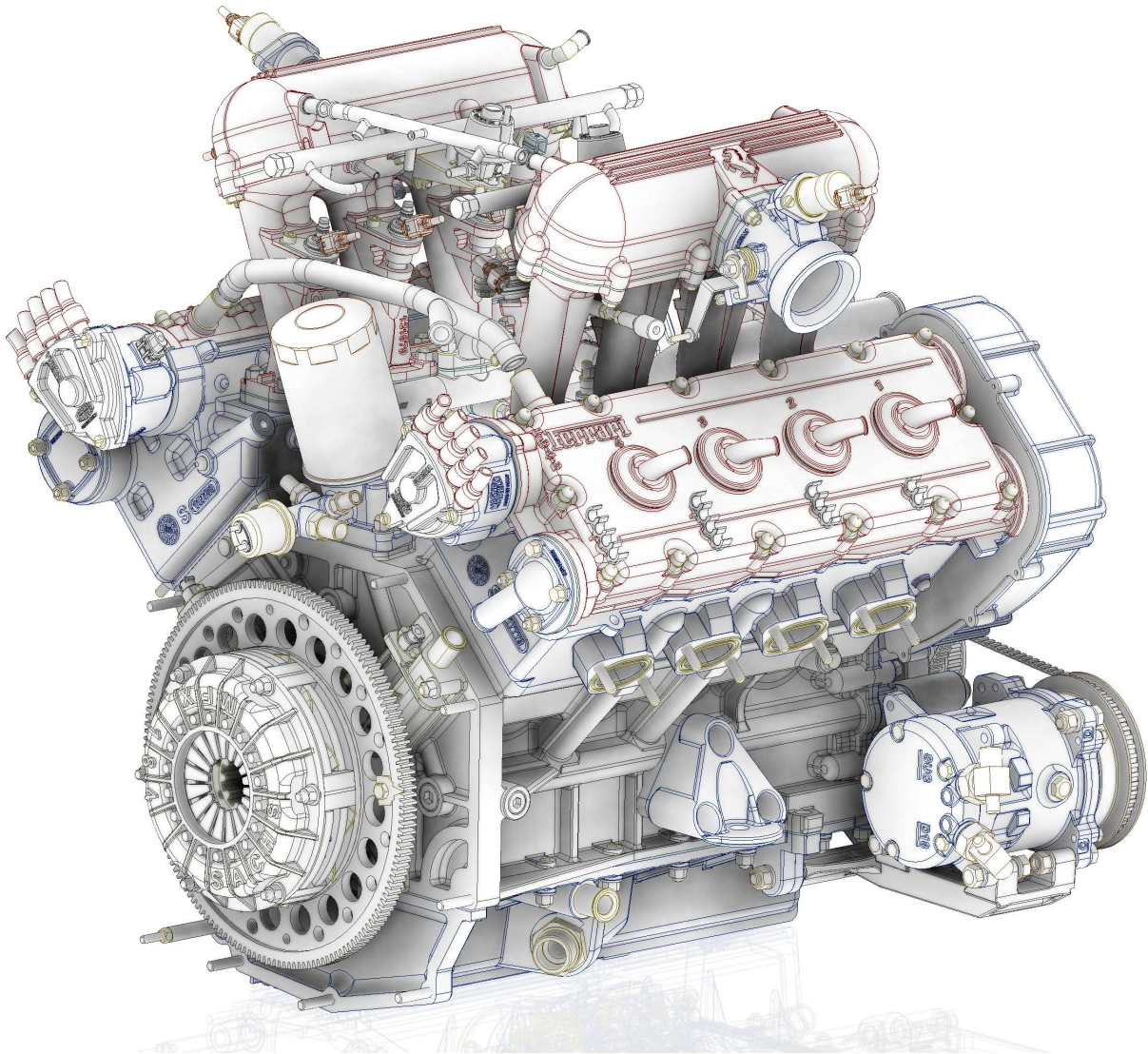


288GT0

engine kit (scale 1/4)

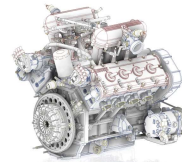


**static engine model kit, non functional.
For display purpose only**

2

instruction manual





Legend



bend along etched-line to inside



glue (CA or 2K)



spray in color of own preference



bend curved to shown shape



do not glue (keep joint movable)



cut screw head off (trim edge smooth) and only use the threaded rod acc. given length



carefully press soft-solder wire to position.



soft solder parts together



putty and sand clean



carefully!!! heat shrink to position (shrink tubes) (use lighter or heat gun)



cut to given length using motor tool



cut off



sand edge smooth / sand bottom flat



drill hole to given size (hand drill recommended)



cut to shown length & trim edges smooth (cutter knife)



clean / trim area with motortool

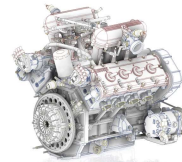
Color list

- X1** RAL 3000 - matt / semigloss red
- X2** RAL 1032 - semigloss zinkchromate
- X3** RAL 3020 - matt / semigloss traffic red
- X4** RAL 2004 - gloss Orange
- X5** RAL 7032 - semigloss stonegrey
- X6** RAL 1002 - matt sand-yellow
- X7** RAL 7016 - semigloss grey-black
- X8** RAL 8011 - semigloss dark brown
- X9** RAL 5015 - semigloss blue
- X10** matt dark gun-metal
- X11** titanium gold
- X12** silver / polished aluminum
- X13** white aluminum (e.g. RAL 9006)
- X14** light grey / aluminum (mix of light grey (e.g RAL 9002) - 80% and aluminum (e.g.RAL 9006) -20%)
- X15** steel
- X16** semigloss black
- X17** rubber black
- X18** gold / brass
- X19** RAL 1015 - flat / semigloss beige
- X20** (Cast effect / hammer blow effect) matt steel (*spray light mist coats from distance (different colors) to achieve effect*)
- X21** (textured effect) RAL 3020 - matt red
 - 1) *spray the parts with a textured effect (e.g. microballoons + primer) prior applying RAL3020*
 - 2) *after textured mixed primer dried spray matt RAL 3020 red*

Optional: you can use the spray can from company „VHT“ - „Wrinkle crackle coating - red“ , **over a white primer**
 This is the real used crackle effect heat-paint. Nevertheless the effect it is slightly out of scale.

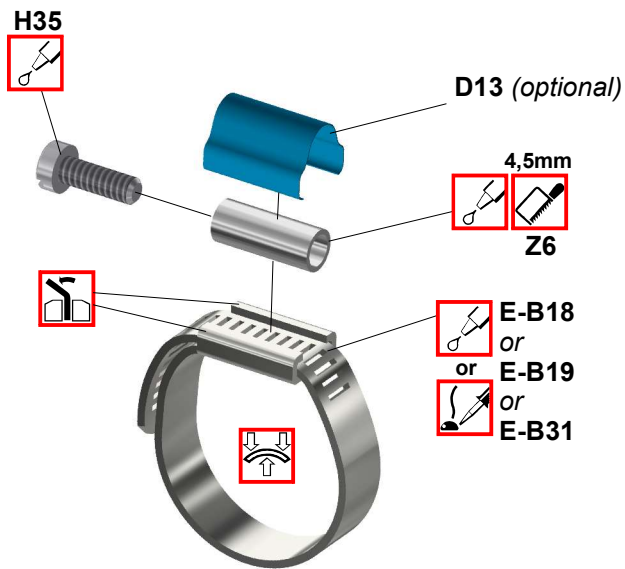
tip:

For a realistic / used look it is recommended to give the parts a „dark-/ or oil-wash“ and apply some dust „pigments“ after the paint has dried. (e.g. „mig“ or „ak-interactive“ products)



making of hose clamps: **HC**

Make hose clamps during the required building step. Where possible do a dry fit on the corresponding finished shrink tube (for correct size) and bend / finish the hose clamp before mounting. It is recommended to solder the clamp ring to the final size first (once positioned on the shrink tube) and then glue the other parts to the ring. Use of decal **D13** is optional. To fix the finished clamp on shrink tube use a drop of glue. Depending on the used clamp ring the completed clamp will be labeled **HC-1**, **HC-2** or **HC-3** during the construction phase.



new name:

E-B18 → **HC-1**

E-B19 → **HC-2**

E-B31 → **HC-3**

E-B18 - Hose diameter 7mm to 11mm

E-B19 - Hose diameter 15mm to 22mm

E-B31 - Hose diameter 8,5mm to 13mm

making of hoses / use of shrink-tube tools:



R108

R110

R109

R108

is used during building step **11** & **21** to make the hose (red colored) for air intake of the intake unit. Use **Z24** shrink tube on this part. **(2x)**

R109

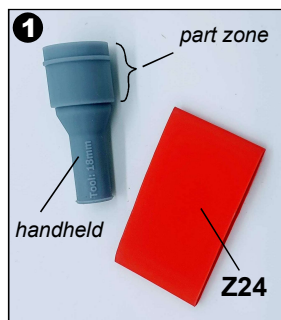
is used during building step **6** to make the connector hoses on the water pump unit. Use **Z23** shrink tube on this part. **(2x)**

R110

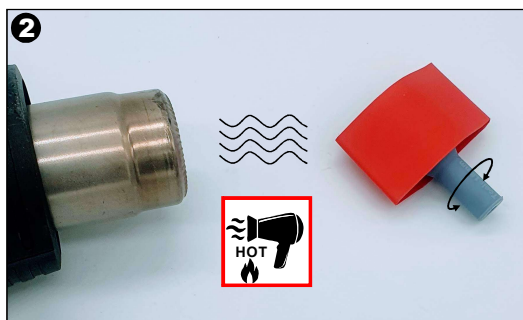
is used during building step **13** to make the connecting hose between water pump unit and throttle unit. Use **Z22** shrink tube on this part. **(1x)**

For all other hoses use the shrink tube segment on the intended mounting points and heatshrink carefully to position. Try to heat only the borders to leave the hose in an even thickness.

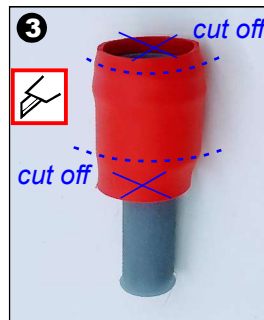
making process shown on part R108 (R109 , R110 similar)



Cut shrink-tube-ring to needed size. Leave 1-2mm excess material.



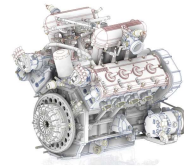
Use heat gun to shrink tube on tool all around. **Caution:** Do not damage the tool with too much heat.



Once tube has cooled down, peel the part carefully off the tool. Cut excess material with a sharp cutting blade to match correct length acc. tool. You can use a lighter afterwards to carefully smooth the edges again with some heat if required.

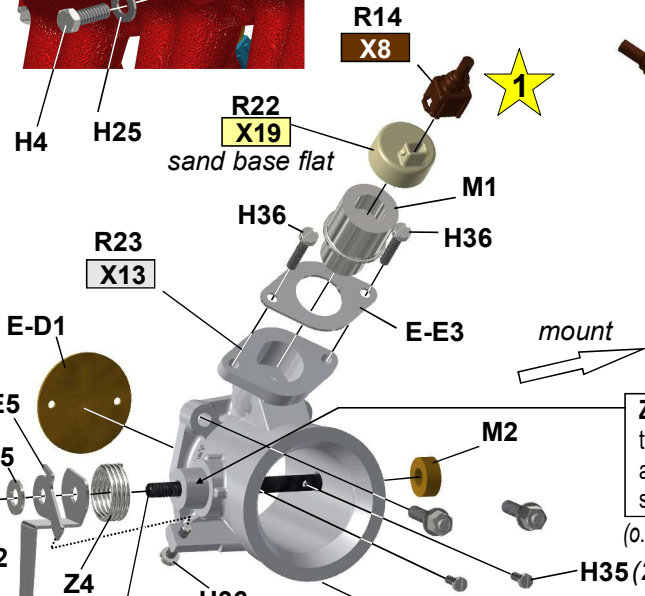
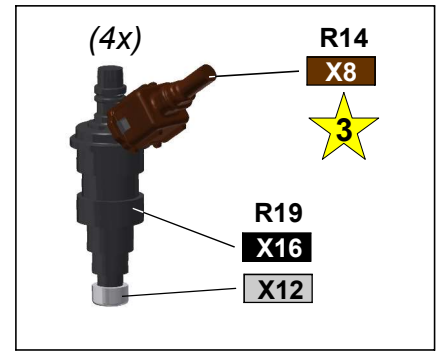
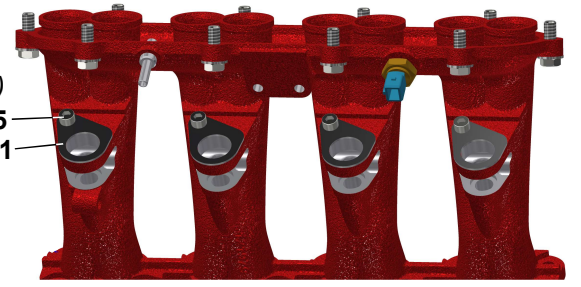
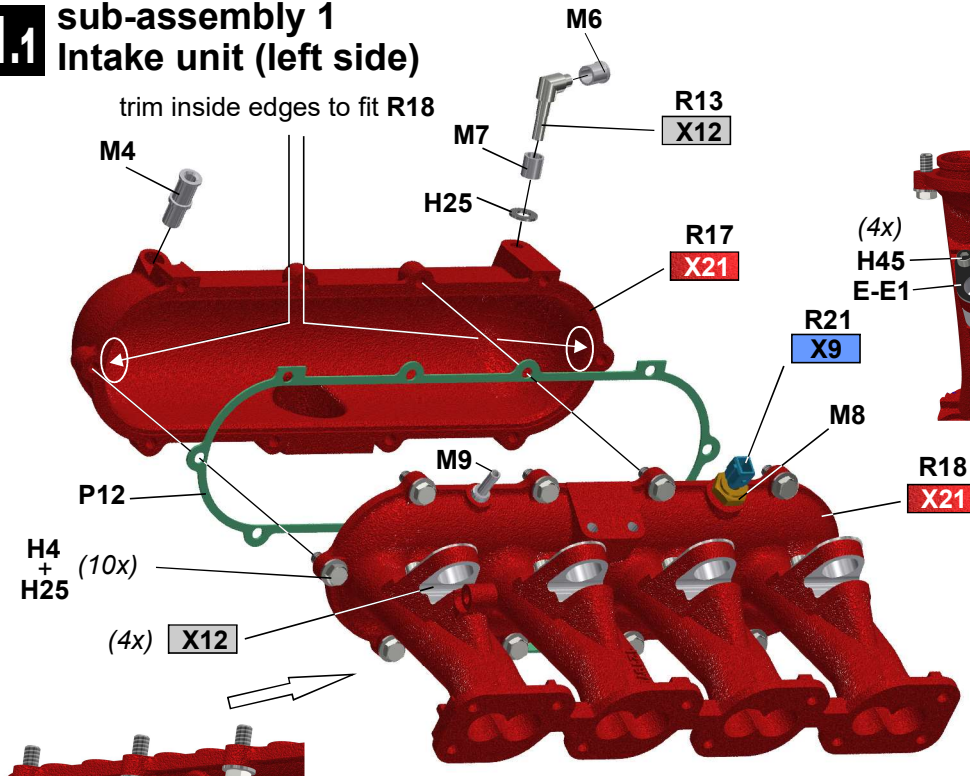


finished

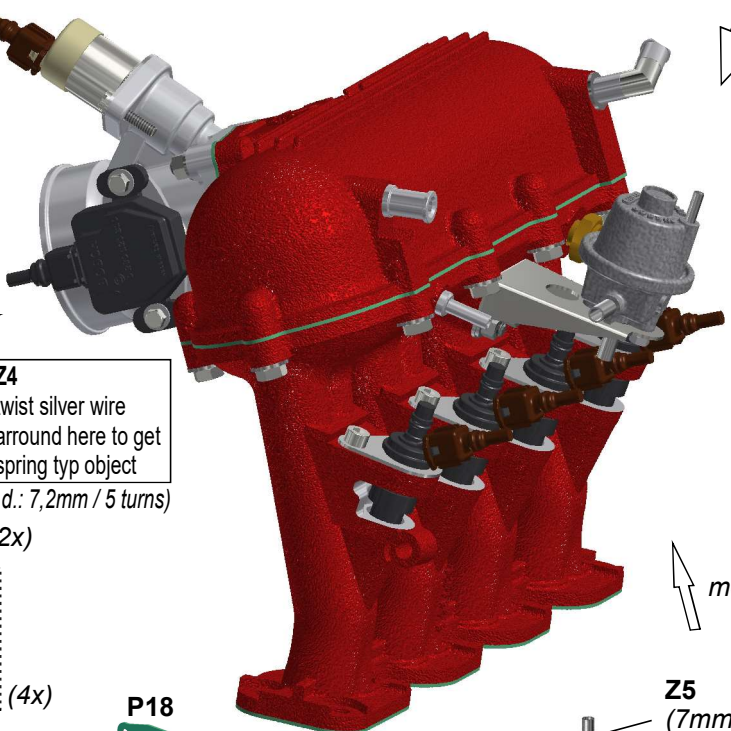


1.1 sub-assembly 1 Intake unit (left side)

trim inside edges to fit R18



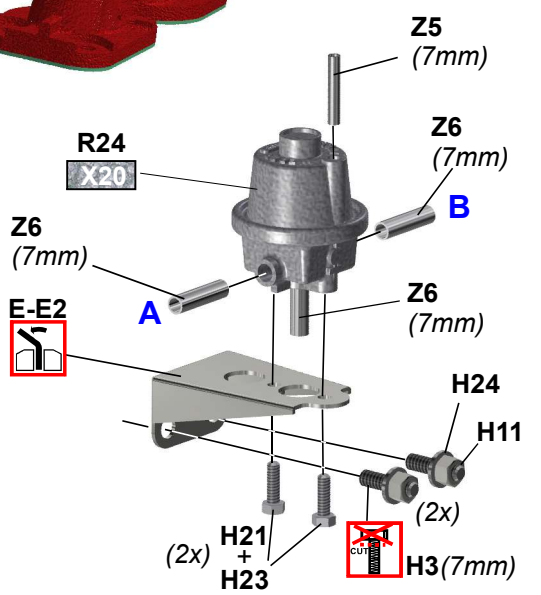
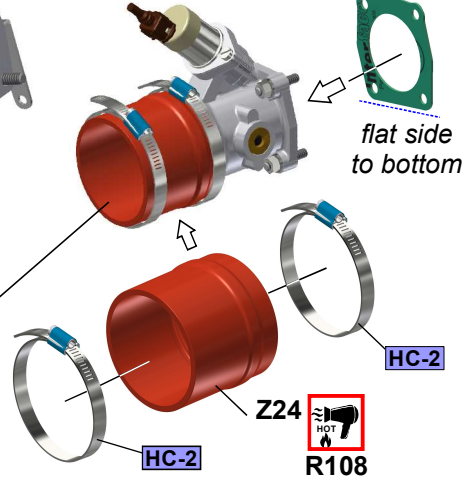
Z4 twist silver wire around here to get spring typ object (o.d.: 7,2mm / 5 turns)



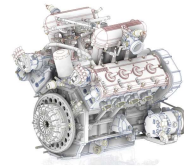
mount



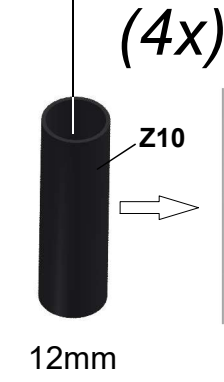
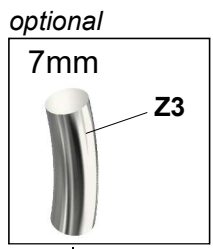
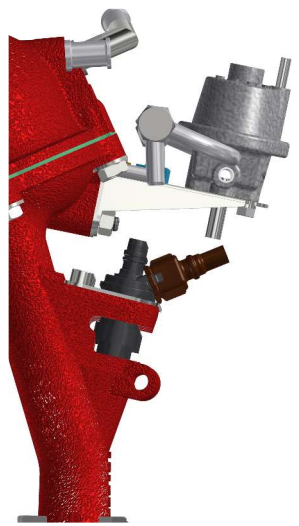
put clamps in position once the hose is in place.



Caution: Handle **R104** with extrem caution. Part is very fragile. Do not use force to insert **H35**. Enlarge pass through hole on **R23** if required. Glue **E-D1** on backside (flat side).

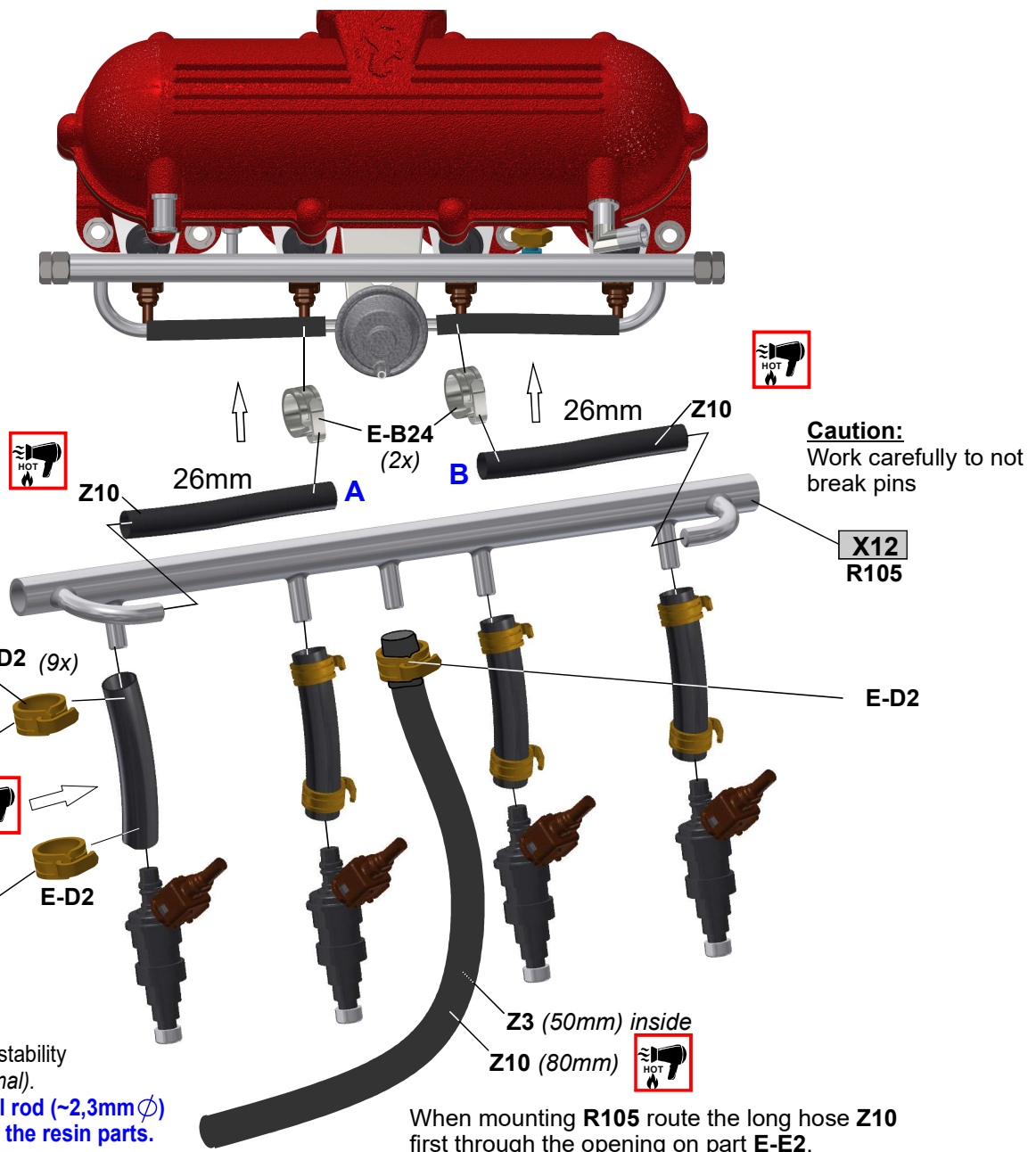


1.2 sub-assembly 1 Intake unit (left side)

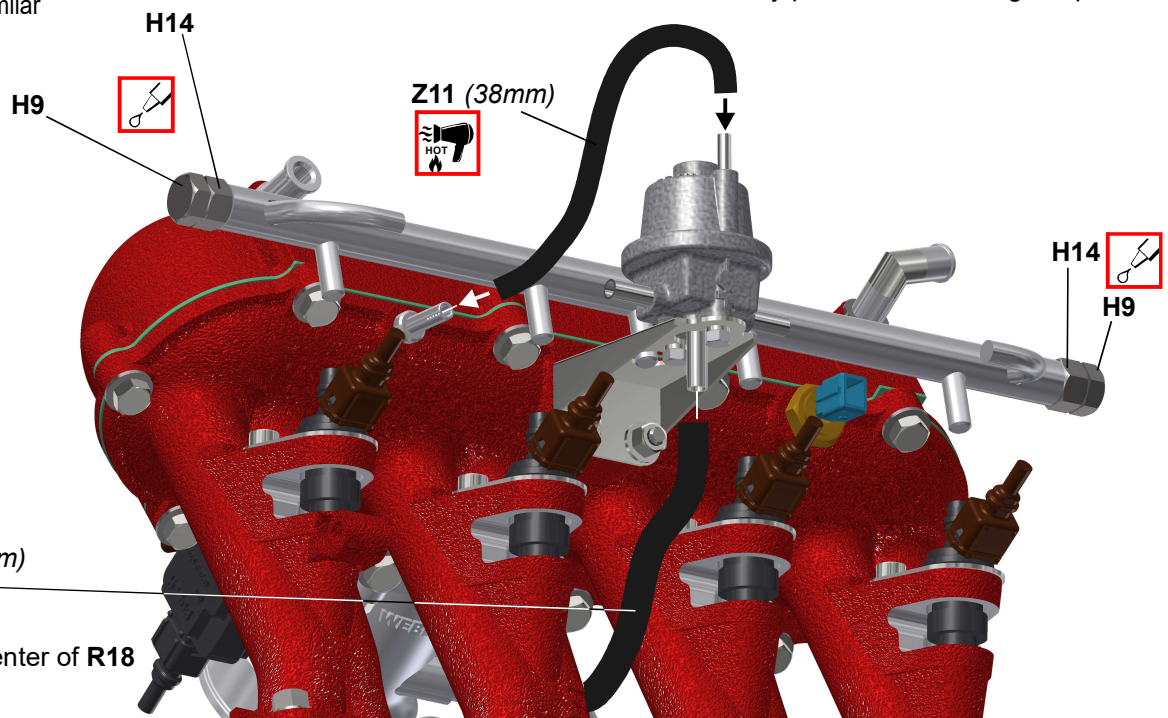


use Z3 as core inside of Z10 for stability with the given dimensions (optional).
Heat shrink on a suitable metal rod (~2,3mmφ) prior mounting - avoid heating the resin parts.

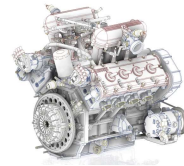
Bend E-D2 / E-B26 around a similar sized metal rod (e.g. drill).



When mounting R105 route the long hose Z10 first through the opening on part E-E2. Be careful to not break any pins on R105 during the process.

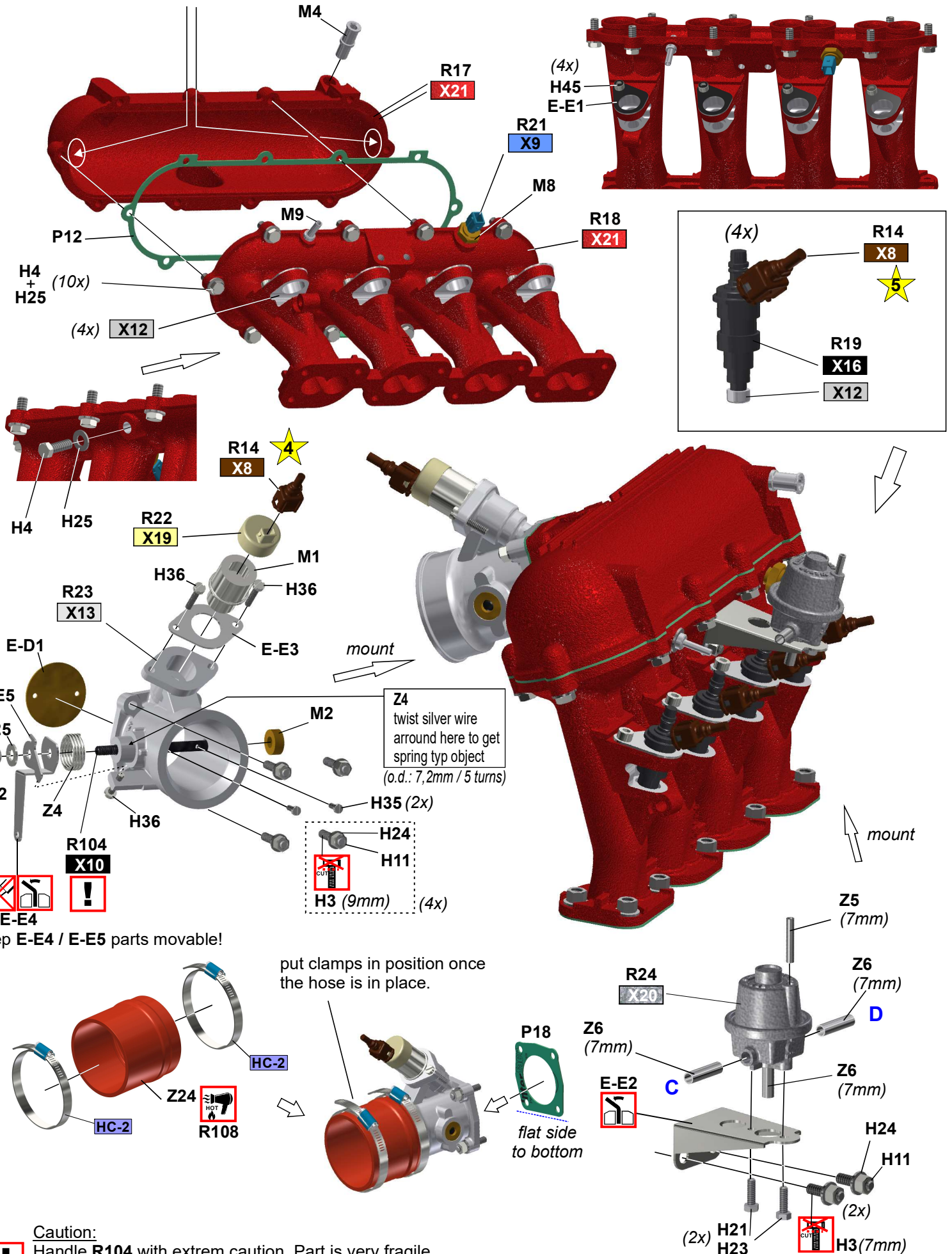


route to the outside through center of R18 (and leave loose)



2.1 sub-assembly 2 Intake unit (right side)

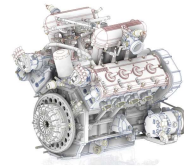
trim inside edges to fit R18



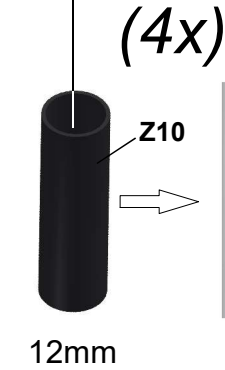
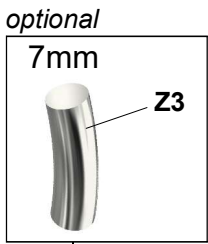
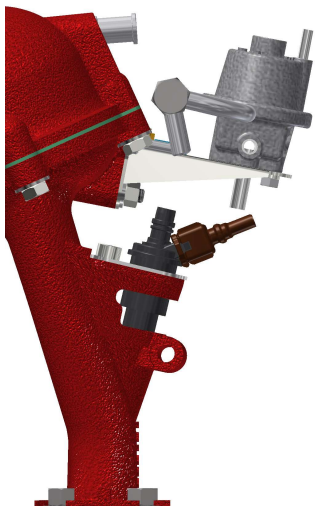
keep E-E4 / E-E5 parts movable!

put clamps in position once the hose is in place.

Caution:
 Handle R104 with extrem caution. Part is very fragile.
 Do not use force to insert H35. Enlarge pass through hole on R23 if required. Glue E-D1 on backside (flat side).



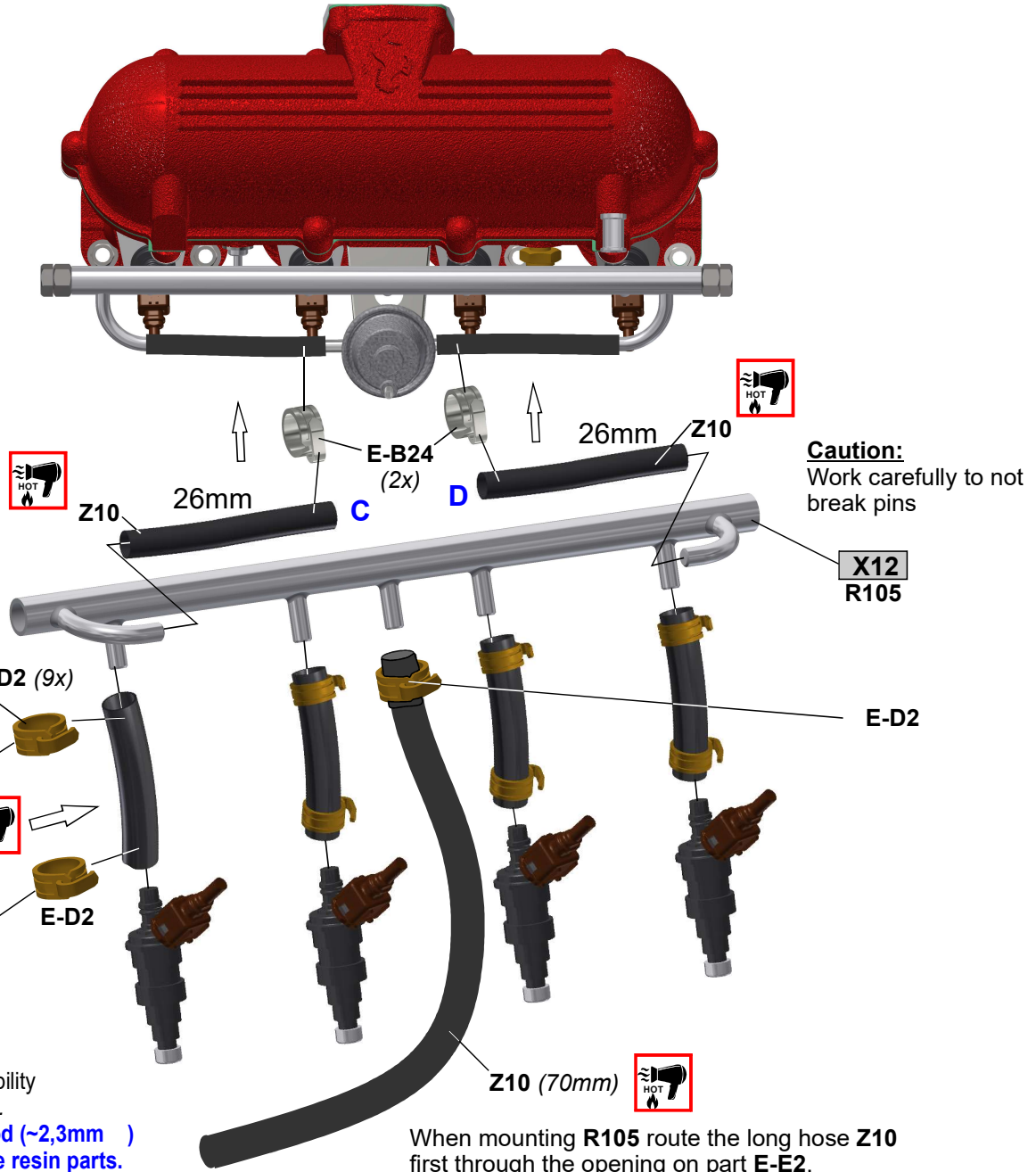
2.2 sub-assembly 2 Intake unit (right side)



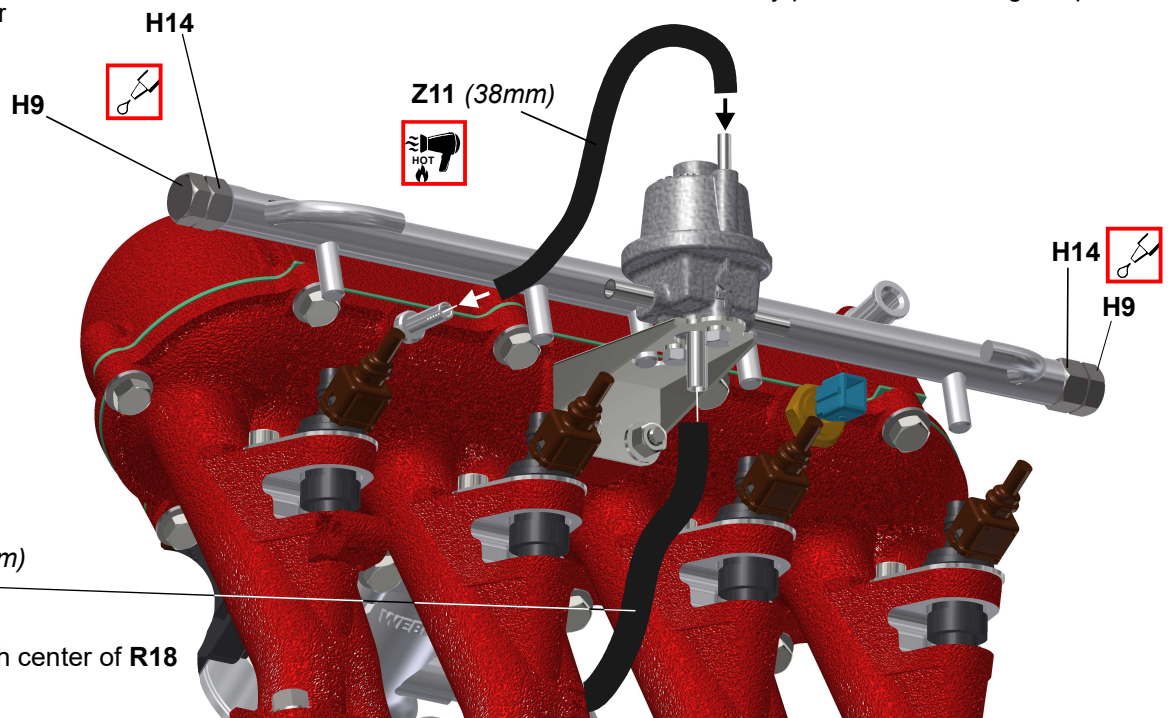
use Z3 as core inside of Z10 for stability with the given dimensions (optional).

Heat shrink on a suitable metal rod (~2,3mm) prior mounting - avoid heating the resin parts.

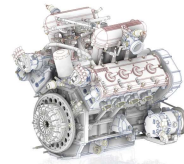
Bend E-D2 / E-B26 around a similar sized metal rod (e.g. drill).



When mounting R105 route the long hose Z10 first through the opening on part E-E2. Be careful to not break any pinson R105 during the process.

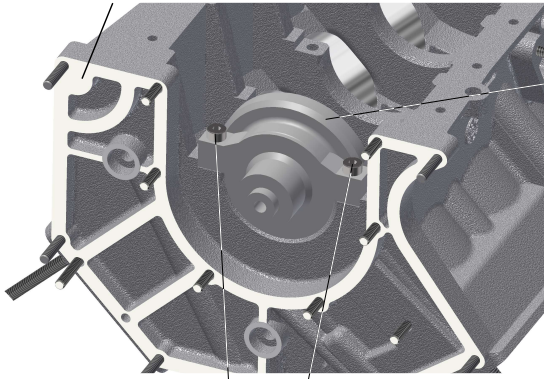


route to the outside through center of R18 (and leave loose)



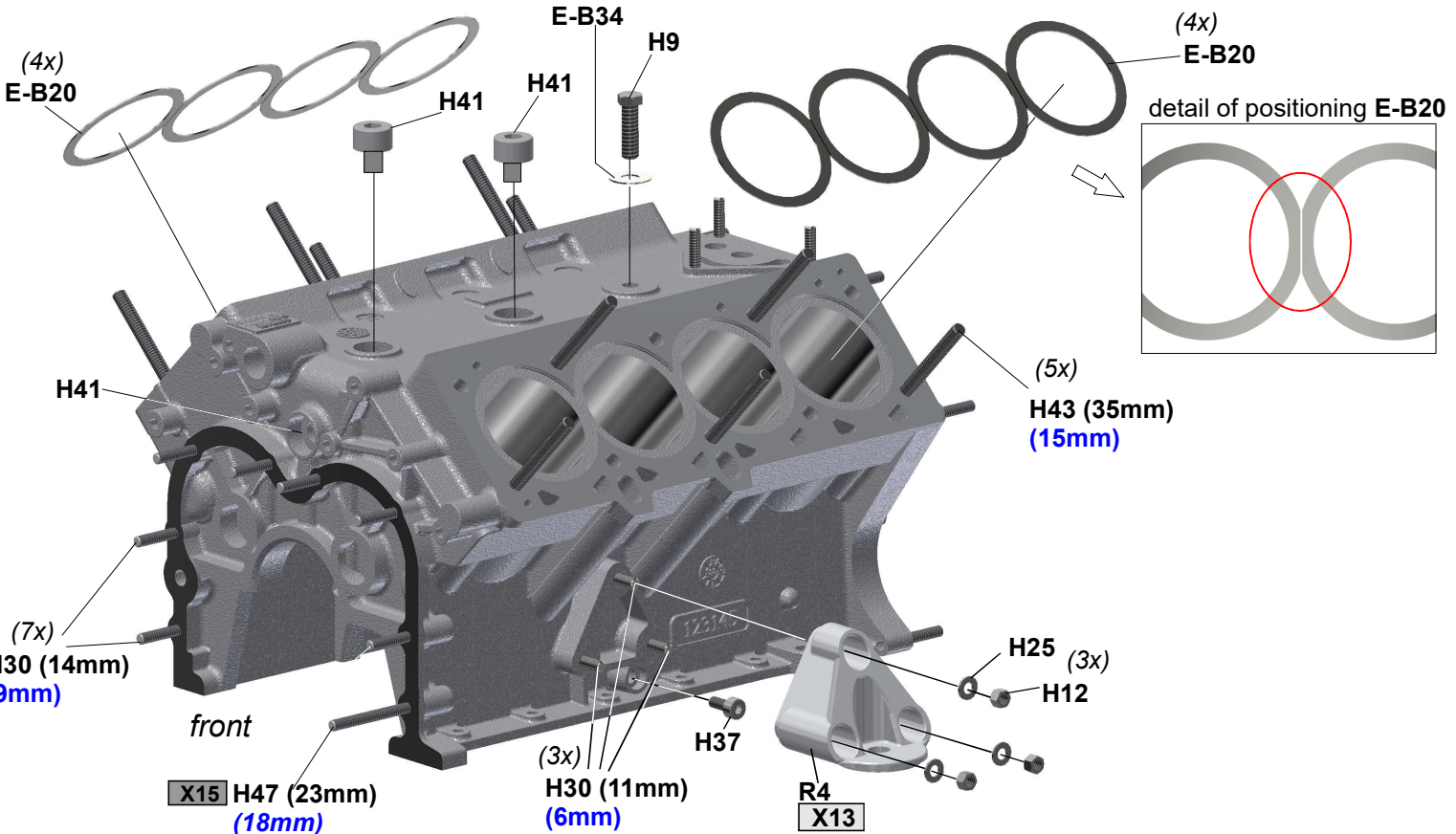
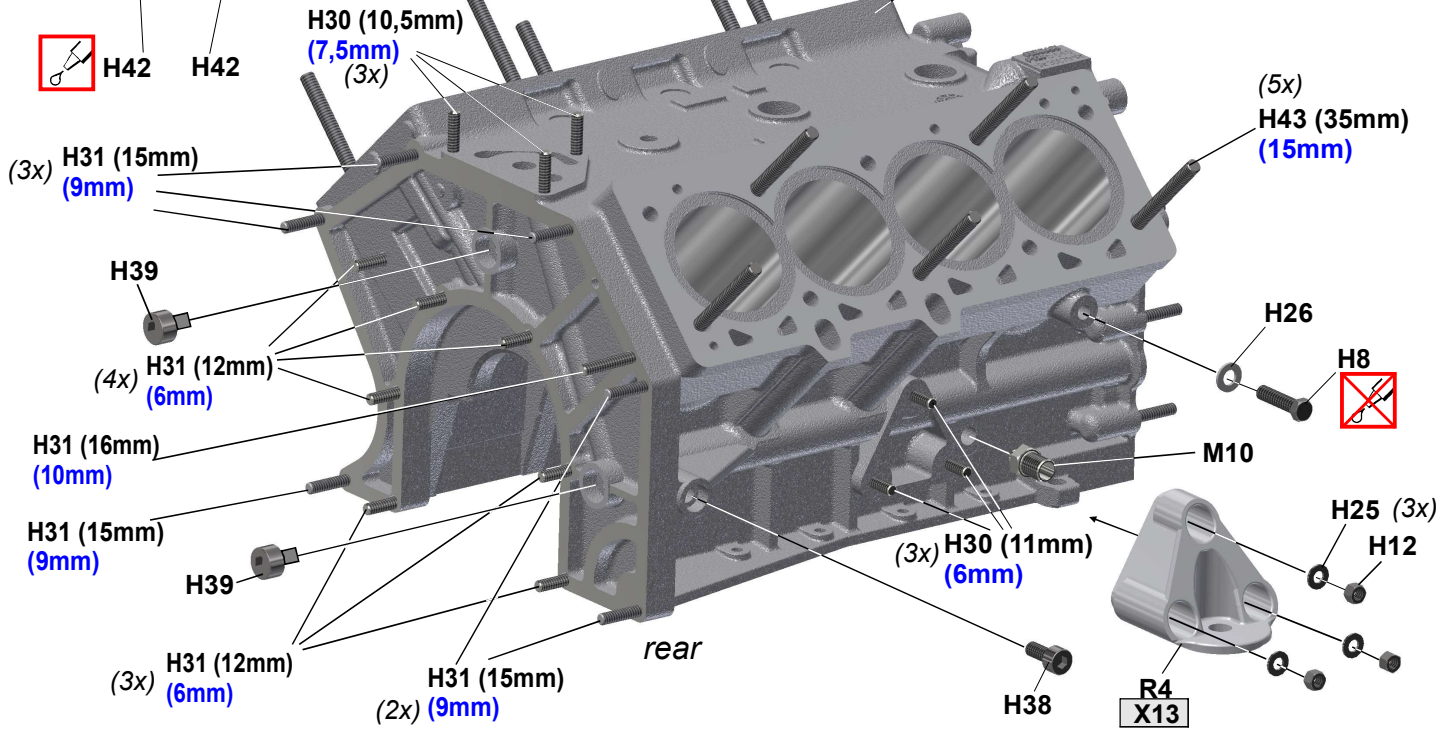
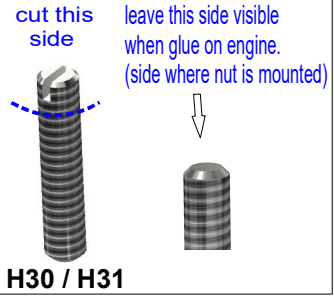
3.1 sub-assembly 3 Engine main case

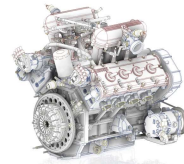
highlight surface in **X12**



Info:

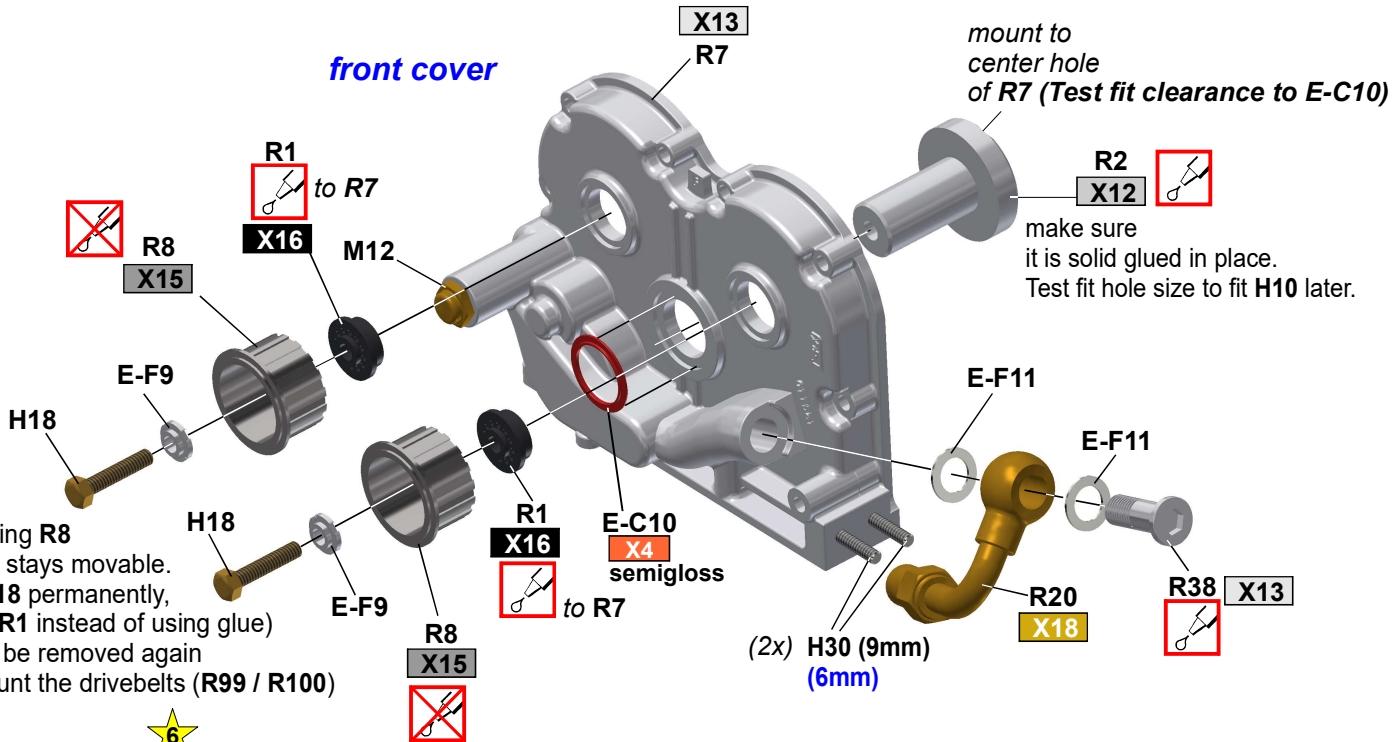
Shorten parts H30 / H31 to the given length.
Cut off the excess on the side with the slot.
Or, when leaving part untouched glue the part in place on the slotted side.
Blue colored size refer to the length to be visible once part is glued in place.
It is recommended to enlarge the holes for H30 / H31 and glue them in place instead of thread cutting.



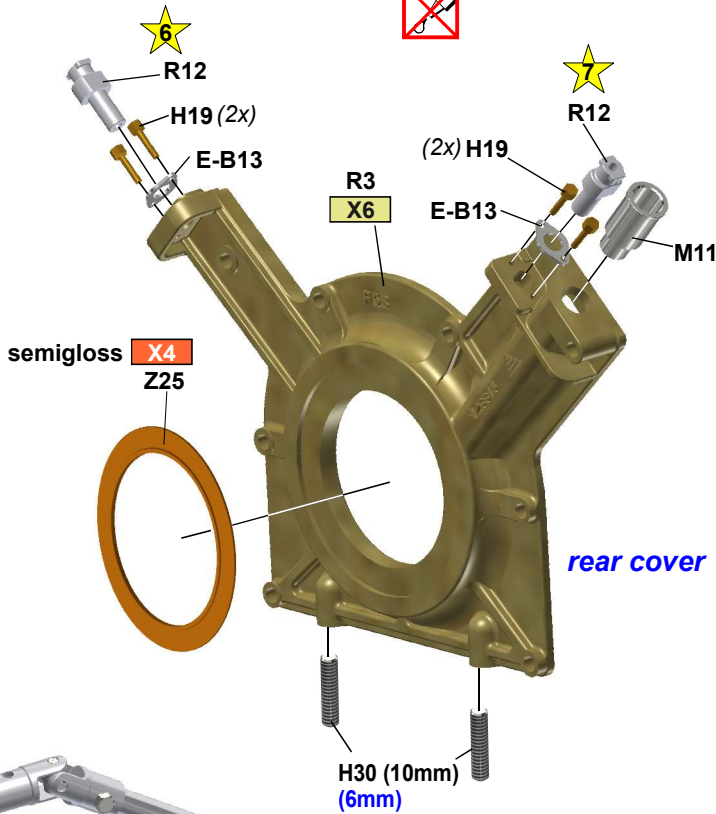


3.2 sub-assembly 3 Engine main case

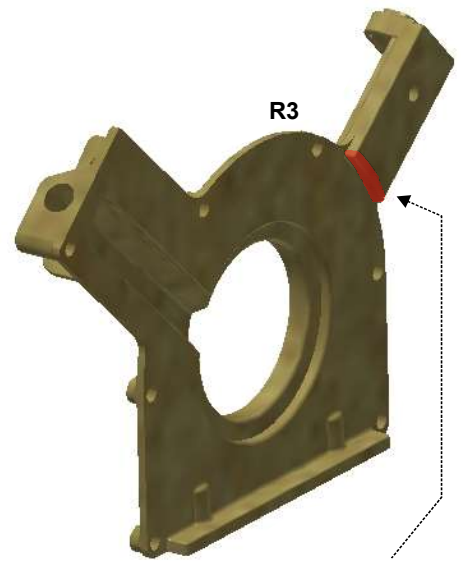
front cover



when mounting R8 make sure it stays movable. Do not fix H18 permanently, (e.g. thread R1 instead of using glue) as R8 might be removed again to better mount the drivebelts (R99 / R100) in step 13.5



rear cover

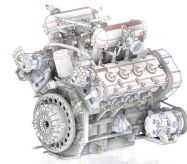


trim on backside to fit engine block R10 (red marked area). check alignment of mounting points on R10 (enlarge to fit if required)

glue Z14 in place (clean all edges). Leave the joint movable

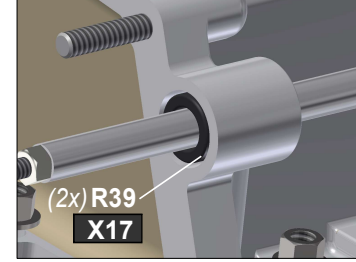


gear linkage rod

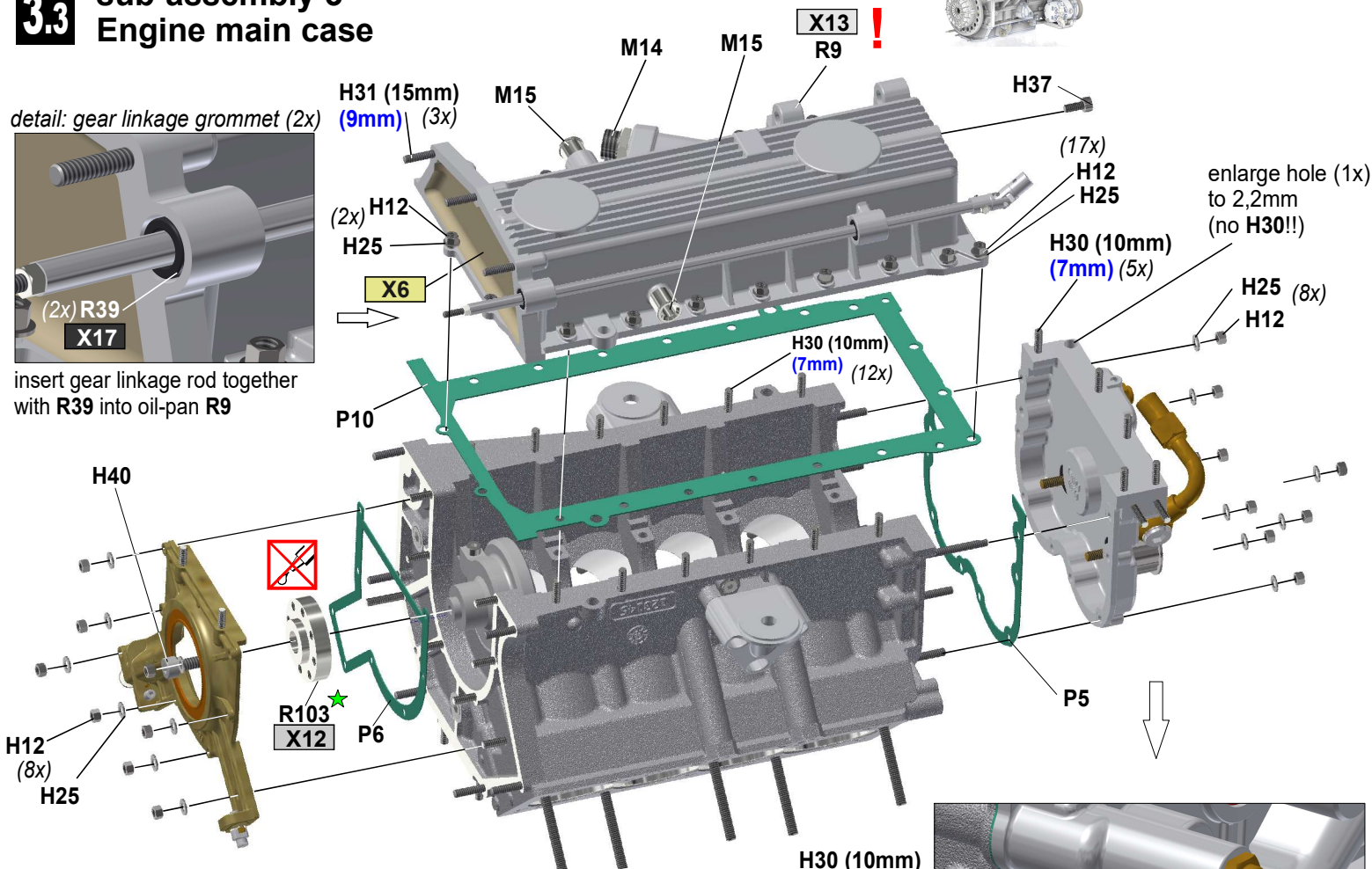


3.3 sub-assembly 3 Engine main case

detail: gear linkage grommet (2x)



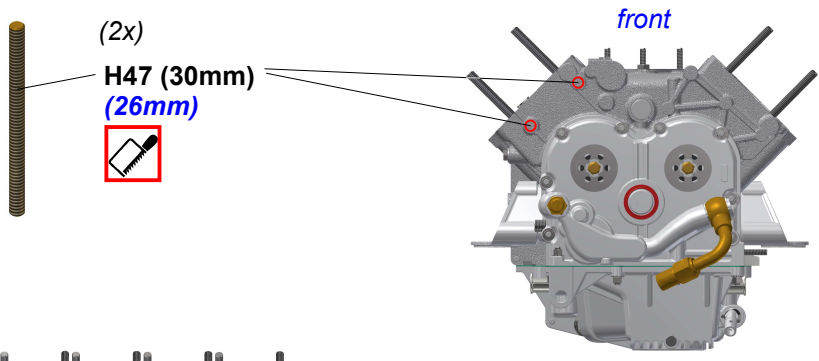
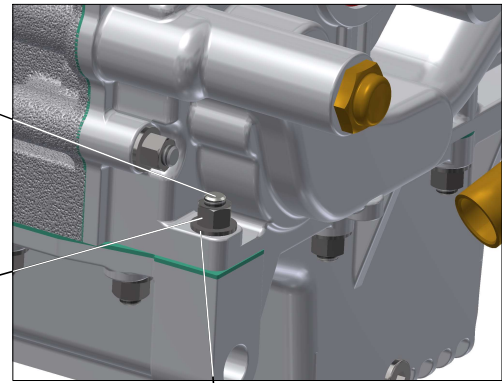
insert gear linkage rod together with R39 into oil-pan R9



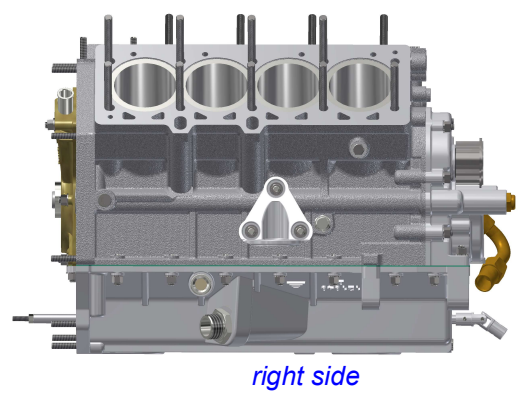
mount side covers from previous step first prior mounting oilpan (R9)

insert H30 into R9

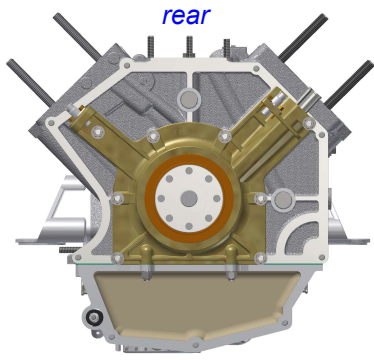
★ prepare 8x mounting holes of R103 to fit R63 and bolts in step 11 prior mounting



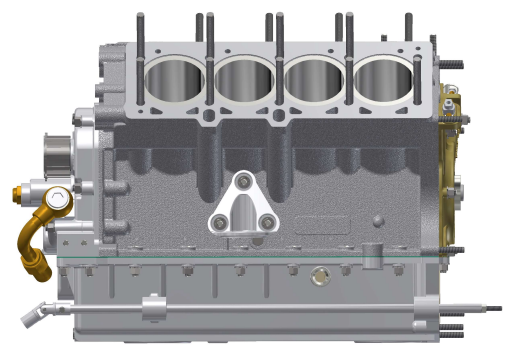
! enlarge the 17 pass-through-mounting-holes of R9 to at least 2,4mm to fit on the engine block. Work the part slowly and carefully on R10.



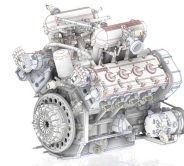
right side



rear

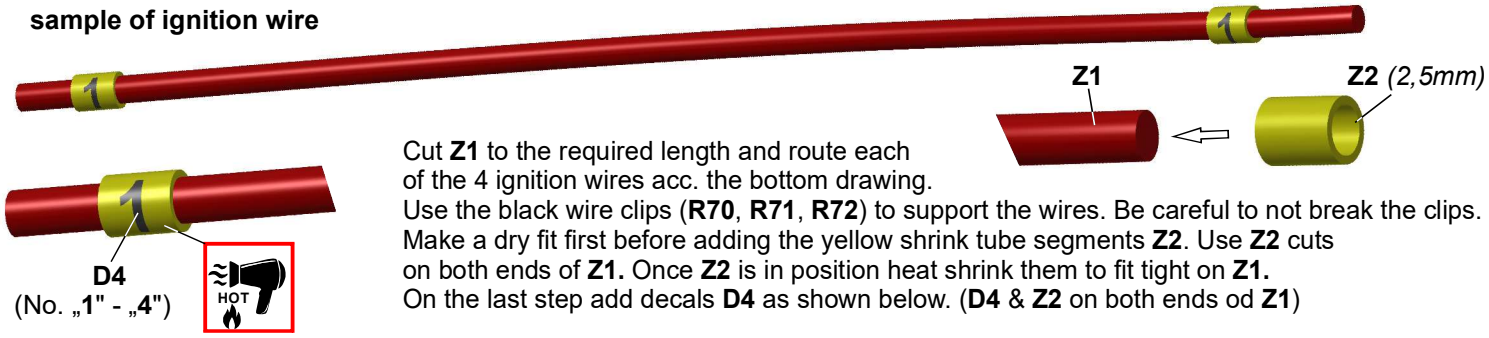


left side



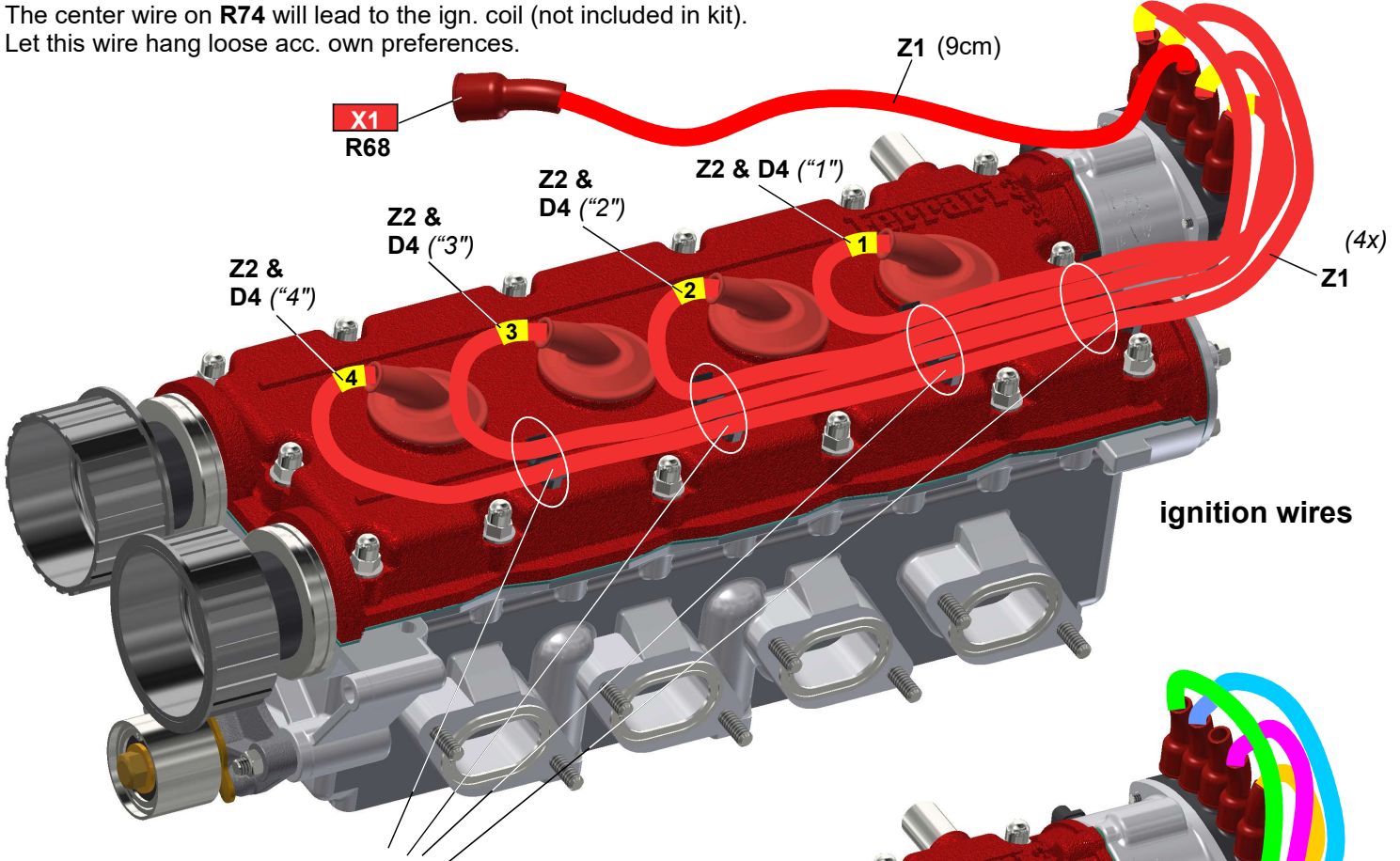
4.2 sub-assembly 4 cylinder head (left side)

sample of ignition wire



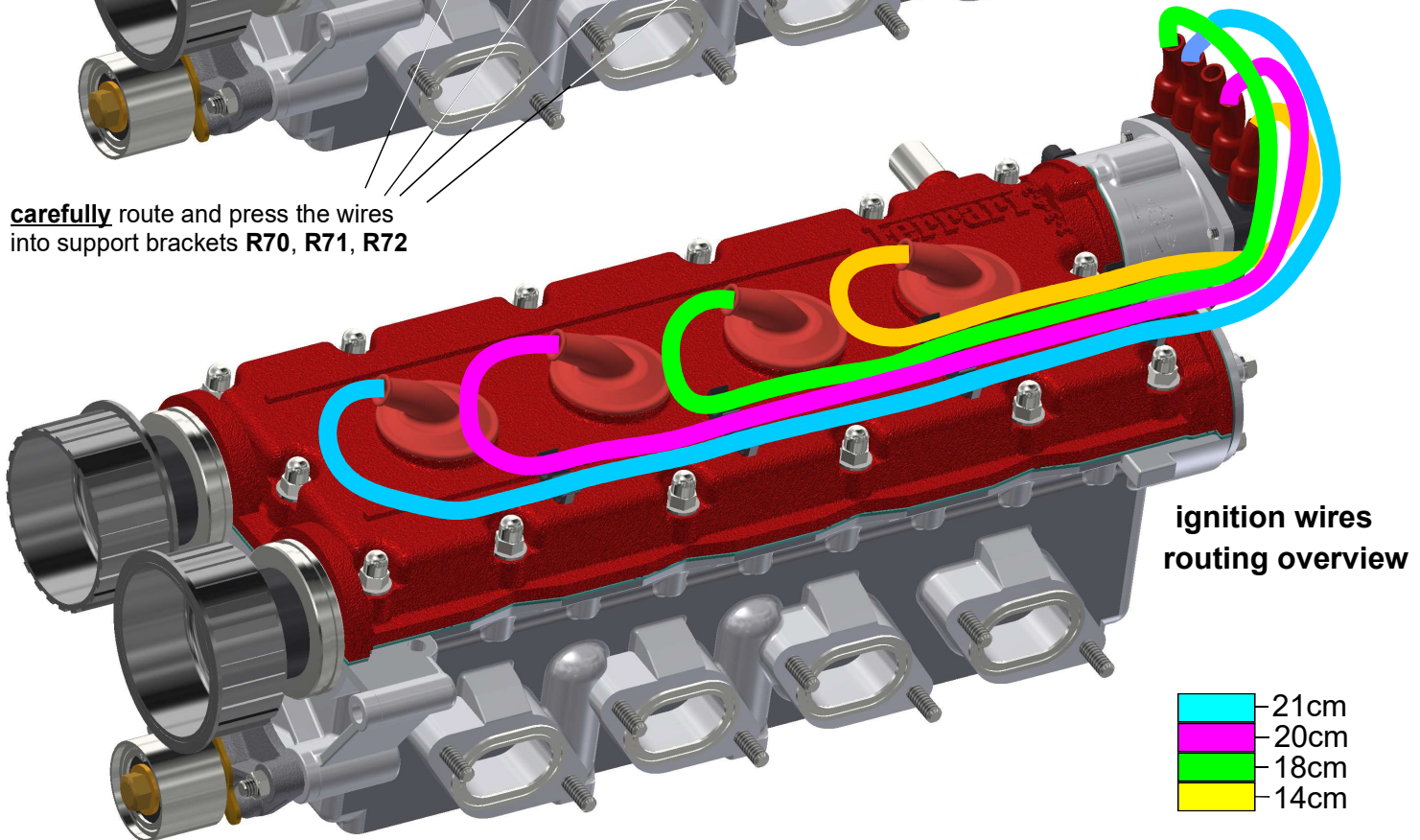
Cut Z1 to the required length and route each of the 4 ignition wires acc. the bottom drawing. Use the black wire clips (R70, R71, R72) to support the wires. Be careful to not break the clips. Make a dry fit first before adding the yellow shrink tube segments Z2. Use Z2 cuts on both ends of Z1. Once Z2 is in position heat shrink them to fit tight on Z1. On the last step add decals D4 as shown below. (D4 & Z2 on both ends of Z1)

The center wire on R74 will lead to the ign. coil (not included in kit). Let this wire hang loose acc. own preferences.



ignition wires

carefully route and press the wires into support brackets R70, R71, R72

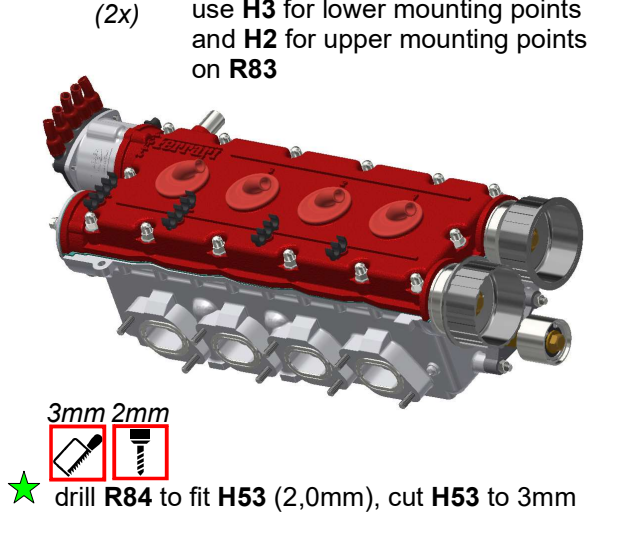
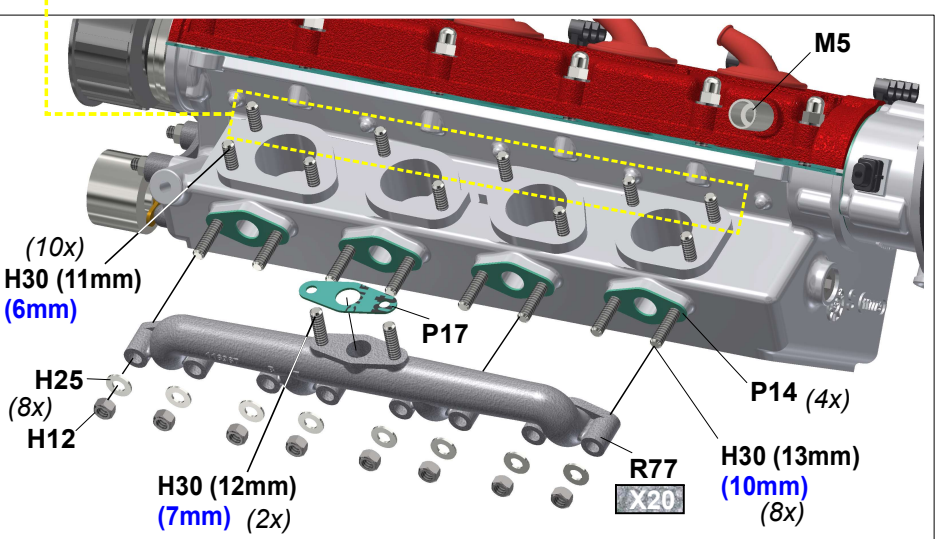
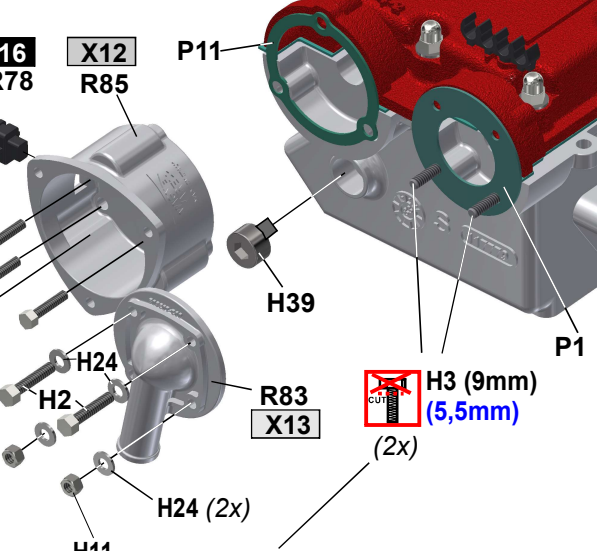
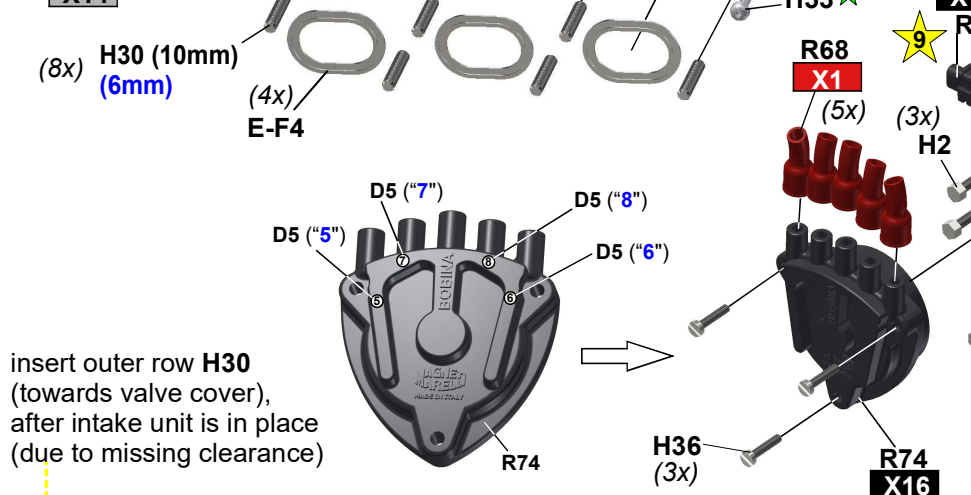
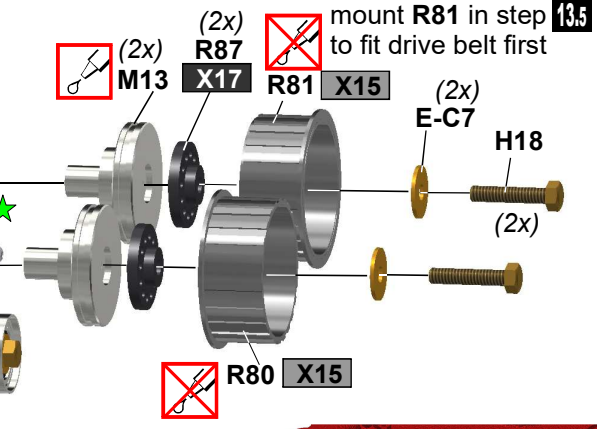
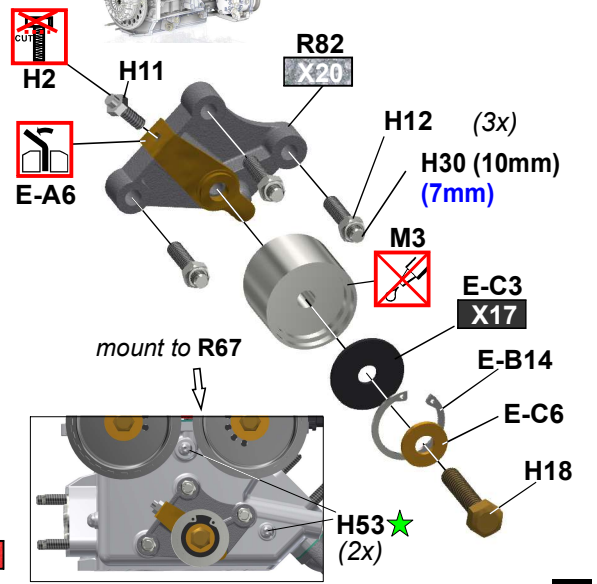
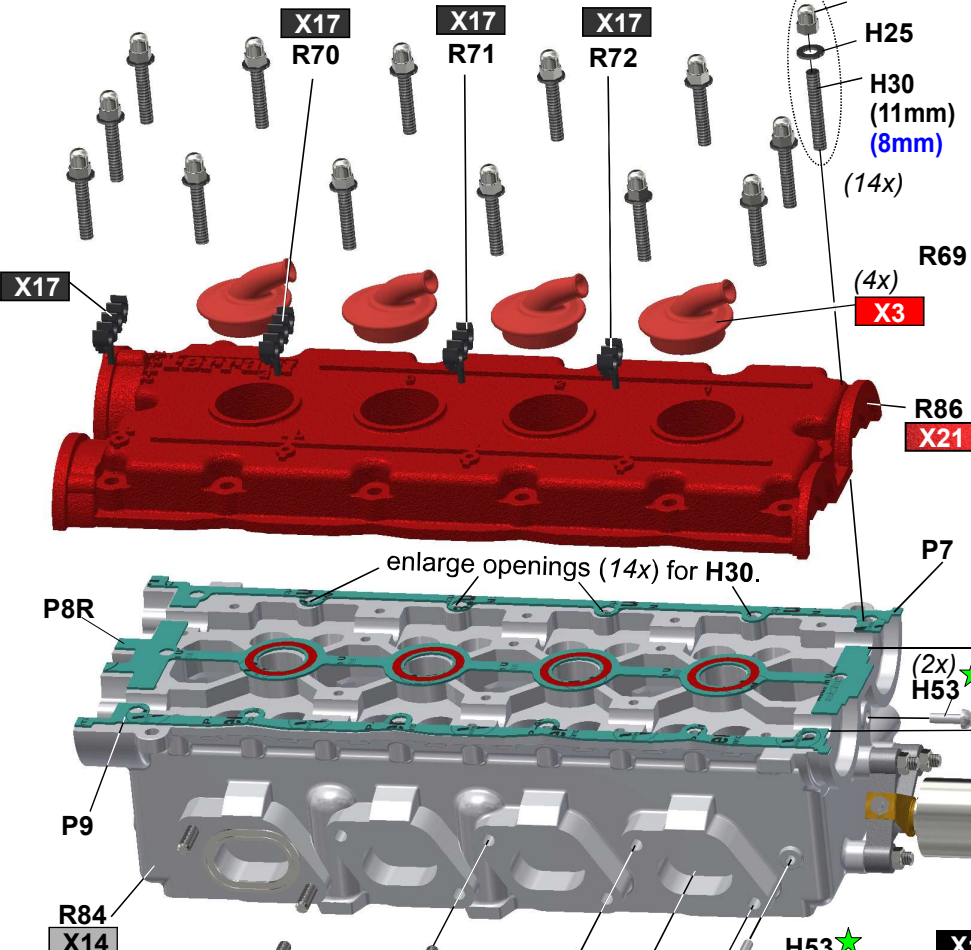
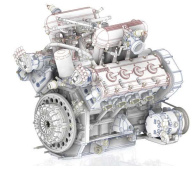


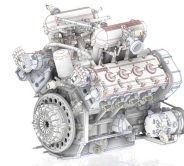
ignition wires routing overview

- 21cm
- 20cm
- 18cm
- 14cm

5.1 sub-assembly 5 cylinder head (right side)

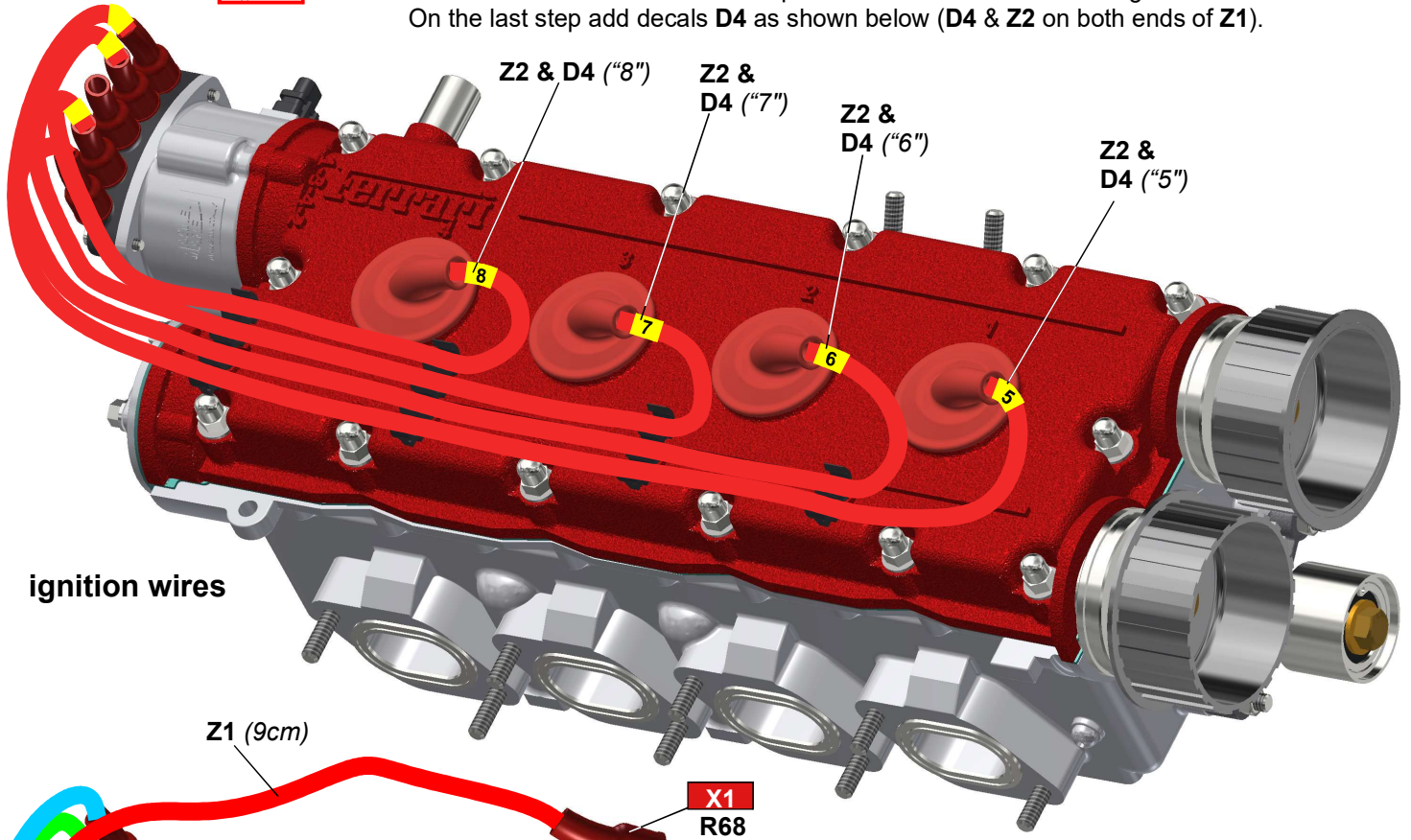
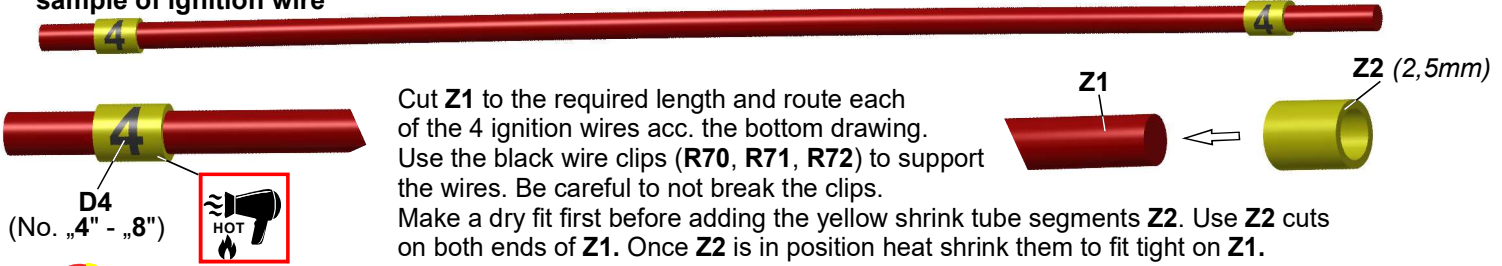
you either can enlarge the holes in R84 and glue in the complete unit (H30,H25,H15) or thread the holes in R84 (M2,0) and insert the parts separately .



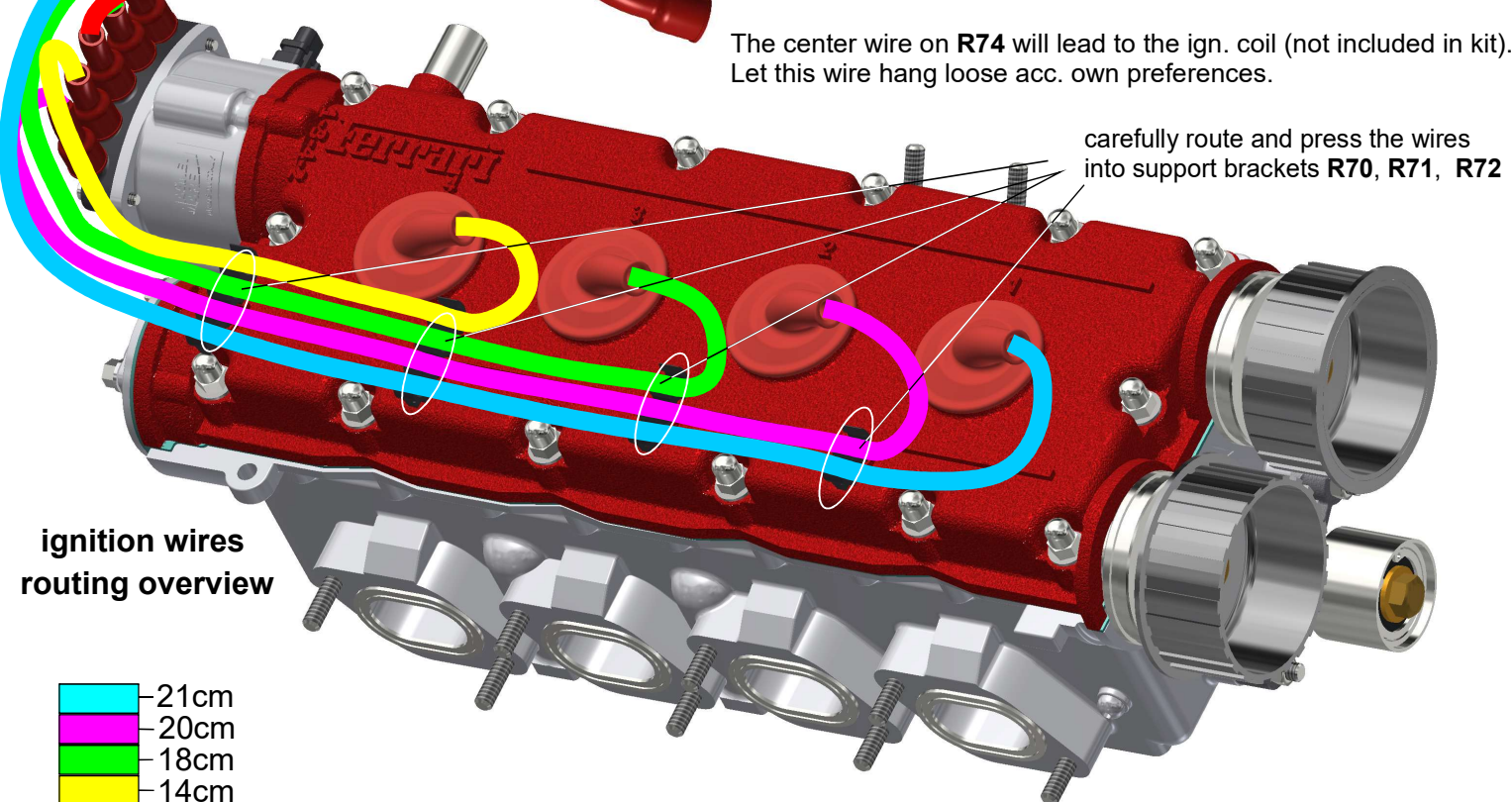


5.2 sub-assembly 5 cylinder head (right side)

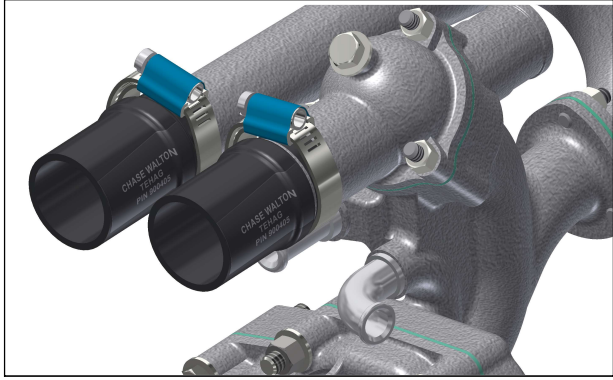
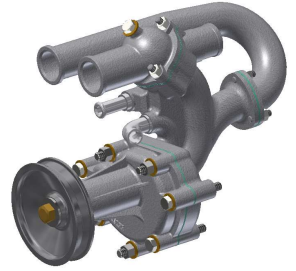
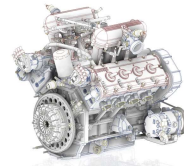
sample of ignition wire



The center wire on **R74** will lead to the ign. coil (not included in kit). Let this wire hang loose acc. own preferences.



6 sub-assembly 6
waterpump



adding water hoses

(2x)

D9

HC-3

Z23

after decal has dried it is recommended to spray a thin layer of flat clear over Z23 prior mounting

R109

Due to missing space screw H11 to H2 first. Enlarge the mounting holes (R52 / R53) to 1,7mm. Then glue the H11 / H2 unit through R52 to R53.

H25 H11 (3x)

H4

P16

6mm H2 (3x)

R52 X20

R55 X20

M24

R51 X12

P15

H2 (3x) 4mm

R53 X20

H12 (3x)

H25 (3x)

R54 X15 or X10

M25

P10

H30 (3x) 14mm need to be flush on backside of R53

H25 (4x)

M25

R56 X20

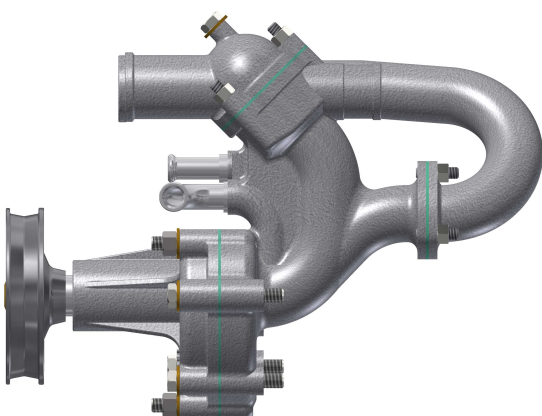
E-E6

H7 (4x)

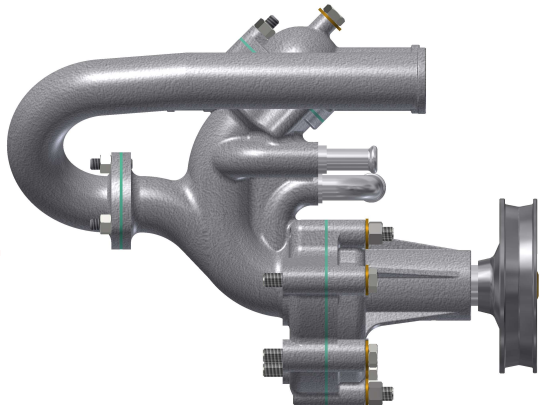
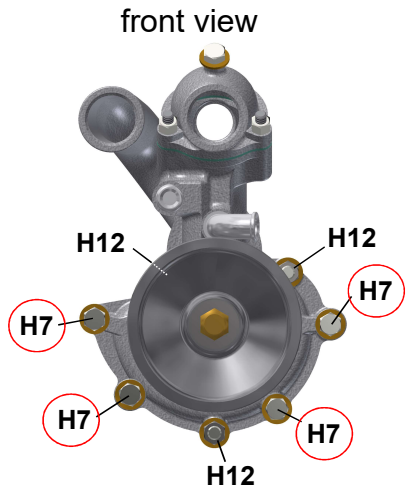
H17

mount H7 at stage **13.3**

when cutting H2 / H30 sand the cutting edge smooth. Insert the cutted side into R53

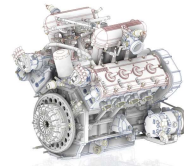


left side view

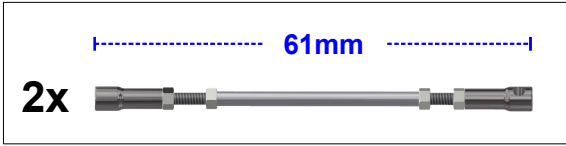


right side view

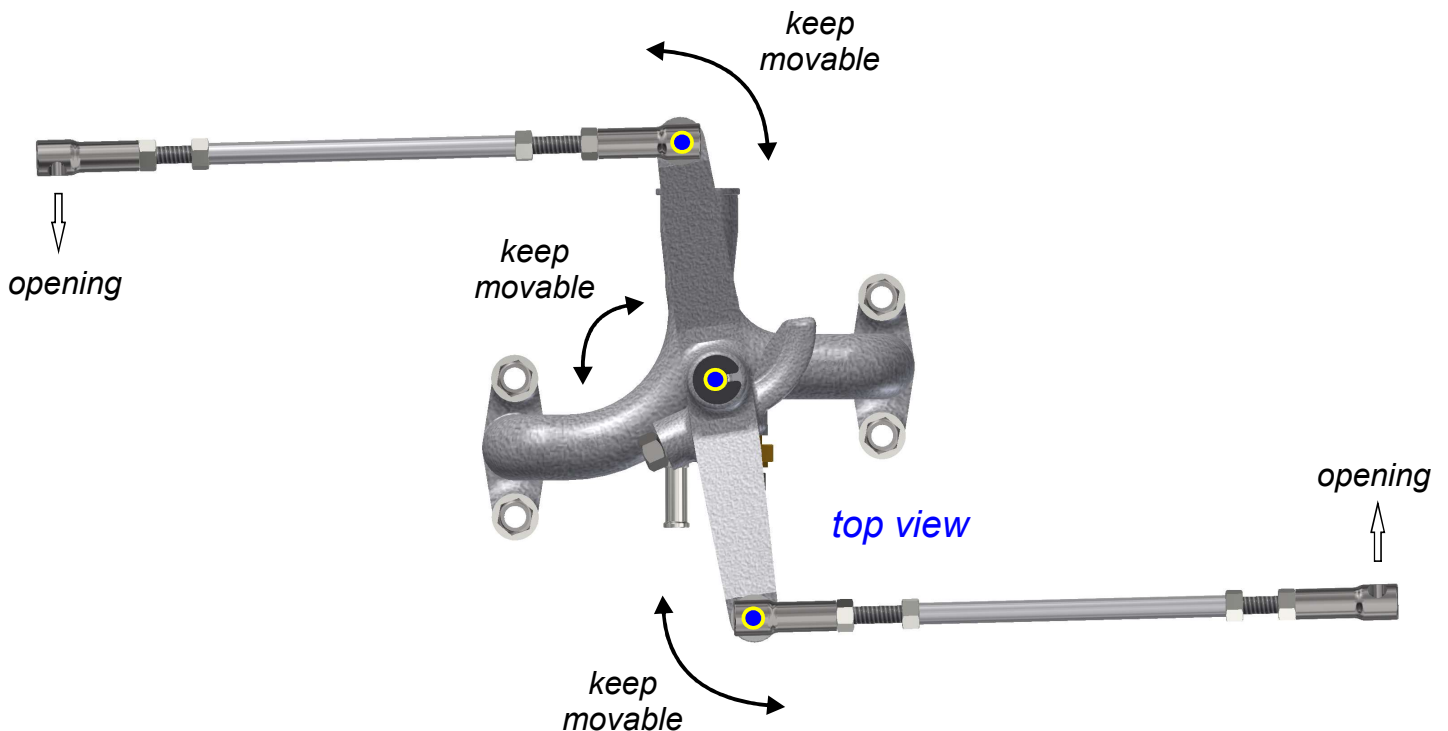
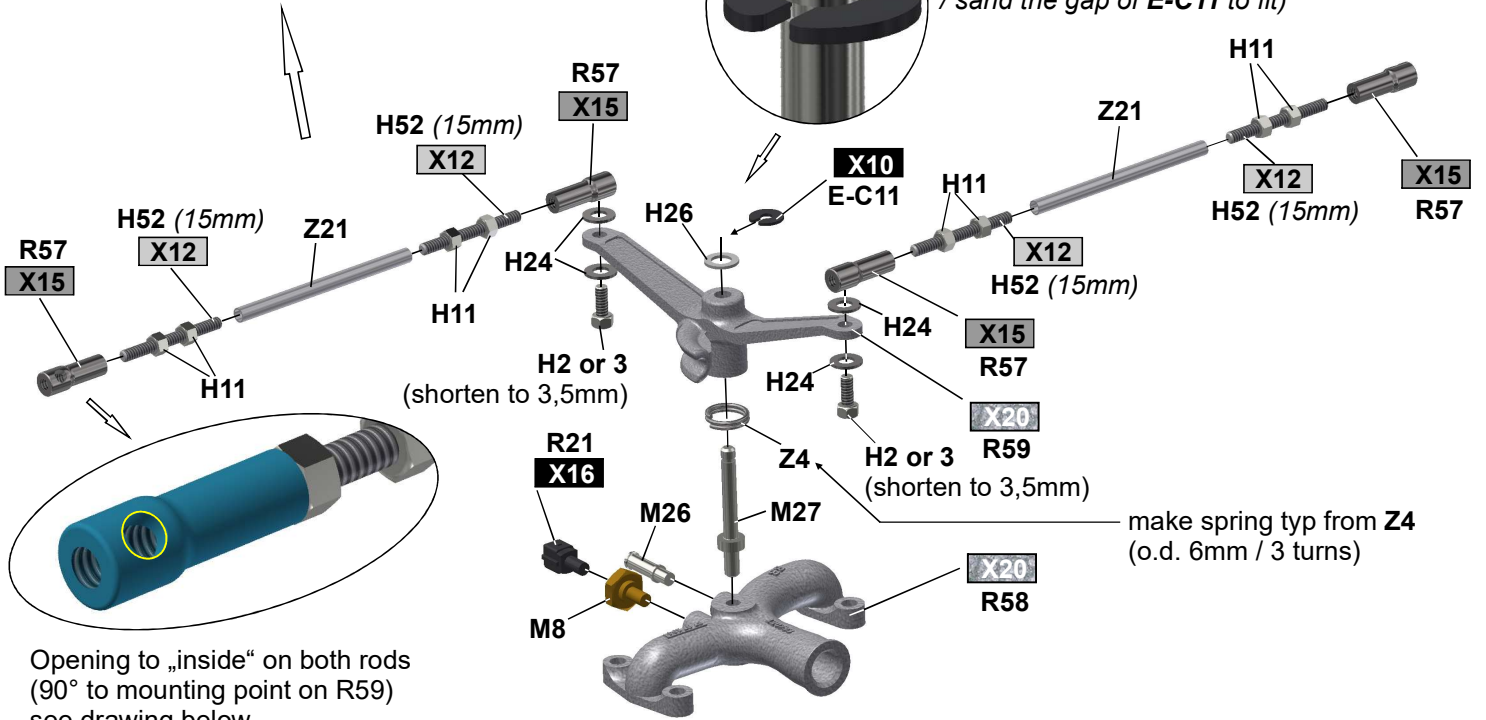
H7 are the mounting points to attach on the engine block in stage **13.3**

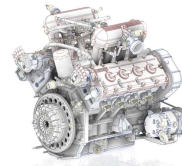


7 sub-assembly 7
throttle linkage

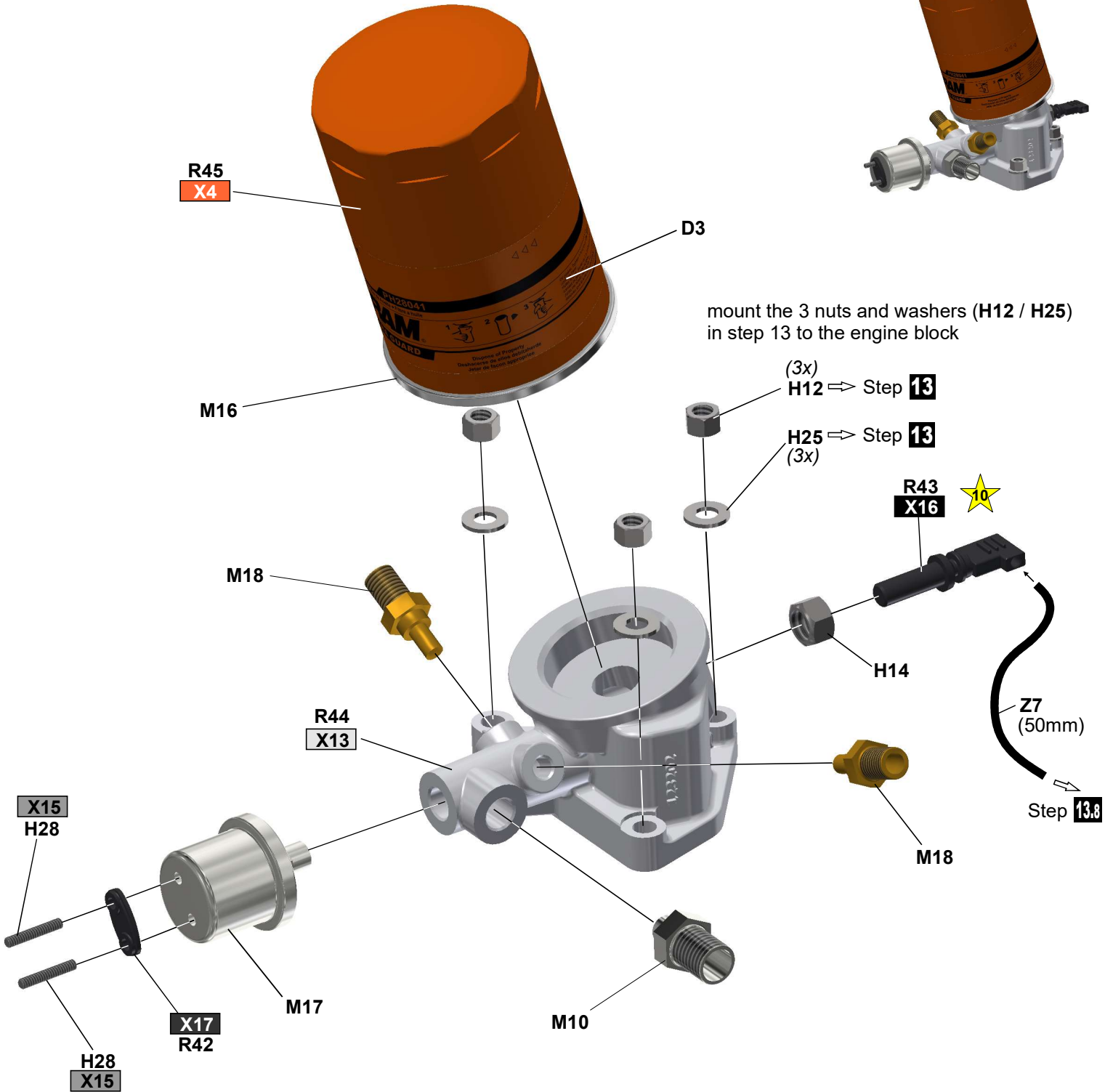


snap into groove
(if required enlarge
/ sand the gap of E-C11 to fit)

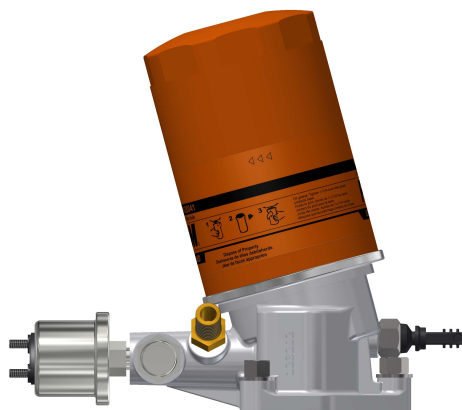




8 sub-assembly 8 oil filter



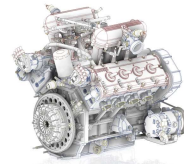
rear view



right side view

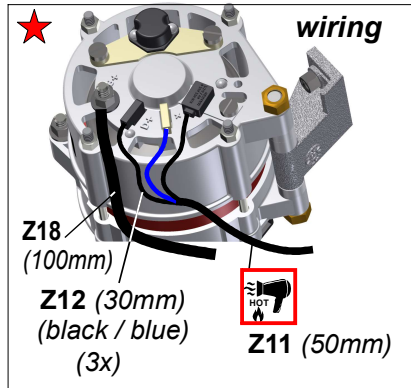
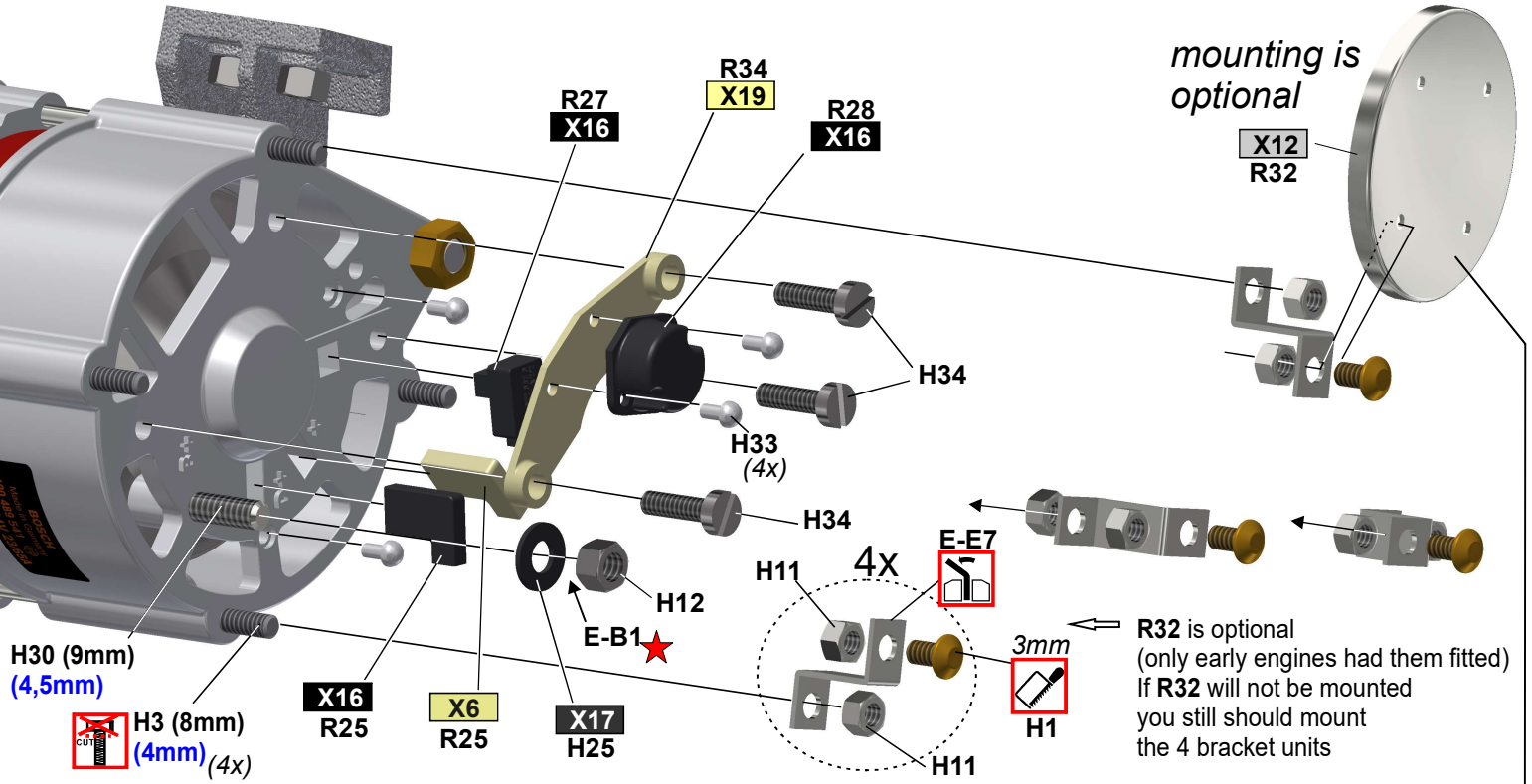


front view



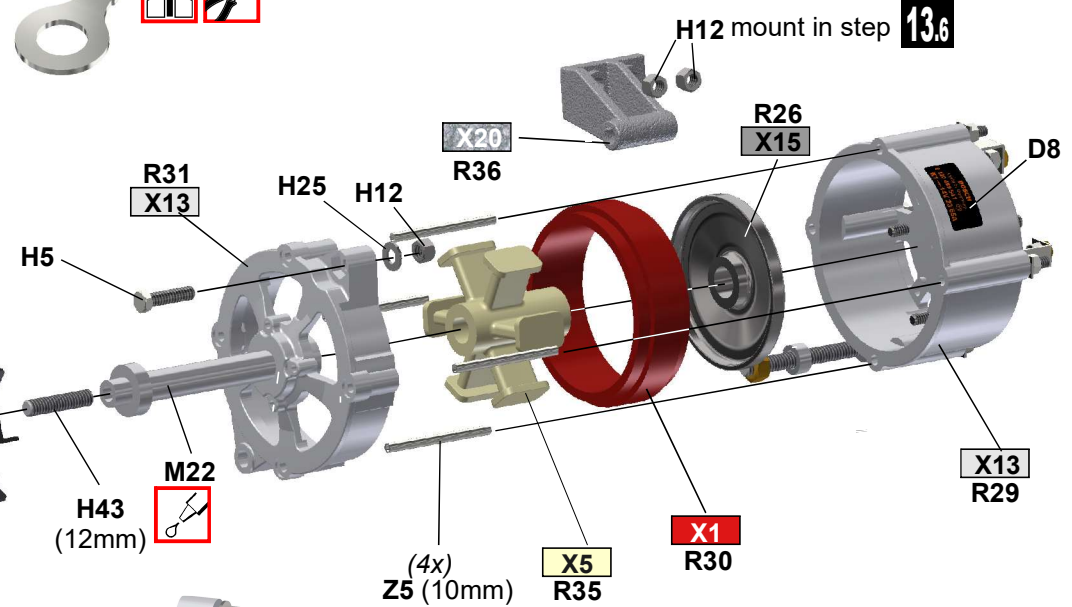
9 sub-assembly 9 alternator

mounting is optional

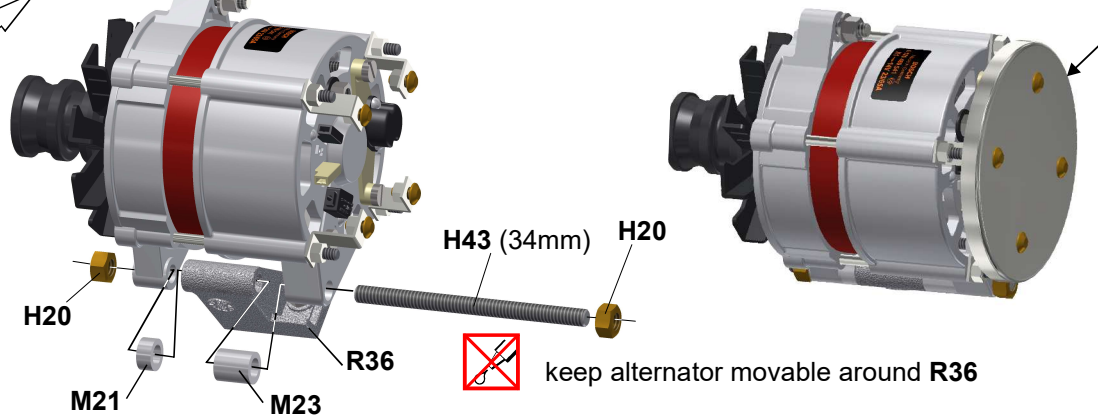
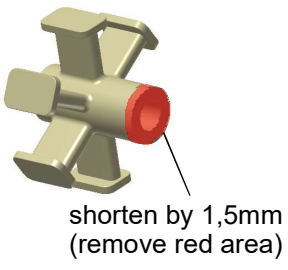


glue 3 wires Z12 in sockets. Insert one end into Z11 and heat shrink / stretch. Final routing is done in step 13.6

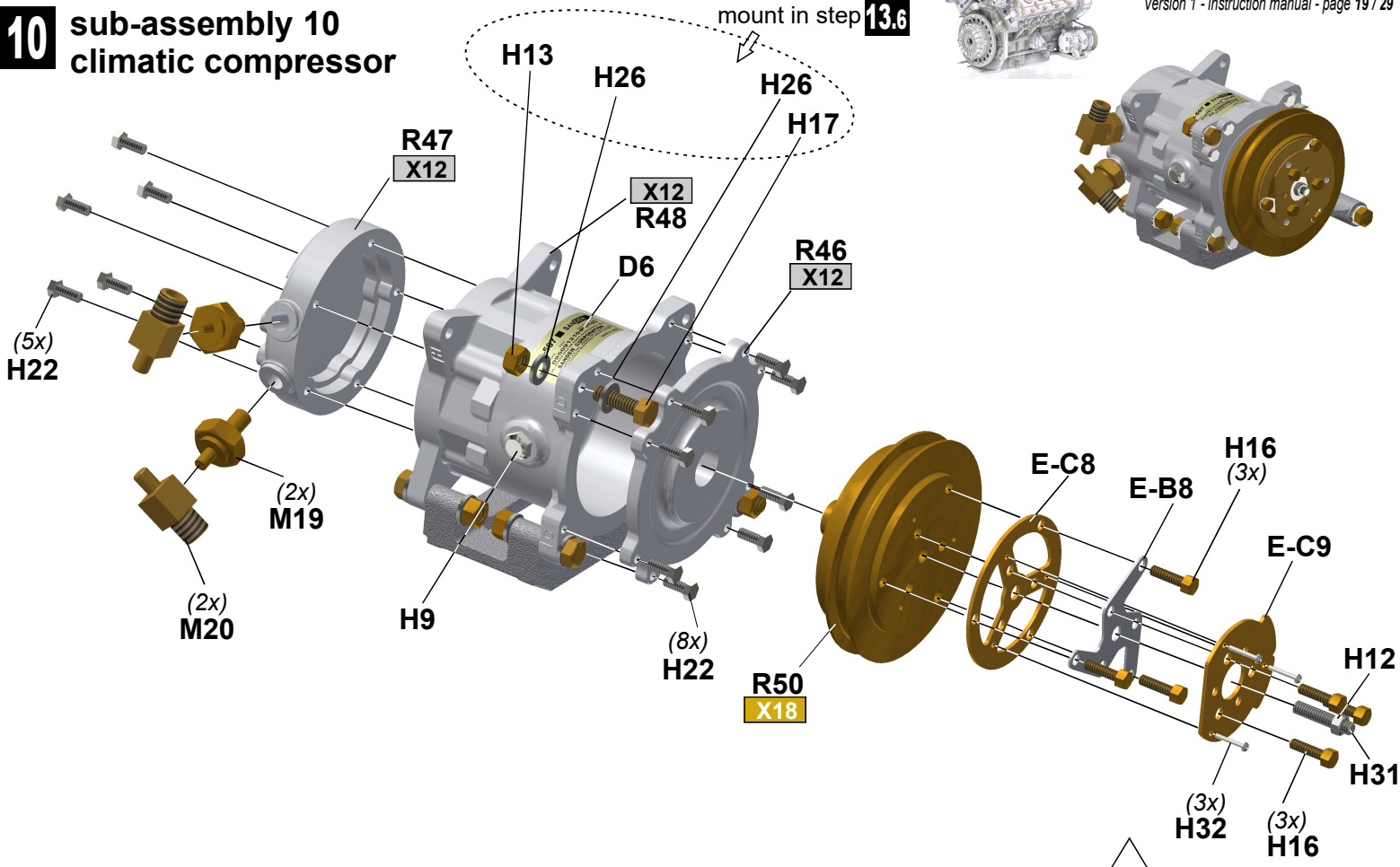
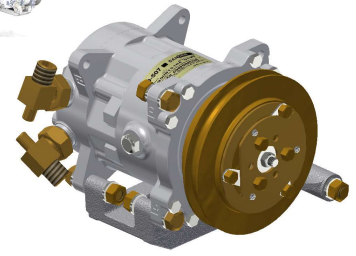
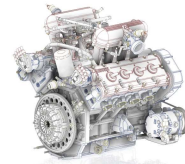
remove insulation on area where in contact with E-B1 and press etched part around Z18



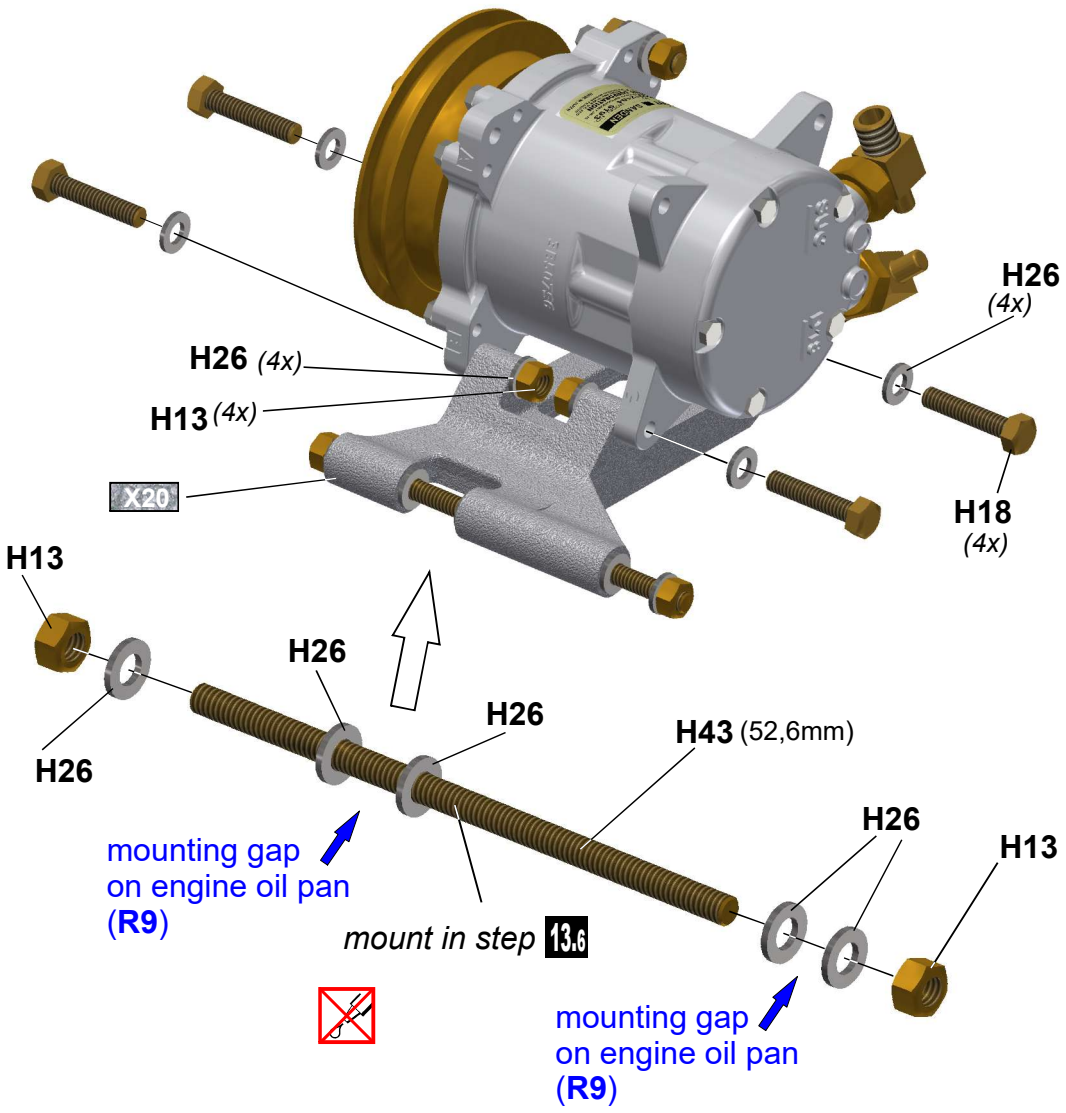
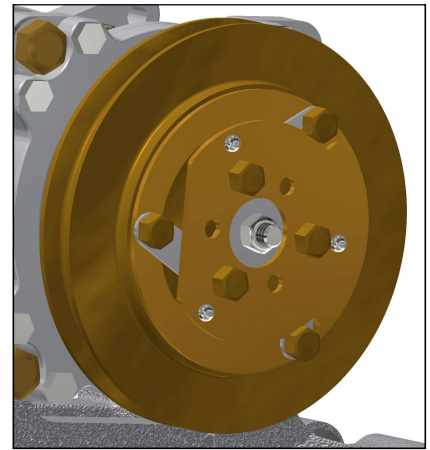
enlarge center hole of R26, R31, R35 to 4,2mm to fit M22

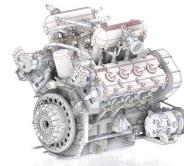


10 sub-assembly 10
climatic compressor



detail view





11 sub-assembly 11 flywheel and clutch

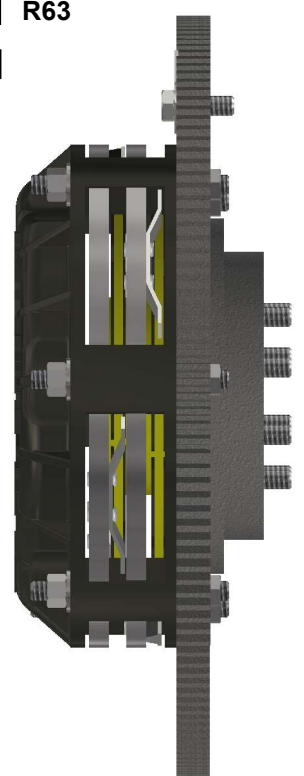
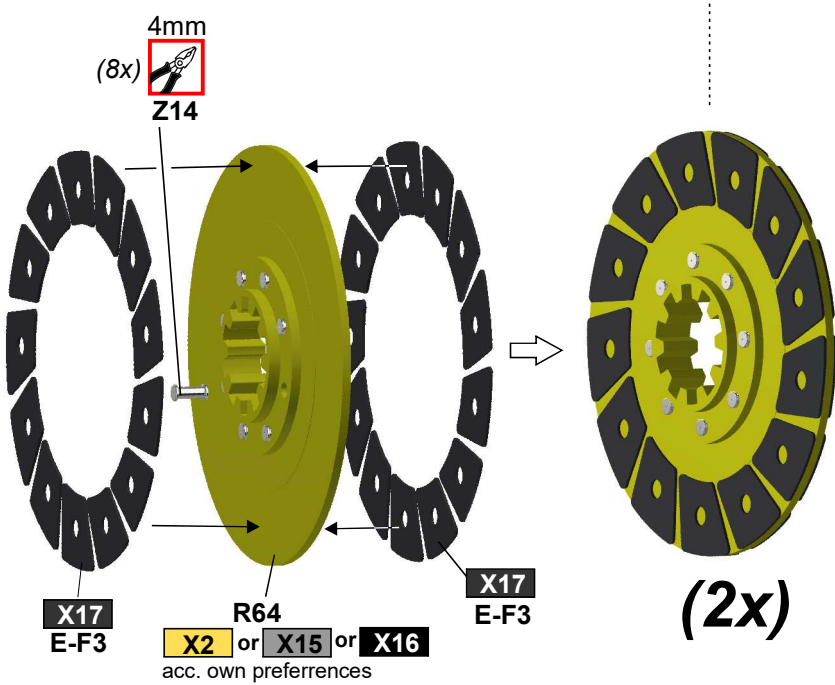
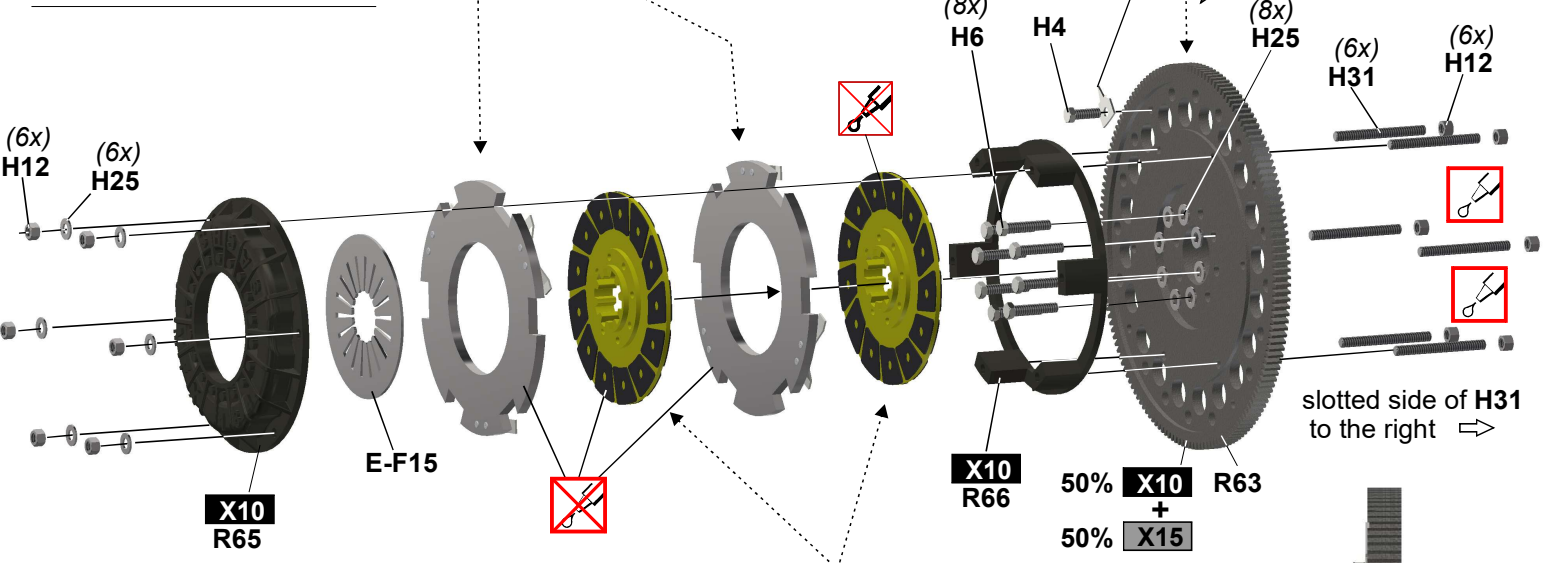
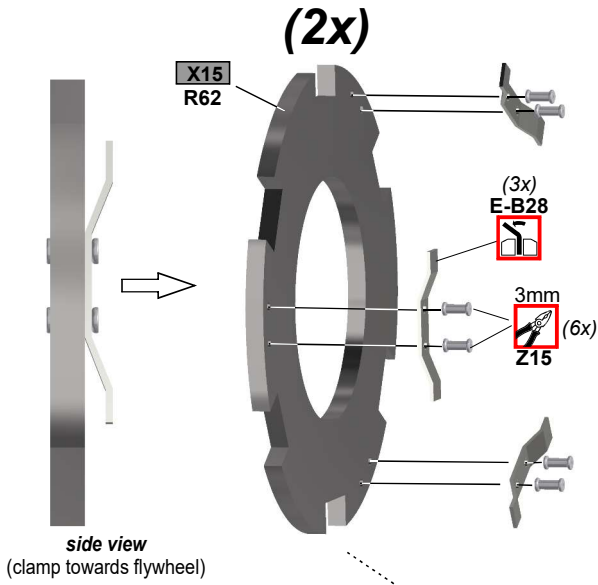


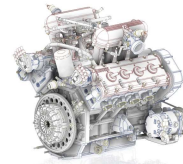
mount clutch unit in step 13.2 once flywheel is mounted on engine housing

step 1

sand down backside by 1,5mm (red marked area)

mount this to engine block first!!!

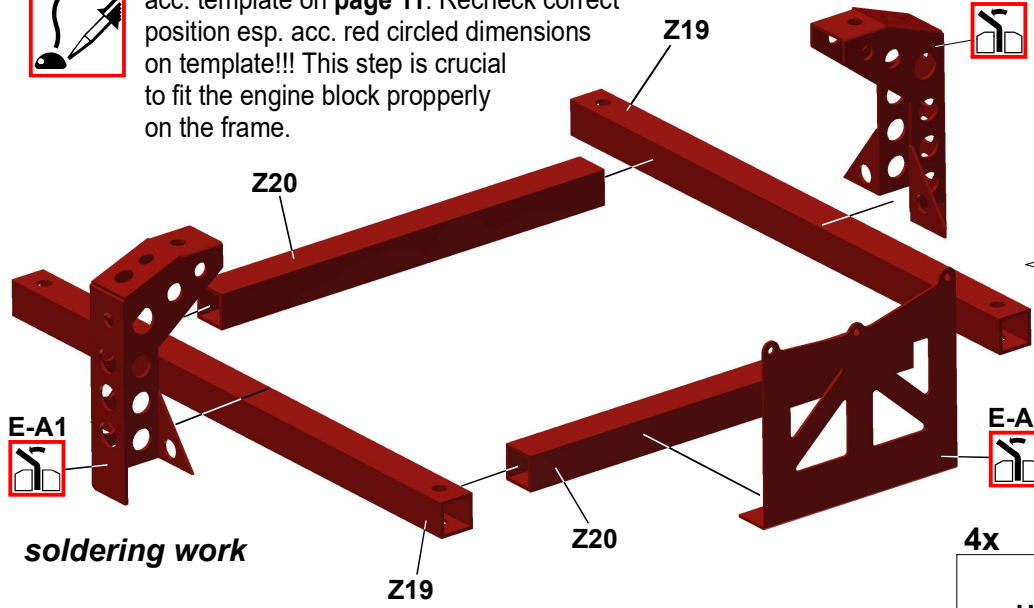




12 sub-assembly 12 engine stand



solder the frame components acc. template on **page 11**. Recheck correct position esp. acc. red circled dimensions on template!!! This step is crucial to fit the engine block properly on the frame.



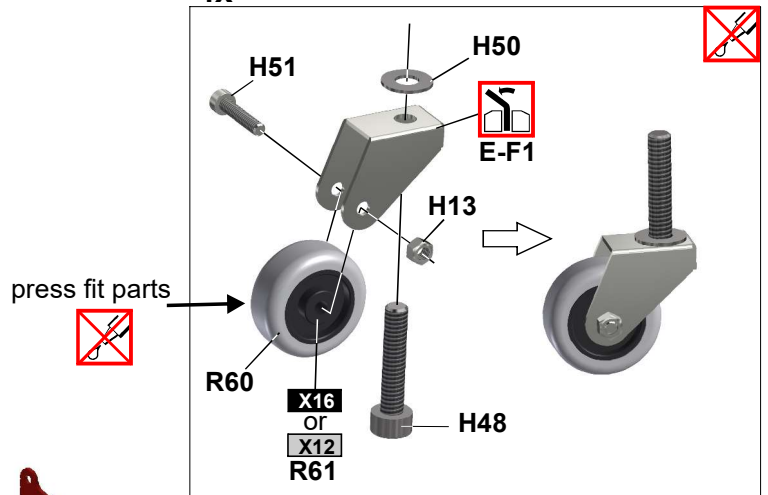
soldering work

Parts **Z19** & **Z20** are already precut to the correct length. Just clean the edges for good solder connection.

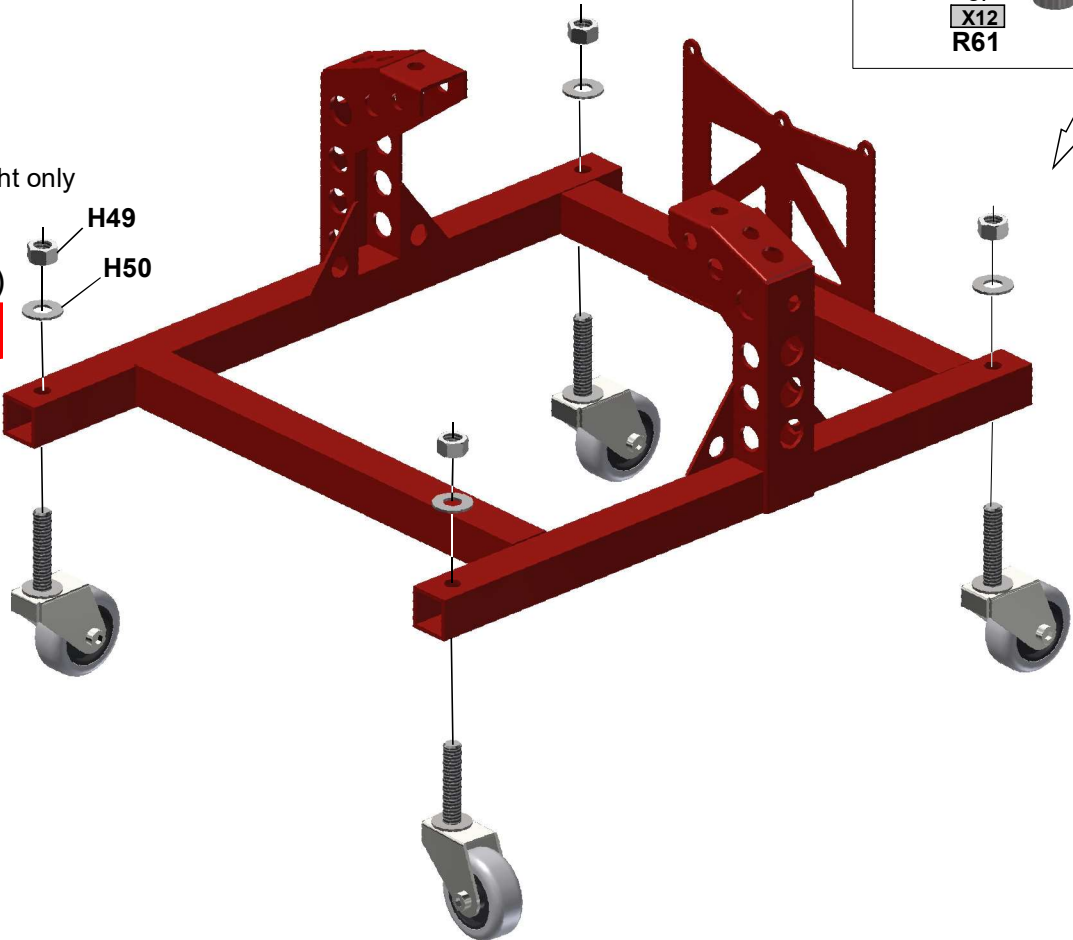


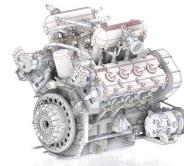
Paint the finished frame prior continuing with follow-on steps. Use decals (**D7**) and color acc. own preferences.

4x



tighten handtight only

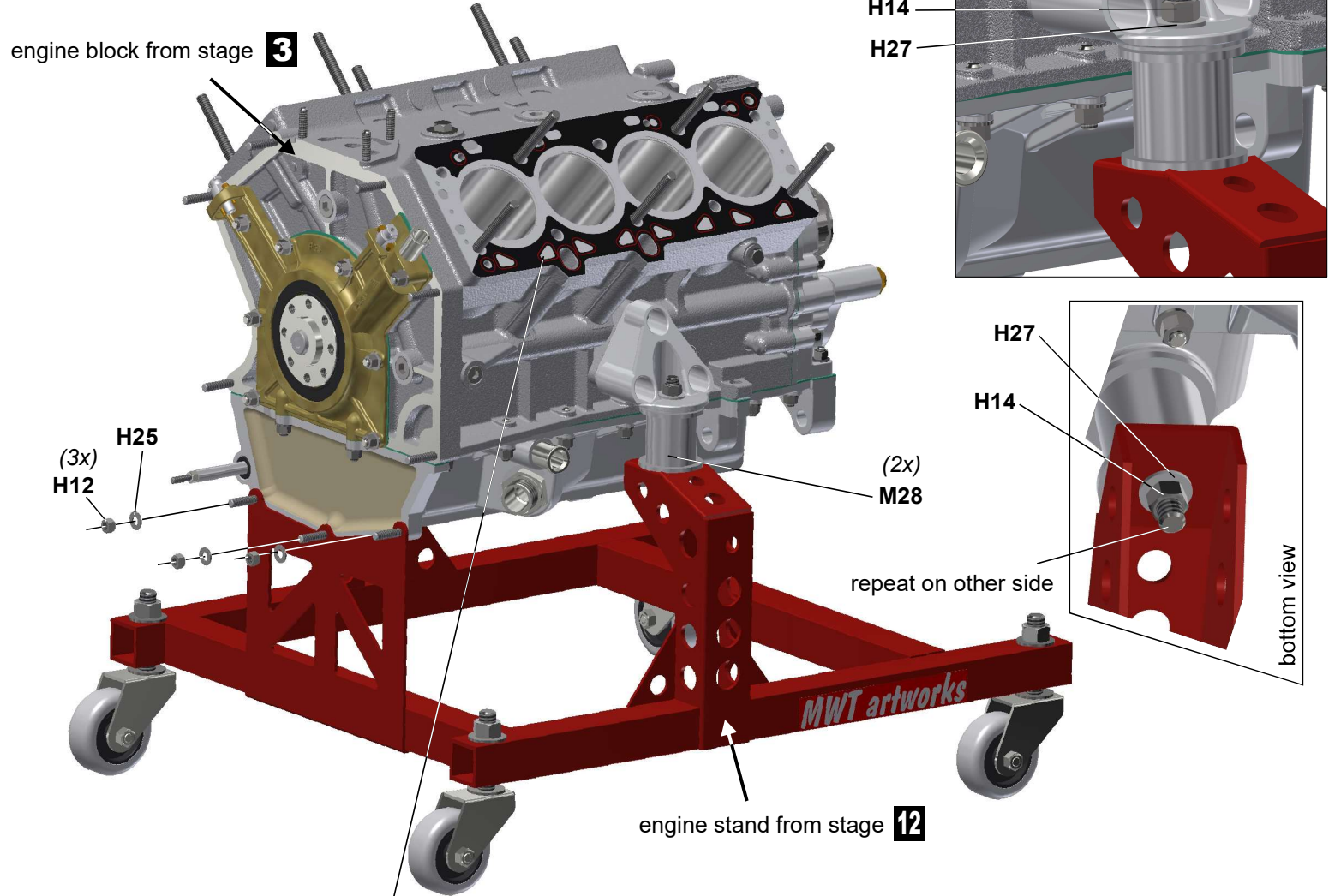




13.1 final construction

mounting engine block to stand:

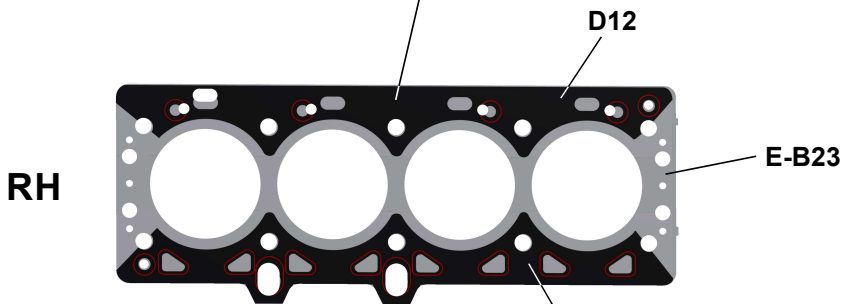
Screw the 2 main engine mounts with the spacer block **M28** to the engine stand.
Feed the engine with the 3 studs through the corresponding holes of the engine stand and secure them with nuts and washers as shown



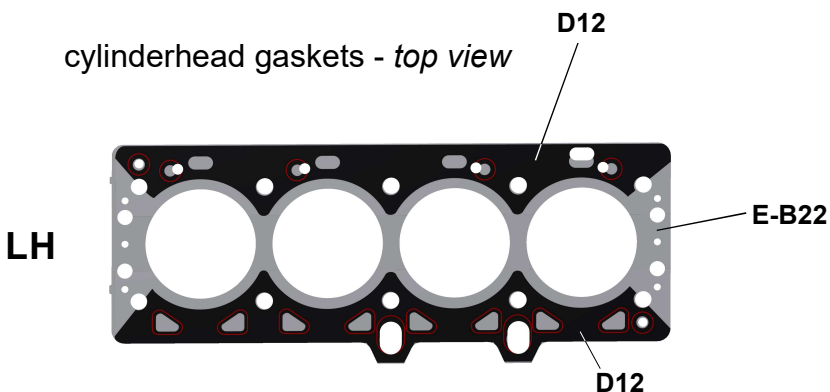
cylinderhead gaskets

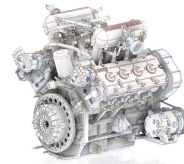
Apply decals **D12** to the corresponding position of **E-B22 / E-B23**.
Apply decals only on the top side of **D12**.
Open the clear areas of the holes with a sharp scalpel. It is recommended to cover the finished gasket with a thin layer of flat clear once dried.

When completed put the gaskets on the engine as shown above (left **LH**) and right **RH**) side.



cylinderhead gaskets - top view

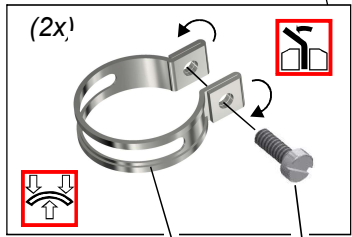
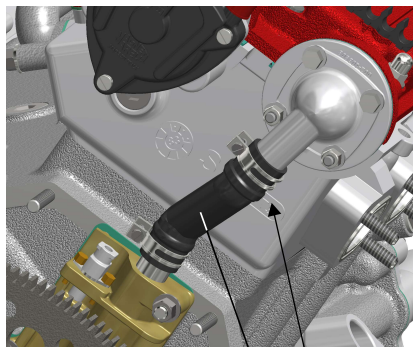
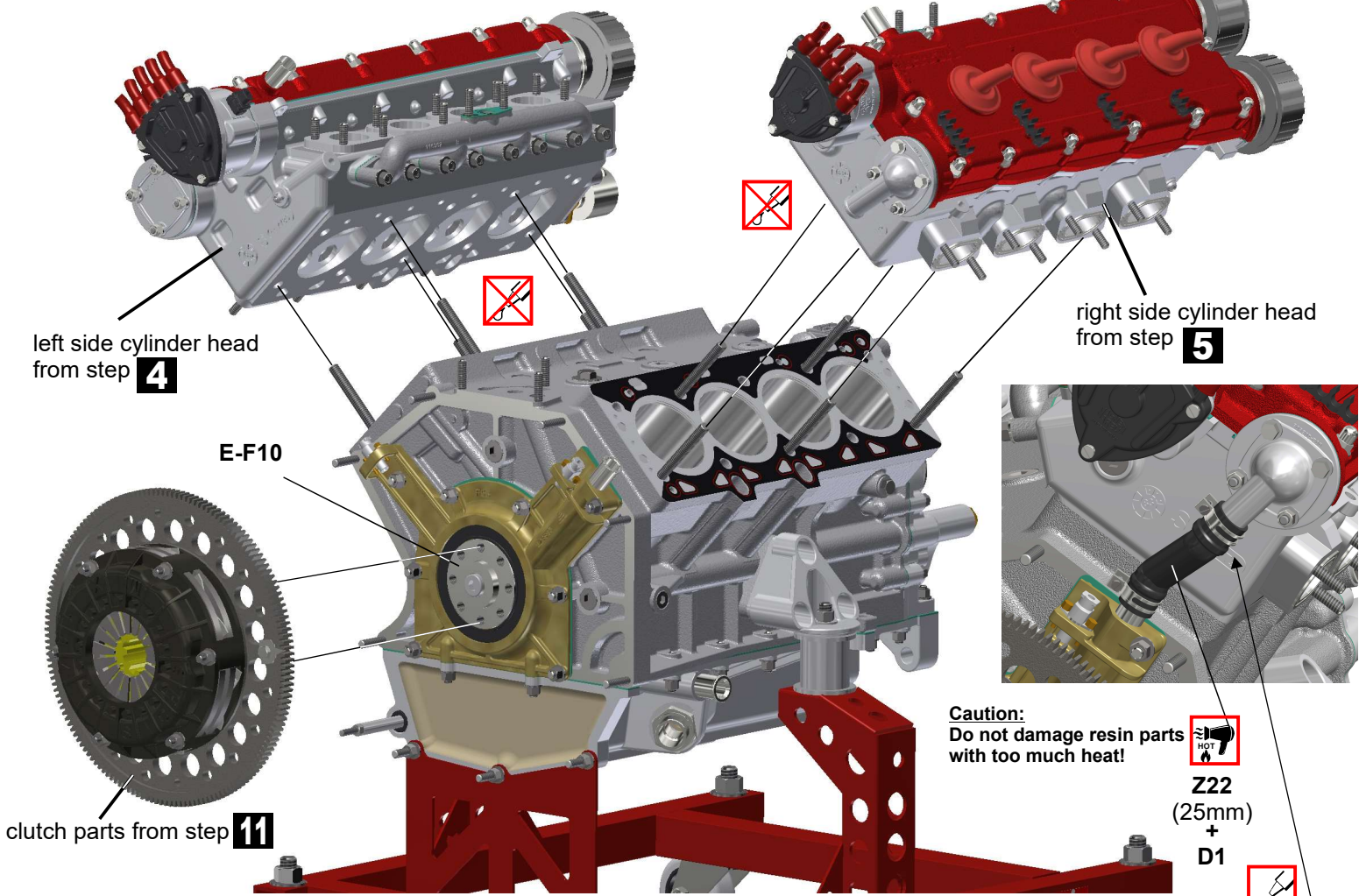




13.2 final construction

mounting of cylinderheads & clutch

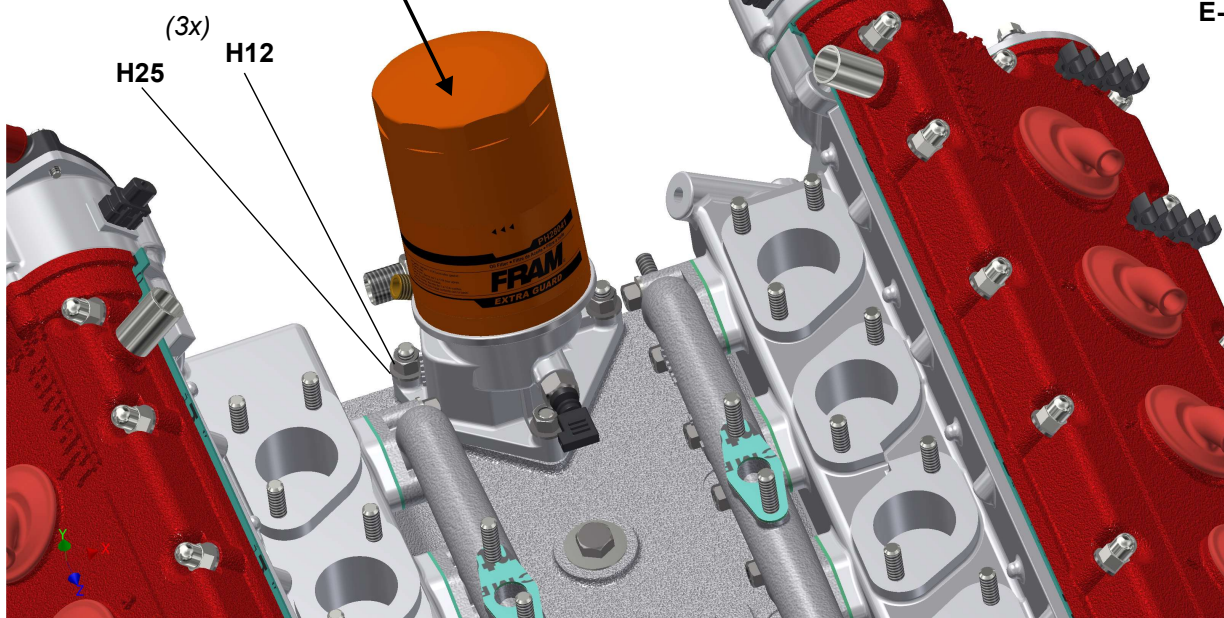
mount both cylinderheads as shown using the threaded rods on the engine block as guiding rails

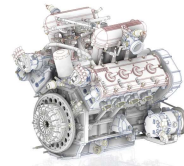


Attach the clutch according to infos during building step 11. Mount R63 & R66 acc. „step 1“ at stage **11**. Then attach all the other components of the clutch.

mounting of oilfilter unit

attach the oilfilter unit from building stage **8** as shown





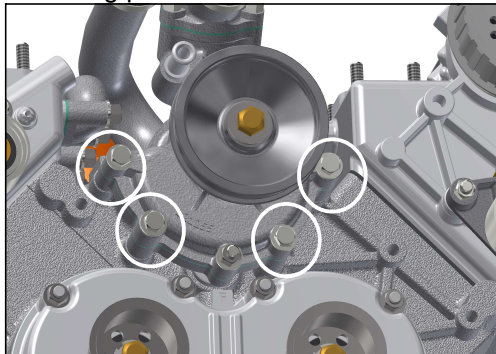
13.3 final construction

mounting of water pump and throttle unit

water pump unit from stage **6**

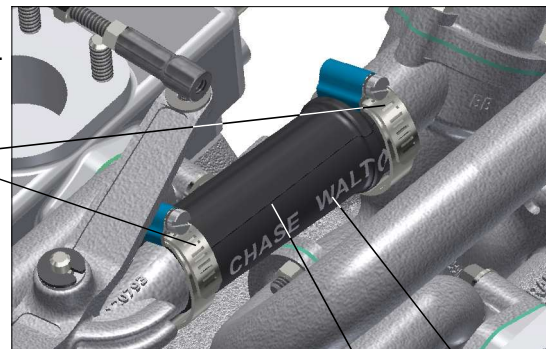


mounting points



Create hose from **Z22** using **R110** as guide. Once done add decal **D11** on both sides. (cut to size). Clearcoat (matt) once finished. Make 2 hoseclamps and slide on **Z22** before putting the hose in position.

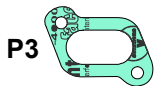
HC-1



R110

throttle unit from stage **7**

mount the throttle linkage on the 2 waterpipes on the cylinderheads using 4x **H12** and **H25**. make sure the 2 plugs on the throttle unit face towards the oil-filter



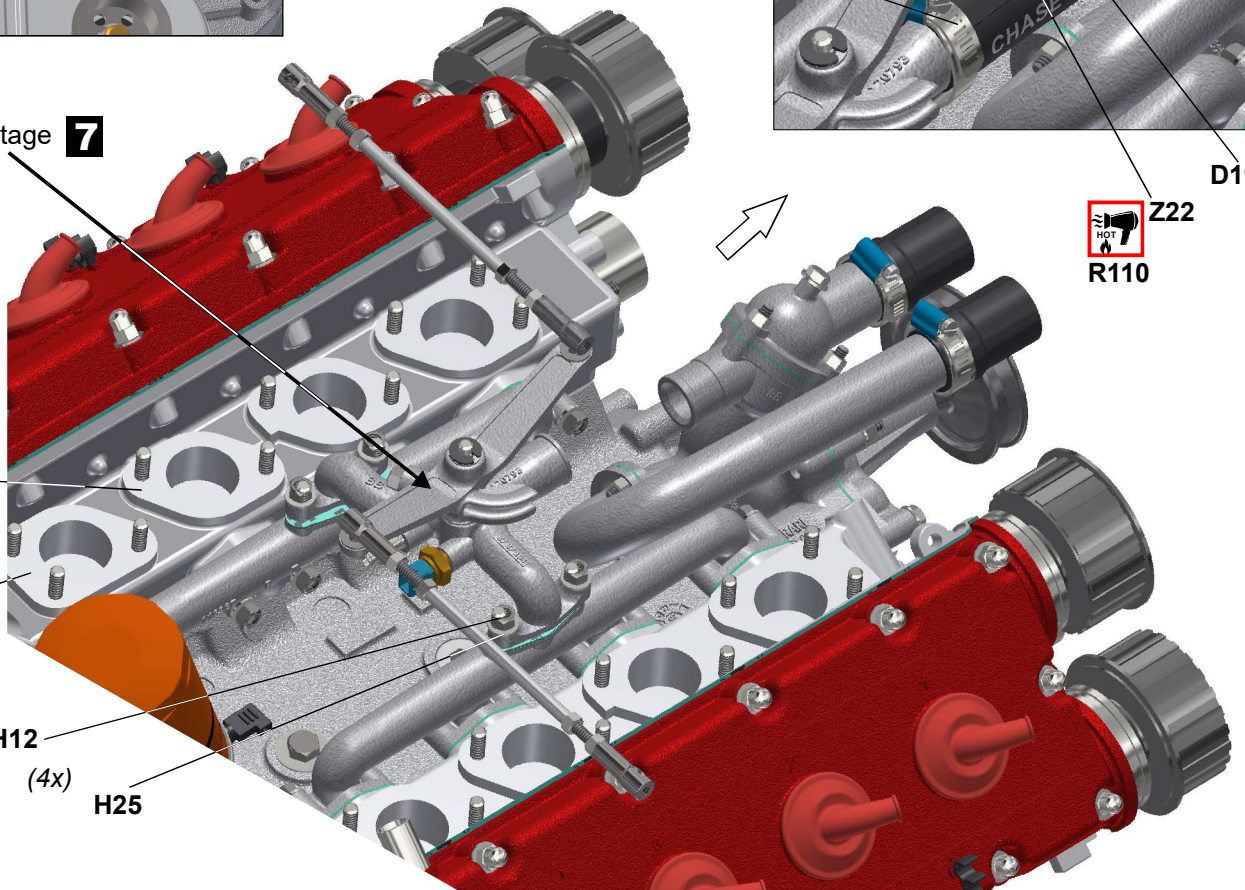
(4x)

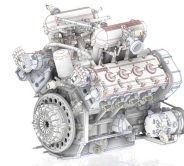


add on all 8 positions

H12
(4x)

H25





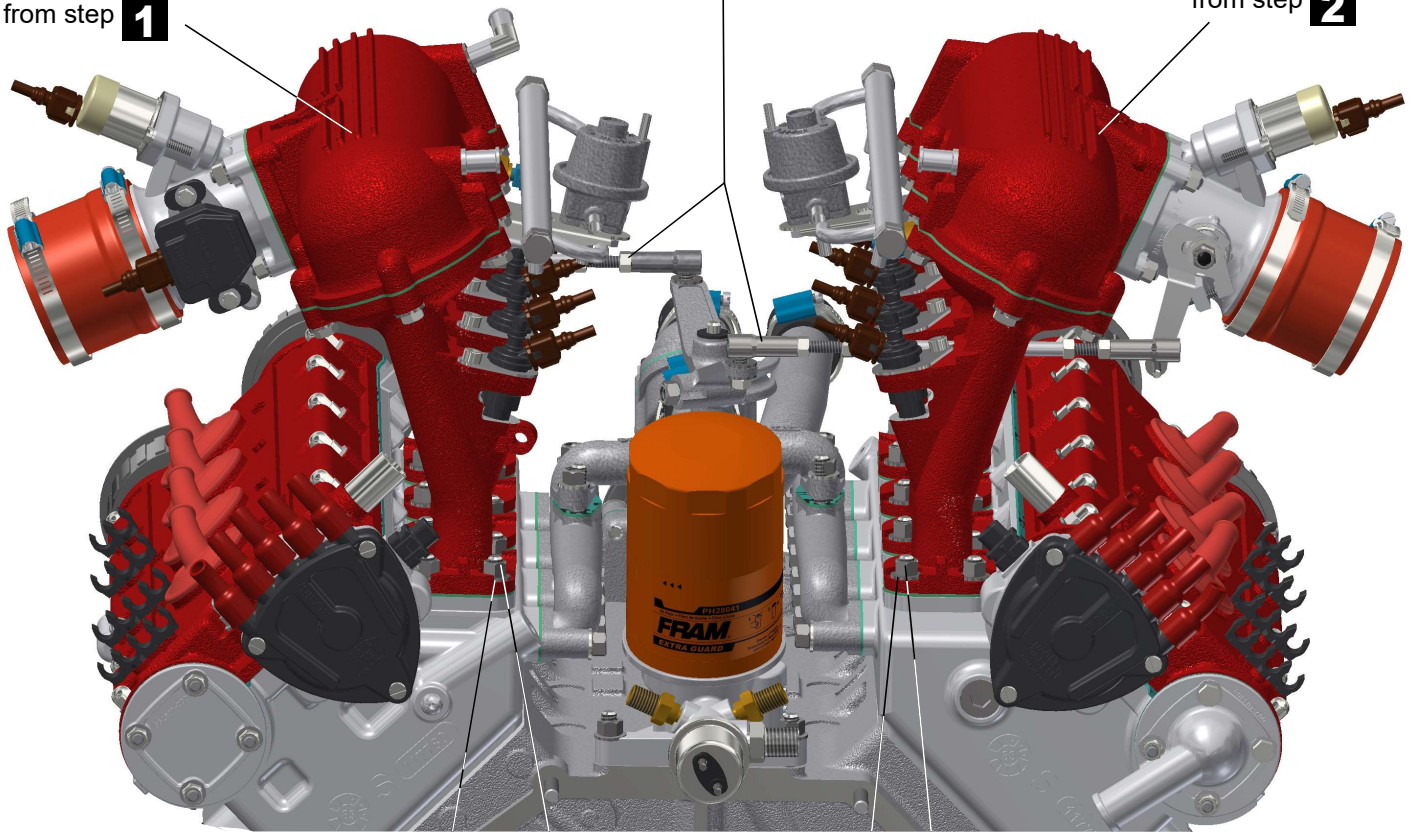
13.4 final construction

mounting of left and right intake unit

left side intake unit from step **1**

feed throttle unit rods through intake unit (90° to engine block) as shown on previous page and below.

right side intake unit from step **2**



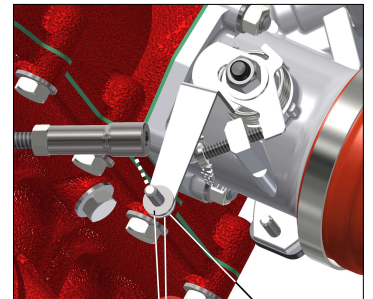
H25 H12 (10x)

H25 H12 (10x)

E-B35 (2x)

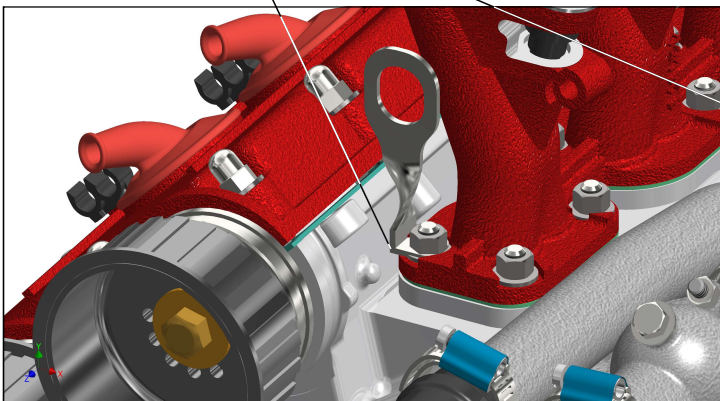


before mounting the top left and right nut & washer (H25 / H12) on the intake units insert E-B35 on the position shown.

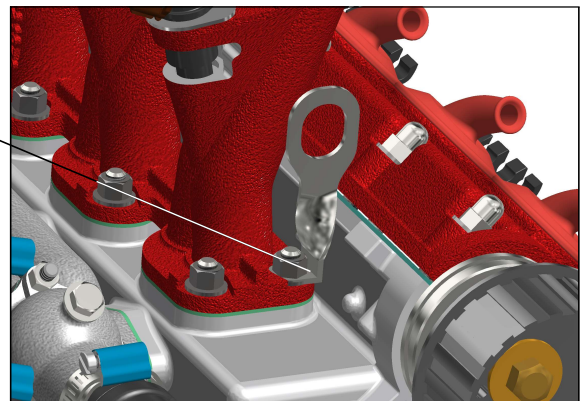


(2x) H23 H21

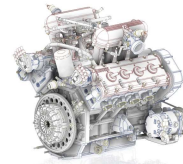
connect throttle-linkage-end to intake units on both sides. Shorten H21 to be smooth to the linkage.



right engine side viewed from front

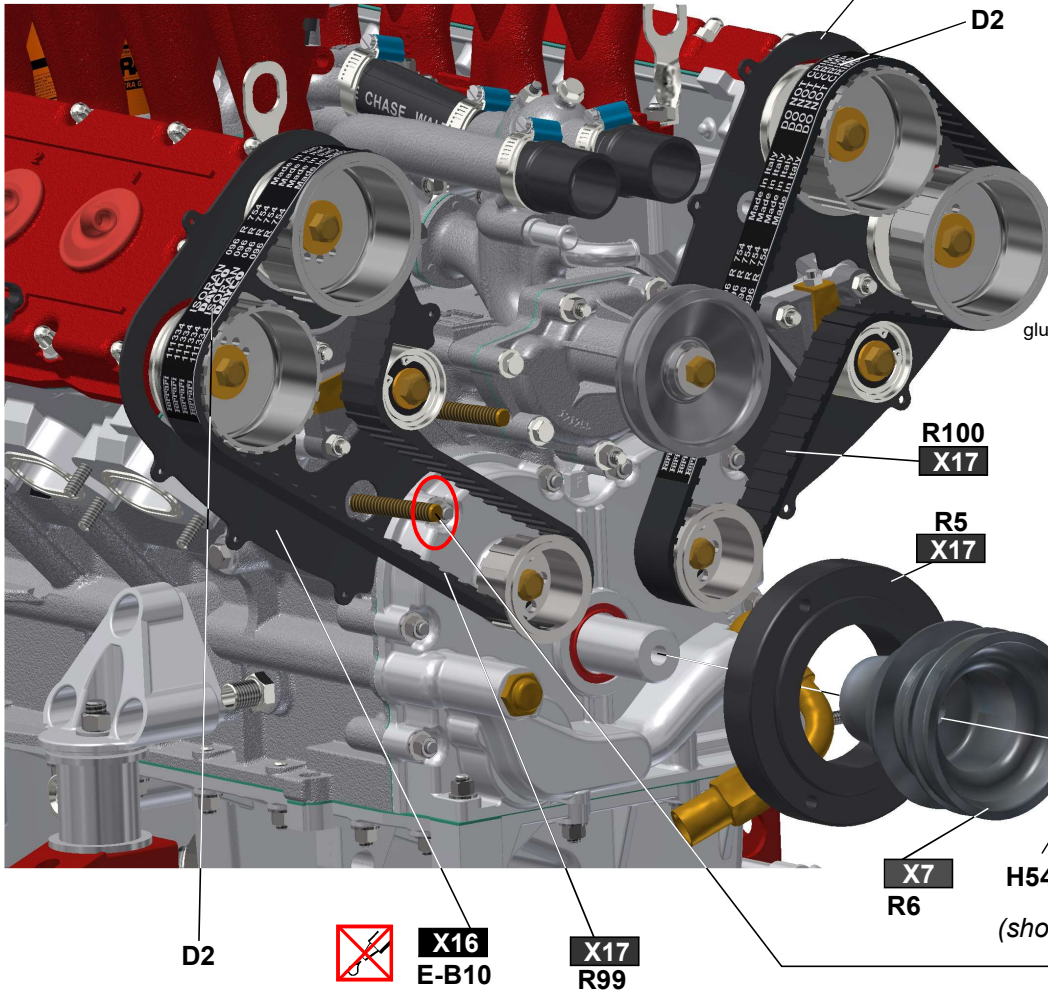


left engine side viewed from front

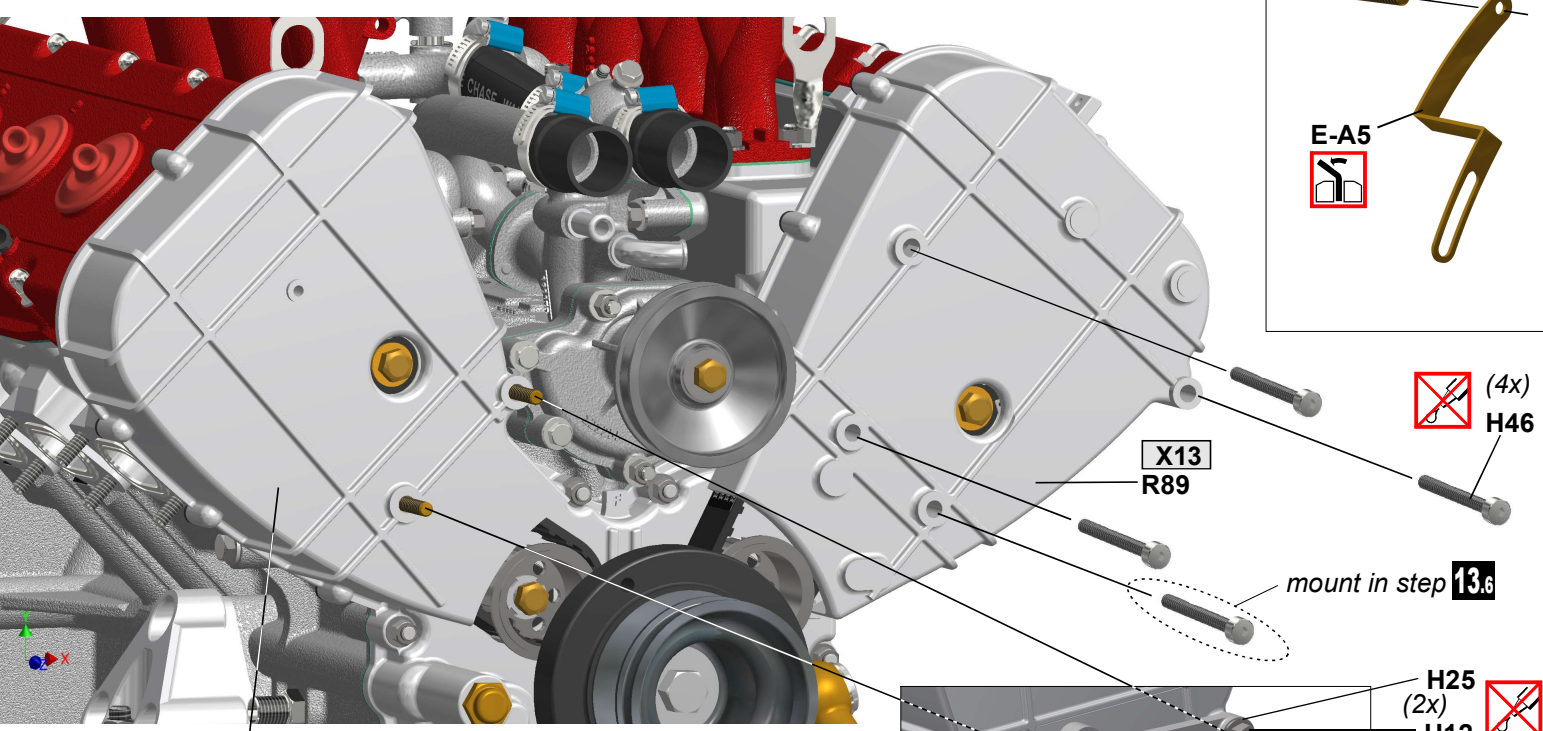
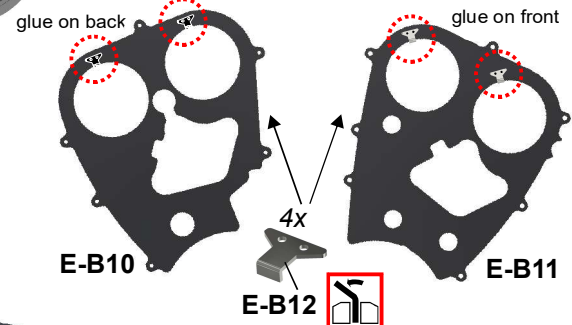


13.5 final construction

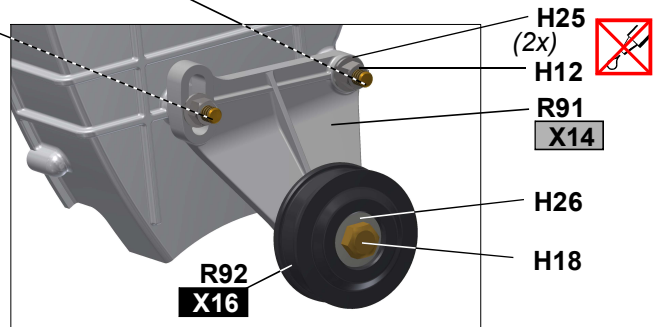
mounting of timing belts

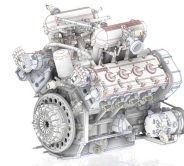


First!!! bend **E-A5** and put on stud **H47** as shown. **DO NOT GLUE!** THEN add rear covers (**E-B10 / E-B11**) and carefully insert the 2 timing belts. Do not use force to insert them. If you have difficulties to fit them, remove **R81** (stage 4/5) first and try again. Make sure the grooves sit in correct position. Once the timing belts are in position, mount pulley (**R5/R6**). The decals **D2** on **R99 / R100** should be trimmed and clear coated (matt). Position on drivebelts acc. own preferences.



To preserve the view on the timing belts you can leave the covers **R89 / R90** also off (still insert 4x **H46**). Nevertheless if you want to mount the drive belt for the waterpump you need to mount at least the right cover **R90**, or you need to leave the waterpump belt off too (mounted on **R91 / R92**). Do not glue **R89 / R90**.

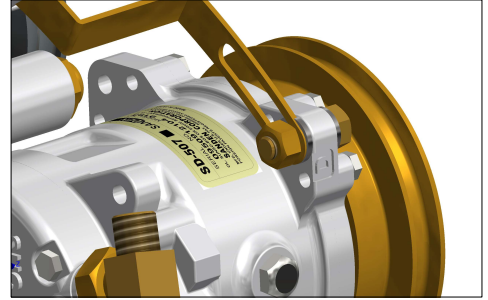




13.6 final construction

mounting of climate compressor and alternator

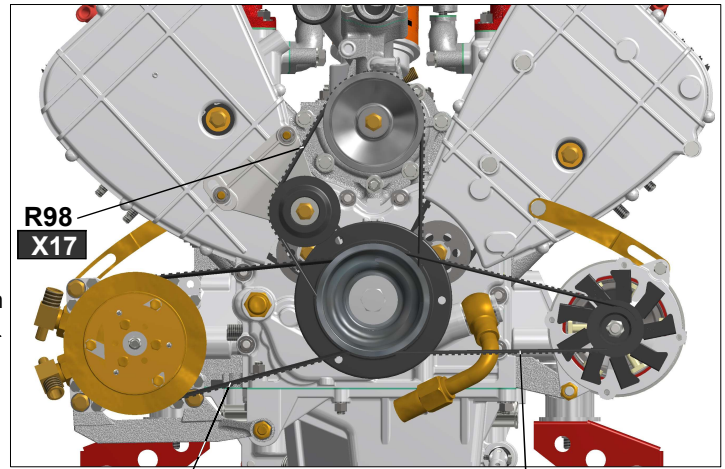
upper mounting point climate compressor



mount the climate compressor as shown and as labeled during building stage **10**. Make sure to put a washer on each side of the mounting brackets for the lower mounting points.

climate compressor unit from step **10**


mounting the drive belts

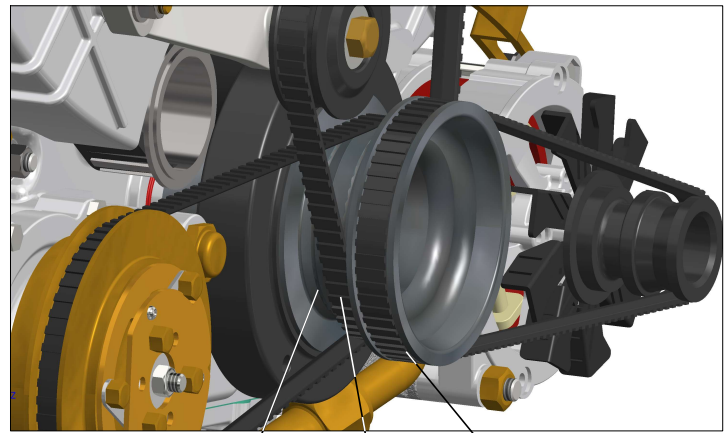


R98
X17

X17 R97

R96 X17

Carefully mount the 3 drive belts in shown sequence. Once set in grooved position adjust the mounting brackets **E-A3 / E-A5 / R91** to fit properly if required.  Do not use force!!!




inner groove
R97
(install first)

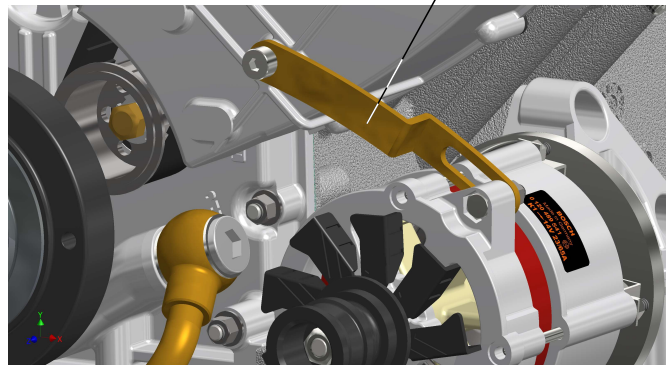
middle groove
R98
(install second)

outer groove
R96
(install last)

alternator from step **9**

upper mounting point alternator

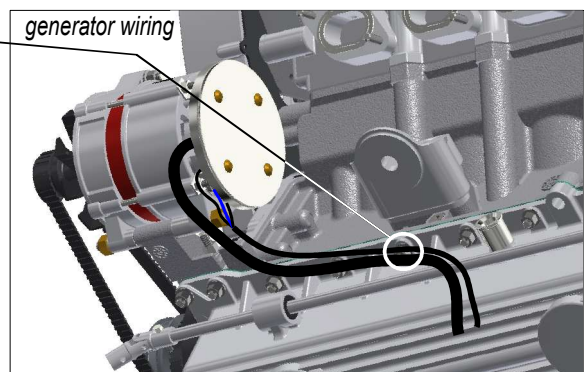
E-A3 

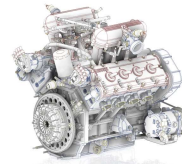


E-B26

route all wires through **E-B26**. Mount **E-B26** at shown position using the nut **H12**. Let the wires hang loose

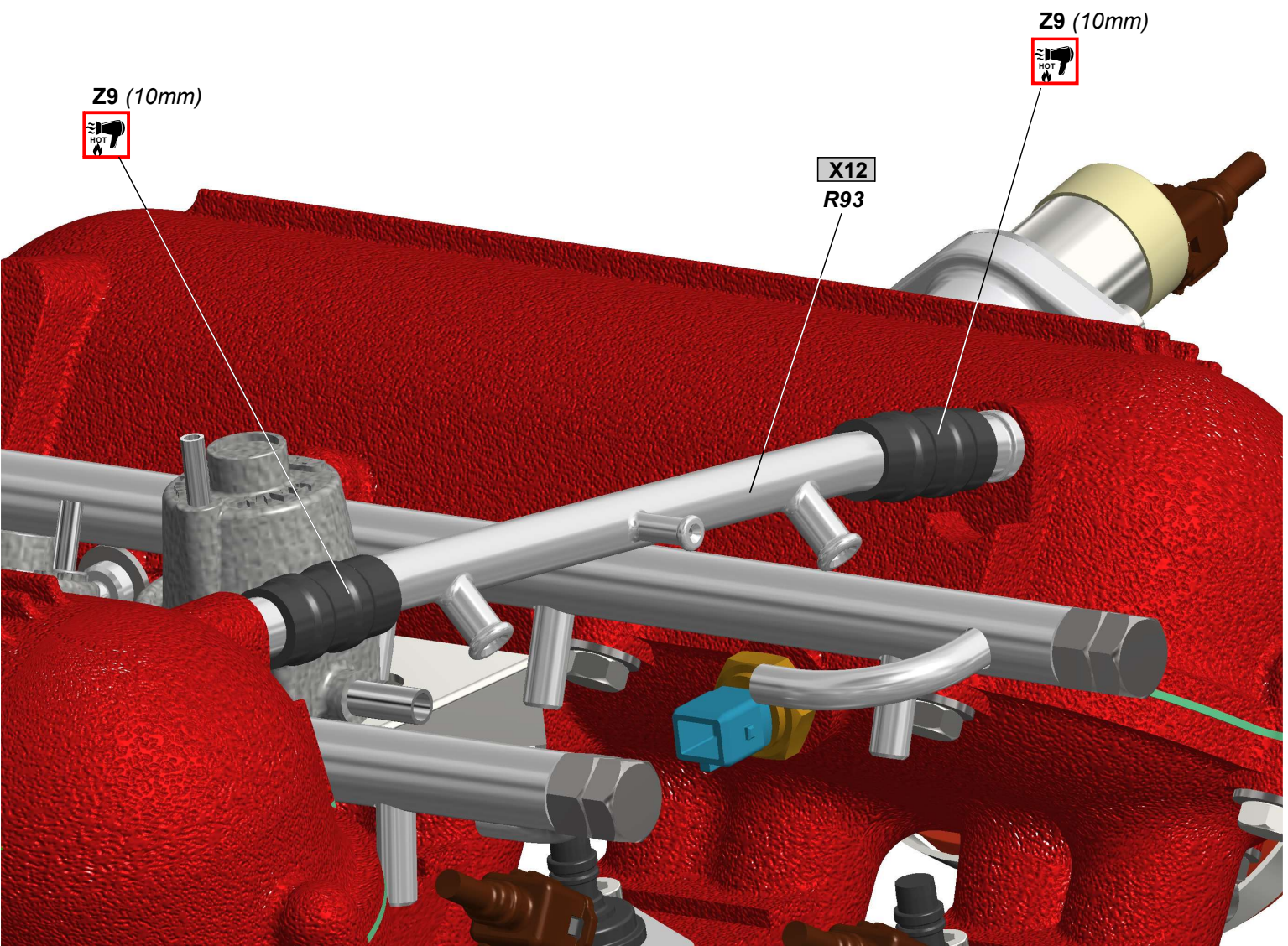
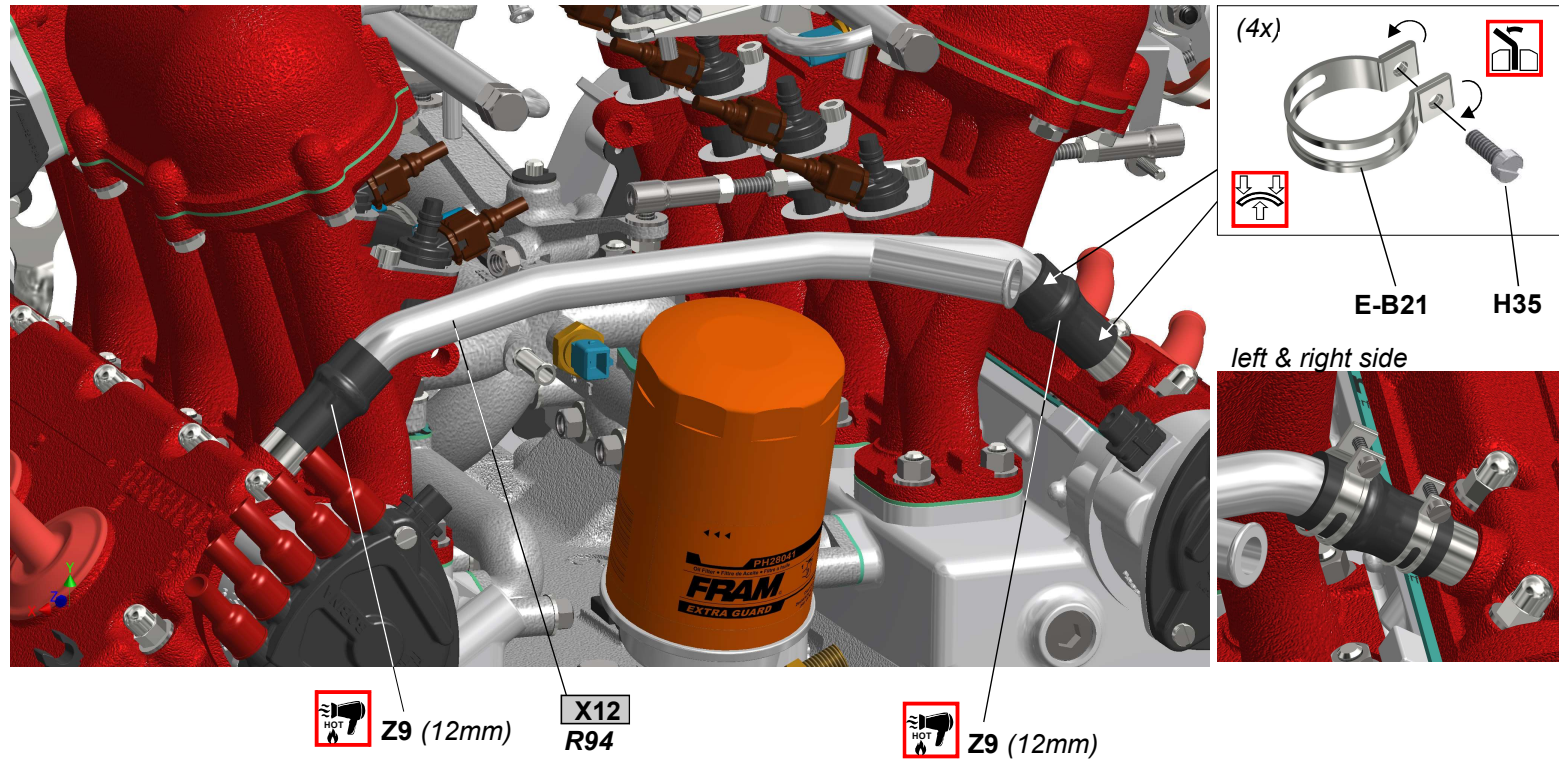
generator wiring

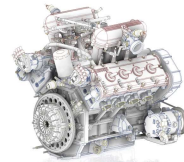




13.7 final construction

mounting of hoses and tubes



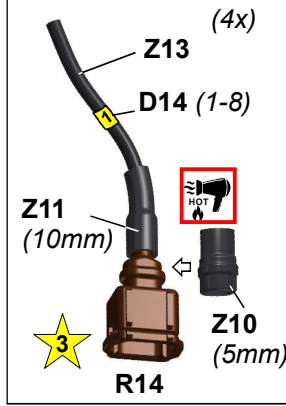
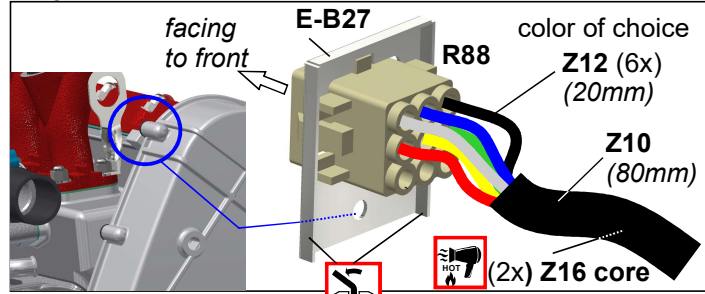


13.8 cont. final construction - main wiring loom

left side

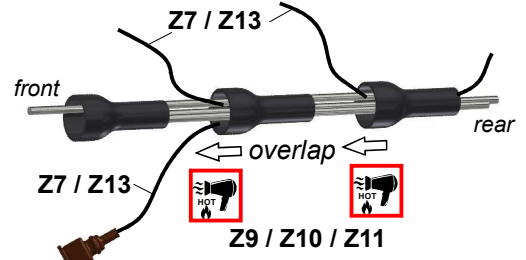
decals D14 numbers acc. labels on ignition wires (see 4.2 and 5.2)

diagnosis socket

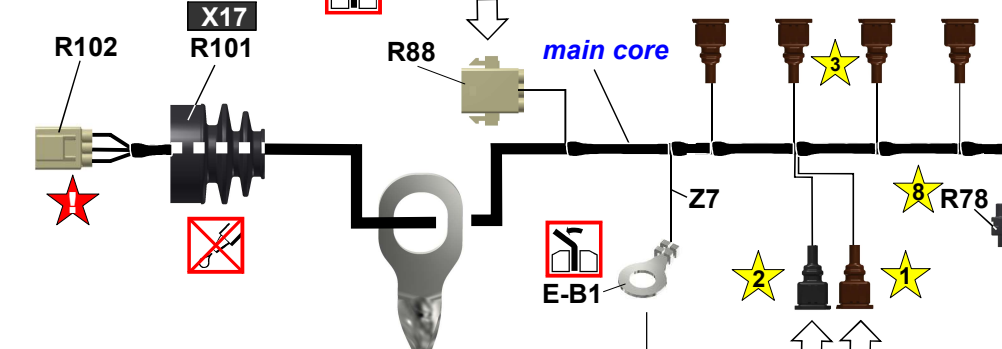


main core schematic

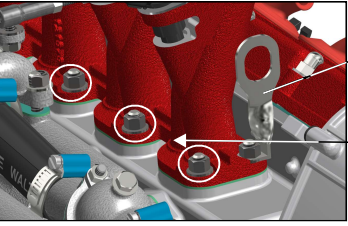
for the main core use Z16 as inner core and slide in segments of Z9, Z10 or Z11 as appropriate for outer layer on top. Insert the shown socket wires in the gaps before heat shrink into place.



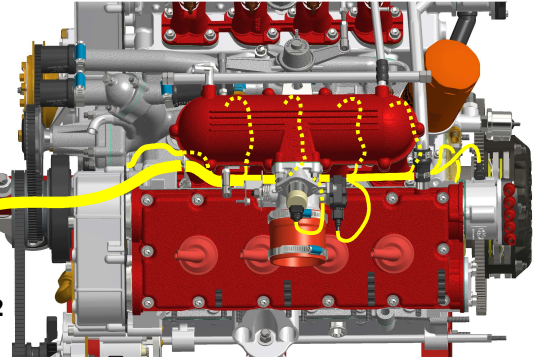
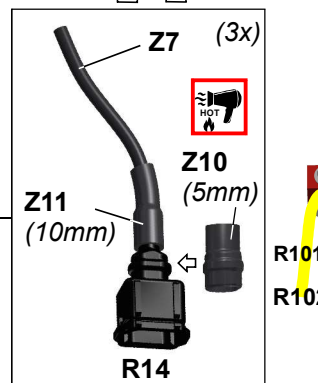
max main core diameter should not exceed 4,5mm. Loom should be thicker towards front. Achieve with more (longer) Z16 segments



left side main wiring loom routing

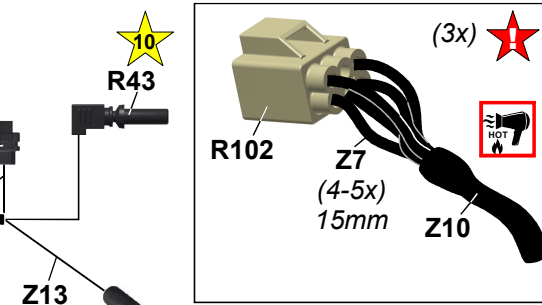
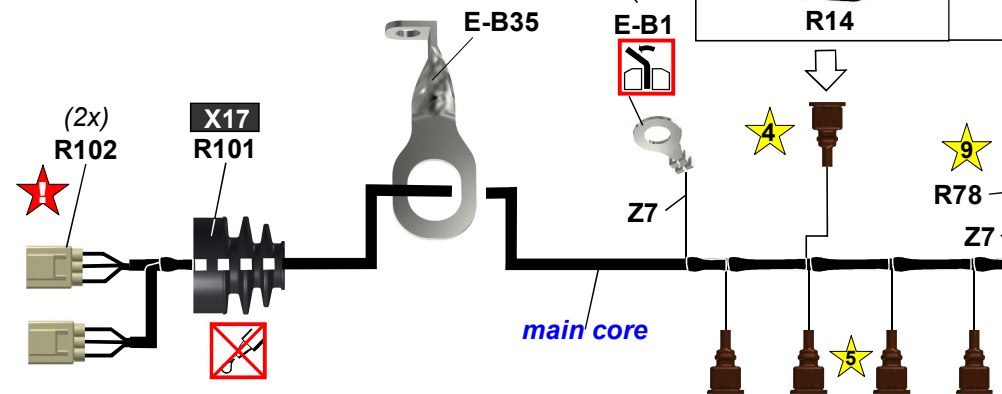


connect to one of the 3 mounting points (left intake)

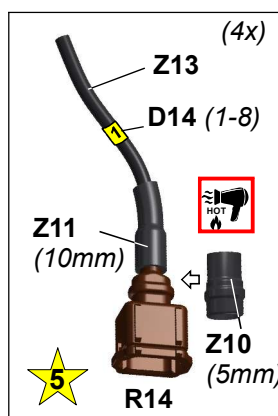
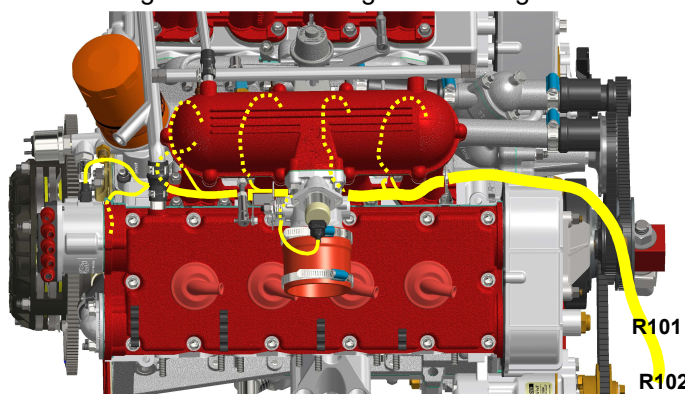


right side

(analogously) connect to one of the 3 mounting points (right intake)



right side main wiring loom routing



make the wiring looms while measuring on the model the needed length of each wire. Start on front and work slowly to the rear. Insert R101 and sockets R102 after the main core is routed through E-B35. Let the wire with R101 and R102 hang loose in front of the timing belt covers (about 70mm).