

Eaton Contamination Control Products

FT1455-L1 Hand held launcher operating instructions



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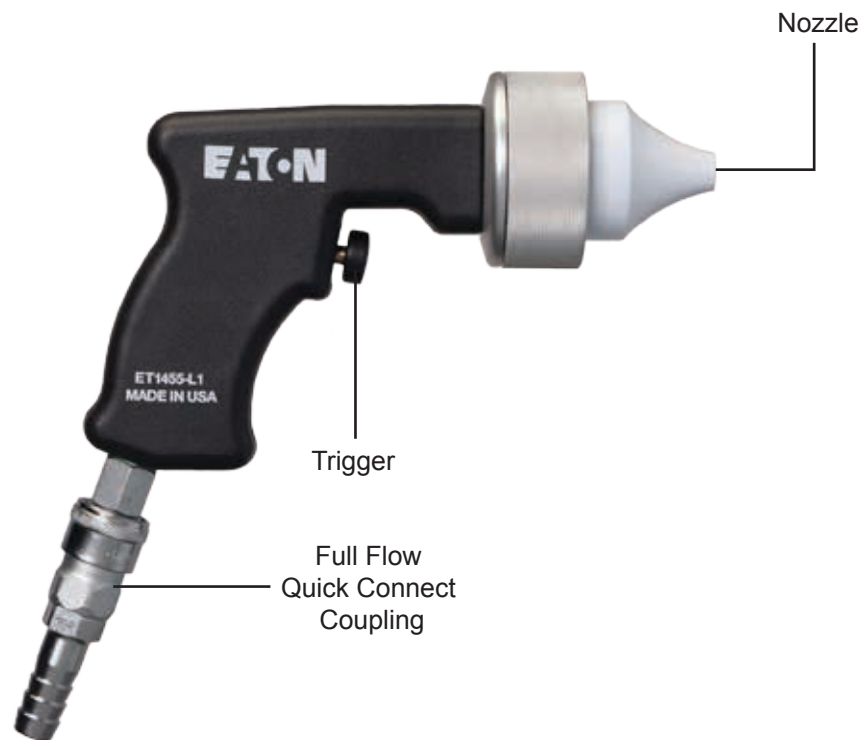


Figure 1

Capabilities

- Cleaning size range: 1/8" through 1-1/4"

Specifications

- Weight: 1.24 pounds. (0.562kg).
- Pneumatic requirements:
 - 1/2" NPT Air Line.
 - 80 PSI - 110 PSI (5.5 - 7.5 Bar) maximum.
 - Clean, dry, filtered air or inert gas source is required.
 - 5 micron filter and regulator with gauge are recommended.

General information

The Eaton® FT1455-L1 Hand Held Launcher (Figure 1) was designed to shoot a projectile through hose and tube assemblies to strip out internal contamination such as rubber dust and metal particles from cutting processes, metal flash from crimping operations, and contaminated oil from hoses and tubes in hydraulic systems.

Eaton Hose Cleaning Systems reduce downtime, extends filter life and reduces the risk of failure and premature wear due to contamination.

The purpose of this manual is to present the basic operating and safety information for the Eaton FT1455-L1 Hand Held Projectile Launcher.

Safety instructions



Read and understand the operator's manual before attempting to operate this unit. Failure to follow operating instructions could result in personal injury or property damage.



Prevent Unauthorized Operation: Do not permit anyone to operate this unit unless they have read and thoroughly understand this manual.



Wear Safety Glasses: Risk of eye injury! Eye protection is required at all times during the installation and operation of this unit. Failure to wear safety glasses could result in personal injury.



Keep work area clean. Cluttered areas and benches invite accidents.



Never point or fire the unit in the direction of any person.



Do not attempt to dislodge a projectile from the Hand Held Launcher when air supply is connected to the launcher.



Do not place any objects into the launching nozzle other than Eaton Projectiles.



Launcher and projectiles are only to be used for cleaning hose and tubes rated for at least 110 PSI

Installation

When installing the hand held projectile launcher make sure you have a filtered and regulated air or inert gas source.

Note: Never use oxygen. A 1/2" NPT regulator with gauge and a 5 micron air filter should be installed in the supply line to ensure clean dry air.

Maintenance

Visually inspect Hand Launcher for accumulation of particulate and oil from inlet air source. Clean as needed. Keep the hose assembly area clean to reduce recontamination of hose, tube and pipe assemblies.

Preparation

Step 1: Nozzle and projectile selection

Select nozzle and projectile from nozzle and projectile selection chart on pages 5, 6, 7 and 8.

Step 2: Nozzle installation

Remove the locking ring from the firing head by rotating ring clockwise. (See Figure 2 & 3). Install the required nozzle for application. (See Figure 4).



Figure 2



Figure 3



Figure 4

Step 3: Projectile installation

Insert projectile into the nozzle reattach locking ring to the firing head by rotating ring counterclockwise. (See Figure 5 & 6).

Note: Failure to secure locking ring may cause serious injury to the operator and or damage to the launcher.



Figure 5



Figure 6

Step 4: Air source connection

Connect a 1/2" I.D. air hose using the supplied Full Flow Quick Connect Coupling to the back of the launcher's 5 micron air filter as shown. (See Figure 7).



Figure 7

Step 5: Operation

Place the hose, tube or pipe against the nozzle to insure a good air seal. Depress the trigger until the projectile exits the opposite end of the hose, tube or pipe you are cleaning. (See Figure 8).



Figure 8

Step 6: Inspection

Inspect projectile for contamination after firing through hose, tubing or pipe. Several projectiles may need to be fired to thoroughly remove contaminants. (See Figure 9)



Figure 9

Nozzle and projectile selection chart

Recommendation for Hoses

Nominal diameter

Inches	mm	Nozzle part #	Cleaning projectile part #
3/16	05	FT1455-N-H06	FT1355-H-06
¼	06	FT1455-N-H06	FT1355-H-10 or FT1355-H-12
5/16	08	FT1455-N-H08	FT1355-H-12 or FT1355-H-14
3/8	10	FT1455-N-H10	FT1355-H-14 or FT1355-H-16
½	13	FT1455-N-H13	FT1355-H-18 or FT1355-H-20
5/8	16	FT1455-N-H16	FT1355-H-22
¾	19	FT1455-N-H19	FT1355-H-26
1	25	FT1455-N-H25	FT1355-H-33 or FT1355-H-36
1-1/4	32	FT1455-N-H32	FT1355-H-40 or FT1355-H-45
1-1/2	38	FT1455-N-H38	FT1355-H-50 or FT1355-H-55
2	50	FT1455-N-H50	FT1355-H-60 or FT1355-H-65
2-1/2	63	FT1455-N-U55	FT1355-H-75
3	76	FT1455-N-U55	FT1355-H-85
3-1/2	89	FT1455-N-U55	FT1355-H-100
4	102	FT1455-N-45	
4-1/2	114	FT1455-N-45	

Figure 10

Recommendations for projectiles for hose assemblies with JIC Fittings

JIC Fitting dash size	Nozzle part #	Cleaning projectile part #
-4	FT1455-J-06	FT1355-H-06 OR FT1355-H-07
-6	FT1455-J-10	FT1355-H-12
-8	FT1455-J-13	FT1355-H-16
-10	FT1455-J-16	FT1355-H-22
-12	FT1455-J-19	FT1355-H-26
-16	FT1455-J-25	FT1355-H-33
-20	FT1455-J-32	FT1355-H-40
-24	FT1455-J-38	FT1355-H-50
-32	FT1455-J-50	FT1355-H-60

Figure 12

**Use larger recommended Eaton Projectiles when cutting hose with an abrasive wheel. The above sizes are recommendations. Due to different types of fittings, and the amount of contamination in the line, the size projectile may need to be adjusted.

Recommendations for hose assemblies with ORS Fittings

ORS Fitting dash size	Nozzle part #	Cleaning projectile part #
-4	FT1455-4FFORX	FT1355-H-06 OR FT1355-H-07
-6	FT1455-N-H06	FT1355-H-12
-8	FT1455-N-H10	FT1355-H-16
-10	FT1455-N-H13	FT1355-H-22
-12	FT1455-N-H16	FT1355-H-26
-16	FT1455-N-H19	FT1355-H-33
-20	FT1455-N-H25	FT1355-H-40

Figure 11

Recommendations for hose assemblies with code 61 or 62 Flanges

Code 61 or 62 Flange dash size	Nozzle part #	Cleaning projectile part #
-8	FT1455-N-H10	FT1355-H-16
-10	FT1455-N-H13	FT1355-H-22
-12	FT1455-N-H16	FT1355-H-26
-16	FT1455-N-H19	FT1355-H-33
-20	FT1455-N-H25	FT1355-H-40
-24	FT1455-N-H32	FT1355-H-50
-32	FT1455-N-H38	FT1355-H-60

Figure 13

Tube sizing chart - nominal inch

Recommended nozzles and cleaning projectiles for tubes (inch)

Outside diameter x wall thickness	Nozzle part #	Cleaning projectile part #	Abrasive projectile part #	Tube projectile part #
1/8" X .030"	FT1455-NT-03	-	-	-
¼" X .035"	FT1455-NT-06	FT1355-H-10	FT1355-A-07	FT1355-T-06
¼" X .049"	FT1455-NT-06	FT1355-H-08	FT1355-A-07	FT1355-T-06
¼" X .065"	FT1455-NT-06	FT1355-H-07	-	FT1355-T-06
5/16" X .035"	FT1455-NT-08	FT1355-H-12	FT1355-A-10	FT1355-T-07
3/8" X .035"-.049"	FT1455-NT-10	FT1355-H-14	FT1355-A-12	FT1355-T-10
3/8" X .065"	FT1455-NT-10	FT1355-H-12	FT1355-A-10	FT1355-T-10
½" X .035"	FT1455-J-13	FT1355-H-16	FT1355-A-16	FT1355-T-14
½" X .049"	FT1455-J-13	FT1355-H-16	FT1355-A-16	FT1355-T-12
½" X .065"	FT1455-J-13	FT1355-H-16	FT1355-A-14	FT1355-T-12
½" X .083"	FT1455-J-13	FT1355-H-14	FT1355-A-12	FT1355-T-12
5/8" X .049"	FT1455-J-16	FT1355-H-22	FT1355-A-20	FT1355-T-16
5/8" X .065"	FT1455-J-16	FT1355-H-20	FT1355-A-18	FT1355-T-16
5/8" X .083"	FT1455-J-16	FT1355-H-20	FT1355-A-18	FT1355-T-14
¾" X .049"-.065"	FT1455-J-19	FT1355-H-26	FT1355-A-24	FT1355-T-20
¾" X .095"	FT1455-J-19	FT1355-H-22	FT1355-A-20	FT1355-T-18
7/8" X .049"	FT1455-J-25	FT1355-H-33	FT1355-A-30	FT1355-T-26
7/8" X .065"	FT1455-J-25	FT1355-H-30	FT1355-A-28	FT1355-T-22
7/8" X .095"	FT1455-N-H16	FT1355-H-28	FT1355-A-26	FT1355-T-22
1" X .065"	FT1455-J-32	FT1355-H-33	FT1355-A-30	FT1355-T-28
1" X .083"-.095"	FT1455-J-32	FT1355-H-33	FT1355-A-30	FT1355-T-26
1" X .120"	FT1455-J-32	FT1355-H-30	FT1355-A-28	FT1355-T-26
1-1/4" X .065"	FT1455-NT-32	FT1355-H-40	FT1355-A-40	FT1355-T-33
1-1/4" X .083"	FT1455-NT-32	FT1355-H-40	FT1355-A-36	FT1355-T-33
1-1/4" X .095"	FT1455-NT-32	FT1355-H-40	FT1355-A-36	FT1355-T-33
1-1/4" X .109"	FT1455-NT-32	FT1355-H-36	FT1355-A-36	FT1355-T-33
1-1/4" X .120"	FT1455-NT-32	FT1355-H-36	FT1355-A-33	FT1355-T-33
1-1/2" X .065"-.120"	FT1455-J-38	FT1355-H-50	FT1355-A-45	FT1355-T-40
1-1/2" X .134"-.148"	FT1455-J-38	FT1355-H-45	FT1355-A-40	FT1355-T-40
2" X .065"-.120"	FT1455-J-50	FT1355-H-60	FT1355-A-55	FT1355-T-50
2" X .134"-.188"	FT1455-J-50	FT1355-H-55	FT1355-A-50	FT1355-T-50
1-1/2" X .134"-.148"	FT1455-J-38	FT1355-H-45	FT1355-A-40	FT1355-T-40
2" X .065"-.120"	FT1455-J-50	FT1355-H-60	FT1355-A-55	FT1355-T-50
2" X .134"-.188"	FT1455-J-50	FT1355-H-55	FT1355-A-50	FT1355-T-50

Figure 14

Tubing must be deburred prior to firing projectiles. Depending on the type of contamination present in the tube, abrasive projectiles may be used to remove rust and scale. Always use an Eaton projectile after the use of an abrasive projectile. Tube projectiles should be used to remove mandrel lubricants, grease and oil.

Recommended sizing chart - metric tubing

Recommended nozzles and cleaning projectiles for tubes (metric)

Outside diameter x Wall thickness	Nozzle part #	Cleaning projectile part #	Abrasive projectile part #	Tube projectile part #	Outside diameter x Wall thickness	Nozzle part #	Cleaning projectile part #	Abrasive projectile part #	Tube projectile part #
6 X 1.0	FT1455-NT-06x1.5	FT1355-H-07	FT1355-A-06	FT1355-T-06	20 X3	FT1455-NT-20x3.0	FT1355-H-22	FT1355-A-20	FT1355-T-18
6 X 1.5	FT1455-NT-06x1.5	FT1355-H-07	FT1355-A-06	#N/A	22 X1	FT1455-NT-22x2.0	FT1355-H-30	FT1355-A-28	FT1355-T-26
8 X 1.0	FT1455-NT-08x1.5	FT1355-H-10	FT1355-A-07	FT1355-T-07	22 X1.5	FT1455-NT-22x2.0	FT1355-H-30	FT1355-A-28	FT1355-T-26
8 X 1.5	FT1455-NT-08x1.5	FT1355-H-10	FT1355-A-07	FT1355-T-07	22 X2	FT1455-NT-22x2.0	FT1355-H-30	FT1355-A-28	FT1355-T-26
10 X 1.0	FT1455-NT-10x1.5	FT1355-H-14	FT1355-A-12	FT1355-T-12	25 X2	FT1455-NT-25x3.0	FT1355-H-33	FT1355-A-30	FT1355-T-28
10 X 1.5	FT1455-NT-10x1.5	FT1355-H-14	FT1355-A-12	FT1355-T-12	25 X2.5	FT1455-NT-25x3.0	FT1355-H-30	FT1355-A-28	FT1355-T-26
12 X 1.0	FT1455-NT-12x2.0	FT1355-H-16	FT1355-A-14	FT1355-T-14	25 X3	FT1455-NT-25x3.0	FT1355-H-30	FT1355-A-28	FT1355-T-26
12 X 1.5	FT1455-NT-12x2.0	FT1355-H-16	FT1355-A-14	FT1355-T-14	28 X2	FT1455-NT-28x2.5	FT1355-H-36	FT1355-A-33	FT1355-T-33
12 X 2.0	FT1455-NT-12x2.0	FT1355-H-14	FT1355-A-12	FT1355-T-12	28 X2.5	FT1455-NT-28x2.5	FT1355-H-36	FT1355-A-33	FT1355-T-30
14 X 1.0	FT1455-NT-14x2.0	FT1355-H-18	FT1355-A-16	FT1355-T-16	30 X2	FT1455-NT-30x4.0	FT1355-H-36	FT1355-A-33	FT1355-T-33
14 X 1.5	FT1455-NT-14x2.0	FT1355-H-16	FT1355-A-14	FT1355-T-14	30 X2.5	FT1455-NT-30x4.0	FT1355-H-36	FT1355-A-33	FT1355-T-30
14 X 2.0	FT1455-NT-14x2.0	FT1355-H-16	FT1355-A-14	FT1355-T-14	30 X3	FT1455-NT-30x4.0	FT1355-H-36	FT1355-A-33	FT1355-T-30
15 X 1.0	FT1455-NT-15x2.0	FT1355-H-20	FT1355-A-18	FT1355-T-16	30 X4	FT1455-NT-30x4.0	FT1355-H-36	FT1355-A-33	FT1355-T-30
15 X 1.5	FT1455-NT-15x2.0	FT1355-H-18	FT1355-A-16	FT1355-T-16	35 X2	FT1455-NT-35x3.0	FT1355-H-45	FT1355-A-40	FT1355-T-40
15 X 2.0	FT1455-NT-15x2.0	FT1355-H-16	FT1355-A-14	FT1355-T-14	35 X3	FT1455-NT-35x3.0	FT1355-H-40	FT1355-A-36	FT1355-T-36
16 X 1.0	FT1455-NT-16x2.5	FT1355-H-22	FT1355-A-20	FT1355-T-18	35 X4	FT1455-N-H25	FT1355-H-40	FT1355-A-36	FT1355-T-33
16 X 1.5	FT1455-NT-16x2.5	FT1355-H-20	FT1355-A-18	FT1355-T-16	35 X5	FT1455-N-H25	FT1355-H-36	FT1355-A-33	FT1355-T-30
16 X 2.0	FT1455-NT-16x2.5	FT1355-H-18	FT1355-A-16	FT1355-T-16	38 X2.5	FT1455-NT-38x5.0	FT1355-H-50	FT1355-A-45	FT1355-T-40
16 X 2.5	FT1455-NT-16x2.5	FT1355-H-16	FT1355-A-14	FT1355-T-14	38 X3	FT1455-NT-38x5.0	FT1355-H-50	FT1355-A-45	FT1355-T-40
18 X 1.0	FT1455-NT-18x2.5	FT1355-H-24	FT1355-A-22	FT1355-T-20	38 X4	FT1455-NT-38x5.0	FT1355-H-45	FT1355-A-40	FT1355-T-40
18 X 1.5	FT1455-NT-18x2.5	FT1355-H-24	FT1355-A-20	FT1355-T-18	38 X5	FT1455-NT-38x5.0	FT1355-H-40	FT1355-A-36	FT1355-T-36
18 X 2.0	FT1455-NT-18x2.5	FT1355-H-22	FT1355-A-20	FT1355-T-18	42 X2	FT1455-NT-42x3.0	FT1355-H-55	FT1355-A-50	FT1355-T-50
18 X 2.5	FT1455-NT-18x2.5	FT1355-H-20	FT1355-A-18	FT1355-T-16	42 X3	FT1455-NT-42x3.0	FT1355-H-50	FT1355-A-50	FT1355-T-45
20 X 1.5	FT1455-NT-20x3.0	FT1355-H-26	FT1355-A-24	FT1355-T-22	50 X3	FT1455-NT-50x5.0	FT1355-H-60	FT1355-A-55	FT1355-T-55
20 X 2.0	FT1455-NT-20x3.0	FT1355-H-24	FT1355-A-22	FT1355-T-20	50 X5	FT1455-NT-50x5.0	FT1355-H-55	FT1355-A-55	FT1355-T-50
20 X2.5	FT1455-NT-20x3.0	FT1355-H-24	FT1355-A-20	FT1355-T-18	50 X6	FT1455-NT-50x5.0	FT1355-H-55	FT1355-A-50	FT1355-T-50

Figure 15

Tubing must be deburred prior to firing projectiles. Depending on the type of contamination present in the tube, abrasive projectiles may be used to remove rust and scale. Always use an Eaton projectile after the use of an abrasive projectile.

Pipe sizing chart

Recommended nozzles and cleaning projectiles for pipes (inch)

SCH 40	Nozzle part #	Cleaning projectile part #	Abrasive projectile part #
1/4"	FT1455-N-H08	FT1355-H-14	FT1355-A-12
3/8"	FT1455-N-H13	FT1355-H-18	FT1355-A-16
1/2"	FT1455-N-H16	FT1355-H-20	FT1355-A-18
3/4"	FT1455-N-H19	FT1355-H-30	FT1355-A-26
1"	FT1455-N-H25	FT1355-H-36	FT1355-A-33
1-1/4"	FT1455-N-H32	FT1355-H-45	FT1355-A-40
1-1/2"	FT1455-N-H38	FT1355-H-55	FT1355-A-50
2"	FT1455-N-H50	FT1355-H-65	-
2-1/2"	FT1455-N-U55	FT1355-H-75	-
3"	FT1455-N-U55	FT1355-H-85	-
3-1/2"	FT1455-N-U55	FT1355-H-100	-

SCH 80	Nozzle part #	Cleaning projectile part #	Abrasive projectile part #
1/4"	FT1455-N-H06	FT1355-H-12	FT1355-A-10
3/8"	FT1455-N-H10	FT1355-H-16	FT1355-A-14
1/2"	FT1455-N-H13	FT1355-H-20	FT1355-A-16 or FT1355-A-18
3/4"	FT1455-N-H19	FT1355-H-26	FT1355-A-22
1"	FT1455-N-H25	FT1355-H-36	FT1355-A-30
1-1/4"	FT1455-N-H32	FT1355-H-45	FT1355-A-40
1-1/2"	FT1455-N-H38	FT1355-H-50	FT1355-A-45
2"	FT1455-N-H38	FT1355-H-60	FT1355-A-55
2-1/2"	FT1455-N-H50	FT1355-H-70	-
3"	FT1455-N-U55	FT1355-H-85	-
3-1/2"	FT1455-N-U55/90	FT1355-H-110	FT1355-A-110
4"	FT1455-N-4.5LN	FT1355-H-115	FT1355-A-110

SCH 160	Nozzle part #	Cleaning projectile part #	Abrasive projectile part #
1/2"	FT1455-N-H10	FT1355-H-16	FT1355-A-14
3/4"	FT1455-N-H16	FT1355-H-20	FT1355-A-18
1"	FT1455-N-H19	FT1355-H-30	FT1355-A-26
1-1/4"	FT1455-N-H25	FT1355-H-36	FT1355-A-33
1-1/2"	FT1455-N-H32	FT1355-H-45	FT1355-A-40
2"	FT1455-N-H38	FT1355-H-55	FT1355-A-45 or FT1355-A-50
2-1/2"	FT1455-N-H50	FT1355-H-65	FT1355-A-60
3"	FT1455-N-U55	FT1355-H-75	
4"	FT1455-N-U55	FT1355-H-100	

Figure 16

Abrasive projectiles may be used when there is a build-up of contamination, surface rust or scale. For pipe applications where there is a greater build-up of contamination, surface rust or scale, use a grinding projectile. Pipe must be straight for this projectile.

Note: To ensure cleanliness, an Eaton projectile must be used after abrasive and grinding projectiles. Please call if you need help in sizing your application for the correct nozzles and projectiles.

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