

EMMA Installation Judgetrainingbook 2016

This book is build as modular as the rulebook. Make sure you use the right chapter

- how to use the rules
- how to score

EMMA Installation Judge Book

made by
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Rene Krosse
Jan Schleicher

General Remark

Definition of head unit:

In case a portable media device is used, and as long as this portable device must be used to operate the system, the installation rules for front end are applicable.

Hint for the competitor:

If the portable device is controlled via the front end, it is considered as storage only. The installation rules for front end are not applicable.

See also 9.10, page 46 of actual rulebook, last paragraph

General Remark

Usage of Fusetable:

The fuse can be always smaller than the indicated value! But a higher value will result in a deduction of points

Extrapolation of fuse-rate:

If any competitor uses wires of bigger surface (mm²) then listed, the fuse rate can be calculated / extrapolated as following:

double surface = double fuse rate

Is the fuse value appropriate to the wire size?	<p>Check, if any fuse belonging to the audio system is of appropriate size for the wire it is protecting (according to the VW75212 - Dimensionierung von Leitungen und Sicherungen im Kraftfahrzeug):</p> <table><tr><td>0,5mm²</td><td>-</td><td>10 Ampere</td></tr><tr><td>1,0mm²</td><td>-</td><td>15 Ampere</td></tr><tr><td>1,5mm²</td><td>-</td><td>20 Ampere</td></tr><tr><td>2,5mm²</td><td>-</td><td>20 Ampere</td></tr><tr><td>4,0mm²</td><td>-</td><td>30 Ampere</td></tr><tr><td>6,0mm²</td><td>-</td><td>50 Ampere</td></tr><tr><td>10mm²</td><td>-</td><td>60 Ampere</td></tr><tr><td>16mm²</td><td>-</td><td>100 Ampere</td></tr><tr><td>25mm²</td><td>-</td><td>125 Ampere</td></tr><tr><td>35mm²</td><td>-</td><td>175 Ampere</td></tr><tr><td>50mm²</td><td>-</td><td>250 Ampere</td></tr><tr><td>70mm²</td><td>-</td><td>300 Ampere</td></tr></table> <p>as above, all these fuses must be visible within three minutes (for all in total, not three minutes for every fuse!!!)</p> <p>(if n/a, wrong size or not visible, deduct 2 points per not appropriate fuse, minimum 0)</p>	0,5mm ²	-	10 Ampere	1,0mm ²	-	15 Ampere	1,5mm ²	-	20 Ampere	2,5mm ²	-	20 Ampere	4,0mm ²	-	30 Ampere	6,0mm ²	-	50 Ampere	10mm ²	-	60 Ampere	16mm ²	-	100 Ampere	25mm ²	-	125 Ampere	35mm ²	-	175 Ampere	50mm ²	-	250 Ampere	70mm ²	-	300 Ampere
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Installation Matrix

Matrix Installation						
	E	S	M	X	X Unl	
Max. points	55	105	135	210	310	
Presentation to the public	10	10	10	10	10	
Cleanliness	6	6	6	6	6	
Main Fuse present y/n	10	10	10	10	10	
All components securely mounted	24	24	24	24	24	
All components fused		15	15	15	15	
Fuse of appropriate value		20	20	20	20	
First Optic impression		10				
Protection of speakers	5	5	5	5		
Interior wires invisible		5	5	5	5	
System documentation			10	10	10	
Wires properly terminated			5	5	5	
Wire terminations protected			10	10	10	
Wires protected from damage			5	5	5	
Craftsmanship			10	50	50	
Presentation of system to the judges				10	10	
Design of interior				5	10	
Design of trunk				5	10	
Overall design of vehicle					10	
Bonus points				15	100	

3.1. Installation rules for: SQ E - Category / ESPL E-Category / ESQ L-M-Category

Presentation to the public

Show off the vehicle & installation to the public during the event time

Allow spectators to listen to the system

Exception: at the event active judges / back office staff's cars can remain closed due to safety reason

Will be checked several times a day

An EMMA Sound Off is a car show, nothing is more boring than a hall full of locked Cars. Its up to the competitor how he presents his car to the public. Watch out judges might not be able to follow this in case they compete themselves. Adapte your judging style to the event and circustances.



3.1. Installation rules for: SQ E - Category / ESPL E-Category / ESQ-L-M-Category

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An EMMA Sound Off is a car show, not a cleaning competition. Check the weather conditions and judging order for your scoring.

3.1. Installation rules for: SQ E - Category / ESPL E-Category / ESQ L-M-Category

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Check, if a main fuse is installed into the main power wire within 40cm from any positive battery post and/or before passing any metal panel.
(if no, 0 points will be awarded)

“Main Fuse Present” means no judging of fuse size and/or wire diameter. It also tells, one single fuse in a multiple Amp installation is sufficient. But if 2 and or more main power wires are installed, each power wire needs a main fuse.



3.1. Installation rules for: SQ E - Category / ESPL E-Category / ESQ L-M-Category

Are all components securely mounted?	Check all components by physical inspection if fixed y/n Head Unit Other devices Amplifiers Speakers (if n/a, points will be awarded, deduct 2 points per not fixed component, minimum 0)
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We use the system of digital judging. Is not a question of how is it fixed its only a Question of YES or NO.

Watch out as a Tweeter (e.g.) needs much less fixation force than a 18 inch sub.



3.1. Installation rules for: SQ E - Category / ESPL E-Category / ESQ L-M-Category

This might be fixed but is it securely mounted?



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Speaker protection

Check whether all speakers in the interior compartment's doors and in the foot-room are protected from physical damage. Hidden Speakers like mounted under the dashboard do not need a protection when they cannot be reached with the foot of driver or passenger. One should not be able to touch the membrane with a cylindrical object with a diameter of 3 cm. There should be at least one protective element per speaker.

(deduct 2 points for any speaker not protected, minimum 0).
All other speakers do not need protection



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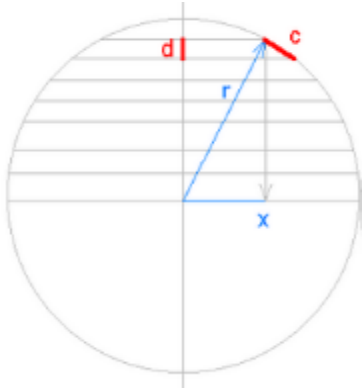
How to protect a speaker

Protective bars with less than 3 cm gaps will get no deduction.
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Speakers, which are installed inside enclosures (and are not touchable) or with the baskets on the outside of the enclosure, do not need separate protection. The judges will verify the protection of the speakers as described above. Two (2) points deduction for each speaker not protected. (No negative scoring)

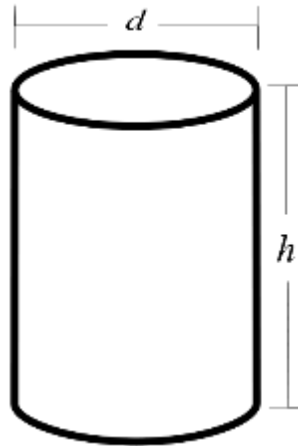
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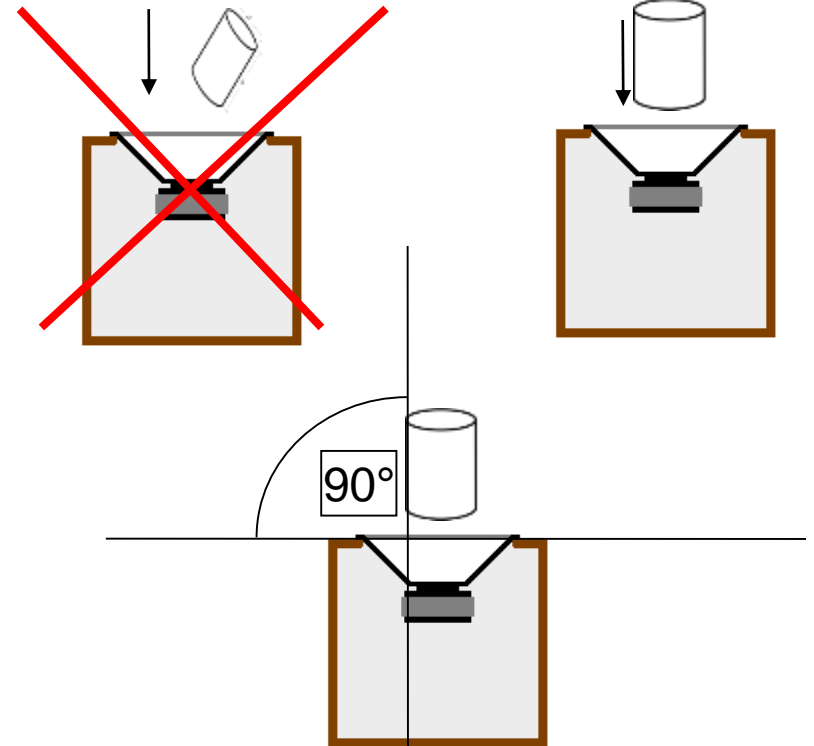
with a ball ?



or with a cylinder?

The protection of speakers will be judge with a cylinder and with an angel from 90° between cylinder and the speaker mounting panel at the center position The cylinder should not be able to touch the **MEMBRAN**, but NO deduction when touching the **SURROUND**!

Also a "Phaseplug" is not part of the Membran.



3.1. Installation rules for: SQ E - Category / ESPL E-Category / ESQ L-M-Category



A phaseplug isn't considered as a protective element.
So also in this case there must be at least ONE protective element.

A coax speaker is considered only as ONE speaker.



3.1. Installation rules for: SQ E - Category / ESPL E-Category / ESQ L-M-Category

Speakers in this positions need to be protected



Doorpanel
Legroom Driver
Legroom Passenger

In case the driver cannot
be reached NO protection
Needed!



3.1. Installation rules for: SQ E - Category / ESPL E-Category / ESQ L-M-Category

Speakers in this positions DONT need to be protected



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3.2. Installation rules for: SQ & MM S – Category / ESPL-ESQL-Expert

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Main fuse present y/n

Check, if a main fuse is installed into the main power wire within 40cm from any positive battery post and/or before passing any metal panel.
(if no, 0 points will be awarded)

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Are all components fused?

Check, if a fuse is installed for any component belonging to the audio/multi-media system. All these fuses must be visible within three minutes (for all in total, not three minutes for every fuse!!!)

Head Unit

Other devices

Amplifiers

(if n/a or not visible, deduct 2 points per not fused component, minimum 0)

EMMA Back Office will hand out a form at the registration where all components, wire diameters as well as fuses should be filled in by the competitor in case that no wiring diagram is prepared and available for the judging process

This point is a digital check if there is a fuse per component Yes or No. No fuse and/or wire diameter judging here. The 3 minutes are up to the competitor to proof.

3.2. Installation rules for: SQ & MM S – Category / ESPL-ESQL-Expert



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Is the fuse value appropriate to the wire size?

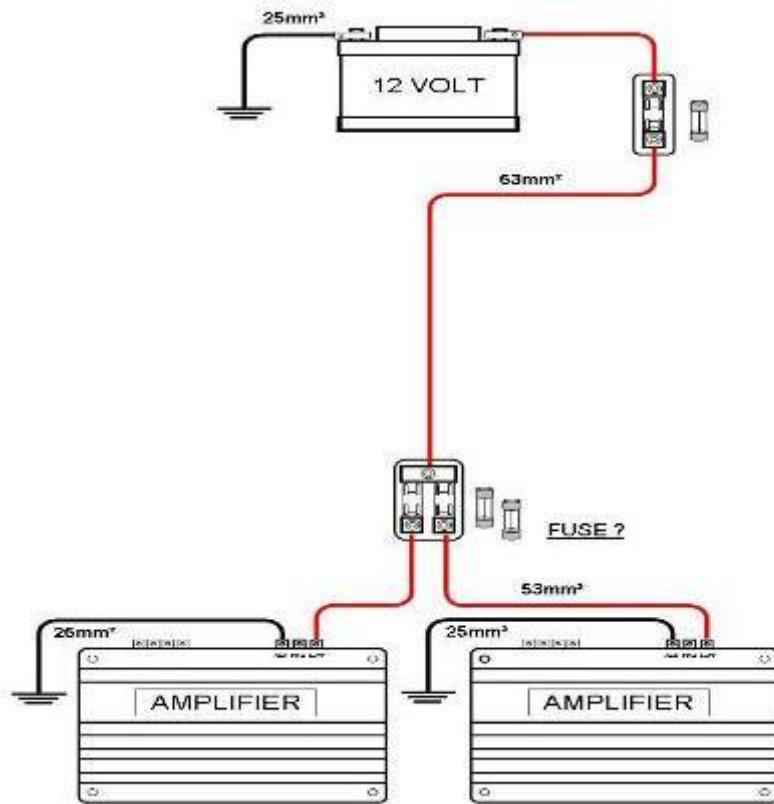
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as above, all these fuses must be visible within three minutes (for all in total, not three minutes for every fuse!!!)

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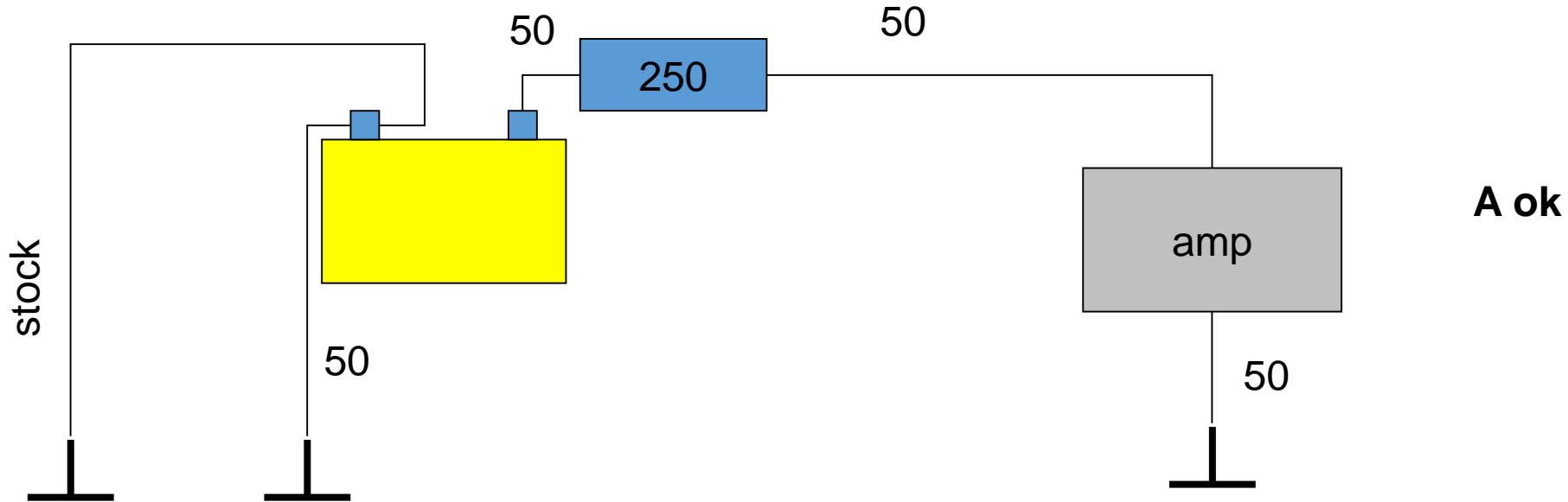


Factory dual battery systems may not have any fuse (or protection) between the batteries. It is up to the competitor to prove the original installation of his vehicle.
If the OEM-installation was not changed, any additional fuse or protection is not required.

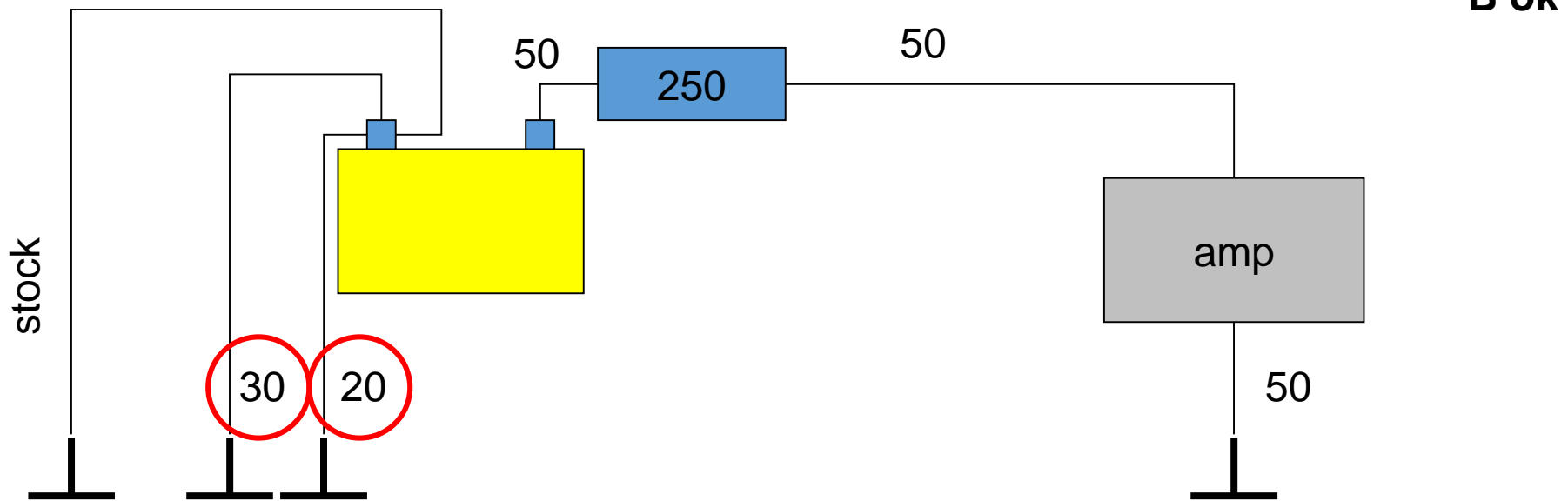
Please note that the above fuse rates are what the maximum fuse size is allowed to be! Not what the fuse should be. Smaller fuse sizes are always acceptable.

Watch out this rule is not applicable if there is on OEM Amplifier and the OEM wiring used.

Wiring/Fusing

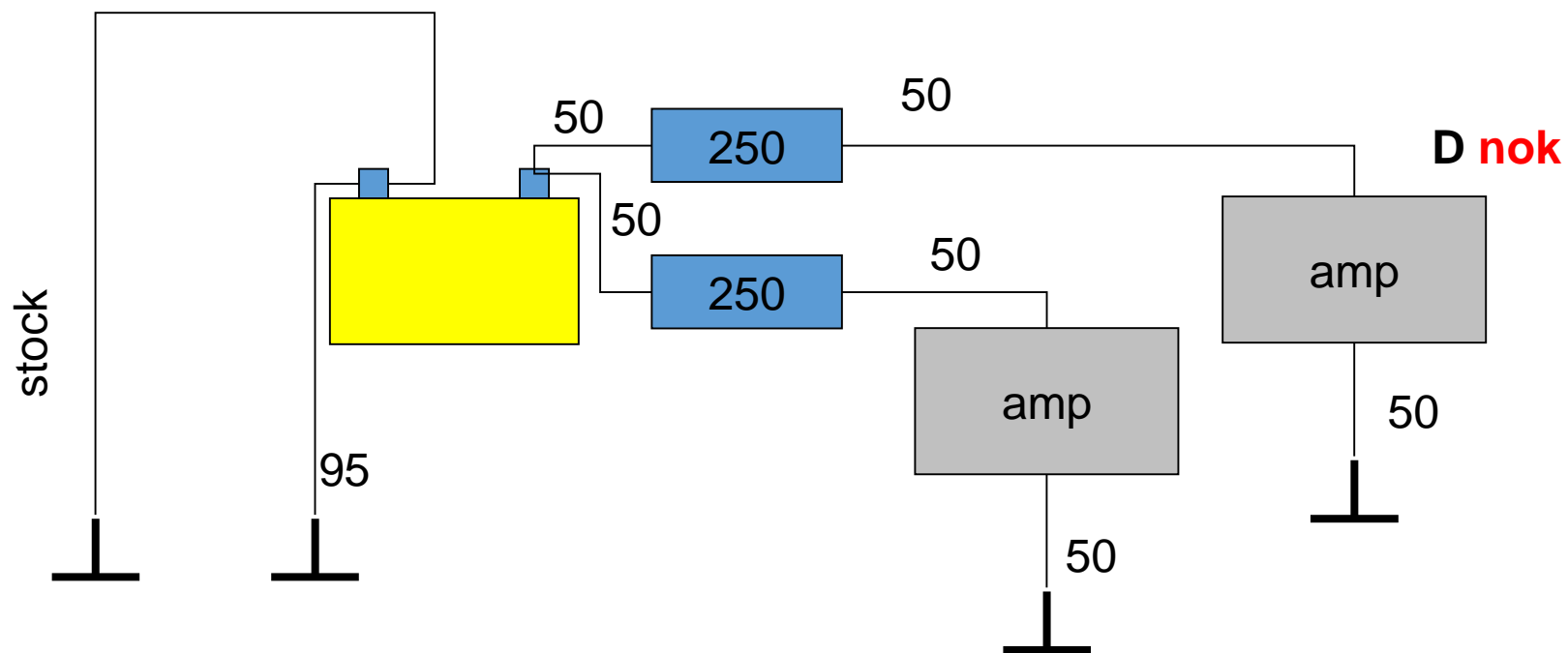
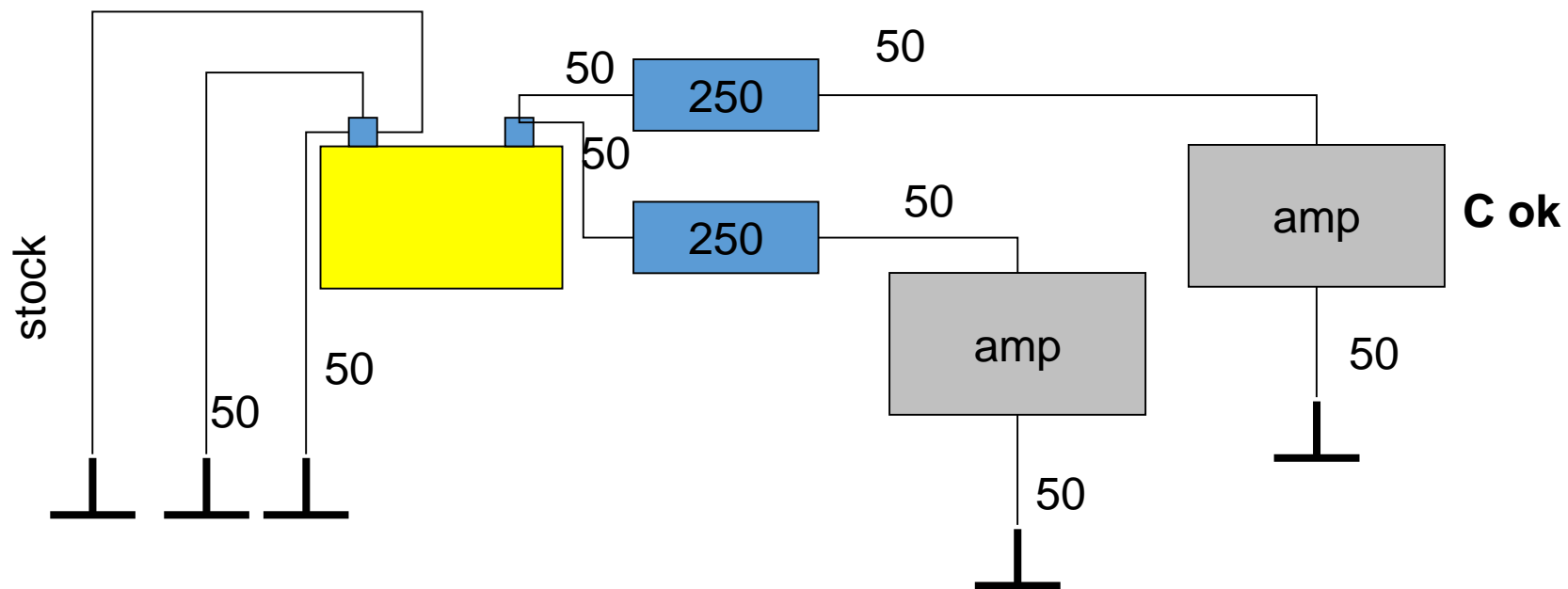


A ok

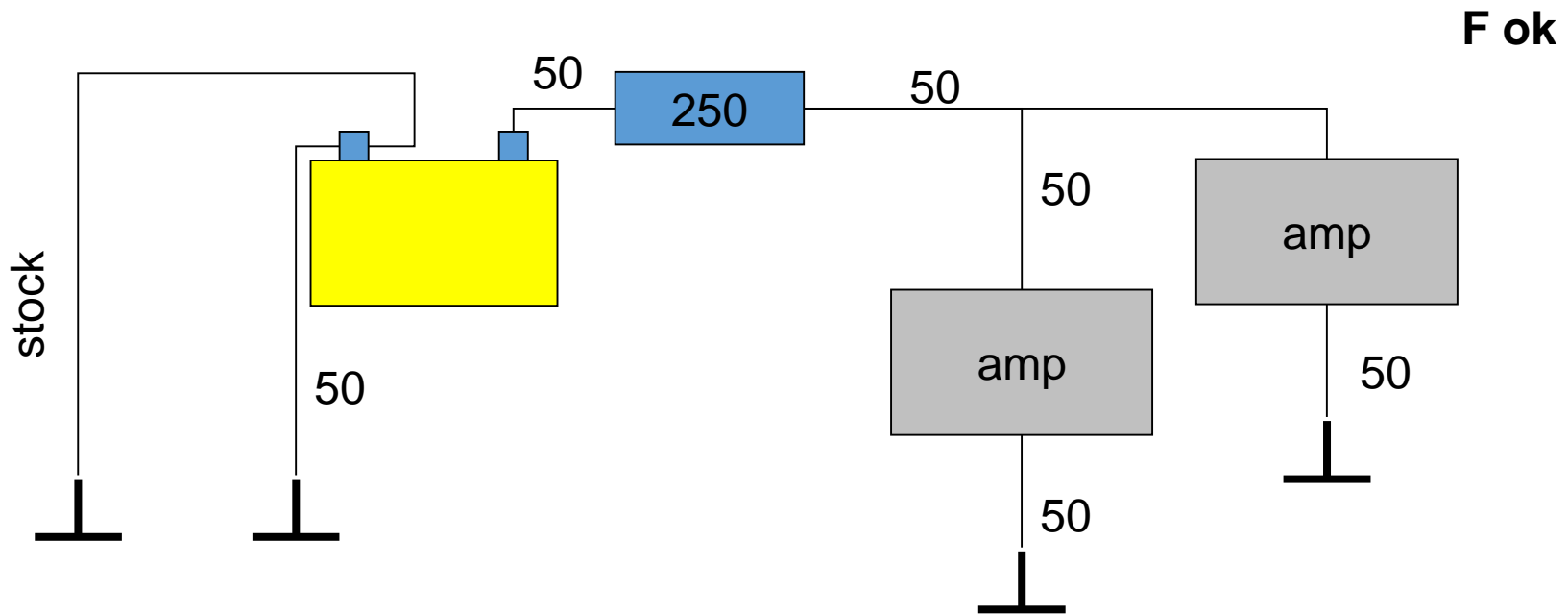
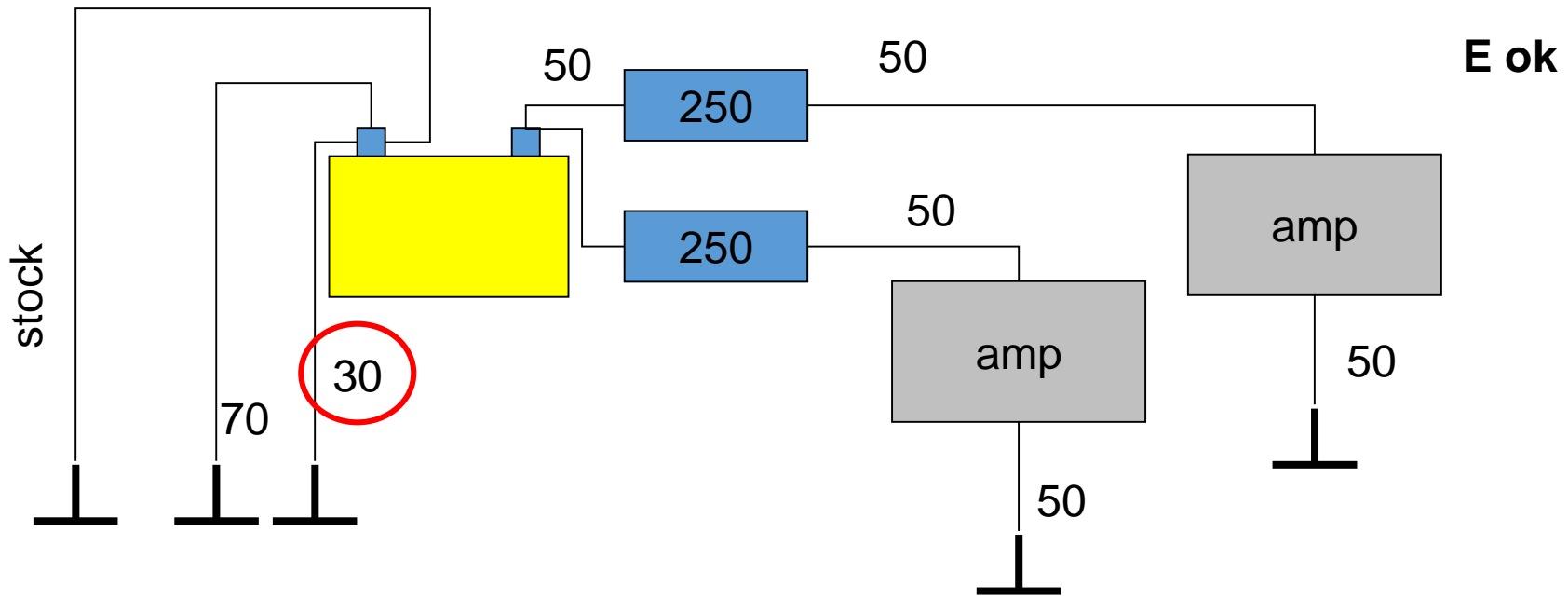


B ok

Wiring/Fusing



Wiring/Fusing



3.2. Installation rules for: SQ & MM S – Category / ESPL-ESQL-Expert

First Optic impression

Check all components if they create the impression of "a finished installation" or "under construction"

Head Unit

Other devices

Amplifiers

Speakers / Speaker enclosures

(if n/a, points will be awarded, deduct 1 point per "under construction" component, minimum 0)



3.2. Installation rules for: SQ & MM S – Category / ESPL-ESQL-Expert



3.2. Installation rules for: SQ & MM S – Category / ESPL-ESQL-Expert

Any interior wires visible?

Check, if any wire of the system installation is visible from the drivers seating position)
(deduct 2 points for any visible system wire, minimum 0)

Watch out, no need to check backseats or under the dashboard. Also no wires for e.g. Handsfreekits are taken into consideration. iPod/USB not included as well.





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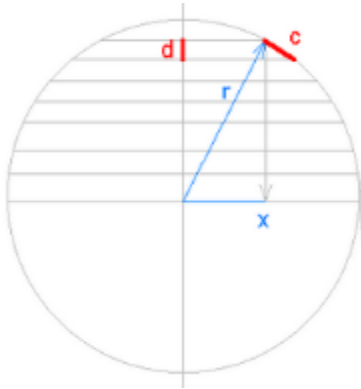
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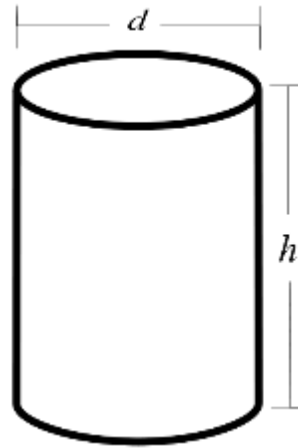
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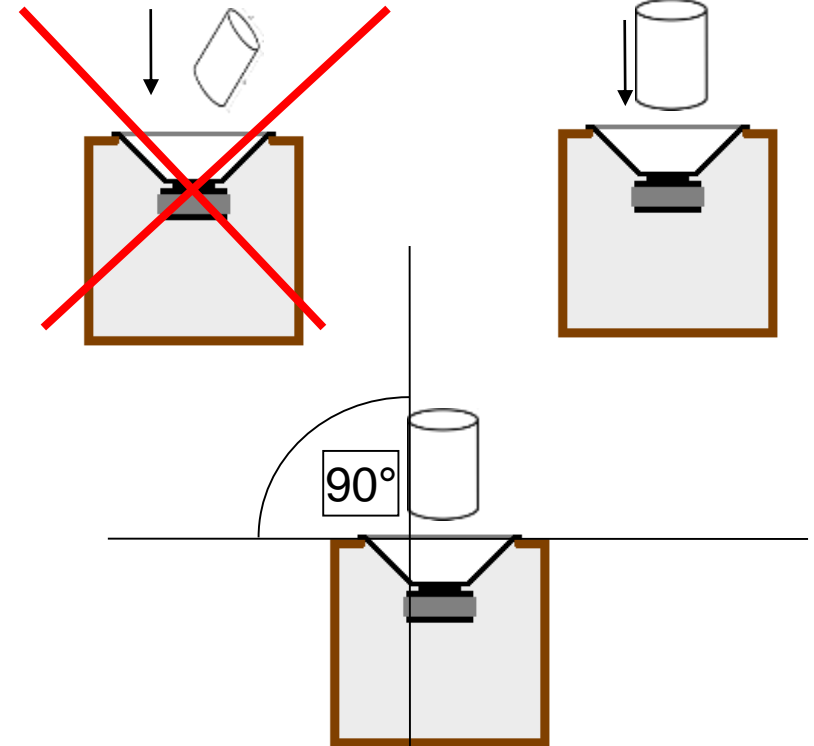
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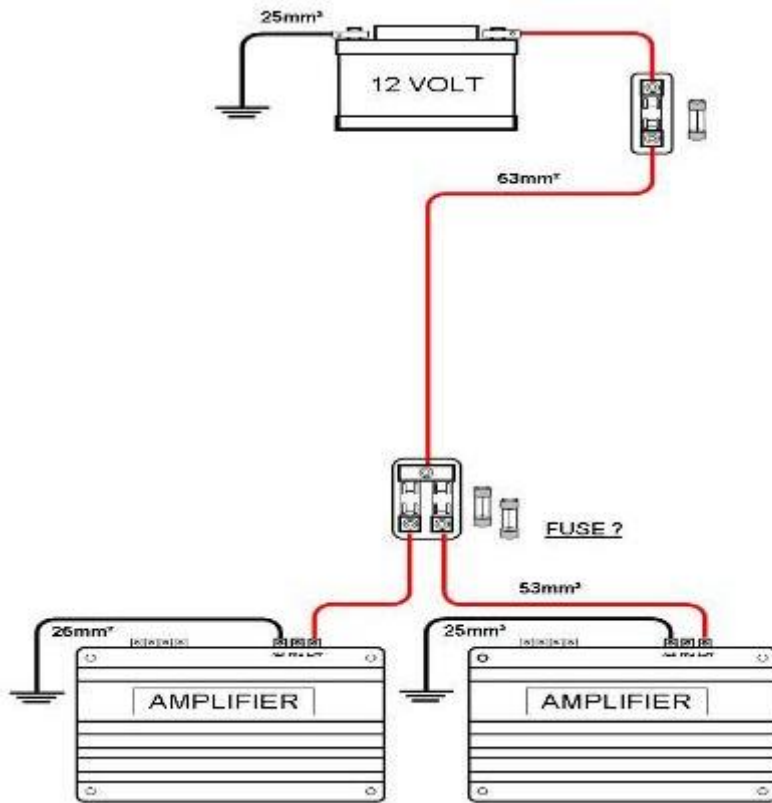
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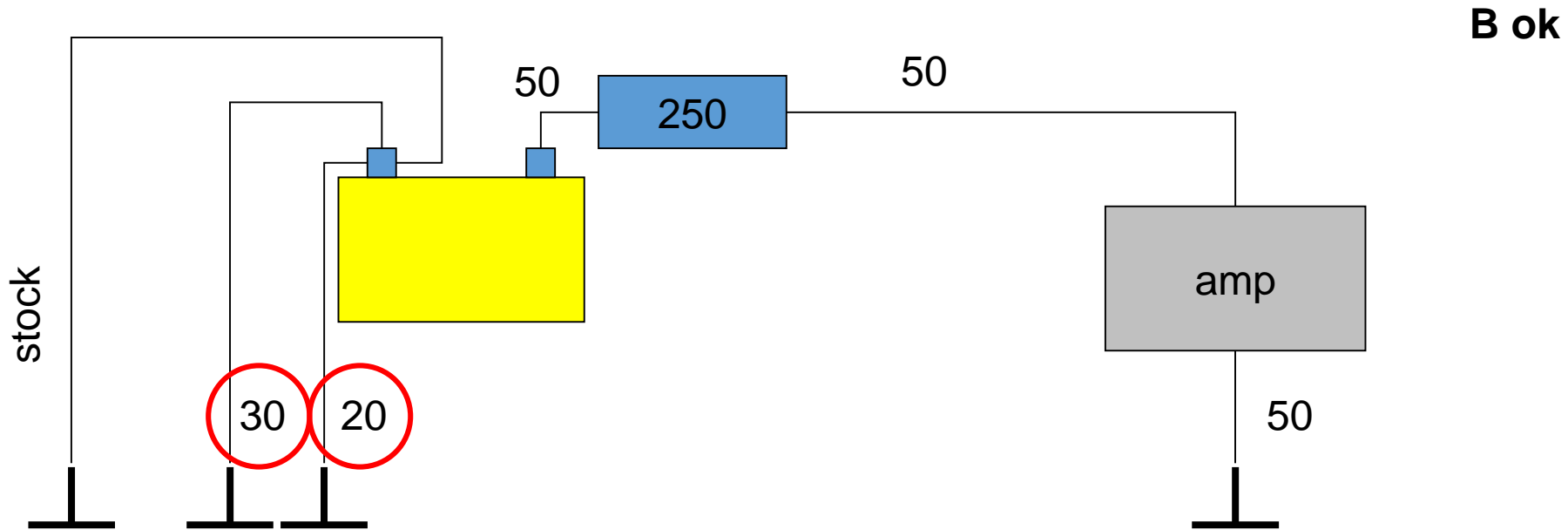
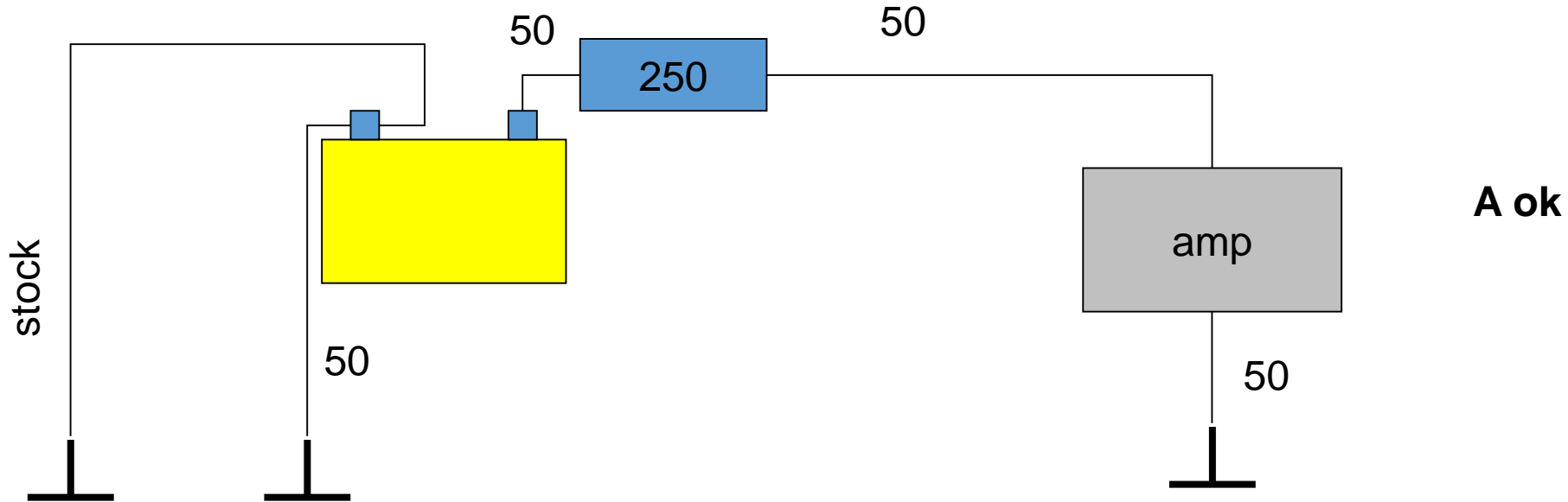


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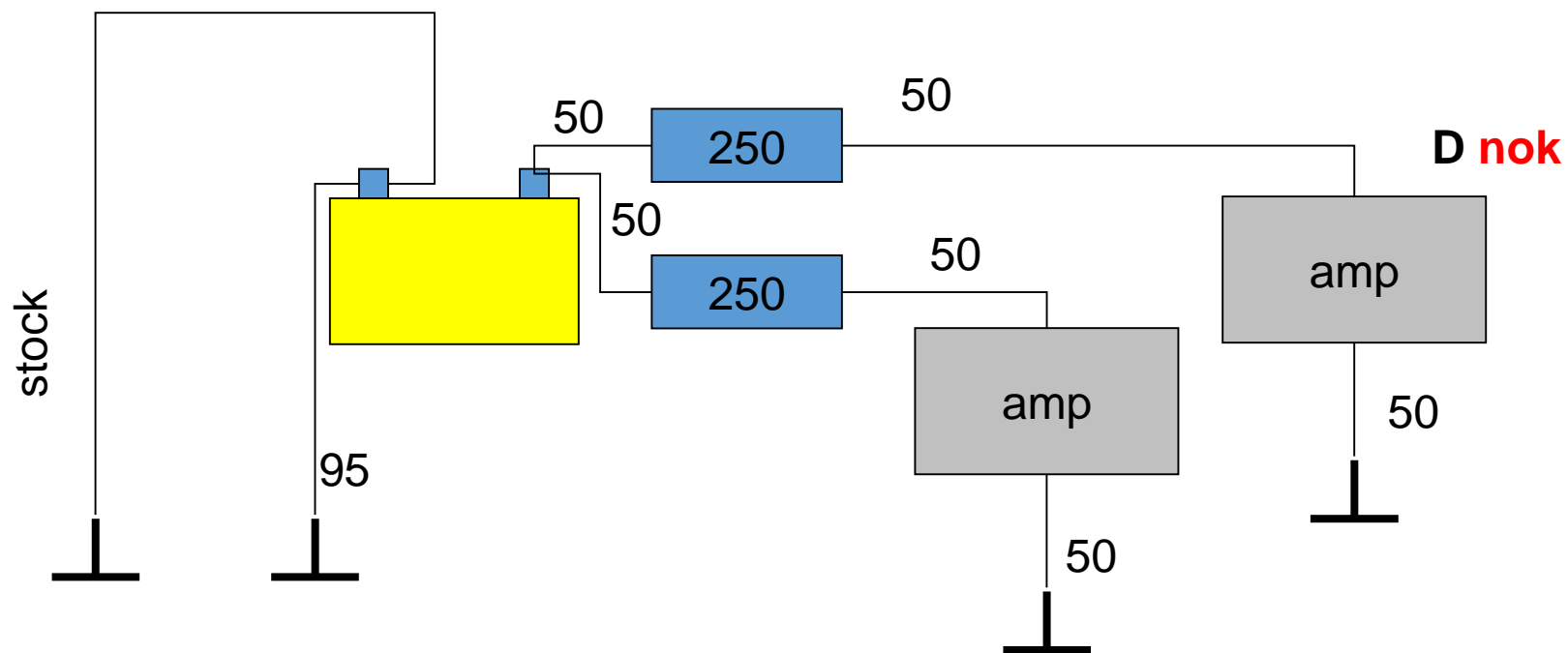
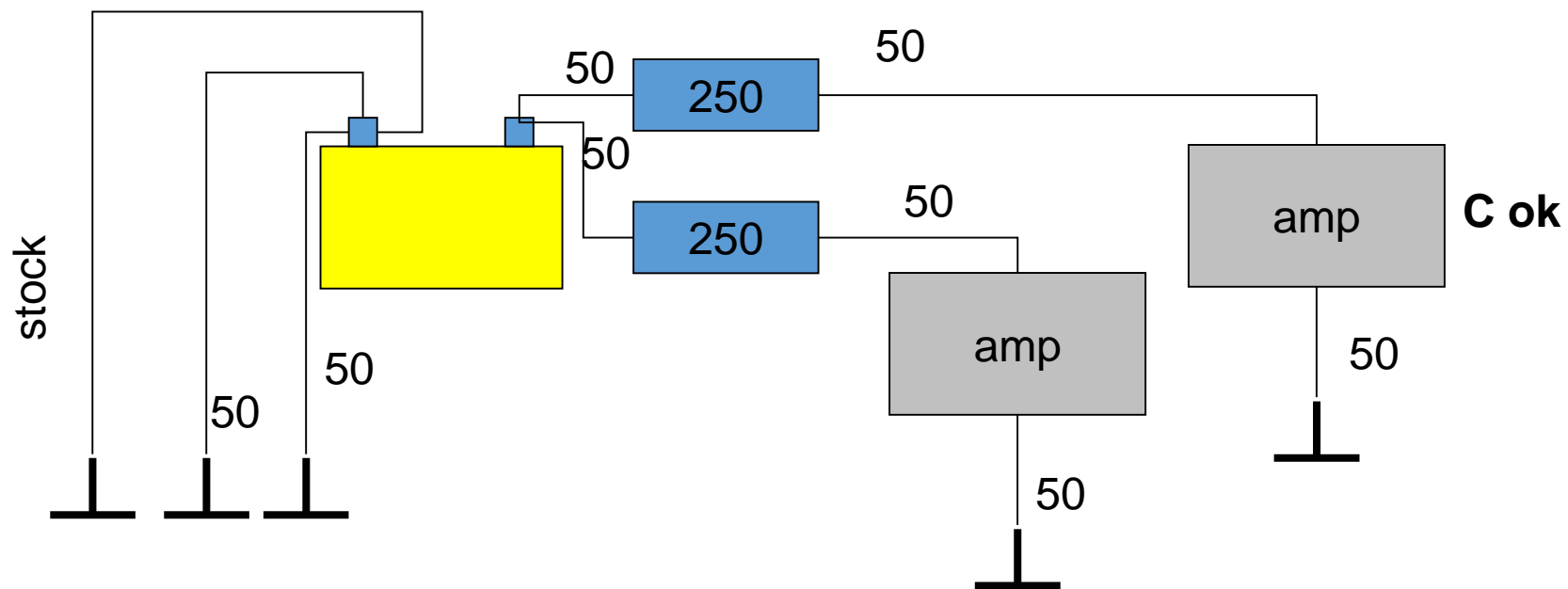
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Watch out this rule is not applicable if there is on OEM Amplifier and the OEM wiring used.

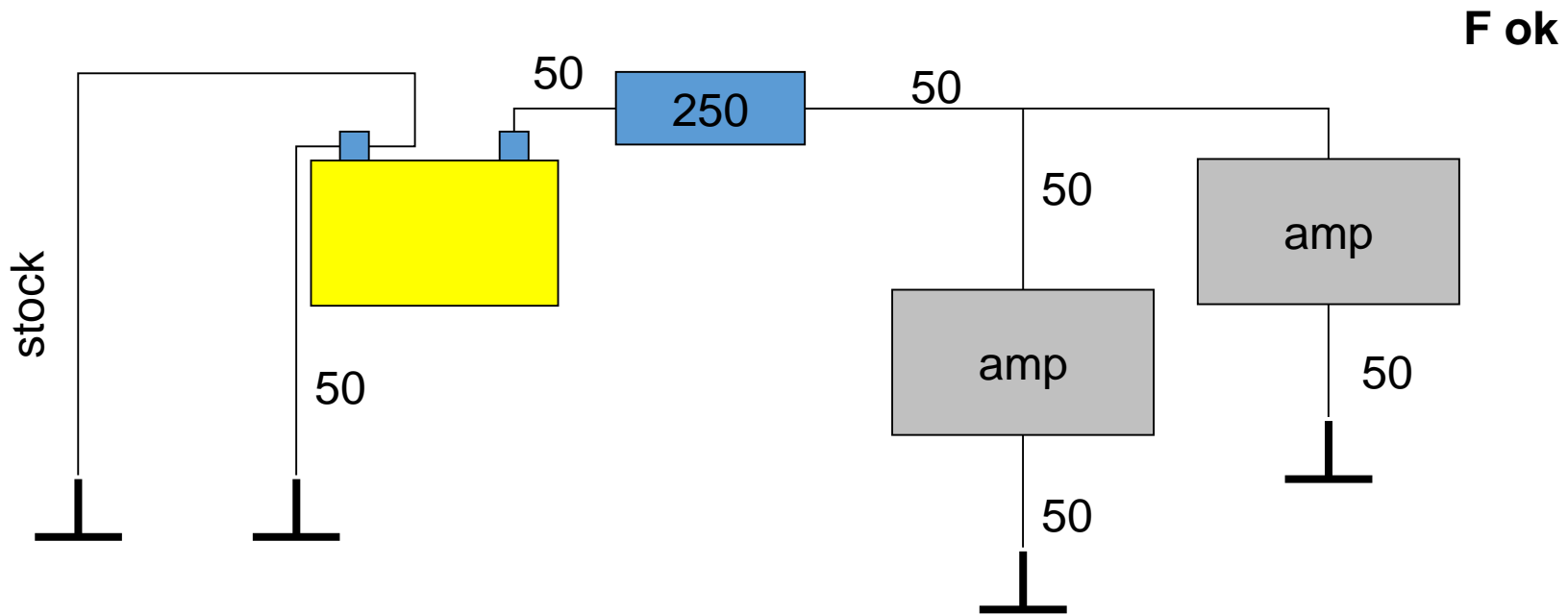
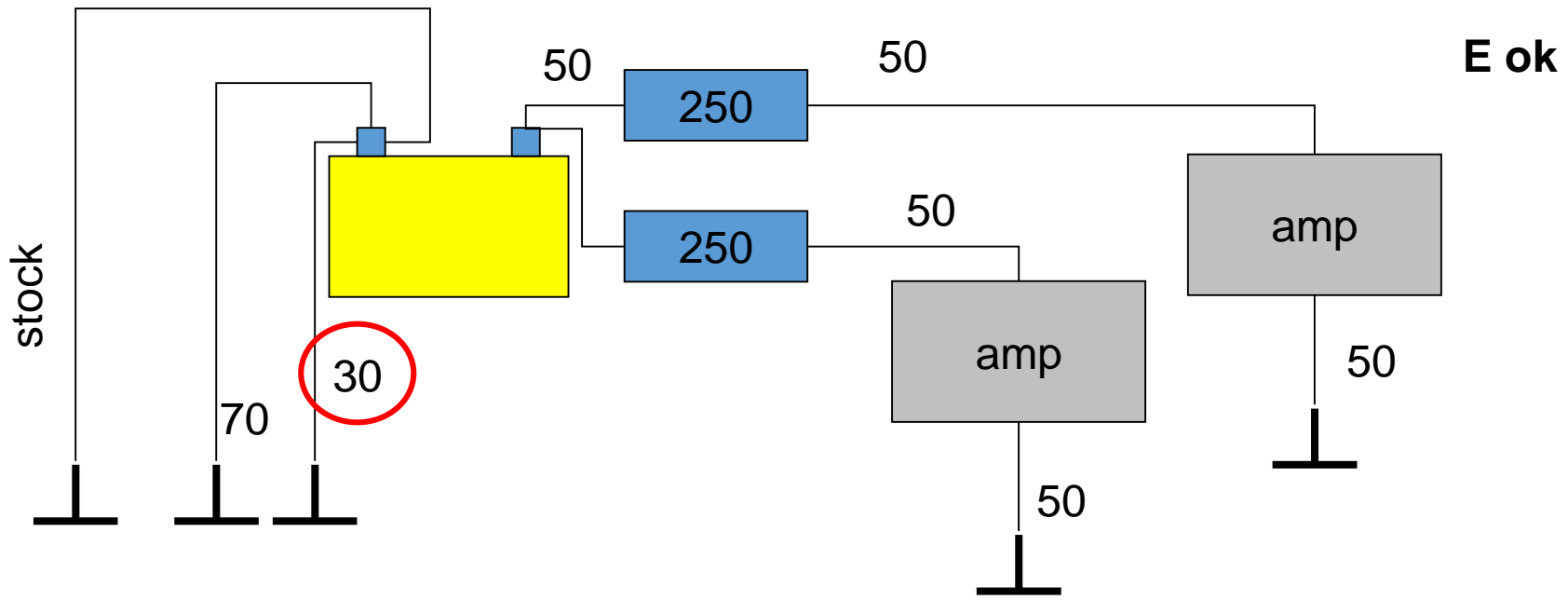
Wiring/Fusing



Wiring/Fusing



Wiring/Fusing



3.3. Installation rules for: SQ & MM M-Category

Any interior wires visible?

Check, if any wire of the system installation is visible from the drivers seating position)
(deduct 2 points for any visible system wire, minimum 0)

Watch out, no need to check backseats or under the dashboard. Also no wires for e.g. Handsfreekits are taken into consideration. iPod/USB not included as well. Wires cover by Snakeskin or similar materials are not considered as hidden.





3.3. Installation rules for: SQ & MM M-Category



3.3. Installation rules for: SQ & MM M-Category

System documentation

Check for:

Wire/Fuse Diagram

Documentation (photo-log) of not accessible connections / components

(deduct 1 point per missing element, minimum 0)

This is named “Documentation” its not to be judged like a Presentation, only the wire/fuse diagramm is needed in case all other components and wire connections are visible. Used OEM equipment is excluded from the documentation. We don't judge craftsmanship here, this is only the documentation, even a bad install can be perfect documented.

3.3. Installation rules for: SQ & MM M-Category

Documentation

All components not accessible or hidden from view should be explained in the documentation.

What to look for:

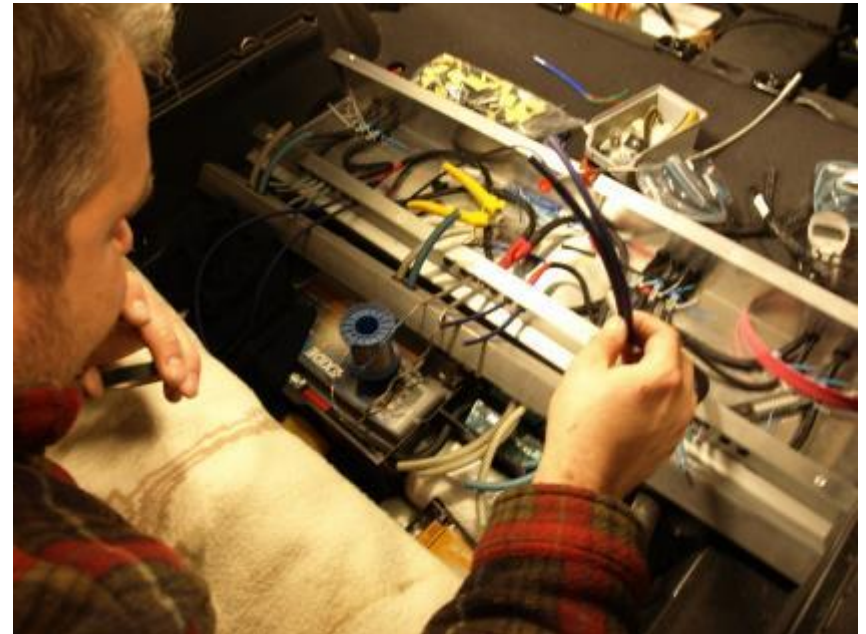
Black boxes
Crossovers (passive and/or active)
Speakers behind door panels or dashboard grills
Additional battery
Etc.

All wires to components not accessible or hidden from view should be explained in the documentation.

What to look for:

- Behind source unit
- Black boxes
- Crossovers (active and/or passive)
- Behind/under covers, racks, carpets etc.
- Power / Ground wires
- Speaker wires
- Signal-cables (including cables to multi-media-screens, remote controls, etc.!!!)
- Control-cables (bus-cable to processors etc.)
- Connections to additional battery
- Etc.

watch out for:
Headunit DC/DC Converters
Headunit BlackBoxes



3.3. Installation rules for: SQ & MM M-Category

Speaker protection

Check whether all speakers in the interior compartment's doors and in the foot-room are protected from physical damage. Hidden Speakers like mounted under the dashboard do not need a protection when they cannot be reached with the foot of driver or passenger. One should not be able to touch the membrane with a cylindrical object with a diameter of 3 cm. There should be at least one protective element per speaker.

(deduct 2 points for any speaker not protected, minimum 0).
All other speakers do not need protection



3.3. Installation rules for: SQ & MM M-Category

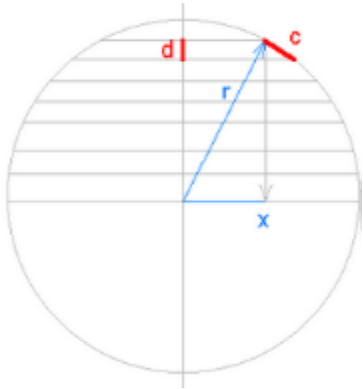
How to protect a speaker

Protective bars with less than 3 cm gaps will get no deduction.
Grill cloth with high tension but no support underneath is not considered as sufficient protection and will get points deducted.
Speakers, which are installed inside enclosures (and are not touchable) or with the baskets on the outside of the enclosure, do not need separate protection. The judges will verify the protection of the speakers as described above. Two (2) points deduction for each speaker not protected. (No negative scoring)

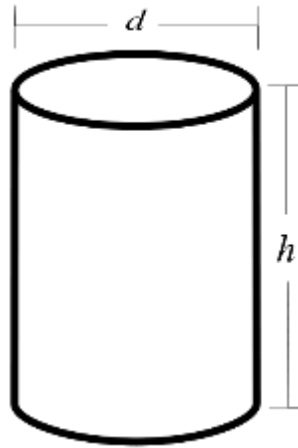
Grills or any other protective elements will not be checked for proper fixing.



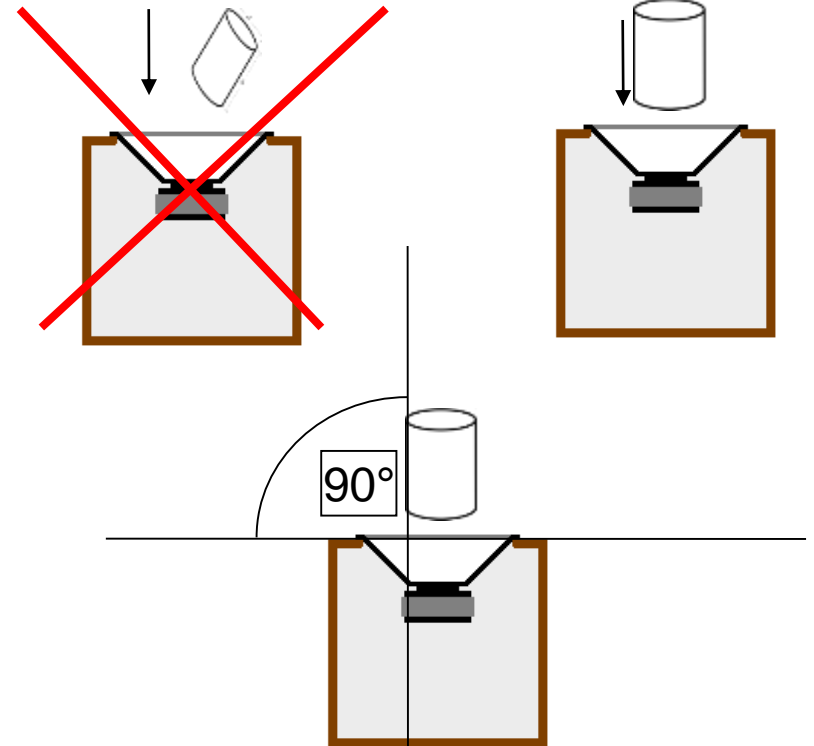
3.3. Installation rules for: SQ & MM M-Category



with a ball ?



or with a cylinder?



The protection of speakers will be judge with a cylinder and with an angel from 90° between cylinder and the speaker mounting panel at the center position The cylinder should not be able to touch the **MEMBRAN**, but NO deduction when touching the **SURROUND**!

Also a "Phaseplug" is not part of the Membran.

3.3. Installation rules for: SQ & MM M-Category



A phaseplug isn't considered as a protective element.
So also in this case there must be at least ONE protective element.

A coax speaker is considered only as ONE speaker.



3.3. Installation rules for: SQ & MM M-Category

Speakers in this positions need to be protected



Doorpanel
Legroom Driver
Legroom Passenger

In case the driver cannot
be reached NO protection
Needed!



3.3. Installation rules for: SQ & MM M-Category

Speakers in this positions DONT need to be protected



3.3. Installation rules for: SQ & MM M-Category

System documentation

Check for:

Wire/Fuse Diagram

Documentation (photo-log) of not accessible connections / components

(deduct 1 point per missing element, minimum 0)

This is named “Documentation” its not to be judged like a Presentation, only the wire/fuse diagramm is needed in case all other components and wire connections are visible. Used OEM equipment is excluded from the documentation. We don't judge craftsmanship here, this is only the documentation, even a bad install can be perfect documented.

3.3. Installation rules for: SQ & MM M-Category



3.3. Installation rules for: SQ & MM M-Category

All components not accessible or hidden from view should be explained in the documentation.

What to look for:

Black boxes

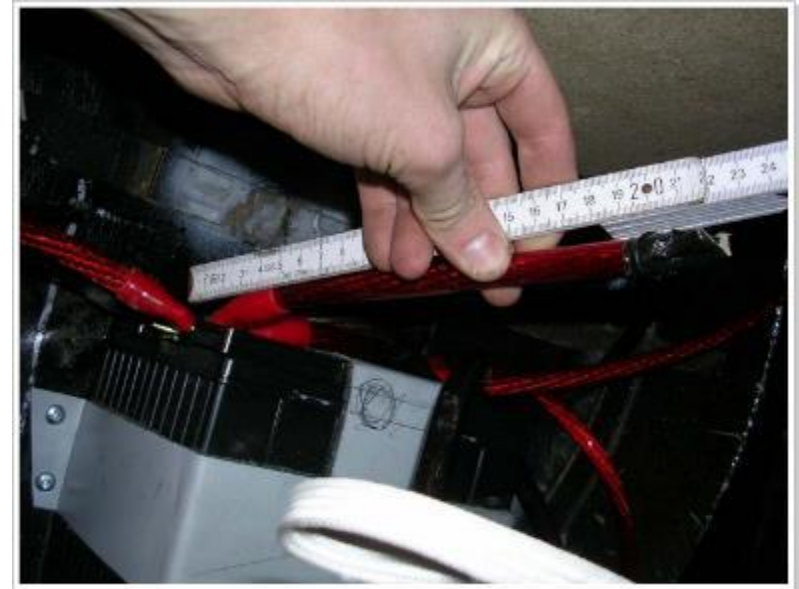
Crossovers (passive and/or active)

Speakers behind door panels or dashboard grills

Additional battery

DC/DC Converter

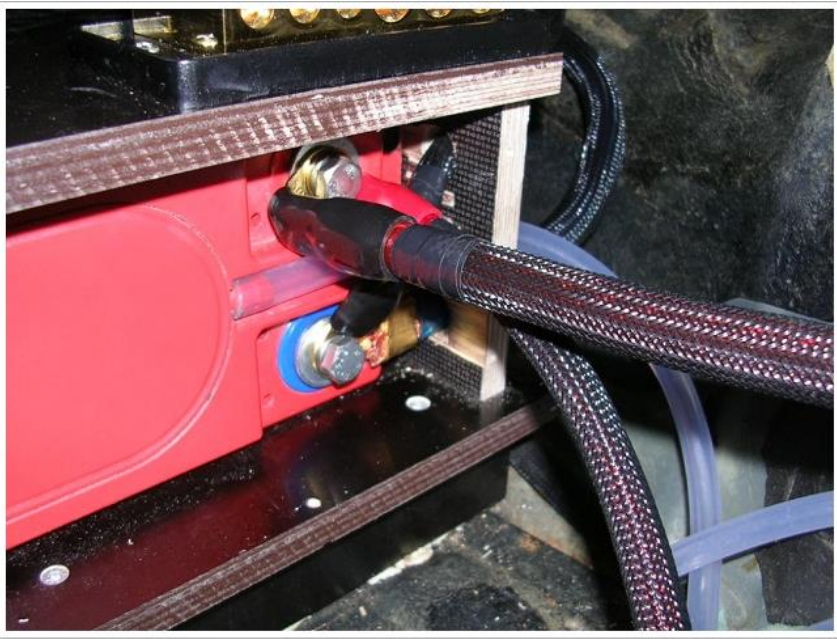
Etc.



3.3. Installation rules for: SQ & MM M-Category

Wires properly terminated?

Check, if all wires are properly terminated - either by physical inspection or by photo log
(deduct 1 point per not properly protected wire, minimum 0)



3.3. Installation rules for: SQ & MM M-Category

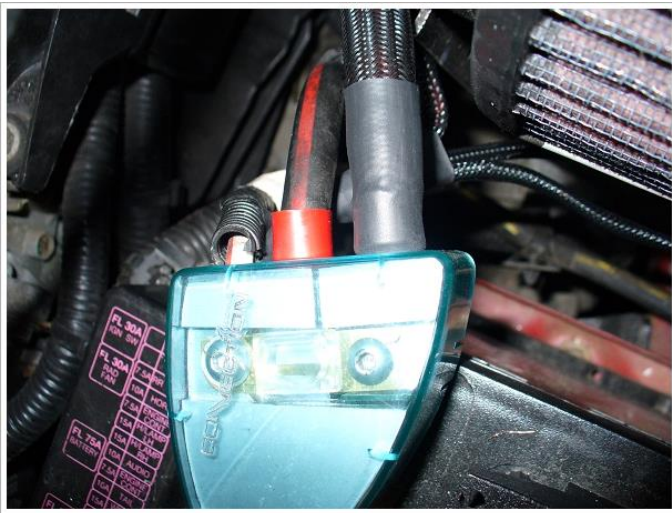


3.3. Installation rules for: SQ & MM M-Category

Wire terminations protected y/n

Check, if wire terminations are installed in such a way that short cuts are avoided / covered by a non-conductive material in vehicles driving condition (all panels/covers on etc.) and appropriate measures are taken if exposed to moisture (e.g. in the doors) - either by physical inspection or by photo log (deduct 1 point per not properly protected wire, minimum 0)

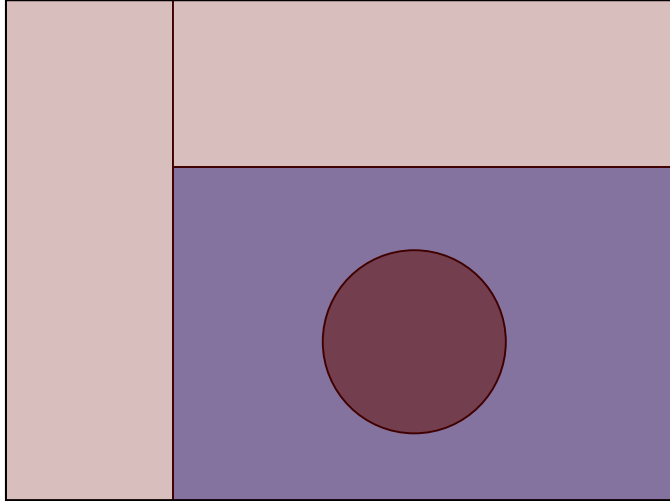
The judges will check by physical inspection and the documentation. All relevant spots should be accessible or shown in the documentation. If the positive battery post and any other termination of the cabling can be touched (watch out: fingers are flexible!) or only one unprotected cable termination is detected physically or in the photo documentation or missing in the documentation, the score will be 0 points. OEM wiring is excluded from this judging.



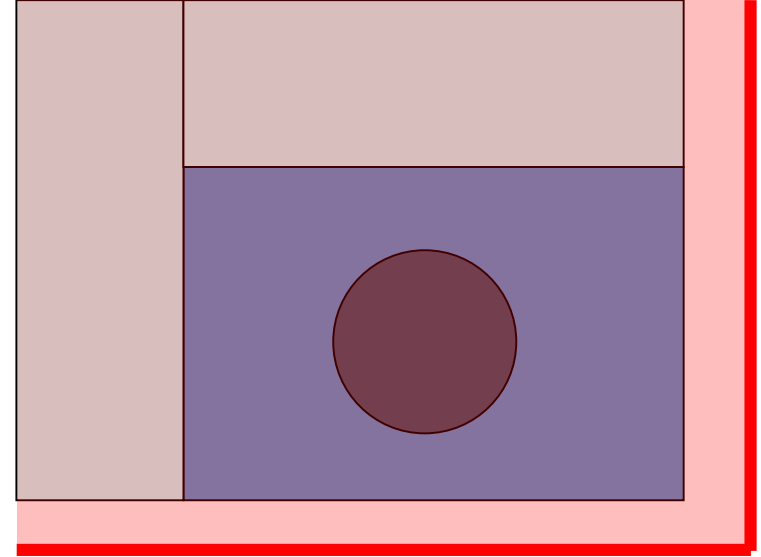
3.3. Installation rules for: SQ & MM M-Category



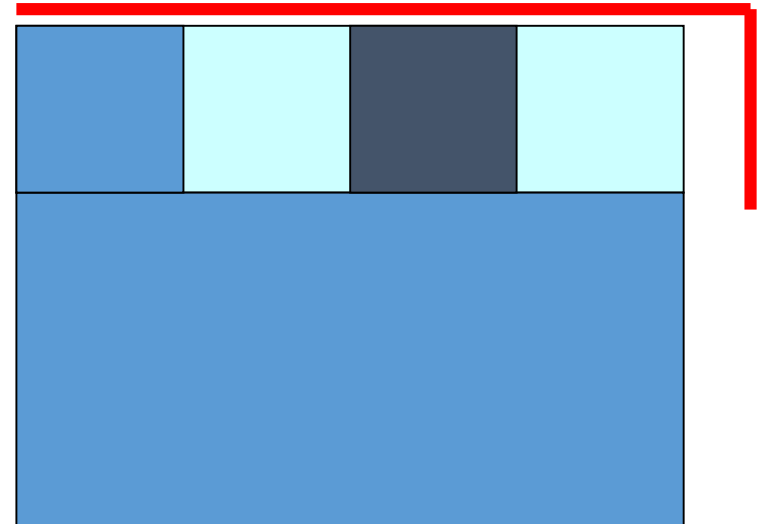
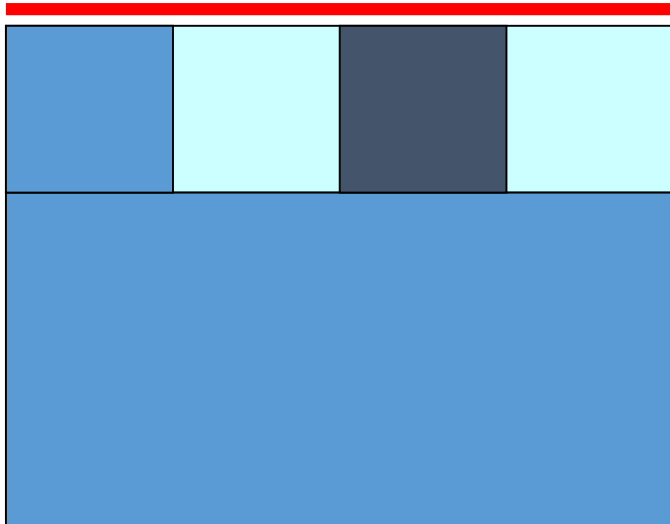
3.3. Installation rules for: SQ & MM M-Category



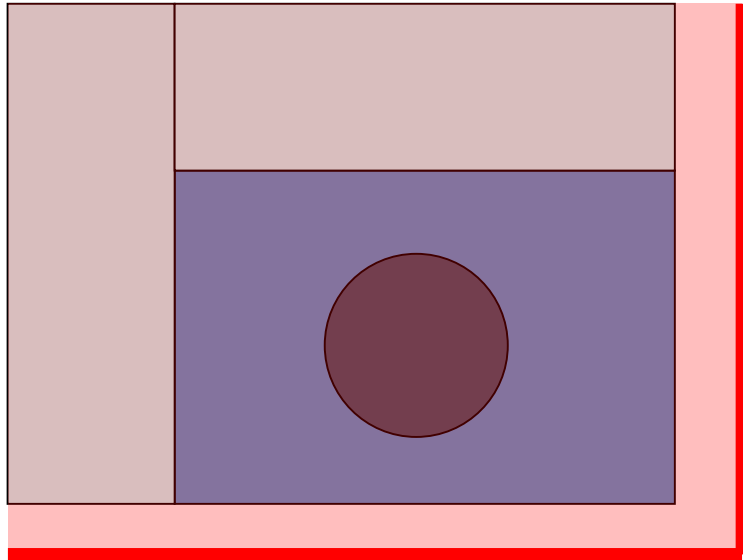
Not sufficient



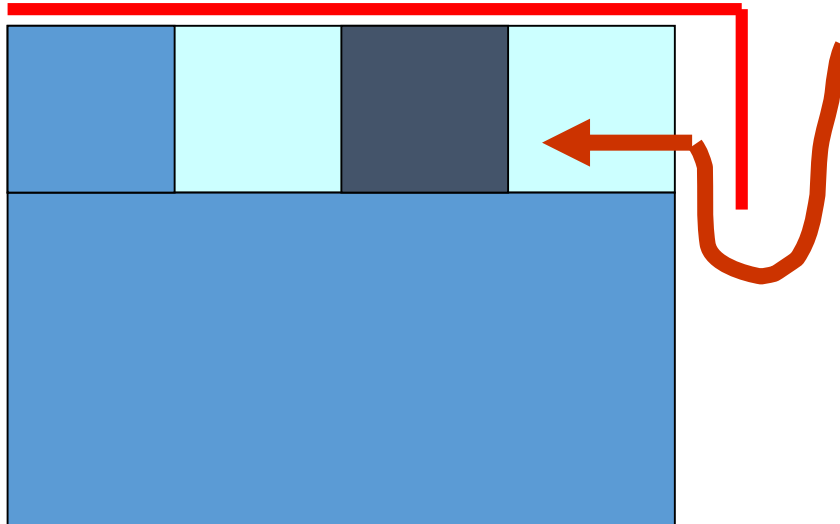
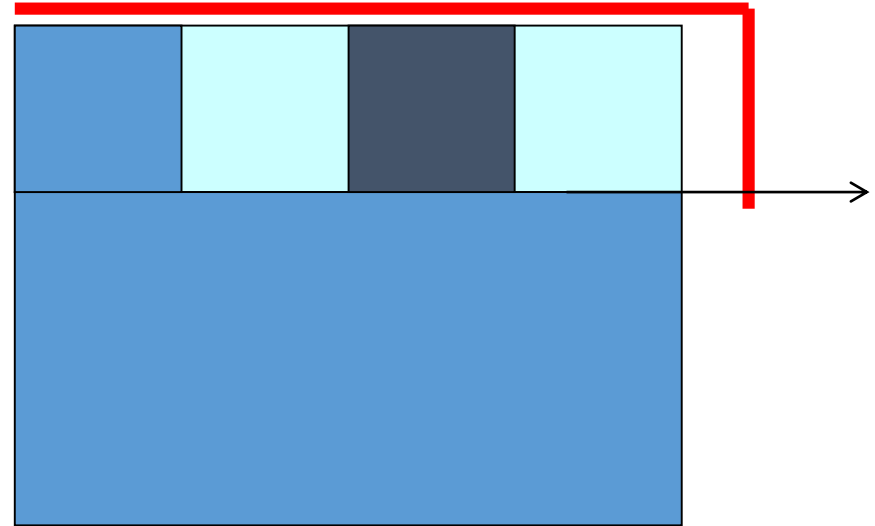
sufficient



3.3. Installation rules for: SQ & MM M-Category



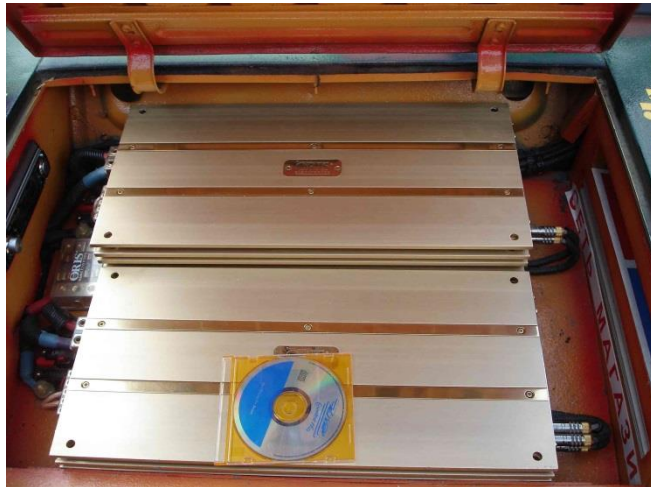
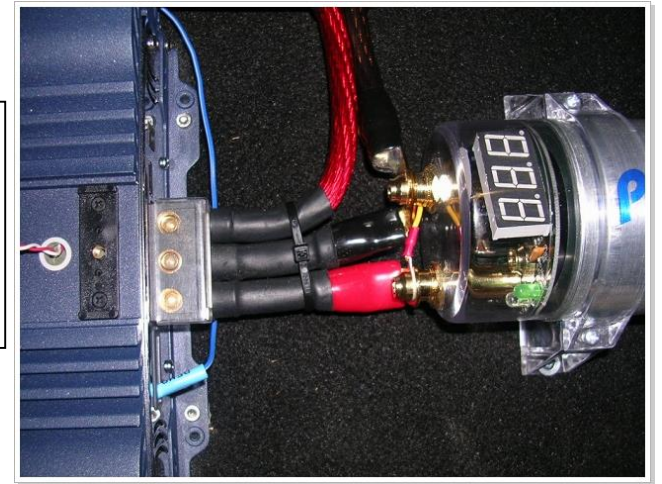
sufficient



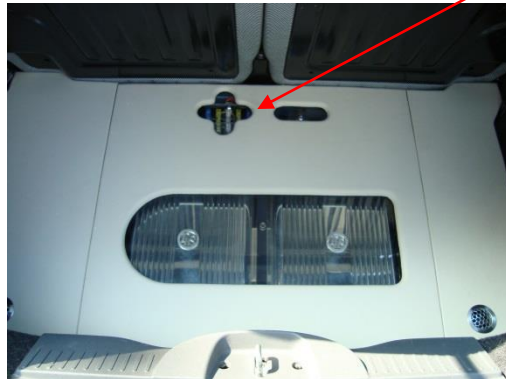
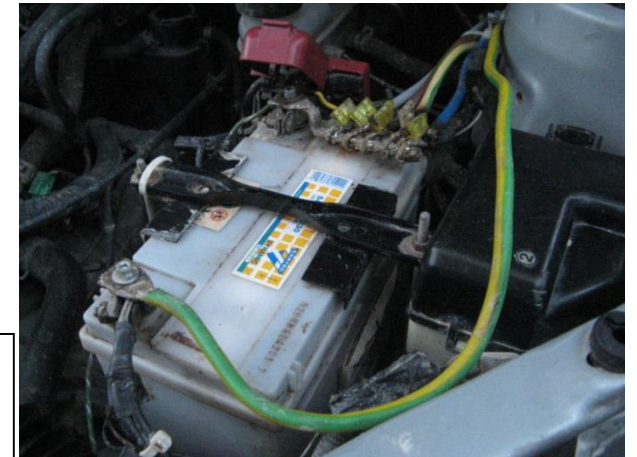
This way of judging is not according to the Rulebook.



One cover from a non
conductive material is sufficient,
the hood is not considered as a cover



NO deduction here !
if the fuseblock is covered
with the original carpet



3.3. Installation rules for: SQ & MM M-Category

Wires protected from damage y/n

Wires that pass metal (e.g. from engine compartment to interior) should be protected by grommets, rubbers or similar
For wires, that are mechanically stressed (e.g. into the door) or that are close to moving parts (e.g. engine-belts) protective sleeving should be used if not installed to OEM's cable trays (deduct 1 point per not properly protected wire, minimum 0)



3.3. Installation rules for: SQ & MM M-Category



3.3. Installation rules for: SQ & MM M-Category

Craftsmanship

Check wire-routing, terminations, installation of components, installation of panels, surface finishes, equal gaps, etc. for the categories:

wiring

head unit

amplifiers

speakers

other components

(deduct 2 points per category where no effort was taken, deduct 1 point per category where poor effort was taken, minimum 0)

At this point we will judge how things are done and how much effort has been used. There is no perfect described way, as we don't want to kill the creativity of the Competitor.

There is no reason to scale the 2 points per item like the 10 points in the higher Category. A solid installation without mistakes and/or poorly execution should be able to score 2 per item.

Installation Matrix

Matrix Installation						
	E	S	M	X	X Unl	
Max. points	55	105	135	210	310	
Presentation to the public	10	10	10	10	10	
Cleanliness	6	6	6	6	6	
Main Fuse present y/n	10	10	10	10	10	
All components securely mounted	24	24	24	24	24	
All components fused		15	15	15	15	
Fuse of appropriate value		20	20	20	20	
First Optic impression		10				
Protection of speakers	5	5	5	5		
Interior wires invisible		5	5	5	5	
System documentation			10	10	10	
Wires properly terminated			5	5	5	
Wire terminations protected			10	10	10	
Wires protected from damage			5	5	5	
Craftsmanship			10	50	50	
Presentation of system to the judges				10	10	
Design of interior				5	10	
Design of trunk				5	10	
Overall design of vehicle					10	
Bonus points				15	100	

3.4. Installation rules for:SQ X Category Expert Limited

Presentation to the public

Show off the vehicle & installation to the public during the event time

Allow spectators to listen to the system

Exception: at the event active judges / back office staff's cars can remain closed due to safety reason

Will be checked several times a day

An EMMA Sound Off is a car show, nothing is more boring than a hall full of locked Cars. Its up to the competitor how he presents his car to the public. Watch out judges might not be able to follow this in case they compete themselves. Adapte your judging style to the event and circustances.



3.4. Installation rules for:SQ X Category Expert Limited

Cleanliness	Vehicle exterior should be "car-wash-clean", interior should be vacuumed (not perfect but reasonably clean) Car Wash clean y/n passenger compartment vacuumed y/n trunk vacuumed y/n (deduct 2 points per not cleaned area)
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An EMMA Sound Off is a car show, not a cleaning competition. Check the weather Conditions and judging order for your scoring.

3.4. Installation rules for:SQ X Category Expert Limited

Main fuse present y/n

Check, if a main fuse is installed into the main power wire within 40cm from any positive battery post and/or before passing any metal panel.
(if no, 0 points will be awarded)

“Main Fuse Present” means no judging of fuse size and/or wire diameter. It also tells, one single fuse in a multiple Amp installation is sufficient. But if 2 and or more main power wires are installed, each power wire needs a main fuse.



3.4. Installation rules for:SQ X Category Expert Limited

Are all components
securely mounted?

Check all components by physical inspection if fixed y/n

Head Unit

Other devices

Amplifiers

Speakers

(if n/a, points will be awarded, deduct 2 points per not fixed
component, minimum 0)

We use the system of digital judging. Is not a question of how is it fixed its only a
Question of YES or NO.

Watch out a Tweeter needs much less fixation force than a 18 inch sub.

3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

This might be fixed but is it securely mounted?



3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

Are all components fused?	<p>Check, if a fuse is installed for any component belonging to the audio/multi-media system. All these fuses must be visible within three minutes (for all in total, not three minutes for every fuse!!!)</p> <p>Head Unit</p> <p>Other devices</p> <p>Amplifiers</p> <p>(if n/a or not visible, deduct 2 points per not fused component, minimum 0)</p> <p>EMMA Back Office will hand out a form at the registration where all components, wire diameters as well as fuses should be filled in by the competitor in case that no wiring diagram is prepared and available for the judging process</p>
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This point is a digital check if there is a fuse per component Yes or No. No fuse and/or wire diameter judging here. The 3 minutes are up to the competitor to prove that there is a fuse for every component installed and in use.

3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

Is the fuse value appropriate to the wire size?

Check, if any fuse belonging to the audio system is of appropriate size for the wire it is protecting (according to the VW75212 - Dimensionierung von Leitungen und Sicherungen im Kraftfahrzeug):

0,5mm² - 10 Ampere

1,0mm² - 15 Ampere

1,5mm² - 20 Ampere

2,5mm² - 20 Ampere

4,0mm² - 30 Ampere

6,0mm² - 50 Ampere

10mm² - 60 Ampere

16mm² - 100 Ampere

25mm² - 125 Ampere

35mm² - 175 Ampere

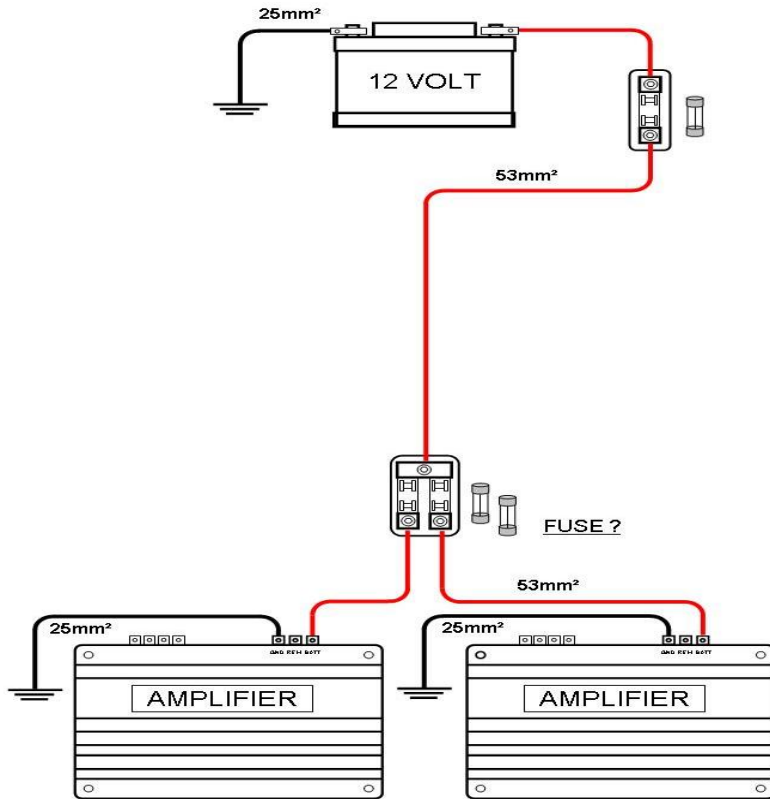
50mm² - 250 Ampere

70mm² - 300 Ampere

as above, all these fuses must be visible within three minutes (for all in total, not three minutes for every fuse!!!)

(if n/a, wrong size or not visible, deduct 2 points per not appropriate fuse, minimum 0)

3.4. Installation rules for:SQ X Category Expert Limited

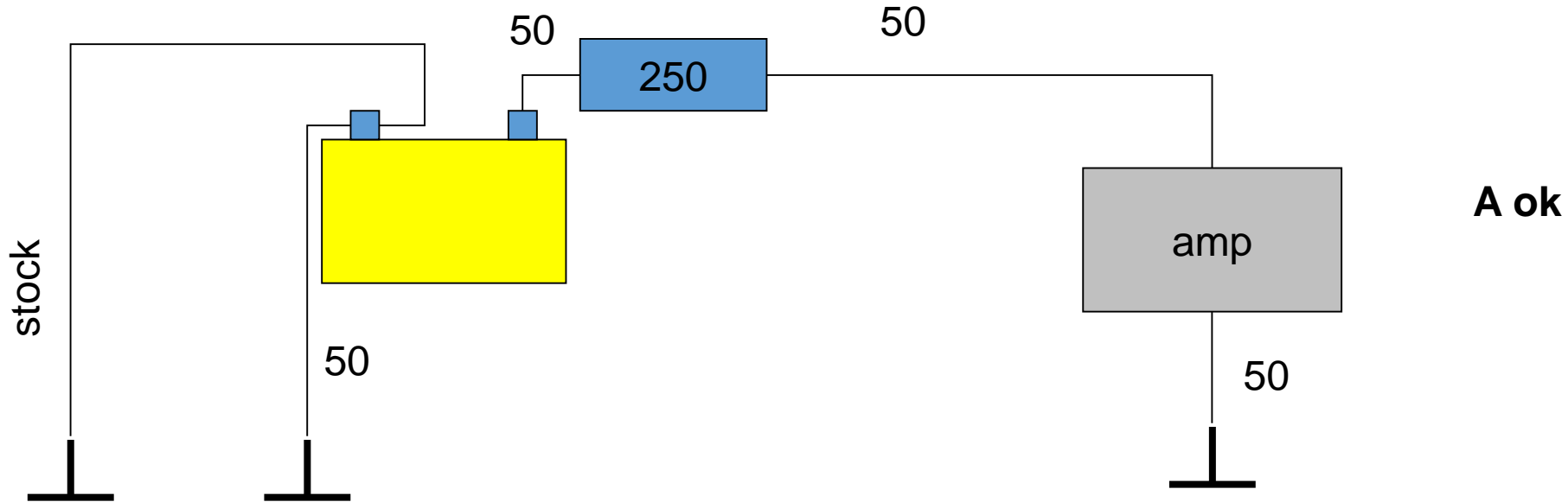


Factory dual battery systems may not have any fuse (or protection) between the batteries. It is up to the competitor to prove the original installation of his vehicle.
If the OEM-installation was not changed, any additional fuse or protection is not required.

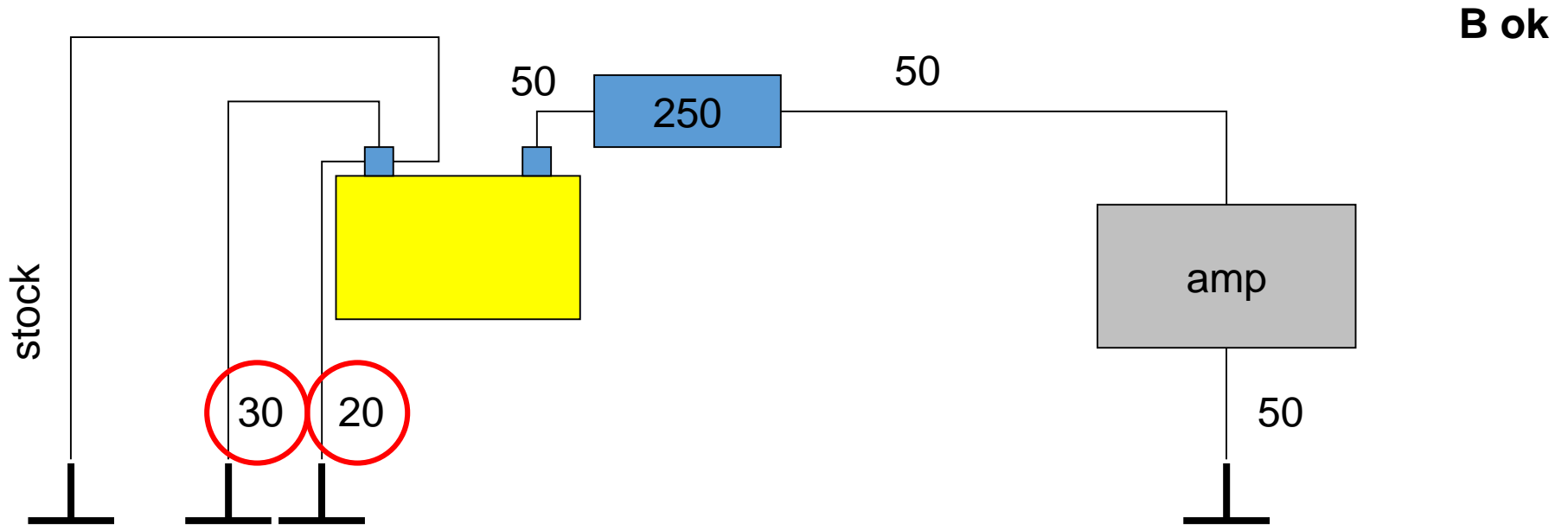
Please note that the above fuse rates are what the maximum fuse size is allowed to be! Not what the fuse should be. Smaller fuse sizes are always acceptable.

Watch out this rule is not applicable if there is on OEM Amplifier and the OEM wiring used.

Wiring/Fusing

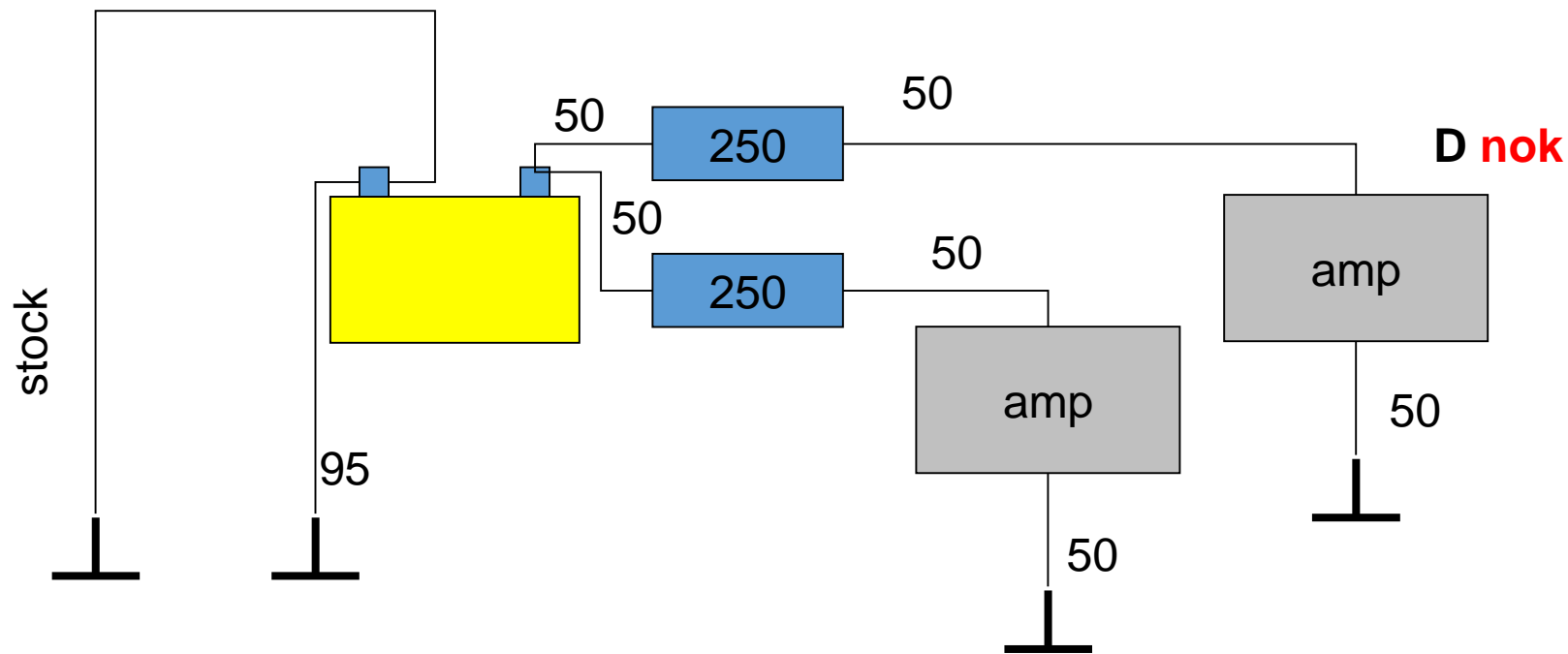
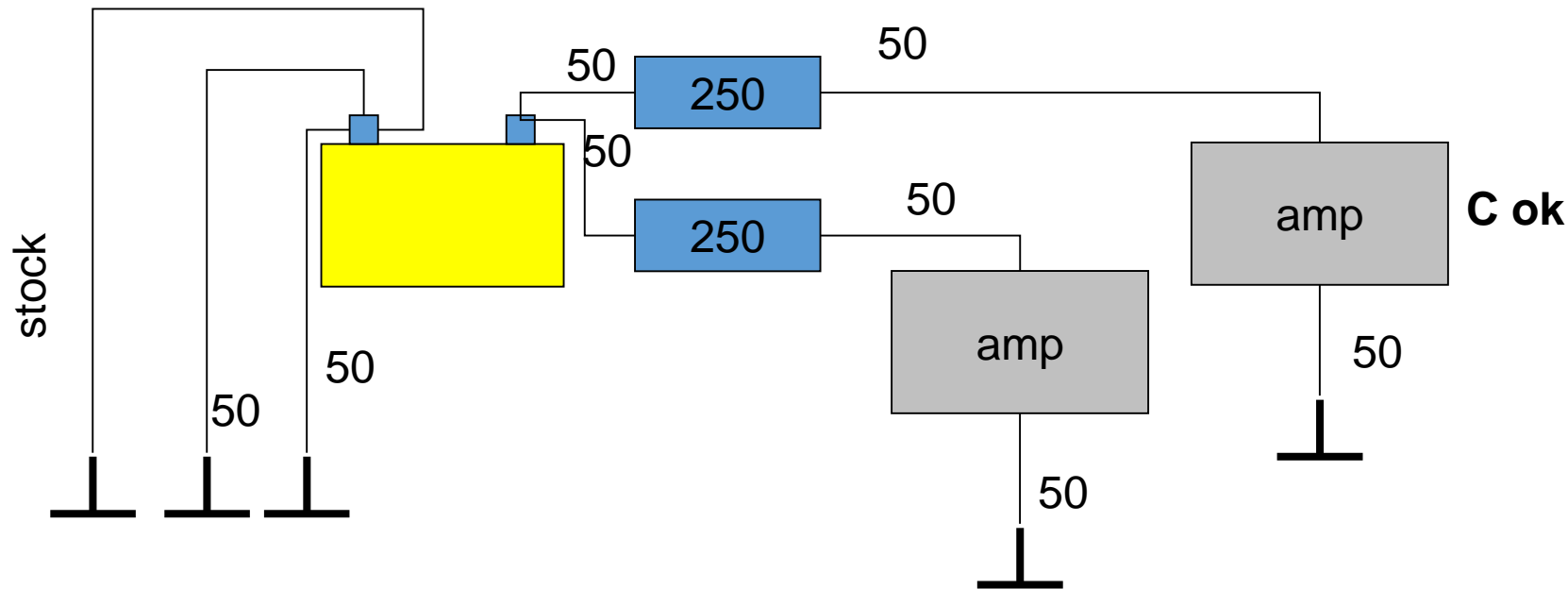


A ok

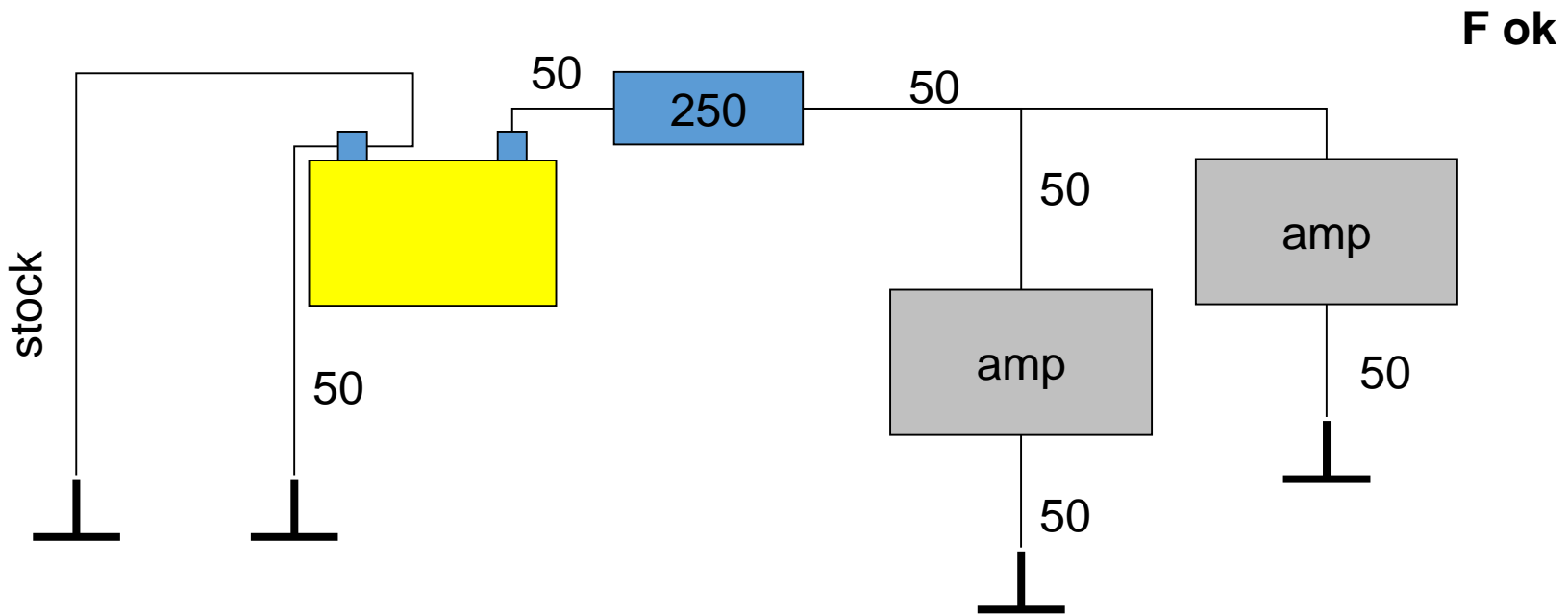
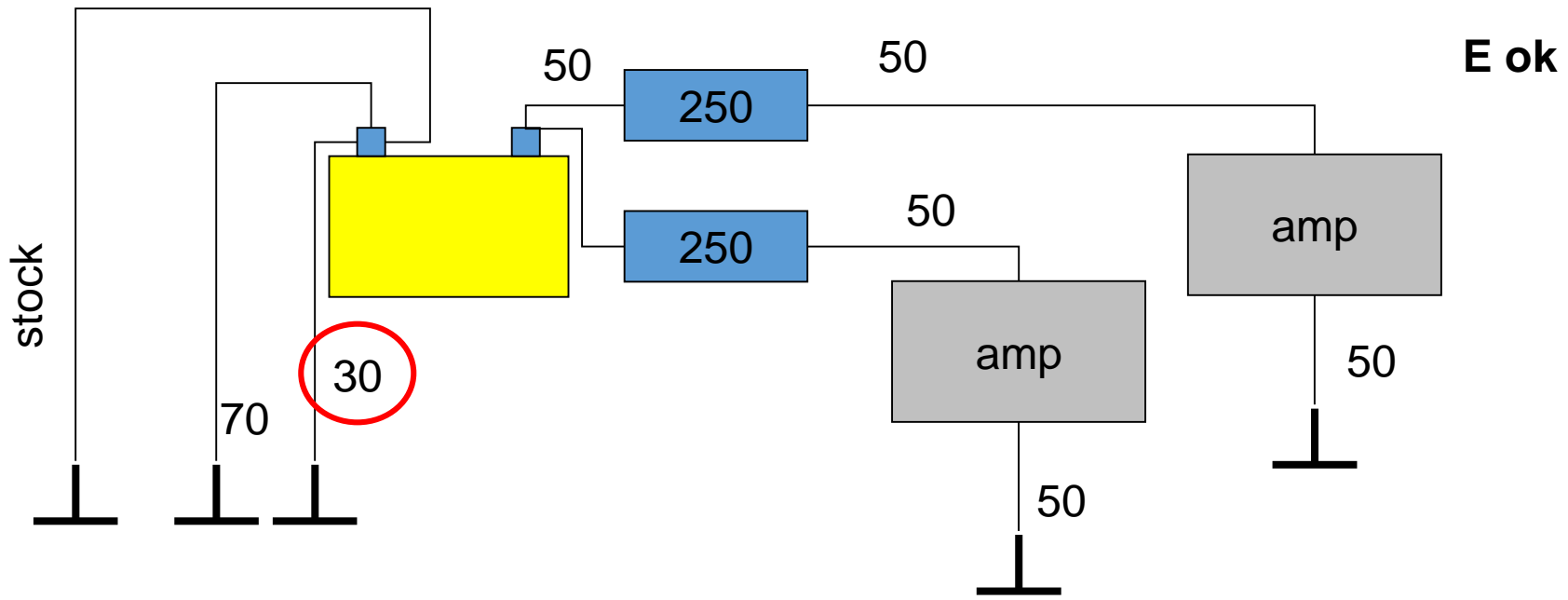


B ok

Wiring/Fusing



Wiring/Fusing



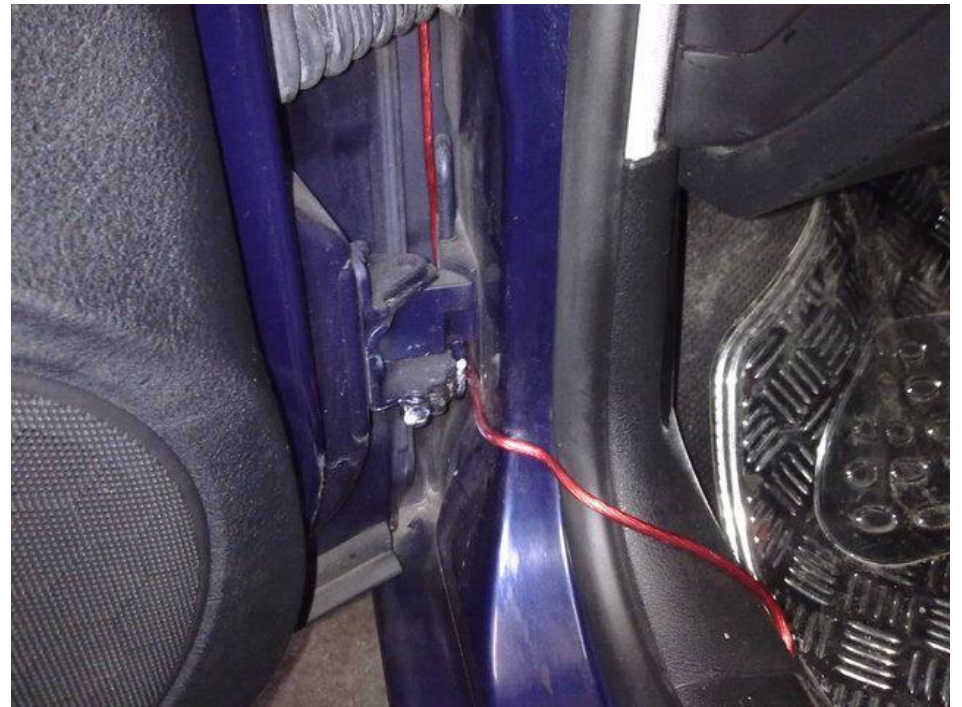
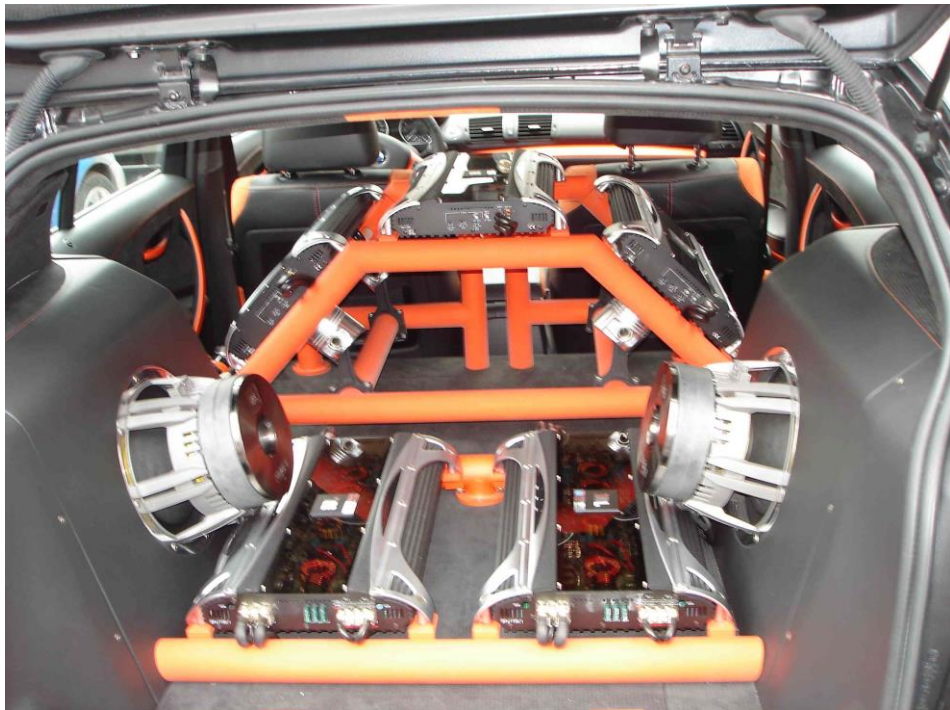
3.4. Installation rules for:SQ X Category Expert Limited

Any interior wires visible?

Check, if any wire of the system installation is visible from the drivers seating position)
(deduct 2 points for any visible system wire, minimum 0)

Watch out, no need to check backseats or under the dashboard. Also no wires for e.g. Handsfreekits are taken into consideration. iPod/USB not included as well. Wires cover by Snakeskin or similar materials are not considered as hidden.





3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

Speaker protection

Check whether all speakers in the interior compartment's doors and in the foot-room are protected from physical damage. Hidden Speakers like mounted under the dashboard do not need a protection when they cannot be reached with the foot of driver or passenger. One should not be able to touch the membrane with a cylindrical object with a diameter of 3 cm. There should be at least one protective element per speaker.

(deduct 2 points for any speaker not protected, minimum 0).
All other speakers do not need protection



3.4. Installation rules for:SQ X Category Expert Limited

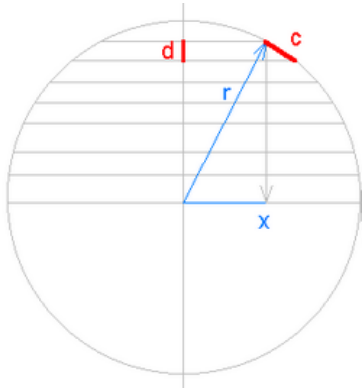
How to protect a speaker

Protective bars with less than 3 cm gaps will get no deduction. Grill cloth with high tension but no support underneath is not considered as sufficient protection and will get points deducted. Speakers, which are installed inside enclosures (and are not touchable) or with the baskets on the outside of the enclosure, do not need separate protection. The judges will verify the protection of the speakers as described above. Two (2) points deduction for each speaker not protected. (No negative scoring)

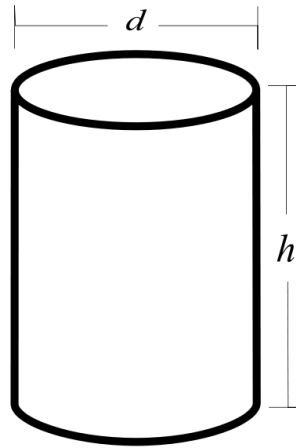
Grills or any other protective elements will not be checked for proper fixing.



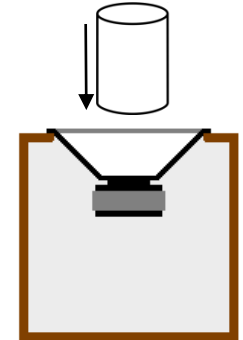
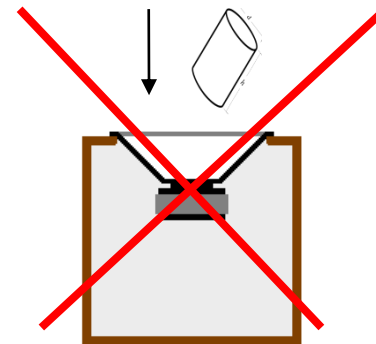
3.4. Installation rules for:SQ X Category Expert Limited



with a ball ?

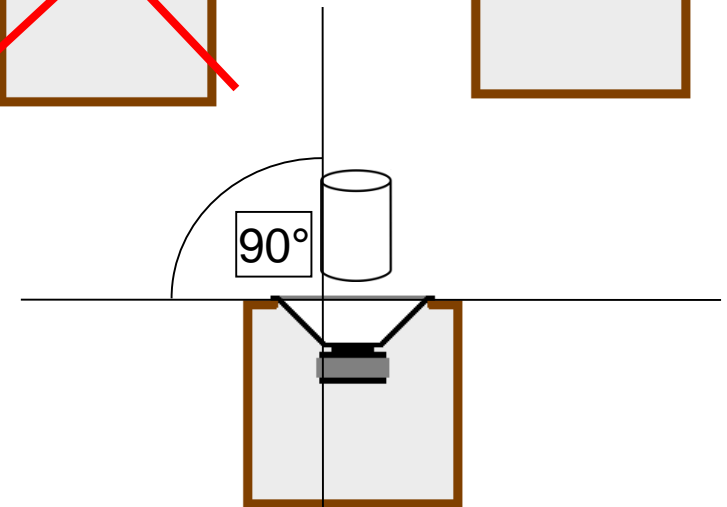


or with a cylinder?



The protection of speakers will be judge with a cylinder and with an angel from 90° between cylinder and the speaker mounting panel at the center position The cylinder should not be able to touch the **MEMBRAN**, but NO deduction when touching the **SURROUND!**

Also a "Phaseplug" is not part of the Membran.



3.4. Installation rules for:SQ X Category Expert Limited



A phaseplug isn't considered as a protective element.
So also in this case there must be at least ONE protective element.

A coax speaker is considered only as ONE speaker.



3.4. Installation rules for:SQ X Category Expert Limited

Speakers in this positions need to be protected



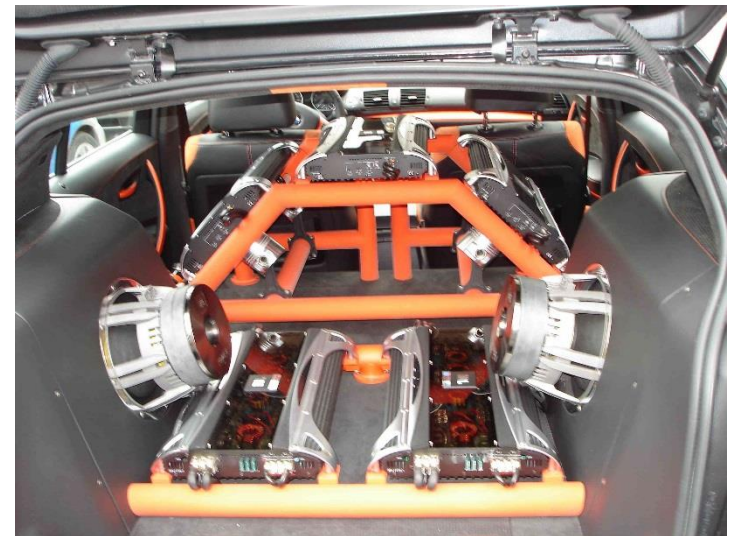
Doorpanel
Legroom Driver
Legroom Passenger

In case the driver cannot
be reached NO protection
Needed!



3.4. Installation rules for:SQ X Category Expert Limited

Speakers in this positions DONT need to be protected



3.4. Installation rules for:SQ X Category Expert Limited

System documentation

Check for:

Wire/Fuse Diagram

Documentation (photo-log) of not accessible connections / components

(deduct 1 point per missing element, minimum 0)

This is named "Documentation" its not to be judged like a Presentation, only the wire/fuse diagramm is needed in case all other components and wire connections are visible. Used OEM equipment is excluded from the documentation. We don't judge craftsmanship here, this is only the documentation, even a bad install can be perfect documented.

3.4. Installation rules for:SQ X Category Expert Limited

Documentation

All components not accessible or hidden from view should be explained in the documentation.

What to look for:

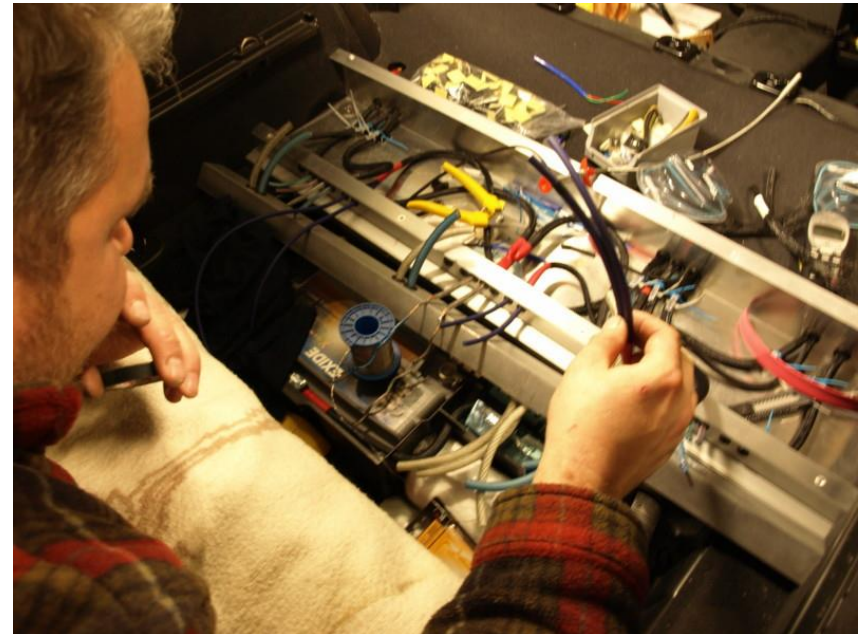
Black boxes
Crossovers (passive and/or active)
Speakers behind door panels or dashboard grills
Additional battery
Etc.

All wires to components not accessible or hidden from view should be explained in the documentation.

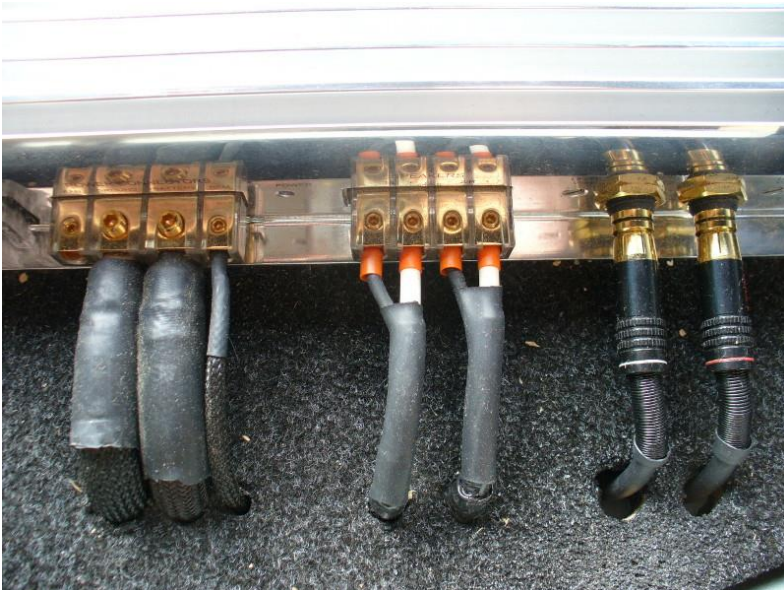
What to look for:

- Behind source unit
- Black boxes
- Crossovers (active and/or passive)
- Behind/under covers, racks, carpets etc.
- Power / Ground wires
- Speaker wires
- Signal-cables (including cables to multi-media-screens, remote controls, etc.!!!)
- Control-cables (bus-cable to processors etc.)
- Connections to additional battery
- Etc.

watch out for:
Headunit DC/DC Converters
Headunit BlackBoxes



3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

All components not accessible or hidden from view should be explained in the documentation.

What to look for:

Black boxes

Crossovers (passive and/or active)

Speakers behind door panels or dashboard grills

Additional battery

DC/DC Converter

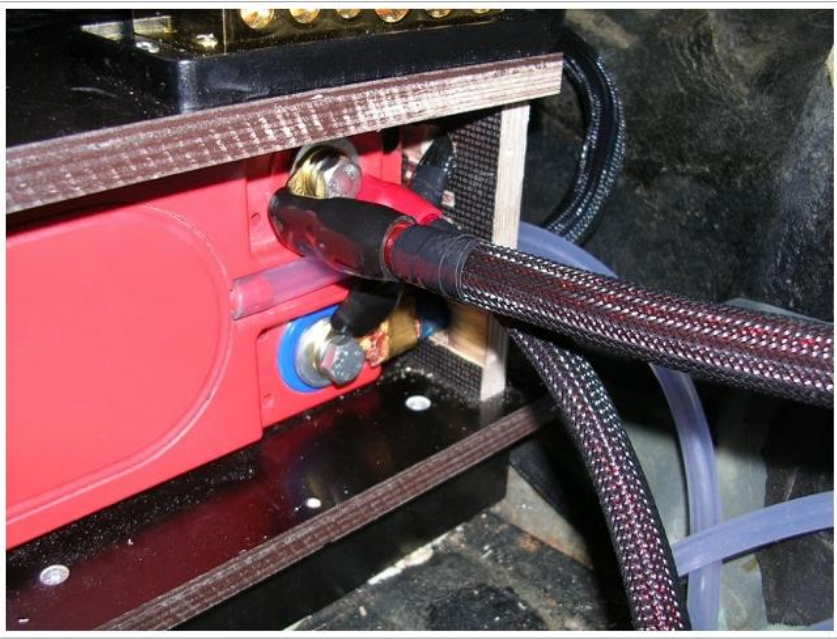
Etc.



3.4. Installation rules for:SQ X Category Expert Limited

Wires properly terminated?

Check, if all wires are properly terminated - either by physical inspection or by photo log
(deduct 1 point per not properly protected wire, minimum 0)



3.4. Installation rules for:SQ X Category Expert Limited

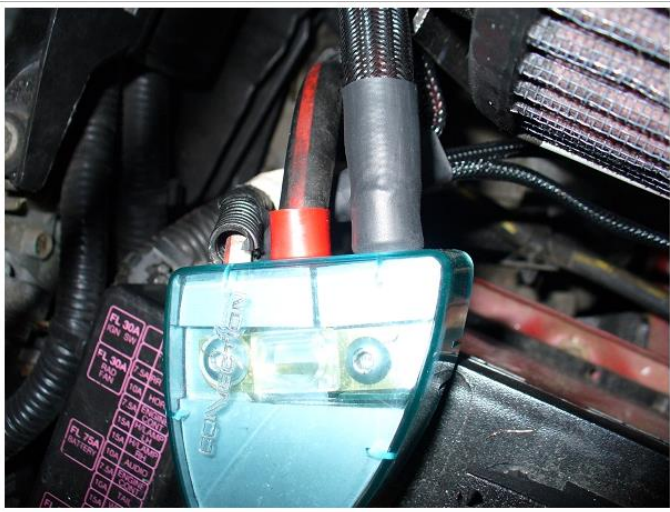


3.4. Installation rules for:SQ X Category Expert Limited

Wire terminations protected y/n

Check, if wire terminations are installed in such a way that short cuts are avoided / covered by a non-conductive material in vehicles driving condition (all panels/covers on etc.) and appropriate measures are taken if exposed to moisture (e.g. in the doors) - either by physical inspection or by photo log (deduct 1 point per not properly protected wire, minimum 0)

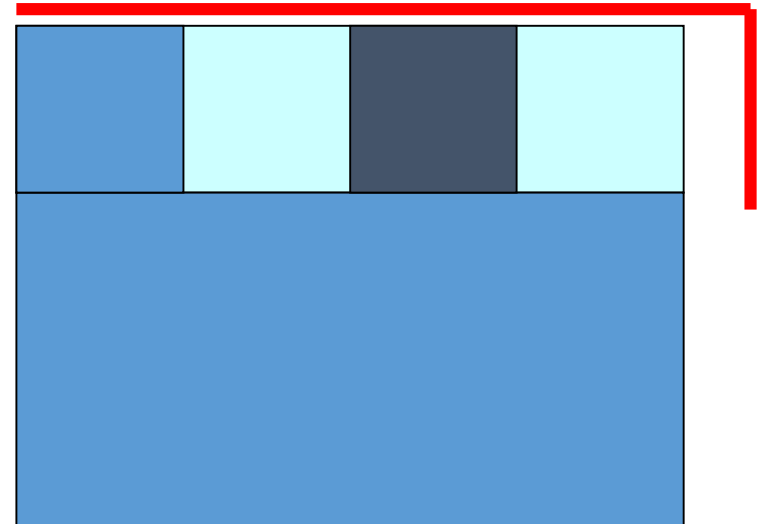
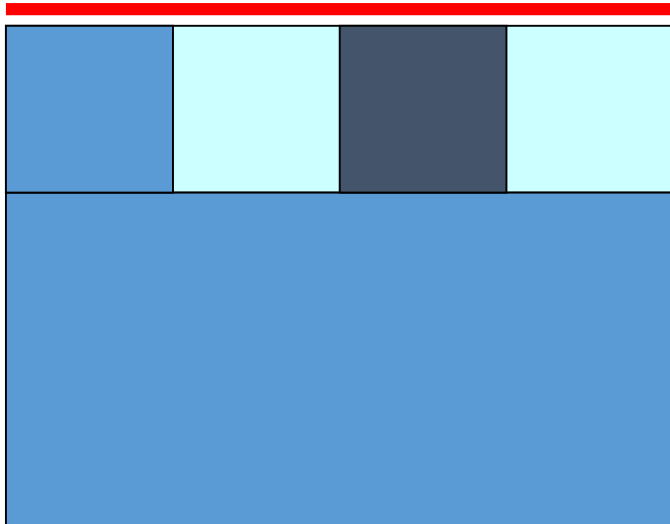
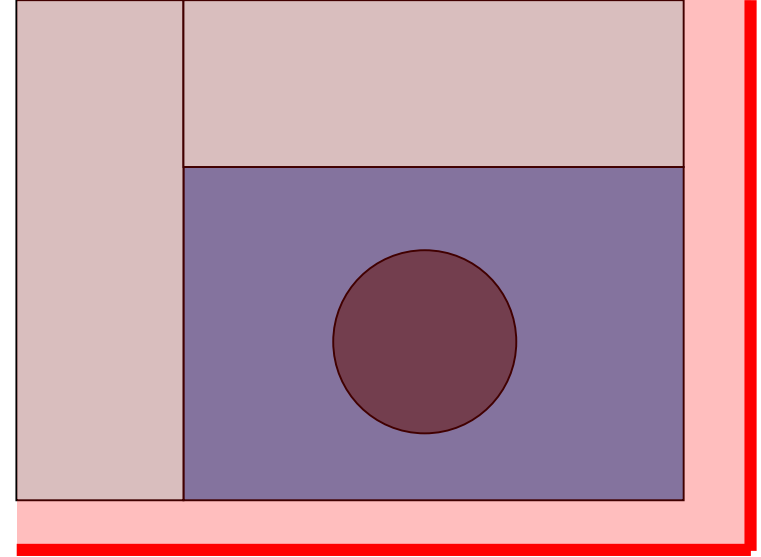
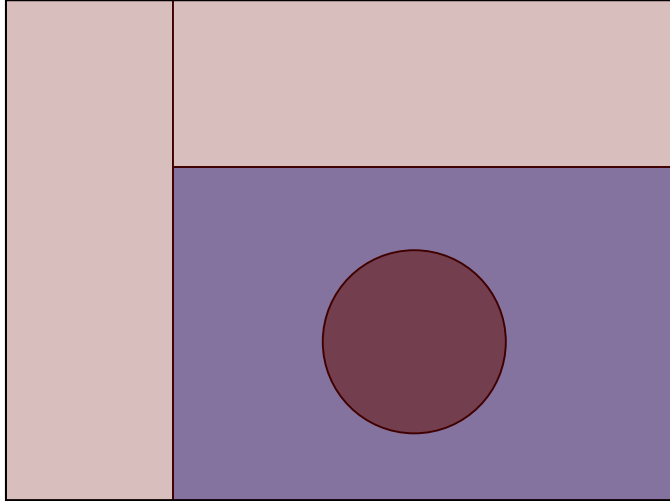
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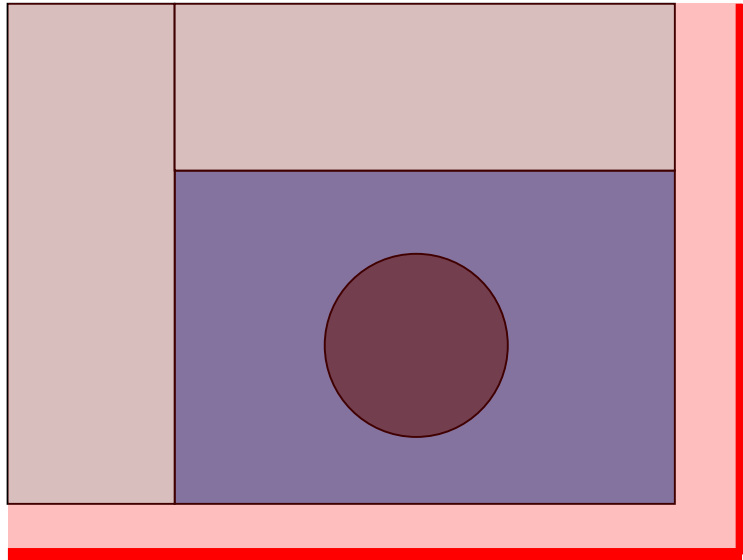
3.4. Installation rules for:SQ X Category Expert Limited



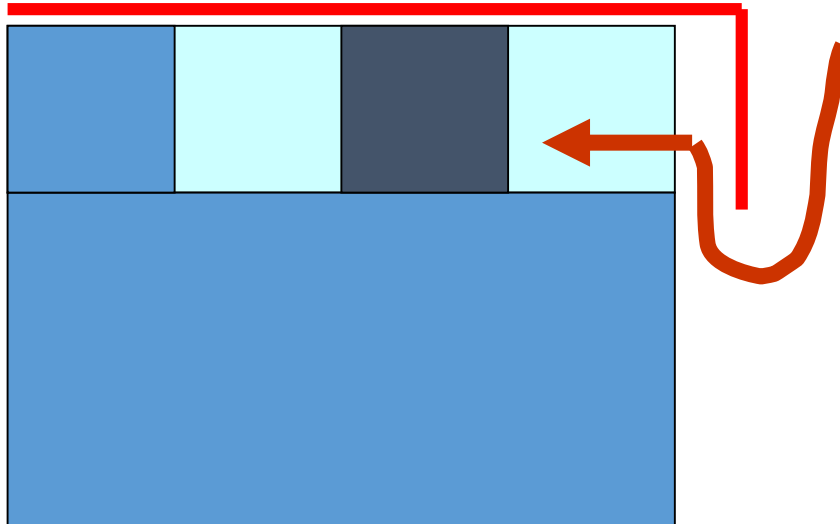
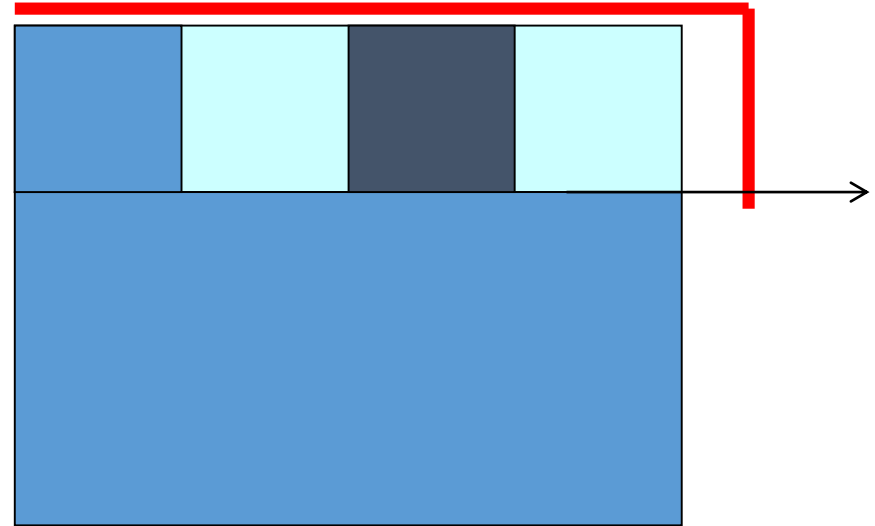
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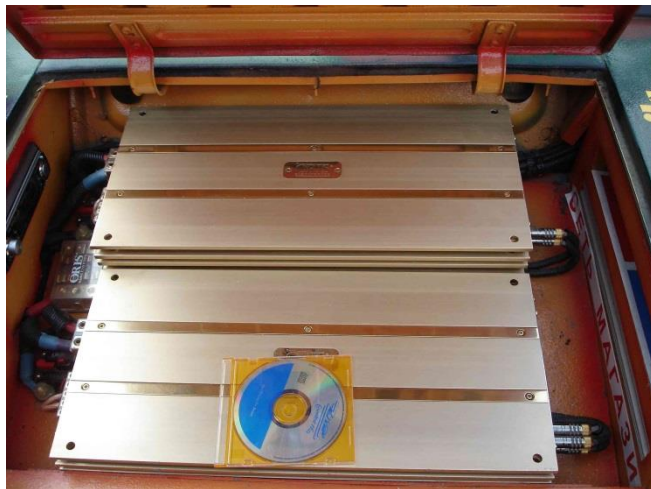
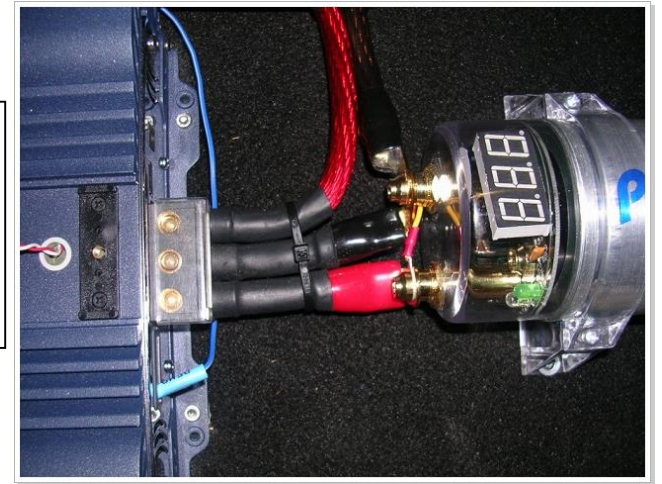
sufficient



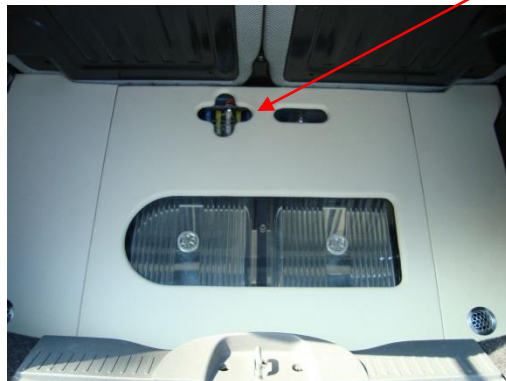
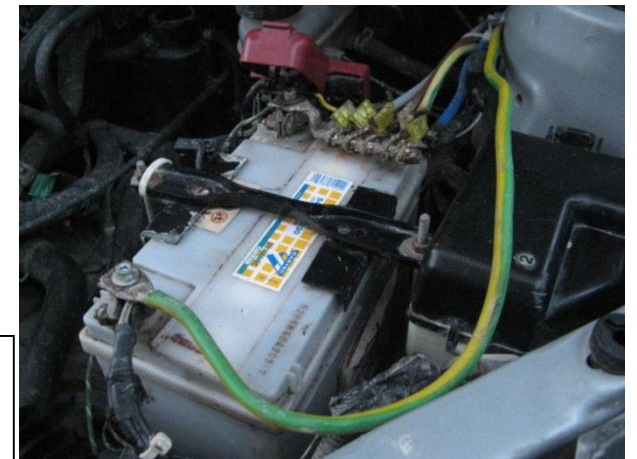
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One cover from a non
conductive material is sufficient,
the hood is not considered as a cover



NO deduction here !
if the fuseblock is covered
with the original carpet



3.4. Installation rules for:SQ X Category Expert Limited

Wires protected from damage y/n

Wires that pass metal (e.g. from engine compartment to interior) should be protected by grommets, rubbers or similar
For wires, that are mechanically stressed (e.g. into the door) or that are close to moving parts (e.g. engine-belts) protective sleeving should be used if not installed to OEM's cable trays (deduct 1 point per not properly protected wire, minimum 0)



3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

Craftsmanship

Check wire-routing, terminations, installation of components, installation of panels, surface finishes, equal gaps, etc. for the categories:

wiring

head unit

amplifiers

speakers

other components

(deduct 2 points per category where no effort was taken,
deduct 1 point per category where poor effort was taken,
minimum 0)

At this point we will judge how things are done and how much effort has been used. There is no perfect described way, as we dont want to kill the creativity of the Competitor.

3.4. Installation rules for:SQ X Category Expert Limited

Fixation: The competitor did find a repeatable way of fixation for his components, the choice of materials is appropriate for an automotive environment. The fixation points towards the car body are preventing the car body from corrosion. The method of fixation is strong enough to support the weight of the components.



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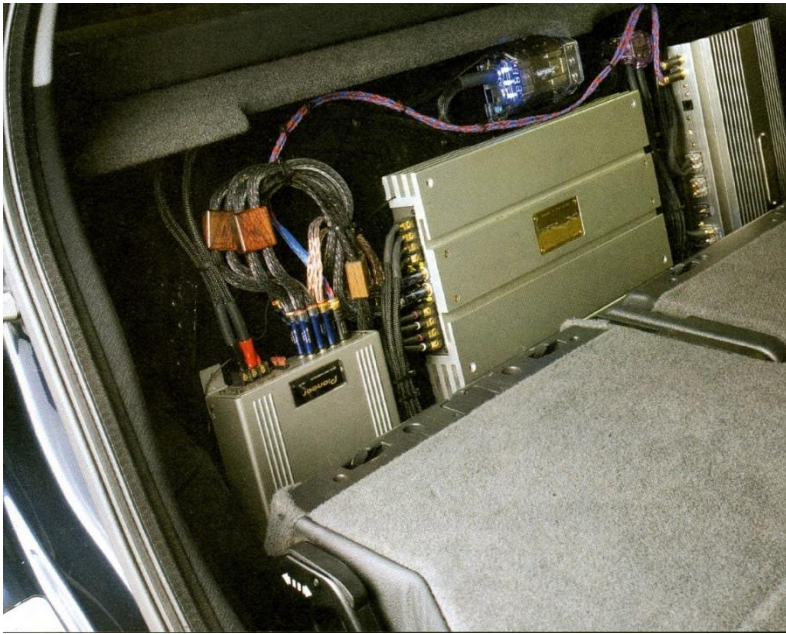


3.4. Installation rules for:SQ X Category Expert Limited

Wiring: The wires are easy to identify in terms of their usage. The fixation points out that is an automotive wiring and prevents wires and connections from corrosion. Fuseholder and boxes are part of the wiring, as well as the ground to the car body. The wiring system has an own prevention from human errors and shortcuts, e.g. in case of dual battery there is a sticker with a warning on each battery.



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3.4. Installation rules for:SQ X Category Expert Limited

Integration: The component looks smoothly integrated, gaps around the unit are either small or equal and parallel shaping in style of the unit or component will score higher The finish on the surface is worked out and shows efforts if it is an visible part. No cracks or damages are interfering.



3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

Presentation of system to the judges	7 minute presentation of the system to the judges by owner of vehicle / dedicated presenter (no movie) 1 point will be deducted per 30sec. Over time
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Points are given for the quality of the presentation and documentation used during the 7(14) minute presentation. All parts of the installation should be documented by photo-log. Highest points will be awarded when the documentation is self-explaining so the judges do not have questions about the development of the system. Lower points will be awarded for just showing some pictures without verbal comments by the competitor. The media used for the presentation does not influence the score – only the quality of the presentation and documentation counts. Please remember that the presentation is very important. This is what the judges will base their judgement upon. The details of the installation should be made clear during presentation. The judges should not have to look for the details themselves. What cannot be seen cannot be judged!!

- be polite
- dont disturb the competitor
- listen to the competitor
- warn the competitor when he is focusing to much on detail (1 time)
- missing pictures will end up in a triple penalty

3.4. Installation rules for:SQ X Category Expert Limited

design of interior

are all components installed to the interior follow a clear design idea y/n
(deduct 1 point per element not following the design idea, minimum 0)

The judging is not a question of your personal taste.It's a question of concept and a consistent theme.



3.4. Installation rules for:SQ X Category Expert Limited



The OE integration shows often that speaker different integrated. The only speakers in one view are integrated in the same way.



3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

design of trunk

are all components installed to the trunk follow a clear design
idea y/n
(deduct 1 point per element not following the design idea,
minimum 0)



3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

Bonus points

Award bonus points for elements that belong to the installation and

- that promote components in an extraordinary way,
- attract spectators (no noise accepted!!!),
- allow normal use of the vehicle without sacrifice though a system is installed,
- that make it a creative system presentation

The competitor must submit his requests (max. 20) for bonus points together with his presentation
(up to 3 bonus points possible per request - 1 for the idea itself, 1 if average realization, 2 if good realization)



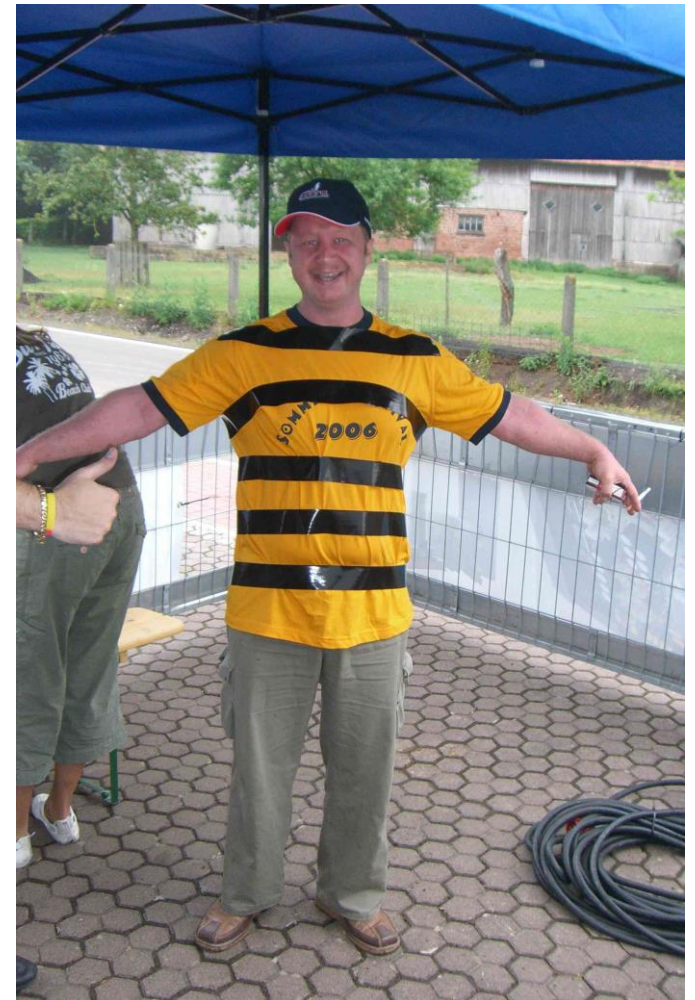
3.4. Installation rules for:SQ X Category Expert Limited



3.4. Installation rules for:SQ X Category Expert Limited

No points for common solutions:

- “heavy” Damping
- Funny dresses



Installation Matrix

Matrix Installation						
	E	S	M	X	X Unl	
Max. points	55	105	135	210	310	
Presentation to the public	10	10	10	10	10	
Cleanliness	6	6	6	6	6	
Main Fuse present y/n	10	10	10	10	10	
All components securely mounted	24	24	24	24	24	
All components fused		15	15	15	15	
Fuse of appropriate value		20	20	20	20	
First Optic impression		10				
Protection of speakers	5	5	5	5		
Interior wires invisible		5	5	5	5	
System documentation			10	10	10	
Wires properly terminated			5	5	5	
Wire terminations protected			10	10	10	
Wires protected from damage			5	5	5	
Craftsmanship			10	50	50	
Presentation of system to the judges				10	10	
Design of interior				5	10	
Design of trunk				5	10	
Overall design of vehicle					10	
Bonus points				15	100	

3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Presentation to the public

Show off the vehicle & installation to the public during the event time

Allow spectators to listen to the system

Exception: at the event active judges / back office staff's cars can remain closed due to safety reason

Will be checked several times a day

An EMMA Sound Off is a car show, nothing is more boring than a hall full of locked Cars. Its up to the competitor how he presents his car to the public. Watch out judges might not be able to follow this in case they compete themselves. Adapte your judging style to the event and circumstances.



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Cleanliness	Vehicle exterior should be "car-wash-clean", interior should be vacuumed (not perfect but reasonably clean) Car Wash clean y/n passenger compartment vacuumed y/n trunk vacuumed y/n (deduct 2 points per not cleaned area)
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An EMMA Sound Off is a car show, not a cleaning competition. Check the weather Conditions and judging order for your scoring.

3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Main fuse present y/n

Check, if a main fuse is installed into the main power wire within 40cm from any positive battery post and/or before passing any metal panel.
(if no, 0 points will be awarded)

“Main Fuse Present” means no judging of fuse size and/or wire diameter. It also tells, one single fuse in a multiple Amp installation is sufficient. But if 2 and or more main power wires are installed, each power wire needs a main fuse.



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Are all components securely mounted?	Check all components by physical inspection if fixed y/n Head Unit Other devices Amplifiers Speakers (if n/a, points will be awarded, deduct 2 points per not fixed component, minimum 0)
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We use the system of digital judging. Is not a question of how is it fixed its only a Question of YES or NO.

Watch out a Tweeter needs much less fixation force than a 18 inch sub.

3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

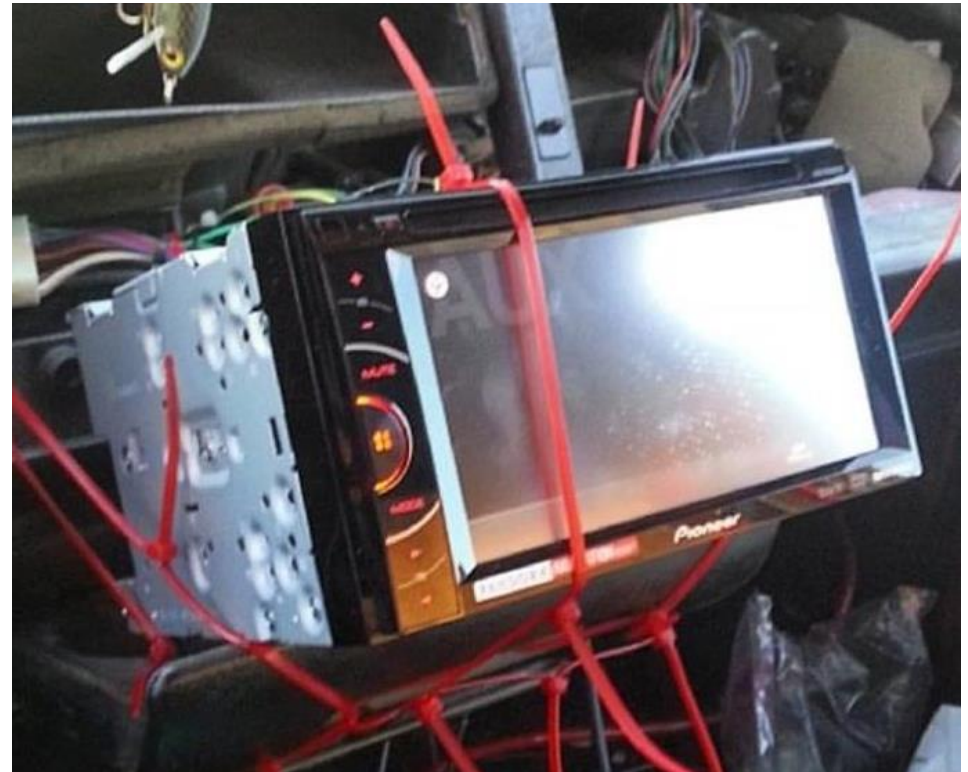
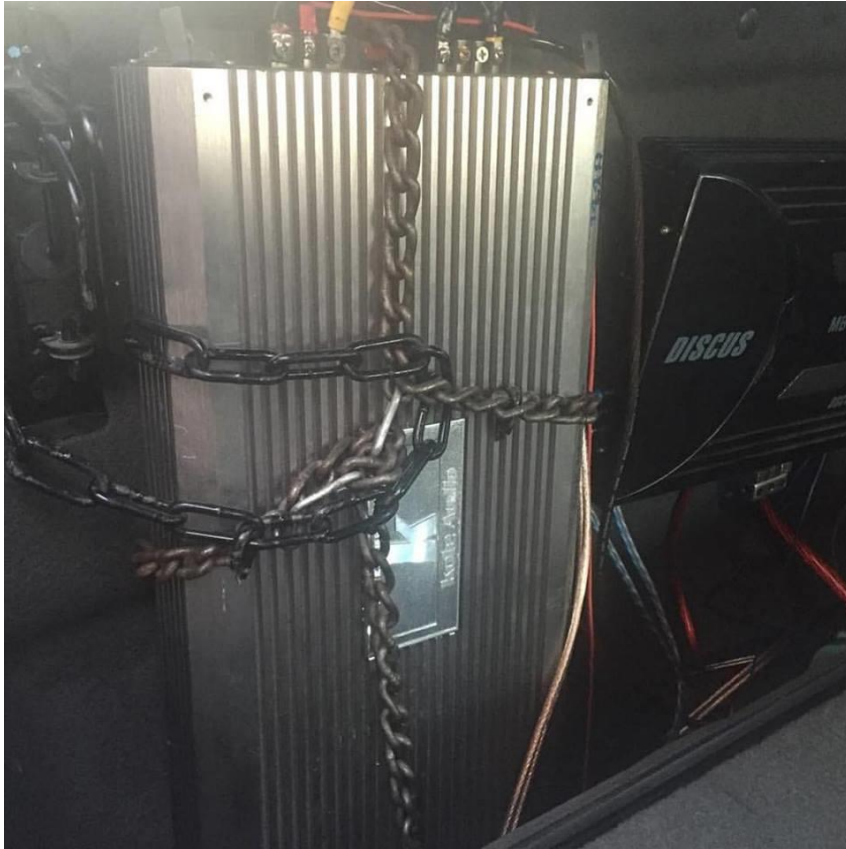


3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

This might be fixed but is it securely mounted?



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Are all components fused?	<p>Check, if a fuse is installed for any component belonging to the audio/multi-media system. All these fuses must be visible within three minutes (for all in total, not three minutes for every fuse!!!)</p> <p>Head Unit</p> <p>Other devices</p> <p>Amplifiers</p> <p>(if n/a or not visible, deduct 2 points per not fused component, minimum 0)</p> <p>EMMA Back Office will hand out a form at the registration where all components, wire diameters as well as fuses should be filled in by the competitor in case that no wiring diagram is prepared and available for the judging process</p>
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This point is a digital check if there is a fuse per component Yes or No. No fuse and/or wire diameter judging here. The 3 minutes are up to the competitor to prove that there is a fuse for every component installed and in use.

3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Is the fuse value appropriate to the wire size?

Check, if any fuse belonging to the audio system is of appropriate size for the wire it is protecting (according to the VW75212 - Dimensionierung von Leitungen und Sicherungen im Kraftfahrzeug):

0,5mm² - 10 Ampere

1,0mm² - 15 Ampere

1,5mm² - 20 Ampere

2,5mm² - 20 Ampere

4,0mm² - 30 Ampere

6,0mm² - 50 Ampere

10mm² - 60 Ampere

16mm² - 100 Ampere

25mm² - 125 Ampere

35mm² - 175 Ampere

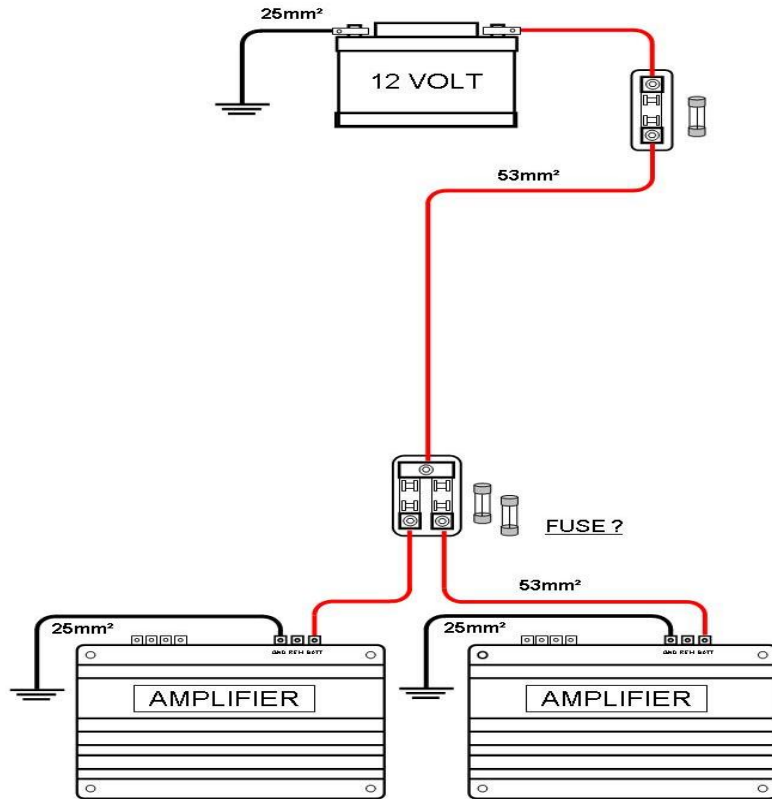
50mm² - 250 Ampere

70mm² - 300 Ampere

as above, all these fuses must be visible within three minutes (for all in total, not three minutes for every fuse!!!)

(if n/a, wrong size or not visible, deduct 2 points per not appropriate fuse, minimum 0)

3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

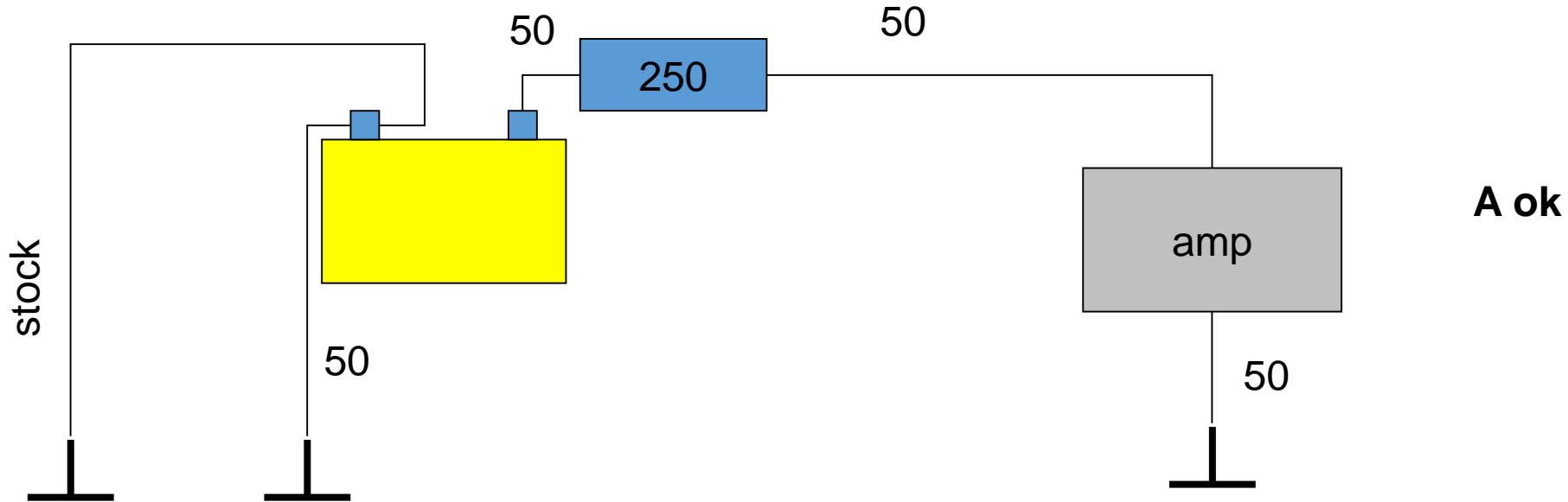


Factory dual battery systems may not have any fuse (or protection) between the batteries. It is up to the competitor to prove the original installation of his vehicle.
If the OEM-installation was not changed, any additional fuse or protection is not required.

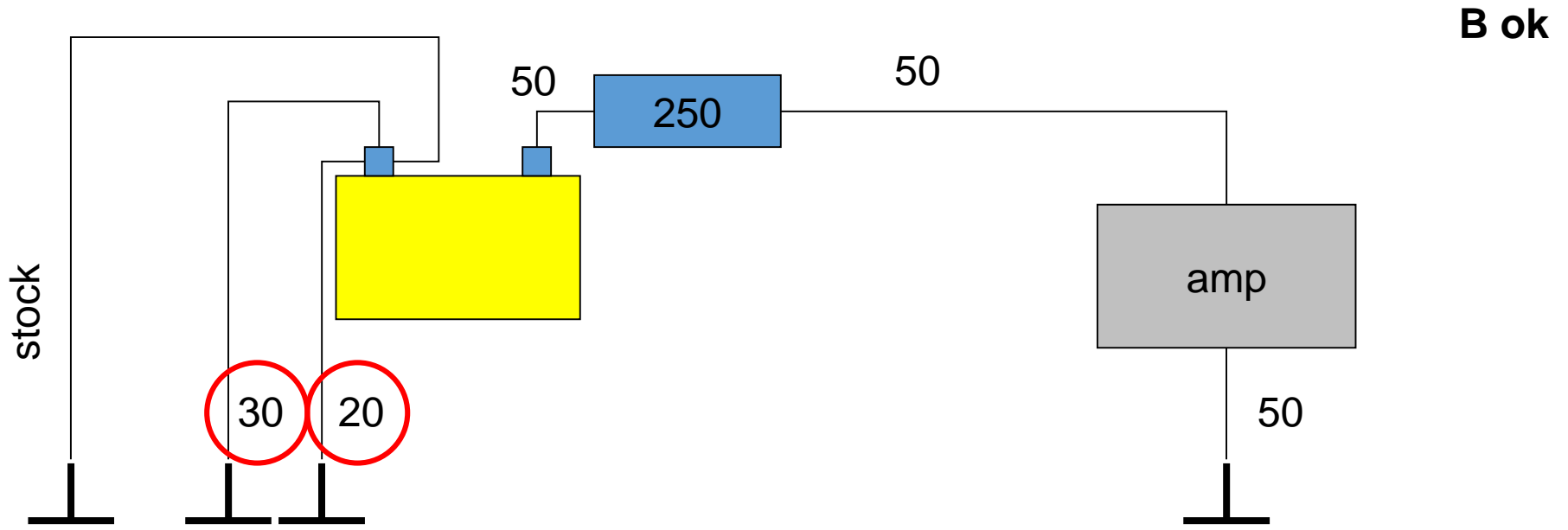
Please note that the above fuse rates are what the maximum fuse size is allowed to be! Not what the fuse should be. Smaller fuse sizes are always acceptable.

Watch out this rule is not applicable if there is on OEM Amplifier and the OEM wiring used.

Wiring/Fusing

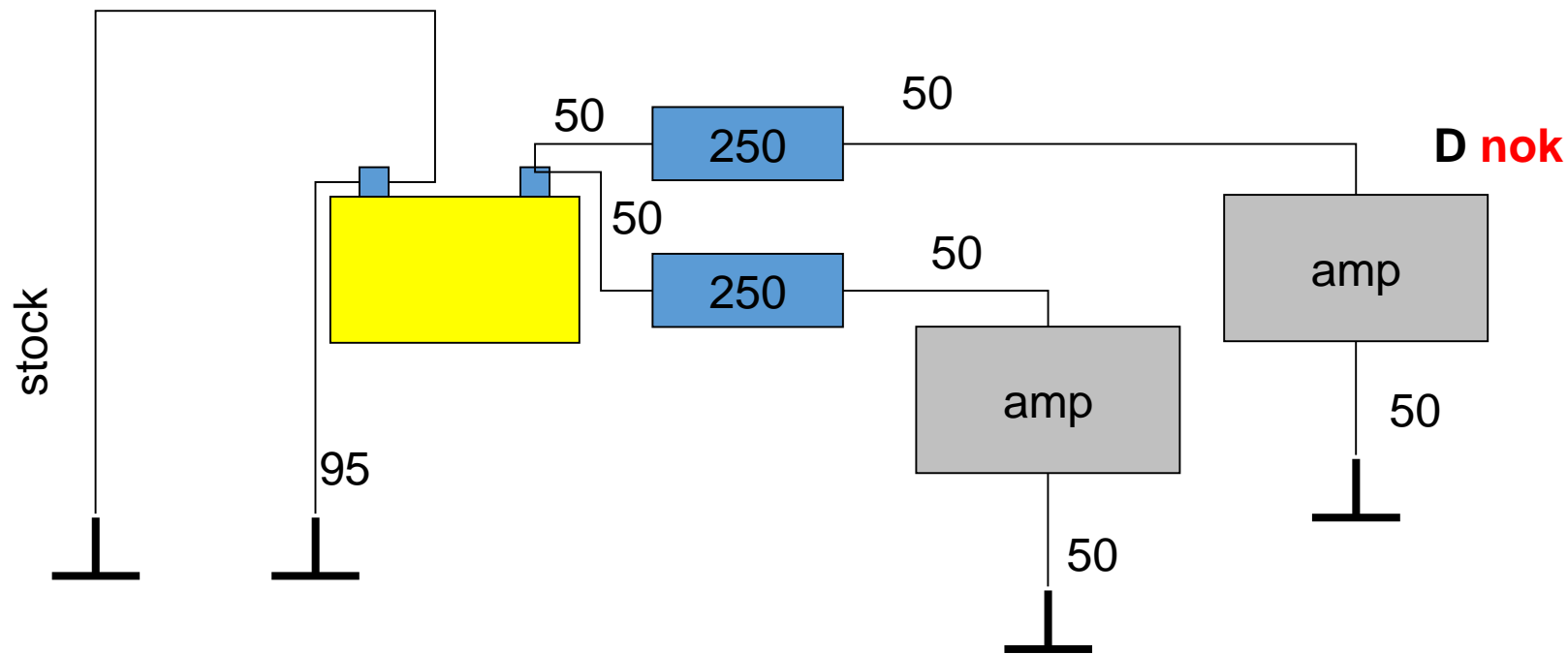
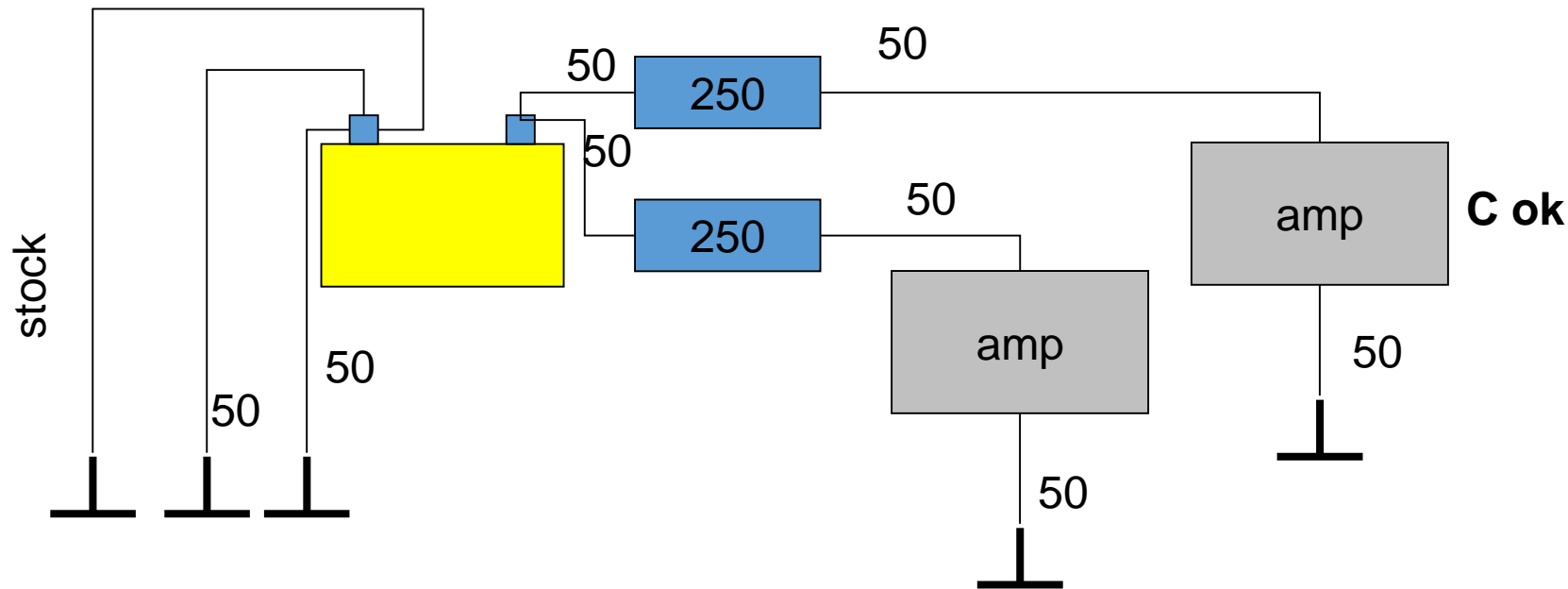


A ok

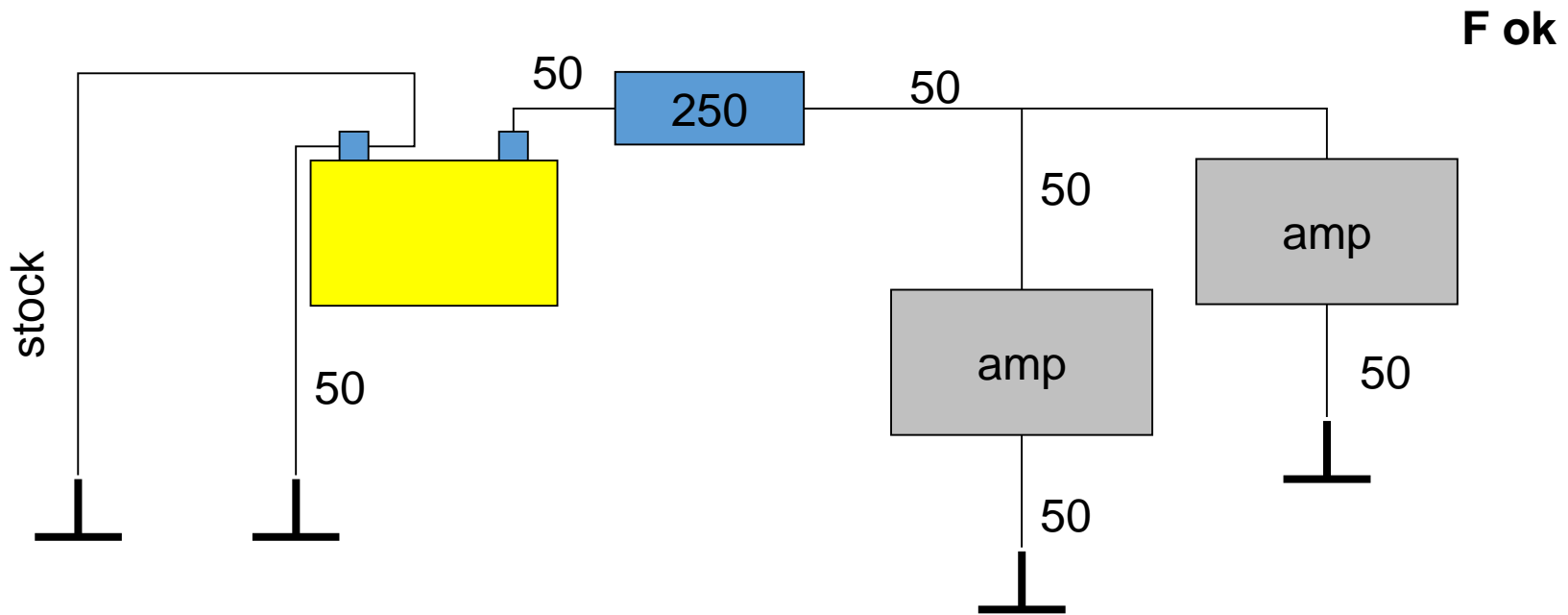
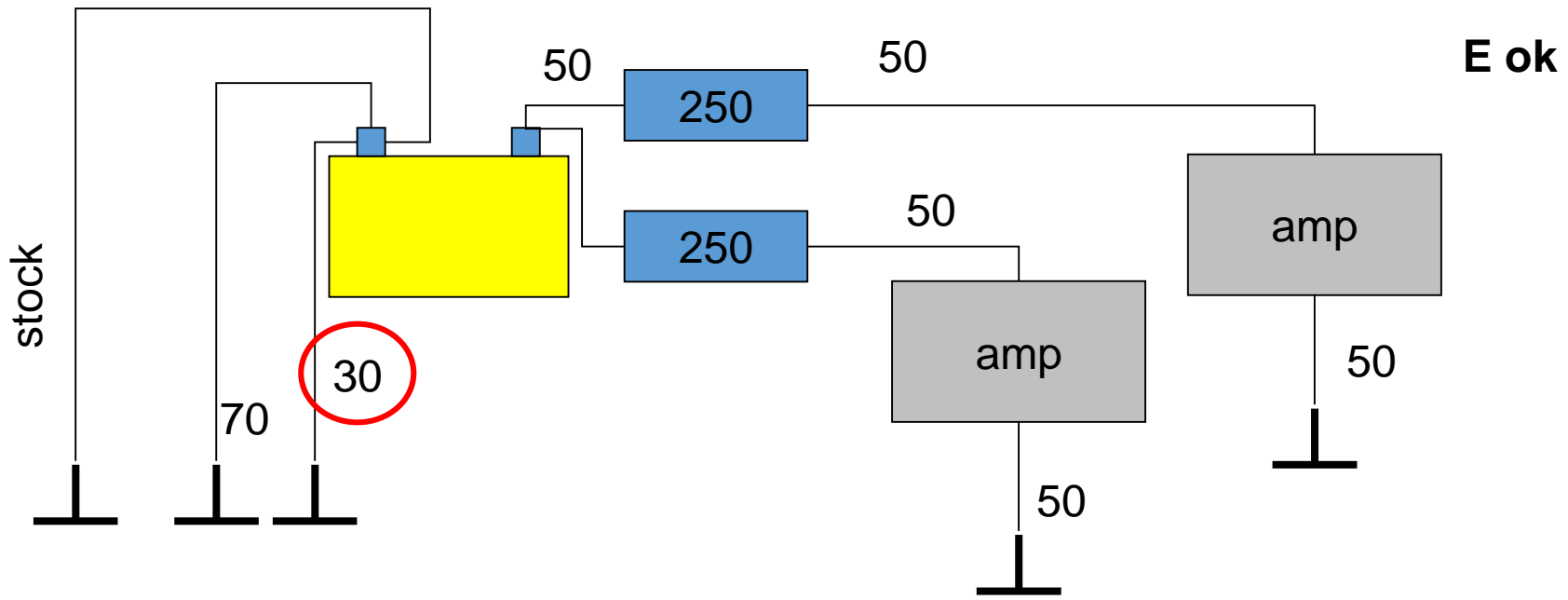


B ok

Wiring/Fusing



Wiring/Fusing



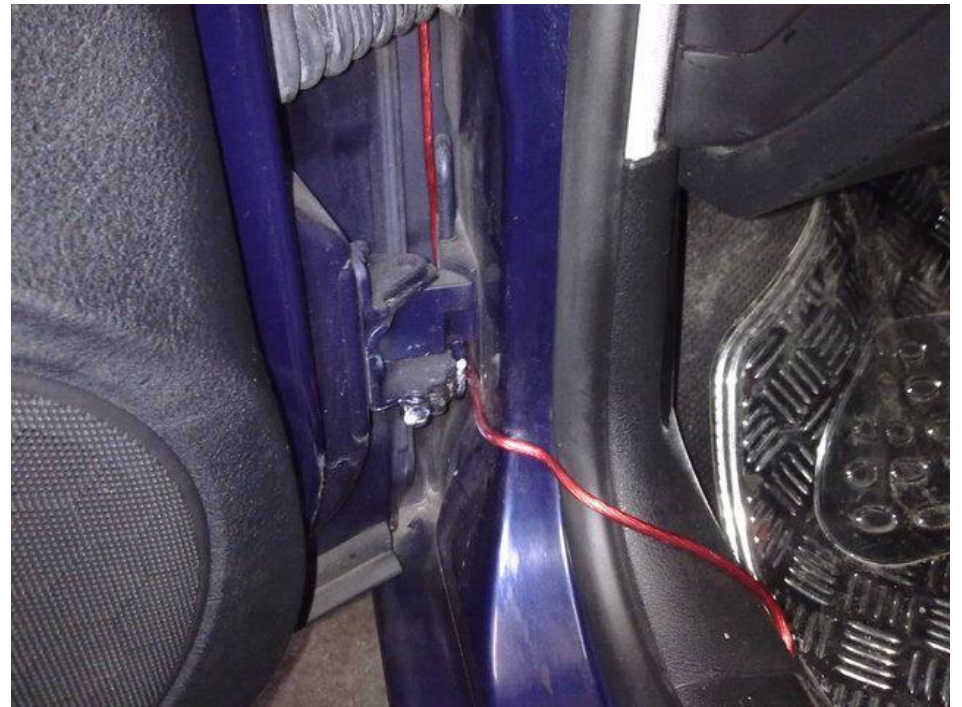
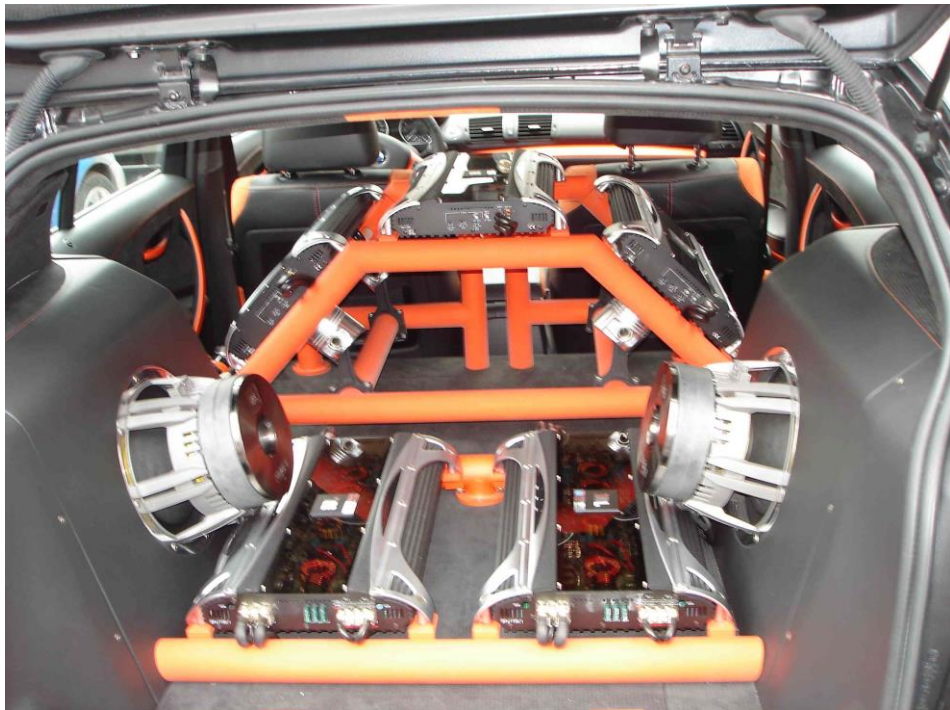
3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Any interior wires visible?

Check, if any wire of the system installation is visible from the drivers seating position)
(deduct 2 points for any visible system wire, minimum 0)

Watch out, no need to check backseats or under the dashboard. Also no wires for e.g. Handsfreekits are taken into consideration. iPod/USB not included as well. Wires cover by Snakeskin or similar materials are not considered as hidden.





3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

System documentation

Check for:

Wire/Fuse Diagram

Documentation (photo-log) of not accessible connections / components

(deduct 1 point per missing element, minimum 0)

This is named “Documentation” its not to be judged like a Presentation, only the wire/fuse diagramm is needed in case all other components and wire connections are visible. Used OEM equipment is excluded from the documentation. We don't judge craftsmanship here, this is only the documentation, even a bad install can be perfect documented.

3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Documentation

All components not accessible or hidden from view should be explained in the documentation.

What to look for:

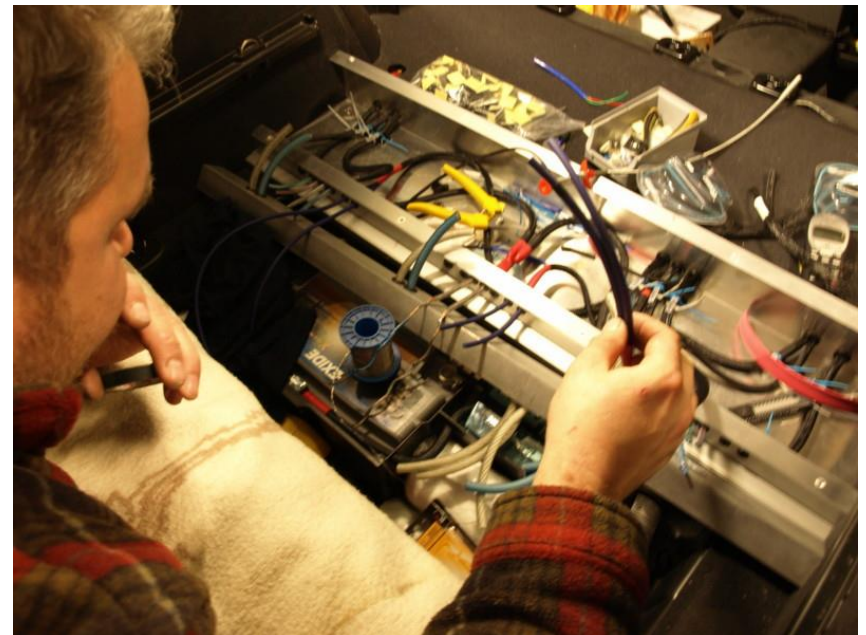
Black boxes
Crossovers (passive and/or active)
Speakers behind door panels or dashboard grills
Additional battery
Etc.

All wires to components not accessible or hidden from view should be explained in the documentation.

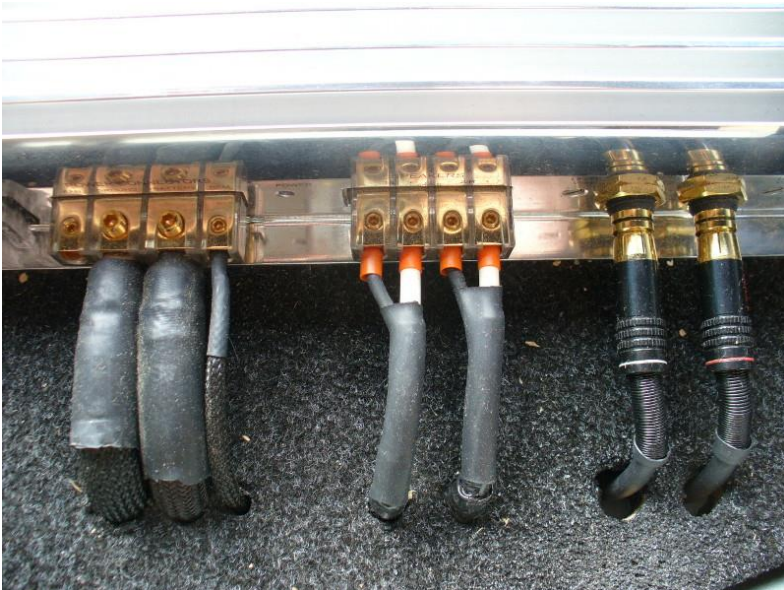
What to look for:

- Behind source unit
- Black boxes
- Crossovers (active and/or passive)
- Behind/under covers, racks, carpets etc.
- Power / Ground wires
- Speaker wires
- Signal-cables (including cables to multi-media-screens, remote controls, etc.!!!)
- Control-cables (bus-cable to processors etc.)
- Connections to additional battery
- Etc.

watch out for:
Headunit DC/DC Converters
Headunit BlackBoxes



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



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Crossovers (passive and/or active)

Speakers behind door panels or dashboard grills

Additional battery

DC/DC Converter

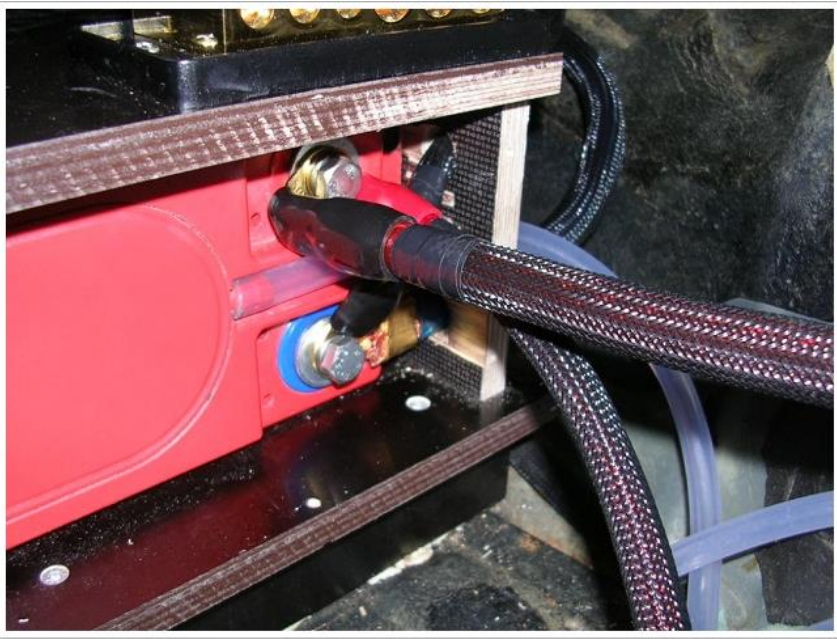
Etc.



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Wires properly terminated?

Check, if all wires are properly terminated - either by physical inspection or by photo log
(deduct 1 point per not properly protected wire, minimum 0)



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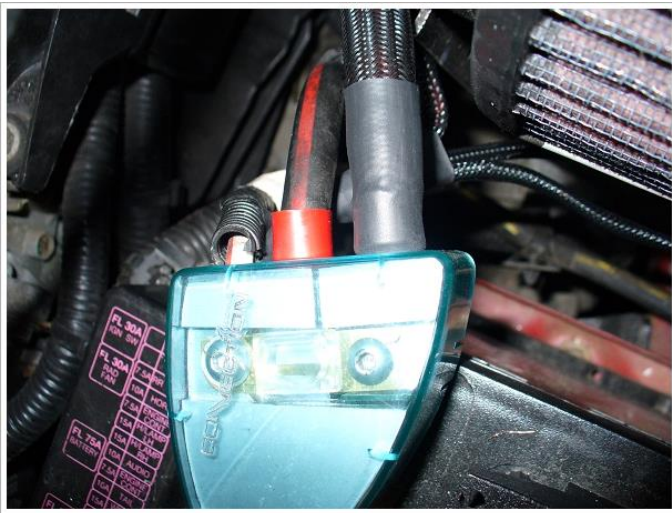


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Wire terminations protected y/n

Check, if wire terminations are installed in such a way that short cuts are avoided / covered by a non-conductive material in vehicles driving condition (all panels/covers on etc.) and appropriate measures are taken if exposed to moisture (e.g. in the doors) - either by physical inspection or by photo log (deduct 1 point per not properly protected wire, minimum 0)

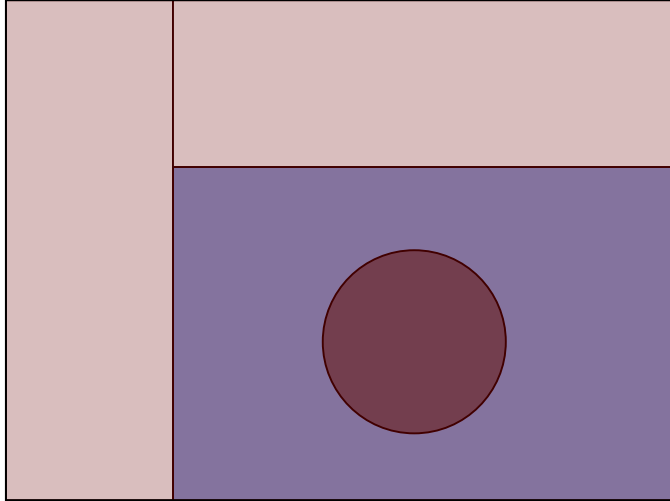
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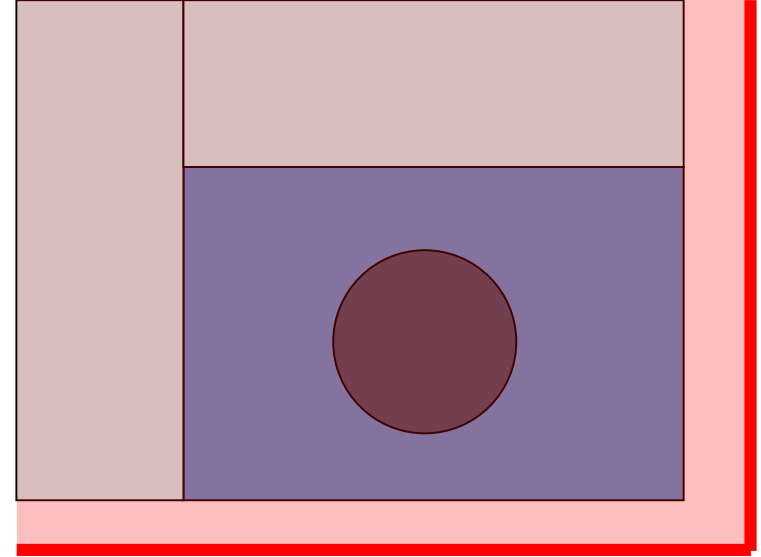
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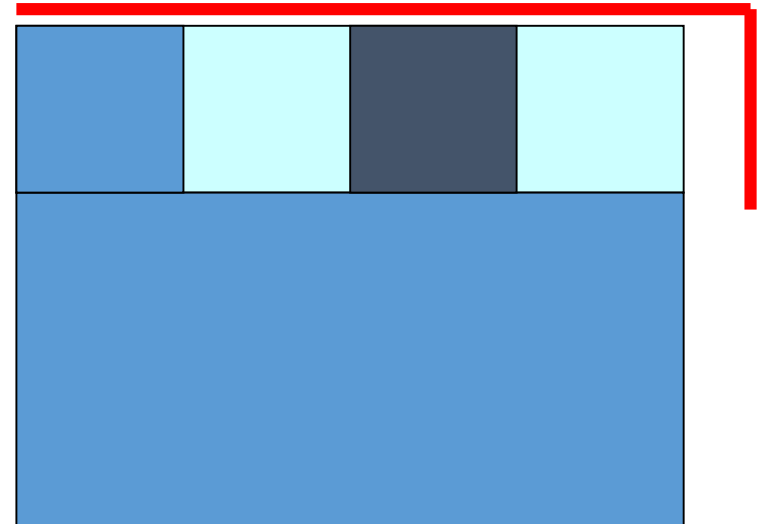
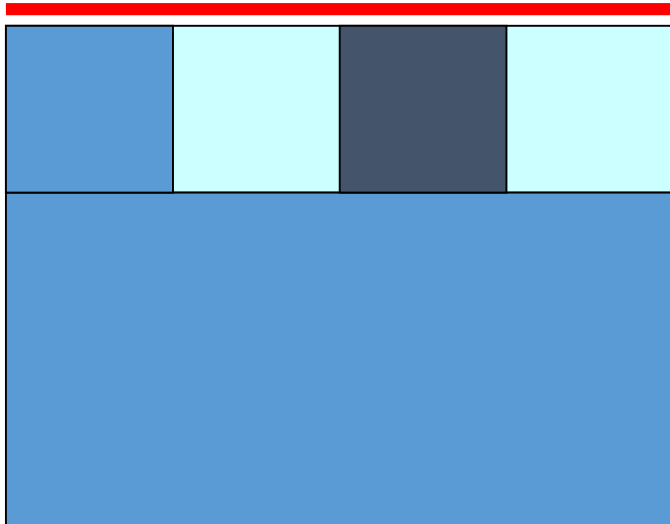
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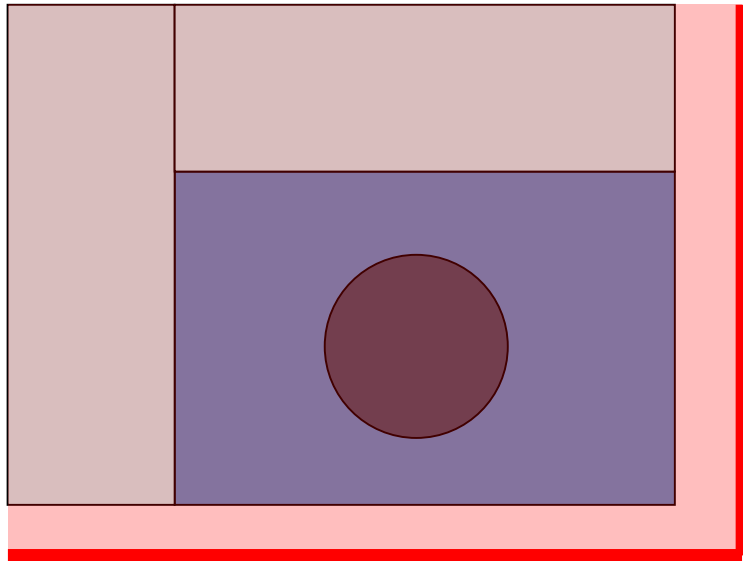
Not sufficient



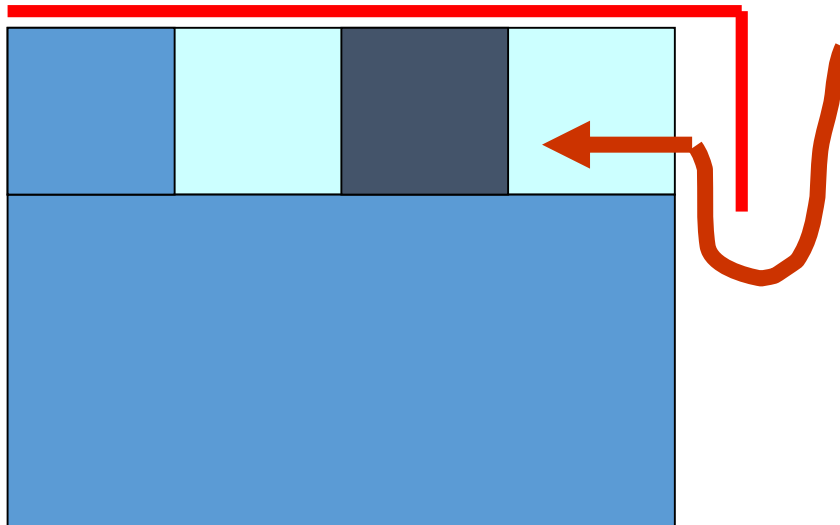
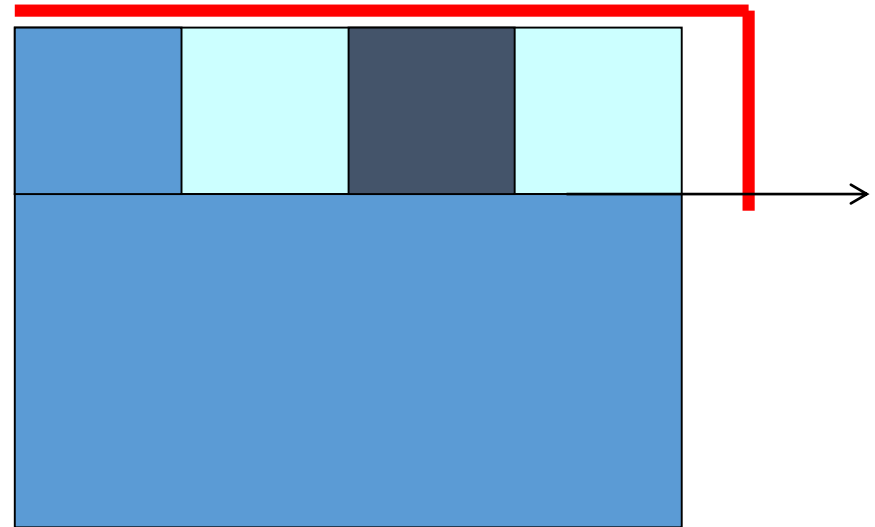
sufficient



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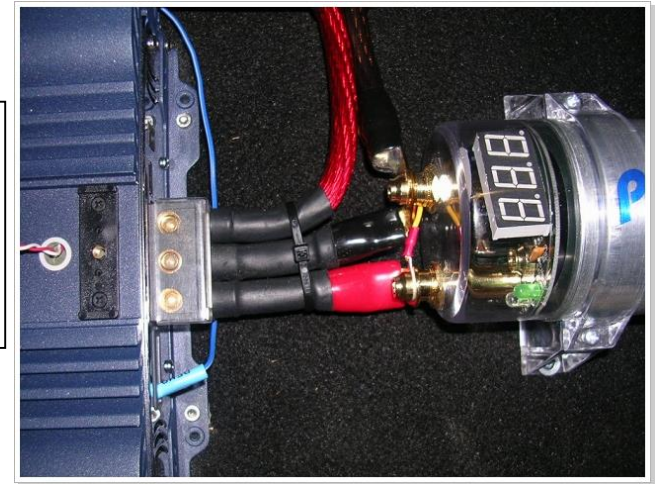
sufficient



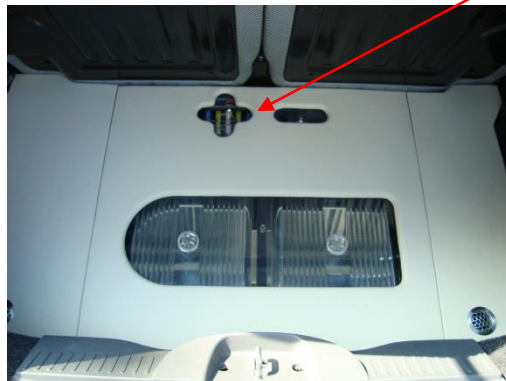
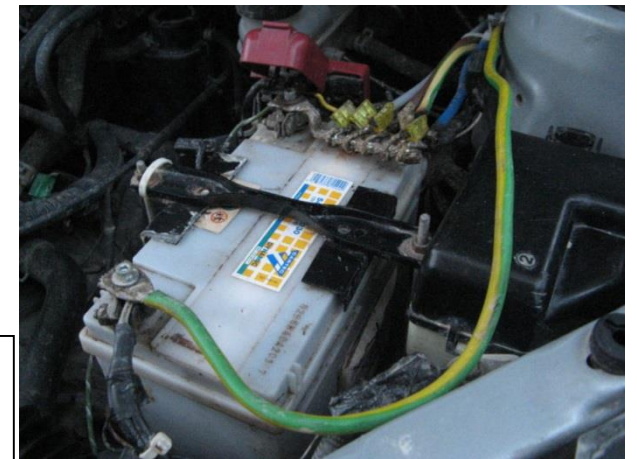
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if the fuseblock is covered
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Wires protected from damage y/n

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3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

Craftsmanship	<p>Check wire-routing, terminations, installation of components, installation of panels, surface finishes, equal gaps, etc. for the categories:</p> <ul style="list-style-type: none">wiringhead unitamplifiersspeakersother components <p>(deduct 2 points per category where no effort was taken, deduct 1 point per category where poor effort was taken, minimum 0)</p>
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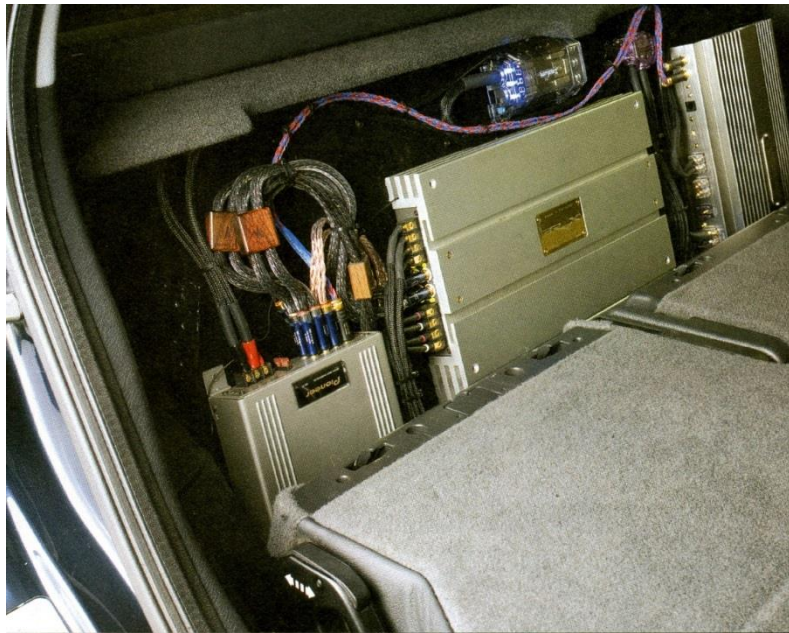


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3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



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Presentation of system to the judges	7 minute presentation of the system to the judges by owner of vehicle / dedicated presenter (no movie) 1 point will be deducted per 30sec. Over time
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Points are given for the quality of the presentation and documentation used during the 7(14) minute presentation. All parts of the installation should be documented by photo-log. Highest points will be awarded when the documentation is self-explaining so the judges do not have questions about the development of the system. Lower points will be awarded for just showing some pictures without verbal comments by the competitor. The media used for the presentation does not influence the score – only the quality of the presentation and documentation counts. Please remember that the presentation is very important. This is what the judges will base their judgement upon. The details of the installation should be made clear during presentation. The judges should not have to look for the details themselves. What cannot be seen cannot be judged!!

- be polite
- dont disturb the competitor
- listen to the competitor
- warn the competitor when he is focusing to much on detail (1 time)
- missing pictures will end up in a triple penalty

3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

design of interior

are all components installed to the interior follow a clear design idea y/n
(deduct 1 point per element not following the design idea, minimum 0)

The judging is not a question of your personal taste. It's a question of concept and a consistent theme.



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



The OE integration shows often that speaker different integrated. The only speakers in one view are integrated in the same way.



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design of trunk

are all components installed to the trunk follow a clear design
idea y/n
(deduct 1 point per element not following the design idea,
minimum 0)



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Bonus points

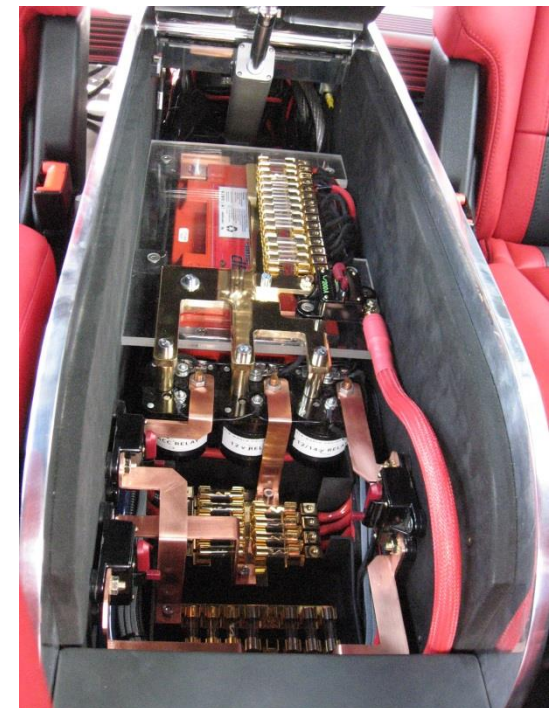
Award bonus points for elements that belong to the installation and

- that promote components in an extraordinary way,
- attract spectators (no noise accepted!!!),
- allow normal use of the vehicle without sacrifice though a system is installed,
- that make it a creative system presentation

The competitor must submit his requests (max. 20) for bonus points together with his presentation
(up to 3 bonus points possible per request - 1 for the idea itself, 1 if average realization, 2 if good realization)



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



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Overall design of the vehicle

To score full points, the car itself and the components installed in it must show a design theme that was followed, throughout the car; inside, outside and to the trunk compartment. It should be immediately clear that the car was designed as a project from beginning, with a clear statement to the judges and the viewers.

The kind of design theme is of no matter; but the competitor should be aware that an original looking car is not able to score any points on the areas where no effort for design was taken.

(deduct 1 point per element not following the design idea, minimum 0)

3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited



3.5. Installation rules for: SQ & MM X Category Expert Unlimited /ESPL Expert Unlimited

No points for common solutions:

- “heavy” Damping
- Funny dresses



OK then thanks for your questions.

Good Luck.

Werner Rothshopf, Rene Krosse
and Jan Schleicher