

MANUAL: Metro II Fixed Gallonage Tip

INSTRUCTIONS FOR SAFE OPERATION AND MAINTENANCE

▲WARNING

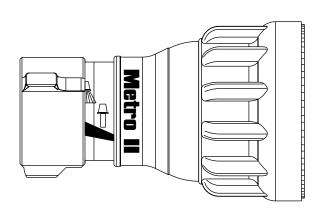
Read instruction manual before use. Operation of this nozzle without understanding the manual and receiving proper training can be dangerous and is a misuse of this equipment. Call 800-348-2686 with any questions.

▲WARNING

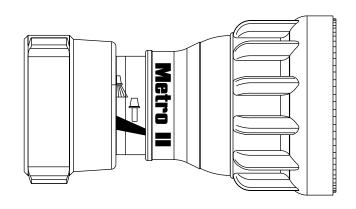
This instruction manual is intended to familiarize firefighters and maintenance personnel with the operation, servicing and safety procedures associated with the Metro II fire fighting nozzles.

▲WARNING

This manual should be kept available to all operating and maintenance personnel.



FM Series METRO II TIP 1.5" NH



JM Series METRO II TIP 2.5" NH

MAXIMUM OPERATING PRESSURE 150 PSI HYDROSTATIC PROOF TEST 900 PSI

TASK FORCE TIPS, Inc. www.tft.com

2800 East Evans Avenue • Valparaiso , IN 46383-6940 800-348-2686 • 219-462-6161 • Fax 219-464-7155

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1.0 MEANING OF SAFETY SIGNAL WORDS

A safety related message is identified by a safety alert symbol and a signal word to indicate the level of risk involved with a particular hazard. Per ANSI standard Z535.4-1998 the definitions of the three signal words are as follows:



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

2.0 GENERAL INFORMATION

The Task Force Tips Metro II tip only nozzles are designed to provide excellent performance under most fire fighting conditions. Their rugged construction is compatible with the use of fresh water (see section 5.0 for saltwater use) as well as fire fighting foam solutions. Other important operating features are:

- Interchangeable washer to allow for user defined flow and pressure
- Quick-acting pattern control from straight stream to wide fog
- "Power fog teeth" for full-fill fog
- Easily flush able while flowing to clear trapped debris
- TFT's five-year warranty and unsurpassed customer service



This equipment is intended for use by trained personnel for firefighting. Their use for other purposes may involve hazards not addressed by this manual. Seek appropriate guidance and training to reduce risk of injury.



Nozzle reaction will vary as supply conditions change: such as opening or closing other nozzles, hose line kinks, changes in pump settings, etc. Changes in spray pattern or flushing will also affect nozzle reaction. The nozzle operator must always be prepared in the event of those changes. Failure to restrain nozzle reaction can cause firefighter injury from loss of footing and/or stream protection.



If nozzle gets out of control or away from operator, retreat from nozzle immediately. Do not attempt to regain control of nozzle while flowing water. Injury from whipping can occur.



Water is a conductor of electricity. Application of water solutions on high voltage equipment can cause injury or death by electrocution. The amount of current that may be carried back to the nozzle will depend on the following factors:

- · Voltage of the line or equipment
- Distance from the nozzle to the line or equipment
- Size of the stream
- Whether the stream is solid or broken
- Purity of the water¹

¹ The Fire Fighter and Electrical Equipment, The University of Michigan Extension Service, Fourth Printing 1983. Page 47.



Fire streams are capable of injury and damage. Do not direct water stream to cause injury or damage to persons or property.

2.1 VARIOUS MODELS AND TERMS

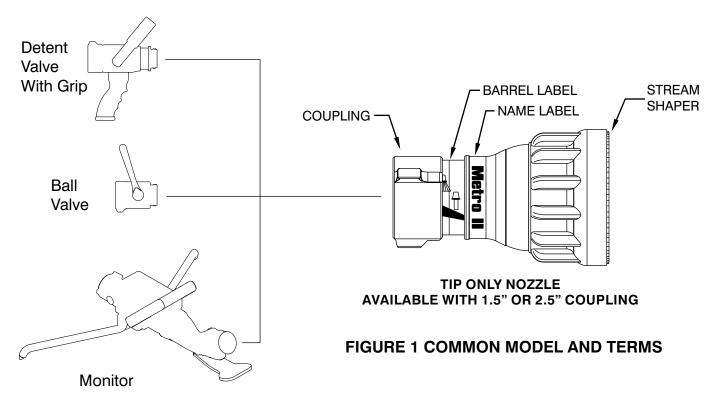
Fixed Flow: A nozzle with a discharge orifice that is a fixed opening size.

Tip Only: a nozzle with out an intergal ball shutoff valve. Metro II tip only nozzle is available in a variety of flow ranges and configurations. All models deliver the rated flow when the rated pressure is supplied to the nozzle.

SERIES	RECOMMENDED HOSE SIZE (INCHES)	FLOW SETTINGS	NOZZLE TYPE
METRO II	1-1/2 to 2-1/2	Field Changeable To Any of 7 Sizes	Fixed Flow



The Metro II nozzle tip does not shutoff. Inability to control the flow could cause injury if the Metro II is used by itself on a hose line. Use only when mated to a shutoff valve or mounted on a monitor.



2.2 NOZZLE COUPLING

NH (National Hose Threads per NFPA #1963) threads are standard on all nozzles. Other threads such as NPSH (National Pipe Straight Hose threads per ANSI/ASME #B1.20.7) can be specified at time of order.



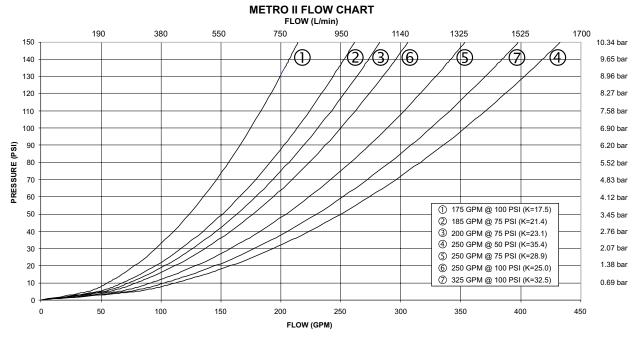
Nozzle must be properly connected. Mismatched or damaged threads may cause nozzle to leak or uncouple under pressure and could cause injury.

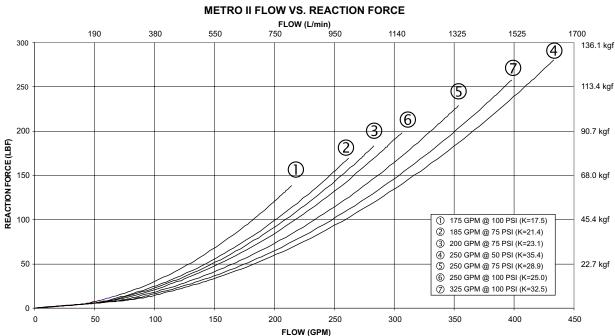


Dissimilar metals coupled together can cause galvanic corrosion that can result in the inability to unscrew the threads of complete loss of thread engagement over time. Per NFPA 1962 (1998 edition), if dissimilar metals are left coupled together an anti-corrosive lubricant should be applied to the threads. Also the coupling should be disconnected and inspected at least quarterly.

3.0 FLOW CHARACTERISTICS

The opening size of the Metro II may be field set to any one of the seven different sizes. At each flow setting the nozzle is set to a predetermined fixed orifice. Relationship of flow and nozzle pressure at each setting is shown in figure 2.

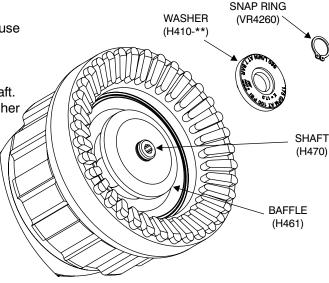




3.1 WASHER SETTING

To change flow and pressure setting of the Metro II, use the following instructions:

- 1) Set nozzle into FLUSH.
- 2) Push baffle down to barrel cone.
- 3) Use snap ring wrench to remove snap ring from shaft.
- Remove pre-set washer and slide desired washer onto shaft, markings facing up.
- 5) Put snap ring back onto the shaft in the groove.



3.2 FLOW SETTING

The washers are marked with various flow settings. Change washer to the desired setting. <u>The nozzle will flow the indicated amount when the pressure at the nozzle is at the indicated level.</u>



An inadequate supply of nozzle pressure and/or flow will cause an ineffective stream and can result in injury, death or loss of property. See flow charts in section 3.0 & 8.0 or call 800-348-2686 for assistance.



Fire streams are capable of injury and damage. Do not direct water stream to cause injury or damage to persons or property.



Failure to restrain nozzle reaction can cause firefighter injury from loss of footing and/or stream protection. Nozzle reaction will vary as supply conditions change: such as opening or closing other nozzles, hose line kinks, changes in pump settings, etc. Changes in spray pattern or flushing will also affect nozzle reaction. The nozzle operator must always be positioned to restrain the nozzle reaction in the event of those changes.



Injury from whipping can occur. If nozzle gets out of control or away from operator, retreat from nozzle immediately. Do not attempt to regain control of nozzle while flowing water.

4.0 NOZZLE CONTROLS

Tip only nozzles have NO shut off valve contained within the nozzle and **MUST** be used with a separate ball valve or attached to a monitor.

4.1 PATTERN CONTROL

TFT's Metro II has full pattern control from straight stream to wide fog. Turning the STREAM SHAPER clockwise (as seen from the operating position behind the nozzle) moves the SHAPER to the straight stream position. Turning the SHAPER counterclockwise will result in an increasingly wider pattern.

Since the stream trim point varies with the flow, the stream should be "trimmed" after changing the flow to obtain the straightest and farthest reaching stream. To properly trim a stream, first open the pattern to a narrow fog. Then close the stream to parallel to give maximum reach. **NOTE: Turning the shaper further forward will cause stream crossover and reduce the effective reach of the nozzle.**

The nozzle reaction is greatest when the shaper is in the straight stream position. The nozzle operator must be prepared for a change in reaction as the pattern is changed.

4.2 FLUSH CONTROL

Small debris may get caught inside the nozzle. This trapped material will cause poor stream quality, shortened reach and reduced flow. To remove this trapped debris the nozzle can be flushed as follows; while still flowing water, turn the SHAPER counterclockwise past the full fog position (increased resistance will be felt on the SHAPER as the nozzle goes into flush). This will open the nozzle allowing debris to pass through. Rotate the SHAPER clockwise and out of flush to continue normal operation. During flush the nozzle reaction will decrease as the pattern becomes wider and the pressure drops. The nozzle operator must be prepared for an increase of nozzle reaction when returning the nozzle from the flush position to retain control of the nozzle.



Large amounts or pieces of debris may be unflushable and can reduce the flow of the nozzle resulting in an ineffective flow. In the event of a blockage, it may be necessary to retreat to a safe area, uncouple nozzle and remove debris.

4.3 USE WITH FOAM

The Metro II tip only nozzle may be used with foam solutions. Refer to fire service training for the proper use of foam.



For Class B fires, lack of foam or interruption in the foam stream can cause a break in the foam blanket and greatly increase the risk of injury or death. Assure that:

- Application rate is sufficient (see NFPA 11 or foam manufacturer's recommendations).
- Enough concentrate is on hand to complete task (see NFPA for minimum duration time requirements).
- Foam logistics have been carefully planned. Allow for such things as:
 - Storage of foam in a location not exposed to the hazard it protects.
 - Personnel, equipment and technique to deliver foam at a rapid enough rate.
 - Removal of empty foam containers.
 - Clear path to deliver foam, as hoses and other equipment and vehicles are deployed.



Improper use of foam can result in injury or damage to the environment. Follow foam manufacturer's instructions and fire service training to avoid:

- Using wrong type of foam on a fire, i.e. Class A foam on a Class B fire.
- Plunging foam into pools of burning liquid fuels.
- Causing environmental damage.
- Directing stream at personnel.



There is a wide variety of foam concentrates. Each user is responsible for verifying that any foam concentrate chosen to be used with this unit has been tested to assure that the foam obtained is suitable for the purpose intended.

4.3.1 FOAM ASPIRATING ATTACHMENTS

To increase the expansion ratio, Task Force Tips "MX Foamjet" (model FJ-HMX) multi expansion attachment or LX Foamjet (model FJ-H) low expansion attachment may be used with the Metro II nozzle. These foam tubes attach and detach quickly from the nozzle. Note: As expansion ratio is increased, the reach of the nozzle will be decreased due to the greater amount of bubbles in the stream and their inability to penetrate the air. Generally the reach with foam is approximately 10% less than with water only. Actual results will vary based on brand of foam, hardness of water, temperature, etc. See Foamjet instruction manual for specific information.

5.0 USE OF METRO II NOZZLES

IT IS THE RESPONSIBILITY OF THE INDIVIDUAL FIRE DEPARTMENT OR AGENCY TO DETERMINE PHYSICAL CAPABILITIES AND SUITABILITY FOR AN INDIVIDUAL'S USE OF THIS EQUIPMENT.

Many factors contribute to the extinguishment of a fire. Among the most important is delivering water at a flow rate sufficient to absorb heat faster than it is being generated. The flow rate depends largely on the pump discharge pressure and hose friction loss. The pump discharge pressure may be found by use of the chart in section 8.0 It can also be calculated using a hydraulic equation such as:

For additional information on calculating specific hose layouts, consult an appropriate fire service training manual, such as IFSTA, or *A Guide to Automatic Nozzles*, or call TFT's "Hydraulics Hotline" at 800-348-2686.

PDP = NP + FL + DL + EL

PDP = Pump discharge pressure in PSI

NP = Nozzle pressure in PSI

FL = Hose friction loss in PSI

DL = Device loss in PSI

EL = Elevation loss in PSI

6.0 FIELD INSPECTION

TFT's Metro II is designed and manufactured to be damage resistant and require minimal maintenance. However, as the primary fire fighting tools upon which your life depends, they should be treated accordingly.

Use with saltwater is permissible provided nozzle is thoroughly cleaned with fresh water after each use. The service life of the nozzle may be shortened due to the effects of corrosion and is not covered under warranty.



Nozzle must be inspected for proper operation and function according to inspection checklist on last page before each use. Any nozzle that fails inspection is dangerous to use and must be repaired before using.

Performance tests shall be conducted on the Metro II nozzle after a repair, or anytime a problem is reported to verify operation in accordance with TFT test procedures. Consult factory for the procedure that corresponds to the model and serial number of the nozzle. Any equipment which fails the related test criteria should be removed from service immediately. Troubleshooting guides are available with each test procedure or equipment can be returned to the factory for service and testing.

Factory service is available with repair time seldom exceeding one day in our facility. Factory serviced nozzles are repaired by experienced technicians to original specifications, fully tested and promptly returned. Any returns should include a note as to the nature of the problem, who to reach in case of questions and if a repair estimate is required.



Any alterations to the nozzle and its markings could diminish safety and constitutes a misuse of this product.

All Task Force Tip nozzles are factory lubricated with high quality silicone grease. This lubricant has excellent washout resistance and long term performance. If your department has unusually hard or sandy water, the moving parts may be affected. Foam agents and water additives contain soaps and chemicals that may break down the factory lubrication.

The moving parts of the nozzle should be checked on a regular basis for smooth and free operation, and signs of damage. *IF THE NOZZLE IS OPERATING CORRECTLY, THEN NO ADDITIONAL LUBRICATION IS NEEDED.* Any nozzle that is not operating correctly should be immediately removed from service and the problem corrected.

7.0 REPAIR

Factory service is available with repair time seldom exceeding one day in our facility. Factory-serviced nozzles are repaired by experienced technicians to original specifications, fully wet tested, and promptly returned. Repair charges for non-warranty items are minimal. Any returns should include a note as to the nature of the problem and whom to reach in case of questions.

Task Force Tips assumes no liability for damage to equipment or injury to personnel that is a result of user service.

Repair kits and repair parts are stocked for immediate shipment. Contact the factory or visit the website at www.tft.com for parts lists, exploded views, test procedures and trouble shooting guides.

8.0 FLOW RATE TABLE

			WASHER 175 GPM AT 100 PSI												
		1 1/2" HOSE				1 3/4" HOSE			2" HOSE		2 1/2" HOSE				
	LENGTH (FT)	150	200	250	150	200	250	150	200	250	150	200	250		
	50	85	79	73	95	89	84	106	101	97	118	117	115		
믮	75	105	96	90	116	109	102	130	124	119	145	143	141		
l S	100	121	111	104	134	125	118	150	143	138	167	165	163		
၂ ဟ	125	135	124	116	150	140	132	167	160	154	187	185	182		
A.	150	148	136	127	164	154	145	183	176	169	205	202	200		
ЬР	175	160	147	137	177	166	157	198	190	182	222	219	216		
MP	200	171	157	147	189	177	167	212	203	195	237	234	230		
PU	225	181	167	156	201	188	178	224	215	207	251	248	244		
	250	191	176	164	211	198	187	237	227	218	265	261	258		

			WASHER 185 GPM AT 75 PSI										
		1	1 1/2" HOSI	Ε	•	1 3/4" HOSI	Ε		2" HOSE		2 1/2" HOSE		
	LENGTH (FT)	150	200	250	150	200	250	150	200	250	150	200	250
	50	93	85	78	105	97	91	121	115	109	142	139	136
쀭	75	114	104	96	129	119	111	149	141	134	174	170	167
	100	131	120	110	149	137	128	172	162	154	200	196	193
SS	125	147	134	124	166	154	144	192	182	173	224	220	216
Ä	150	161	146	135	182	168	157	210	199	189	245	241	236
ЬР	175	174	158	146	197	182	170	227	215	204	265	260	255
ĮĒ	200	186	169	156	210	194	182	243	230	218	283	278	273
₹	225	197	179	166	223	206	193	258	244	232	301	295	289
	250	208	189	175	235	217	203	272	257	244	317	311	305

			WASHER 200 GPM AT 75 PSI										
		1	1 1/2" HOS	Ε	•	1 3/4" HOS	HOSE 2" HOSE			2 1/2" HC		2 1/2" HOSI	
	LENGTH (FT)	150	200	250	150	200	250	150	200	250	150	200	250
	50	96	87	80	109	100	93	128	120	114	152	148	145
뿞	75	117	106	98	134	123	114	156	147	139	186	182	178
าร	100	135	122	113	154	142	132	180	170	161	214	210	205
ES	125	151	137	126	173	159	147	202	190	180	240	234	229
Ľ.	150	166	150	138	189	174	162	221	208	197	263	257	251
4	175	179	162	149	204	188	174	239	224	213	284	277	271
₽	200	191	173	159	218	201	187	255	240	227	303	296	290
٦.	225	203	184	169	231	213	198	271	254	241	322	314	308
	250	214	194	178	244	224	209	285	268	254	339	331	324

			WASHER 250 GPM AT 50 PSI										
		•	1 1/2" HOSI		•	1 3/4" HOS			2" HOSE		2	2 1/2" HOSI	E
	LENGTH (FT)	150	200	250	150	200	250	150	200	250	150	200	250
	50	107	94	86	126	113	103	158	144	134	213	204	196
RE	75	131	116	105	155	139	127	194	177	164	261	250	240
SUF	100	151	134	121	179	160	146	224	204	189	302	289	277
ဟ	125	169	149	136	200	179	164	250	228	211	337	323	310
RE	150	185	164	149	219	196	179	274	250	231	369	354	340
ЬР	175	199	177	160	237	212	193	296	270	250	399	382	367
I≣	200	213	189	171	253	226	207	316	289	267	426	408	392
٦	225	226	200	182	268	240	219	335	306	283	452	433	416
	250	238	211	192	283	253	231	354	323	299	477	456	439

- (1) Number in each box is flow in gallons per minute.
- (2) Actual flows may vary with brand and condition of hose.
- (3) Flows listed are approximate (nearest 5 gpm) and do not account for losses in preconnected piping or changes in elevation. (4) The actual flow of each nozzle may vary +10%/-0% from flow listed per NFPA #1964.

	WASHER 250 GPM AT 75 PSI												
		1 1/2" HOSE			•	1 3/4" HOSE			2" HOSE		2 1/2" HOSE		
	LENGTH (FT)	150	200	250	150	200	250	150	200	250	150	200	250
	50	102	91	83	119	108	99	144	134	125	183	177	171
뮕	75	125	112	102	146	132	122	177	164	153	224	217	210
IJ	100	144	129	118	168	152	140	204	189	177	258	250	243
ES	125	161	144	132	188	170	157	228	211	198	289	280	271
œ	150	177	158	144	206	187	172	250	231	217	316	306	297
<u>م</u>	175	191	171	156	223	202	186	270	250	234	342	331	321
Į≣	200	204	183	167	238	216	199	289	267	250	365	354	343
₹	225	217	194	177	253	229	211	306	283	265	387	375	364
	250	228	204	186	266	241	222	323	299	280	408	395	383

	ſ	WASHER 250 GPM AT 100 PSI											
		•	1 1/2" HOS	E	•	1 3/4" HOS			2" HOSE		2	2 1/2" HOS	E
	LENGTH (FT)	150	200	250	150	200	250	150	200	250	150	200	250
	50	98	88	81	113	103	96	134	125	118	162	158	154
믮	75	120	108	99	138	126	117	164	153	144	199	194	189
l IS	100	139	125	115	160	146	135	189	177	167	229	224	218
l o	125	155	140	128	178	163	151	211	198	186	256	250	244
Ä	150	170	153	140	195	179	166	231	217	204	281	274	267
4	175	183	165	152	211	193	179	250	234	220	303	296	289
I≣	200	196	177	162	226	206	191	267	250	236	324	316	309
₹	225	208	188	172	239	219	203	283	265	250	344	335	327
	250	219	198	181	252	231	214	299	280	264	363	354	345

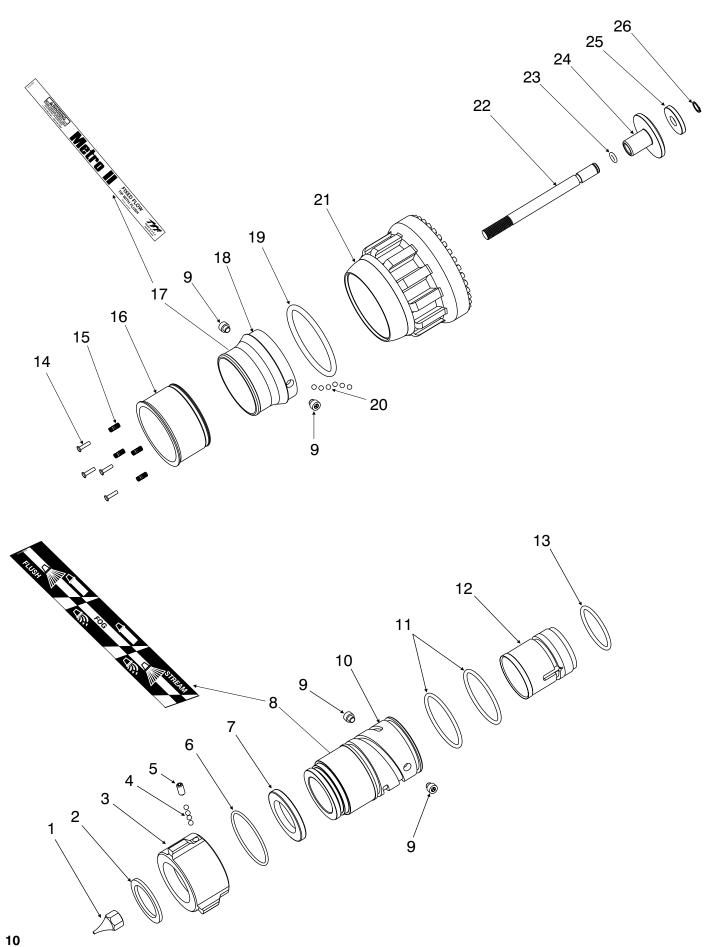
			WASHER 325 GPM AT 100 PSI										
		•	1 1/2" HOS	E		1 3/4" HOS	E		2" HOSE			2 1/2" HOS	E
	LENGTH (FT)	150	200	250	150	200	250	150	200	250	150	200	250
	50	105	93	85	124	111	102	153	140	130	200	193	186
쀭	75	128	114	104	151	136	125	187	172	160	245	236	228
S	100	148	132	120	175	157	144	216	198	184	283	272	263
ဟ	125	166	147	134	195	176	161	241	222	206	317	305	294
8	150	182	162	147	214	193	176	264	243	226	347	334	322
١.	175	196	175	159	231	208	191	286	262	244	375	360	348
₹	200	210	187	170	247	222	204	305	280	261	401	385	372
₹	225	222	198	180	262	236	216	324	297	276	425	409	394
	250	234	209	190	276	249	228	341	313	291	448	431	416

- (1) Number in each box is flow in gallons per minute.
- (2) Actual flows may vary with brand and condition of hose.
- (3) Flows listed are approximate (nearest 5 gpm) and do not account for losses in preconnected piping or changes in elevation.
- (4) The actual flow of each nozzle may vary +10%/-0% from flow listed per NFPA #1964.

9.0 ANSWERS TO YOUR QUESTIONS

We appreciate the opportunity of serving you and making your job easier. If you have any problems or questions, our toll-free "Hydraulics Hotline", 800-348-2686, is normally available to you 24 hours a day, 7 days a week.

10.0 DRAWINGS AND PART LISTPASTELIST



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METRO II NOZZLE PARTS LIST

INDEX	DESCIRPTION	QTY	PART NUMBER
1	CAP NUT	1	H420

1.5" ROCKERLUG COUPLING - FM2 SERIES

2	GASKET - 1.5" HOSE COUPLING	1	V3130
3	COUPLING 1.5" NH ROCKERLUG	1	H694N (H694I - NPSH)
4	3/16" BALL – 302 STAINLESS	37	V2120
5	1/4-28 X 3/8 SOCKET SET SCREW	1	VT25-28SS375
6	O-RING-141 2-5/16 ID 3/32 C/S	1	VO-141
7	ANTI GG RING	1	P147

2.5" ROCKERLUG COUPLING - JM2 SERIES

2	GASKET - 2.5" HOSE COUPLING	1	V3190
3	COUPLING 2.5" NH ROCKERLUG	1	P198N (P198I - NPSH)
4	3/16" BALL - 302 STAINLES	37	V2120
5	1/4-28 X 1/2 SOCKET SET SCREW	1	VT25-28SS500
6	O-RING-141 2-5/16 ID 3/32 C/S	1	VO-141
7	ANTI GG RING	1	P147

METRO II FRONT END

8	BARREL LABEL – RED	1	H740-RED
9	3/8-24 X 3/8 DOG POINT	4	H515
10	BARREL	1	H440
11	O-RING-228 2-1/4 ID 1/8 C/S	2	VO-228
12	THROAT SLEEVE	1	H530
13	O-RING-224 1-3/4 ID 1/8 C/S	1	VO-224
14	FLUSH PINS	4	H790
15	FLUSH SPRINGS	4	H780
16	BARREL CONE	1	H520
17	METRO II NAME LABEL	1	H745-RED
18	SHAPER GUIDE	1	H510
19	O-RING-336 2-7/8 ID 3/16 C/S	1	VO-336
20	3/16" BALL – ACETAL	48	V2115
21	SHAPER WITH BUMPER	1	H500
22	SHAFT	1	H470
23	O-RING-011 5/16 ID 1/16 C/S	1	VO-011
24	BAFFLE	1	H461
25	WASHER 250 GPM AT 50 PSI	1	H410-82
26	RETAINING RING 7/16" EXTERNAL	1	VR4260

SPACERS FOR METRO II NOZZLE

25	WASHER 175 GPM AT 100 PSI	1	H410-44
	WASHER 185 GPM AT 75 PSI	1	H410-53
	WASHER 200 GPM AT 75 PSI	1	H410-63
	WASHER 250 GPM AT 75 PSI	1	H410-83
	WASHER 250 GPM AT 100 PSI	1	H410-84
	WASHER 325 GPM AT 100 PSI	1	H410-94

11.0 INSPECTION CHECKLIST

Nozzle must be inspected before each use for proper operation and function according to this checklist. Check that:

- 1) There is no obvious damage such as missing, broken or loose parts, damaged labels, etc.
- 2) Coupling is tight and leak free
- 3) Valve handle moves freely though full range and shuts off flow
- 4) Nozzle flow is adequate as indicated by pump pressure and nozzle reaction
- 5) Shaper turns freely and adjusts pattern through full range
- 6) Nozzle moves smoothly in and out of flush position



Any nozzle failing any part of the inspection checklist is unsafe and must have the problem corrected before use. Operating a nozzle that fails any of the above inspections is a misuse of this equipment.

12.0 WARRANTY

Task Force Tips, Inc., 2800 East Evans Avenue, Valparaiso, Indiana 46383 ("TFT") warrants to the original purchaser of its Ultimatic, Mid-Matic, and Handline series nozzles ("equipment"), and to anyone to whom it is transferred, that the equipment shall be free from defects in material and workmanship during the five (5) year period from the date of purchase.

TFT's obligation under this warranty is specifically limited to replacing or repairing the equipment (or its parts) which are shown by TFT's examination to be in a defective condition attributable to TFT. To qualify for this limited warranty, the claimant must return the equipment to TFT, at 2800 East Evans Avenue, Valparaiso, Indiana 46383, within a reasonable time after discovery of the defect. TFT will examine the equipment. If TFT determines that there is a defect attributable to it, TFT will correct the problem within a reasonable time. If the equipment is covered by this limited warranty, TFT will assume the expenses of repair.

If any defect attributable to TFT under this limited warranty cannot be reasonably cured by repair or replacement, TFT may elect to refund the purchase price of the equipment, less reasonable depreciation, in complete discharge of its obligations under this limited warranty. If TFT makes this election, claimant shall return the equipment to TFT free and clear of any liens and encumbrances.

This is a limited warranty. The original purchaser of the equipment, any person to whom it is transferred, and any person who is an intended or unintended beneficiary of the equipment, shall not be entitled to recover from TFT any consequential or incidental damages for injury to person and/or property resulting from any defective equipment manufactured or assembled by TFT. It is agreed and understood that the price stated for the equipment is in part consideration for limiting TFT's liability. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.

TFT shall have no obligation under this limited warranty if the equipment is, or has been, misused or neglected (including failure to provide reasonable maintenance) or if there have been accidents to the equipment or if it has been repaired or altered by someone else.

THIS IS A LIMITED EXPRESS WARRANTY ONLY. TFT EXPRESSLY DISCLAIMS WITH RESPECT TO THE EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. THERE IS NO WARRANTY OF ANY NATURE MADE BY TFT BEYOND THAT STATED IN THIS DOCUMENT.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

TASK FORCE TIPS, Inc.

2800 East Evans Avenue • Valparaiso , IN 46383-6940 800-348-2686 • 219-462-6161 • Fax 219-464-7155