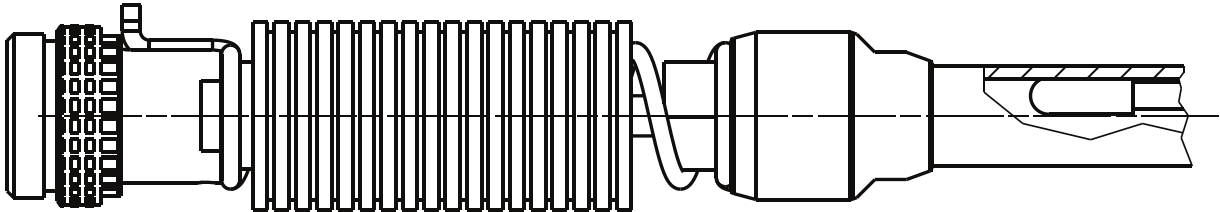


Background Information:

These instructions describe how to cut back and reconnect the *Magic Pushrod 1* with cable 209/09 for IBAK pushrod camera systems.



Required Parts:

1 off	Connector insert, assembled	p/n 048630841
1 off	Tube	p/n 048611542
1 off	Sleeve	p/n 048606242
1 off	Potential contact	p/n 048631542
	Loctite ® 243 threadlocker	
	Loctite® 511 threadlocker	
	Loctite® 9455 two-component adhesive, components A&B	

for use with an HSP:

1 off	Resistor 1 Ω / 0.6 W	p/n 6100016
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Test Units and Measuring Equipment:

Pressure test unit	p/n 313201648
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Dokumentation:

wiring diagram [080069846](#)

- for use with KW LISY synchron:

drawing [803015531](#)

parts list [803015531](#)

- for use with HSP:

drawing [801910731](#)

parts list [801910731](#)

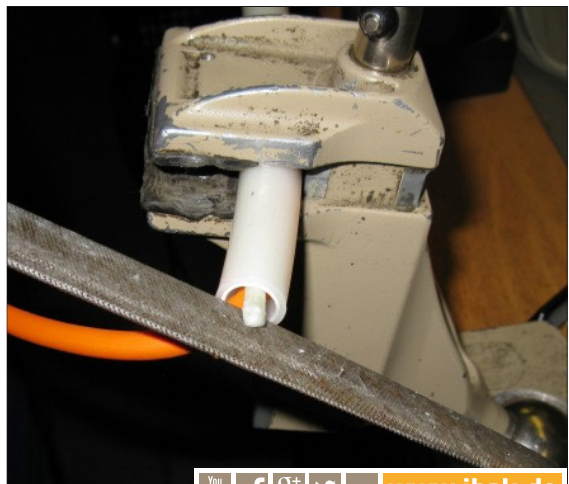
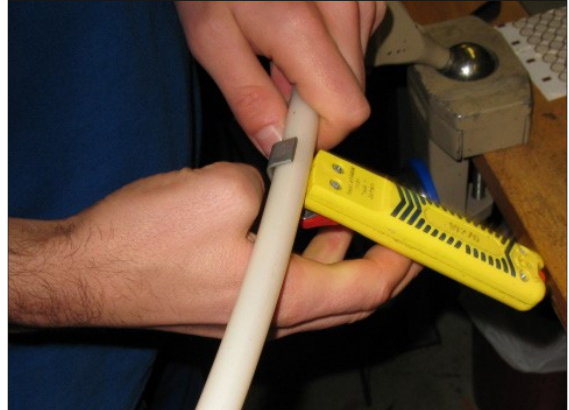
- for use with exchangeable drums:

drawing [803756801](#)

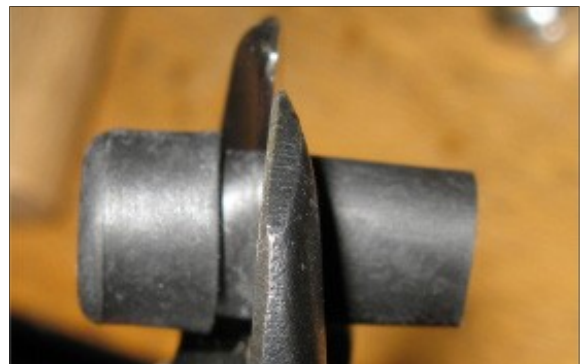
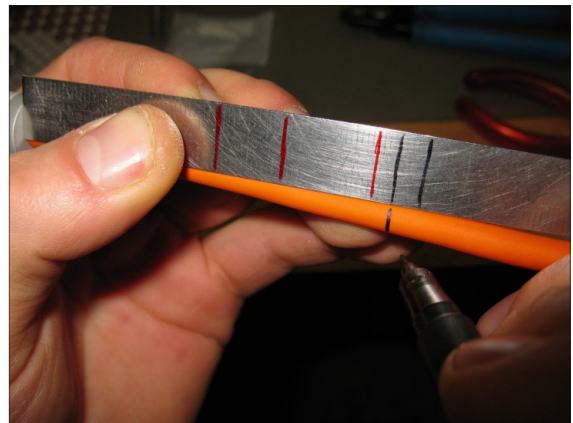
parts list [803756801](#)

Procedure to Follow:

- Strip the hose over a length of 15 cm with a Jokari stripping knife.
- Insert the following parts on the hose:
 1. Hose coupling nut
 2. Threaded bush
 3. Spring
 4. Tube
 5. Cable gland locknut
- Pull out the fibre glass rod approx. 1 cm and cut it off close to the front edge of the hose with suitable scissors.
- Round the end of the fibre glass rod a bit with a file.



- Apply some instant adhesive to the inside of the sleeve (IBAK no. 048606242), then push the rod with the sleeve approx. 1 cm into the hose or drive it in with a punch.
- Screw the hose coupling into the end of the hose with an open-end wrench (SW 14).
- Make a mark on the camera cable 78mm before the end of the hose coupling. Strip off the cable sheath as far as this mark.
- The rubber grommet of the cable gland must be shortened as shown on the right.



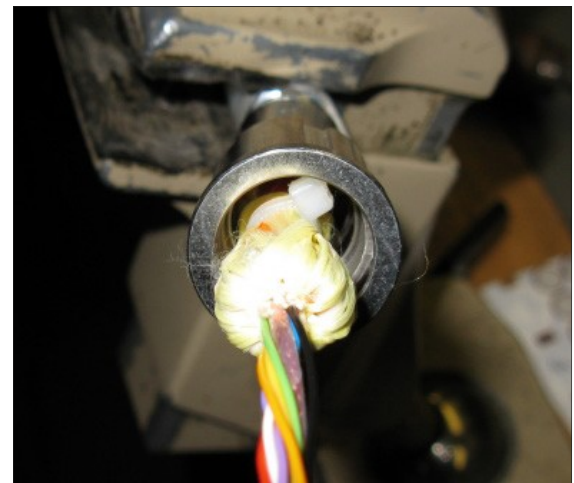
- Assemble the cable gland as shown on the right and insert it on the camera cable.



- Insert the tapered cone onto the end of the cable sheath.



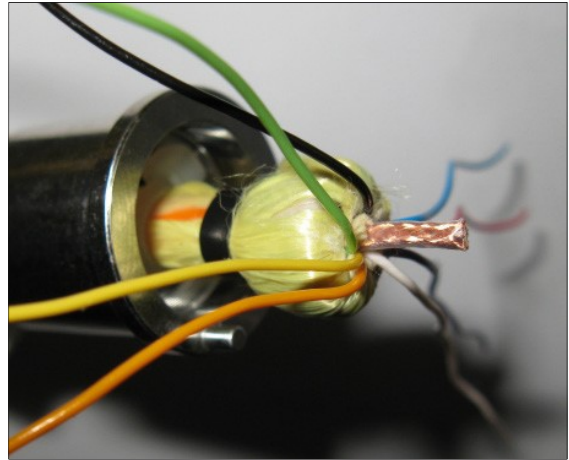
- Unravel the Kevlar braid and pull it to the rear over the tapered cone. Secure the Kevlar braid with a cable tie to begin with.



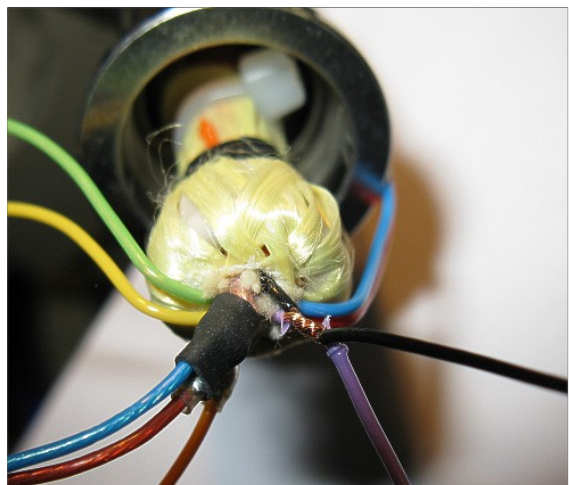
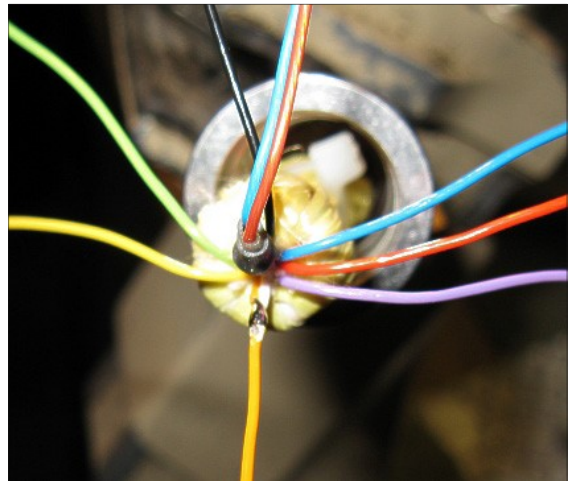
- Further secure the Kevlar braid with a narrow strip of insulating tape, the cable tie can then be removed later on.



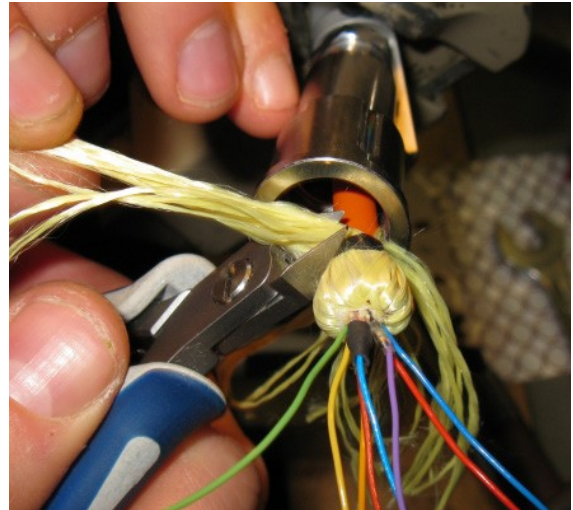
- Shorten the coaxial conductor to 8mm.



- Push back the shield of the coaxial conductor, wrap it around the inner conductor and twist. Then strip approx. 2mm of the inner conductor.
- Solder a piece of red wire approx. 7 cm long to the inner conductor and a piece of blue wire approx. 7 cm long to the shield. Insulate the inner conductor and the shield with heat shrink tubing.
- Strip the orange wire over a length of approx. 3 mm just behind the tapered cone and solder the orange and white wires together at this position. Then insulate the soldering with a heat shrink tube.
- For use with an HSP solder an additional resistor between the og/wh wire and the socket (see wiring diagram).
- Strip the violet wire just like the orange wire and solder the violet and black wires together. Then also insulate this soldering with a heat shrink tube.
- Strip the brown wire just beyond the tapered cone (approx.3mm) and tin but do not insulate.



- Trim off the excess Kevlar strands behind the insulating tape with side-cutting pliers.



- Drive the tapered cone into the cable gland, tapping it lightly with a piece of pipe (approx. 80mm long, 12 mm diameter, wall thickness 2mm, front edge slightly rounded).



- Fasten the cable gland to the soldering device with cable ties. Then trim off the wires approximately at the front edge of the soldering device. Strip the wires.
- Now solder on the wires as shown in the cable diagram. Do not insert any pieces of heat shrink tube onto the wires.
- Solder the *potential contact* (p/n 048631542) to the brown wire.



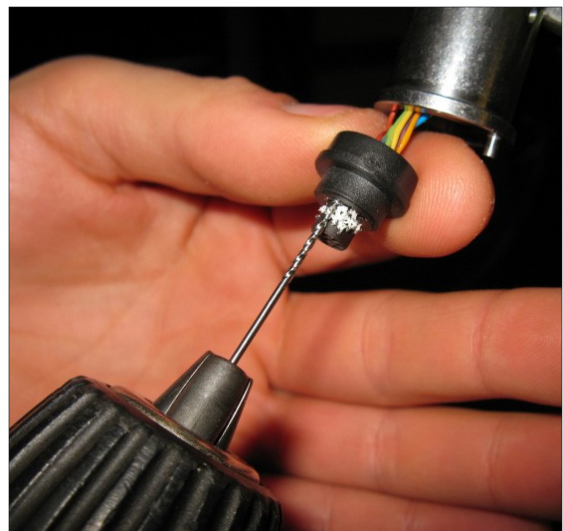
- Push the potential contact into the inner notch of the cable gland with a pair of tweezers.



- First of all, fill the interior of the connector with Loctite® 2K epoxy resin using the Loctite hand dosing unit. All the soldered contacts must be clearly visible within the grout. After this, the adhesive must be left to set for approx. 25 mins. (the setting time of the grout can be reduced slightly with a heat gun).



- Hysol 9455 DE epoxy resin data sheet
- When the connector grout has set, drill the small drill hole in the connector housing free again with a drill (\varnothing 1 mm).
- Make sure not to damage any wires in the process.



- Clamp the cable gland in a vice and fill the interior of this too with Loctite® 2K epoxy resin. The grout should reach to a little below the potential contact ring. Then insert the connector into the cable gland, twisting it slightly (observe the notch on the cable gland!).



- Screw on the connector nut loosely for the time being, in order to secure the connector. Then insert the pressure adapter and fill to a pressure of 1 bar.



- After the grout has set, tighten the connector nut with connector tool 313203848.
- Then insert the pressure adapter once again and perform a leak test at 1 bar interior pressure in a water tank.
- If the leak test is successful, finally re-assemble the components that were inserted at the beginning (the hose coupling nut, the hose coupling complete, the spring and the cable gland locknut).

