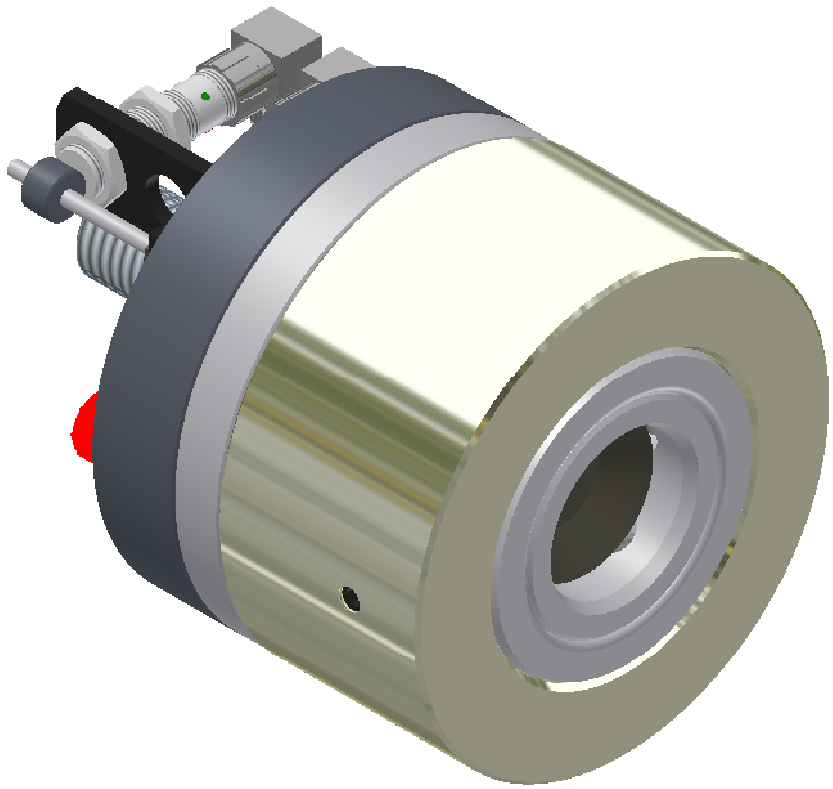
EAS®
CHANGE SYSTEMS



MCE/MCA Ejector Coupler

Repair Manual

RPS1030-100_rev3.0

Time saving solutions

www.EASchangesystems.com

Repair Manual
MCE/MCA Ejector Coupler

Version: 3.0

RPS1030-100
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Contents

1 Safety

The equipment described in this manual has been developed to guarantee safe operation when it is installed, handled, used and maintained in the way this manual explains. It is essential, that all information in this manual is available to all persons authorized to install, handle, use or maintain the described equipment and possible accessories, before starting his task.

All our safety requirements and measures are based on EN ISO 12100:2010. Throughout the manual, different safety symbols are used. In this chapter we explain the different symbols and the warnings they issue. Whenever one of the safety symbols is shown, the corresponding warning and protective measures are to be taken. We offer detailed instructions for hydraulic, electric and pneumatic products and systems.

1.1 General safety instructions for EAS hydarulic cylinders

The following general safety instructions are an extract of the EAS change systems safety instructions, selected and composed specifically for the product or installation described in this manual. It will perform as described in the manual and in the referred documents, if the equipment is installed, handled, used and maintained according to the contents of this manual.

Pay attention to the pertinent safety regulations for each product or installation during use. Read all instructions, warnings and cautions carefully and take all safety precautions to avoid personal injury or property damage during operation. The equipment is to be checked periodically. Faulty equipment may never be used. Whenever a part is broken, worn, missing used or deformed, it must be replaced immediately.

The use of an EAS hydraulic cylinder is restricted to installation in machinery or partly completed machinery according to Machinery Directive 2006/42/EC. The machinery or partly completed machinery into which the EAS clamping cylinders are incorporated must not be put into service until the machinery or partly completed machinery has been declared in conformity with the provisions of the machinery directive.

The EAS hydraulic cylinders must be operated in accordance with the relevant specifications, in particular with respect to the maximum allowed clamping force and pressures. The EAS hydraulic cylinders may only be used for its intended purpose within the established limits. Please observe any instructions on the pertinent product drawing!

Installation and initial operation must be carried out properly by instructed and trained personnel. The customary safety regulations of the machine or system in question must be observed during use. Measures must be taken in particular to eliminate any risks to persons and property in the event of a defect. If there are any indications that the EAS hydraulic cylinders are not working properly they must be shut down immediately and secured against unauthorized use.

Make sure the manual is kept near the system, available to operating staff. EAS change systems cannot be held responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. Contact EAS when in doubt as to the safety precautions and applications.

1.2 Safety symbols

Personal safety

Indicates important information, read the instructions carefully.

Always use personal protective equipment, in this case safety footwear.

Always wear personal protective equipment, in this case gloves.

Always wear personal protective equipment, in this case a safety helmet.

Always wear personal protective equipment, in this case protective goggles.

Do not wear loose items of clothing near equipment.

Risks of crushing body parts. Stay clear from closing surfaces and lifted weights.

Credit cards, watches and magnetically responsive elements must be kept out of the area of operation to avoid risk of damage to this equipment.

People with a pacemaker, a hearing implant, or any other medical implant sensitive to the magnetic field must remain at a safe distance (minimum of 30 cm) to avoid serious injury or death.

Handling molds

Only instructed and skilled personnel may operate the equipment.

The mold may be hot, do not touch the mold barehanded to avoid serious burns!

When a mold or die is lifted by a crane, ensure no body parts are beneath the tool. If it the mold should fall down unexpectedly, this could lead to serious injury or even death.

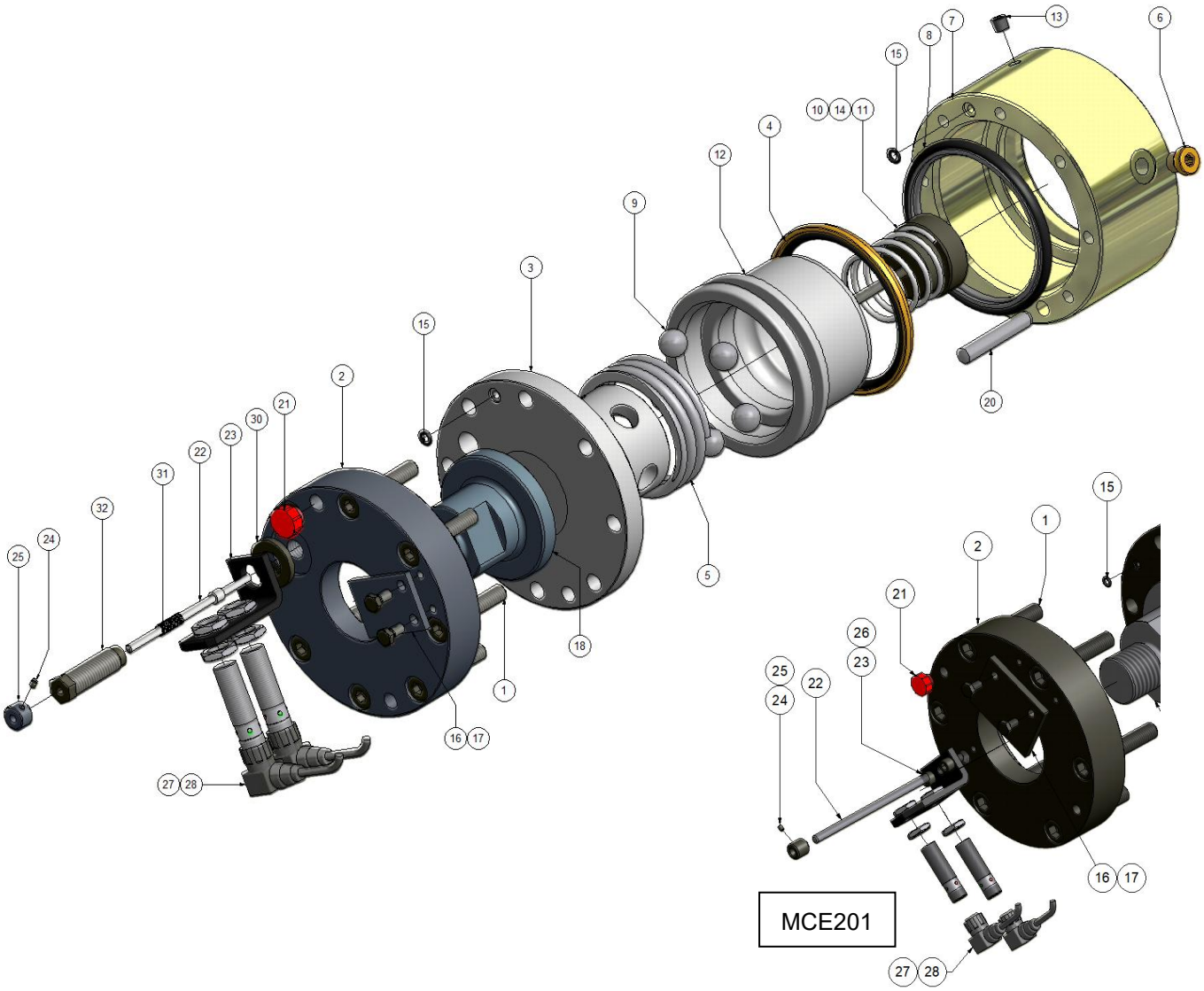
Before use, check the size of lifting eyebolts. Check if they are inch or metric screw to avoid eyebolts coming loose, dropping the tool.

Observe the safety regulations for overhead crane or pallet truck before use. A tool falling from a crane or pallet truck could lead to serious injury or death.

It is forbidden for anyone to be present inside the safety guarded mold change area during mold changing or loading operations!

2 Parts list MCE/MCA

2.1 Exploded view



2.2 Parts list MCE/MCA

Item No.	MCE/A-21	MCE/A-51	MCE/A-101	MCE/A-201	Qty	DESCRIPTION
1	CCA623-028-1A (6x)	CCA823-028-1A (6x)	CCA829-028-1A (8x)	CCA1237-028-1A (6x)	-	Screw
2	CY712-101	CY612-101	CY628-101	CY546-101	1	Adaptor Plate
3	CY710-044	CY611-044	CY626-044	CY666-044	1	Stopring
4*	CV724-041	CH800-041	CV597-041	CY676-041	1	Stepseal
5(E)	CV722-110	CV509-110	CV594-110	CY674-110	1	Spring MCE
5(A)	*FB272-110*	*FB273-110*	*FB274-110*	*CY674-110*	*1*	*Spring MCA*
6	CS236-006	CS236-006	CS236-006	CS235-006	1	Terminal Plug
7	CV717-030	CY758-030	CZ140-030	CY671-030	1	Base
8*	CS344-041	CV510-041	CV596-041	CY677-041	1	Stepseal
9	B1007-016 (6x)	B1011-016 (6x)	B1017-016 (5x)	B1021-016 (8x)	-	Ball
10	CBA427-028-1A	CBA529-028-1A	CBA533-028-1A	CCA839-028-1A	1	Screw
11	CV721-039	CV506-039	CV593-039	CY673-039	1	Guide
12	CV718-040	CV503-040	CV590-040	CY672-040	1	Plunger
13	A1006-245	A1006-245	A1006-245	A1006-245	1	Plug
14	CV723-110	CV508-110	CV595-110	CY675-110	1	Spring
15*	B1003-503	B1003-503	B1003-503	B1003-503	2	O-Ring
16	CZ278-101	CY615-101	CY630-101	CY670-101	1	Strip
17	CBB515-046-1B	CBB515-046-1B	CBB515-046-1B	CBB615-046-1B	2	Screw
18	CY713-038	CY614-038	CY629-038	CZ598-038	1	Adaptor
19	-	-	-	-		-
20	CAA631-061-2A	CAA631-061-2A	CAA837-061-2A	CAA843-061	1	Dowel Pin
21	CV839-271	CV839-271	CV839-271	CV839-271	1	Thread Protector
22	DQ989-061	DQ994-061	DQ997-061	CZ639-061	1	Sensor Pin
23	DQ992-111	DQ992-111	DQ995-111	CZ638-111	1	Bracket
24	CCA307-028-5A	CCA307-028-5A	CCA307-028-5A	CCA307-028-5A	1	Setscrew
25	DQ988-039	DQ988-039	DQ996-039	CV548-039	1	Sensor Bush
26	-	-	-	CBA617-028-1A	2	Screw
27	CS287-372S	CS287-372S	CZ446-372	CZ446-372	2	Proximity Switch
28	-	-	CZ64-008	DQ1242-008	2	Cable Prox.Switch
29●	FB47-026	FB47-026	FB48-026	FB49-026	1	Decal
30	-	-	DQ952-044	-	1	Spacer Ring
31	DQ991-110	DQ991-110	DQ999-110	-	1	Spring
32	DQ990-001	DQ993-001	DQ998-001	-	1	Spring Housing
	MCE20K	**MCE50K**	**MCE100K**	**MCE201K**		**Repair Kit** Contains parts marked with *

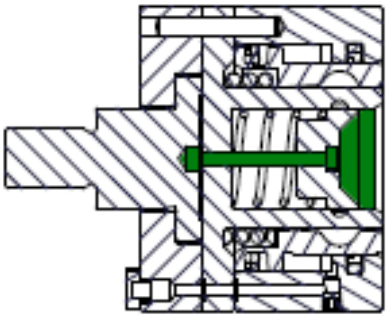
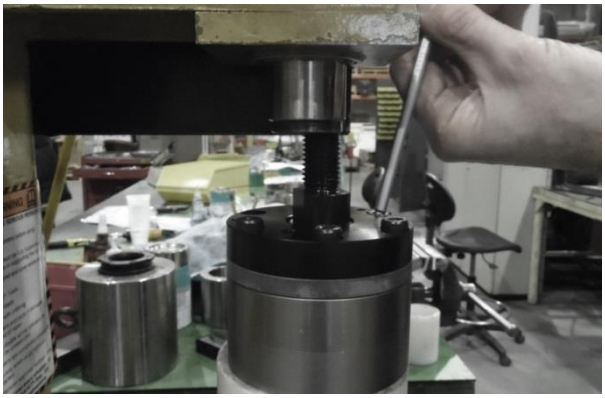
● Not shown

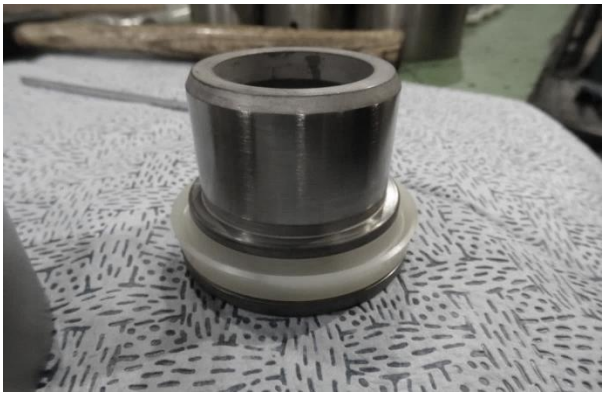
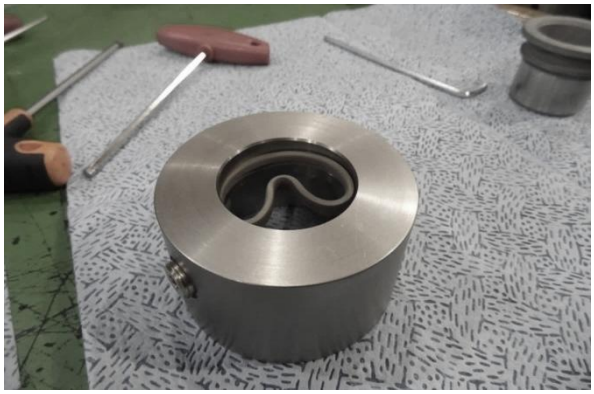
3 Repair

3.1 Repair

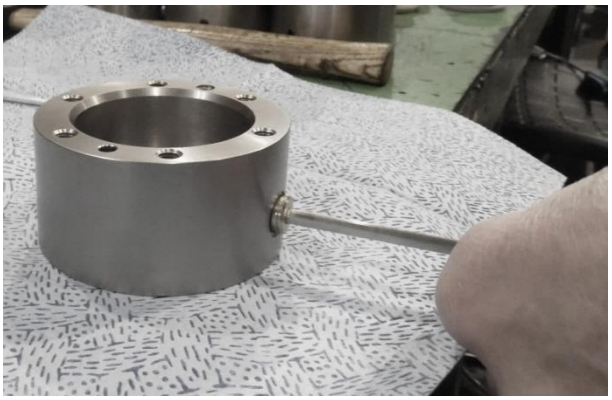
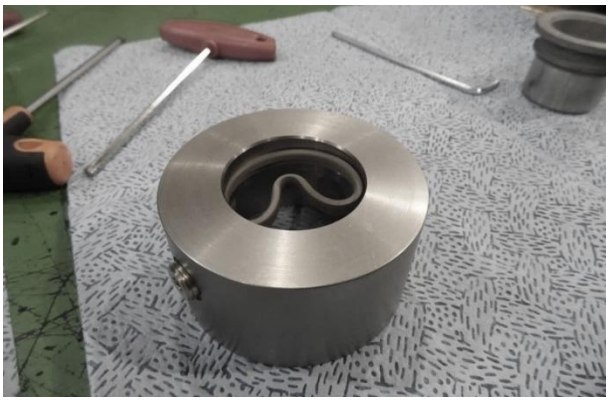
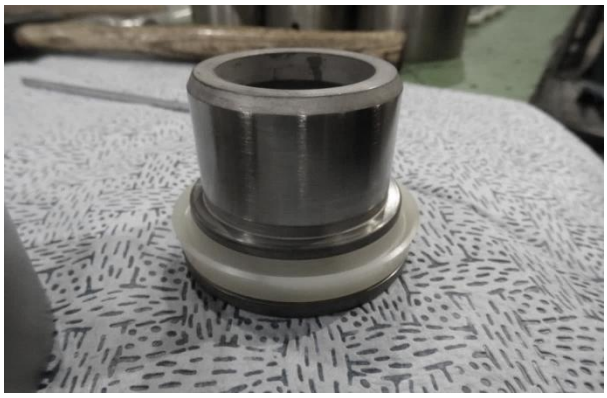
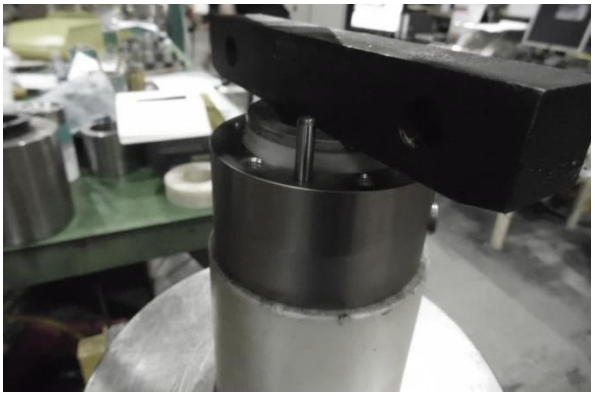
For replacement of the seals or any other repair, the ejector coupler must be completely dismounted. Below you may find the repair instructions. You can also send your MCE ejector coupler to EAS for repair.

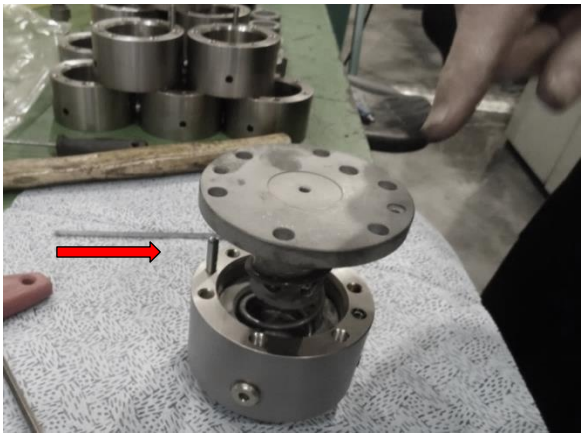
3.2 Disassembly of an MCE ejector coupler

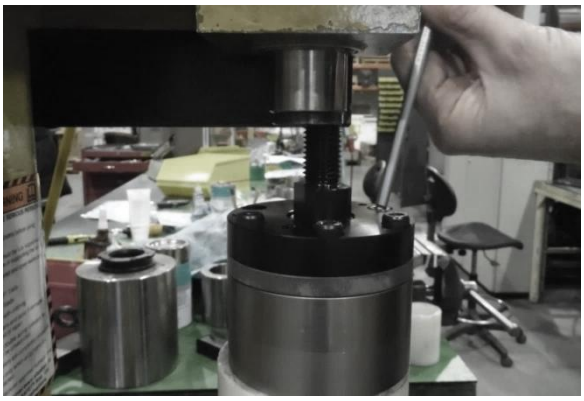
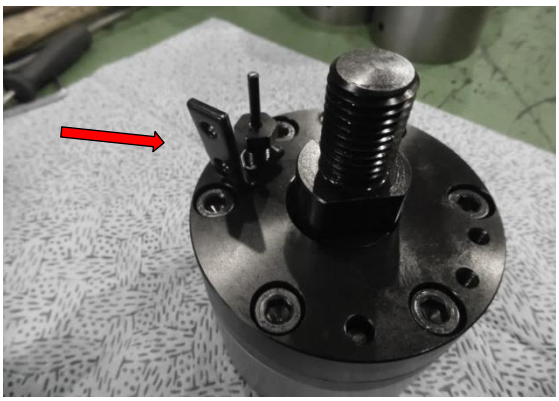
1) Place the MCE on a workbench. **Pay constant care to avoid damaging or scratching components.**	2) Remove the plunger guide by unscrewing it from the bottom of the coupler.
	
3) Place the MCE in a press on a workbench. Put pressure on the plunger and remove the screws.	4) The ejector coupler is spring loaded. If the pressure is released, the cap will come away. Carefully remove the cylinder cap.
	

5) Remove the cap and the adaptor from the base.	6) Carefully remove the ball bearing base from the body.
	
7) Remove the plunger from the body and remove the step seals.	8) Examine the body and the plunger. If a sealing surface is damaged or scratched, the part needs to be replaced.
	

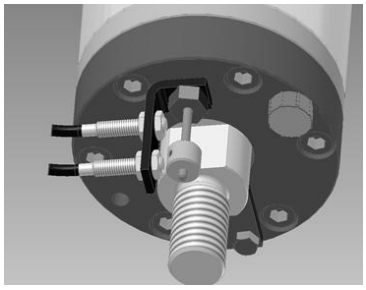
3.3 Assembly of a MCE ejector coupler

1) Place the body on a workbench. Examine and clean all components before assembling. **Pay constant care to avoid damaging or scratching components.** Insert the plug, using	2) Clean the groove inside the body, if needed with compressed air and place the step seal.
	
3) Place the step seal on the plunger.	4) Place the plunger on the body and slowly press the plunger into the body using a press.
	
5) Place the dowel pin.	6) Place the o-ring over the oil channel.
	

7) Put a thick layer of grease in the ball bearing holes.	8) Place the bales in the holes.
	
9) Place the spring over the base.	10) Turn over the base and place it in the body. Make sure the dowel pin is positioned correctly.
	
11) Install the adaptor on the base, using grease.	12) Install the base cap, pay attention to the correct position, using the dowel pin.
	

13) Put the coupler under pressure. Slowly increase the pressure, inserting the base into the body. Tighten the screws.	14) Install the plunger guide.
	
15) Install the support bracket for the sensors. Install the sensor pin.	16) Install the blocking strip.
	

3.4 Adjusting the sensors



The initial setting of the sensors is in the uncoupled position. Once the sensors are activated after mounting, the indicator LED's should signal powered and active (green and yellow).

The sensors can be adjusted by calibrating the sensor bushing. Loosen the screw in the sensor bushing and adjust the unclamped sensors until they are activated. Make sure the nuts are well tightened to prevent the sensors from moving.

3.5 Disposal

If repair is not possible or profitable, your MCE ejector coupler must be disposed according to the local regulations.

4 Installation of the MCE cylinders in the press

If needed, the full installation instruction is described in the document EIS1030-100 and can be requested at EAS Change Systems.

Complete Solutions from one source

EAS change systems is a global, leading edge innovator in factory automation solutions.
Thanks to EAS the clamping and release of molds and dies has become a process of minutes instead of hours.

EAS offers quick clamping and quick changing systems for plastic injection molding machines (QMC) and metal stamping presses (QDC), as well as multi coupler solutions. The company also offers consulting and engineering expertise to ensure maximum machine productivity.

Designed and built for integration into existing as well as new equipment (OEM), our solutions include:

- Adaptive clamping systems
- Ejector couplers
- Mono & multi coupler systems
- Mold change tables & transportation vehicles
- Inspection & mold tilting units
- Die lifters
- Pre-rollers
- Project management
- Application engineering
- System installation
- Service and maintenance
- ROI calculations

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