

**MODEL CH220M
THERMOPLASTIC APPLICATOR
INSTRUCTION AND PARTS MANUAL**

Please read and understand this manual before operating!

**CAUTION!
THIS EQUIPMENT IS CAPABLE OF HEATING THERMOPLASTIC
MATERIAL IN EXCESS OF 500 DEG.
READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING!**

INSTRUCTION MANUAL FOR TRANTEX MODEL CH220M THERMOPLASTIC APPLICATOR

INTRODUCTION

IMPORTANT: READ THIS MANUAL BEFORE USING EQUIPMENT

The purpose of this manual is to give you the information needed to properly operate your thermoplastic applicator with a maximum of efficiency and satisfaction. It is impossible to dictate the exact requirements for each application. Operator, ambient temperature, weather conditions, and pavement conditions will control your requirements for each application. Every effort has been made to provide sufficient information to permit an operator to perform his duties so as to receive maximum performance and trouble-free service from the thermoplastic equipment. All types of equipment, regardless of the quality and type of construction, require a certain amount of attention to assure proper operation and operator safety. Carefully check your unit for any shipping damage. Damage and subsequent claims must be reported to the freight carrier generally within 24 hours after receipt of the equipment.

ABOUT THE THERMOPLASTIC APPLICATOR

The thermoplastic applicator is a push type thermoplastic applicator that is capable of applying all thermoplastic pavement markings. While maintaining thermoplastic material at proper application temperatures, the thermoplastic applicator applies an adjustable thickness of thermoplastic markings as it simultaneously dispenses reflective glass beads to the newly applied thermoplastic. This aids in immediate reflectivity and also aids in the dry time of the thermoplastic.

READ THE FOLLOWING PAGES BEFORE OPERATING THE EQUIPMENT

The following pages explain operational procedures for the thermoplastic applicator. They should be fully understood before operating this equipment. **NOTE: Owners should note that the only approved options or conversions are those that are offered by Trantex, Inc. Trantex does not except any liability whatsoever for defects which arise from any changes that are not approved by Trantex, Inc.**

We also recommend that the operator become familiar with all publications recommended by the manufacturer of the thermoplastic material you will be using. Carefully follow their recommendations for proper installation of thermoplastic pavement markings.

WARNINGS AND RECOMMENDATIONS

The following list of warnings and recommendations should be followed at all times while operating the thermoplastic applicator.

1. The LPG (propane) tank valve must be kept tightly closed when the applicator is not in use.
2. Before opening the tank valve, be sure the propane regulator is installed correctly.
3. Before lighting, check to make sure all gas valves are closed, that there are no loose fittings, and that the quick-connect gas lines to the die are securely in place.
4. Use only LPG (propane) fuel.
5. At the beginning of each workday start with a full bottle of propane.
6. Change the material tank only when tank is cool and empty of thermoplastic.
7. After changing the material tank, make sure it is securely fastened before operating and loading of thermoplastic material.
8. Always use protective gloves (heat resistant), protective clothing (long sleeves), and safety glasses when operating the applicator.
9. Never leave applicator unattended or on an inclined surface.
10. Never heat thermoplastic material beyond the manufacturer's recommended application temperature (400 - 425 degrees F).
11. If thermoplastic material exceeds 440 degrees F., in material tank, reduce tank burner flame and immediately turn burner off.
12. When transporting the applicator, lower the material tank burner flame. If the tank is low or empty, turn off the burner flame.
13. Never transport the applicator with more than 150 lbs. of thermoplastic in the material tank.
14. Never leave the die burner flames lit when transporting the applicator.
15. Never leave die burners lit when die is empty or low on material.
16. Make sure the applicator is securely fastened when transporting.
17. Never use anything but thermoplastic road marking material that is especially formulated and manufactured for thermoplastic road line marking installation.
18. Never operate applicator in the rain or where heavy moisture exists.

START UP PROCEDURE

EQUIPMENT CHECK: **WARNING! USE EXTREME CARE WITH LPG FUEL TANK LINES, AND BURNERS!**

1. FUEL - At the beginning of each workday have two full 20-pound liquid propane fuel tanks. Check to see that the propane fuel bottle in the applicator is full.
2. FUEL LINES AND VALVES - Check to make sure all gas valves are closed and free of defects. Check all fuel lines, especially the die burner fuel lines and material valve fuel line.
3. GLASS BEAD DISPENSER - Fill glass bead hopper and then engage beader to check for proper operation. Make sure glass beads are moisture proof and have not been exposed to moisture or rain.

LIGHTING THE APPLICATOR

1. Load a 50 lb. amount of thermoplastic material into the tank.
2. Open the LP tank gas valve.
3. Now, open the door on the gas control box and the access door on the material tank to expose the pilot and burner.
4. SET THE THERMOSTAT TO ITS LOWEST SETTING! (Located inside of the gas control box.) (Machines with thermostats only.)
5. Press the button on top of the pilot control valve and light the pilot burner located beneath the kettle. Keep button fully depressed for one full minute.
6. Release the button and the pilot flame should continue to burn.
NOTE: If pilot flame should go out when the button is released, repeat steps 7 through 9, allowing more time for thermocouple to heat up.
7. Once the pilot is lit, set the thermostat to desired temperature. (Approximately 400 degrees F.)
NOTE: Gate and die burners may be lit 10-15 minutes prior to applying thermoplastic.

ADDING THERMOPLASTIC MATERIAL

APPLICATOR ONLY:

Load 50 lbs. of thermoplastic material into the applicator kettle. The material tank will hold 250 lbs. of molten thermoplastic. The first 50 lbs. will take approximately 20-30 minutes to melt and reach proper application temperature (400-425 degrees F). Thereafter, each 50 lbs. will take 12-15 minutes. Fill no higher than three inches from the top of the tank. When transporting the unit, fill no higher than 2/3 full.

WHEN USING A PREMELTING KETTLE:

When using a premelting kettle, always use a filter screen while transferring molten thermoplastic from the premelting kettle to the applicator.

SPECIAL NOTE: When the applicator is near empty, turn off the LP gas valve to the material tank or refill immediately. Do not let the material tank burner operate without material in the tank.

EXTRUSION DIE OPERATION AND INSTALLATION

1. Select the proper die width.
2. When installing the die, make sure the notched line on the die's mounting arm is aligned with the bottom of the mounting sleeve. Failure to do so may affect extrusion performance and may cause damage to the side liners.
3. Adjust the front pointer rod so that the pointer guide aligns with the die selected.
4. The application die is made of high temperature resistant steel. When ready to install thermoplastic lines, light both the front and rear jet burners on the die. (Always use caution while lighting burners!)
5. When the die becomes operational, fill it with molten thermoplastic.
6. While pushing the machine in a forward motion, set the die on the pavement and push down on the die handle. This will open the die gate and begin the extrusion process.

NOTE: The speed at which you push the handliner may vary depending on the temperature of the thermoplastic material. Hotter material will tend to flow more freely than cooler material. If your lines are runny you may want to set the thermostat at a lower temperature and let the material cool slightly.

CAUTION: Never leave the die burners lit when there is no thermoplastic material in the die.

DIE MAINTENANCE AND OPERATION TIPS

The applicator dies are built of tough high tempered steel. The dies are precision application equipment...please treat them so!

1. After use and while still hot, clean excess material from the die with a putty knife.
2. The die can be cleaned while cold by immersing in solvent.
 - a. For alkyd thermoplastic use MEK or lacquer thinner.
 - b. For hydrocarbon thermoplastic use diesel fuel.
3. Never use hammers or chisels to clean cold thermoplastic from the die.
4. Never overfill the die.

OPERATING THE VARIABLE WIDTH GLASS BEAD SYSTEM

The variable width glass beader is adjustable to dispense beads on any line from 4 to 12 inches wide. To operate beader, engage the handle on the side of the machine only when ready to dispense glass beads on the newly installed thermoplastic.

NOTE: Glass beads must be kept dry. It is not necessary to drain beader when not in use.

APPLICATION PROCEDURE

APPLICATION TEMPERATURE

The road surface should be clean, dry, and the ambient temperature should be at least 50 degrees F.

REMINDER: AGITATE MATERIAL OFTEN!

POINTER AND STRIPE ALIGNMENT:

1. Practice the alignment of your die, pointer guide, and beader.
2. Snap a chalk line on a surface.
3. Slide out your pointer guide to align with the die.
4. Lower the pointer guide slightly above ground level.
5. Check alignment by pushing along line that you snapped.

INITIAL MATERIAL DISCHARGE

1. Upon reaching application temperature, approach the area to marked. Material is discharged from kettle to die by pushing down on the material valve handle.

NOTE: Never overfill die. Always keep material valve shut when not in use.

STARTING TO STRIPE:

1. After the unit is positioned, lower the closed die to pavement.
2. Lower the material control handle to partially fill the die with thermoplastic material.
3. Open the die and immediately push the unit forward.
4. As the bead dispenser approaches the molten thermoplastic, engage the beader to drop on glass beads.
5. The unit can be pushed with your hand or your hip. When installing straight lines, most experienced operators free their hands by pushing with their hip.
6. Regulate the material discharge flow speed into the die with your installation pace.

COMPLETING THE STRIPE:

1. Upon approaching the end of the line, slow and then close the material control handle.
2. Close the die.
3. You can hand spray beads over the end of the line if a curb or other obstruction prevents forward progress of the beader.

APPLICATION TIPS

1. Check application line thickness before striping and adjust to the desired line thickness.
2. The adjustment is .000 to .150 inches.

FEEDING MATERIAL

Continually feed thermoplastic material during entire work day or as much as needed for the days production.

AGITATE MATERIAL

1. Always agitate the material about ten turns within each five-minute period. This will keep ingredients homogenized.
2. Materials will separate because of heat and ingredient weight factors. When materials separate, it will become thick and slow moving. Agitate until the material becomes smooth, consistent, and fully suspended.

CHANGING COLORS & RESIN TYPES

1. White to Yellow - Drain the white material into a box or suitable container for reuse. Use putty knife to reduce residue and add the new color. Pour approximately 15 lbs. of the melted yellow material into a box, which may be reused.
2. Yellow to White - Drain the yellow material and use a putty knife to scrape pot, and spout. Add white material and drain approximately 25 lbs. into a box until there is no yellow remaining. (This material can be mixed in small proportion with yellow material).
3. Alkyd, Hydrocarbon, or Epoxy Changes - Your applicator can apply three types of resin binder thermoplastic materials: Hydrocarbon, Alkyd, and Epoxy. Each are incompatible with each other and therefore must not be mixed.

OVERHEATING OR FAILING TO AGITATE MATERIAL

1. If the material is not applied within four hours of initial introduction at application temperatures or is not properly agitated, the material may stiffen or separate. The material may not be usable and should be discarded. Adding new material to such material only contaminates the material.
2. While the applicator is still warm, use a putty knife and scrape out all the ruined material.

RAIN OR APPLICATION DELAYS

Lower the thermostat to 350 degrees F. and drain the material into a box. If raining, do this under shelter.

RAISED PAVEMENT MARKER APPLICATION

Remove die and pour approximately one pound of material from spout on the road surface and immediately apply marker. Do not add beads.

HANDLING CARE

Be careful to avoid dropping from a curb, unsecured transporting, deep potholes and on-coming traffic. This abuse will damage the precision parts, wheel balance, beader and controls.

SHUT DOWN AND CLEAN UP

1. Use or drain material as low as possible in material tank.
2. Completely extrude all material from die.
3. Turn off propane bottle and check to make sure all gas valves are closed.
4. Clean dies.

TRANSPORTING

1. Secure thermoplastic handliners to transport trailer or other hauling type equipment.

NOTE: NEVER TOW HANDLINER WITH ROPE OR CHAIN!

2. Make sure there are no combustible materials such as cardboard boxes or aerosol cans beneath handliner when it is still hot!

SAFETY PRACTICES AND TIPS

The unit has been designed to comply with all applicable safety regulations and incorporates built in safety features. The operator should always use discretion and good operation sense.

SAFETY TIPS:

1. Practice safety for yourself and others when performing your thermoplastic applications.
2. Wear heat resistant gloves and long sleeves.
3. Never abuse your equipment.
4. Keep your material inventory clean and dry.
5. Plan in advance your traffic marking and control responsibilities.
6. The best short cut is doing it right the first time.

SOLVENT HANDLING

Most solvents are extremely volatile and flammable. Handle with extreme care and work in a well-ventilated area and never near sparks, heat, or open flames. Persons with medical complications must consult with their physician before handling solvent. Wear rubber gloves, safety glasses, and a mask to prevent contact and prolonged breathing. In case of contact, flush with plenty of water and induce vomiting if swallowed. Contact your physician immediately.

HANDLING OF THERMOPLASTIC MATERIALS

1. Thermoplastic smoke inhalation - While thermoplastic is not toxic, it is always wise to avoid directly inhaling smoke.
2. BURNS:
 - A. Heat Burn - Immediately immerse in ice water.
 - B. Thermoplastic Burns - Ice down and contact your physician. Do not attempt to remove.
 - C. Severe Burns - Proceed to hospital emergency room immediately.

USE OF PRIMERS

Prior to application of alkyd or hydrocarbon thermoplastic on concrete or aged asphalt, primer must be used. Apply primer as recommended by the thermoplastic manufacturer.

DO'S AND DON'TS OF MANUAL THERMOPLASTIC APPLICATION

DO'S:

1. Always make sure pavement is clean and free of oil, dust, dirt, and debris (clean with broom or compressed air).
2. Always make sure pavement is dry and roadway temperature is above 50 degrees F.
3. Always make sure thermoplastic is hot enough to bond to road surface, 400 degrees F. minimum. Wind, air temperature, and humidity have a definite bearing on the application temperature of the material. If necessary, install a test line, wait for it to set and test for asphalt penetration bond.
4. Always make sure that if sealer is required, it is a sealer that is approved by the thermoplastic manufacturer.
5. Always make sure that the sealer is dry before thermoplastic application, and that the sealer has not been applied more than 24 hours previously. If using an epoxy sealer, apply thermoplastic before epoxy cures.

6. Always make sure that the proper size die and thickness is used, and that die runners are intact.
7. Always make sure that the equipment is operating properly to get the best results. Know your equipment capabilities.

DON'TS

1. Never install thermoplastic over existing painted lines that have numerous layers, flaking or peeling paint. (Install only if paint is thin, firmly bonded or almost worn off.)
2. Avoid installing thermoplastic over longitudinal joints.
3. Never chisel, scratch or use open flame.
4. Never install thermoplastic when road is damp, dirty, or too cold.
5. Never install thermoplastic over reflective drop on beads. When applying over thermoplastic, brush all loose beads and particles off line before application.
6. When using oiled templates, never apply oil to road surface where thermoplastic is to be applied. Thermoplastic will not bond to oily surfaces.

TROUBLE SHOOTING GUIDE

When troubleshooting, don't overlook the simplest possible causes even though they may seem too obvious to consider. For example, don't go ahead and replace the regulators without first eliminating the remedy causes for the heating problem. The guide on the following pages lists the simplest causes first in each category to help you pinpoint the cause of a problem through the process of elimination.

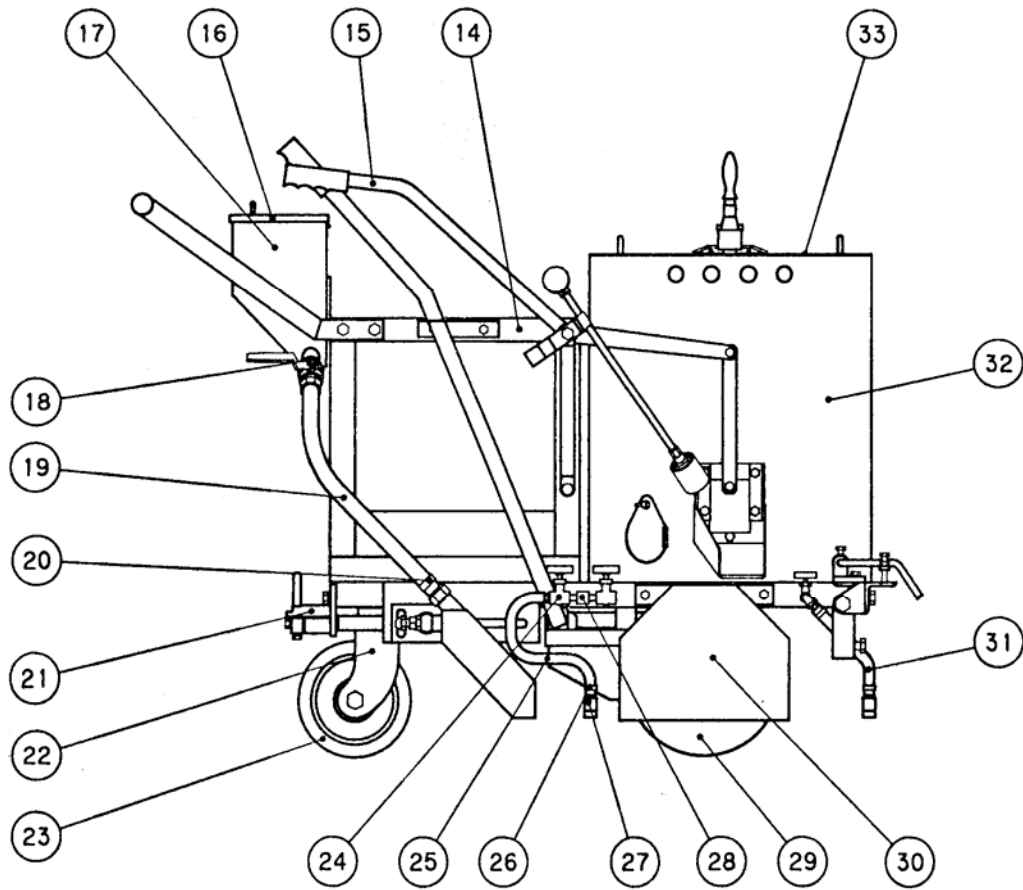
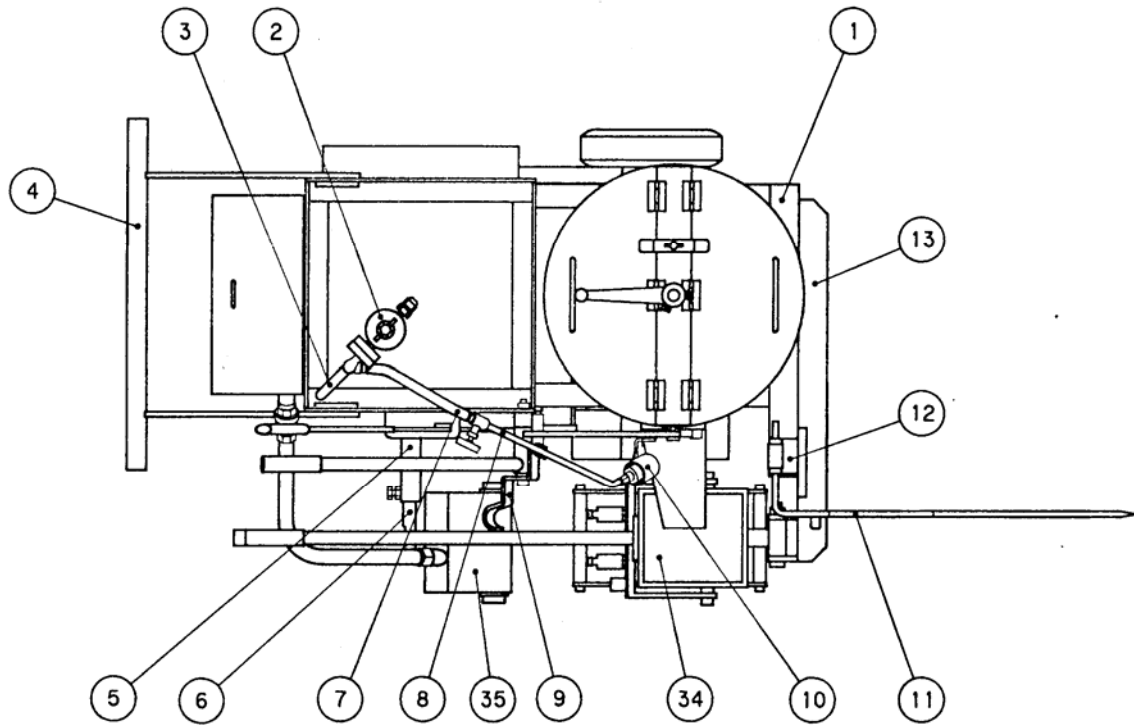
PROBLEM	POSSIBLE CAUSE	PROBABLE REMEDY
1. Agitation handle doesn't move.	Material too cold.	Wait until material is melted.
2. Ragged thermo-plastic line edge.	Die runners too cold.	Wait until they are heated to proper temperature by the use of die burners.
	Material is too cold.	Wait until material is at proper application temperature.
	Broken die runners.	Replace die runners
3. Glass bead leaks.	Rubber gasket is torn.	Replace gasket.
4. Glass beads will not flow.	Wet beads.	Discard wet beads and replace.
	Foreign object caught in bead hopper or line.	Empty contents of hopper and inspect.
5. Scorched material	Incorrect temp. setting.	Adjust to proper temperature setting
	Material is heated too long.	Empty and replace with fresh material
6. Die will not close	Material may be too cold. to shut off material flow.	Wait until material is better melted.

7. Thermostat readings are inoperative.	Loose wires on thermostat. Check and repair.	
	Thermostat inoperative.	Replace.
8. Material valve leaks.	Material is running when lever is closed.	Secure the lever in the down position.
	Foreign object under gate.	Clean lower part of gate.
9. Burner will not light.	Fuel supply low.	Fill.
	Thermostat set to 0.	Set to desired temperature.
	Blockage in fuel lines.	Remove lines and test.
10. Burners will not stay on.	Check fuel supply.	Fill.
	Burner inoperative.	Replace.

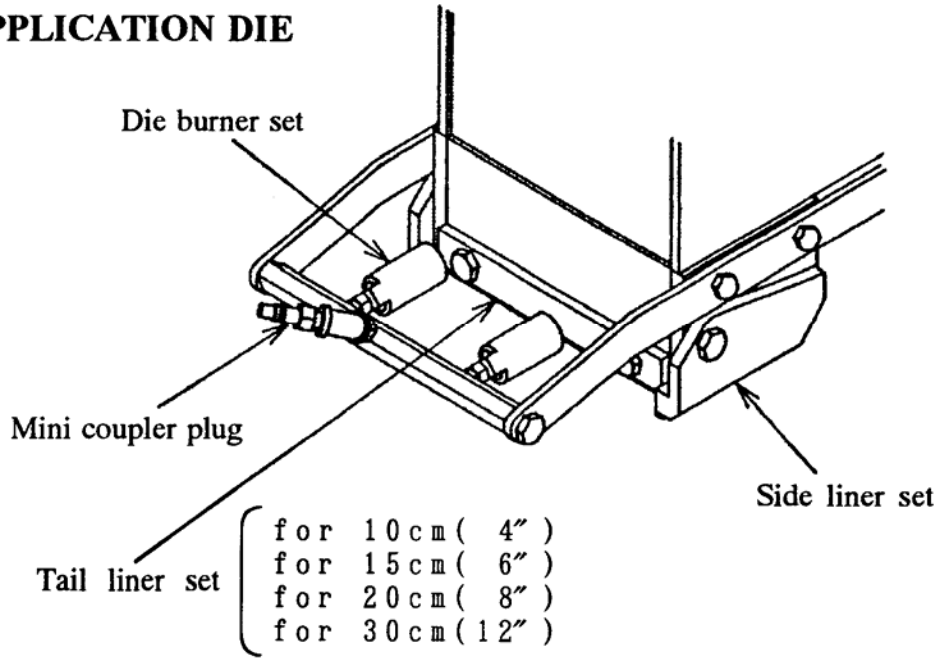
WARRANTY

The striping machine is sold by Florida Transcor, Inc. under the following warranty and agreement.

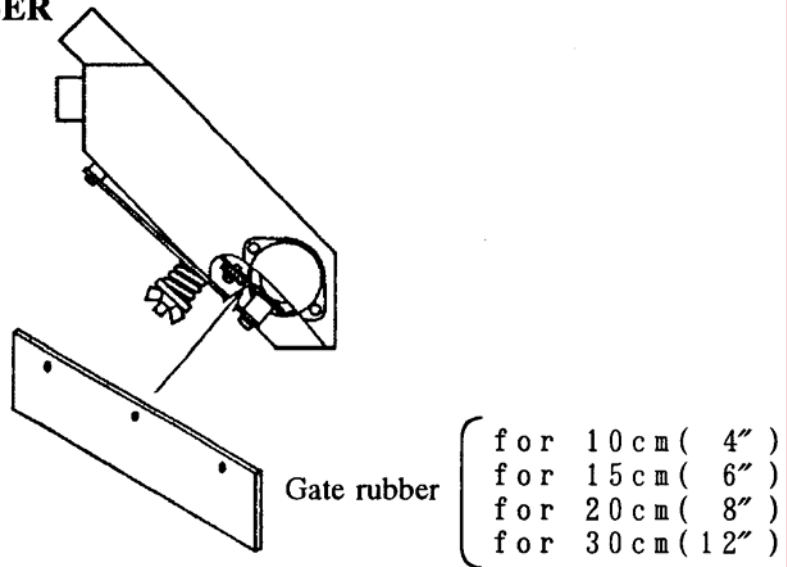
1. That the equipment is well constructed and of good material.
2. That at least one "Operation Manual" has been supplied, which describes in detail the recommended operation of the equipment and procedures for preventive and regular maintenance. It is agreed by the buyer and seller that if recommended maintenance and operation procedures are not followed as outlined, and warranty, expressed or implied, is void.
3. No warranty shall extend under this agreement between buyer and seller in case of accident, abnormal use, or when unauthorized alterations have been made.
4. This warranty covers only those components manufactured by Trantex Transportation Products of Texas, Inc. and does not apply to components such as, but not limited to, engines or other mechanical equipment manufactured by others on which separate warranties may or may not be in existence.
5. The sole responsibility of the seller for any parts shown to be defective within a period of ninety (90) days of purchase is limited to the replacement of such part without charge, exclusive of any field labor or service. Shipping charges may apply to any parts shipped beyond the Continental U.S.
6. The seller shall not be liable for consequential damages or contingent liabilities.
7. All warranties herein set forth are in lieu of any express, implied or statutory warranty. The within warranties cannot be changed by agent and only in writing, signed by an officer of the company.
8. Notice of all defects shall be made to Trantex Transportation Products of Texas, Inc., Houston, Texas in writing, stating the model and serial number of the equipment, the defective part or parts of component with description of condition.



APPLICATION DIE



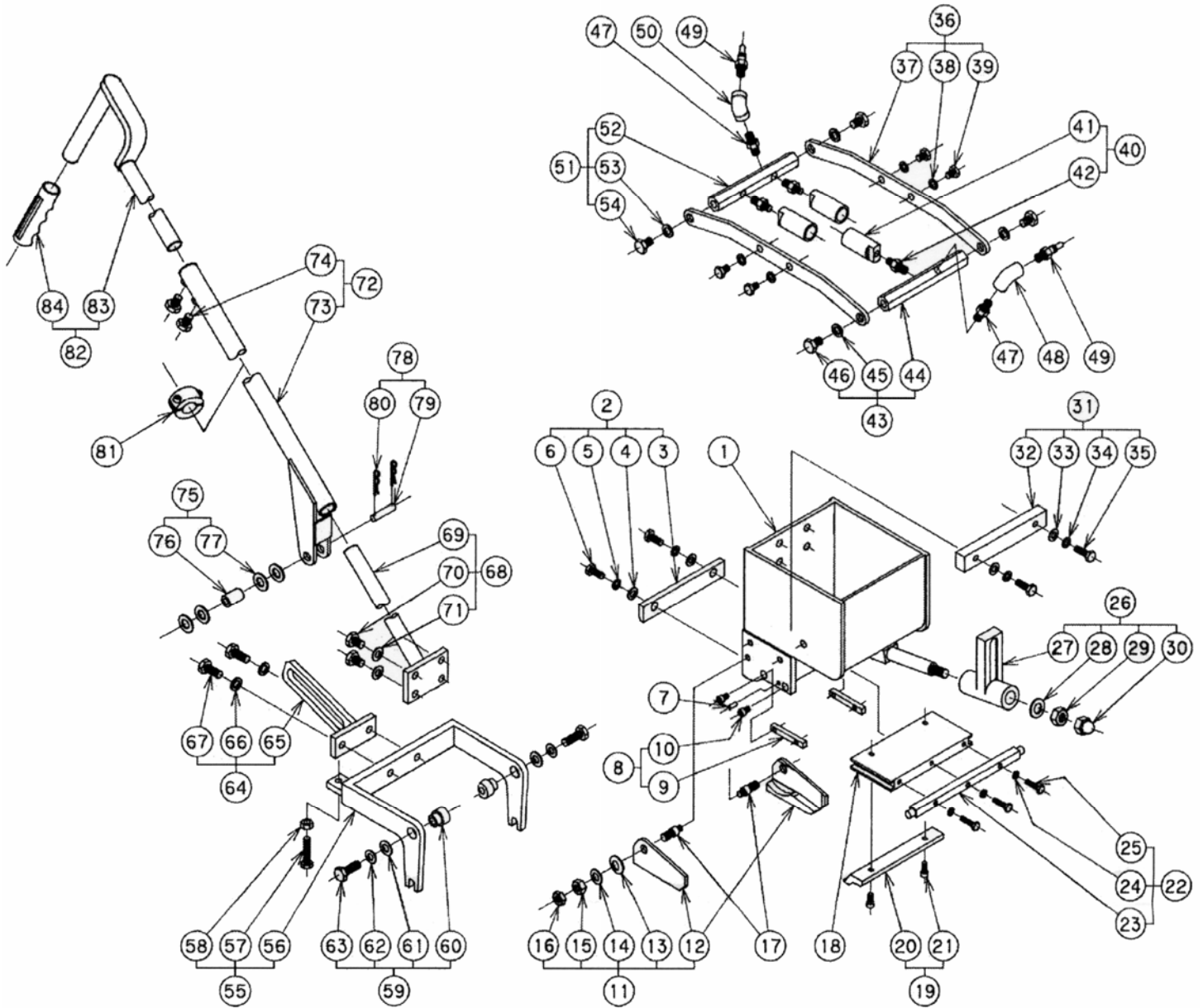
BEADS DISPENSER



PARTS LIST

Part No.	Description	Quantity
1	Chassis	1
2	Gas Regulator	1
3	Acetylene Hose (1)	1
4	Main Handle	1
5	Bead Dispenser Bracket	1
6	Bead Dispenser Holder	1
7	Acetylene Hose (2)	1
8	Hand Torch	1
9	Burner Bracket	1
10	Burner Holder	1
11	Pointer Guide	1
12	Pointer Bearing and Holder	1
13	Front Bumper	1
14	LPG Cylinder Box	1
15	Material Shutter Lever	1
16	Bead Box Cover	1
17	Bead Box	1
18	Ball Valve	1
19	Bead Hose	1
20	Bead Hose Band	2
21	Rear Wheel Swivel Lock	1
22	Rear Wheel Fork/Shaft	1
23	Rear Wheel	1
24	Needle Valve	3
25	Acetylene Hose (3)	1
26	Acetylene Hose Band	8
27	Mini Coupler Socket	2
28	Manifold	1
29	Front Wheel	2
30	Wheel Fender	1
31	Acetylene Hose (4)	1
32	Material Tank	1
33	Material Tank Cover	1
34	Application Die	1
35	Bead Dispenser	1

LS DIE PARTS LIST FOR CH220M



Ref. No.	Description	Q'ty
2	Tail Liner (4", 6", 8", 12")	1
11	Side Liner, right/left set	1set
13~17	Bolt & Nut set for side liner	2set
18	Slider (4", 6", 8", 12")	1
19	Slide Edge (4", 6", 8", 12")	1
22	Slider Shaft (4", 6", 8", 12")	1
26	Hinge Plate	1
31	Liner (4", 6", 8", 12")	1
36	Manifold Bar	2
40	Die Heating Burner set	2~5set
41	Shroud	2~5
42	Nozzle	2~5
43	Front Manifold Pipe (4", 6", 8", 12")	1
47	Hexagon Nipple	2

Ref. No.	Description	Q'ty
48	Elbow	1
49	Mini Coupler Plug	2
50	45 Degree Elbow	1
51	Rear Manifold Pipe (4", 6", 8", 12")	1
55	Open/Close Arm (4", 6", 8", 12")	1
59	Collar Bolt set	2set
64	Open/Close Guide	1
68	Open/Close Shaft	1
72	Open/Close Handle	1
75	Open/Close Roller	1
78	Roller Shaft set	1set
81	Stopper Collar	1
82	Open/Close Grip	1