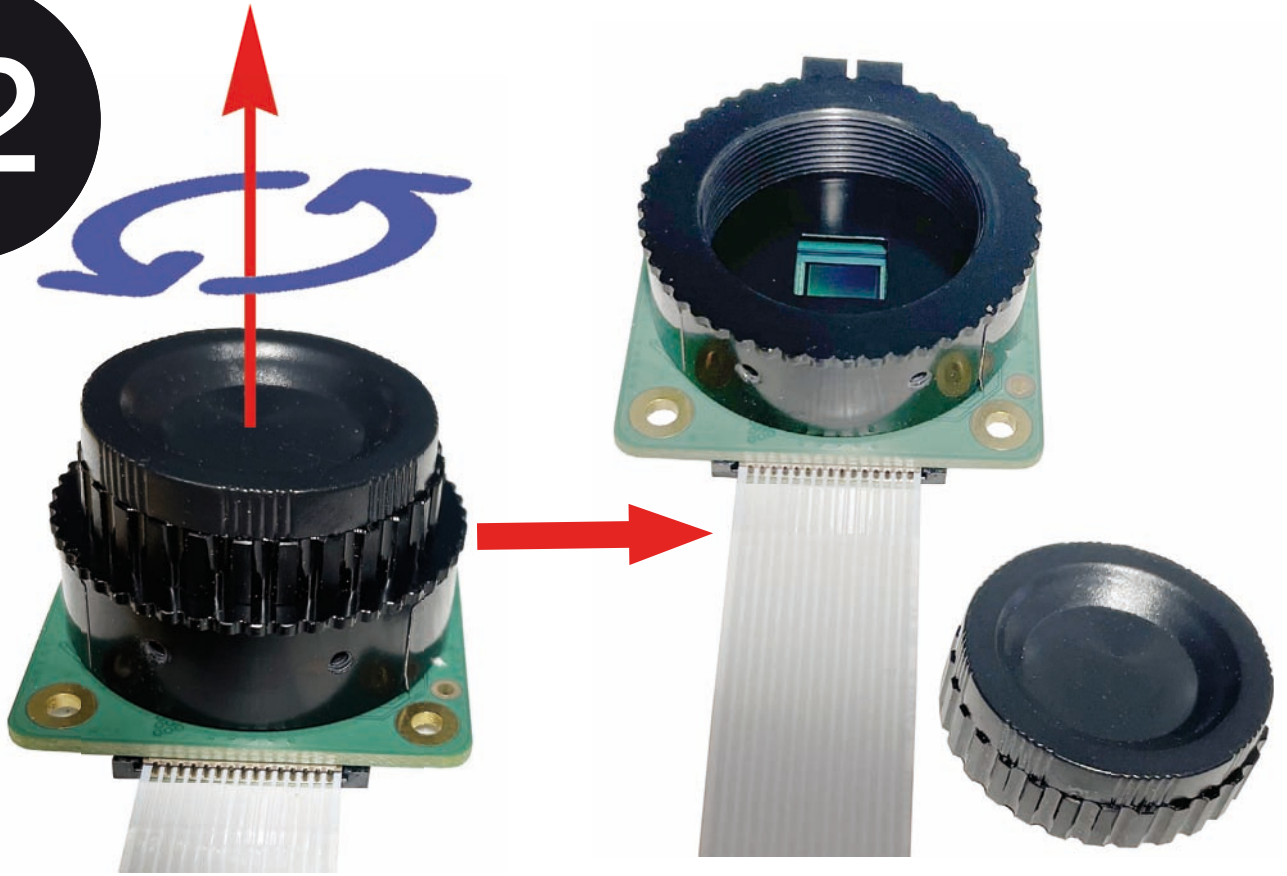


Clé allen pour vis M2
Allen wrench for M2 screw

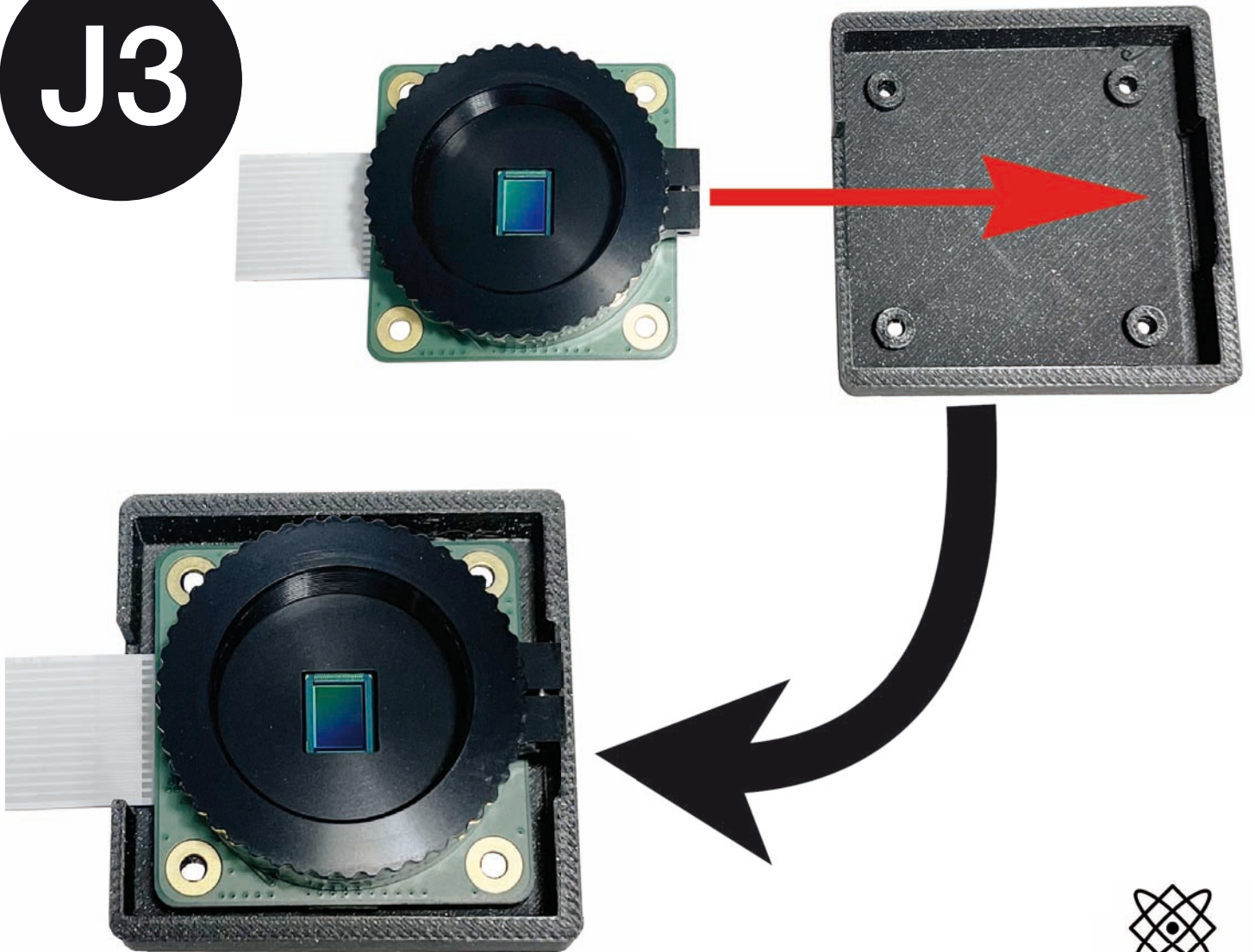
J1



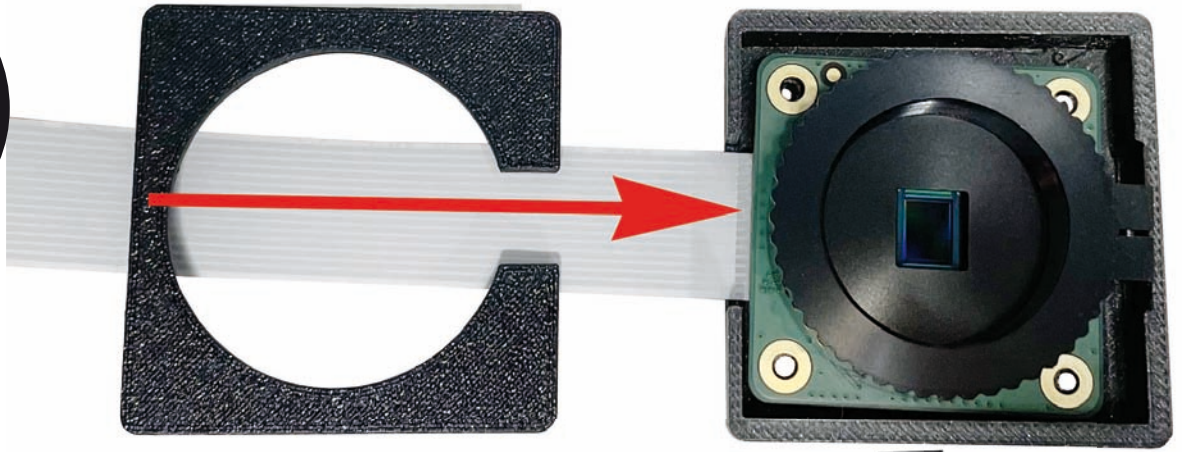
J2



J3



J4



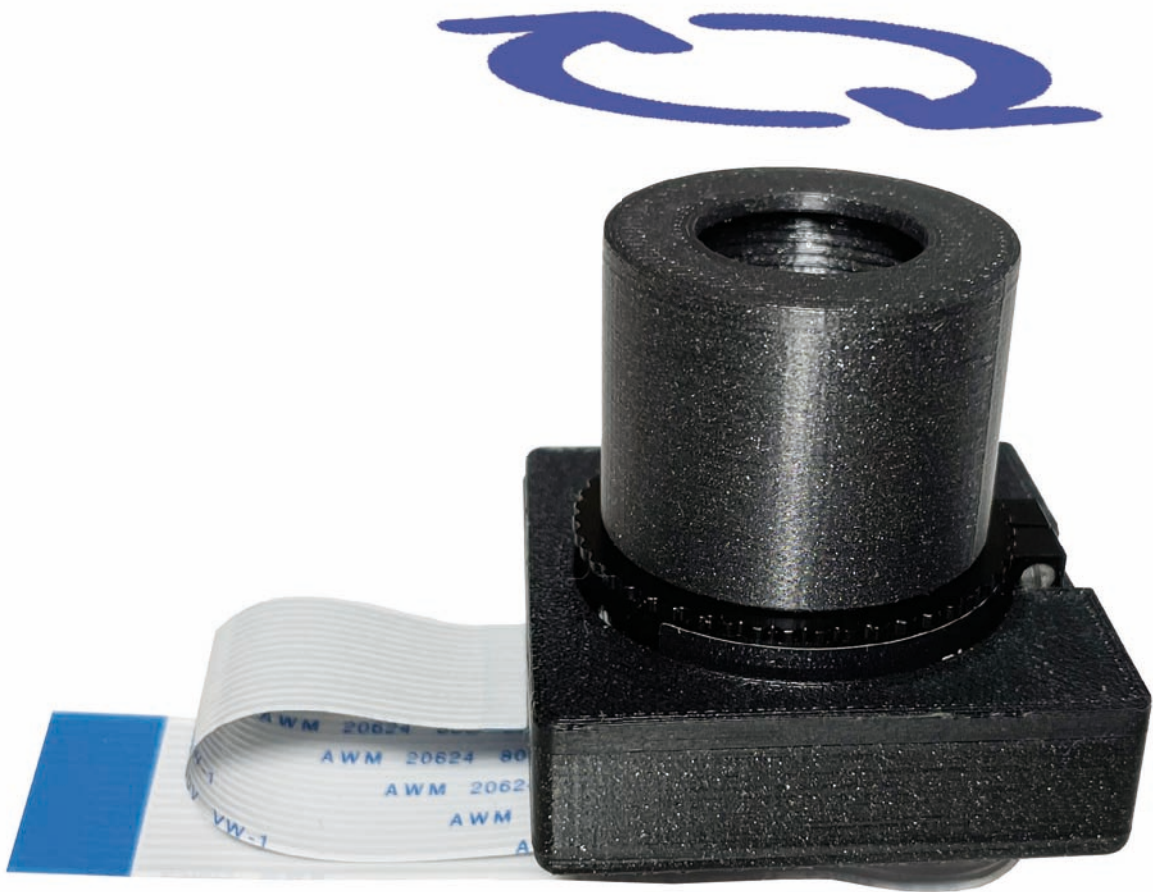
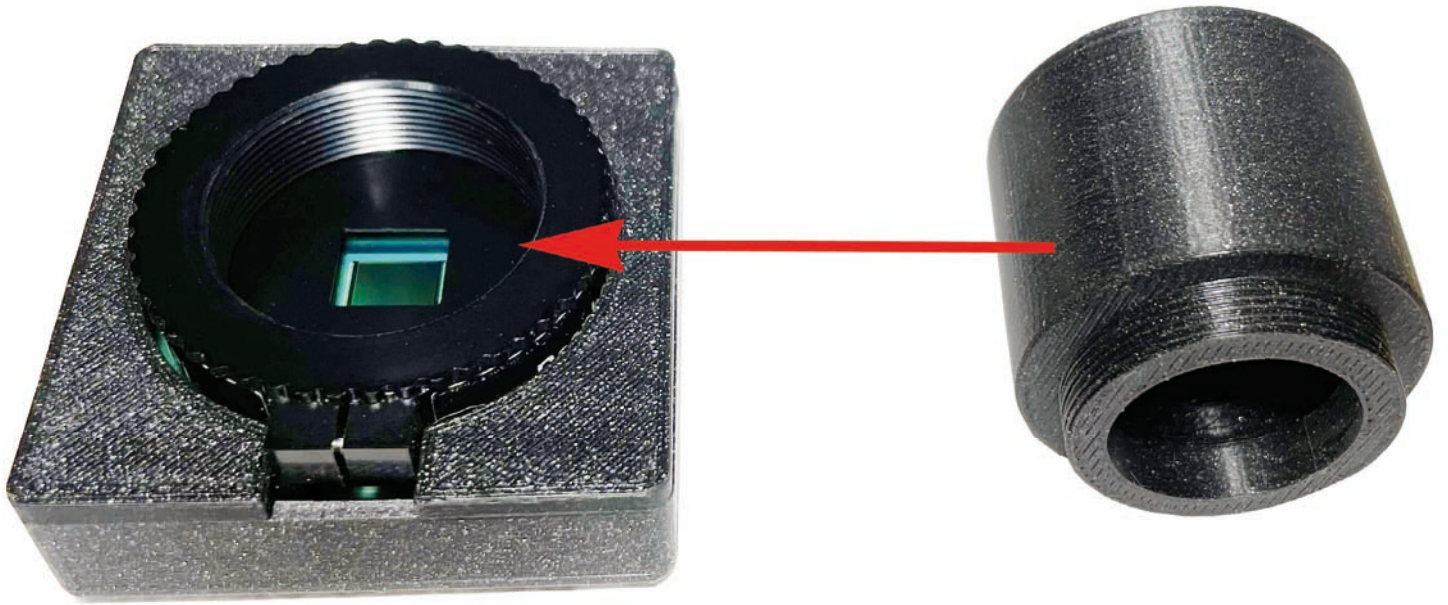
J5



M2 L=12 mm
M2 L=12 mm



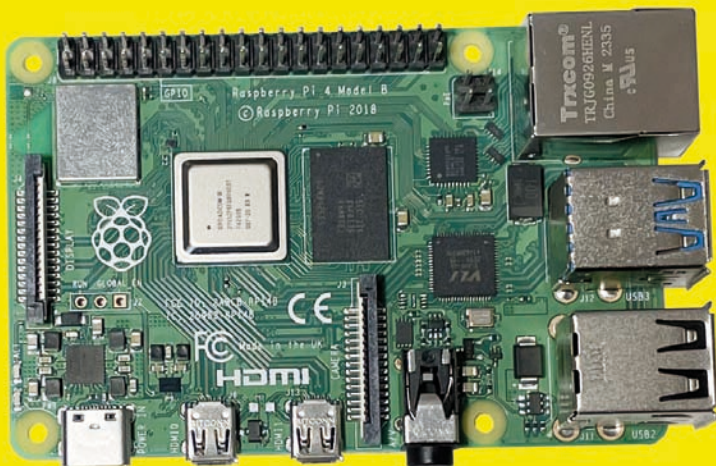
J6



K

Assemblage Raspberry #1

Raspberry assembly #1



Raspberry Pi 4B - 4 Go



Carte mémoire Micro SD Card
128 Go Class 10 U3 V30
Memory card Micro SD Card
128 Go Class 10 U3 V30



Module batterie lithium Pisugar 3 Plus Portable 5000 mAh UPS
(livré avec 4 vis) .
Pisugar 3 Plus Portable 5000 mAh UPS Lithium Battery Power
Module
(Supplied with 4 screws).

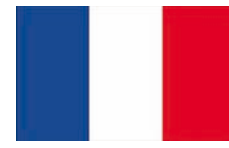


Tournevis cruciforme PH1
Phillips screwdriver PH1



Battery Disclaimer

- Please realize that batteries might cause damages like leaking, fire or explode when misuse or defective.
- It is your responsibility to double check and make sure your devices have necessary protection circuits.
- We are NOT responsible for any damages caused by using a battery.
- You must always follow the manufacturer's use and care instructions and all applicable laws and regulations.
- Li-Ion and Polymer battery & packs may explode and cause fire if misuse or defective.
- Must keep Li-Ion & Polymer battery pack away from children.
- Never make wrong polarity connection when charging and discharging battery packs. Always double check polarity of battery connector to make sure red wire to red wire and black wire to black wire.
- Do not use batteries that are damaged, peeling, punctured, dented, or cosmetically altered
- Always use a smart charger with protection circuits and use specific Lithium Polymer/Li-ion charger only. Do not use a NiMH or NiCd charger- Failure to do so may cause fire, which may result in personal injury and property damage.
- If at any time you witness a battery starting to balloon, swell up, smoke or hot, discontinue charging process immediately, disconnect the battery and observe it in a safe place for approximately 15 minutes. This may cause the battery to leak, and the reaction with air may cause the chemicals to ignite, resulting in fire.
- Never store or charge battery pack inside your car in extreme temperatures, since extreme temperature could ignite fire.



Avis de non-responsabilité concernant la batterie

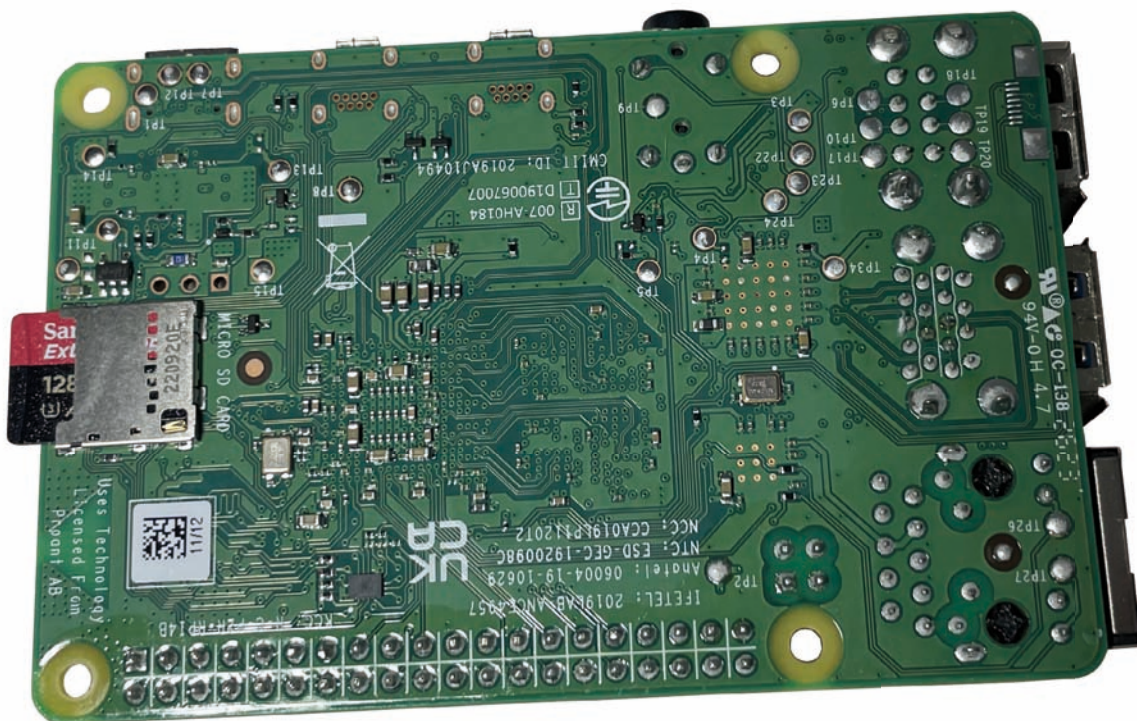
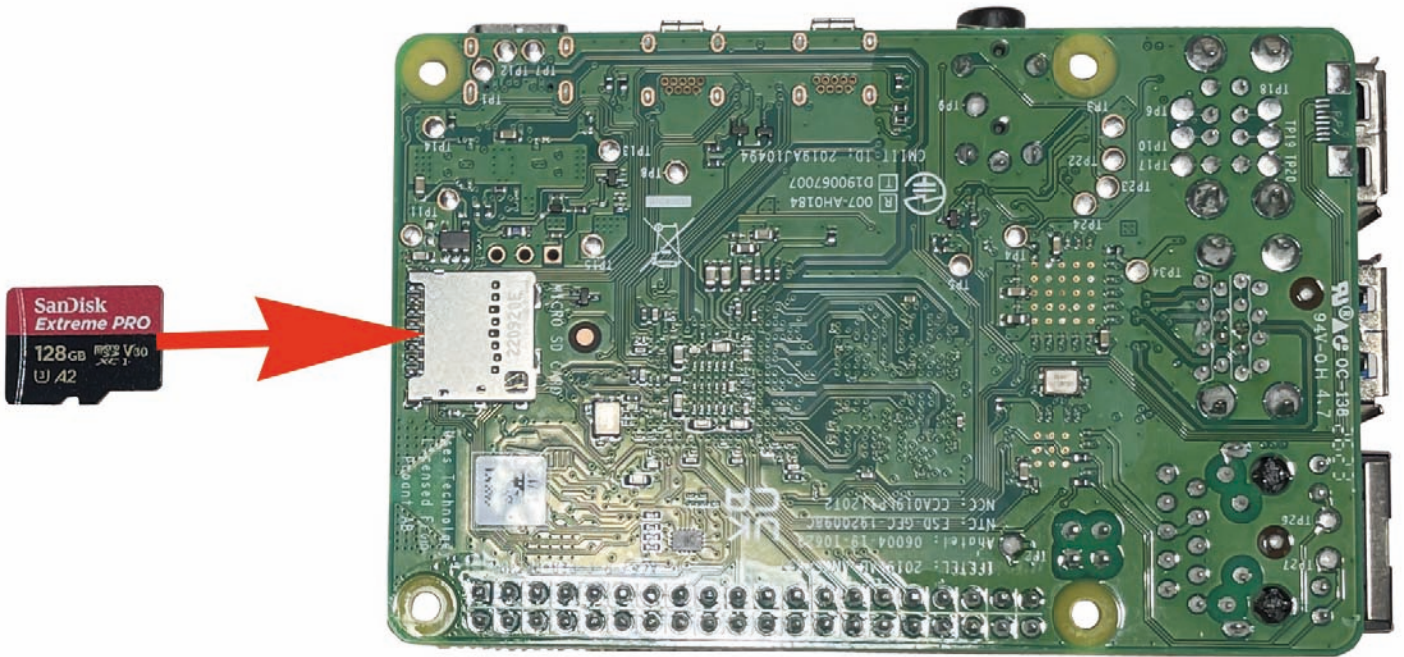
- Il faut savoir que les batteries peuvent provoquer des dommages tels que des fuites, des incendies ou des explosions en cas d'utilisation incorrecte ou défectueuse.
- Il est de votre responsabilité de vérifier que vos appareils disposent des circuits de protection nécessaires.
- Nous ne sommes PAS responsables des dommages causés par l'utilisation d'une batterie.
- Vous devez toujours suivre les instructions d'utilisation et d'entretien du fabricant et toutes les lois et réglementations applicables.
- Les batteries packs Li-Ion et Polymère peuvent exploser et provoquer un incendie en cas d'utilisation incorrecte ou défectueuse.
- Tenir les batteries Li-Ion et Polymère hors de portée des enfants.
- Ne jamais se tromper de polarité lors de la charge et de la décharge des batteries. Vérifiez toujours la polarité du connecteur de la batterie pour vous assurer que le fil rouge est bien relié au fil rouge et le fil noir au fil noir.
- N'utilisez pas de piles endommagées, décollées, perforées, bosselées ou altérées sur le plan esthétique.
- Utilisez toujours un chargeur doté de circuits de protection et n'utilisez que des chargeurs spécifiques au lithium-polymère/ lithium-ion. N'utilisez pas de chargeur NiMH ou NiCd. Le non-respect de cette consigne peut provoquer un incendie et entraîner des dommages corporels et matériels.
- Si, à tout moment, vous constatez qu'une batterie commence à gonfler, à enfler, à fumer ou à chauffer, arrêtez immédiatement le processus de charge, débranchez la batterie et placez-la dans un endroit sûr pendant environ 15 minutes. Cela peut entraîner une fuite de la batterie et la réaction avec l'air peut provoquer l'inflammation des produits chimiques et un incendie.
- Ne jamais stocker ou charger le bloc-batterie à l'intérieur de la voiture à des températures extrêmes, car celles-ci pourraient provoquer un incendie.

K1



Installer le firmware dans la carte micro SD en suivant les instructions sur ce lien :
<https://www.sunscan.net/build/configure-and-adjust/sunscan-os>

Install the firmware on the micro SD card by following the instructions on this link:
<https://www.sunscan.net/build/configure-and-adjust/sunscan-os>



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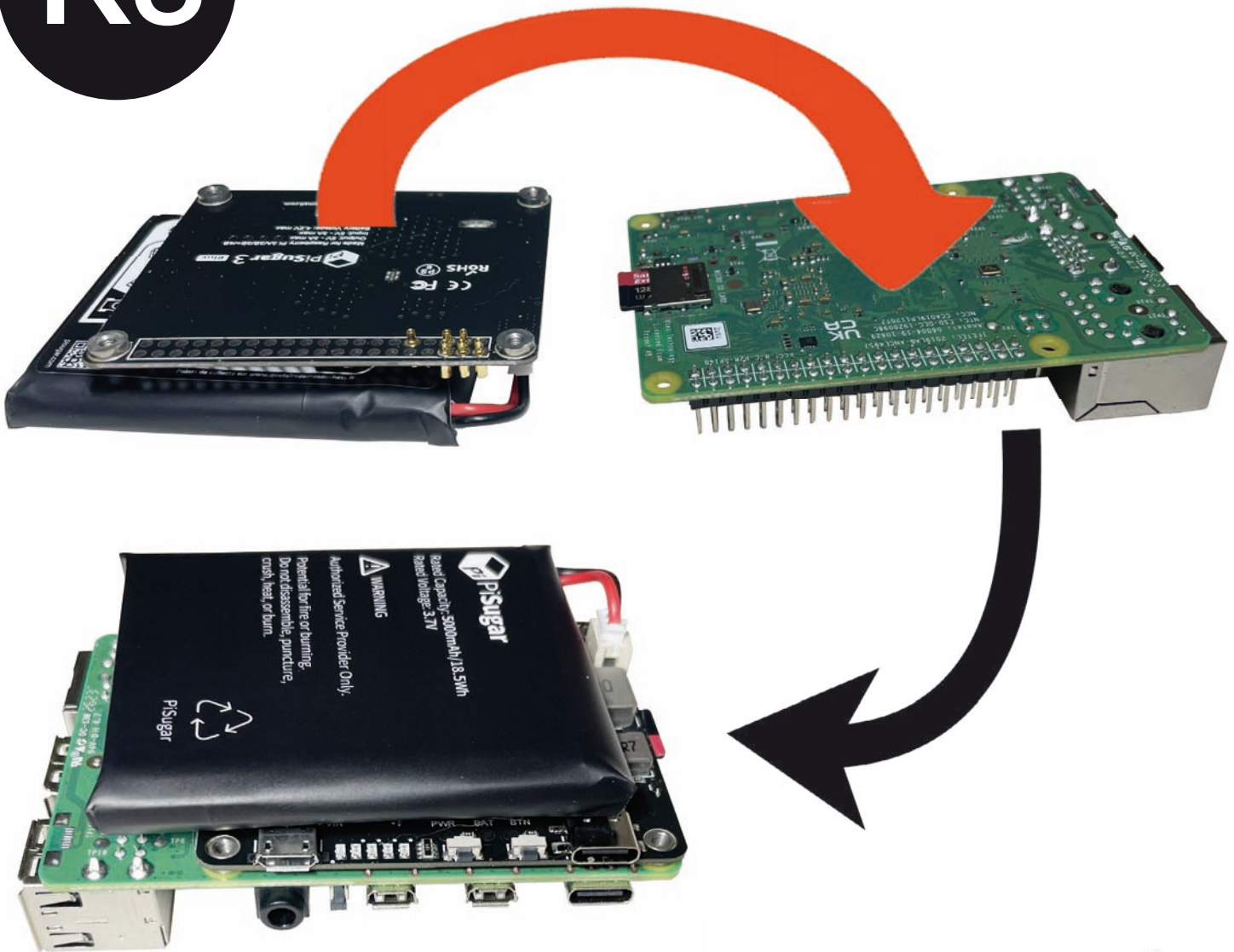
K2

Retirer les 4 protections plastiques des écrous.

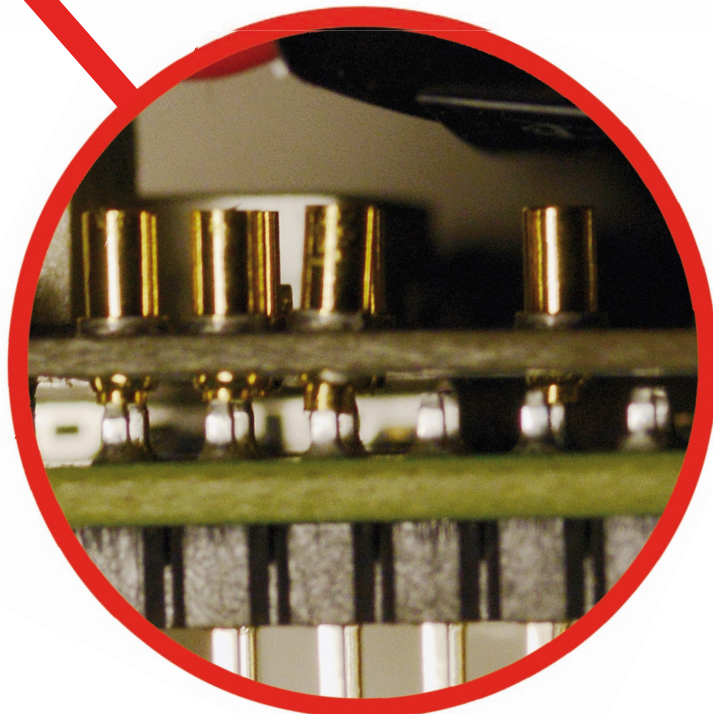
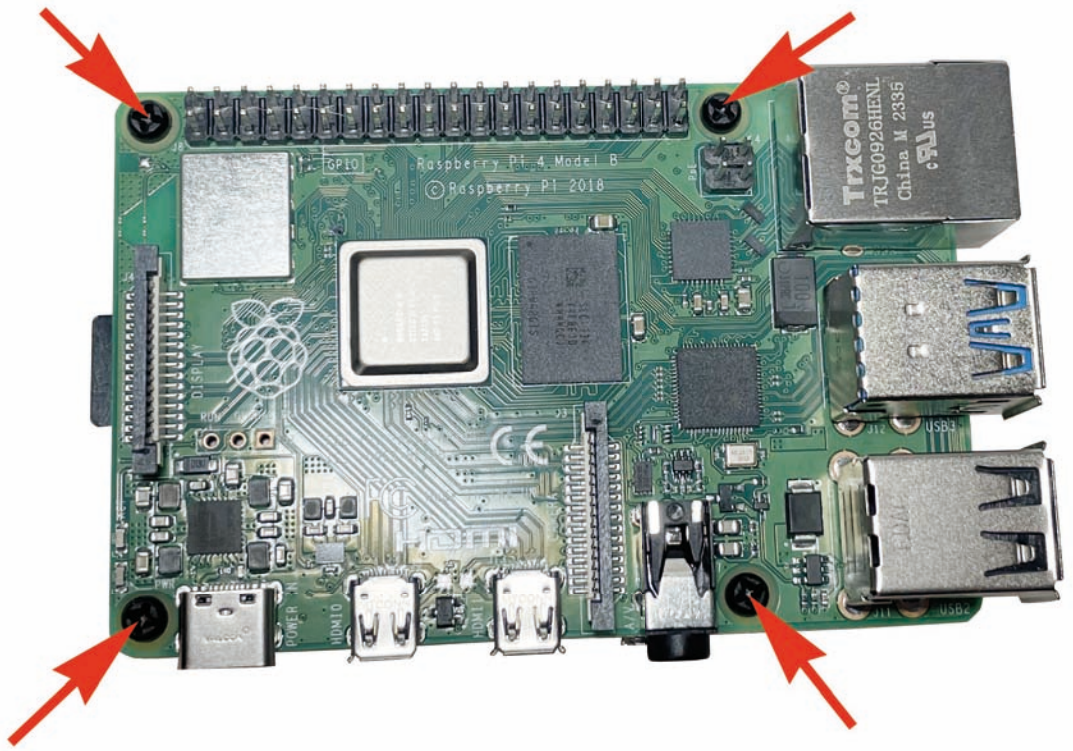
Remove the 4 plastic protectors from the nuts.



K3



K4



L

Assemblage Raspberry #2 Raspberry assembly #2

J6

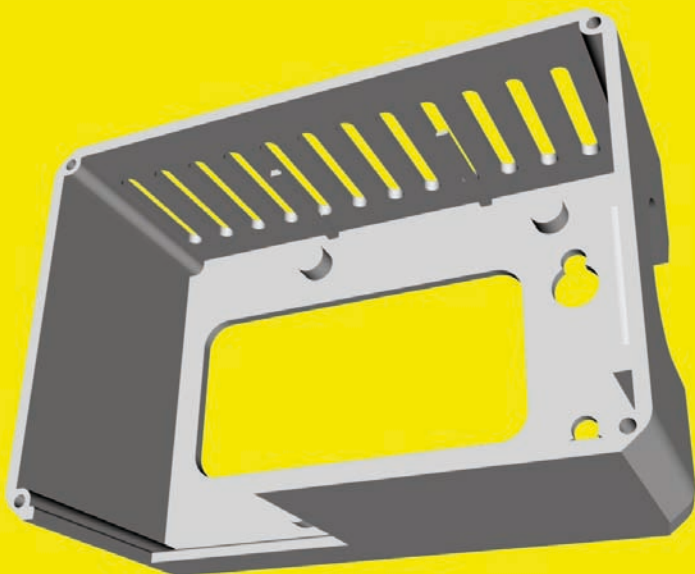


Caméra montée
Mounted camera

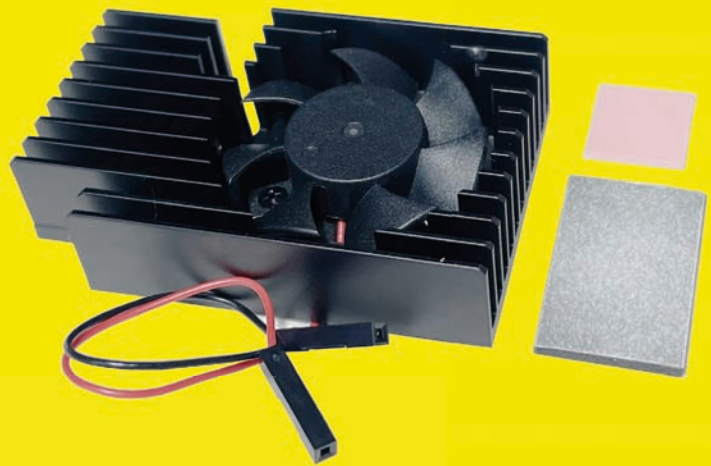
K4



Raspberry Pi 4B - 4 Go + batterie
Raspberry Pi 4B - 4 GB + battery



Boîtier intérieur Raspberry
Raspberry case-bottom
(Ref. #25-4)



Ventilateur Raspberry + 2 adhésifs double face
Raspberry fan + 2 double-sided adhesives



x2

Vis M4 (ou #8-32) L=8 mm
M4 (or #8-32) screw L=8 mm

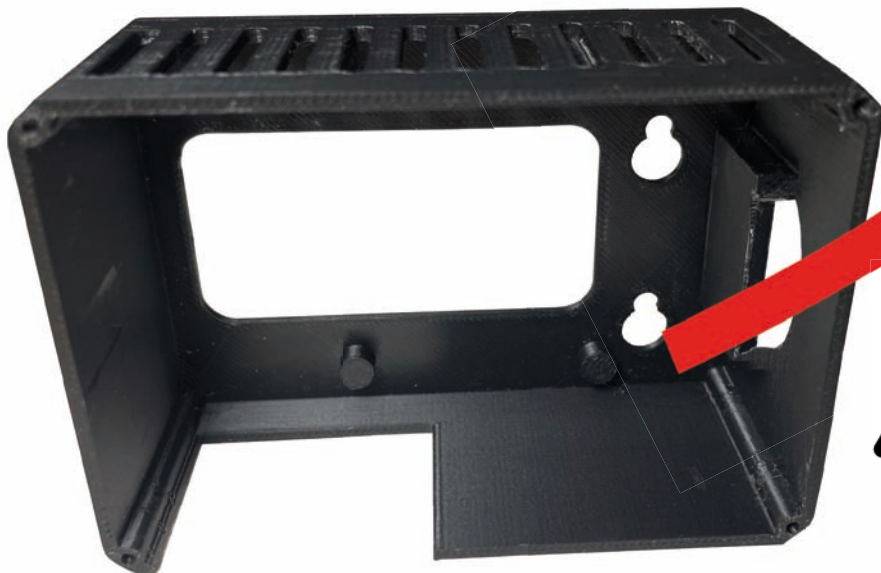


Clés allen pour vis M4
Allen wrench for M4 screw

L1

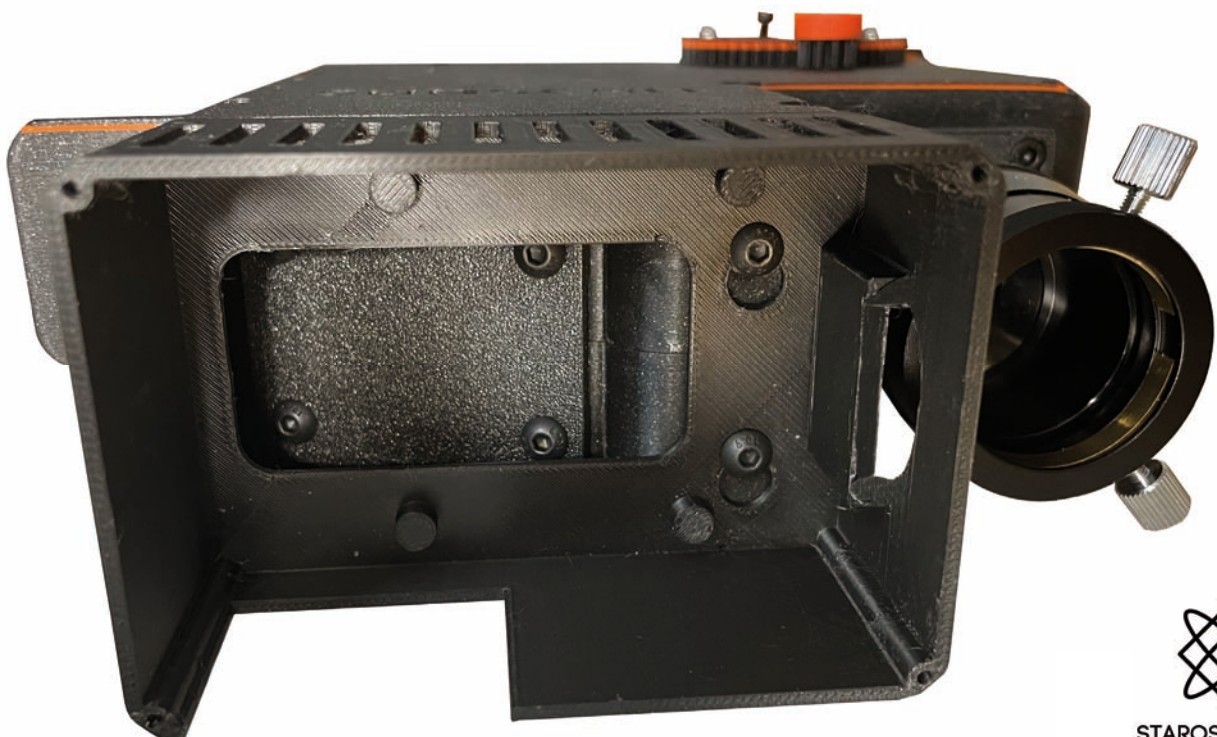


M4 (ou #8-32) L=8 mm
M4 (or #8-32) L=8 mm



Ne pas serrer les vis à fond de manière à pouvoir clipser le boîtier et ainsi le retirer facilement.

Do not overtighten the screws so that the case can be clipped on and removed easily.

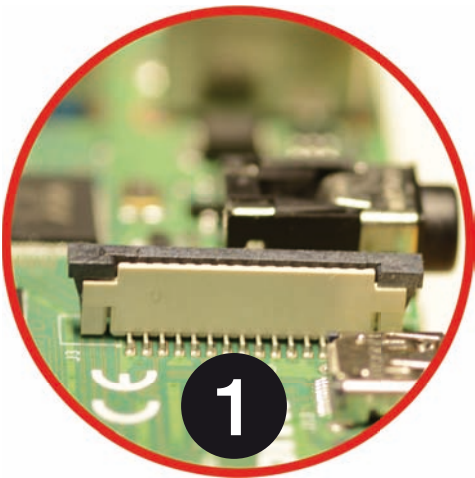
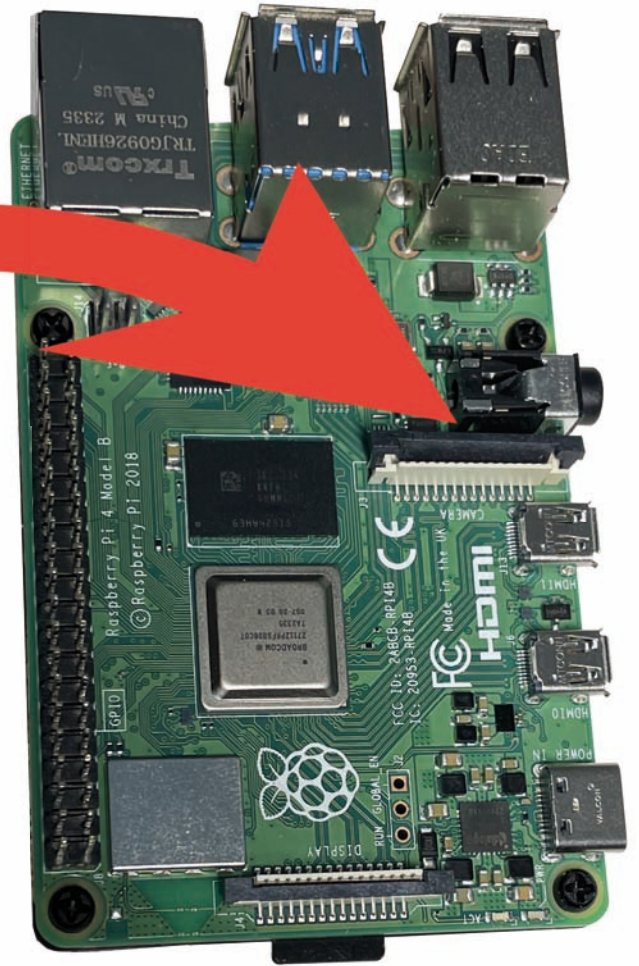


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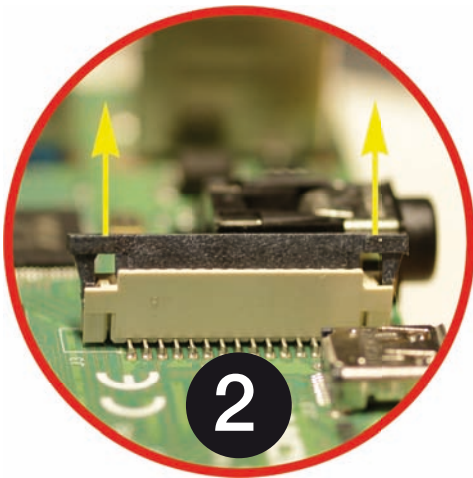
L2



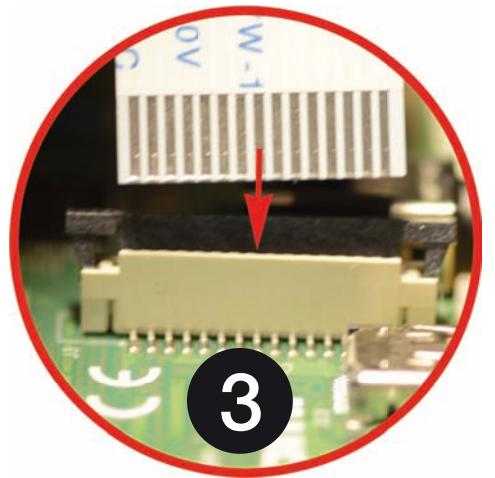
L3



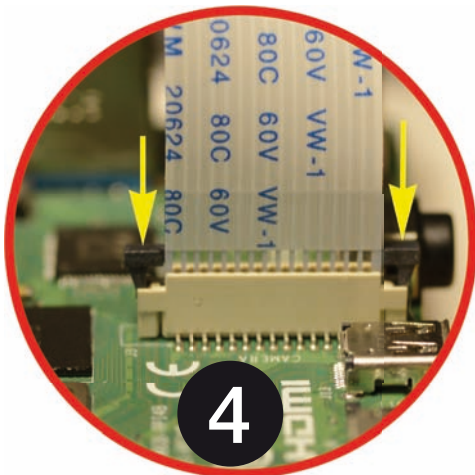
1



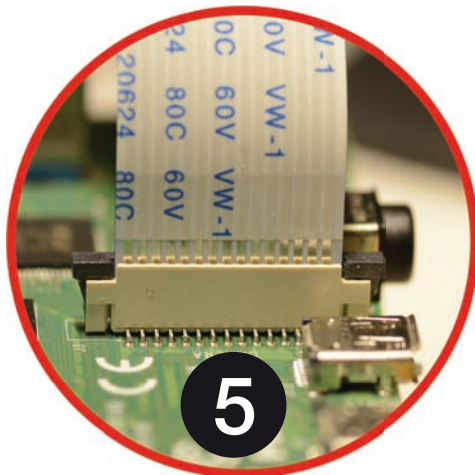
2



3



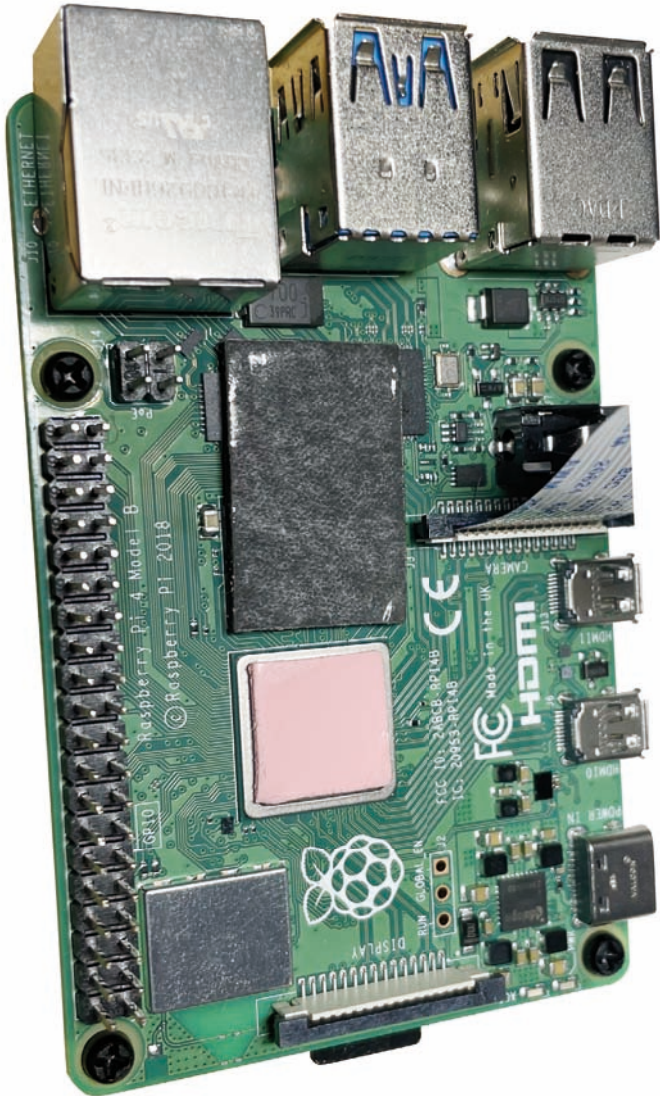
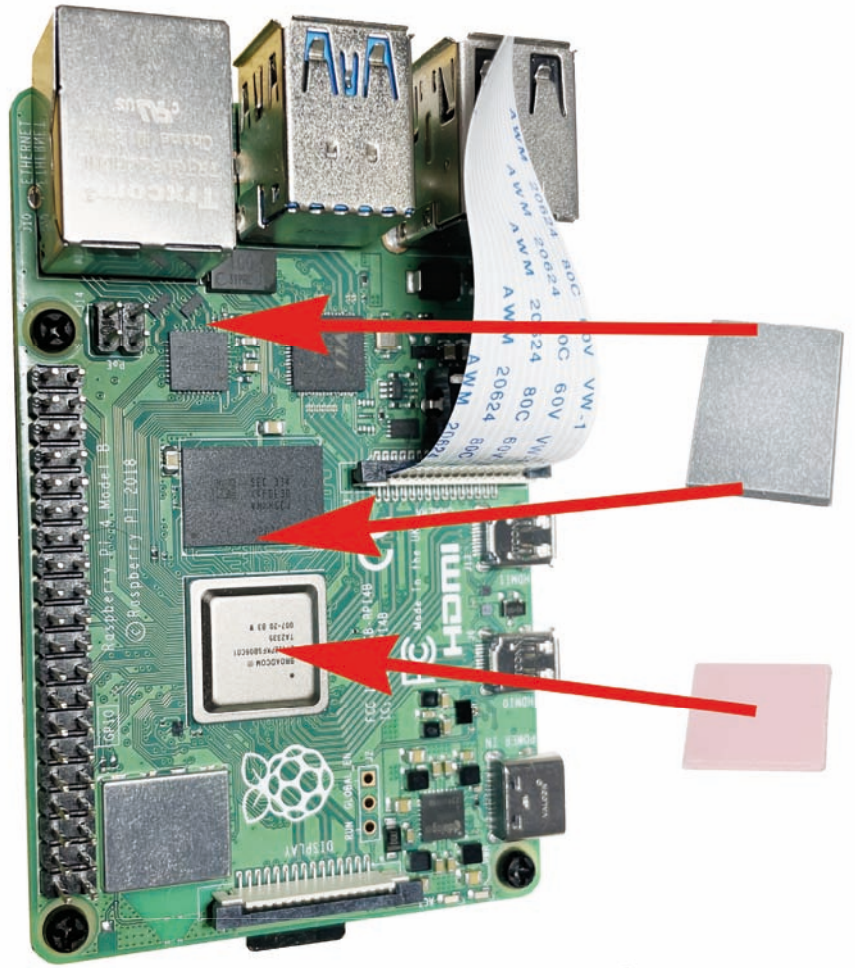
4



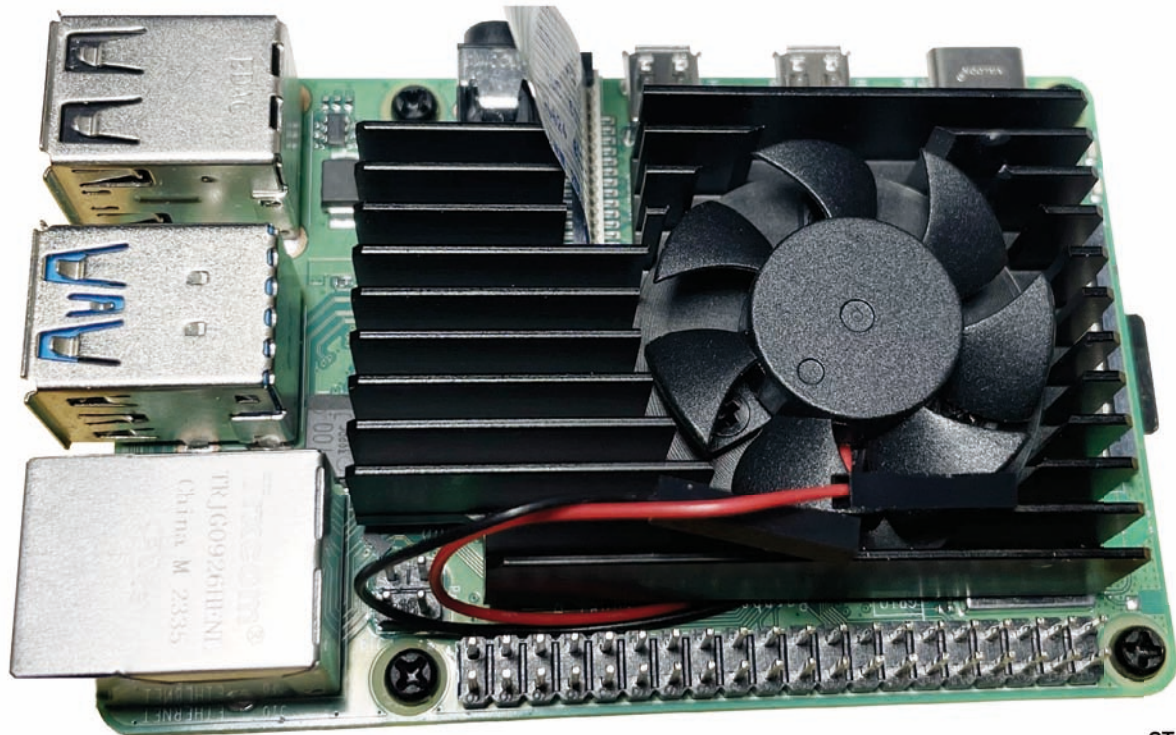
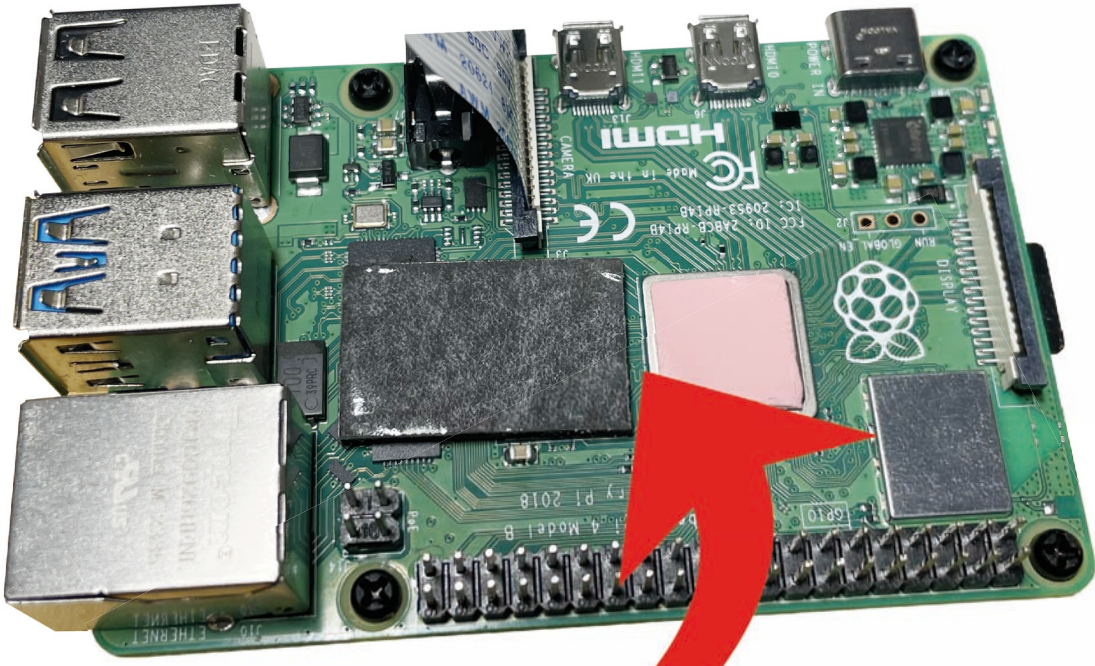
5



L4

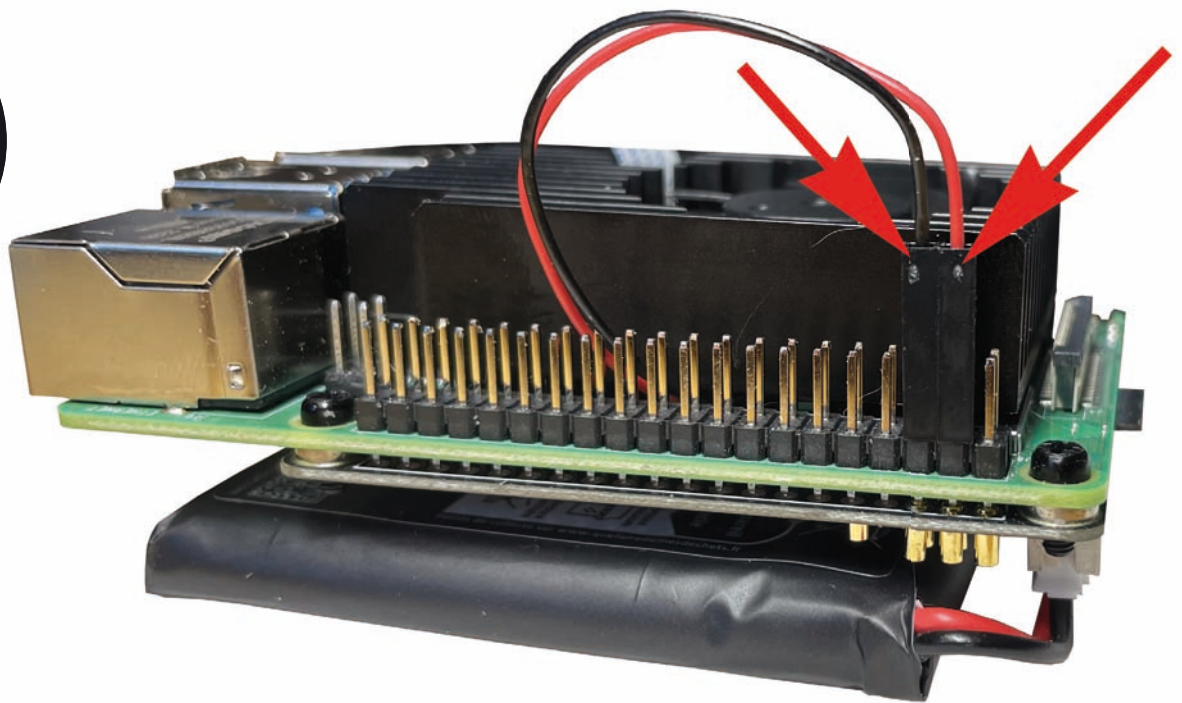


L5



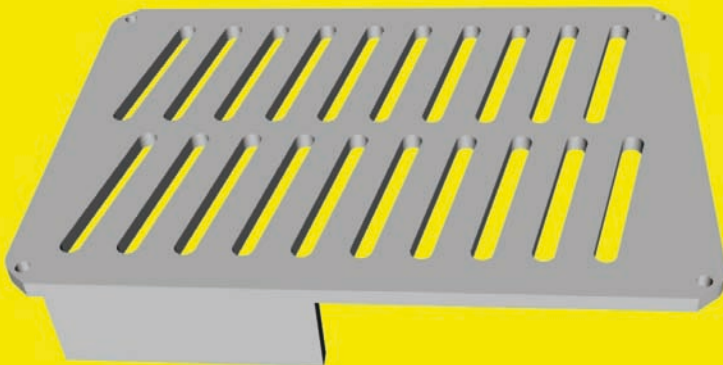
STAROS Projects

L6

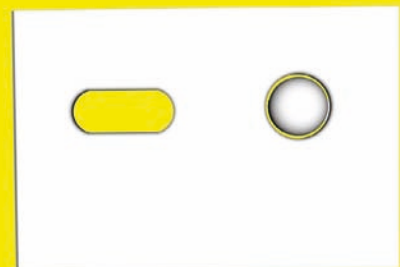


M

Assemblage Raspberry #3 Raspberry assembly #3



Boîtier supérieur Raspberry
Raspberry case top
(Ref. #26-4)



Bouton marche/arrêt Raspberry
Raspberry button on/off
(Ref. #27-8)



x4

Vis tôle ϕ 2,2 L=8,5 mm
sheet metal screws ϕ 2,2 L=8 mm

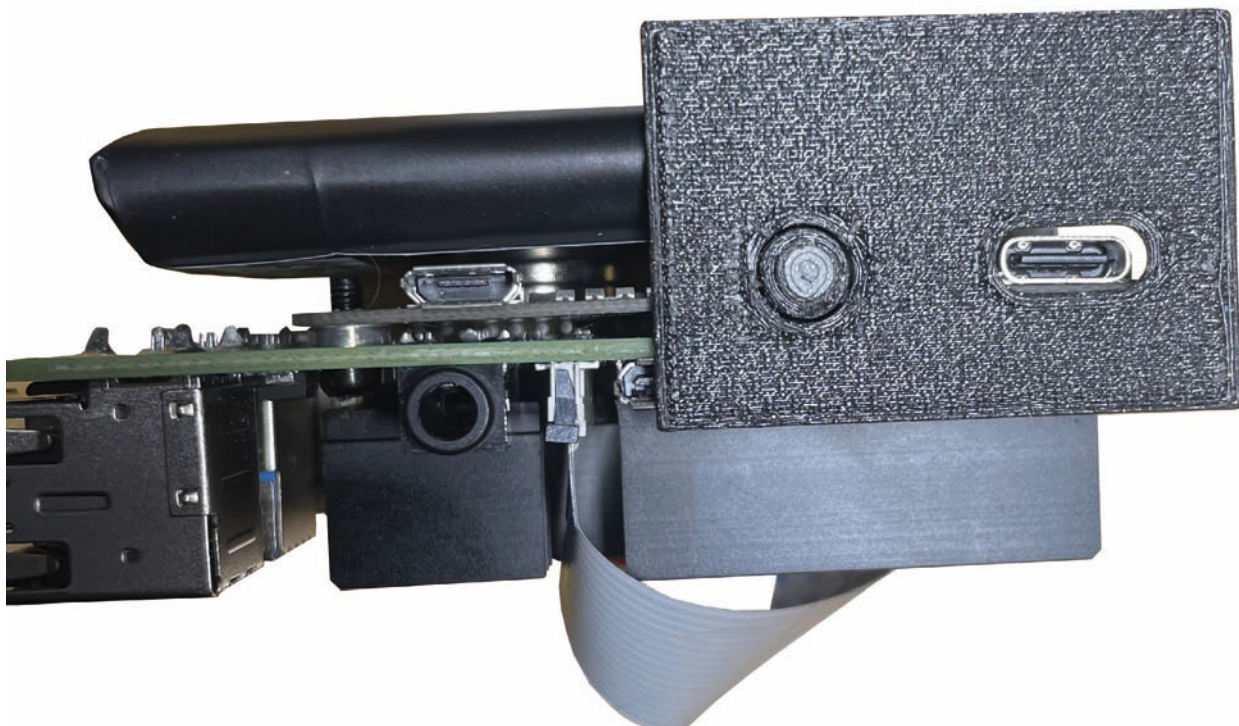
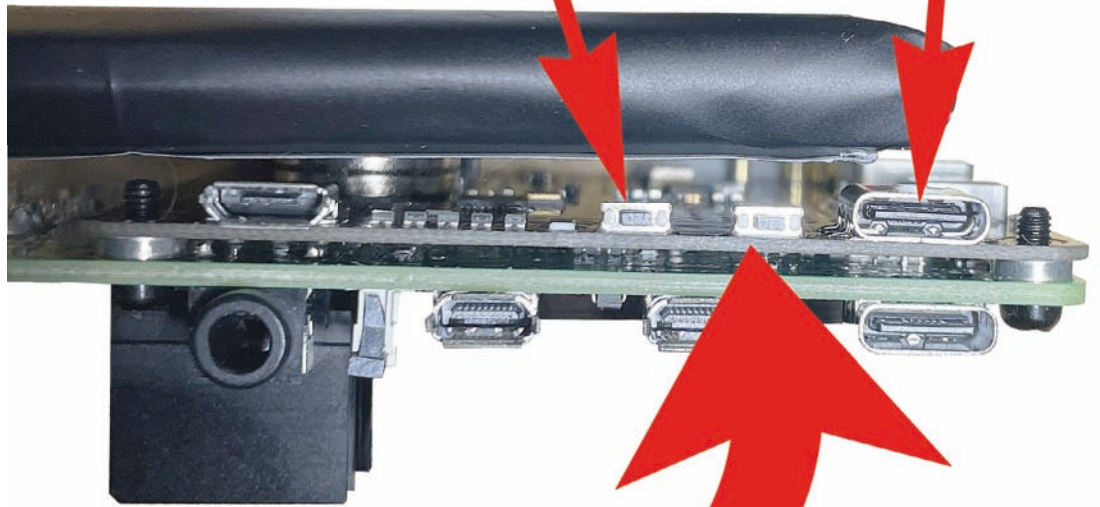


Tournevis cruciforme PH1
Phillips screwdriver PH1

M1

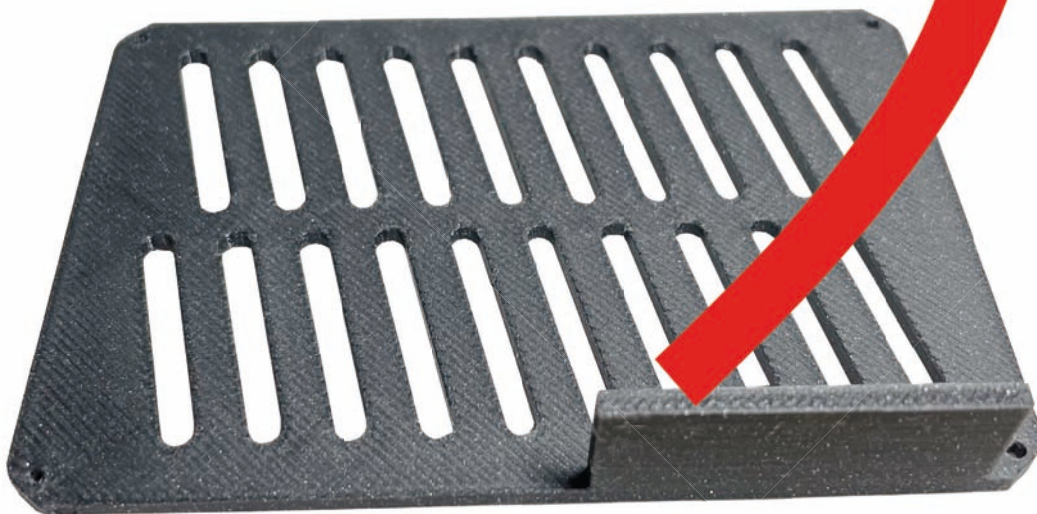
**Marche/Arrêt
ON/OFF**

**USB C
Recharge batterie
Battery charger**



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M2



x4

φ 2,2 L=8,5 mm
φ 2,2 L=8 mm

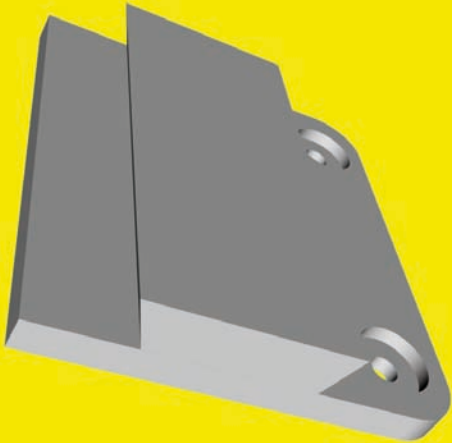


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N

Montage de la queue d'aronde Dovetail assembly



Queue d'aronde
Dovetail
(Ref. #28-3)



Monture Azimutale
Azimuth mount



x2

Vis 1/4 pouce Kodak L=14 mm
+ rondelle
1/4 inch Kodak screw L=14 mm
+ washer



Clés allen pour vis pas Kodak
Allen wrench for Kodak screw

N1



x2

1/4 pouce Kodak L=14 mm
+ rondelle
1/4 inch Kodak L=14 mm
+ washer



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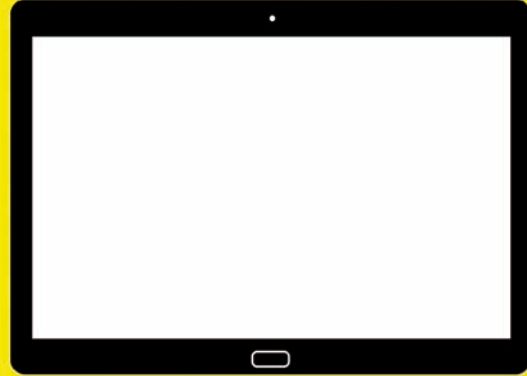
N2



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Logiciel du smartphone
Cellphone software



SUNSCAN ON
Google Play



SUNSCAN on
App Store



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team@staros-projects.org