

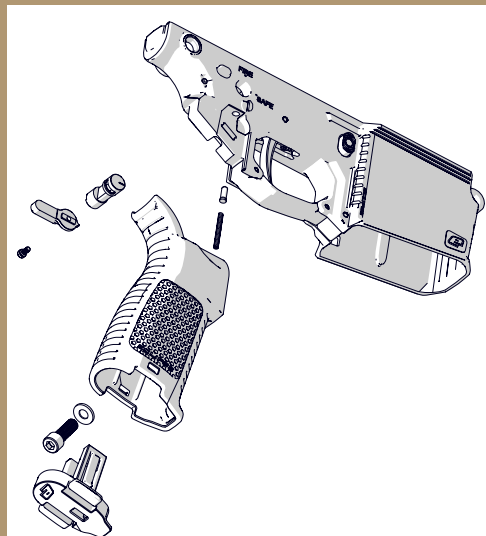
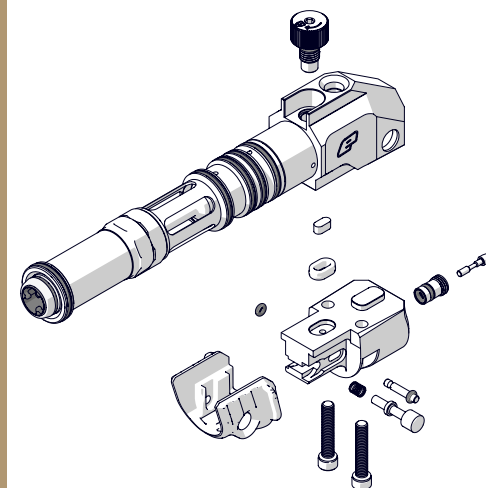
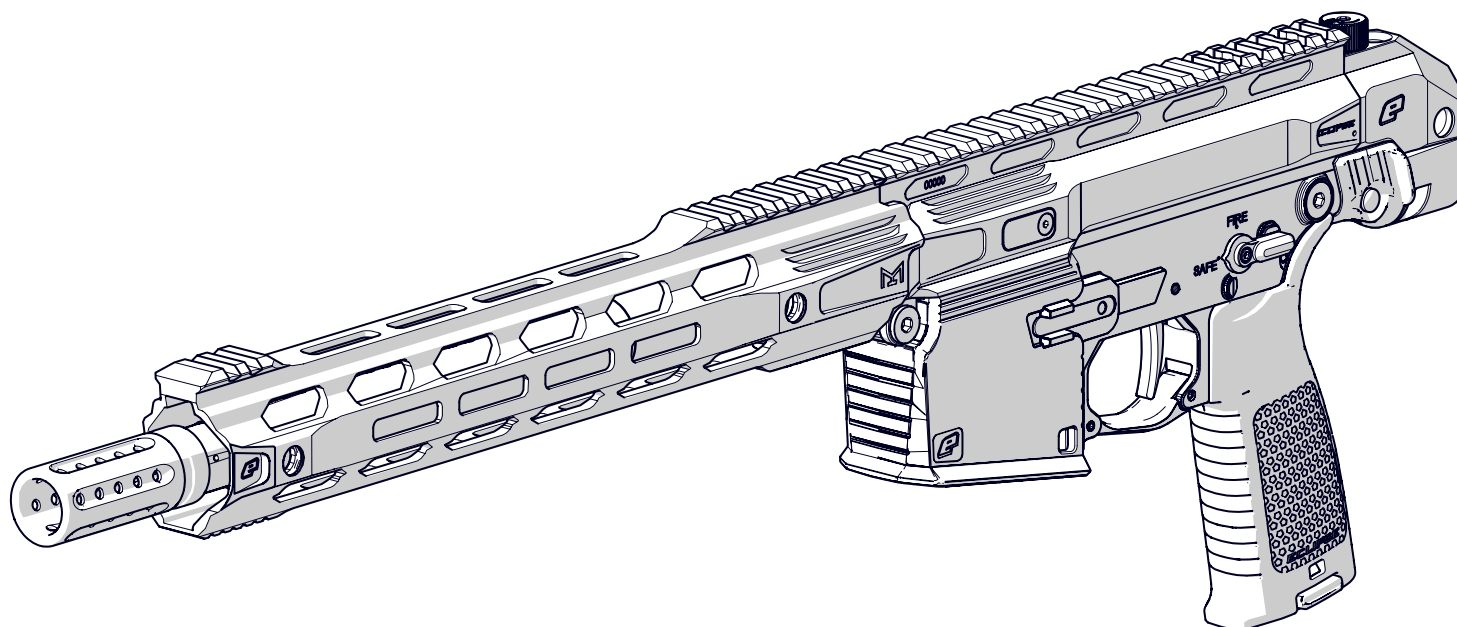


WORKSHOP MANUAL

PLANET ECLIPSE: EMF200

EMF 200/

.68CAL





WARNING

READ CAREFULLY BEFORE USE

- THE PLANET ECLIPSE EMF200 IS NOT A TOY. PAINTBALL SAFETY RULES MUST BE FOLLOWED AT ALL TIMES.**
- Careless or improper use of the EMF200, including failure to follow instructions and warnings within this Workshop Manual could cause serious injury or death.
- Do not remove or deface any warnings attached to the EMF200.
- Paintball industry standard eye/face/ear and head protection designed specifically to stop paintballs and meeting ASTM standard F1776 (USA) or CE standard (Europe) must be worn by the user and any person within range. Proper protection must be worn during assembly, cleaning and maintenance.
- Hearing protection should be worn.
- Never shoot at a person who is not wearing proper protection.
- Never look directly into the barrel of the marker. Accidental discharge into the eyes may cause permanent injury or death. Never look into the barrel or breech area of the EMF200 whilst the marker is switched on and able to fire.
- The electronic ON/OFF button is the marker's disabling device. Always switch OFF when not in use.
- Treat every marker as if it is loaded and ready to fire.
- Always fit a barrel blocking device to the EMF200 when not in use.
- Always remove paintballs from the EMF200 when not in use.
- Do not field strip or remove any parts while the marker is pressurised.
- Do not pressurise the EMF200 without all the components of the marker correctly installed, as high-pressure gas may be emitted.
- Do not fire the EMF200 without the bolt correctly installed.
- Never put your finger or any foreign objects into the paintball feed tube of the EMF200.
- Never allow pressurised gas to come into contact with any part of your body.
- Always remove the first stage regulator and relieve all residual gas pressure from the EMF200 before disassembly.
- Always remove the first stage regulator and relieve all residual gas pressure from the EMF200 for transport and storage.
- Always follow the guidelines given with your first stage regulator for safe transportation and storage.
- Always store the EMF200 in a secure place.
- Observe all local and national laws, regulations and guidelines.
- Persons under 18 years of age must have adult supervision when using or handling the EMF200.
- Only use professional paintball fields where codes of safety are strictly enforced.
- Only use compressed air/nitrogen. Do not use any other compressed gas or pressurised liquid including CO2.
- Always follow instructions, warnings and guidelines given with any first stage regulator you use with the EMF200.
- Use 0.68 inch calibre paintballs only.
- Always measure your marker's velocity before playing paintball, using a suitable chronograph.
- Never shoot at velocities in excess of 300 feet (91.44 metres) per second, or at velocities greater than local or national laws allow.
- Any installations, modifications or repairs should be carried out by a qualified individual at a licensed and insured paintball facility.



This Users Manual is in English.

It contains important safety guidelines and instructions. Should you be unsure at any stage, or unable to understand the contents of this manual you must seek expert advice.



Le mode d'emploi est en Anglais.

Il contient des instructions et mesures de sécurité importantes. En cas de doute, ou s'il vous est impossible de comprendre le contenu du mode d'emploi, demandez conseil à un expert.



Este manual de usuarios (operarios)

Usarios está en Inglés. Contiene importantes normas de seguridad e instrucciones. Si no está seguro de algún punto o no entiende los contenidos de este manual debe consultar con un experto.



Diese Bedienungs - und Benutzeranleitung ist in Englisch.

Sie enthält wichtige Sicherheitsrichtlinien und -bestimmungen. Sollten Sie sich in irgendeiner Weise unsicher sein, oder den Inhalte dies Heftes nicht verstehen, lassen Sie sich bitte von einen Experten beraten.

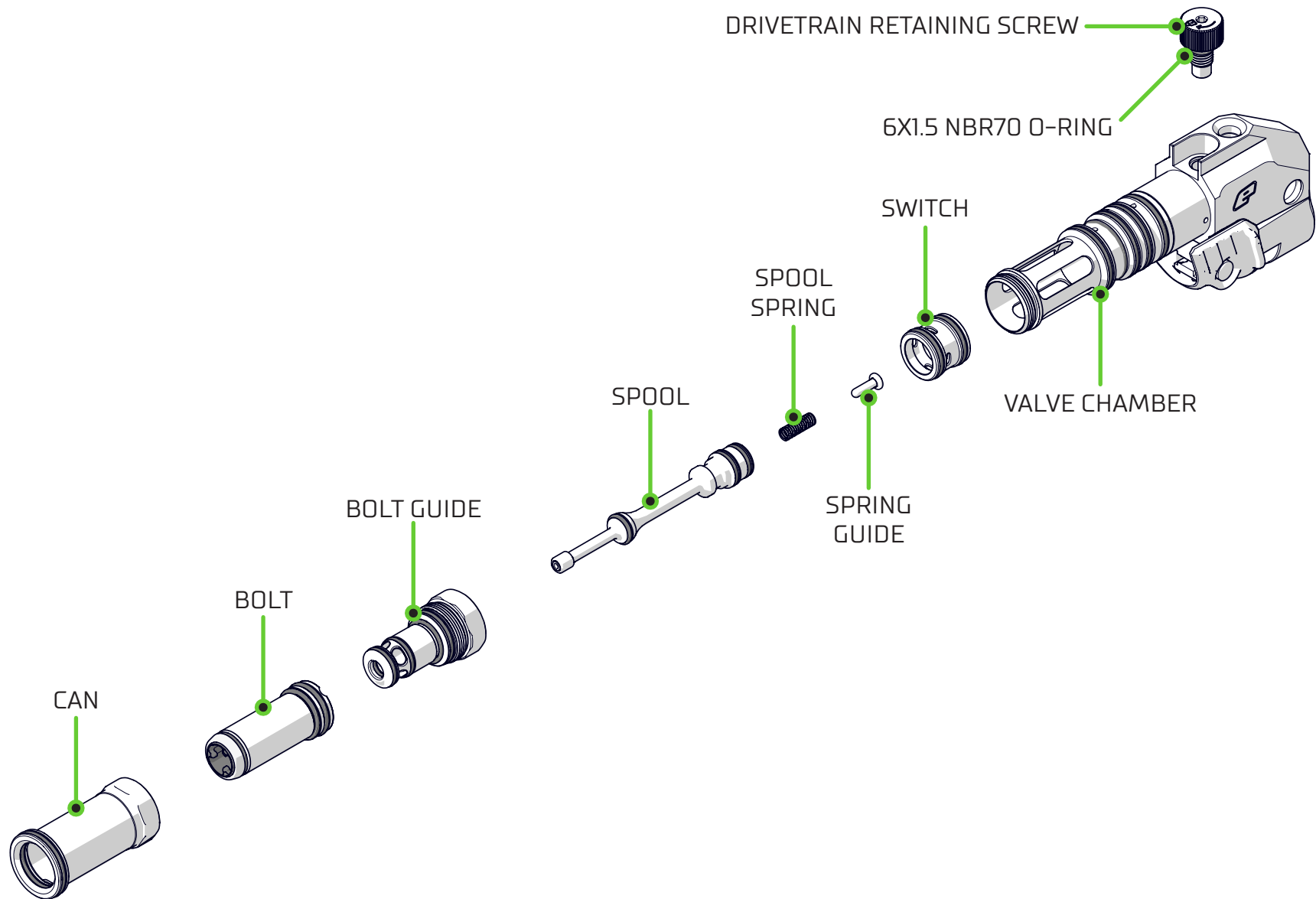


04	EMF200 DRIVETRAIN ASSEMBLY	37	FAULT FINDING - INLINE REGULATOR / POPS LEAK
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22	EMF200 SELECTOR SWITCH ASSEMBLY		
23	EMF200 TRIGGER ASSEMBLY		
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28	SERVICING - DRIVETRAIN FRONT-END		
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34	FAULT FINDING - DOES NOT FULLY CYCLE		
35	FAULT FINDING - SOLENOID LEAK		
36	FAULT FINDING - CONSTANT HIGH VELOCITY		



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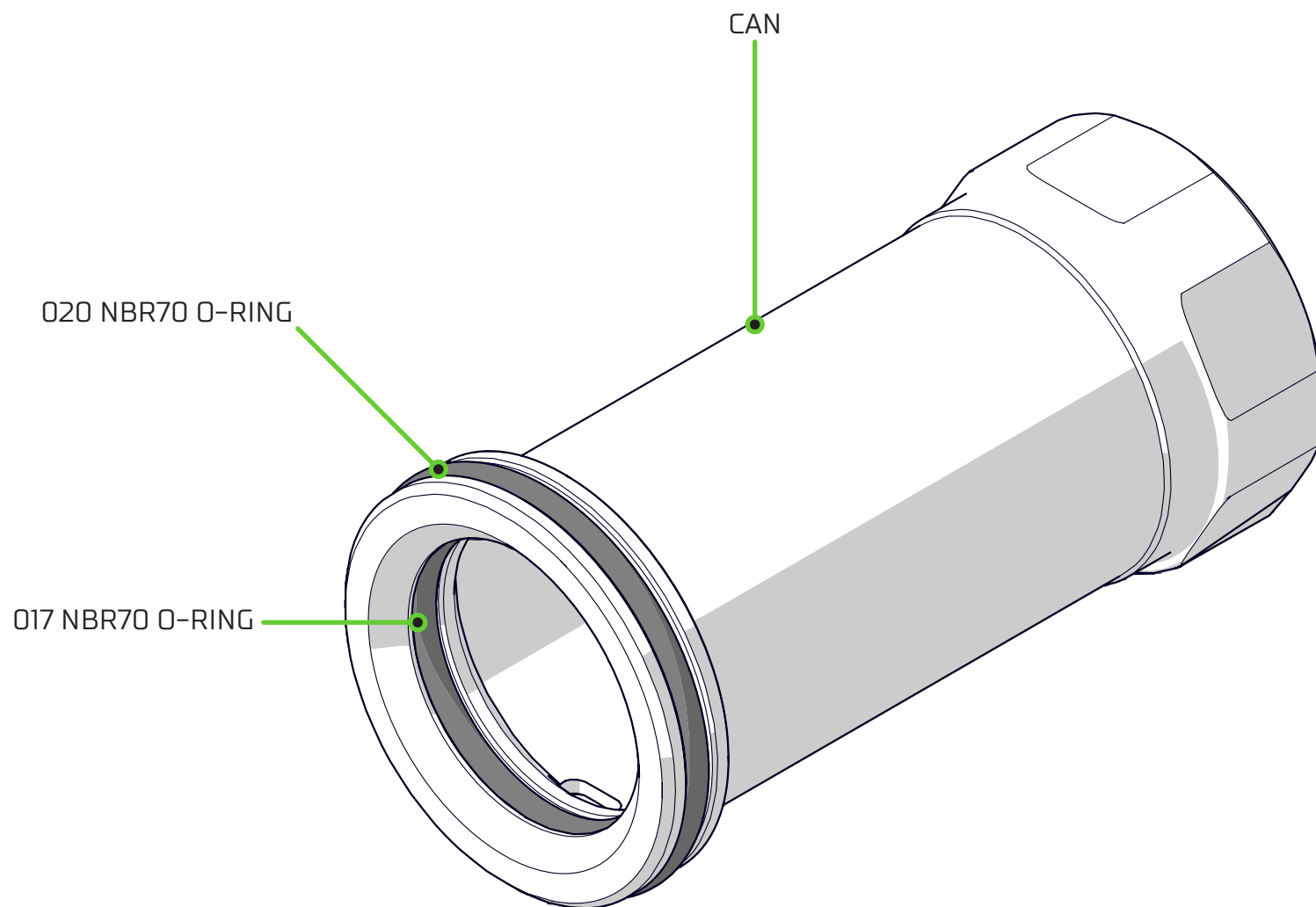
EMF200 DRIVETRAIN ASSEMBLY





5

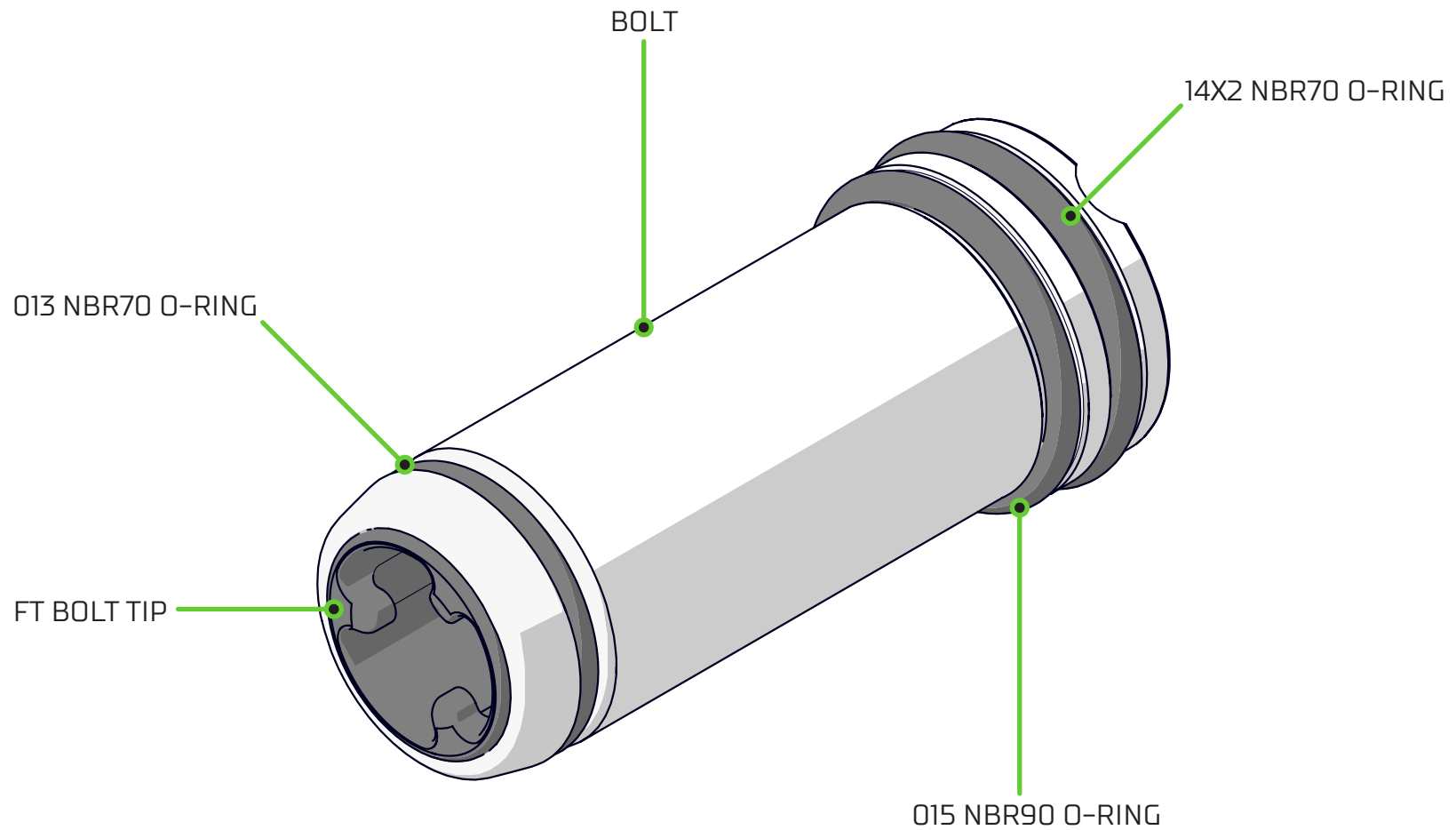
EMF200 CAN ASSEMBLY





6

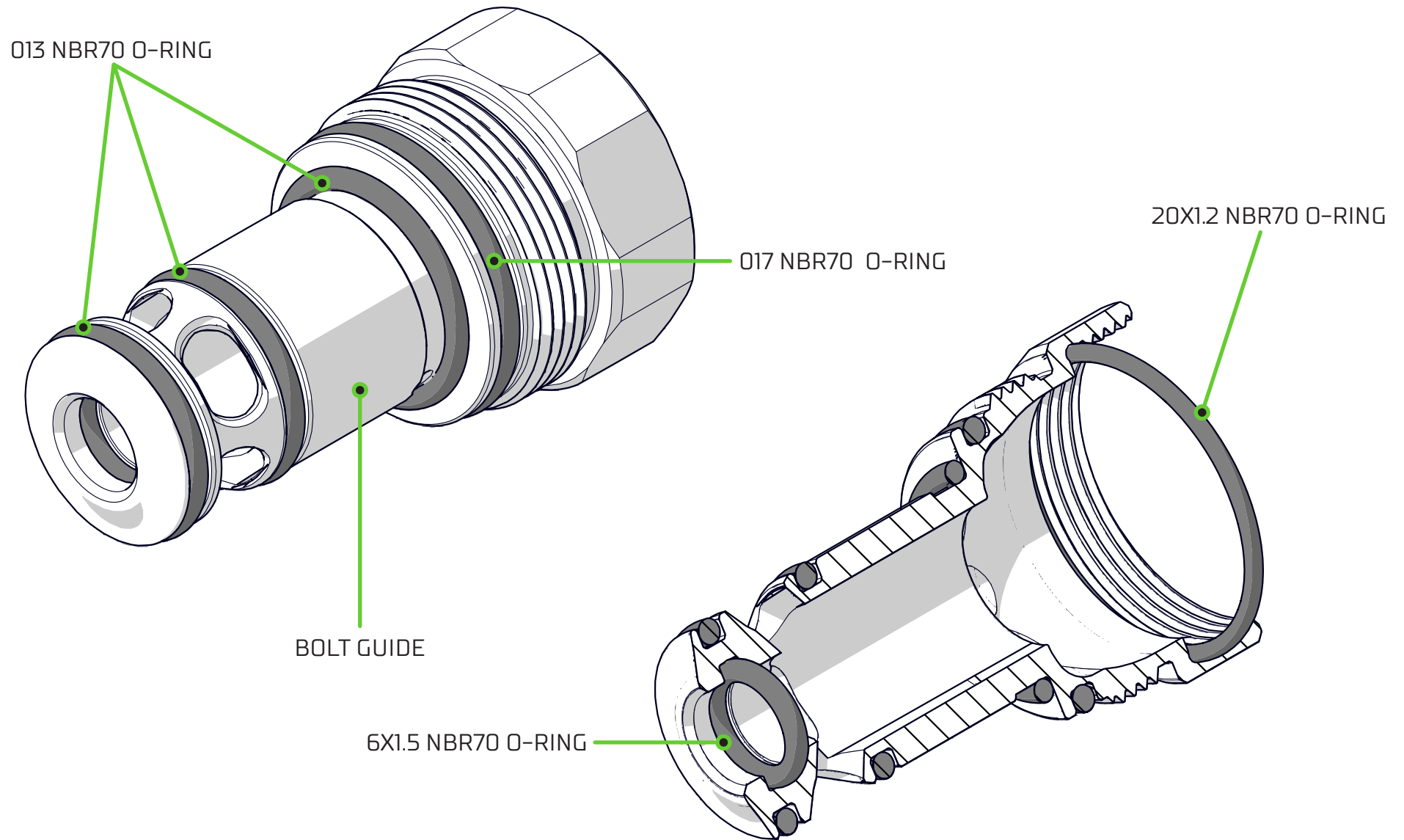
EMF200 BOLT ASSEMBLY





7

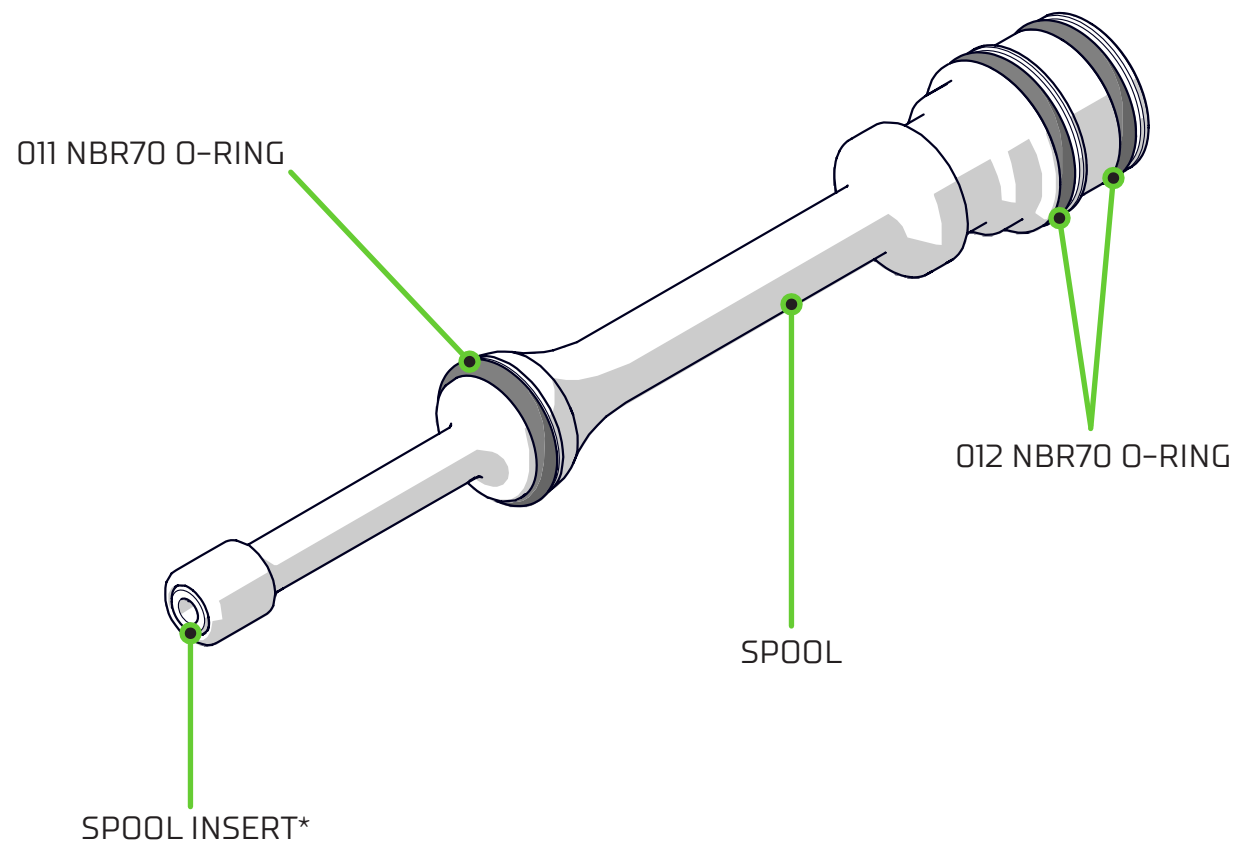
EMF200 BOLT GUIDE ASSEMBLY





8

EMF200 OP SPOOL ASSEMBLY

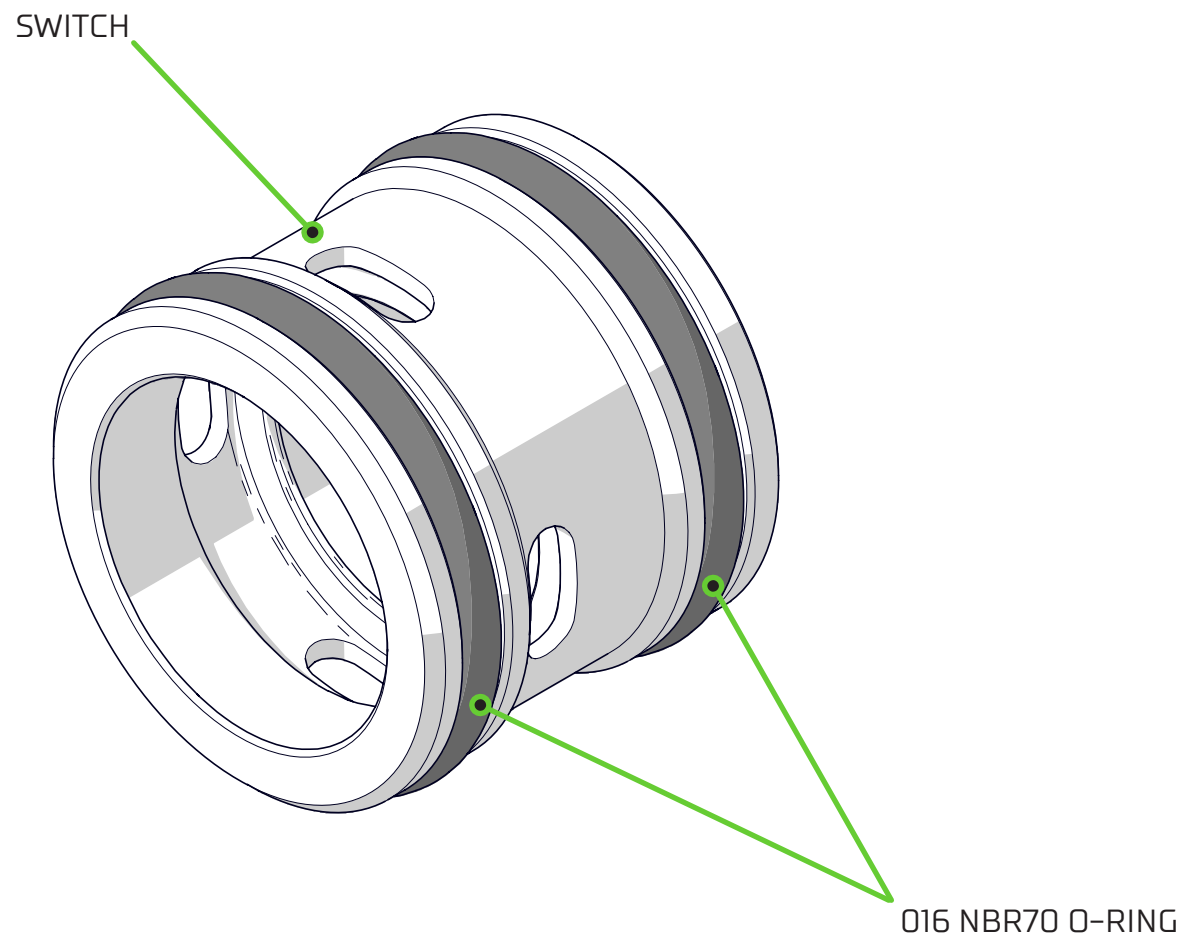


*NOTE: THIS PART IS PRESS FIT AND NOT USER SERVICABLE



9

EMF200 SWITCH ASSEMBLY

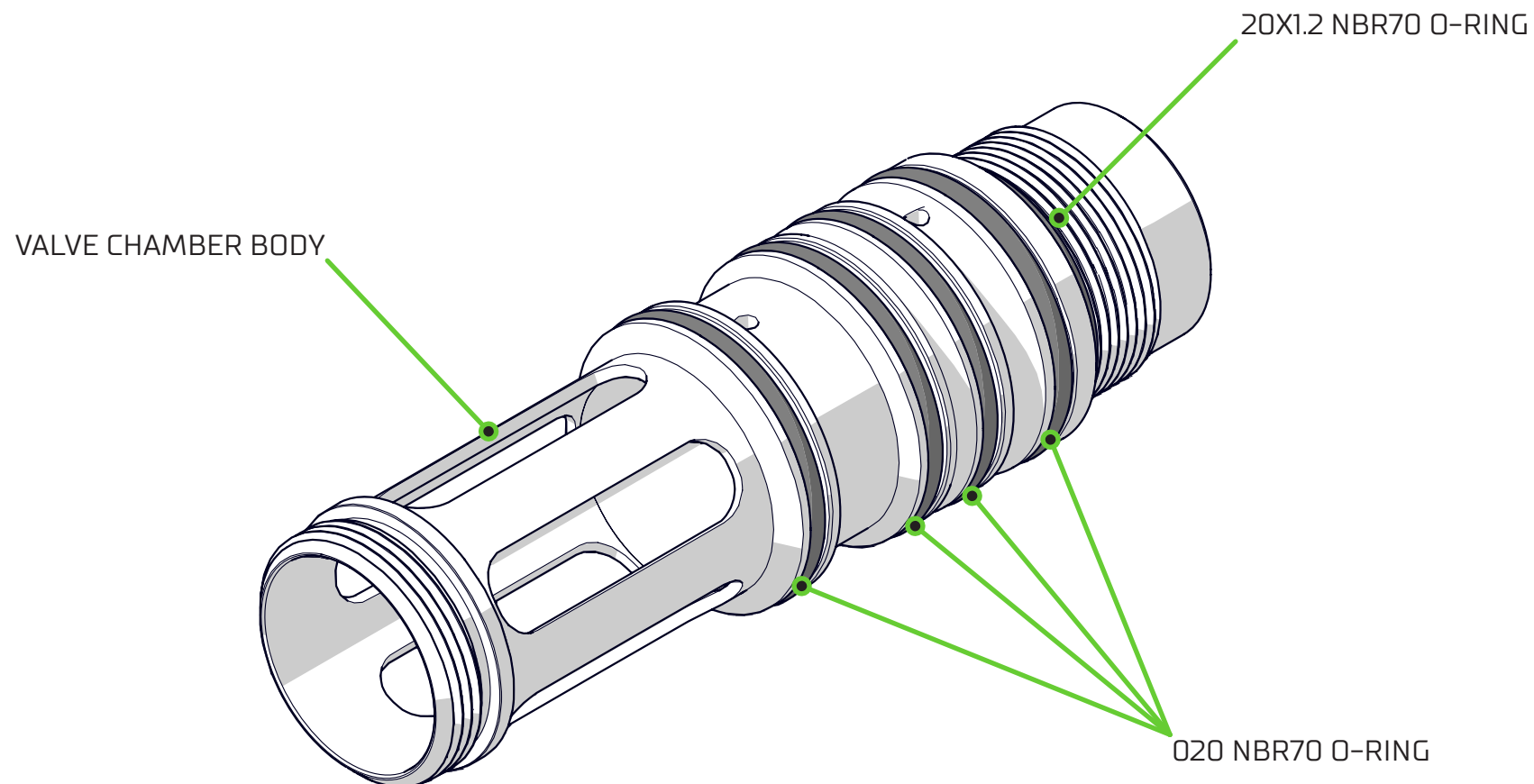


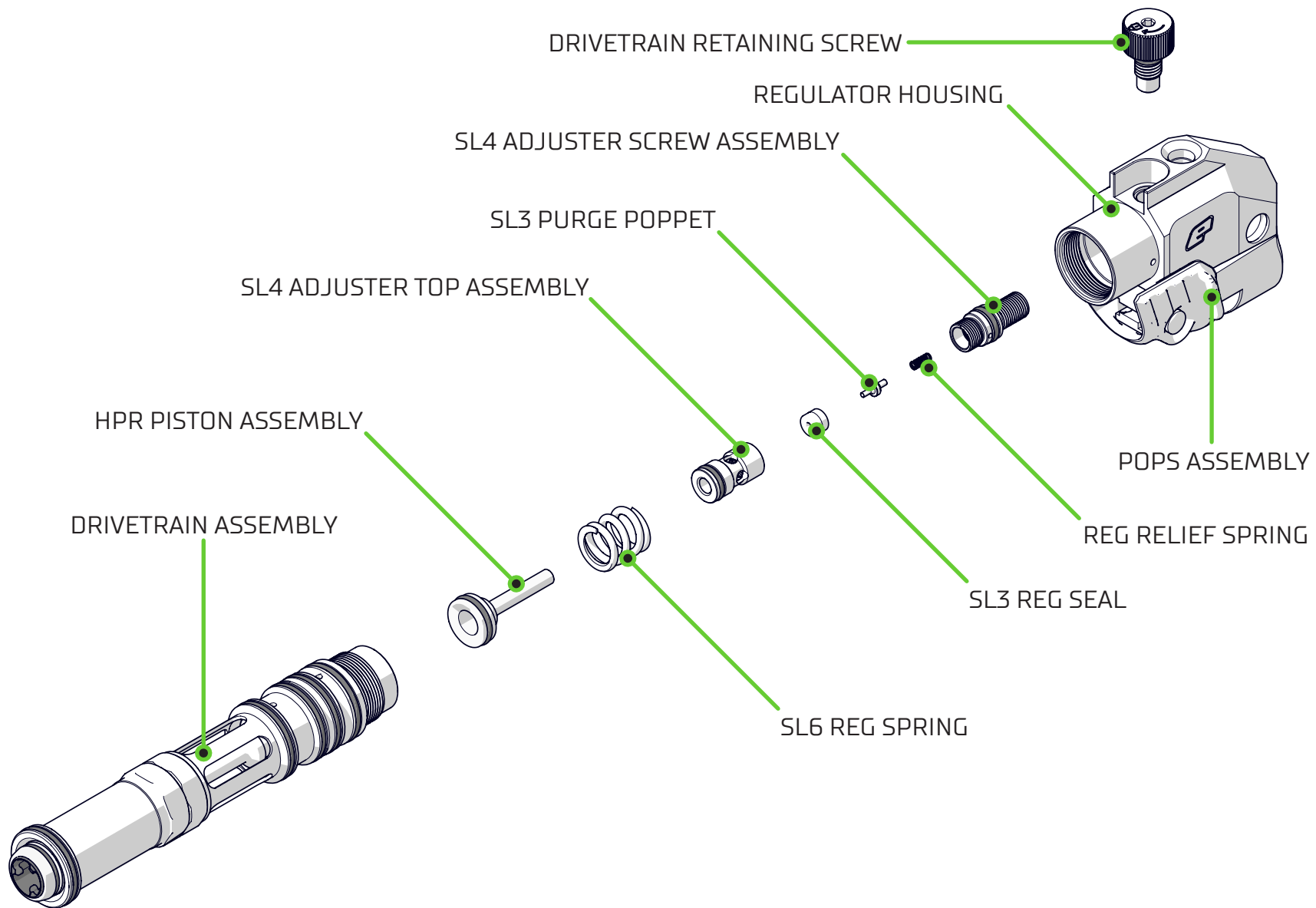
NOTE: IT IS ADVISED TO ONLY USE THE 'EMF200 SWITCH' WITH THE EMF200 MARKER.



10

EMF200 VALVE CHAMBER ASSEMBLY

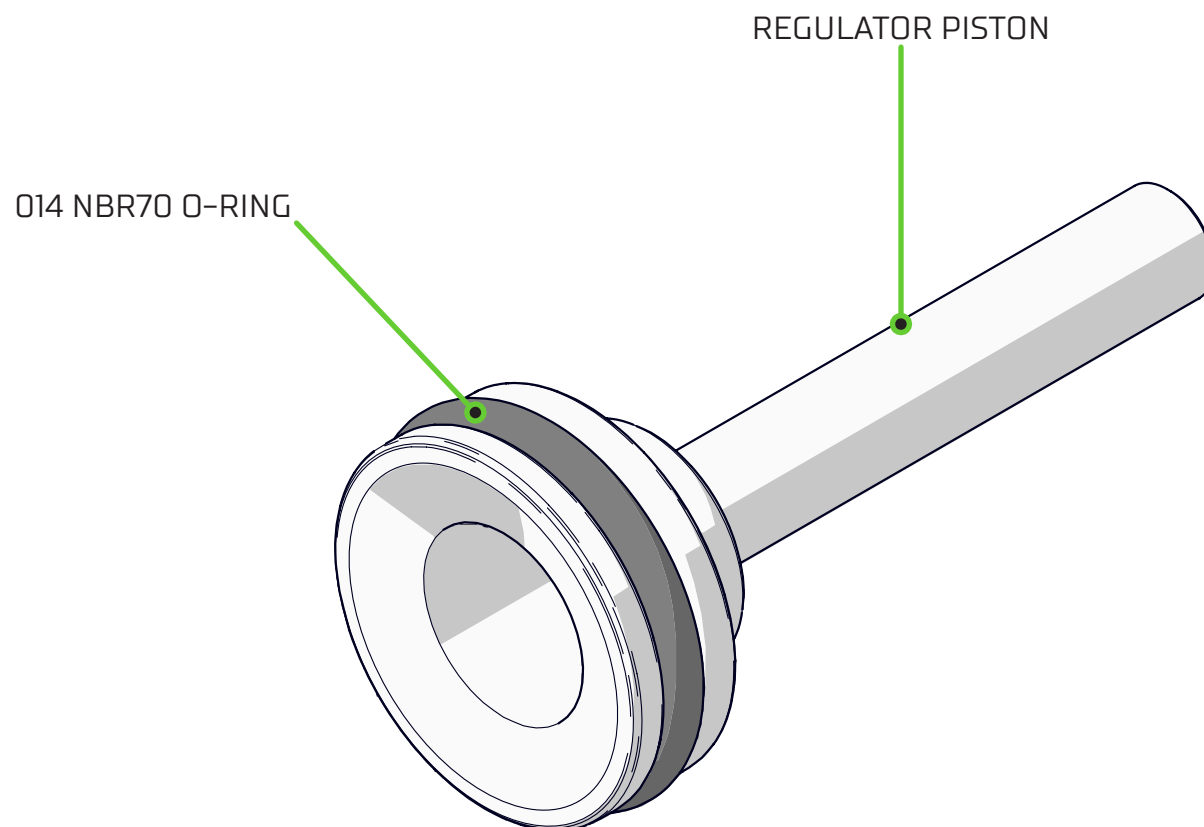






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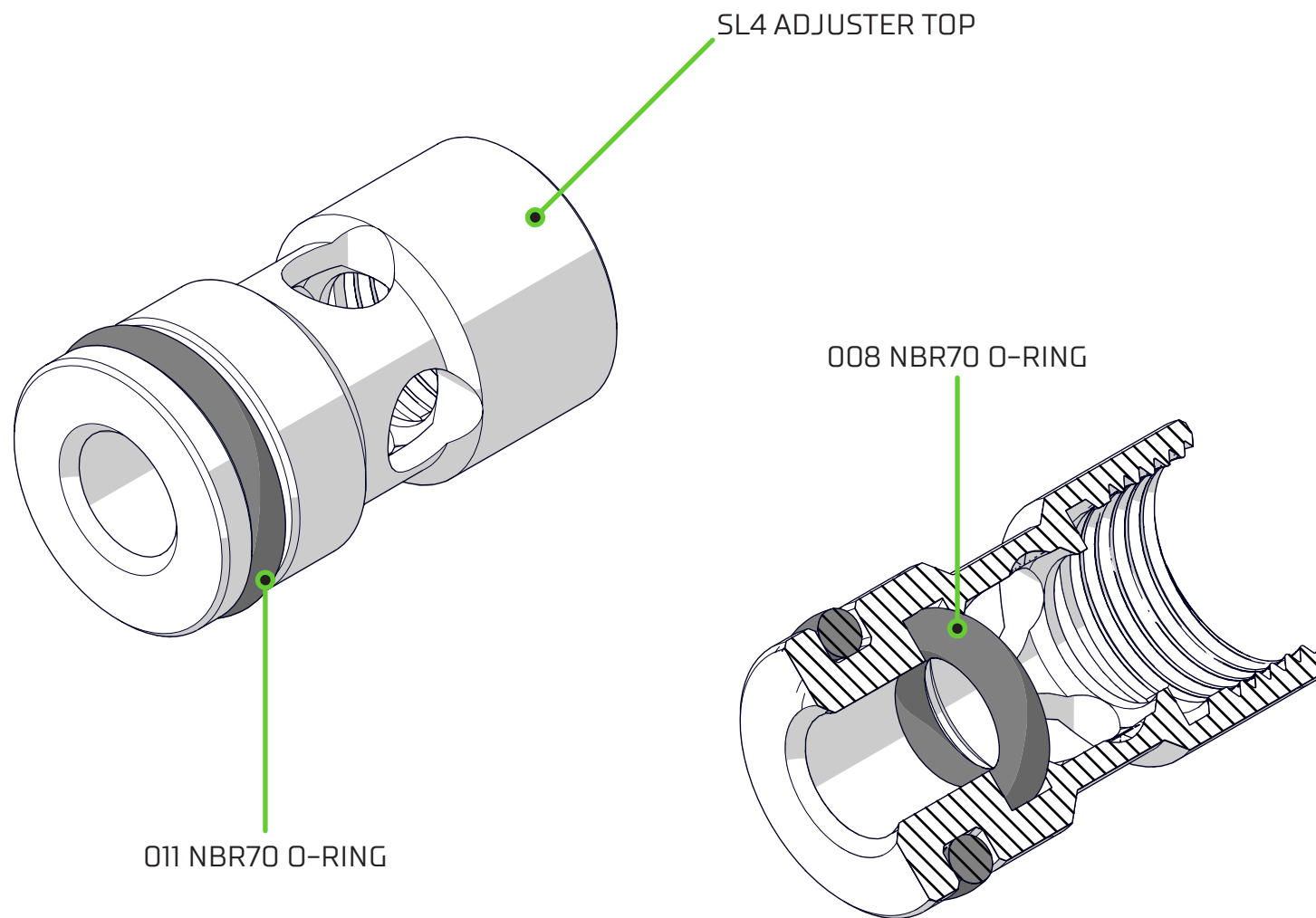
EMF200 REGULATOR PISTON ASSEMBLY





13

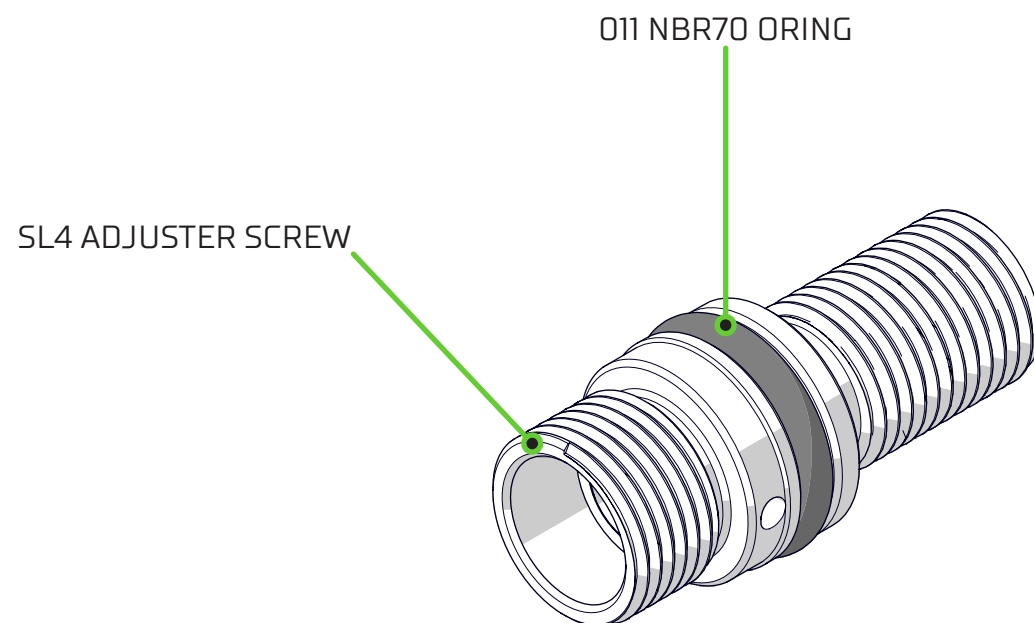
EMF200 ADJUSTER TOP ASSEMBLY

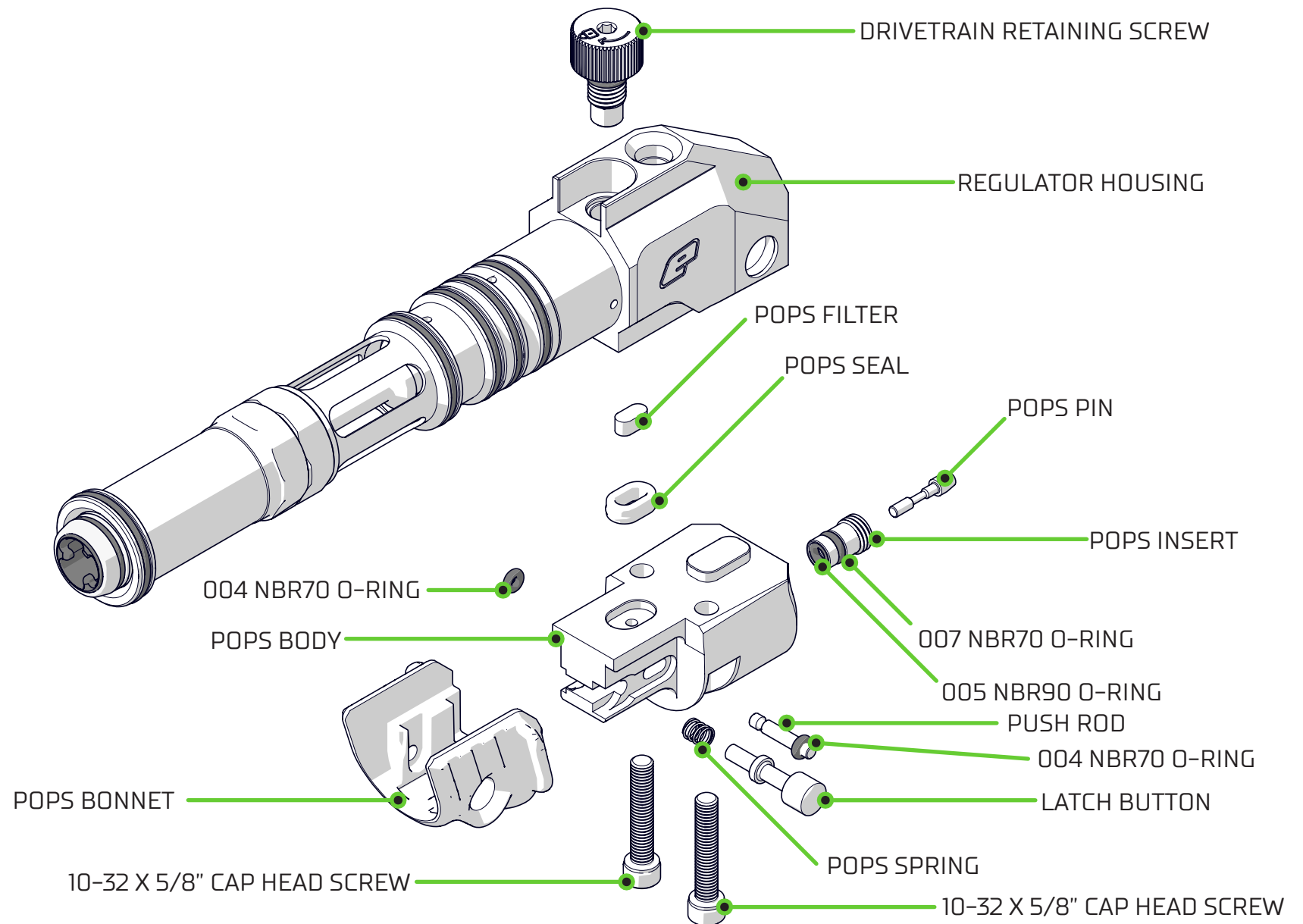




14

EMF200 ADJUSTER SCREW ASSEMBLY

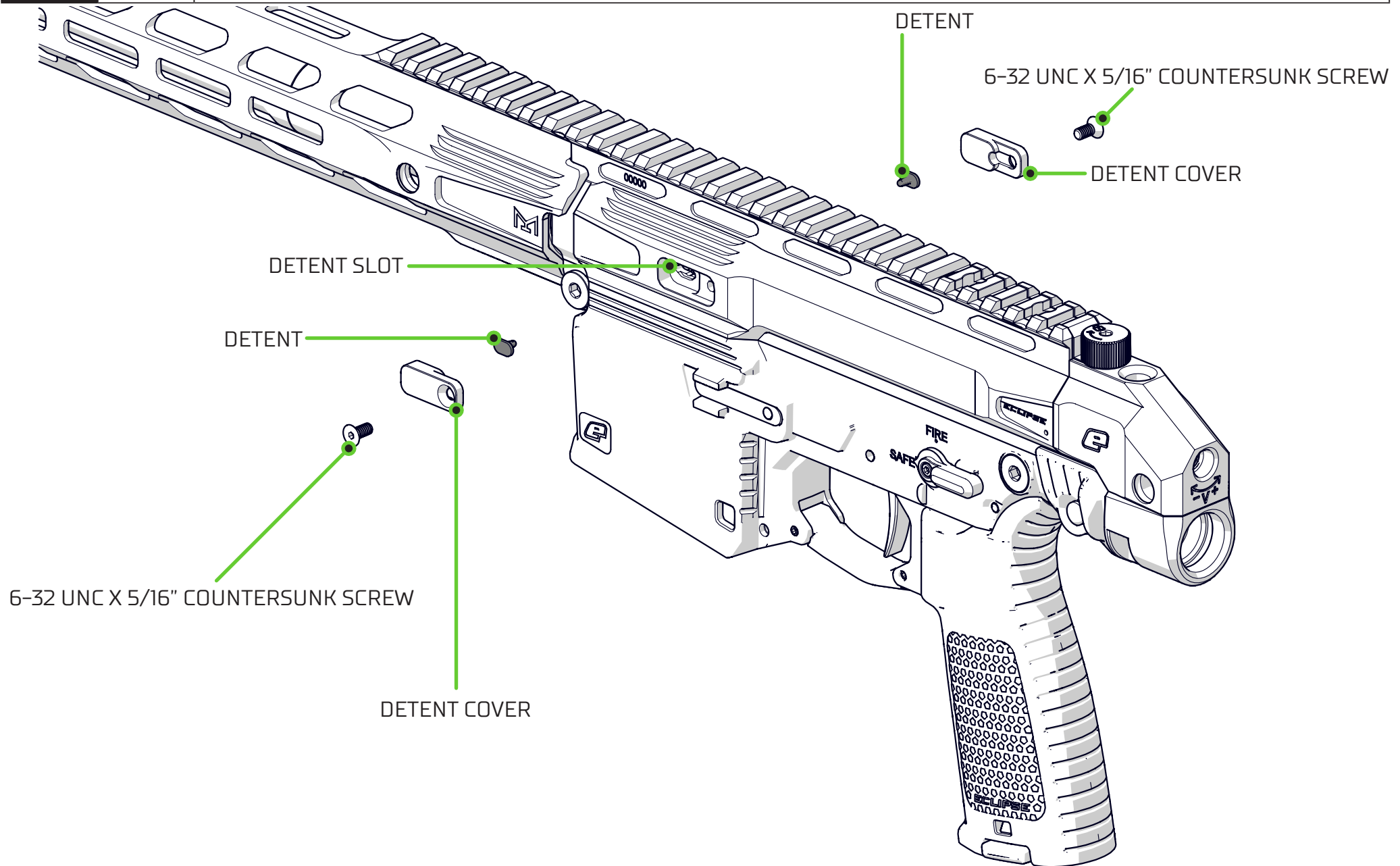






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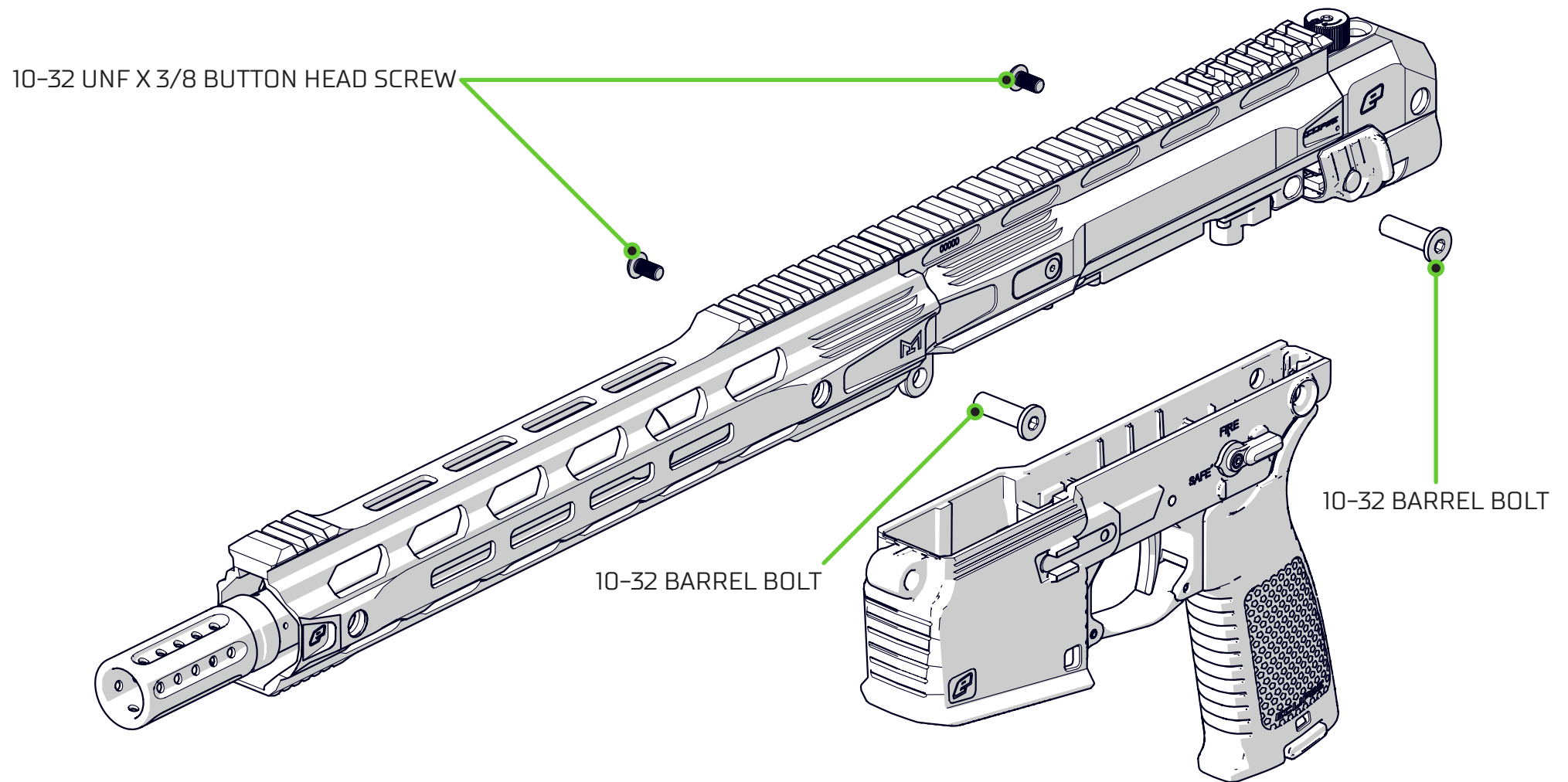
EMF200 DETENTS

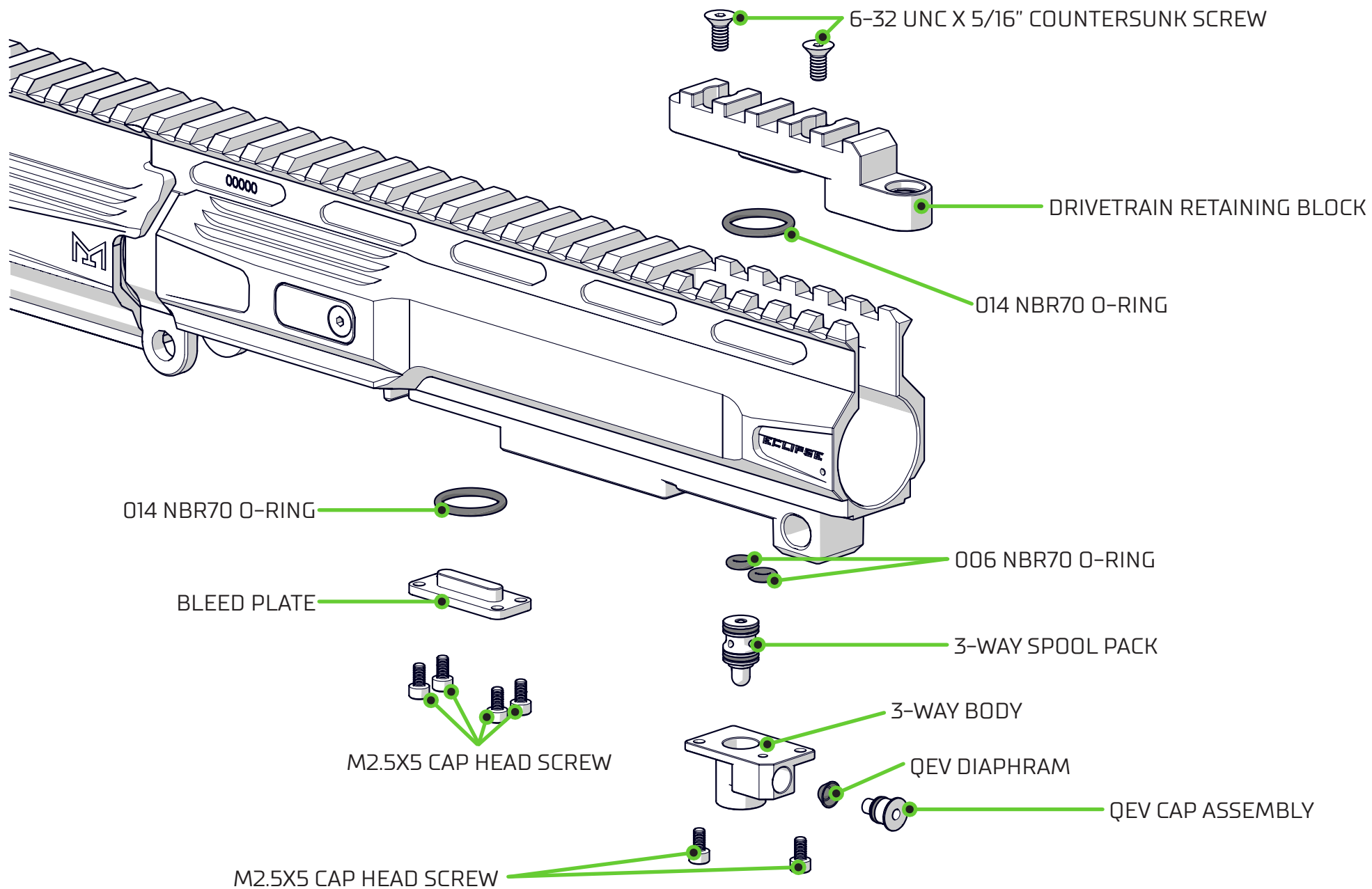




17

EMF200 FRAME SCREWS

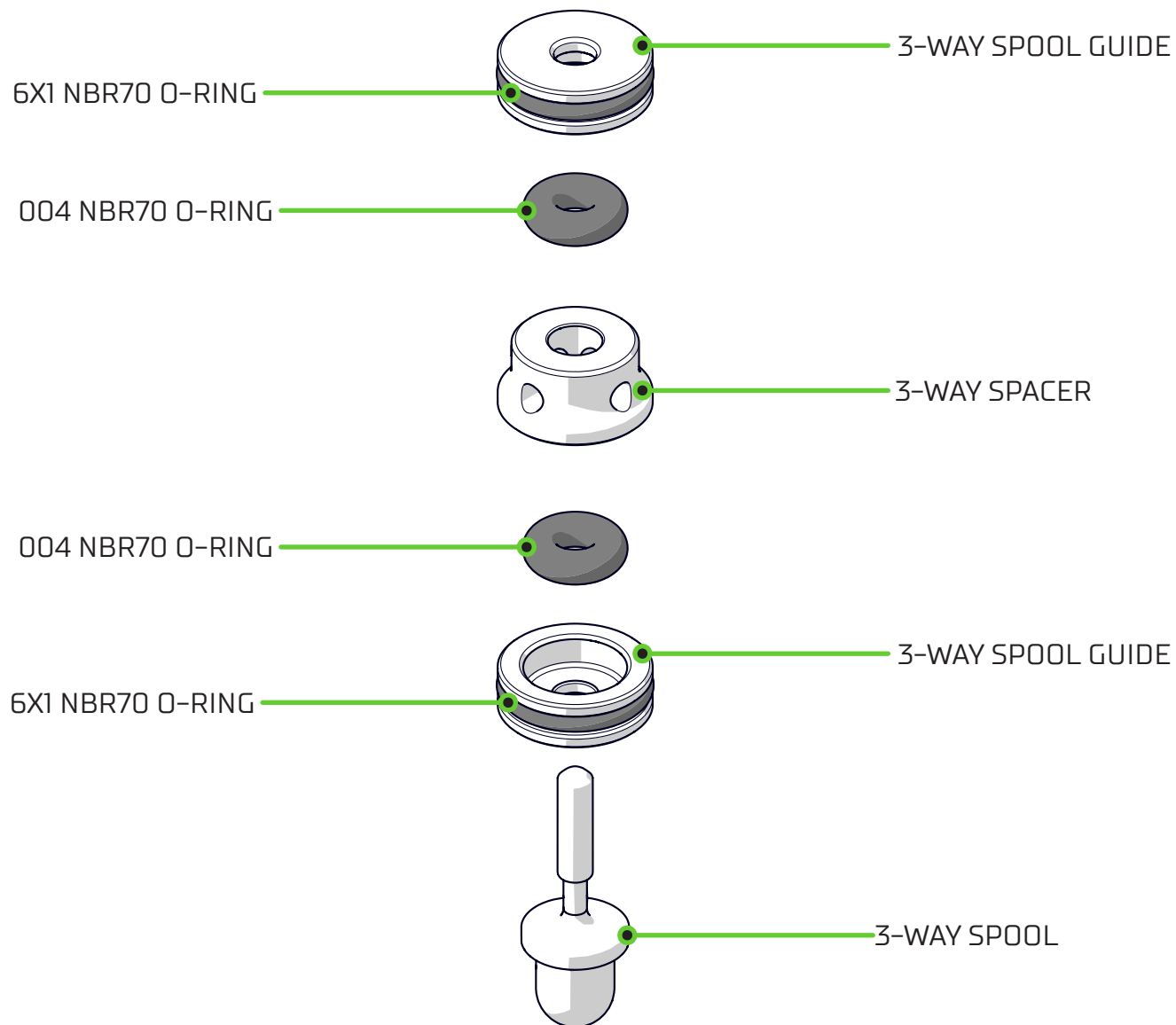


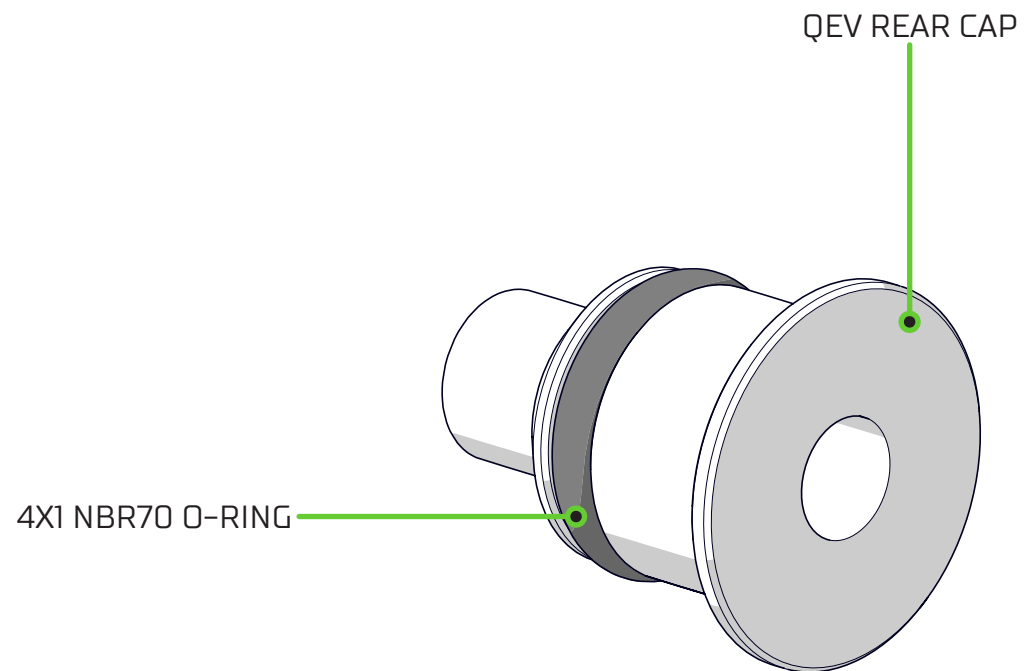


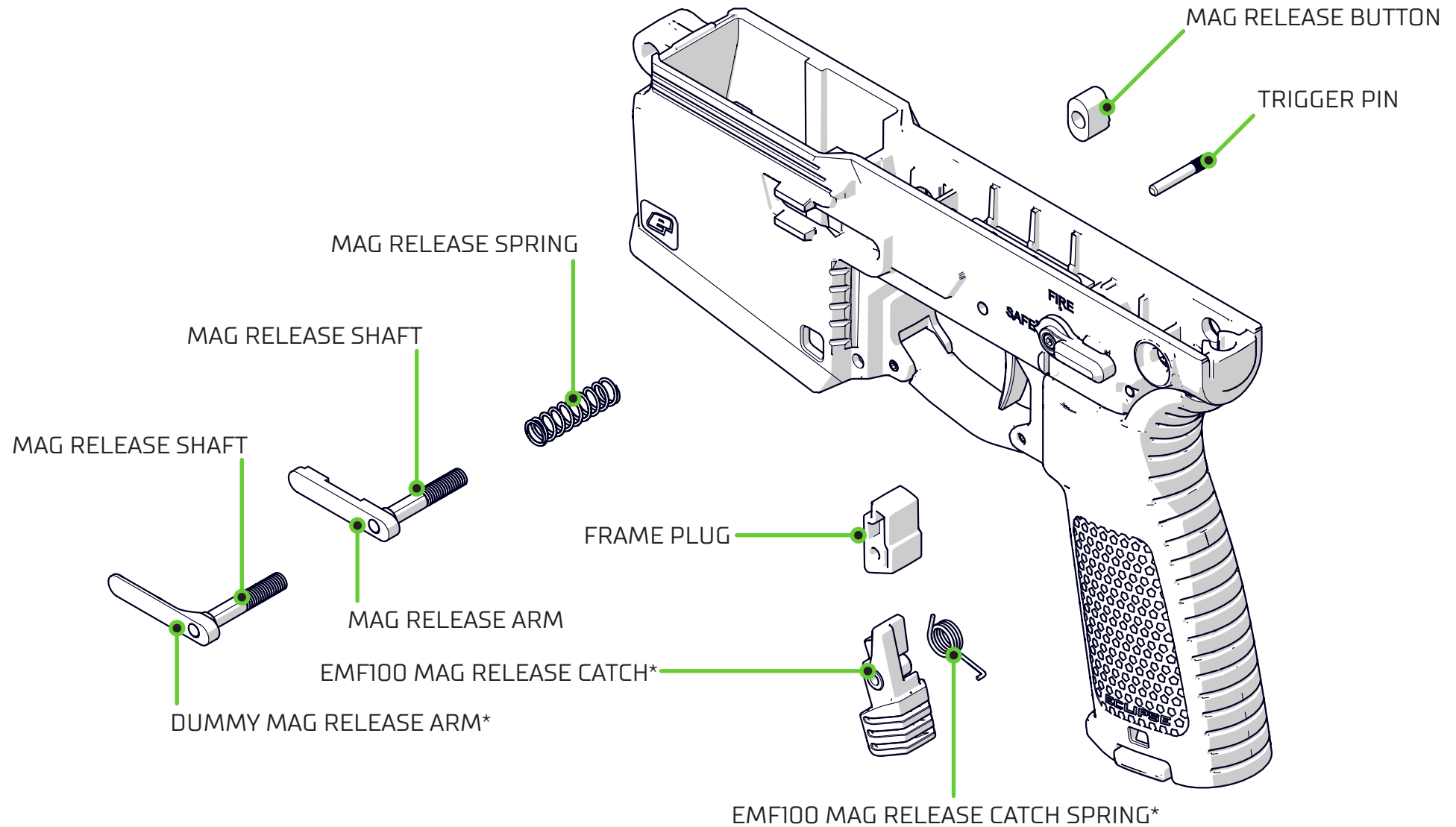


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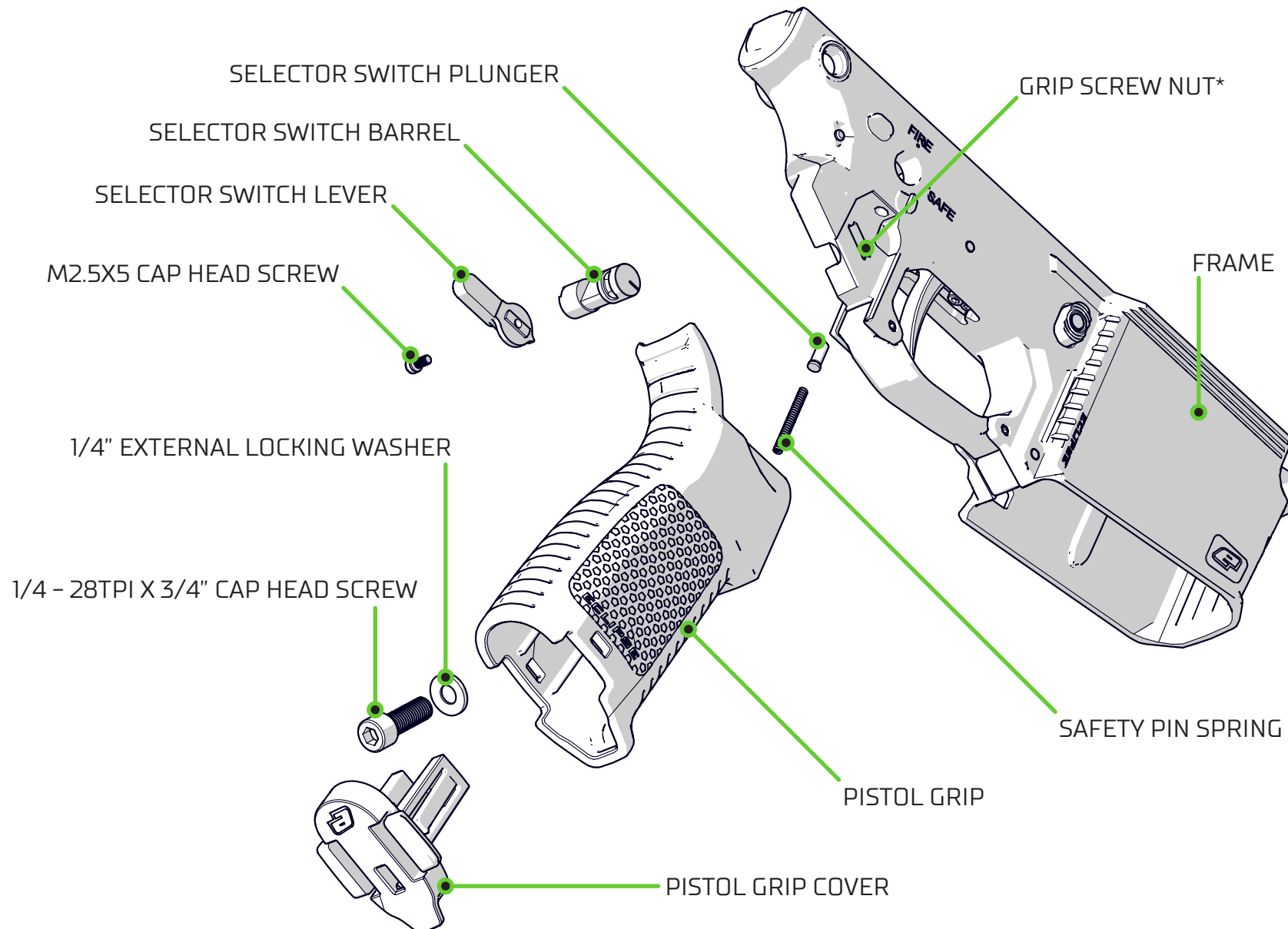
EMF200 3-WAY SPOOL PACK







*INSTALLATION OF THE EMF100 MAG RELEASE CATCH AND SPRING REQUIRES THE INSTALLTION OF THE DUMMY MAG RELEASE ARM

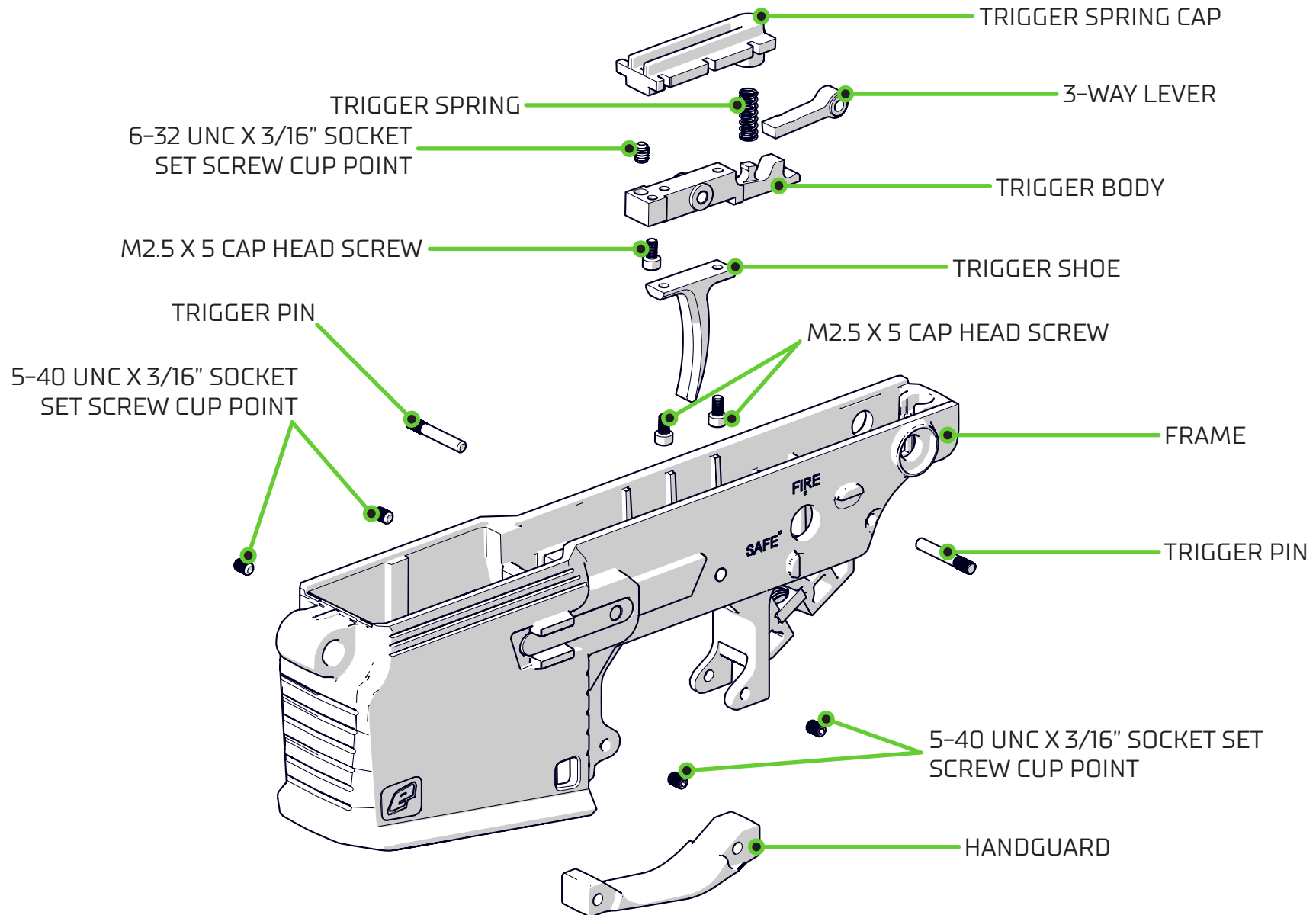


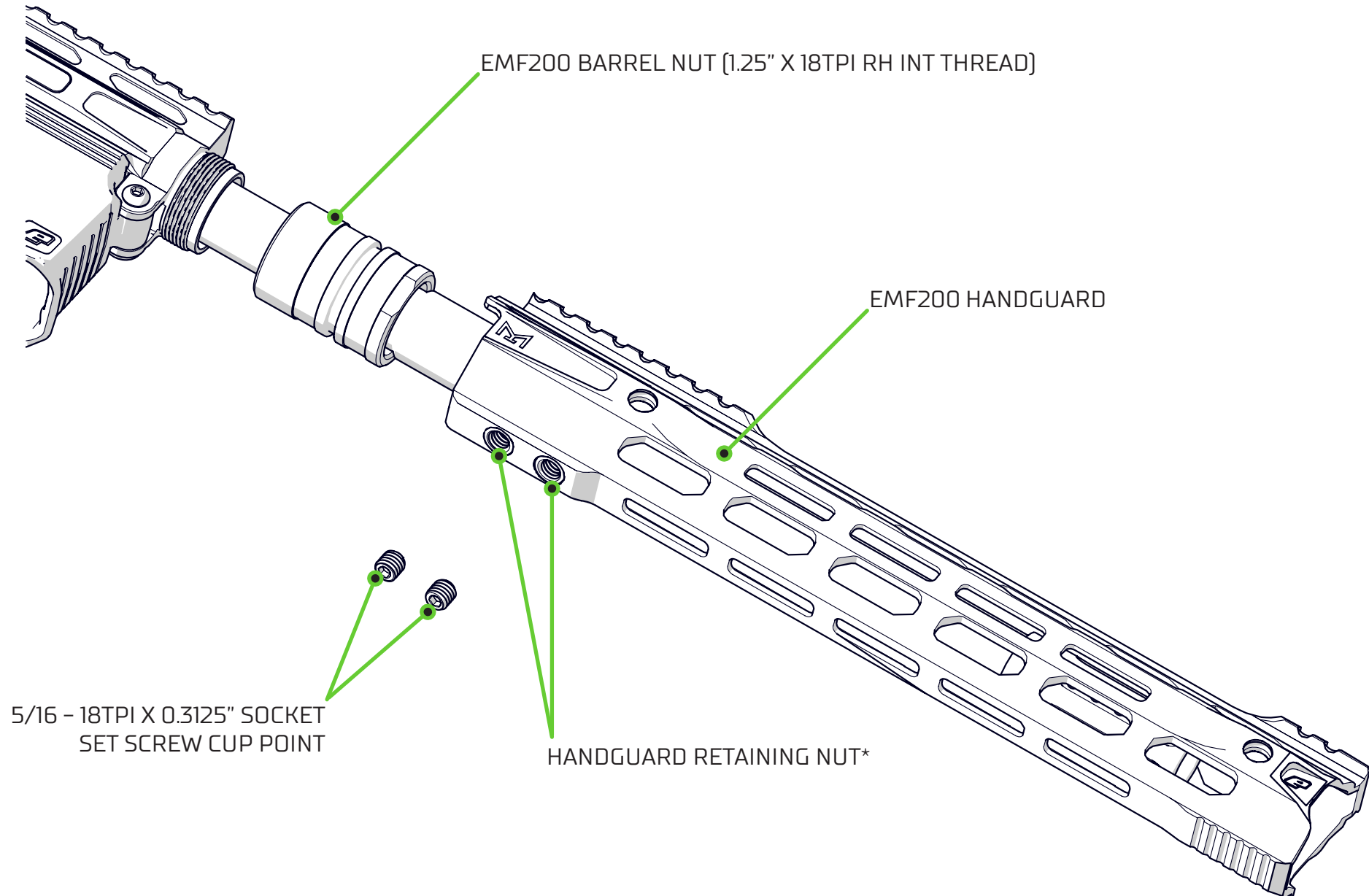
*THIS PART IS PRESS FIT



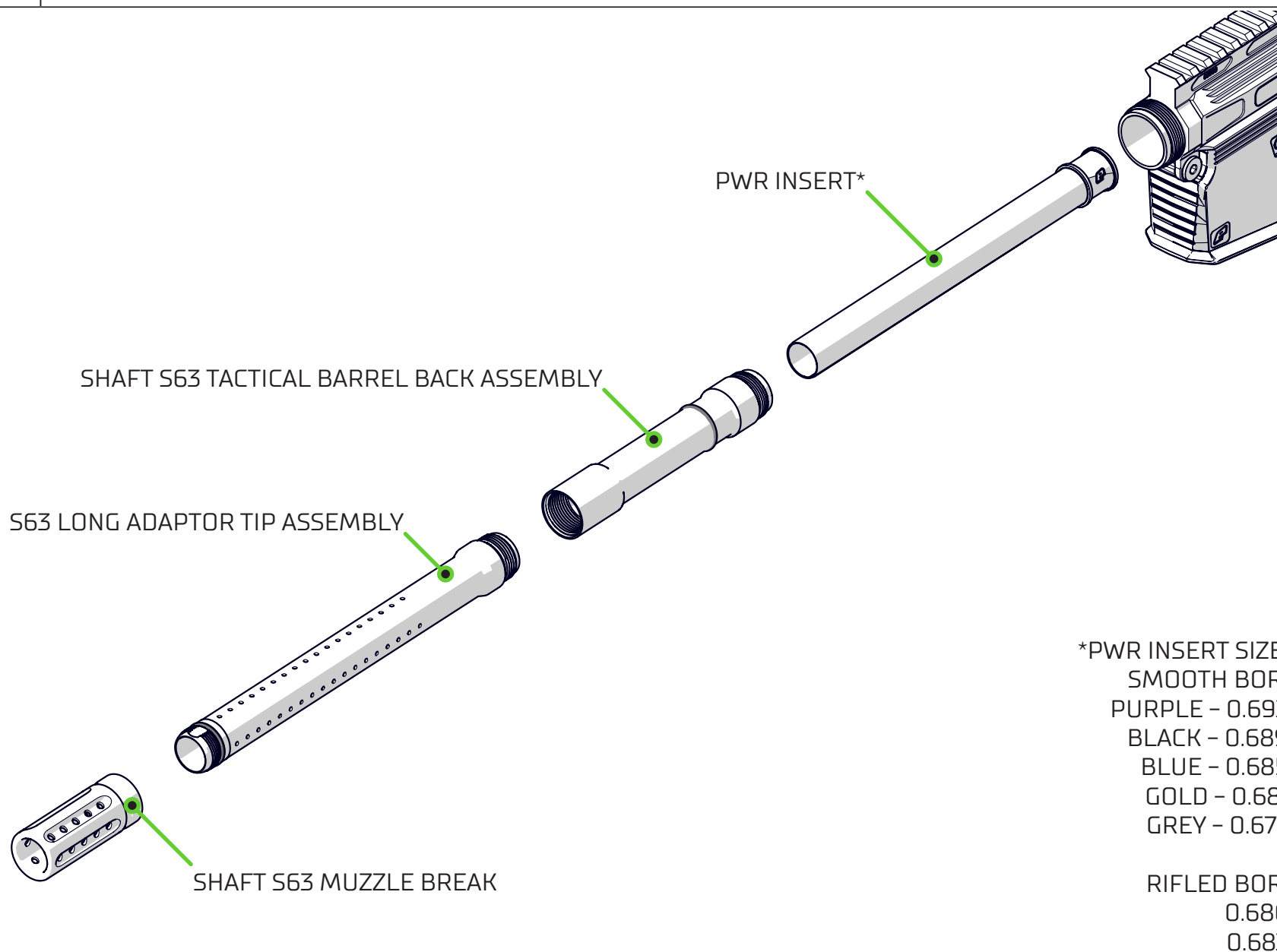
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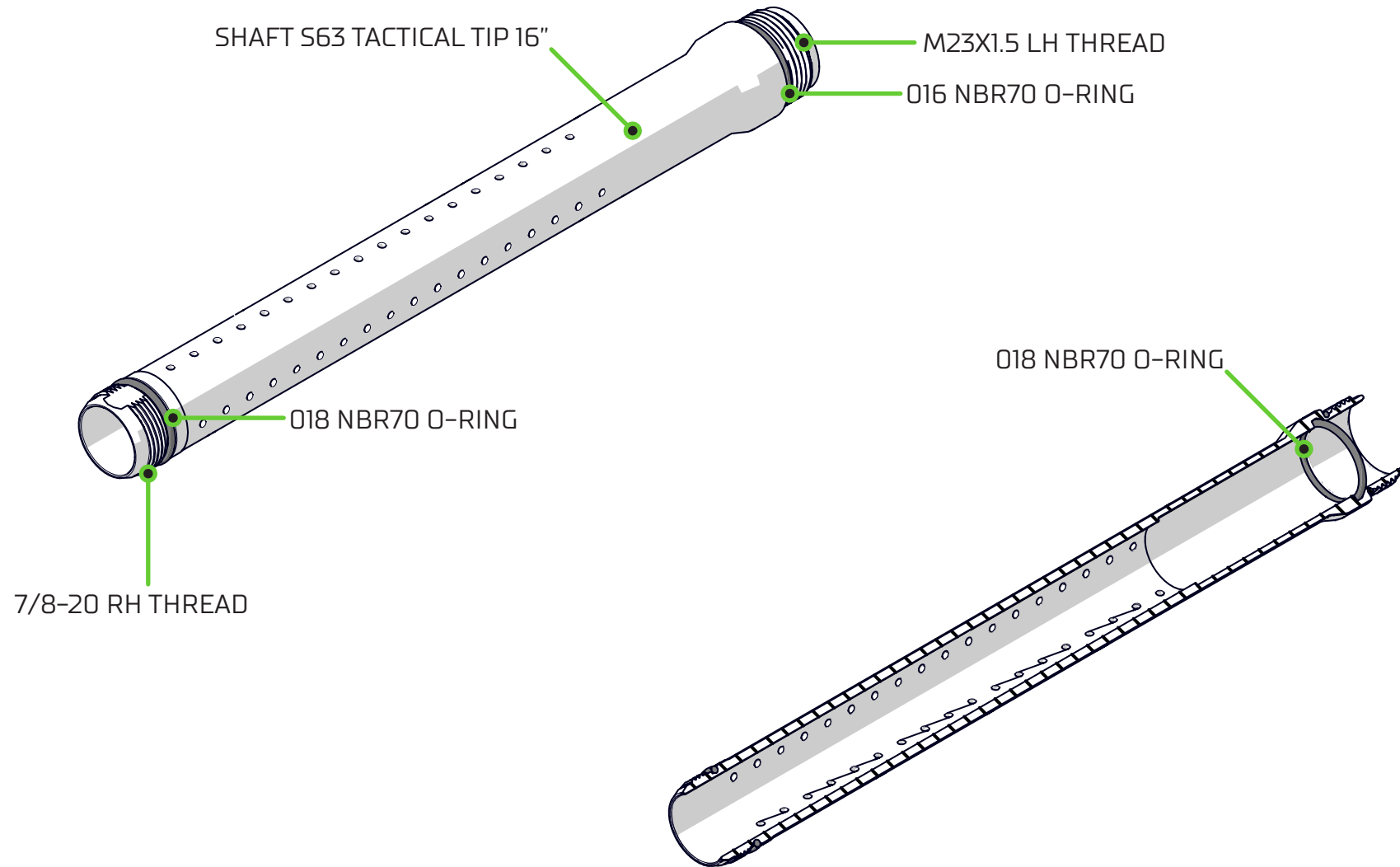
EMF200 TRIGGER ASSEMBLY





*NOT INTENDED FOR REMOVAL

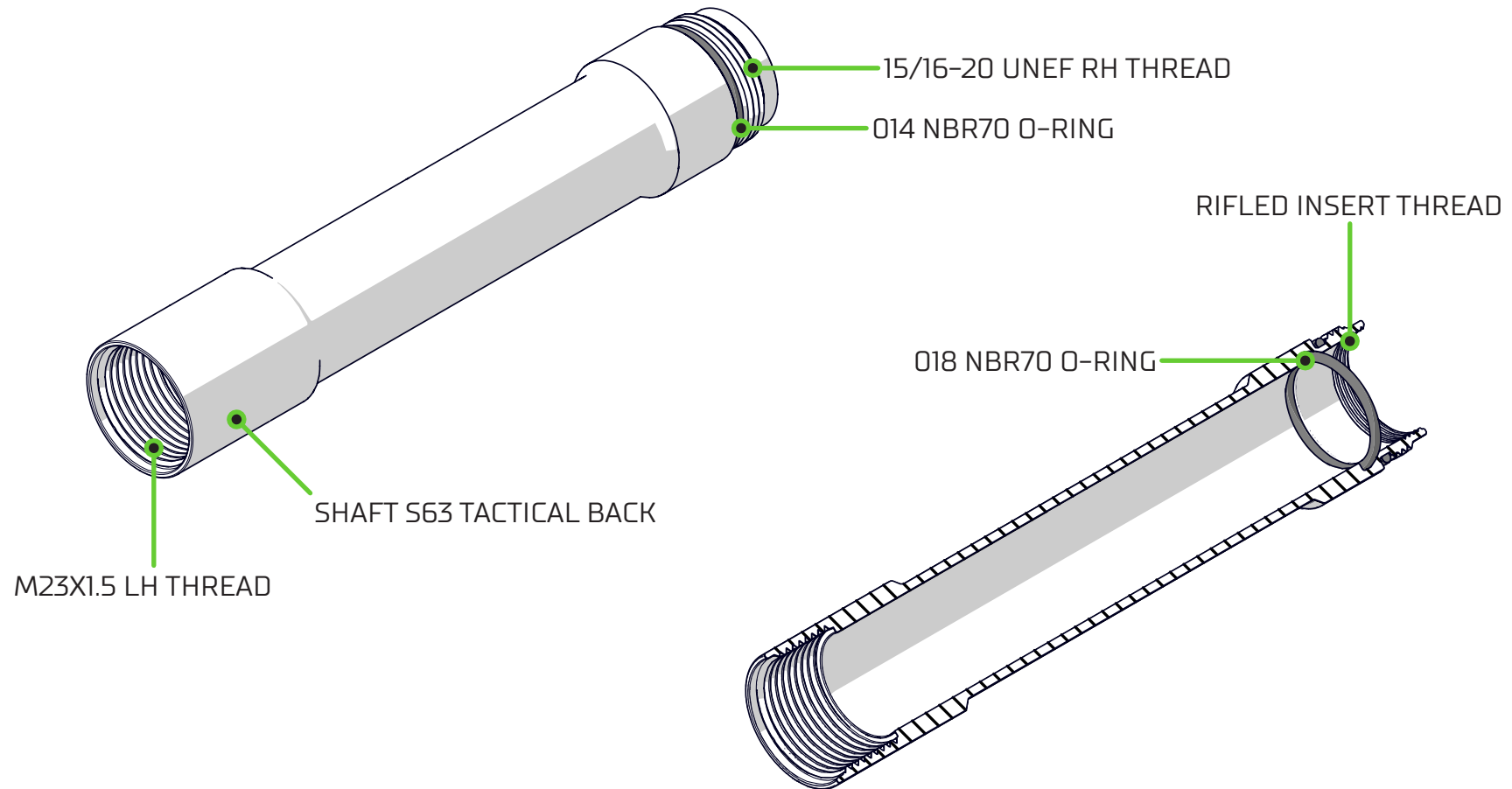






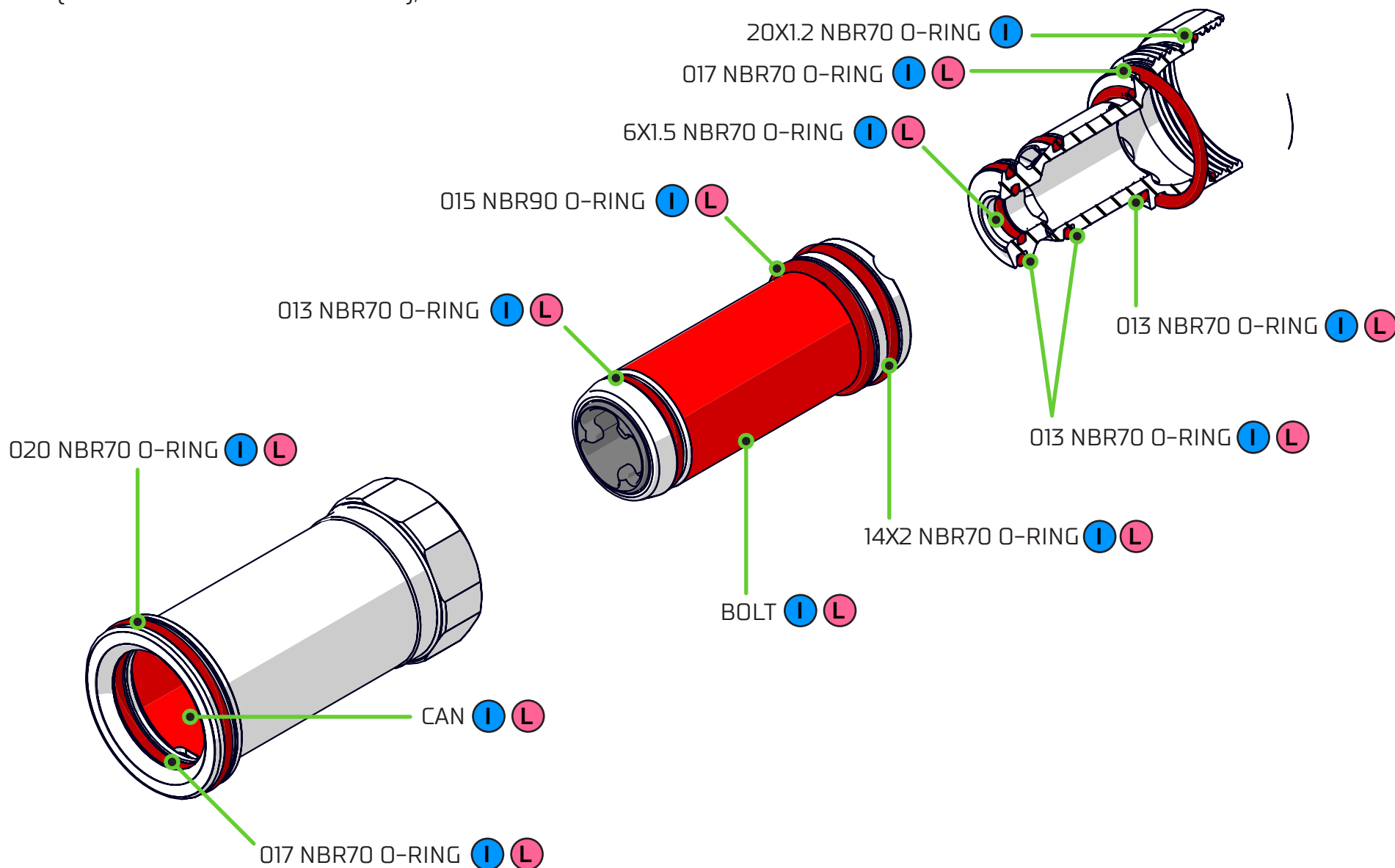
27

SHAFT S63 TACTICAL BACK ASSEMBLY





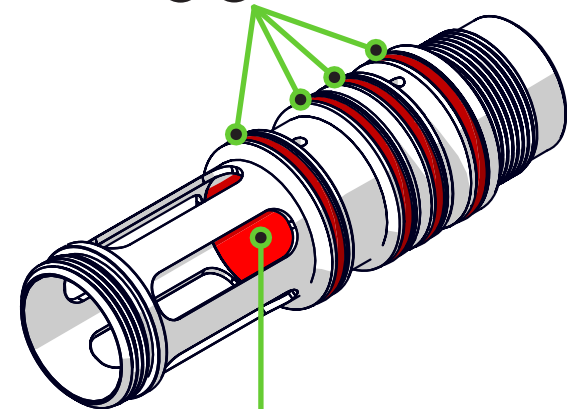
SERVICING RECOMMENDED BE CARRIED OUT EVERY 6 MONTHS OR 5000 ROUNDS (WHICH EVER IS REACHED FIRST), REPLACE AS NECESSARY.





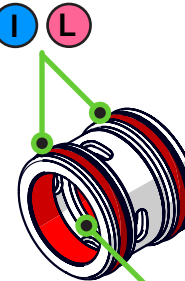
SERVICING RECOMMENDED BE CARRIED OUT EVERY 6 MONTHS OR 5000 ROUNDS (WHICH EVER IS REACHED FIRST), REPLACE AS NECESSARY.

020 NBR70 O-RING I L



VALVE CHAMBER I L

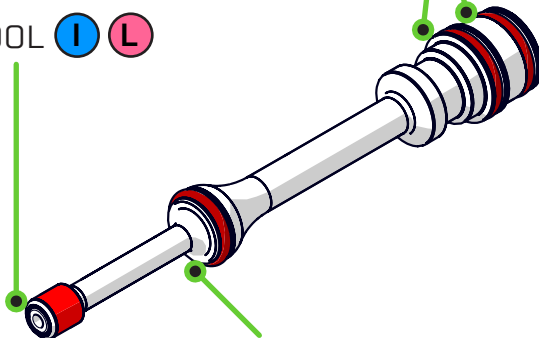
016 NBR70 O-RING I L



SWITCH I L

012 NBR70 O-RING I L

SPOOL I L



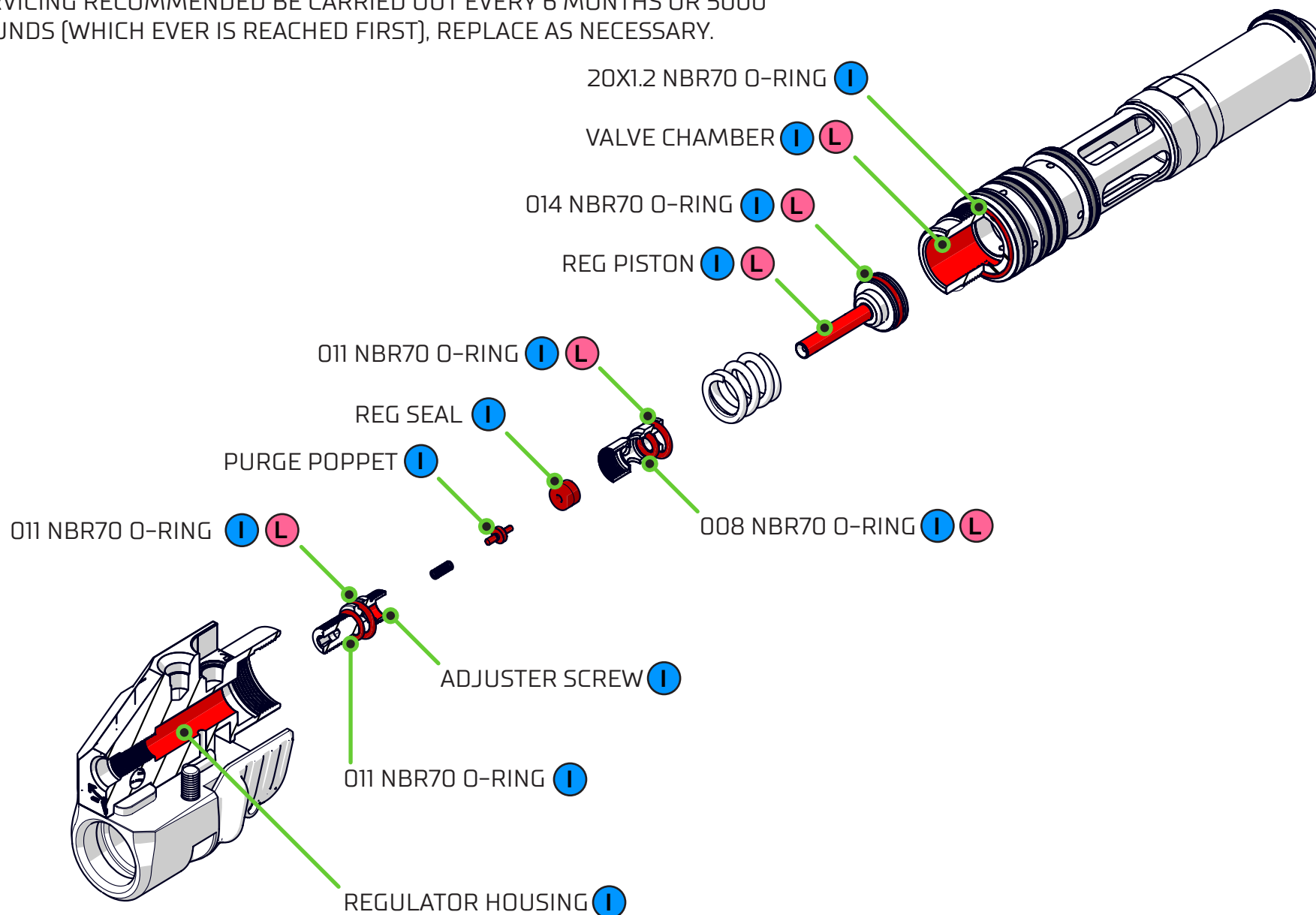
011 NBR70 O-RING I L

**30**

SERVICING - REGULATOR

I = CLEAN & INSPECT **L** = LUBRICATE

SERVICING RECOMMENDED BE CARRIED OUT EVERY 6 MONTHS OR 5000 ROUNDS (WHICH EVER IS REACHED FIRST), REPLACE AS NECESSARY.





31

FAULT FINDING - LEAKS DOWN THE BARREL

CLEAN, INSPECT AND RELUBRICATE HIGHLIGHTED FACES, REPLACE HIGHLIGHTED SEALS

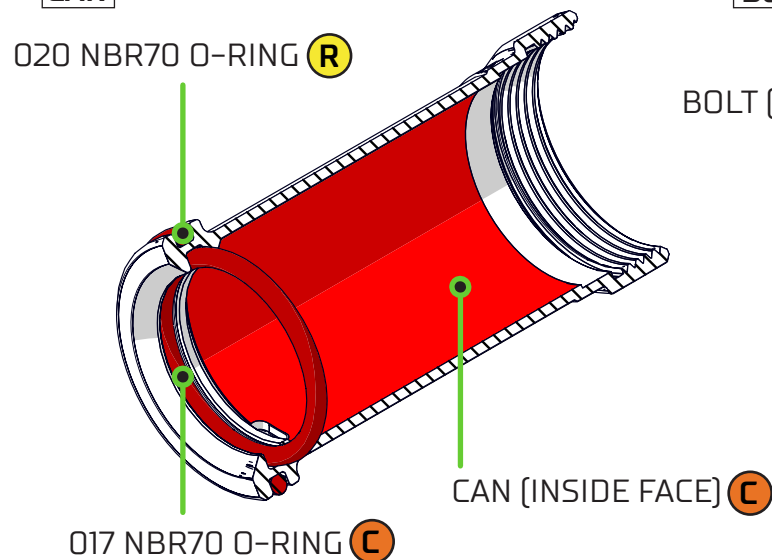


= COMMON FAULT

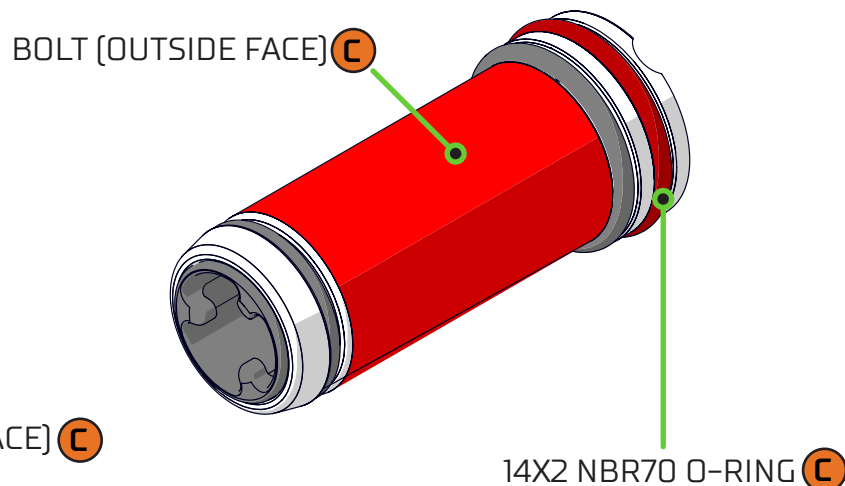


= RARE FAULT

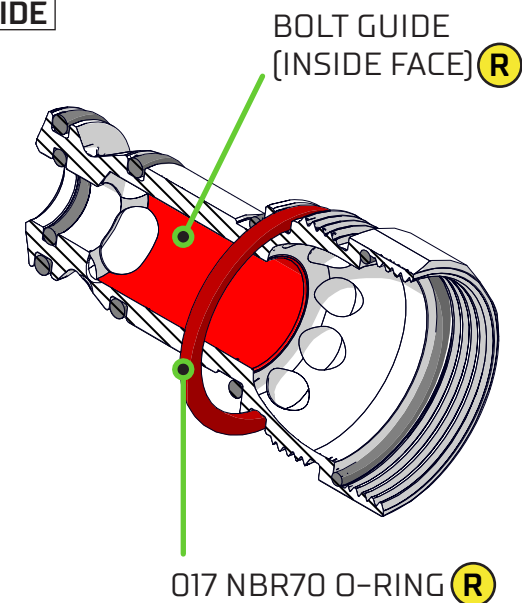
CAN



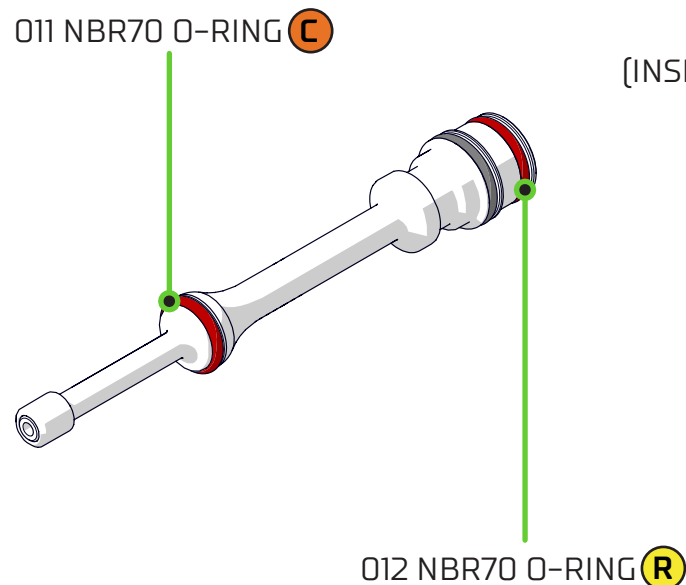
BOLT



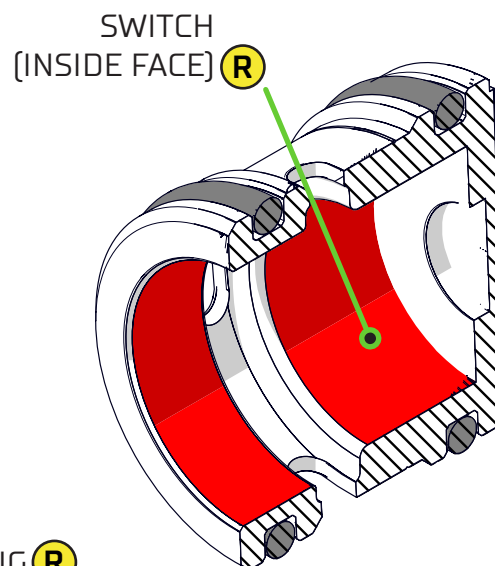
BOLT GUIDE



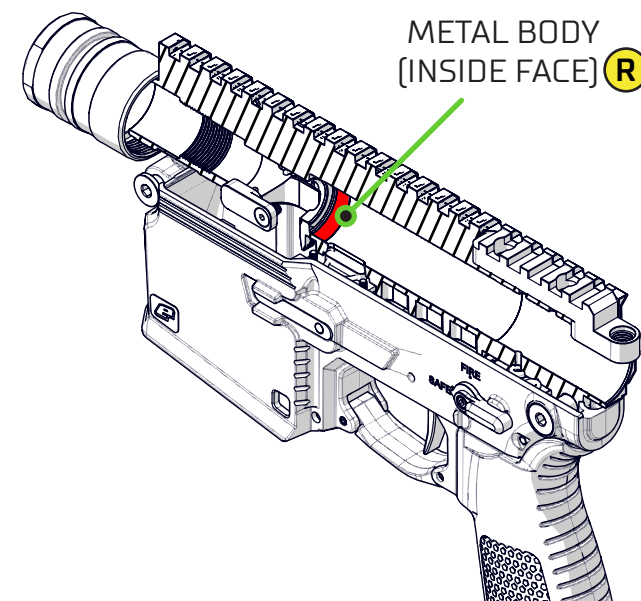
SPOOL



SWITCH



BODY





32

FAULT FINDING - FIRST SHOT DROP OFF (FSDO)

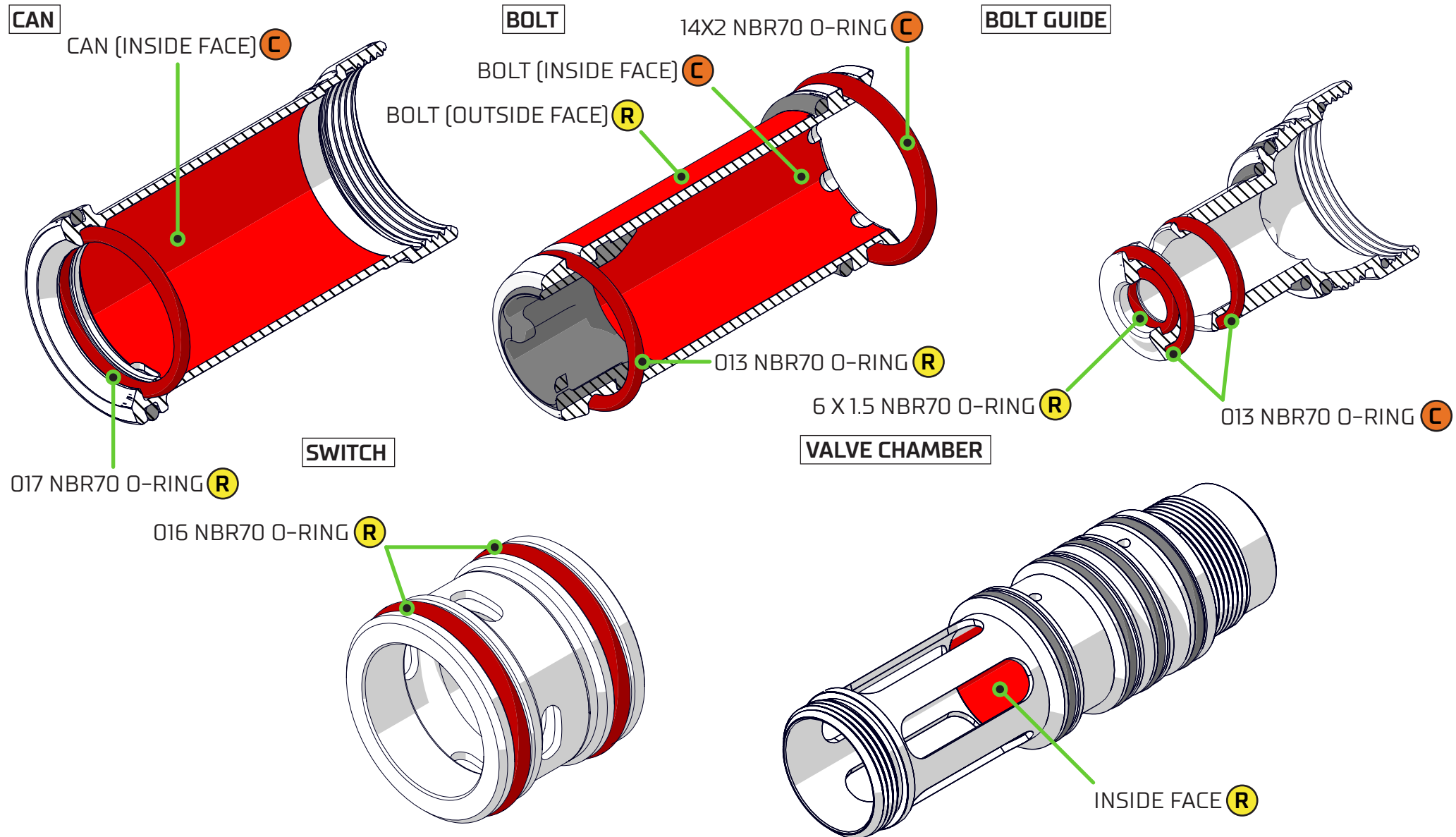
CLEAN, INSPECT AND RELUBRICATE HIGHLIGHTED FACES, REPLACE HIGHLIGHTED SEALS



= COMMON FAULT



= RARE FAULT





33

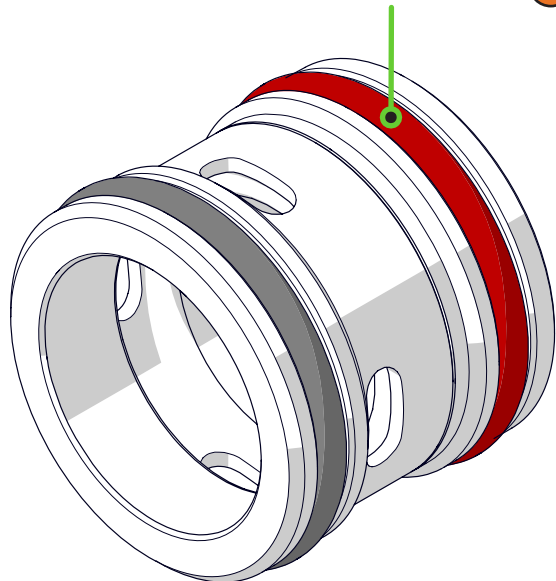
FAULT FINDING - 'PUFFS' WHEN THE TRIGGER IS PULLED

CLEAN, INSPECT AND RELUBRICATE HIGHLIGHTED FACES, REPLACE HIGHLIGHTED SEALS

C = COMMON FAULT **R** = RARE FAULT

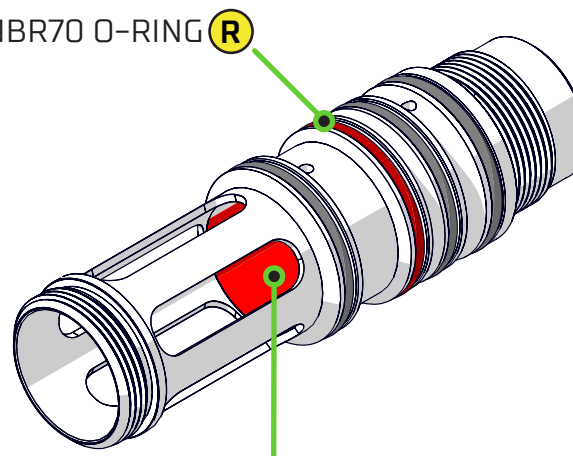
SWITCH

016 NBR70 O-RING **C**



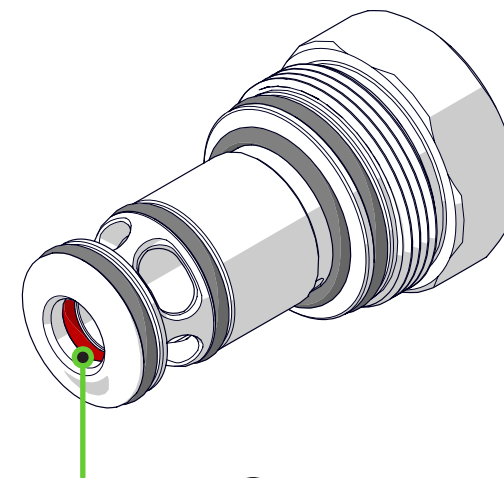
VALVE CHAMBER

020 NBR70 O-RING **R**



VALVE CHAMBER (INSIDE FACE) **R**

BOLT GUIDE

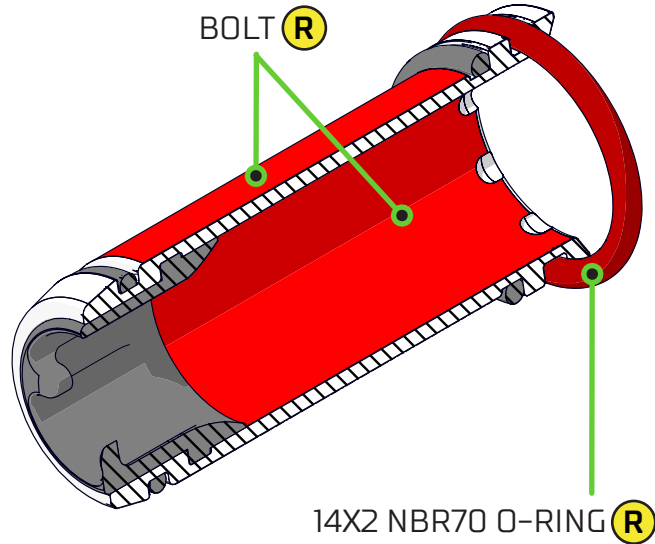


6X1.5 NBR70 O-RING **R**

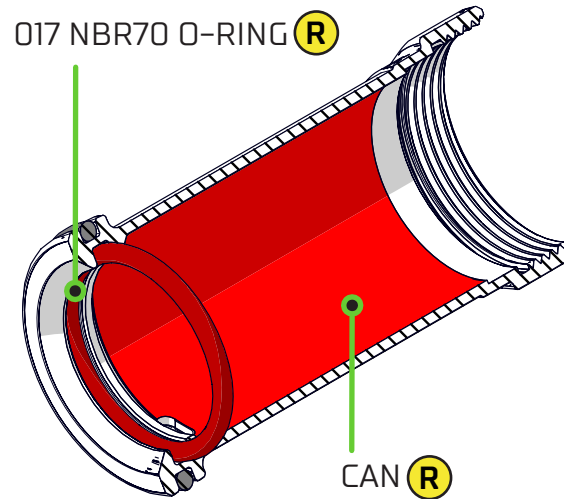
(IF THIS O-RING IS DAMAGED, INCORRECTLY SIZED OR NOT LUBRICATED CORRECTLY THEN THE MARKER MAY EXHIBIT CONSTANT LOW VELOCITY)



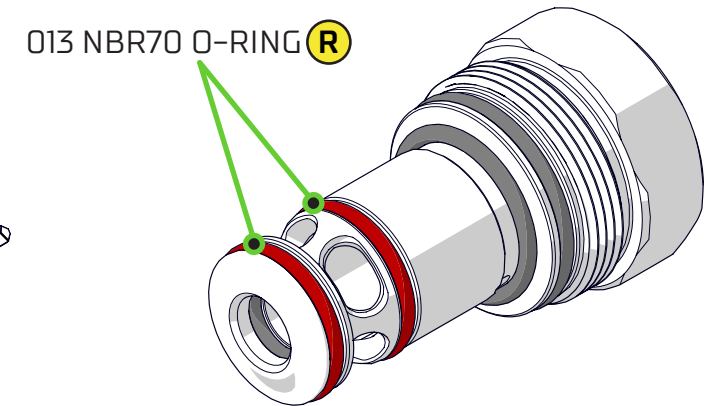
BOLT



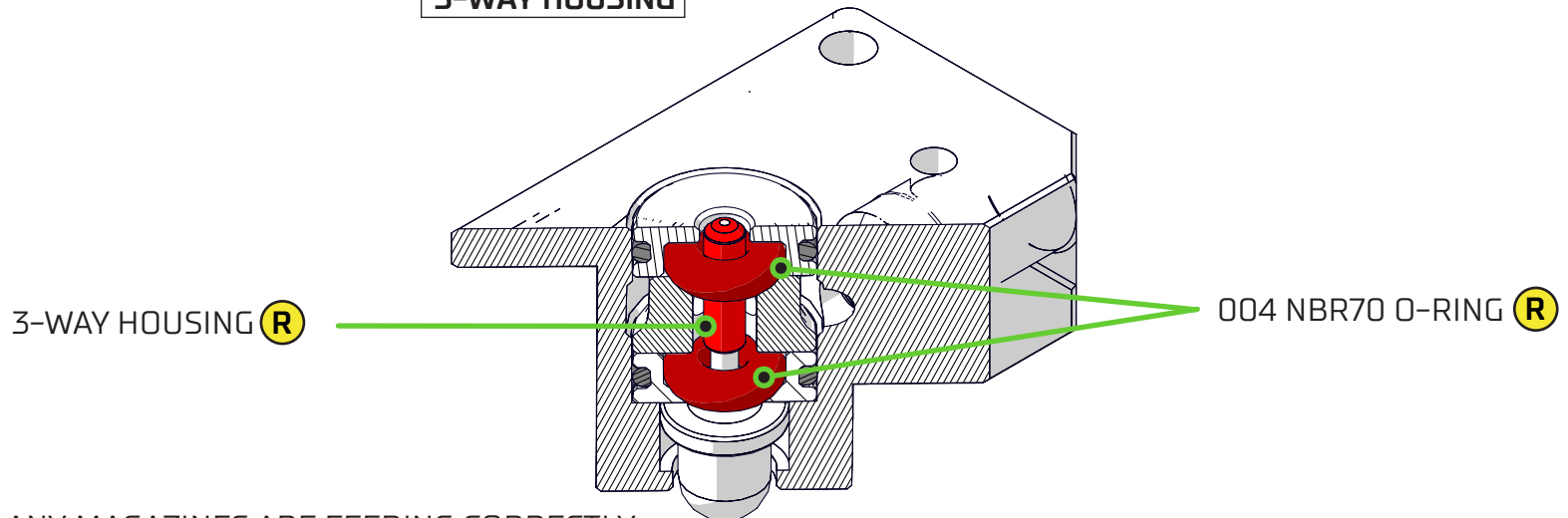
CAN



BOLT GUIDE



3-WAY HOUSING



*THIS ASSUMES ANY MAGAZINES ARE FEEDING CORRECTLY



35

FAULT FINDING - SOLENOID LEAK

CLEAN, INSPECT AND RELUBRICATE HIGHLIGHTED FACES, REPLACE HIGHLIGHTED SEALS



= COMMON FAULT

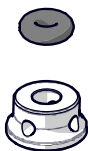


= RARE FAULT

SOLENOID

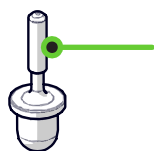
006 NBR70 O-RING (R)  006 NBR70 O-RING (R) 

6X1 NBR70 O-RING (R) 

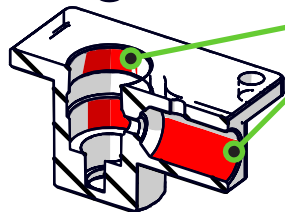


004 NBR70 O-RING (C) 

6X1 NBR70 O-RING (R) 



3-WAY SPOOL (C)

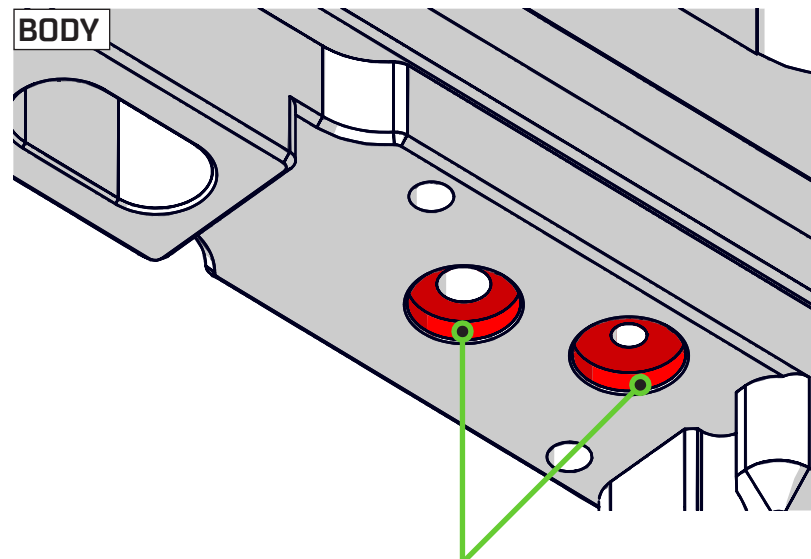


3-WAY VALVE INSIDE FACE (R)



6 X 1 NBR70 O-RING (R)

BODY



EMF200 BODY (R)



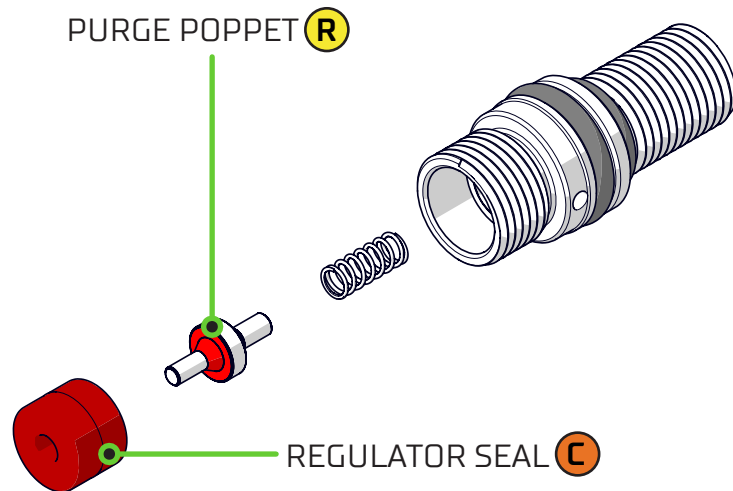
36

FAULT FINDING - CONSTANT HIGH VELOCITY

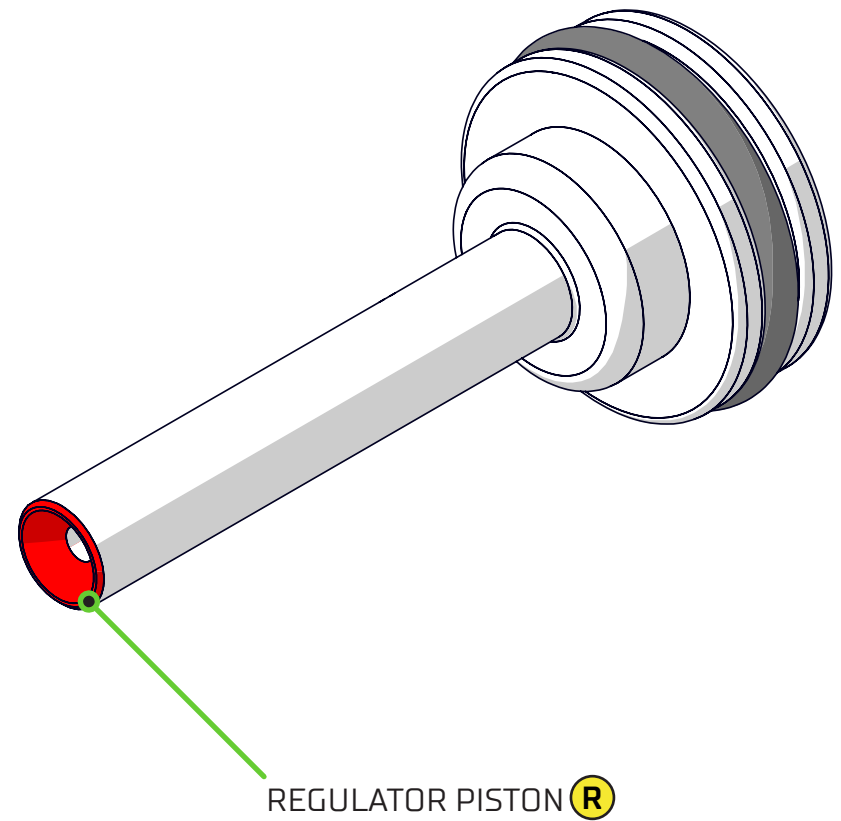
CLEAN, INSPECT AND RELUBRICATE HIGHLIGHTED FACES, REPLACE HIGHLIGHTED SEALS

C = COMMON FAULT **R** = RARE FAULT

REGULATOR ADJUSTER SCREW



REGULATOR PISTON



**37**

FAULT FINDING - INLINE REGULATOR / POPS LEAK

CLEAN, INSPECT AND RELUBRICATE HIGHLIGHTED FACES, REPLACE HIGHLIGHTED SEALS

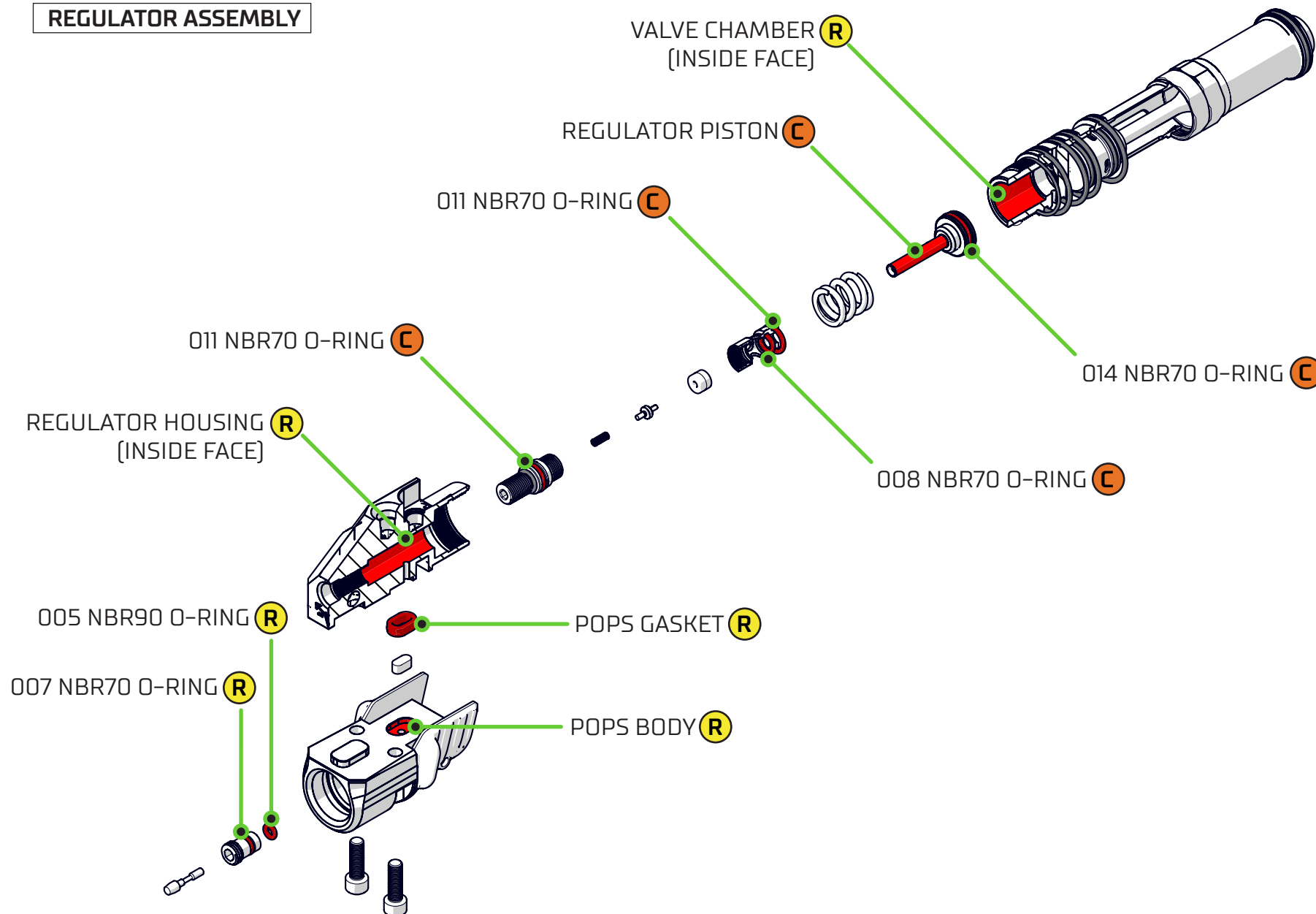


= COMMON FAULT



= RARE FAULT

REGULATOR ASSEMBLY





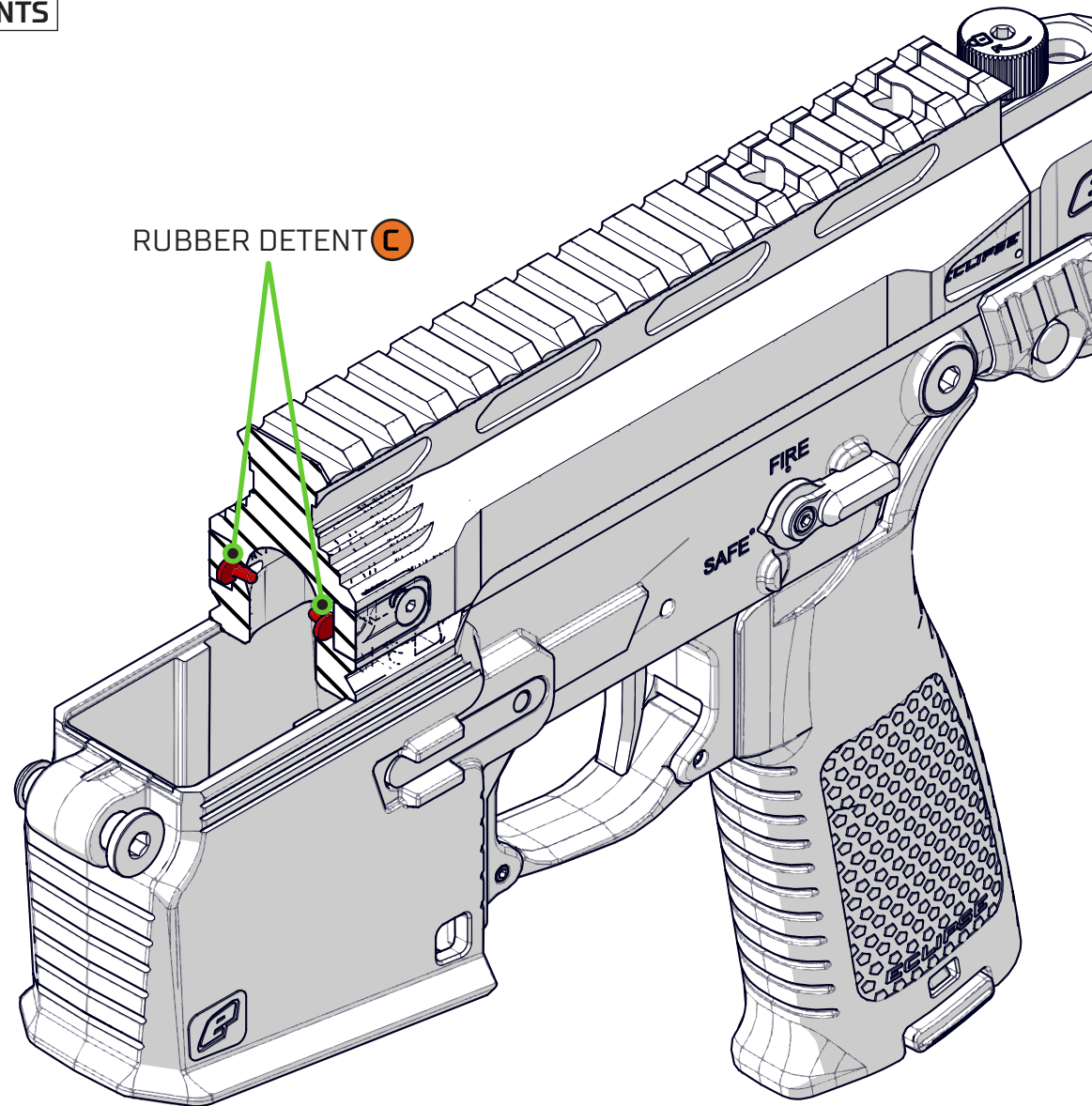
38

FAULT FINDING - BREAKING ROUNDS IN THE BREECH*

CLEAN, INSPECT AND HIGHLIGHTED COMPONENTS, REPLACE HIGHLIGHTED SEALS

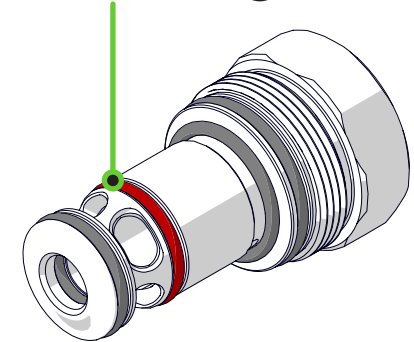
C = COMMON FAULT **R** = RARE FAULT

DETENTS



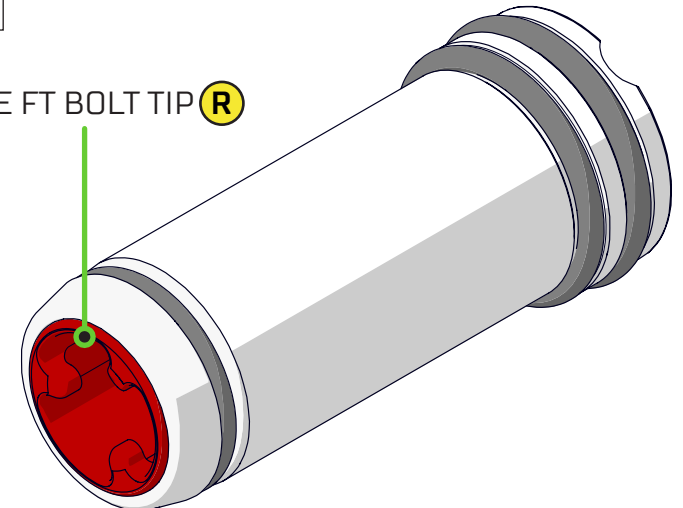
BOLT GUIDE

013 NBR70 O-RING **C**

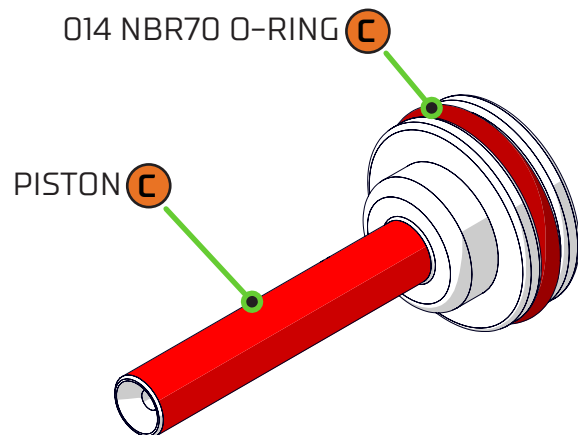
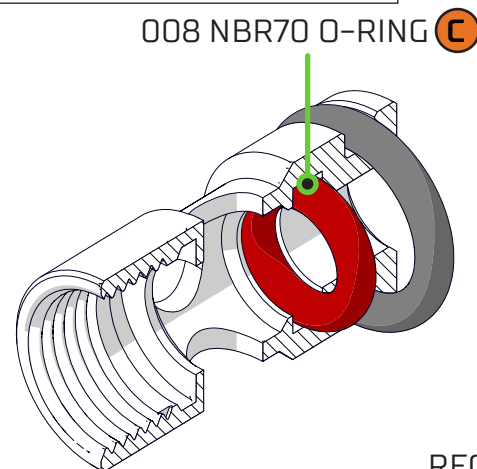
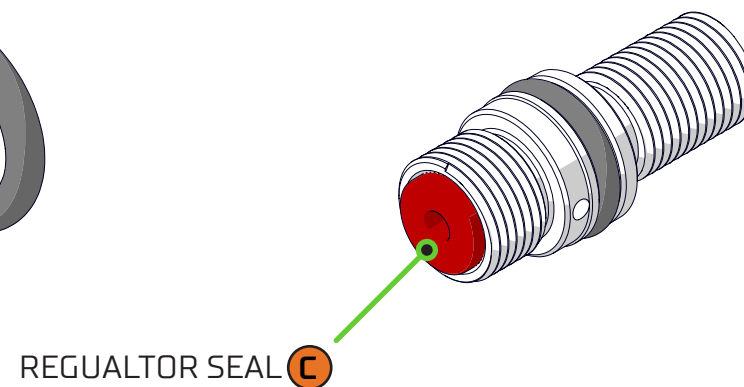
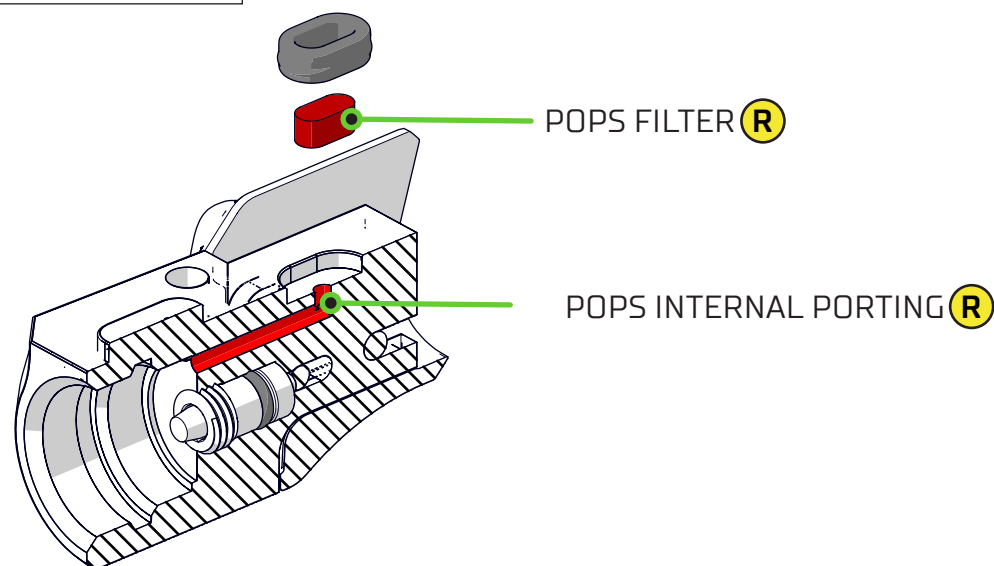


BOLT

CURE FT BOLT TIP **R**



*THIS ASSUMES ANY MAGAZINES ARE FEEDING CORRECTLY

**REGULATOR PISTON****REGULATOR ADJUSTER TOP****REGULATOR SEAL****POPS ASSEMBLY**



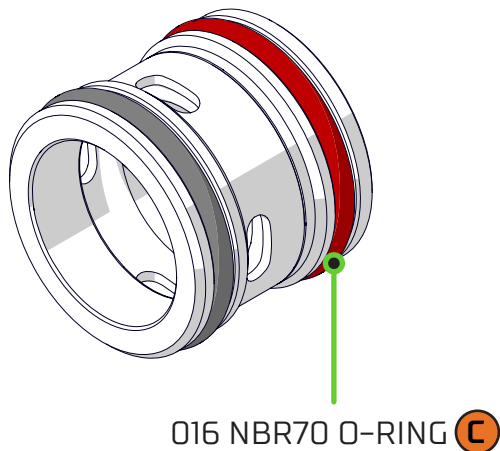
40

FAULT FINDING - INEFFICIENT / LOW SHOT COUNT

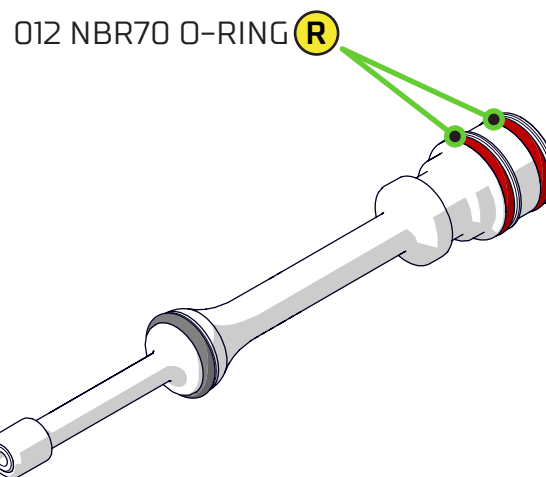
CLEAN, INSPECT AND RELUBRICATE HIGHLIGHTED FACES, REPLACE HIGHLIGHTED SEALS

C = COMMON FAULT **R** = RARE FAULT

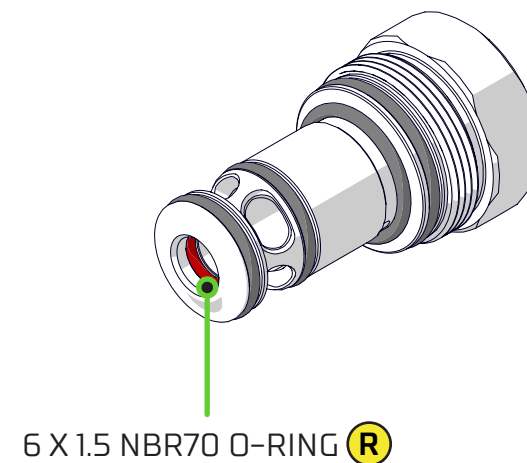
SWITCH



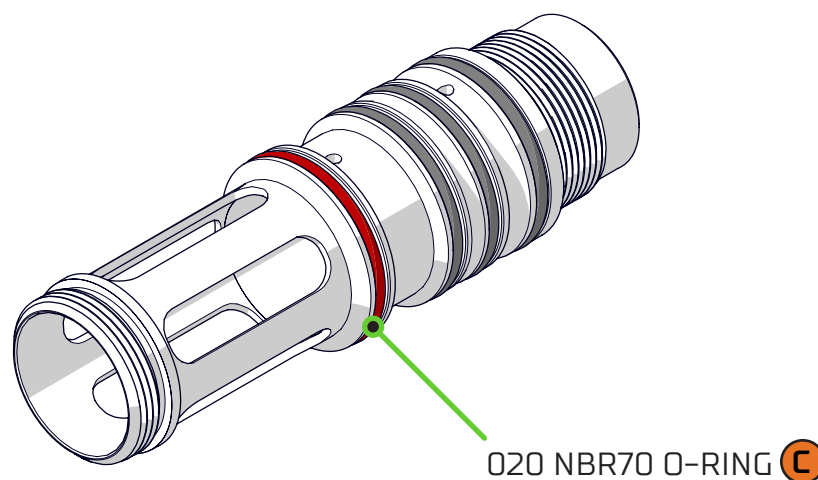
SPOOL



BOLT GUIDE



VALVE CHAMBER





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This product is covered by and/or licensed under one or more of the following patents:

G.B. Patents:

2,342,710; 2,345,953; 2,352,022; 2,391,292; 2,391,063;

U.S. Patents:

7,836,873; 7,603,995; 7,073,284; 8,104,463; 7,509,953; 7,921,839; 7,089,697; 7,866,307; 8,082,912; 7,076,906; 7,607,424; 7,980,238;
8,960,175; 8,528,877; 8,201,547; 8,397,706; 8,210,160; 7,073,284; 6,311,682; 6,748,938; 6,860,259; 6,941,693; 6,973,748; 5,881,707;
5,967,133; 6,035,843; 6,474,326; 6,637,421; 6,644,295; 6,810,871; 6,901,923; 7,121,272; 7,100,593; 7,610,908; 7,603,997; 7,946,285;
6,349,711; 7,044,119; 7,185,646; 7,461,646; 7,556,032; 7,591,262; 7,617,819; 7,617,820; 7,640,925; 7,640,926; 7,866,308;

Application numbers:

12/256,832; 12/613,958; 12/493,777; 11/654,721; 11/747,107; 12/503,504; 11/781,821; 60/832,548; 11/965,886; 10/280,115

Additional U.S. and International Patents may be pending.

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