

Technical Note 01-99
ProtectoJet Model 5
Modification for Shooting in the Down Direction
Dated April 15, 1999

Background

The ProtectoJet Model 5 has proven a very effective long-range chemical fogging tool for correctional facility use. Normally, the ProtectoJet is held horizontally with a slight (15 degree) up angle. Recently, some facilities have found that the ProtectoJet can also be used from elevated firing locations such as gun posts and towers, requiring operation at down angles. The ProtectoJet Model 5 can be modified for operation at a down angle. Further, there are several adapters that can be used depending on the distance and amount of chemical desired in each shot.

Note: When the ProtectoJet is modified for down angle shooting, the unit will not perform properly for horizontal and/or up angle shooting.

Modification

The ProtectoJet Model 5 contains a copper drawtube inside the pressure bottle for drawing the chemical from the bottom rear of the bottle. The tube is bent to ensure that all chemical will be expelled when the bottle is held properly.

To accomplish the down shooting capability the ProtectoJet mechanism must be disassembled and the drawtube must be removed and replaced with a specially machined plug. The size of the plug installed is determined by the # of shots and the shooting distance desired.

Our testing has produced three different modifications as follows:

No.	# Of Shots	Typical Distance	Recommended Plug
1	15	35'	3/32"
2	11	40'	5/32"
3	8	45'	7/32" (no plug)

Please note: The distances shown were measured at a down angle of approximately 36-40 degrees. The distances will be longer at higher down angles.

Procedure

To accomplish the down shooting modification, proceed as follows:

Please note: The factory will perform this modification for no additional charge if notified at the time of order. Factory modified units have an identification tag saying, “modified for down shooting only”

1. Completely depressurize the ProtectoJet Model 5 in accordance the ProtectoJet Model 5 manual. Exercise extreme caution if the ProtectoJet is charged with chemical. It is recommended that this modification be made when a unit is empty (i.e., already been used) and ready for refilling.
2. Place the ProtectoJet bottle in a vise or other holding fixture. Using a 12” or larger end wrench or Crescent wrench unscrew the mechanism from the bottle.
3. If the bottle has previously contained chemical be very careful since the bottle mechanism is coated with the chemical residue.

Note: We recommend that you have a small bottle of Hydro-Force Burn-Away available in case you come in contact with the OC solution.

4. Using an end-wrench carefully unscrew the drawtube from the mechanism. Wash the drawtube and retain so you can reinstall it later if necessary.
5. Select the desired plug from the chart above. If you do not have the desired plug, contact Hydro-Force and we will furnish it to you.
6. Install the plug in the base of the mechanism where the drawtube was previously installed. Do not over-tighten. Slightly more than hand tight is all that is required.
7. Reassemble the ProtectoJet in accordance with the manual instructions.
8. Install chemical solution and charge the ProtectoJet in accordance with refilling instructions.

Caution: Always exercise extreme caution with when refilling or handling the ProtectoJet. Extreme pressures and dangerous chemicals are present.

If you have any questions or need any further information, please contact Hydro-Force.