

OWNER'S MANUAL

# THRESHOLD™



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## CONGRATULATIONS ON YOUR PURCHASE

### THE DANGEROUS POWER THRESHOLD™

#### A Message From the Research and Design Team at Dangerous Power...

You now own one of the most exclusive and truly limited paintball products on the market today. Take pride in knowing that your THRESHOLD™ paintball marker is a result of painstaking craftsmanship and utilizes technology that is truly innovative and groundbreaking in paintball marker engineering. Since we pride ourselves as 'innovators and never followers', our goal was to design a product superior in the areas of dependability, ease of maintenance, performance, and maximum value. We believe that we have accomplished our mission; the THRESHOLD™ truly embodies our philosophy here at Dangerous Power™. It is with our sincerest hopes that you find as much joy in your THRESHOLD™ paintball marker as we have had in its creation.

Dangerous Power™ takes great pride in delivering world class Technical Support. You can be assured that with the purchase of any DP Product, you will be backed by the support of our team of highly trained service technicians, available to assist you should you have any technical issues or inquiries.

Thank you for your support, and Welcome to the Family at Dangerous Power™!



## **WARNING!**

Eye protection must be worn at all times by the user and any person located in the range of an actively used paintball marker. The eye protection gear must be approved and designed for paintball use.

- The THRESHOLD marker is not a toy!
- Misuse or careless use can cause serious injury or death.
- Please read the operation manual and warranty card before using.
- Always use a barrel blocking device.
- Always ensure the marker is not pointed at anyone when it is being handled outside the confines of an actual paintball game and where proper eye protection and equipment are not being used.
- This product is recommended for use for adults 18 years or older. Person under 18 must have adult supervision or use only on paintball fields meeting ASTM standard F1777-97.

## **STATEMENT OF LIABILITY**

The manufacturer assumes no responsibility for this product's resale or safe operation upon distribution. PROPERTY DAMAGE, BODILY INJURY OR DEATH could occur due to misuse, abuse or failure to follow the manufacturer's instructions stated in this manual. The manufacturer will assume no responsibility for physical injury or property damage resulting from the use of this marker.

The information in this document is subject to change without prior notice. The manufacturer assumes no responsibility for any errors that appear in this document.

## **DISCLAIMER**

Notice is hereby given that this owner's manual is part of the article owned in whole by the manufacturer, known as indicated by this disclaimer and all illustrations within the manual. All rights for manufacturing and reproducing of such articles or any part thereof are reserved by the manufacturer. Neither said article nor any part thereof may be manufactured or reproduced in any way except by the written authorization from the manufacturer. All proprietary rights and information are the sole property of the manufacturer.

## LIMITED WARRANTY

DANGEROUS POWER™ warrants this THRESHOLD paintball marker, to the initial retail purchaser, to be free from defect in original materials and/or workmanship for twelve (12) months from the original date of purchase with the following exceptions:

- (a) Disposable parts (**batteries, o-rings, seals, micro switch, air pressure hose, rubber and/or plastic material parts, etc.**) are not included in this limited warranty.
- (b) Electronic parts on this marker are fully warranted for 30 days from the original date of purchase.
- (c) Bolt and striker systems of this marker are fully warranted for 6 months from the original date of purchase.
- (d) Surface damages (**scratches and nicks**) or operation failure due to accident, neglect, modification, normal wear, operator error, maintenance by anyone other than an authorized dealer or agent, misuse, improper disassembly and reassembly, and attempts made to drill holes or remove metal from the external surfaces which could reduce the safety and/or performance of this marker are not covered under this limited warranty.

Purchaser is responsible for all rendered services not covered under this limited warranty, including any applicable shipping costs, labor, and/or installation.

DANGEROUS POWER™ reserves the right to determine the legitimacy of claimed defective original parts and their eligibility for coverage under the terms of this warranty. DANGEROUS POWER™, its authorized dealers, affiliates, and/or agents, will not be held liable under this warranty, state, federal, or common law for any product failure, personal injury, or property damage resulting from improper use and/or alteration of this product. Any attempt to alter the trigger assembly will instantly void your warranty and may result in serious injury. Any attempt to alter basic marker parts without prior written consent from the manufacturer will result in automatic default of all expressed warranties. Paintball markers are non-refundable and are not subject to exchange from manufacturer.

This limited warranty is non-transferable and is valid only upon presentation of a completed warranty registration card and original proof of purchase. There are no other warranties or guarantees, expressed or implied, made by the manufacturer on this paintball marker.

## FEATURES

- Innovative patent pending 'Dump Valve' technology utilizes only two parts for greatest reliability and efficiency.
- Entire system utilizes only six o-rings, maximizing dependability and ease of maintenance.
- Patented low-rise, X-TREME GRIP™ feedneck, provides 360 degrees of locking pressure for the tightest possible grip.
- Patented flip lever ASA ( Rapid Air Pressurizing System ).
- Easy access to bolt and assembly, tools provided.
- No hassle, easy access dip switches on board allows user to select up to 8 modes of fire, covering the most popular regulations of tournament play. Solenoid dwell settings are also easily adjustable through switches (ADVANCED USERS ONLY!).
- Blade style trigger with oversized trigger guard for easy 'trigger walking' - even with gloves on.
- Optical trigger with externally adjustable pre and post travel.
- 2 step, adjustable sensor trigger.
- Super bright LED user interface (Semi/ramping) on circuit board.
- Break beam and anti chopping eyes.
- Blade style trigger for lighter pull.
- Light weight, 3-D milled body- entire marker COMPLETE with ASA, feedneck, barrel, and 9V battery is only 2.2 pounds!
- Low operating pressure (150psi) - ideal for the most brittle, tournament paint.
- In-house, custom designed solenoid made to withstand extreme pressure for maximum reliability.

## INSIDE THE PACKAGE

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| ● (1) THRESHOLD marker body          | ● (1) User manual                    |
| ● (1) Two piece .690 barrel          | ● (1) Warranty card                  |
| ● (1) Barrel condom                  | ● (1) Connect hose                   |
| ● (1) 11-piece hex key set           | ● (1) Dangerous Power™ Key Chain     |
| ● (1) Package of replacement o-rings | ● (2) Dangerous Power™ Hopper Decals |

## POWERING THE THRESHOLD

The THRESHOLD is an electro-pneumatic marker and requires the use of a 9-volt battery in order to operate the circuit board that controls the firing mechanism. Using fresh, high quality batteries will ensure optimal performance. The battery will slowly drain if left in the THRESHOLD - even if the marker is not on! To maximize battery life, remove the battery after you are done playing for the day. To insert a battery, you will need to take the supplied 3/32 hex key, unscrew the left grip panel, and remove it. Plug the battery into the harness and gently push it into place. The battery should fit snugly, but refrain from using force to coerce the wires into positions as doing so can cause serious damage!

Do not use CO<sub>2</sub> with the THRESHOLD marker. At high rates of fire with cold temperatures, liquid CO<sub>2</sub> can damage the solenoid. CO<sub>2</sub> is also much harsher on rubber o-rings and can cause irreparable damage within the regulators and other internals. Due to the THRESHOLD's use of an electronic solenoid and its capability for high rates of fire, only use nitrogen or compressed air.

The THRESHOLD operates at under 200 psi, and will perform equally well with either HP (high pressure) compressed air tanks. To attach a compressed air tank, simply insert it into the RAPS, and then flip the on/off switch shut. Be sure to lubricate the tank's o-ring from time to time to ensure that it does not dry out and become susceptible to leaking. Avoid using any kind of oil in the RAPS, as liquids can damage the solenoid.

To disconnect the air tank, first make sure that there are no paintballs in the marker. Flip the on/off switch on the front of the RAPS. The THRESHOLD's HPR (High Pressure Regulator) can still hold air, even after the tank is deactivated. Clear the remaining air out of the THRESHOLD by dry firing until it no longer fires. Once completed, unscrew air tank. Do not fasten air tank on the THRESHOLD unless you intend to fire it. Promptly remove after use to prevent accidental discharge.

## ADJUSTING PRESSURE AND VELOCITY

When air enters the THRESHOLD, it first enters through the HPR where it is regulated down to approximately 150~200 psi. From there, the air takes two paths - the first path leads to the chamber and allows the bolt to propel the paintball. The second path leads air flows through the solenoid and is responsible for cycling the bolt back to open the valve. The majority of the paintball's velocity is a function of the HPR.



## KEY HIGHLIGHTS:

- Before attaching the air system, ensure the air system adapter is in place.
- The initial adjustment should be made with no paintballs loaded.
- When adjusting or operating with low pressure, always check the velocity using chronograph devices.
- Use caution when adjusting, as internal damage may occur to the components or the regulator systems and may void the warranty.

## HPR ADJUSTMENT

- The HPR is adjustable by using the hex screw at the bottom (use HEX tool 1/4) .
- Turning the adjustment screw clockwise, or in, will lower the HPR's output pressure. Turning the adjustment screw counterclockwise, or out, will raise the HPR's output pressure.
- The THRESHOLD marker operates with greatest efficiency with the HPR gauge at approximately 180 psi.
- The suggested operating pressure is between 150 to 200 psi. Exceeding 200 psi with the HPR is not necessary to reach the 300 fps universal velocity limit. Increasing pressure beyond what is recommended can damage part (#5) as well as create other problems.
- Immediately shut off HPR if any leakage is detected.

## TRIGGER ADJUSTMENT

- The two adjustment screws are located on the trigger and trigger guard (use HEX tool 5/64) .
- The top screw controls the over-travel. By turning this screw you can adjust how far the trigger will travel after it reaches the firing point.
- The bottom screw below controls the forward travel. Screwing it in will shorten the trigger's length of pull.

## IMPORTANT NOTE:

It is possible to adjust the trigger to the point where it is past the activation point, or not capable of being activated. Both conditions may lead user to believe the marker is inoperable.

# LED INTERFACE OPERATION

Before operating the PC board of THRESHOLD, ensure the barrel blocking device is in place. There is an operating button located on the back. Follow activation instructions for how to read the LED interface:

## ACTIVATION

1. To activate THRESHOLD, hold down button "A" for 1.5 seconds. When the red light turns into a blinking blue light, the sensor has been activated.
2. THRESHOLD is ready to be fired once the marker has been loaded and the blue light remains on.
3. Press the button "A" to switch sensor systems.
4. THRESHOLD will turn off automatically after 20 minutes of non-use.
5. Press "A" to manually shut off THRESHOLD.

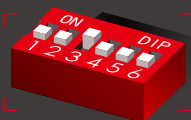


## QUICK REFERENCE GUIDE:

- Red light flashing every 3 seconds - Battery power low
- Blue light blinking rapidly - Sensor system OFF
- Blue light blinking slowly - Sensor system ON and marker NOT loaded
- Blue light steady - Sensor system ON and marker loaded

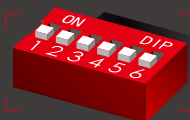
6. BPS and Ramping System:

**CFOA MODE**  
BPS:15



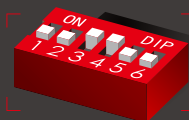
(SEMI)

**NPPL MODE**  
BPS:25



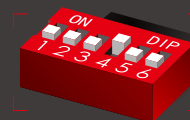
(SEMI)

**PSP MODE**  
BPS:15



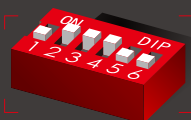
(5 BPS Active Ramping)

**Ramping MODE**  
BPS:25



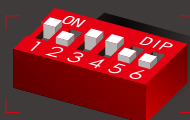
(5 BPS Active Ramping)

**MILL MODE**  
BPS:15



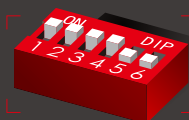
(8 BPS Active Ramping)

**NXL MODE**  
BPS:15



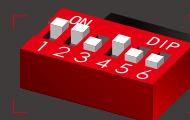
(5 BPS Active Ramping →  
hold trigger transfer full auto)

**Ramping MODE**  
BPS:15



(3 BPS Active Ramping)

**Ramping MODE**  
BPS:25



(3 BPS Active Ramping)

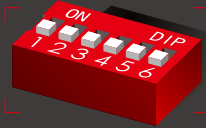




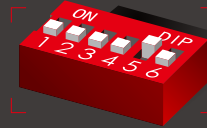
### 7. Solenoid dwell adjustment (for advanced users only)

- Dip 5 OFF 6 OFF - 12ms
- Dip 5 ON 6 OFF - 14ms (recommended)
- Dip 5 OFF 6 ON - 16ms
- Dip 5 ON 6 ON - 18ms

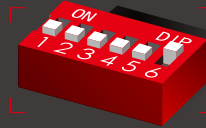
12ms



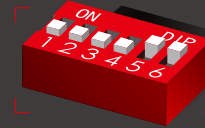
14ms



16ms



18ms



### 8. ABS (Anti Bolt Stick) default

- Dwell is programmed at 16ms upon first shot.
- Thereafter, dwell is programmed at 14ms, unless adjusted.
- Dwell will return into 16ms after 50 seconds of non-use.

## DEACTIVATION

- Press and hold the power button “A” for 4 seconds.
- Release the button once the LED light shuts off.

## BOARD ADJUSTMENT

Using a HEX tool, remove the two screws located on the top and bottom of grip with the THRESHOLD pointing to the left. The two adjusting finger switches are located on the top of the PC board.

## EXTERNAL MAINTENANCE

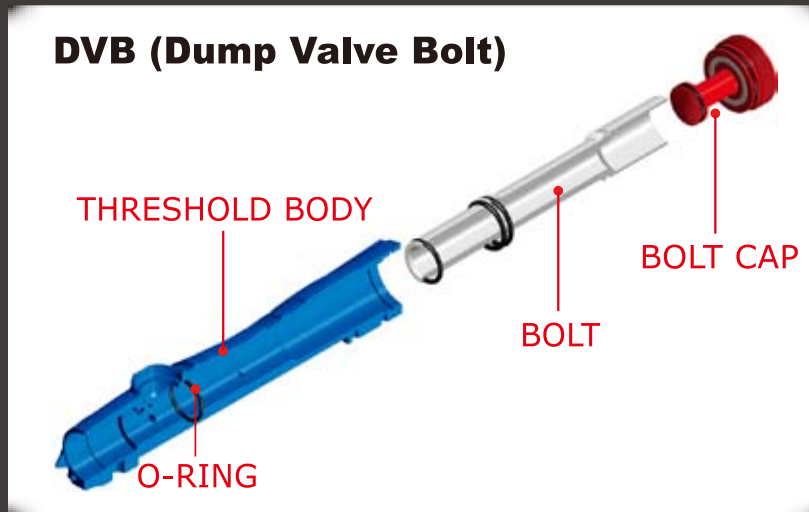
Most contaminants found on external surfaces can easily be removed with water or a few drops of cleaning oil and a dry clean, dry cloth. Other useful supplies for maintaining THRESHOLD are clean rags, Q-tips, and water / rubbing alcohol mix.

## SENSOR SYSTEM MAINTENANCE

The sensor system must be kept clean for optimal performance. Please follow the instructions below for cleaning and maintenance:

1. Remove the two screws located on the top and bottom of grip using a HEX tool 5/64.
2. Clean the area thoroughly with cotton swab.
3. Replace the sensor system and the cover.
4. Replace the screws back onto the sensor system cover.

## BOLT MAINTENANCE



THRESHOLD is equipped with a Delrin fieldstrip bolt for durability and reducing friction. The bolt must be kept clean for optimal performance. If the surface of the bolt becomes sticky, please use the following cleaning instructions:

1. Make sure the air system is not attached to THRESHOLD and there is no paintball inside.
2. Take out the bolt cap and remove the bolt cap from the rear (use HEX tool 3/16) .



3. Take out the bolt and remove the bolt from the rear.
4. Clean the bolt with a clean cloth, and take out all o-rings from the bolt. Replace any worn o-rings.
5. After completing above instructions, lubricate the o-ring with Dow-55 lubricant.
6. Replace the bolt and bolt cap and lock using the HEX tool.

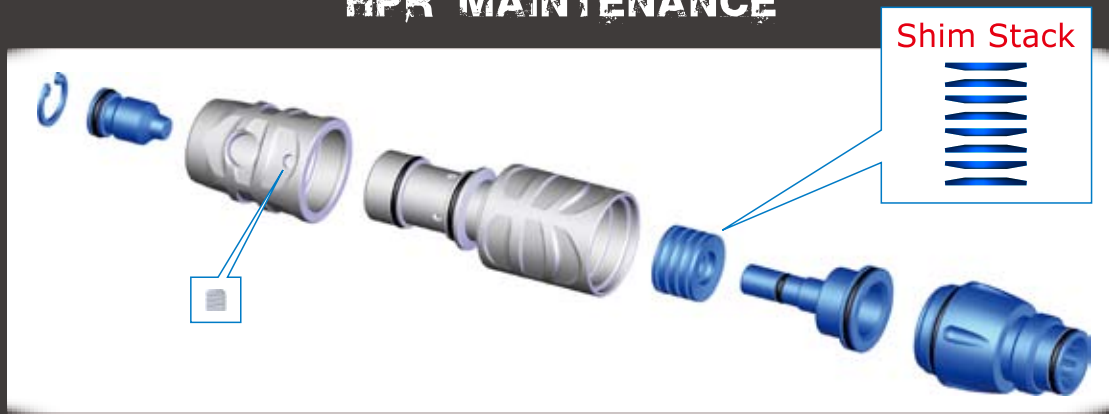
### BACK POSITION



### FORWARD POSITION



## HPR MAINTENANCE





1. Disconnect the macro-line.
2. Unscrew the bottom portion of the regulator.
3. Screw the adjustment screw all the way in.
4. Gently tap top end down until the piston (part #42) is free from the HPR body.
5. Take care to note the order of shims.
6. Clean the piston and examine the two o-rings for any visible signs of damage. Replace if necessary.
7. Once cleaned/replaced, lubricate the o-rings with Dow-55 lubricant.
8. Replace shims in same order on the piston, and reinsert into HPR body.
9. Screw body onto the top portion of the HPR and reinsert macro-line.

## STORAGE AND TRANSPORTATION

- Clean and deactivate THRESHOLD. Detach air systems when not in use.
- Make sure the barrel blocking device is in place when not in use.
- Keep THRESHOLD away from any unauthorized users.
- During transportation, THRESHOLD must be detached from air sources.
- Do not carry THRESHOLD uncased when not on a playing field. Non-playing public and law enforcement personnel may mistake the marker for a firearm.
- Always carry THRESHOLD in its factory case or a suitable marker case.
- Never transport charged N<sub>2</sub> / compressed air or CO<sub>2</sub> air systems.



# THRESHOLD ASSEMBLY FIGURE



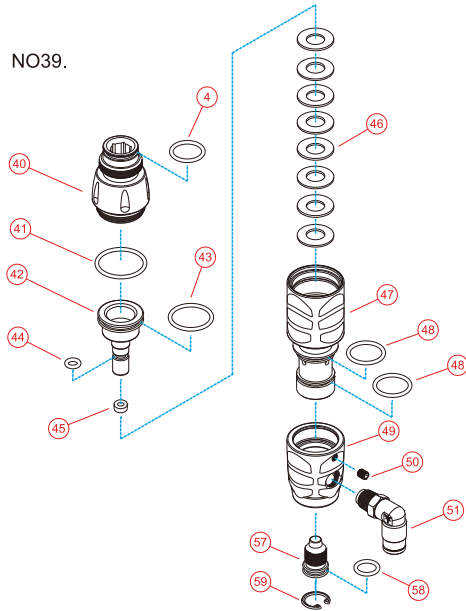
## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
THRESHOLD will not turn on	Not activated	Hold down operating button for more than 4 seconds
	Low battery power	Replace with fresh battery
	Battery is connected incorrectly to the PC board	Check to see if the battery cable is connected correctly to the terminal
THRESHOLD will not fire	Low battery power	Replace with fresh battery
	Low air pressure	Refill the air system
	Solenoid may be out of place	Open grip and press solenoid forward
	HPR pressure is too low	Adjust HPR pressure without paintball present
THRESHOLD will not fire with sensor system on	No paintball present	Turn on the loader
	Sensor system is unclean	See "Sensor System Maintenance" (Pg.9)
	Ball detent is damaged	Change ball detent
	Broken Paintball inside	See "Bolt and Sensor System Maintenance" (Pg.9)
Air leaking from barrel area	Bolt cap o-ring is worn	Change o-ring
	Internal o-ring is worn or damaged	Change o-ring
THRESHOLD will not cycle completely	Air pressure is too low	Adjust the operating pressure to 150 to 200 psi
	Dwell time is too short	See "dwell adjust system"
	Low battery power	Change battery
	Bolt o-ring is worn	Change o-ring
	Bolt o-ring lubricant is exhausted	Lubricate the o-ring with Dow-55 lubricant
Paintball breaking out of the barrel	Barrel size does not match paintball's	The stock barrel size is 0.690, change if necessary
Paintball chopping internally	Ball detent is worn	Change ball detent
	Sensor system is not on	Switch it to ON
	Low battery power	Replace with fresh battery

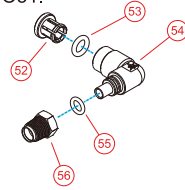


# PARTS DIAGRAM AND TABLE

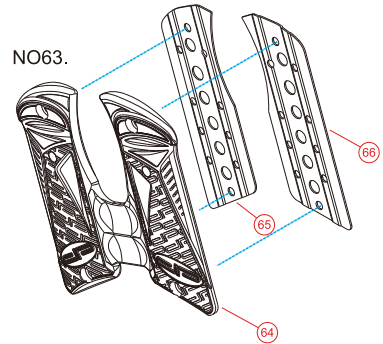
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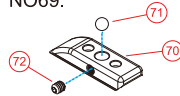
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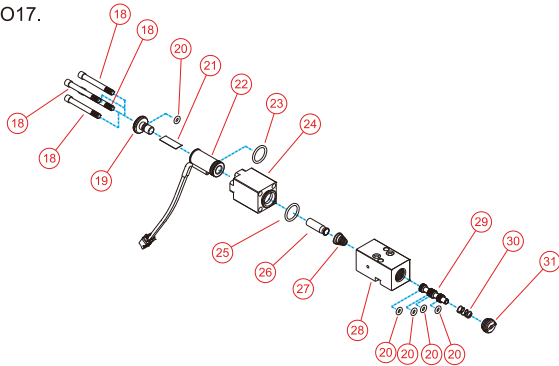
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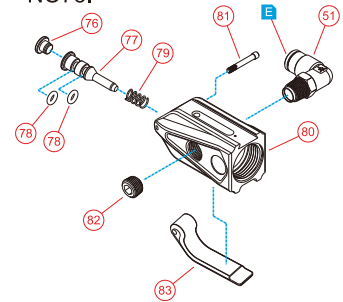
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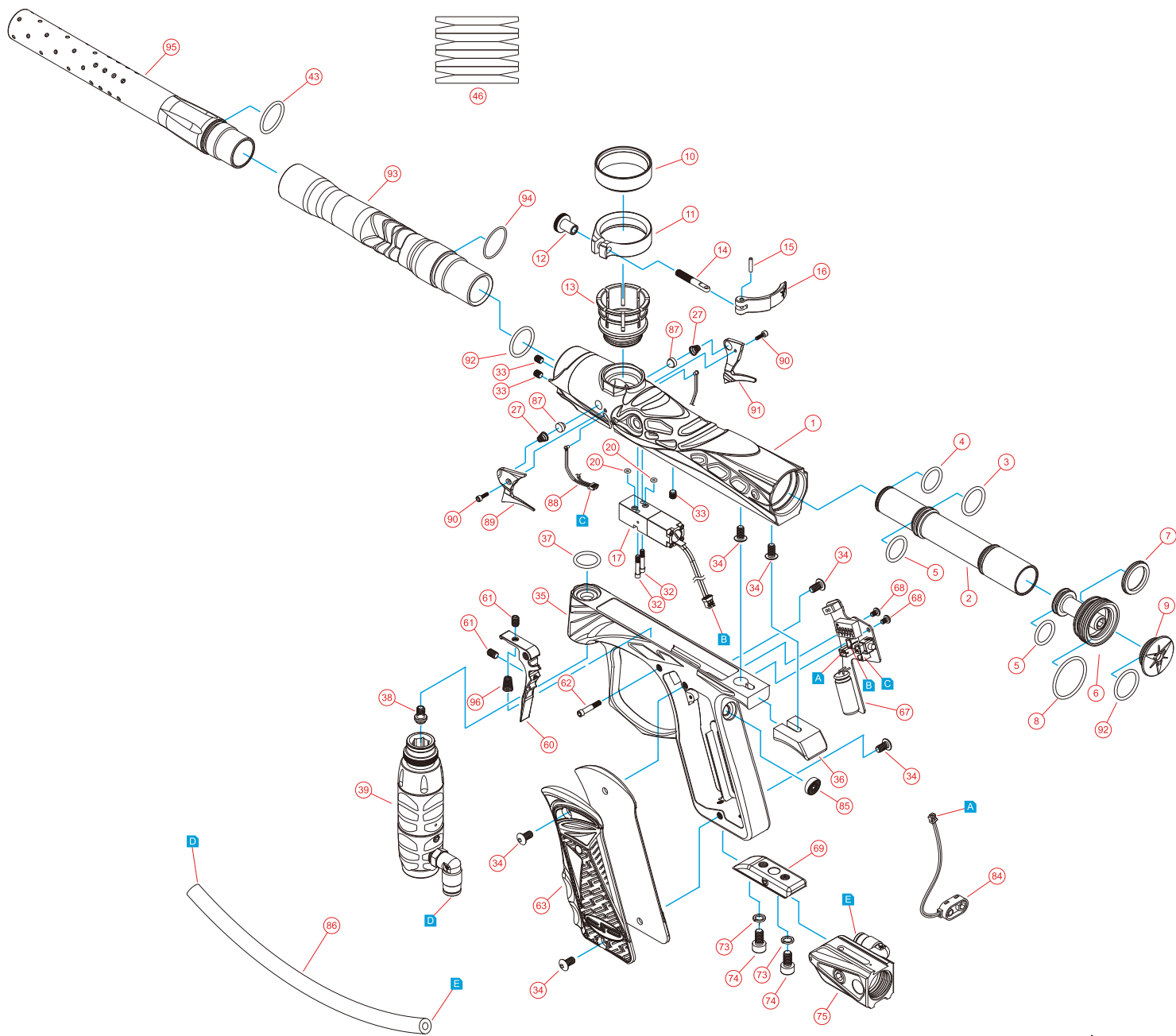


NO17.



NO75.







NO	ITEM NUMBER	Q'ty	NOTE
1	20-B01183-301-PTHR7A	1	
2	20-B10202-301-PTHR7A	1	
3	20-F01750-000-PTHR7A	1	Ø15.8*Ø1.9
4	20-F01510-000-PFUS0A	2	Ø14*Ø1.78
5	20-F01720-000-PTHR7A	2	Ø13.8*Ø1.9
6	20-B10212-301-PTHR7A	1	
7	20-F05040-000-PTHR7A	1	
8	20-F01740-000-PTHR7A	1	Ø25.12*Ø1.78
9	20-B30553-301-PTHR7A	1	
10	20-B15912-301-PTHR7A	1	
11	20-B15903-301-PTHR7A	1	
12	20-H03120-000-PFUS0A	1	
13	20-B25482-301-PTHR7A	1	
14	20-C25020-000-PT00	1	
15	20-H05270-000-PT00	1	
16	20-B30483-301-PTHR7A	1	
17	20-A06162-305-PTHR7A	1	
18	20-W10780-000-PFUS0A	4	#3-56UNF-20L
19	20-C20040-104-PFUS0A	1	
20	20-F01700-000-PFUS0A	7	Ø2*Ø1
21	20-E10061-000-PTS1	1	
22	20-A06150-000-PTHR7A	1	
23	20-F01480-000-PFUS0A	1	Ø6*Ø1
24	20-C01042-104-PFUS0A	1	
25	20-F01470-000-PFUS0A	1	Ø7.5*Ø1
26	20-C20053-104-PTHR7A	1	
27	20-G10230-000-PFUS0A	3	
28	20-B20242-301-PTHR7A	1	
29	20-H05480-000-PTHR7A	1	
30	20-G10220-000-PFUS0A	1	
31	20-H03110-000-PFUS0A	1	
32	20-W10790-000-PFUS0A	2	#3-56UNF-13.5L

33	20-W10930-000-PTHR7A	3	#5-40UNC-3/16" L
34	20-W10730-000-PFUS0A	6	#8-32UNC-5/16" L
35	20-B05195-301-PTHR7A	1	
36	20-B30523-301-PTHR7A	1	
37	20-F01710-000-PTHR7A	1	Ø13*Ø1.9
38	20-H03140-000-PTHR7A	1	
39	20-A20230-301-PTHR7A	1	
40	20-B15873-301-PTHR7A	1	
41	20-F01550-000-PFUS0A	1	Ø21.95*Ø1.78
42	20-B10132-300-PFUS0A	1	
43	20-F01540-000-PFUS0A	2	Ø18.77*Ø1.78
44	20-F01570-000-PFUS0A	1	Ø4.47*Ø1.78
45	20-F05030-000-PFUS0A	1	
46	20-W20090-000-PFUS0A	8	
47	20-B16064-301-PTHR7A	1	
48	20-F01760-000-PFHR7A	2	Ø15.6*Ø1.78
49	20-B15864-301-PTHR7A	1	
50	20-W10960-000-PTHR7A	1	#10-32UNF-4.76L
51	20-A01130-104-PT00	2	
52	20-D15020-104-PT00	2	
53	20-F01340-000-PT00	2	Ø5.8*Ø1.9
54	20-D15232-104-PT00	2	
55	20-F01350-000-PT00	2	Ø5*Ø1.5
56	20-D15142-104-PT00	2	
57	20-H05430-000-PFUS0A	1	OPR
58	20-F01580-000-PFUS0A	2	Ø9.25*Ø1.78
59	20-W53010-000-PFUS0A	2	
60	20-B30532-301-PTHR7A	1	
61	20-W10950-000-PTHR7A	2	#8-32UNC-6.35L
62	20-W10980-000-PTHR7A	1	#3-56UNF-16.3L
63	20-A13690-601-PTHR7A	1	
64	20-E05180-601-PTHR7A	1	
65	20-C10070-000-PTHR7A	1	

66	20-C10080-000-PTHR7A	1	
67	20-W23570-000-PTHR7A	1	
68	20-W10840-000-PFUS0A	2	#3-56UNF-5/32" L
69	20-A60190-301-PT00	1	
70	20-B30414-301-PT00	1	
71	20-W01050-000-PXMT0A	1	Ø1/4"
72	20-W10900-000-PT00	1	#10-32UNF-1/4" L
73	20-W20110-000-PFUS0A	2	
74	20-W10830-000-PFUS0A	2	#10-32UNF-3/8" L
75	20-A01200-301-PFUS0A	1	
76	20-E01130-000-PFUS0A	1	
77	20-H05590-000-PFUS0A	1	
78	20-F01590-000-PFUS0A	2	Ø3.69*Ø1.78
79	20-G10250-000-PFUS0A	1	
80	20-B25445-301-PT00	1	
81	20-W10810-000-PFUS0A	1	#3-56UNF-17.5L
82	20-W10560-000-PM31	1	1/8" -27NPT-6.5L
83	20-B30425-301-PT00	1	
84	20-W23510-000-PFUS0A	1	
85	20-F10100-000-PTHR7A	1	
86	20-E02090-000-P031	1	Ø1/4" * 130L
87	20-E01140-000-PTHR7A	2	
88	20-W23560-000-PTHR7A	1	
89	20-B30513-301-PTHR7A	1	
90	20-W10940-000-PTHR7A	2	#2-56UNC-1/4" L
91	20-B30543-301-PTHR7A	1	
92	20-F01730-000-PTHR7A	2	Ø17.17*Ø1.78
93	20-B16025-301-PTHR7A	1	
94	20-F01600-000-PFUS0A	1	Ø20*Ø1
95	20-B16013-301-PTHR7A	1	
96	20-G10290-000-PTHR7A	1	

