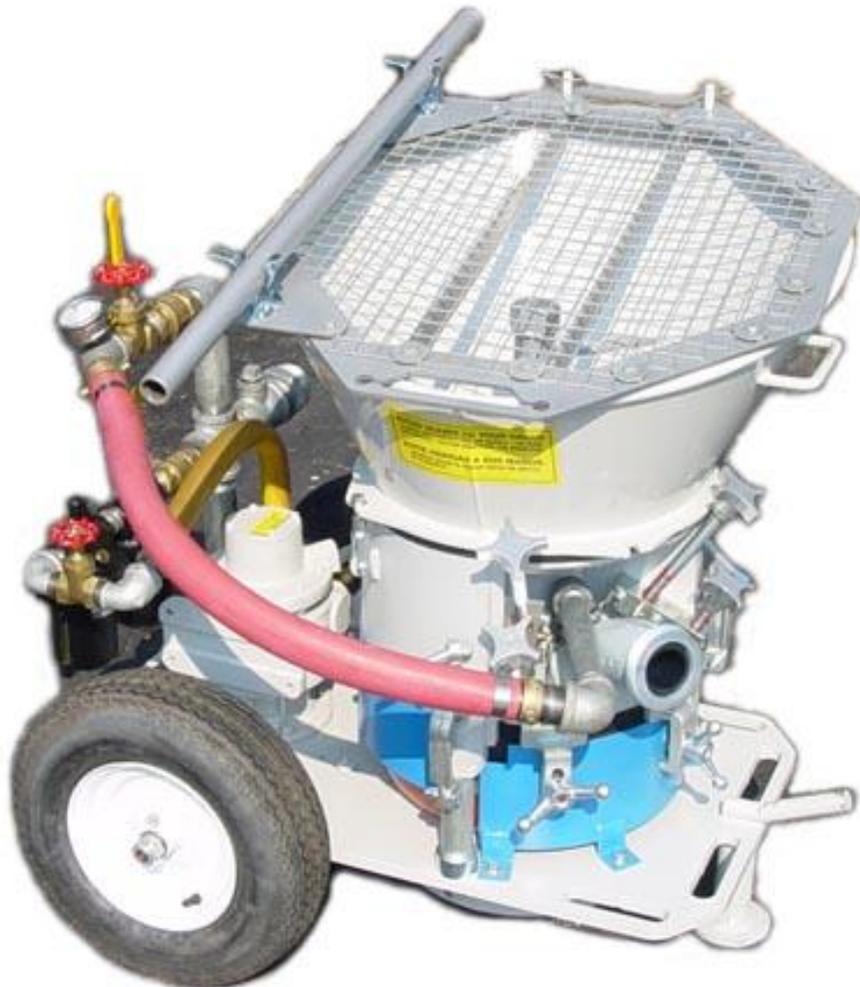


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**IMPORTANT**

BEFORE STARTING AND OPERATING YOUR MACHINE,  
READ INSTRUCTIONS THOROUGHLY. IT IS NECESSARY TO  
BECOME ACQUAINTED WITH THE MACHINE COMPONENTS,  
THEIR LOCATION AND ADJUSTMENT REQUIREMENTS.

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**C-10HHD  
ROTARY GUN**

OPERATION – MAINTENANCE – PARTS  
MANUAL

# C-10 SPECIFICATION SHEET

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SOLD TO: \_\_\_\_\_

INVOICE# \_\_\_\_\_ SHIP DATE: \_\_\_\_\_

**FOR:** Serial # \_\_\_\_\_

Spec. # \_\_\_\_\_

**FEED SYSTEM:** Bowl # \_\_\_\_\_

Wear Plate # \_\_\_\_\_

Pad # \_\_\_\_\_

Gooseneck Plate # \_\_\_\_\_

Gooseneck Elbow # \_\_\_\_\_

Gooseneck Liner # \_\_\_\_\_

Power Source # \_\_\_\_\_

**HOUSING:** Hopper Cone # \_\_\_\_\_

Screen # \_\_\_\_\_

Agitator # \_\_\_\_\_

Pocket Divider # \_\_\_\_\_

☆ The above list is provided as an easy reference guide for your C-10 Rotary Gun. For parts not listed above, refer to the parts list section of this manual.

MANUAL: 705866-7  
FOR SERIAL #00085607+

C-10  
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## **INTRODUCTION**

The C-10 Rotary Gun is designed, manufactured and constantly being improved by listening to the ideas and opinions of our customers, field experiences and by following our own convictions. We have devoted our entire ability to the designing, engineering and manufacturing of a complete line of Concrete Gunning Equipment and other specialized concrete conveyances. It is our constant objective to provide improved equipment for the increasing demand for concrete and refractory gunning equipment. The C-10 Rotary Gun was designed to furnish a gun that is adaptable to a wide range of production, but primarily for the contractor who needs continuous production and demands that the gunned concrete be of a high quality. Our many years of field experience have resulted in this practical application of engineering to give you a superior gun in design and manufacturing which has many patented improvements that cannot be included or found in older gunning equipment.

Gunned concrete is often referred to as “Gunitite”, “air-placed concrete” or “pneumatically applied concrete”. All of these terms are commonly used to describe the placement of proportioned dry mix of sand, Portland cement (usually four parts sand to one part cement), which is pneumatically conveyed to expulsion. The word “Gunitite” is used most frequently when referring to pneumatic concrete placement, for it is a trade name of the Cement Gun Company, which was established in 1910. Since the early inception of gun placement methods, many new applications have been developed. This is the result of improved equipment and the development of many refractory and insulation materials that have been produced for gun placement.

Gunitite Supply & Equipment Company has made major contributions to the increasing use and growing acceptance of the gun placement method. We are constantly trying to develop new applications for gun placement equipment and, as a result, several material producers and suppliers have collaborated with us in the development of many new types of concrete aggregates, insulating concrete, high temperature cements, gun-type castable refractories, and blends of fire-clay with silica sand or other ganister aggregate. Over several years, many research and field trials were required to develop many of these materials, which are now in general use.

## **GENERAL INFORMATION ON GUNNING**

The low water ratio and dense compaction of gunned concrete, refractories and other materials make it a no-slump product at moment of placement. For this reason, no forms are required. Because of the no-slump characteristic, the gun placement method is being used more and more in the construction, lining or the resurfacing of irregular shaped objects.

Because of the unusual characteristics and quality of gun-placement material, it is almost impossible to list all of the work that can be done efficiently and effectively with Concrete Gunning Equipment.

A general list of job applications is as follows:

1. Construction and repair of swimming pools, condenser cooling pools, water reservoirs, irrigation ditches, laterals, dams, tunnels, buttresses, etc.
2. Repair and surfacing of old concrete, brick, stone, or other masonry structures.
3. Bridge repairs, column and beam encasements, corner posts, hand rails, curbing, decks, ceilings, etc.
4. Gunning of insulation and castable refractories in catalytic regenerators, reactors, boilers, hot flue linings, stack lining and stack breeching.
5. Insulation of hot tanks, fireproofing of pipe lines, pipe line saddles, columns, beams and other steel framework.
6. Acid-proofing of vats, silos, steel tanks, basins and ditches.
7. Pre-stressed concrete constructions, shooting of pilasters for tilt-up construction and joining of tilt-up wall sections.
8. Grout welding joints in concrete pipe, shooting joints of concrete coated and lined steel pipe.

## BOND STRENGTH

Gunned concrete bonds perfectly to properly prepared surfaces of other materials such as concrete, brick, rock, tile or steel. Numerous test have been made which indicate that the bond strength of gunned concrete exceeds the shearing strength of good quality brick or concrete against which it is applied. In many cases, loads in excess of 600 pounds per square inch in shear were sustained by the bond between the brick and gunned concrete, final failure being in the brick. Do not apply concrete to a surface containing frost or ice.

## DENSITY

Gunned concrete and refractory materials have a greater density because of the low water ratio and perfect compaction resulting from the high velocity of placement. Because of the extreme density of gunned concrete, it has proven to be an impervious protection surface for concrete and steel structures.

## STRENGTH AND MIX RATIOS

Gunned concrete cures to a product of extreme hardness and abrasive resistance. Approximately 60% of maximum strength is attained in seven days.

Structural strength is determined by the different mix ratios, proportioned on the basis of one part Portland cement, by volume, to different ratios, by volume of sand.

On the average job application, using ordinary washed concrete sand with an approximate fineness modulus of from 2.415 to 2.90, the following strengths should be attained in 28 days.

Ratio	Strength (psi)
1 : 3 ½	6000
1 : 4	5500
1 : 4 ½	4500
1 : 5	4000

NOTE: Under perfectly controlled test conditions, the above strengths may be increased 10 to 20 percent. Quality of the sand is a great factor in the ultimate strength.

## CEMENT

Portland or Air Entraining cement will give the best operation and results. Luminite Cement is recommended where temperatures are above 100°F or less than 20°F or where certain chemical conditions exist. Information regarding gun placement of refractory concretes or other special materials will be furnished on request.

## SAND

Extensive test with various grades of sand have proven that a sand with a fineness modulus of 2.415 will produce concrete of the highest compressive strength, least absorption and minimum rebound. For practical reasons, it is seldom possible to obtain sand exactly meeting these specifications, however, excellent results will be obtained by using the following sieve analysis:

Standard Tyler Screens	% Sand w/ 2.415 fineness modulus
Passing #4	98-100%
Passing #8	70-95%
Passing #16	60-85%
Passing #30	45-65%
Passing #50	15-35%
Passing #100	0-5%

The sand used should be clean and free of clay or dirt. When ordering from your dealer, you should specify a clean washed sand. For best operational results, the moisture content of the sand should not exceed 5% and greatest production will be maintained when the moisture contents is not more than 3%. One rule to follow is that the finer the gradation of sand, the lower the moisture content allowable for successful operation.

On work requiring large volumes of material, regular concrete sand is usually satisfactory in that the proportion of coarse particles in regular concrete sand will feed through the hopper and feed mechanism faster than a sand of predominantly fine gradation. Another advantage in using a more coarse sand for high production work is that it can generally be used successfully with a greater moisture content than fine sand. Any aggregate that will pass a 3/8" mesh can be put through C-10 Rotary Guns. For finer ripple or air placed texture, the coarse sand should be screened to a maximum of 1/8". For other finishes, a rubber or wood float may be used.

## CURING

Proper curing is essential in gun placed concrete the same as it is with ordinary poured concrete. As soon as the surface has hardened, a light spray of water should be applied. This is particularly true when the weather conditions are dry, hot and windy. The low water ratio of the Gunned Concrete makes it set very rapidly, therefore, the light water spray will tend to control the set and relieve possible cracking that might be caused by stresses set up during accelerated curing. For maximum strength values, a new surface should be kept moistened for several days, depending on atmospheric conditions. Curing compounds are another method of getting proper curing of the concrete.

When placing concrete in cold weather, standard "cold weather" placing and curing practices are applicable.

## COVERAGE

Considering the loss due to compaction and rebound of gunned concrete, we suggest the formula shown below as a simplified method of estimating material requirements. Materials of predominantly fine gradation (such as many refractory materials) will have less rebound and therefore require less material than called for by the formula. This formula allows approximately 1/3 excess material for compaction and rebound ( $K=0.0041$ ). It is applicable to general concrete restoration work. If gunning into an open excavation such as ditches, swimming pools, or small reservoirs, an experienced crew can work the rebound into the concrete as it is being placed and the loss can be reduced to as low as 15%.

FORMULA: Length in feet x Width in feet x Thickness in inches  
x Loss Factor = cubic yards of material

EXAMPLE: "L" x "W" x "T" x "K" = cubic yards of material  
100' x 10' x 6" x .0041 = 24.6 cubic yards.

Use .0055 for K in the above formula to obtain tons of sand.

For a 4:1 mix, figure five bags of cement per ton of sand.

For thin coatings, the rebound is greater but gradually decreases as thickness of the concrete increases.

Considering the loss due to compaction and sand rebound, the following table gives the approximate coverage per sack of cement mixed with four cubic feet of sand:

Thickness of Application in inches	1/8	1/4	3/8	1/2	3/4	1
Coverage in square feet	135	90	75	50	40	30

A C-10 ROTARY GUN WILL:

Feed it: Air (from a compressor at 350 to 750 cfm)

Feed it: a) Premix Gunitite Material (sand and Portland cement)  
b) Premixed (opt. pre-dampened) refractory material  
c) Sand or rock for back fill

From: a) An AIRPLACO Mix-Elevator  
b) A ready mix truck  
c) A mobile mixer  
d) Hand loaded bags.

Convey the material up to 300 ft. through a hose to the job face (without the attendance of a full time operator) at a fully adjustable rate to suit the job conditions. Over 300 ft. lengths in material hose usually require more air. Be sure to account for 3% air pressure loss for every 1000 ft. above sea level.

## HOW MUCH **PRODUCTION** WILL A C-10 ROTARY GUN PUT OUT?

It depends on:      Material  
                             Air Supply  
                             Hose Size  
                             Distance from the gun to the job face

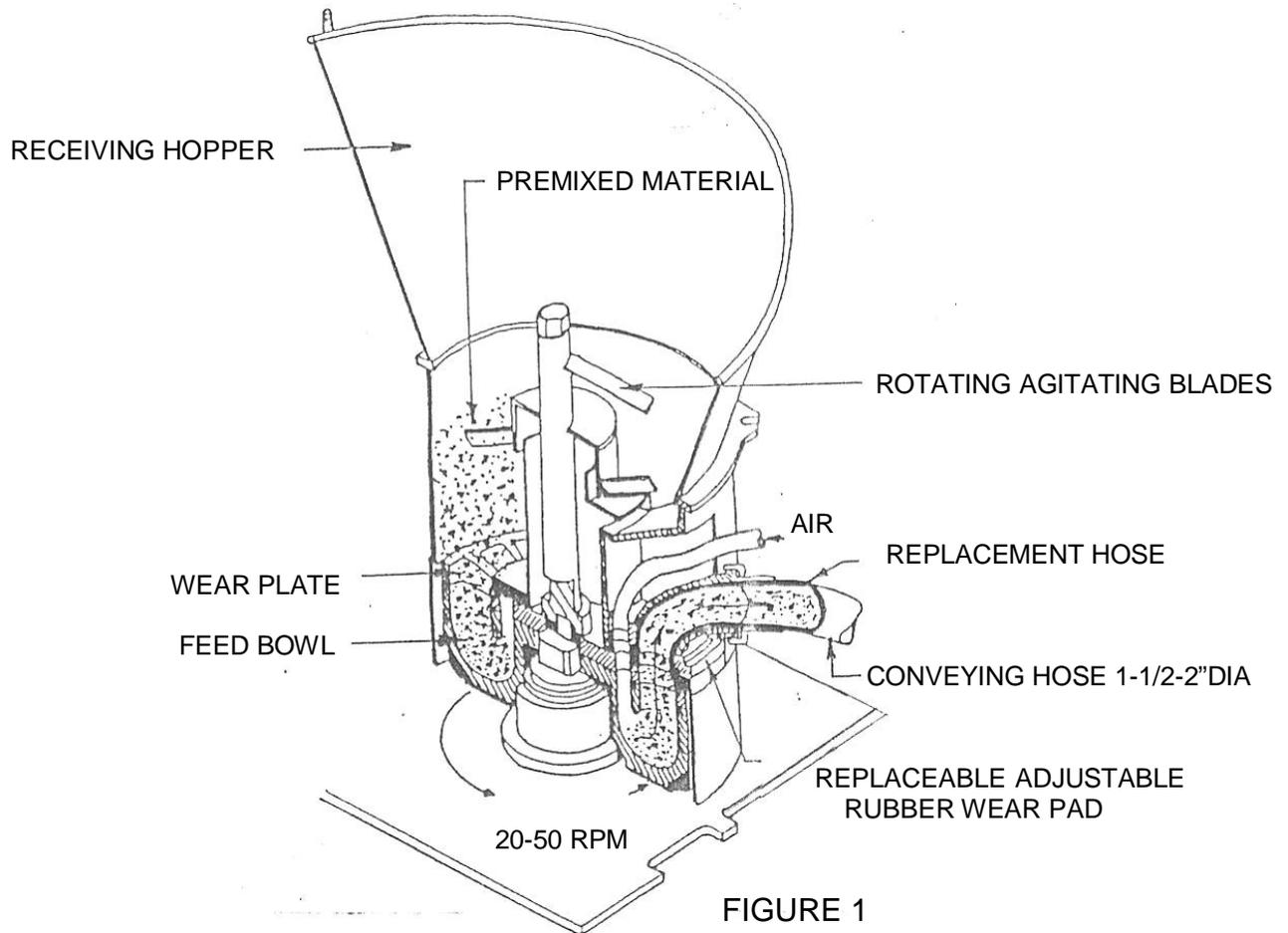
MATERIAL	GUN				Compressor Air CMF	Conveying Distance	Hose Size	PRODUCTION		
	C-7A	C-9A	C-10L	CY-61A				LBS/HR	TONS/HR	YDS <sup>3</sup> /HR
Gunite	X				125	100'	1"	3400-6300	1.7-3.5	1-2
16-20% cement	X				250	100'	1-1/4"	6300-12600	3.5-7.0	2-4
84-80% sand	X	X	X	X	350	100'	1-1/2"		8.0-15.0	5-9
4-6% water		X	X	X	600	100'	2"		15.0-20.0	9-12
3400 lb/cu. yd.		X	X	X	750	100'	2"		20.0-27.0	12-16
refractory dry or predampened 125 lb/cu. ft.	X				125	100'		LBS/HR		FT <sup>3</sup> /HR
	X				250	100'		1250-3700		10-30
		X	X	X	350	100'		3750-7200		30-60
sand or pea rock for backfill 100 lb/cu. ft.		X	X	X	350	100'	1-1/2"		7.0-12.0	5-9
		X	X	X	600	100'	2"		12.0-16.0	9-12
		X	X	X	750	100'	2"		16.0-22.0	12-16
			X		900	100'	2-1/2"		30.0-25.0	15+

The preceding production ratings are for average material conditions.  
 Performance will be affected by:

- a) Type of sand
- b) Sand/cement ratio
- c) Hose length
- d) Moisture content of sand
- e) Feed bowl and plate in use
- f) Bowl and plate maintenance

## HOW DOES THE GUN WORK?

The gun is operated and the conveying of the material is accomplished by the power of compressed air from your compressor or from an optional hydraulic power supply. 10 to 20 percent of the air drives an air motor, which rotates the feed bowl and plate. The other 80 to 90 percent is used to convey the Gunitite or refractory material out of the feed bowl and down the hose to the nozzle where water is added and the wetted material is "shot" onto the job face. See Figure 1.



As the feed bowl rotates most of the "U-shaped" pockets in the bowl are open to receive material from the receiving hopper. One at a time the pockets pass under the rubber wear pad. At that instant the compressed air rushes through the pocket taking with it the material from that pocket out through the gooseneck into the conveying hose. As the feed bowl continuously rotates picking up material from the hopper and passing its pockets under the wear pad a continuous flow of material is conveyed down the hose.

If the bowl turns too slow the material will come down the hose in pulses (slugs). Too fast and the air will not have enough time to clean out the pocket as it passes the wear pad and material will build up in the feed bowl and slow production.

The best operating speed for low production is approximately 20 RPM. For medium production the best operating speed is approximately 35 RPM, and for high production, it is approximately 50 RPM.

## WHAT MAKES THE C-10 ROTARY GUN BETTER IS....

- *reliability* – a time tested machine
- *exhaust suppression baffle* – The exhaust chamber is designed to reduce “blow-by” dust/material from exhaust side of the feed wheel. To further reduce dust from the system, connect a length of multi-purpose hose to the 1-1/2” female NPT outlet on right side of feed wheel housing and submerge the end of the hose into a bucket of water to catch and collect additional dust & exhaust materials. This greatly reduces the amount of materials that would rise up through the top of hopper and minimizes wear on machine components.
- *six point pad holding system* – provides pin-point adjustment of the wear pad
- *continuous feed* – provides steady and consistent material output
- *low maintenance* – a quality design from a quality manufacturer
- *low feed height* – whether loading from a ready mix truck or straight from the bag, the loading height is 30” (approximate)
- *simplicity and ease of use* – one gate valve controls the production rate, light weight and portable
- *made in America*



FIGURE 2

## TO SET UP THE GUN FOR A JOB

Note: For a new gun, skip to step 12.

1. Loosen the valve pad clamps (Figure 3, items A and B).
2. Without disconnecting the air hose (Figure 3, item E), remove the gooseneck and pad adapter (Figure 3, items C and D).
3. Loosen and swing away the hopper hold-down clamps (Figure 3, item F).

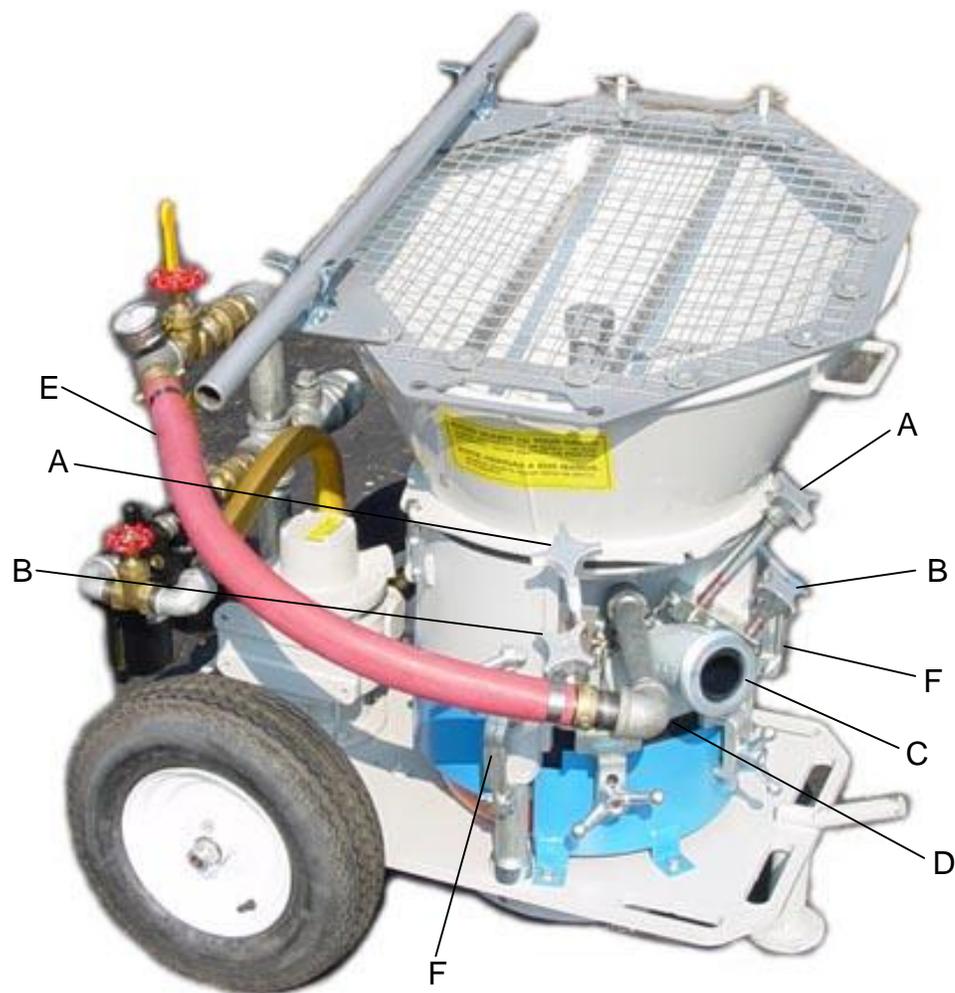


FIGURE 3

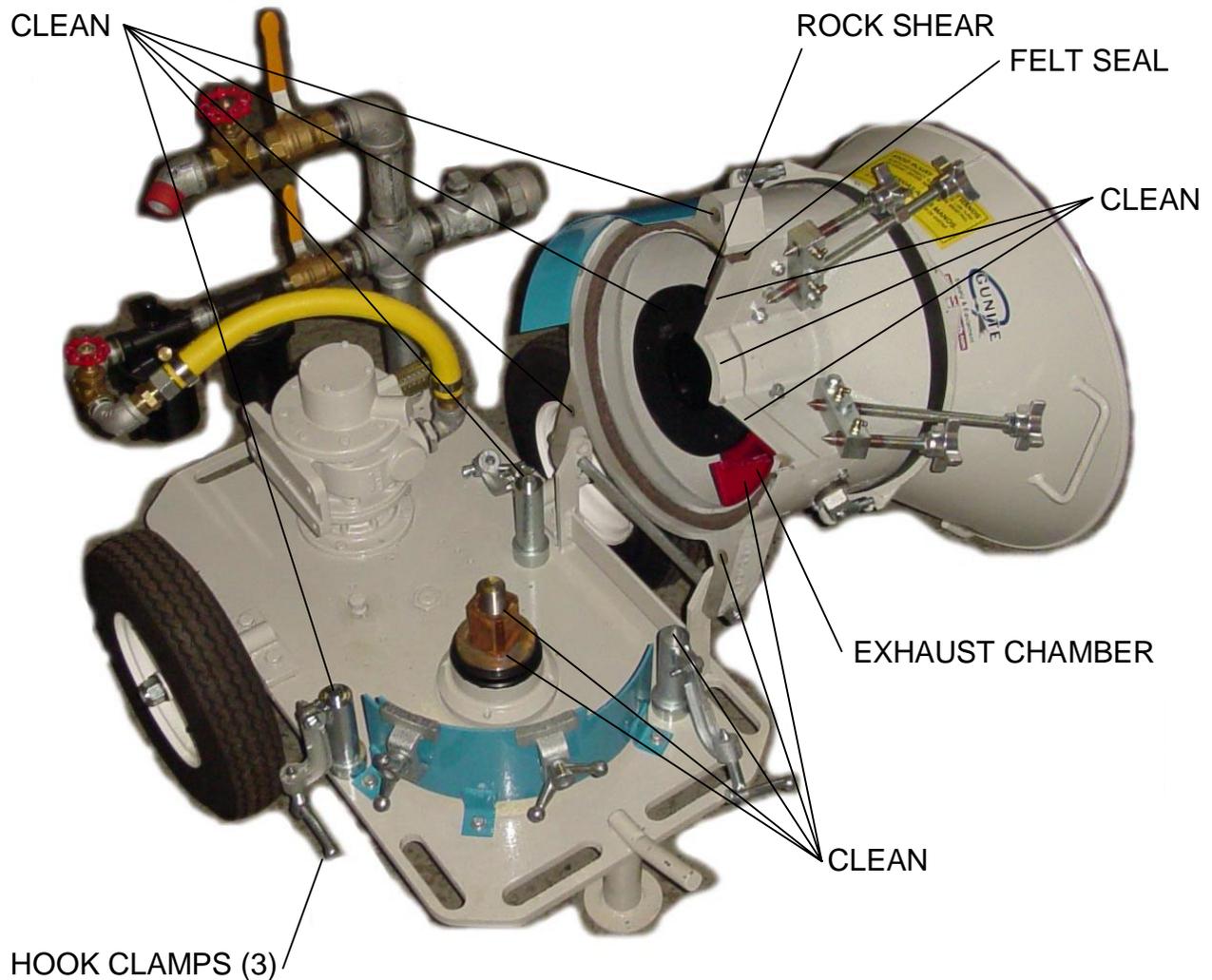


FIGURE 4

4. Remove the screen and agitator – using a mallet to break loose the tight threads at the base of the agitator, spin it off in a counter clockwise direction.
5. Tilt away the hopper, this will expose the felt seal and the exhaust chamber which are mounted at the underside of the hopper. See Figure 4.
6. Clean out the exhaust chamber (Figure 4).
7. If the felt sealing ring around the underside of the hopper is hard and dry and packed with cement – remove it – saturate it with oil until it is flexible and reinsert it in the groove, or install a new felt seal saturated with #10 motor oil.

8. Lift off the feed bowl and wear plate. Look down into the pockets of the feed bowl to see if there is material from previous jobs built up in the bowl. Any build-up should be removed with a hammer and chisel or with a power chipping hammer. If you are using a flex-lite bowl, remove the bowl, turn it upside down and rap it sharply with a rubber mallet to jar the build-up loose. Turn the bowl right side up again and carefully remove the loosened material with a screwdriver.
9. Check the conditions of the top surface of the wear plate. It should be flat. A new or newly ground plate will yield better production, less dust and longer pad life.
10. Clean the mainshaft and hopper to baseplate contact areas. Use a putty knife or scraper and a wire brush. This will cause the feed bowl to remain flat and true as it turns under the wear pad.
11. Check the condition of the rock shear. The bottom corner away from the pad should be square and even. It can be flipped over or turned end for end for 4 new working surfaces before it must be replaced. The rock shear height will be adjusted after the hopper is back down and in place. See Figure 4.
12. Check the bowl and plate to verify that it is the correct model for your job conditions. See pages 28-34 for bowl and plate selections.

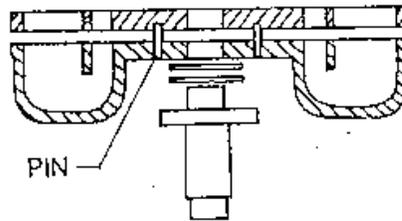


FIGURE 5

13. Install the drive and alignment pins (2) into the tapped holes in the feed bowl. Do not allow the pins to extend below the bottom of the bowl's center plate or they will drag on the main shaft housing. See Figure 5.
14. Place the feed bowl over the square drive shaft.
15. Wipe the top surface of the bowl with a clean rag and a light coat of oil. Clean and oil the bottom surface of the wear plate. Some operators apply a thin coat of #2 Permatex (non-hardening) or silicon sealant between the bowl and plate. This practice is recommended only if the sealant is spread very thin and very evenly so that the plate will run flat.
16. Lay the plate on the bowl and rotate slightly as required to align the webs. Tap the plate down with wooden blocks. Do not hit the plates with a hammer. They are very hard (to resist wear) and somewhat brittle.

17. Tilt the hopper back down and clamp into place with the three (3) hold down clamps (Figure 3, item F).
18. Secure the bowl and plate with the agitator in a clockwise direction. Snug it up with a light hammer blow on the agitator blades. The flange must sit down far enough to securely clamp the bowl and plate down against the drive shaft flange. If the threads bottom out before the flange contacts the plate you must remove the feed bowl and place a thick or thin shim(s) to make the required space so that the agitator shaft tightens securely against the top of the plate. See Figure 6.

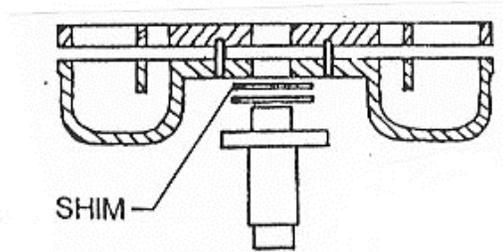


FIGURE 6

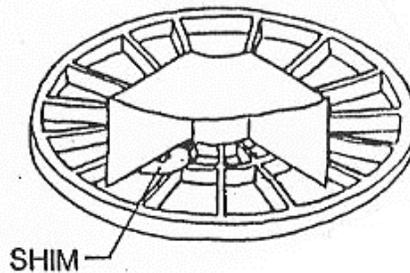


FIGURE 7

19. Check the clearance between the hopper base and the wear plate. If a shim (.080) can be inserted between the plate and the hopper opposite the wear pad lip slot, add a shim under the material bowl. See Figures 6 & 7.
20. Check/set the clearance between the rock shear and wear plate by slipping a thin shim (.030) or a business card between the plate and the shear. Loosen the rock shear bolts and adjust as necessary. Re-tighten bolts.
21. Using a rod as shown in Figure 8, push the felt seal down gently against the top surface of the wear plate all the way around the bottom of the hopper.

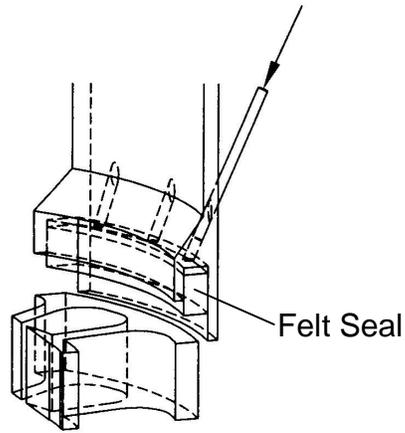


FIGURE 8

22. Install the wear pad. The lip goes under the hopper base on the right side. Press the pad into the wedge shaped cavity so that it seats against the hopper all the way around and rests on the wear plate with the rubber side down. See Figure 9.

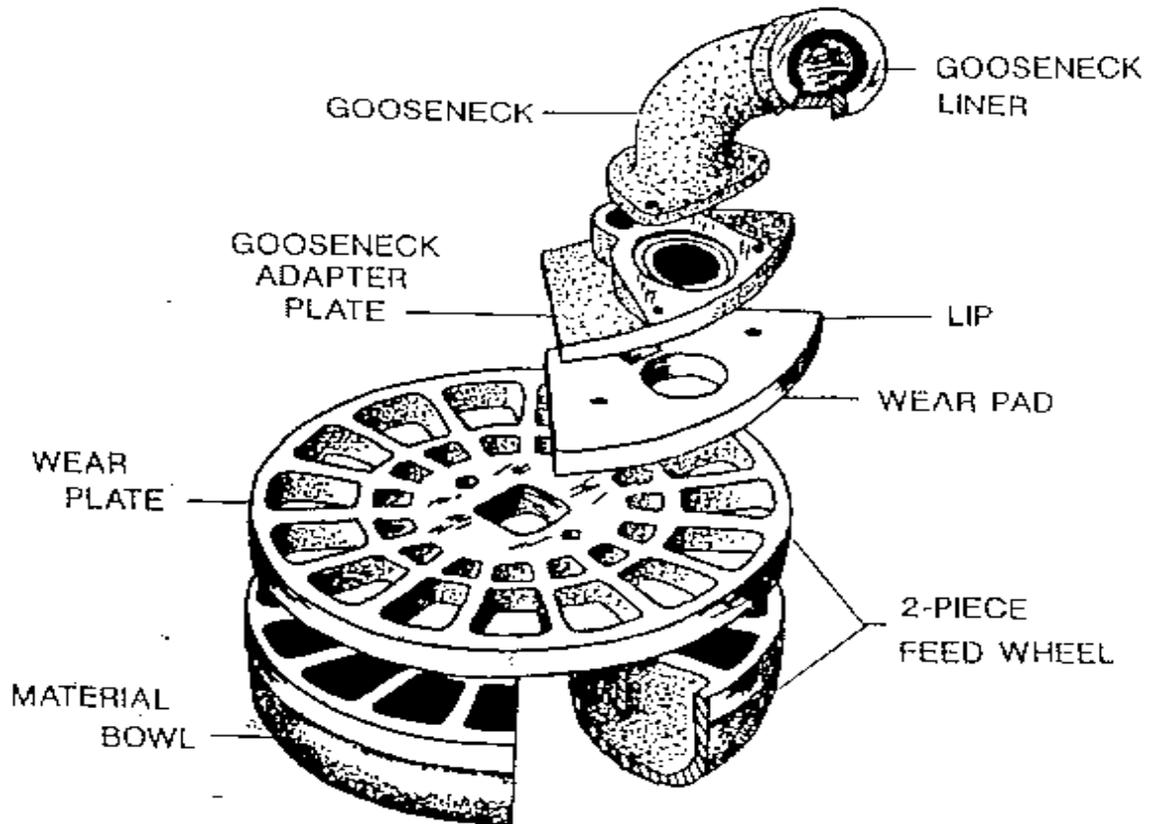
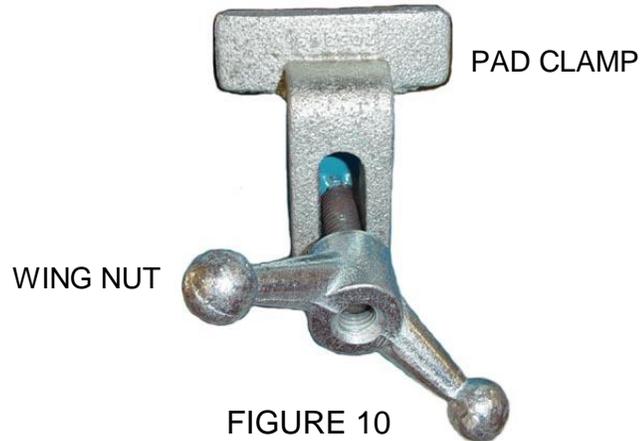
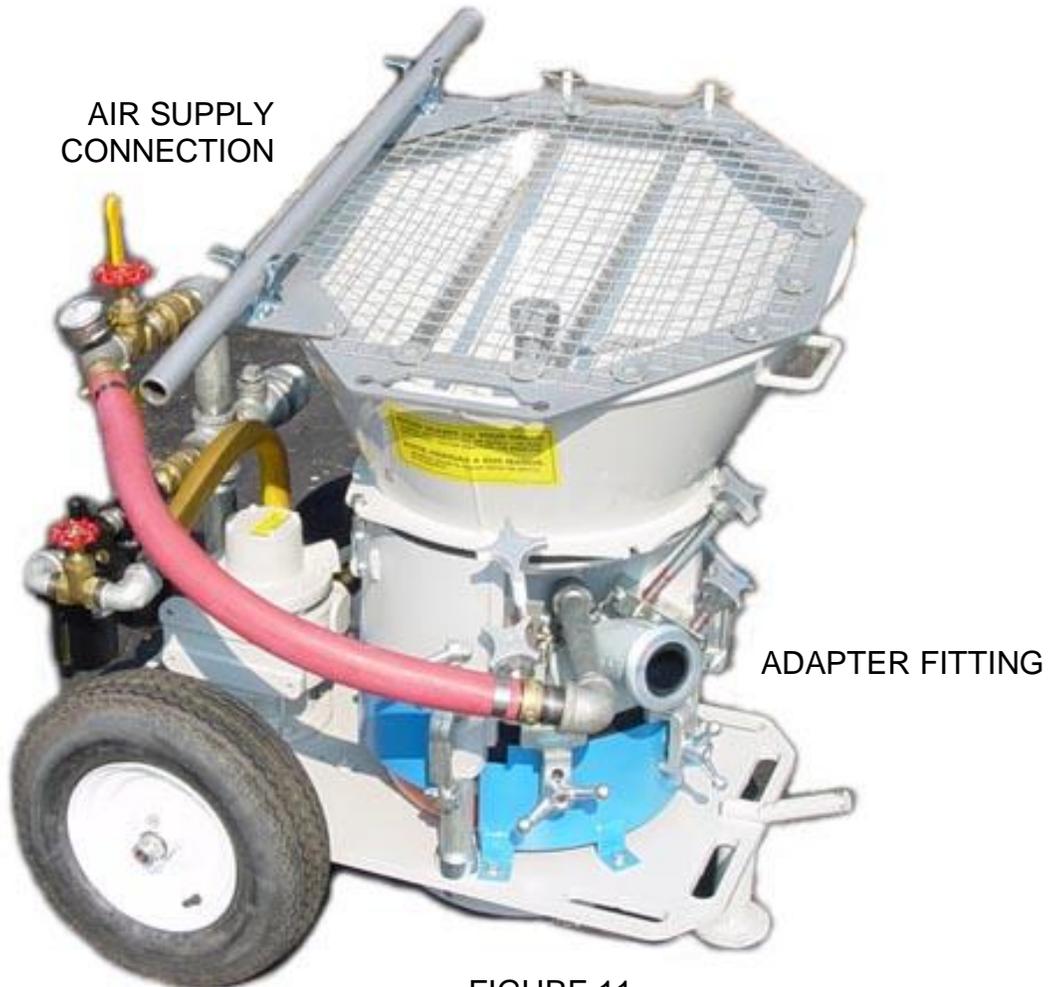


FIGURE 9

23. Place the gooseneck, gooseneck liner and adapter plate assembly down on the wear pad. Adjust the four pad hold down screws, down against the adapter plate to where they just touch. Tighten each of the four screws  $\frac{1}{4}$  turn. Turn the two horizontal pad clamps up, as shown in Figure 10, and tighten the wing nuts hand tight against the front of the pad.



24. Connect the air supply hose (Figure 3, item E) to the gooseneck adapter fitting (Figure 3, item D) if disconnected in step 2. See Figure 11.



25. Install the screen on top of the receiving hopper. Check to verify that the screen is in good repair.

Now all you need are:

1. A compressor to supply air (see page 6 for compressor sizing) or the optional hydraulic power source.
2. A hose and nozzle to convey and apply the material.
3. A water hose to the nozzle. When the available water pressure is less than 50 P.S.I. at a rate of 420 G.P.H. flow rate, a water booster pump will probably be needed. A minimum nozzle pressure of 15 PSI above the operating pressure at the gun should be maintained with water flowing.
4. Material to shoot.
5. A crew to apply and finish the material.

## ON THE JOB

### Set Up:

1. Review page 10, "TO SET UP THE GUN FOR A JOB."
2. Turn the two (2) control valves, "A" and "C", to full off positions, Fig. 12

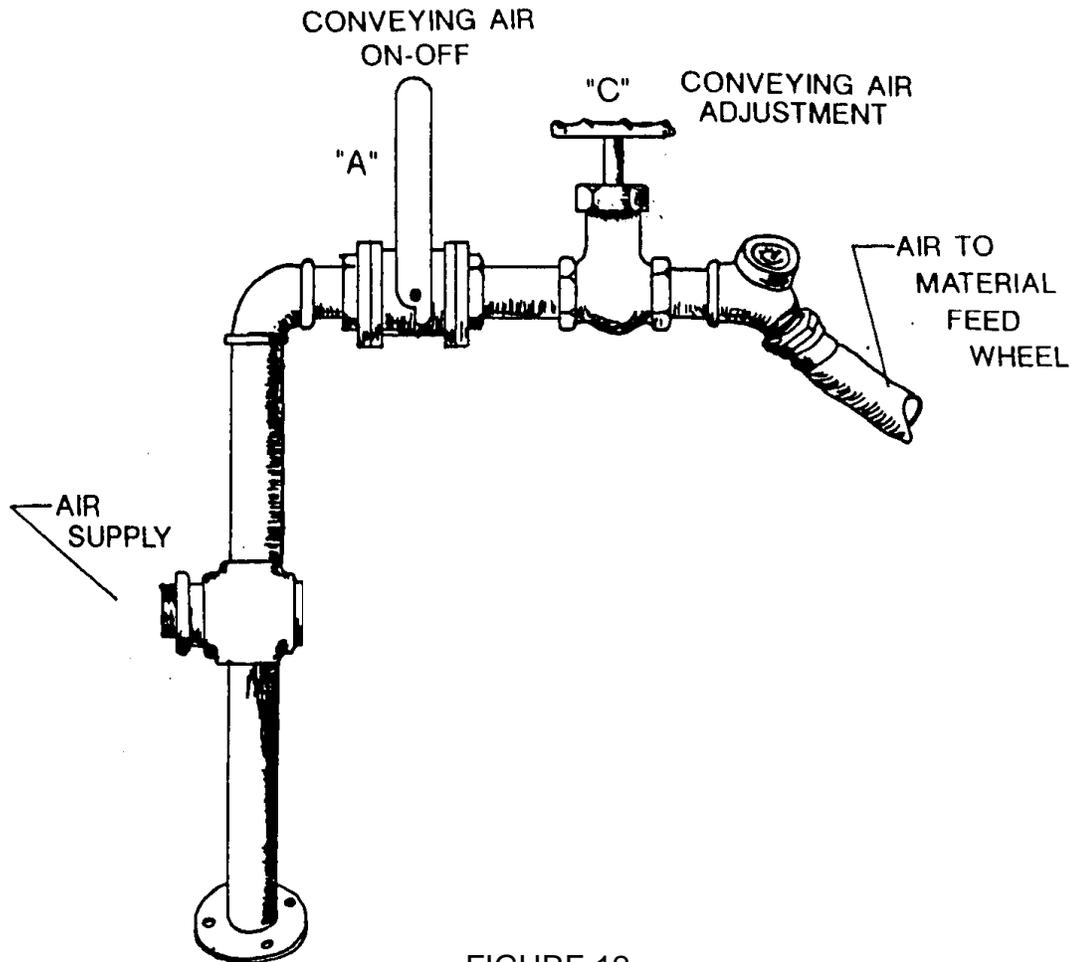


FIGURE 12

Note: The ball valve "A" is used to start and stop the gunning operation: the gate valve "C" is used to adjust the amount of conveying air. This system allows the operator to adjust the airflow to the best operation setting and then to stop and start the shooting as often as necessary without losing the adjustment.

3. Connect the following:
  - a) An airline from the compressor to the gun. We recommend the use of safety chains around all couplings.
  - b) A conveying hose from the gun to the job face (see page 45 for size of hose recommended).

- c) A nozzle at the end of the conveying hose (see pages 46-49)
- d) A water hose from an adequate supply source (pressure and volume). If water pressure is low or pipes and valves are small, a water booster pump will be required. Minimum required pressure is 50 P.S.I. at a flow rate of 420 G.P.H. A minimum nozzle pressure of 15 PSI above the operating pressure at the gun should be maintained with water flowing.
- e) A hydraulic power supply to drive the motor.  
12 gpm maximum flow at 1800 psi relief pressure

4. Also required:

- a) An experienced nozzle man. Both the speed and quality of the job are controlled, at a great extent, by the nozzle man. He will determine the amount of water in the mix, the nozzle angle for penetration around rebar, the sequence of application, the rebound losses and labor, and the amount of finishing labor required.
- b) A reliable source of material which has a consistent moisture content and fineness modulus (amount of fine material, dirt, clay, etc.).
- c) A system for communicating between the nozzle man and the man loading the gun. This can be voice, headset or hand signals, but it **MUST BE CLEARLY UNDERSTOOD**. The nozzle man needs to be able to say: "Start," "Stop," "More material, " and "Less material."

Note: This is important not only for the efficiency and economy of the job, but for the SAFETY of the nozzle man and the men around.

Now the system is ready for shooting material!

## START UP

BE SURE ALL VALVES ARE IN THE OFF POSITION

1. Load the gun approximately half full just above the hopper cone flange level, Figure 13.

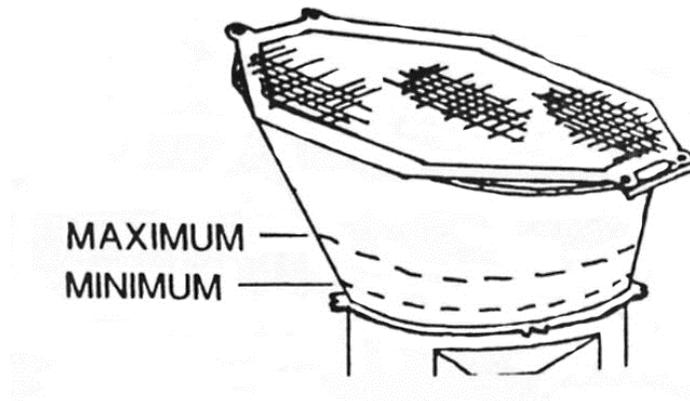


FIGURE 13

2. When the nozzle man says "Start"...
3. Turn Valve "A" full "On" (nothing will happen). See Figure 12.
4. Gradually turn on Valve "C" approximately one full turn. This will send air only to the nozzle.
5. The nozzle man starts water flow and asks for material flow.
6. Send hydraulic power to the drive motor. This will start the feed wheel assembly turning and feeding material into the air stream going to the nozzle.
8. As the nozzle man calls for more or less material, Valves "C" and the hydraulic supply will have to be adjusted together:
  - a) To increase production, first increase air (Valve "C"), then increase material (hydraulic flow).
  - b) To decrease production, first decrease material (hydraulic flow) then decrease air (Valve "C").

## WHILE THE MACHINE IS IN OPERATION:

1. Keep the material at the level shown in Figure 13.
2. Listen for flow of material and air in the conveying hose: smooth flow means there is enough air. If the flow begins to pulse, increase air or decrease material.
3. Inspect hose regularly to see that it is laying smoothly around corners, over walls, etc. Sharp bends will cause “plug ups” or fast hose wear or both.

## TO STOP TEMPORARILY – MID-JOB:

1. Do not touch gate Valve “C”, Figure 12.
2. Turn off the hydraulic power supply, the material. Wait 10 seconds for the hose to clear and then turn off Valve “A”.

## TO RESTART (No adjustments are necessary)

1. Start the air, Valve “A”, then start material, hydraulic power supply.
2. Watch for dust blowing out around the gooseneck adapter plate. To reduce or eliminate the dust blowing out and the wear caused by this condition:
  - a) Tighten, a little, the horizontal pad clamps to wedge the wear pad into the pie shaped opening in the hopper housing.
  - b) Tighten the vertical clamps lightly, or until you hear the clamp pressure on the wear pad begin to slow down the bowl rotation.
  - c) If the above does not stop the dust blowing through, shut down the machine entirely, bleed off any residual air and remove the gooseneck adapter and the pad. Clean the housing in the area. Check the conditions of the wear pad. If it has too much wear, deep grooves as in Figure 14, a new or newly reground pad is required to stop the dust, keep production up and reduce plate wear.

Plate Wear

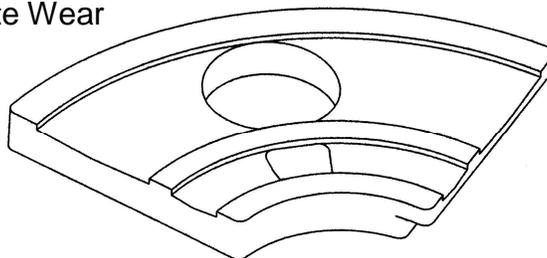


FIGURE 14

3. Regularly check the condition of the wear pad and the wear plate for these grooves. As they get deeper, these grooves will greatly increase the rate of wear and reduce the efficiency of the machine, Figure 15.

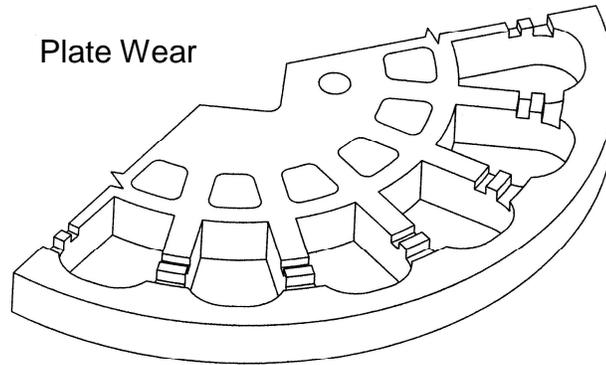


FIGURE 15

4. Use the screen over the hopper intake. This is very important as the screen will keep out oversize rock, if caught between the rock shear and the wear plate can stop the gun and your job until it is removed. Keep the screen in good repair. **DO NOT** rest the ready mix chutes or mix mobile augers on the screen.

**PAY CLOSE ATTENTION TO ALL SAFETY WARNINGS AND DECALS ASSOCIATED WITH YOUR MACHINE. THEY ARE FOR YOUR PROTECTION!**

### **GENERAL MAINTENANCE**

Daily:

1. Watch the condition of the wear pad and plate – replace the pad as soon as grooves develop as in Figure 16. Once the wear pad develops a groove, sand particles will continually blow and drag through this groove, wearing the plate.

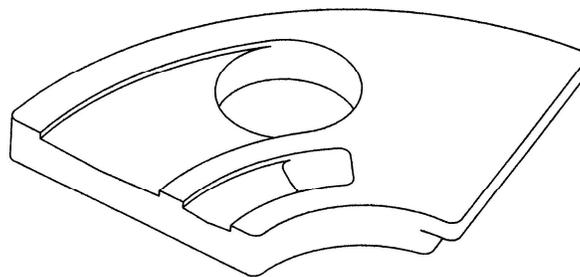


FIGURE 16

A pad in good condition will:

- a) Make the gun shoot more efficiently and use less air.
- b) Make the wear plate last longer.
- c) Cut down on dust in the pad area.

Daily:

- 2. Watch the wear plate. When grooves develop the plate should be replaced with a new one and worn plate reground by Gunite Supply or your local Blanchard grinding shop, Figure 17.

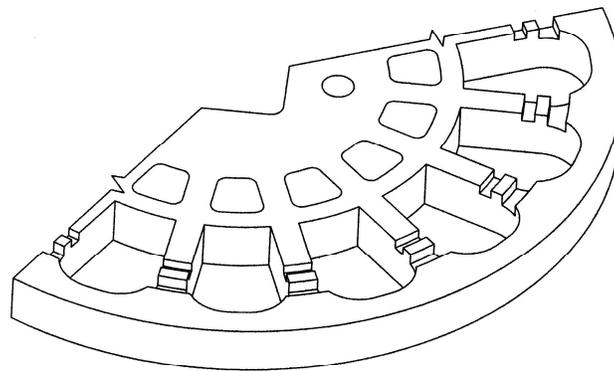


FIGURE 17

Add a shim under the bowl, of a thickness equal to the material removed from a reground plate. See Figure 18.

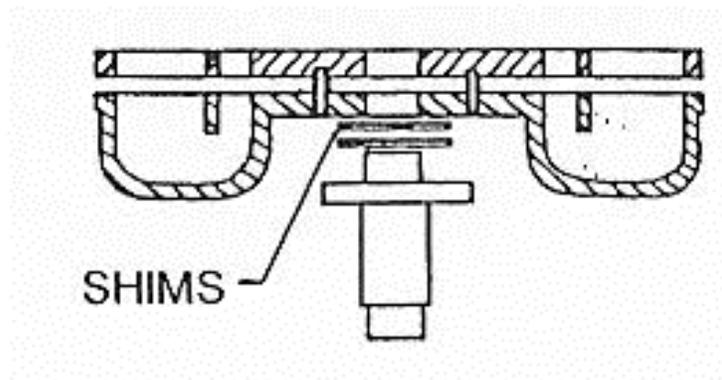


FIGURE 18

Daily:

3. Keep the felt seal lubricated and pressed down against the wear plate.
4. Clean the pockets of the material feed bowl. If this is not done the build up of cement will accumulate restricting the flow path, thereby reducing production. The buildup also gets harder and harder to remove the longer it is allowed to cure.
5. Clean the cement off of the machine so that it will not build up. Accumulated build up on the sides of the bowl and on the inside of the hopper base will eventually cause the bowl to drag on the hopper and slow the gun. See Figure 39 on page 46 for nozzle cleanup.

Weekly:

6. Check the screen on the gun. Keep it in good repair.
7. Adjust the rock shear and keep it in good repair.
8. Grease the pad clamp screws by applying some grease on the exposed threads to avoid cement dust buildup.

LUBRICATION

LUBE POINT	WHAT TO DO / HOW OFTEN	LUBRICANT
Main Shaft Bearing	No lubrication required.	
Felt Seal	Saturate every 25 hours of operation.	#10 Motor Oil
Pad Adjustment	Four lube fittings at threaded block – lube weekly to flush out cement dust.	Any Industrial Bearing Grease

## HAVING PROBLEMS?

Problem 1: Less than normal production (volume) of material to the nozzle.

What to do: Check feed bowl RPM. It should rotate at:

20 RPM for low production

35 RPM for medium production

50 RPM for high production

Running over 50 RPM will cause production to drop off because the material will go past the valve plate so fast that it will not empty. This is most severe with wet or dirty sand.

What to do: Material too wet causes:

1. Buildup in the bowl which must be cleaned out regularly.
2. Bridging in the bottom of the hopper and resulting in interrupted flow to the nozzle.
3. Buildup in the gooseneck or in the hose which restricts air flow and will cause line plugs.

What to do: Use sand which has no more than 6% moisture. Cover the sand pile during wet weather.

Problem 2: Uneven bowl rotation speed; loping and pulsation at the nozzle.

What to do: Wear plate is tilted. Clean all junctions between drive shaft flange and bowl; between bowl and plate.

What to do: Verify that the agitator is turned down tight.

What to do: Verify that there is no foreign material between the top surface of the bowl and the wear plate to tilt it; verify no foreign material under the hopper base or tie-down pads.

What to do: Clean off the surface of the wear plate which is in direct contact with the feed bowl. Do not flip the wear plate if it has been used unless it has been blanchard ground to a variance of .005 or less.

Problem 3: Material piling up on the base plate of the gun around the outside of the bowl.

What to do: Oil and press down the felt seal or replace.

Problem 4: Bucking and surging of conveying hose and nozzle. This is ordinarily caused by having too much material for the amount of air to keep it moving down the hose.

What to do: Add more conveying air (Open Valve "C", Figure 12 on page 17, gradually) until it settles down.

What to do: Cut back on material (reduce hydraulic flow gradually).

What to do: If the air (Valve "C") is wide open and you have to run below 20 RPM bowl speed to get smooth output, you must:

1. Get a bigger compressor, or
2. Use a smaller hose, or
3. Use a lower production (smaller) bowl, see pages 28-34.
4. A combination of the above.

What to do: Check for bridging in the hopper over the feed wheel. This will cause the same symptoms.

Problem 5: Plug up in the material conveying hose:

What to do: Turn the air off! Start at the nozzle end of the hose and feel the hose, moving toward the gun. When you find where the hose is hard, shake and/or hammer the hose until the hard pack is broken loose, then start the air and blow the line clear.

What to do: If the hose is nearly full of material along its entire length the above procedure may not work. It may jam again each time you start the air. If this occurs, the only solution is to disconnect all couplings and manually shake most of the material out of the hose.

Problem 6: Wear (rounding) of the wear plate ribs and grooves in the plate.

What to do: Wear will round the tops of the ribs and also reduce the height of the ribs which causes air leaks from cavity to cavity, Figure 19.

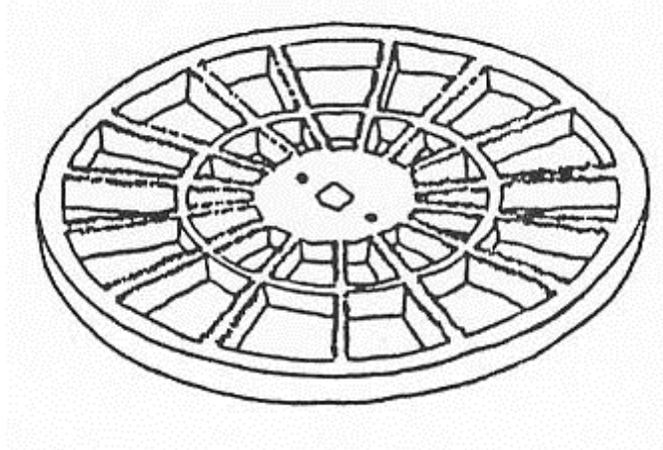


FIGURE 19

What to do: The wear plate should then be resurfaced by Blanchard grinding. Hold the total flatness tolerance to .005. Grind off just enough material to produce square, sharp edges on the ribs and partitions.

What to do: After grinding of the wear plate, shims (Part Number 705419) must be inserted beneath the feed bowl in order to raise the wear plate and feed bowl to its original position, Figure 20.

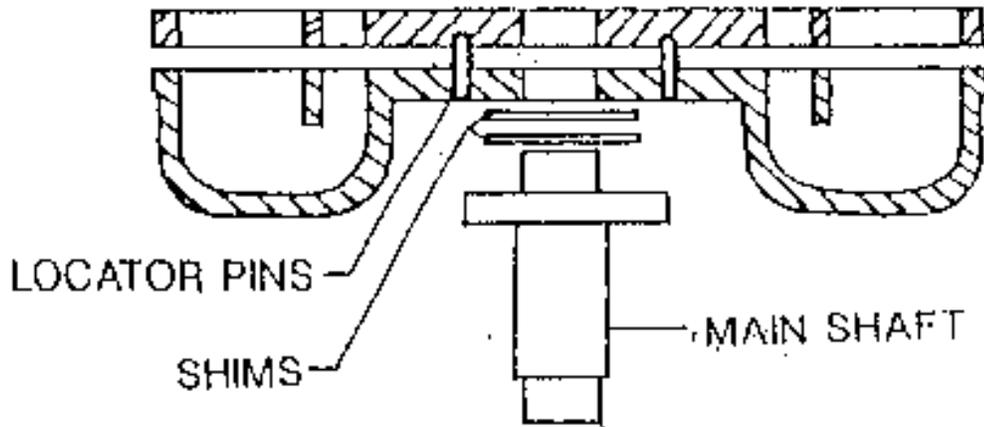


FIGURE 20

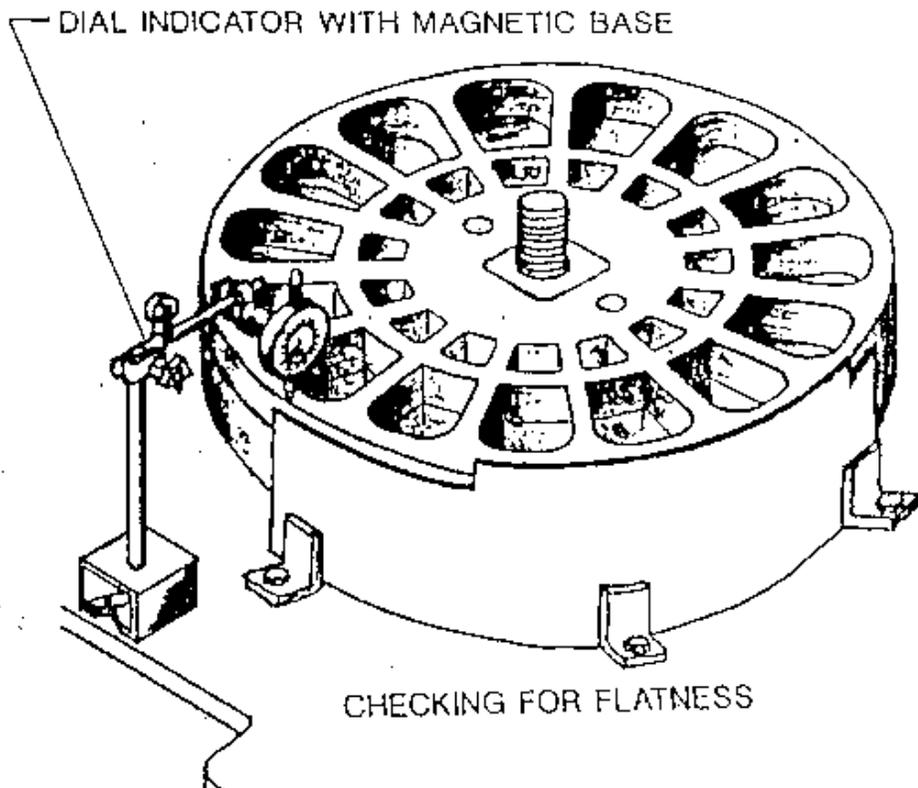


FIGURE 21

## NOTES

**PARTS**

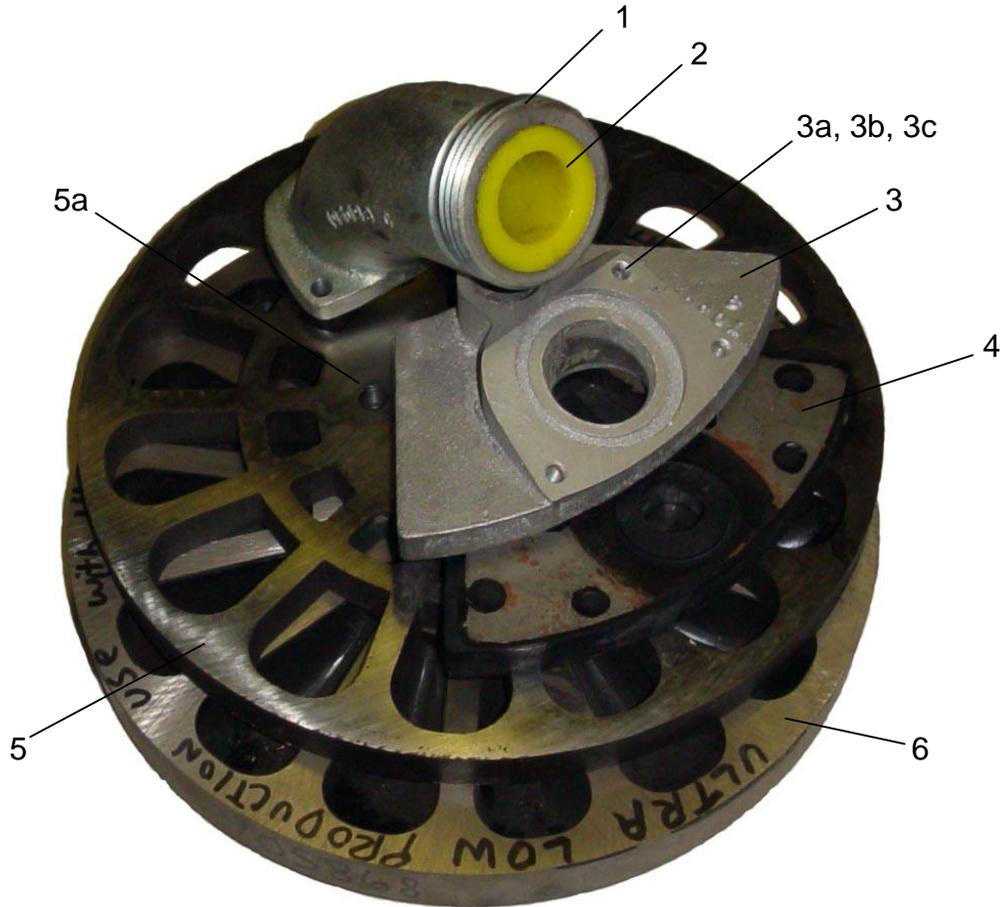


FIGURE 22

ULTRA LOW PRODUCTION  
 $\frac{3}{4}$ " – 1" MATERIAL LINE  
 1/8 – 1 ½ TONS/HR [250 – 3000 LBS/HR]

NO.	PT.NO.	QTY	DESCRIPTION
1	705298	1	GOOSENECK
2	705349	1	GOOSENECK L INER
3	705303	1	GOOSENECK ADAPTER PLATE
3a	8041050	3	BOLT
3b	8177012	3	LOCKWASHER
3c	8172009	3	FLAT WASHER
4	705383	1	WEAR PAD
5	705453*	1	1" WEAR PLATE PREMIUM MTL.
5a	705395	2	LOCATOR PIN
6	705868	1	MATERIAL BOWL – HT METAL

\*Use of wear plate is optional. With the wear plate, output will still be below the low production feed system.

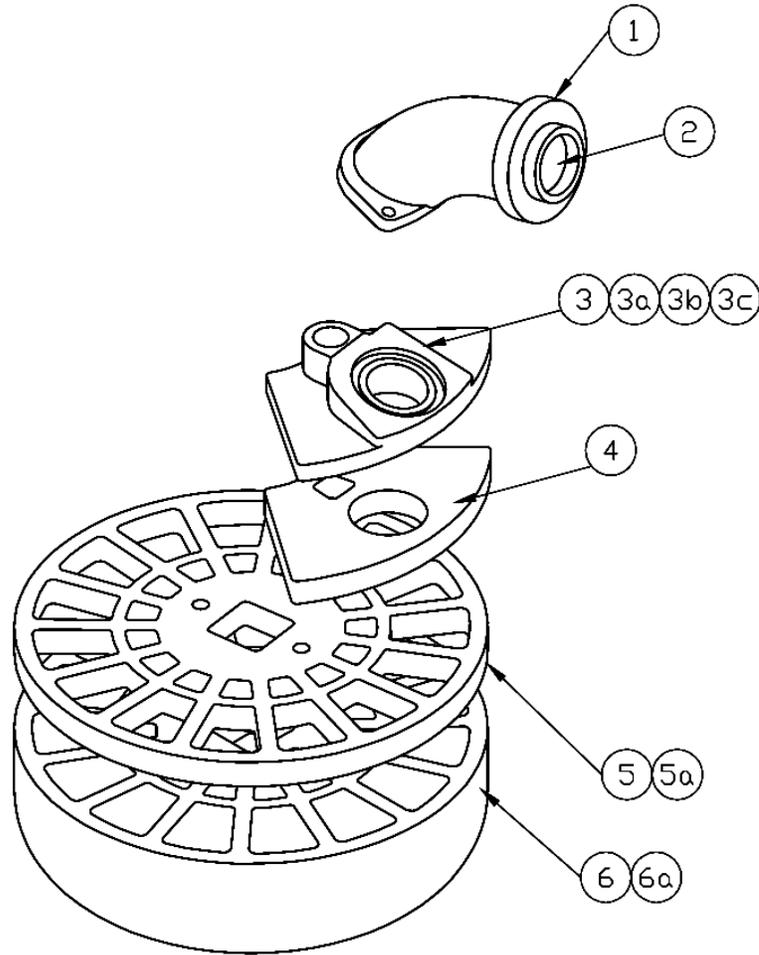


FIGURE 23

LOW PRODUCTION  
 ½ - 4 TONS/HR [1000 - 8000 LBS/HR]

NO.	PT. NO.	QTY.	DESCRIPTION
1	705298	1	GOOSENECK – 3 1/4"
2	705349	1	GOOSENECK LINER 1 1/2" ID
3	705094	1	GOOSENECK ADAPTER PLATE
3a	8041050	3	BOLT
3b	8177012	3	LOCKWASHER
3c	8172009	3	FLAT WASHER
4	705202	1	WEAR PAD
5	705453	1	1" WEAR PLATE-PREMIUM MTL.
5a	705395	2	LOCATOR PIN
6	705450	1	MATERIAL BOWL-FLEXITE (YELLOW)
6a	N/A		STEEL MATERIAL BOWL

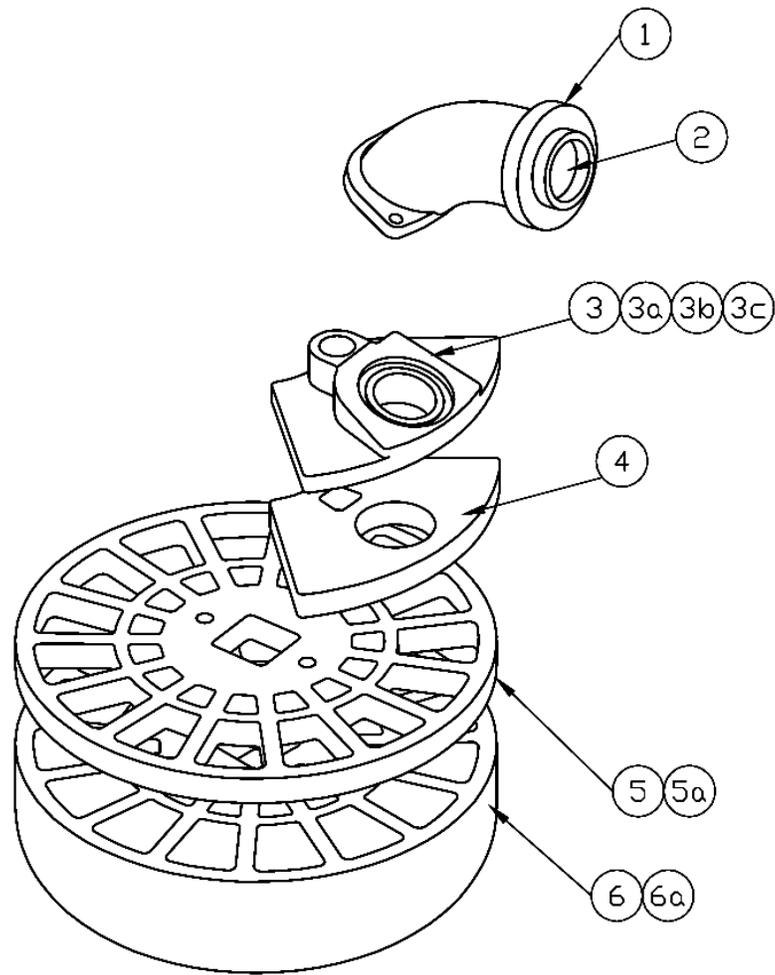


FIGURE 24

MEDIUM PRODUCTION  
 4 - 8 TONS/HR [8000 – 16000 LBS/HR]

NO.	PT. NO.	QTY.	DESCRIPTION
1	705298	1	GOOSENECK – 3-1/4"
2	705423	1	GOOSENECK LINER 1 1/2"ID
3	705094	1	GOOSENECK ADAPTER PLATE
3a	8041050	3	BOLT
3b	8177012	3	LOCKWASHER
3c	8172009	3	FLAT WASHER
4	705202	1	WEAR PAD
5	705453	1	1" WEAR PLATE-PREMIUM MTL.
5a	705395	2	LOCATOR PIN
6	705404	1	MATERIAL BOWL-FLEXLITE (RED)
6a	N/A		STEEL BOWL

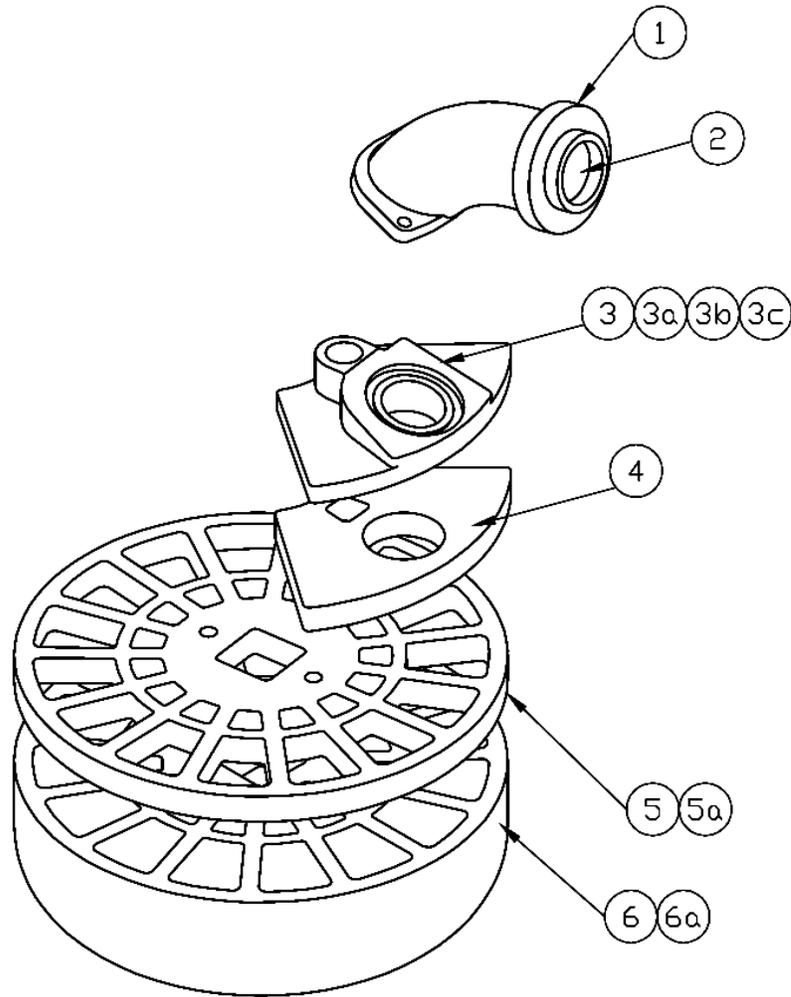


FIGURE 25

HIGH PRODUCTION  
8 - 14 TONS/HR [16000 – 28000 LBS/HR]

NO.	PT.NO.	QTY	DESCRIPTION
1	705093	1	GOOSENECK
2	705097	1	GOOSENECK L INER
3	705094	1	GOOSENECK ADAPTER PLATE
3a	8041050	3	BOLT
3b	8177012	3	LOCKWASHER
3c	8172009	3	FLAT WASHER
4	705202	1	WEAR PAD
5	705453	1	1" WEAR PLATE-PREMIUM MTL.
5a	705395	2	LOCATOR PIN
6	705461	1	MATERIAL BOWL-FLEXLITE (ORG)
6a	705444	1	MATERIAL BOWL - STEEL

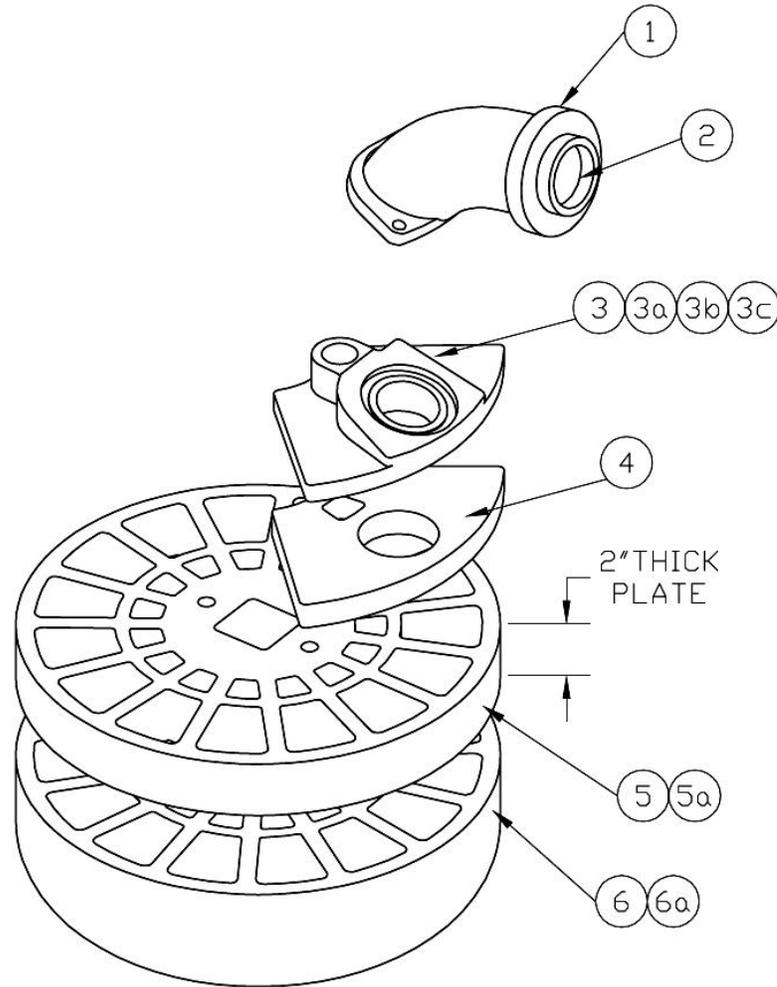


FIGURE 26

EXTRA HIGH PRODUCTION  
15 - 20 TONS/HR [30000 – 40000 LBS/HR]

NO.	PT.NO.	QTY	DESCRIPTION
1	705093	1	GOOSENECK
2	705097	1	GOOSENECK L INER
3	705094	1	GOOSENECK ADAPTER PLATE
3a	8041050	3	BOLT
3b	8177012	3	LOCKWASHER
3c	8172009	3	FLAT WASHER
4	705202	1	WEAR PAD
5	705454*	1	2" THICK WEAR PLATE
5a	705395	2	LOCATOR PIN
6	705461	1	MATERIAL BOWL-FLEXLITE (ORG)
6a	705444	1	MATERIAL BOWL - STEEL

\*See page 35 when adapting from a gun with a 1" wear plate.

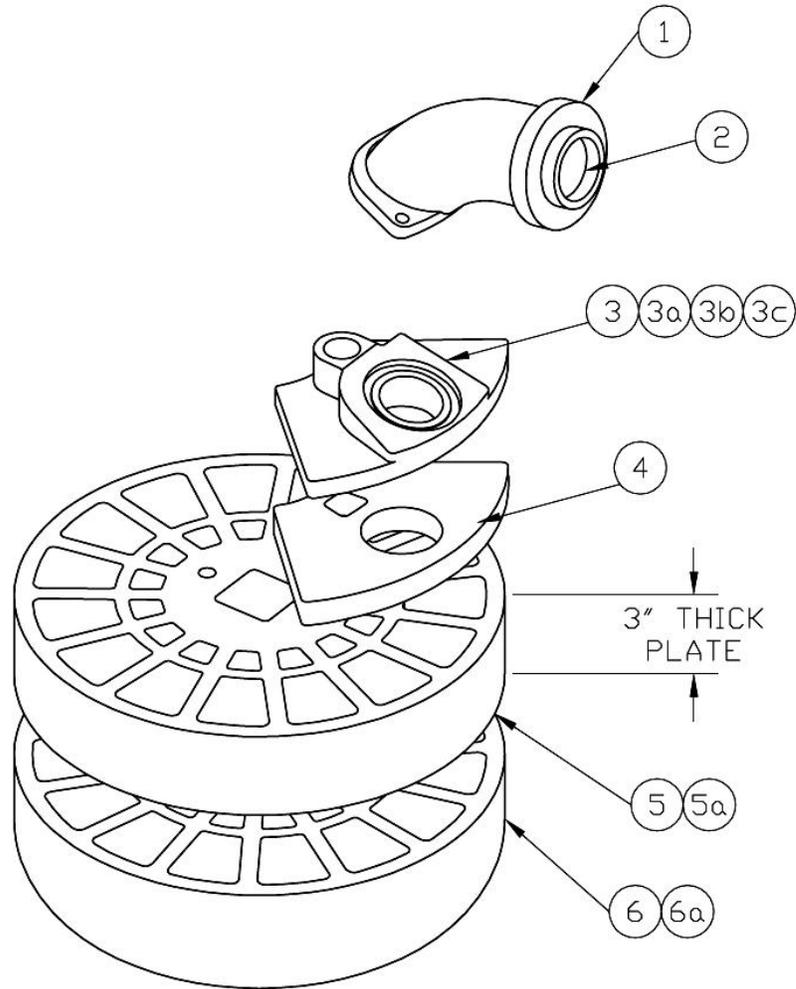


FIGURE 27

ULTRA HIGH PRODUCTION  
18 - 21 TONS/HR [36000 – 42000 LBS/HR]

NO.	PT.NO.	QTY	DESCRIPTION
1	705093	1	GOOSENECK
2	705097	1	GOOSENECK L INER
3	705094	1	GOOSENECK ADAPTER PLATE
3a	8041050	3	BOLT
3b	8177012	3	LOCKWASHER
3c	8172009	3	FLAT WASHER
4	705202	1	WEAR PAD
5	705681*	1	3" THICK WEAR PLATE ROUND CORNER
5a	705395	2	LOCATOR PIN
6	705461	1	MATERIAL BOWL-FLEXLITE (ORG)
6a	705444	1	MATERIAL BOWL - STEEL

\*See page 35 when adapting from a gun with a 2" wear plate.

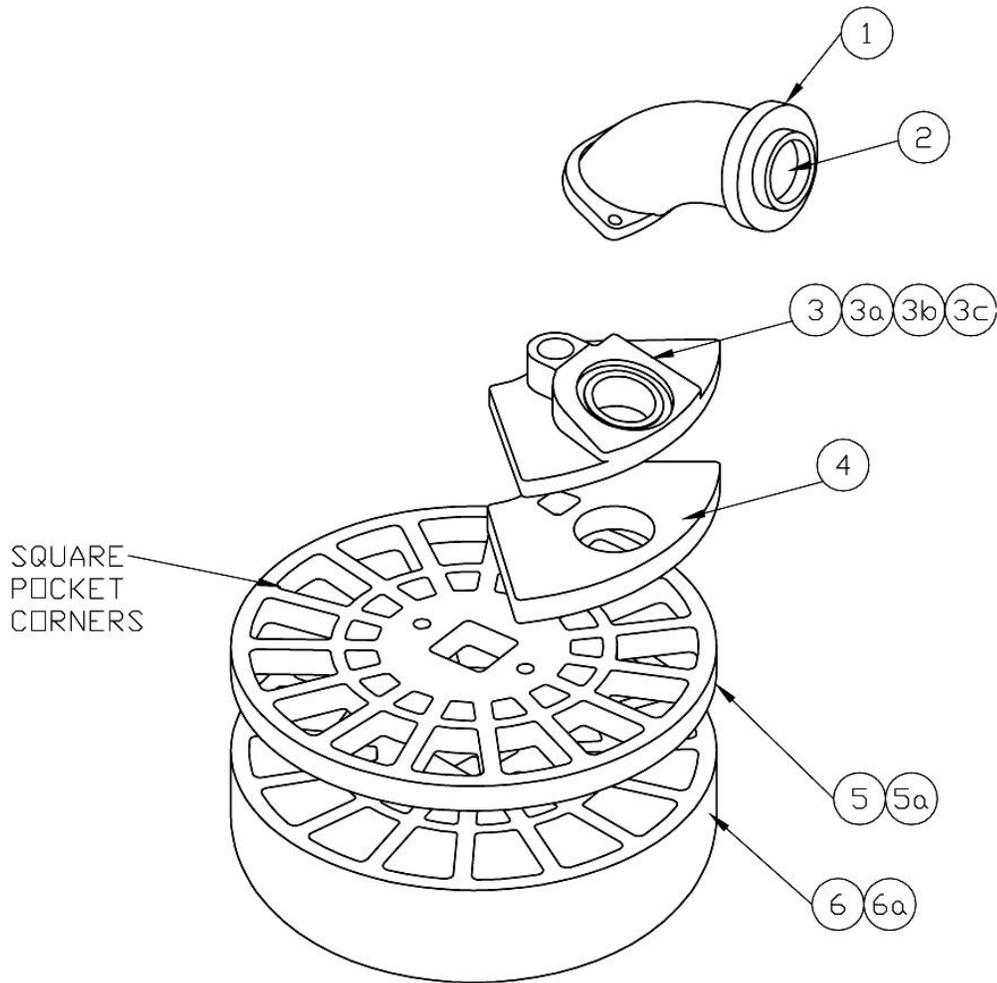


FIGURE 28

OPTIONAL MATERIAL FEED SYSTEM  
10 - 16 TONS/HR [20000 – 32000 LBS/HR]

NO.	PT.NO.	QTY	DESCRIPTION
1	705093	1	GOOSENECK
2	705097	1	2" GOOSENECK LINER
3	705094	1	GOOSENECK ADAPTER PLATE
3a	8041050	3	BOLT
3b	8177012	3	LOCKWASHER
3c	8172009	3	FLAT WASHER
4	705202	1	WEAR PAD
5	705091 OR 705554*	1	1" WEAR PLATE OR 2" SQ CORNER WEAR PLATE
5a	705395	2	LOCATOR PIN
6	705041	1	MATERIAL BOWL

\*See page 35 when adapting from a gun with a 1" wear plate.

## ADAPTING YOUR GUN FROM A 2" TO 3" WEAR PLATE

Step 1: Inspect hinge plate, which is welded to the base plate at the hopper pivot, to determine if your machine has two or three holes. See Figure 29. Guns built in 2006 or after should have the 3 hole hinge plate.

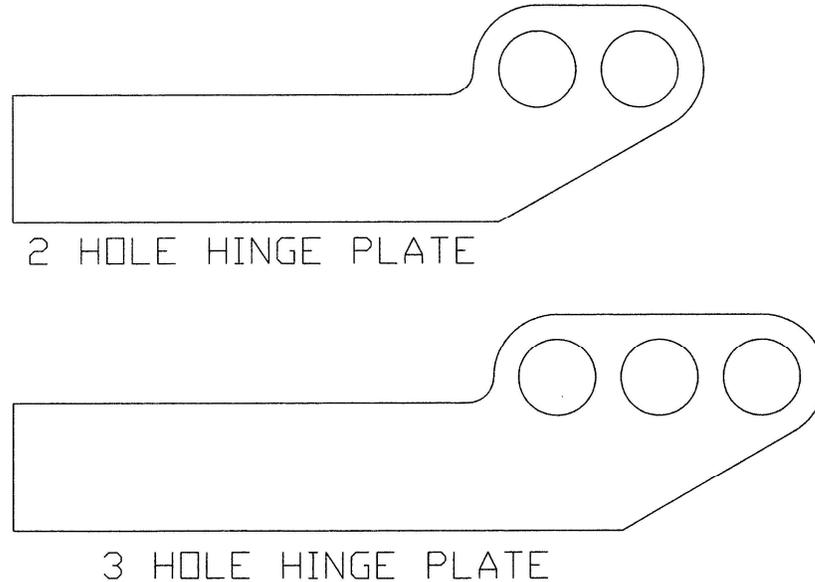


FIGURE 29

Step 2: If you have a 3 hole hinge plate, you will need to order a #705707 (3" Riser Kit) to adjust the hopper height. If you have a 2 hole hinge plate, you will need to order a #705707 (3" Riser Kit) and a #705710 (3" Hinge Kit) to adjust the hopper height.

Step 3: See Hopper Base Assembly, Figure 33, to choose a 3" agitator shaft or stub.

## ADAPTING YOUR GUN FROM A 1" TO 2" WEAR PLATE

If you will no longer be using a feed system with a 1" wear plate, you should order a #705738 (2" Riser Kit including a 2" pad strap) to adjust the hopper height. See Figure 35, item 3 for a pad strap reference. If you will be using feed systems with a 1" or 2" wear plate, you should order a #705737 (2" Riser Kit including a spacer for a 1" pad strap) to adjust the hopper height.

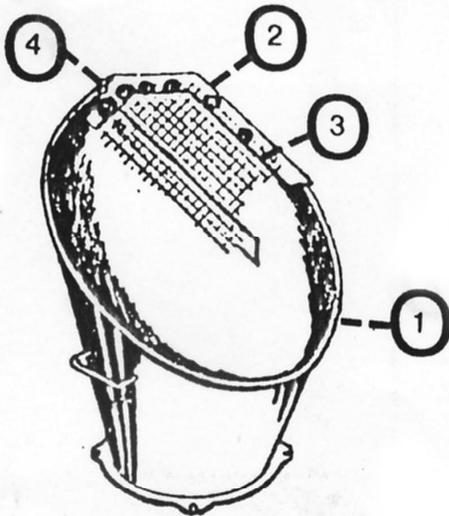


FIGURE 30

HIGH-BACK HOPPER CONE  
WITH SCREEN

NO.	PT.NO.	QTY	DESCRIPTION
1	705540	1	Hopper
2	705532	1	Screen Assy.
3	705508	1	Screen only
4	7901172	2	Securement Pins

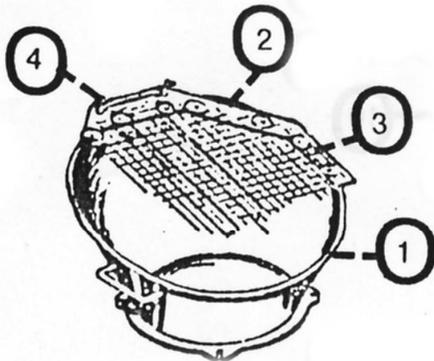


FIGURE 31

STANDARD HOPPER CONE  
WITH SCREEN

NO.	PT.NO.	QTY	DESCRIPTION
1	705506	1	Hopper
2	705532	1	Screen Assy.
3	705508	1	Screen only
4	7901172	2	Securement Pins

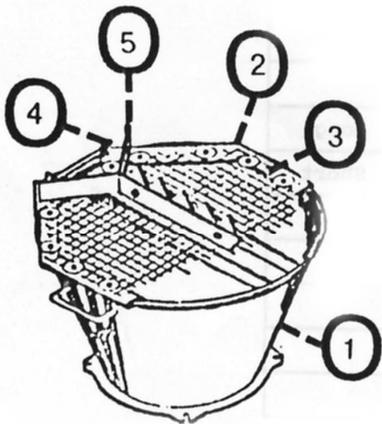


FIGURE 32

FLAT TOP HOPPER CONE  
WITH SCREEN and BAG BREAKER

NO.	PT.NO.	QTY	DESCRIPTION
1	705526	1	Hopper
2	705532	1	Screen Assy.
3	705508	1	Screen only
4	7901172	2	Securement Pins
5	705531	1	Bag Breaker

# HOPPER BASE ASSEMBLY

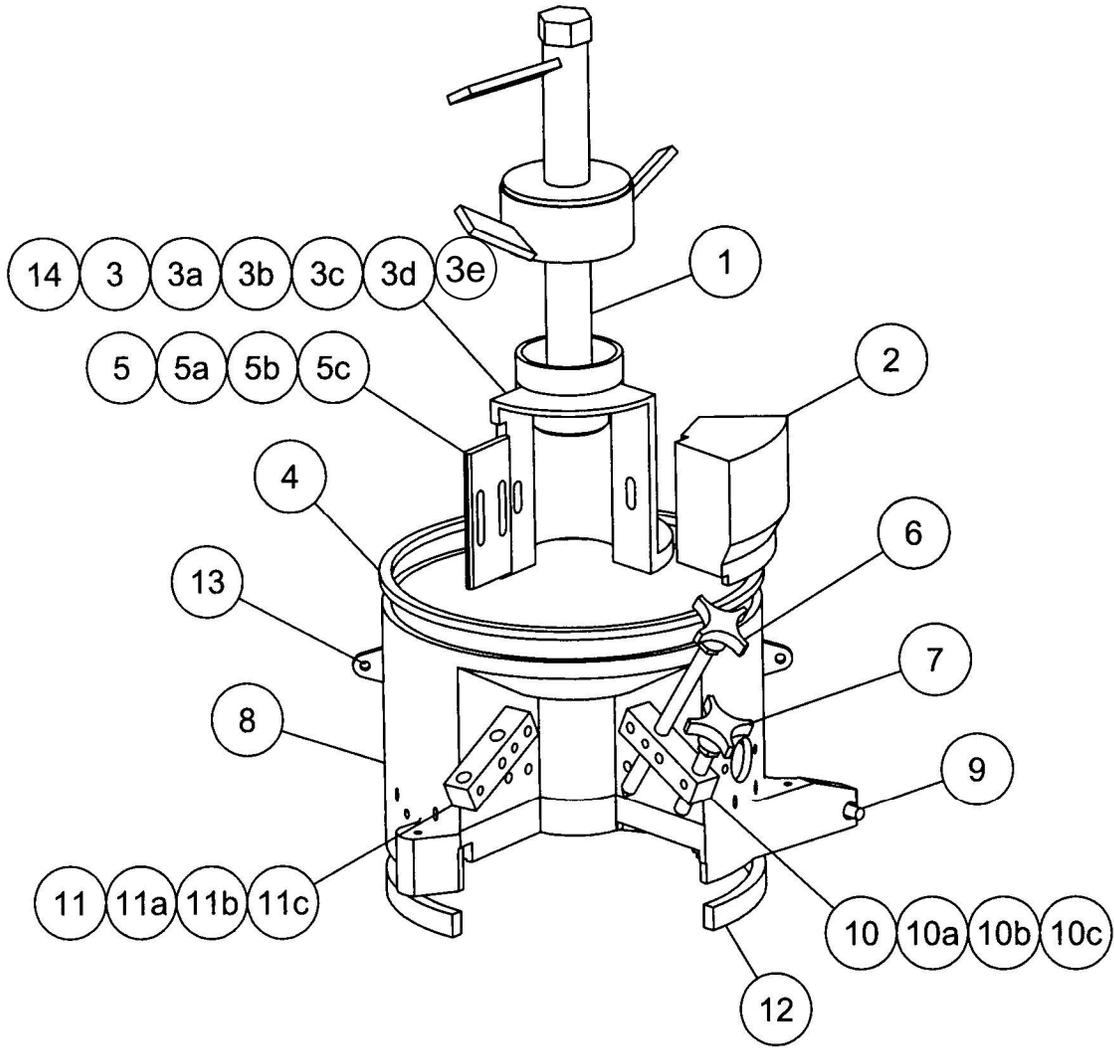


FIGURE 33

## HOPPER BASE ASSEMBLY

NO.	PT.NO.	QTY	DESCRIPTION
1a	705412	1	AGITATOR SHAFT (1" OR 2" WEAR PLATE)
1b	705867*	1	AGITATOR STUB (1" OR 2" WEAR PLATE)
1c	705684	1	AGITATOR SHAFT (3" WEAR PLATE)
1d	705697*	1	AGITATOR STUB (3" WEAR PLATE)
2	705379	1	EXHAUST CHAMBER
3	705354	1	POCKET SHIELD
3a	8024062	2	BOLT
3b	8177012	2	LOCKWASHER
3c	8142003	2	NUT
3d	705375	2	SHIELD BRACE
3e	8172009	2	FLAT WASHER
4	705376	1	RUBBER SEAL
5	705229	1	ROCK SHEAR
5a	8024059	2	BOLT
5b	8177012	2	LOCKWASHER
5c	8143003	2	NUT
6	705263	2	PAD HOLD DOWN SCREW - LONG
7	705264	2	PAD HOLD DOWN SCREW - SHORT
8	705084	1	HOPPER BASE
9	705502	1	PIVOT PIN
10	705331	1	SCREW LUG - RIGHT
10a	8041052	2	BOLT
10b	8177012	2	LOCKWASHER
10c	8172009	2	FLAT WASHER
11	705212	1	SCREW LUG - LEFT
11a	8041053	2	BOLT
11b	8177012	2	LOCKWASHER
11c	8172009	2	FLAT WASHER
12	705248	1	FELT SEAL
13	705702	3	YOKE ASSEMBLY
14	705578	1	POCKET SHIELD SUPPORT (OPTIONAL)

\*Allows hopper to tilt open without stub removal but does not agitate material.

YOKE ASSEMBLY  
705702

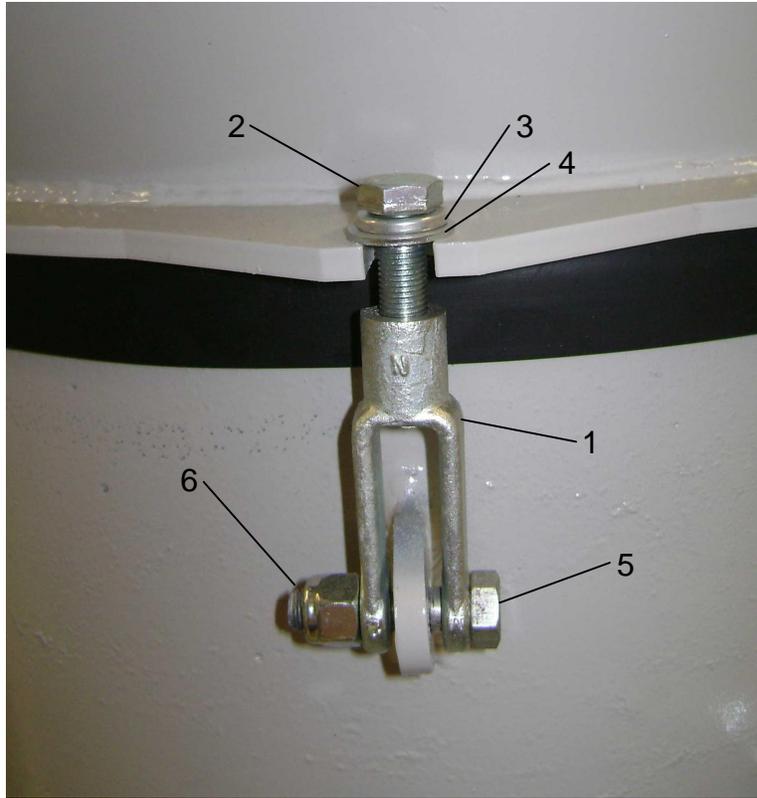


FIGURE 34

NO.	PT.NO.	QTY	DESCRIPTION
1	644220	1	YOKE
2	8045052	1	BOLT
3	8177012	1	LOCKWASHER
4	8172009	1	FLATWASHER
5	8041052	1	BOLT
6	8160003	1	LOCKNUT

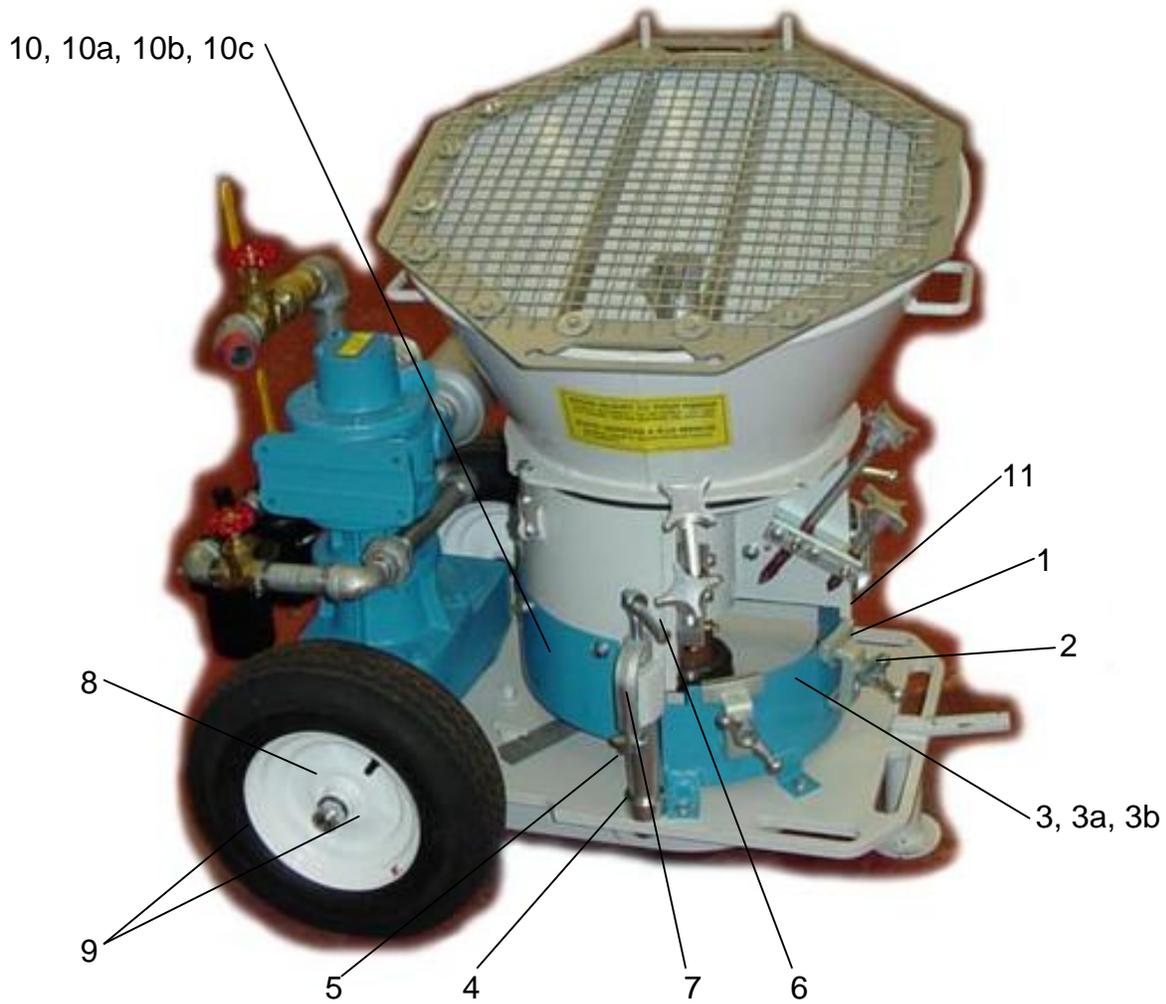


FIGURE 35

NO.	PT.NO.	QTY	DESCRIPTION
1	705363	2	PAD CLAMP
2	705441	2	WING NUT
3	705500 OR 705518	1	PAD STRAP-1" WEAR PLATE (5.5" OVERALL HEIGHT) OR PAD STRAP-2" WEAR PLATE (6.5" OVERALL HEIGHT)
3a	8041050	3	BOLT
3b	8177012	3	LOCKWASHER
4	705371	3	SPACER - 1"
5	705209	3	STAND
6	705254	3	TIE DOWN SCREW
7	705078	3	TIE DOWN CLAMP
8	705844	2	AXLE MOUNT
9	7704053	2	WHEEL & TIRE ASSY
10	705499	1	REAR SHIELD
10a	8041050	3	BOLT
10b	8177012	3	LOCKWASHER
10c	8172009	3	FLAT WASHER
11	9475004	1	SIDE EXHAUST PLUG

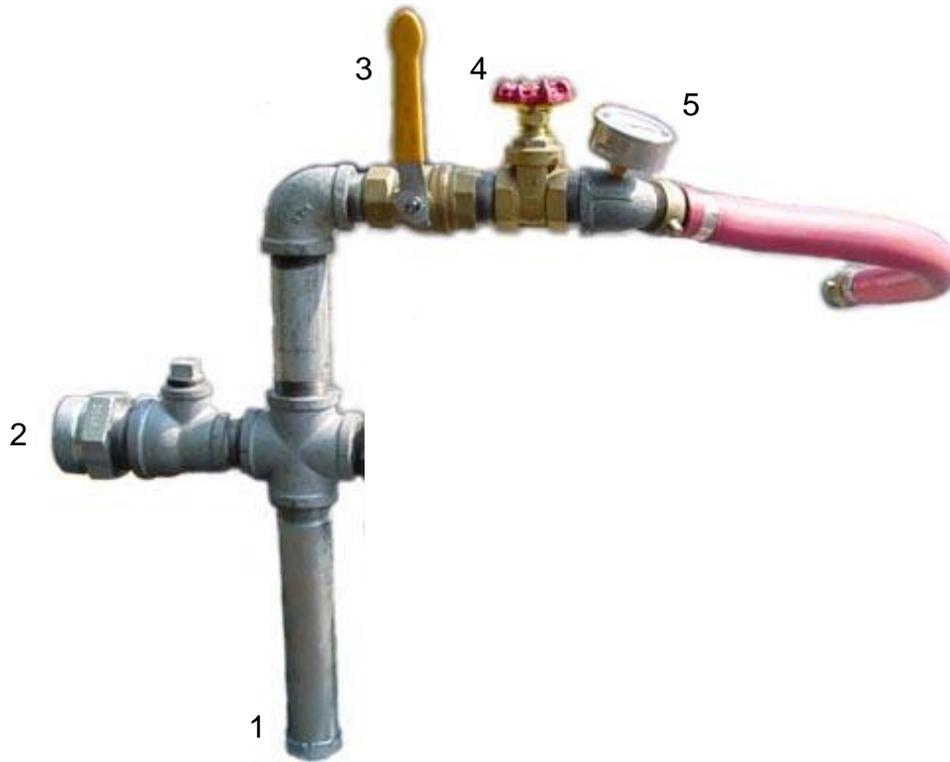


FIGURE 36

HYD ASSEMBLY

NO.	PT.NO.	QTY	DESCRIPTION
1	705505	1	BASE
2	7504159	1	AIR SPUD
3	7203062	1	1-1/4" BALL VALVE
4	7203075	1	1-1/4" GATE VALVE
5	613651	1	GAUGE

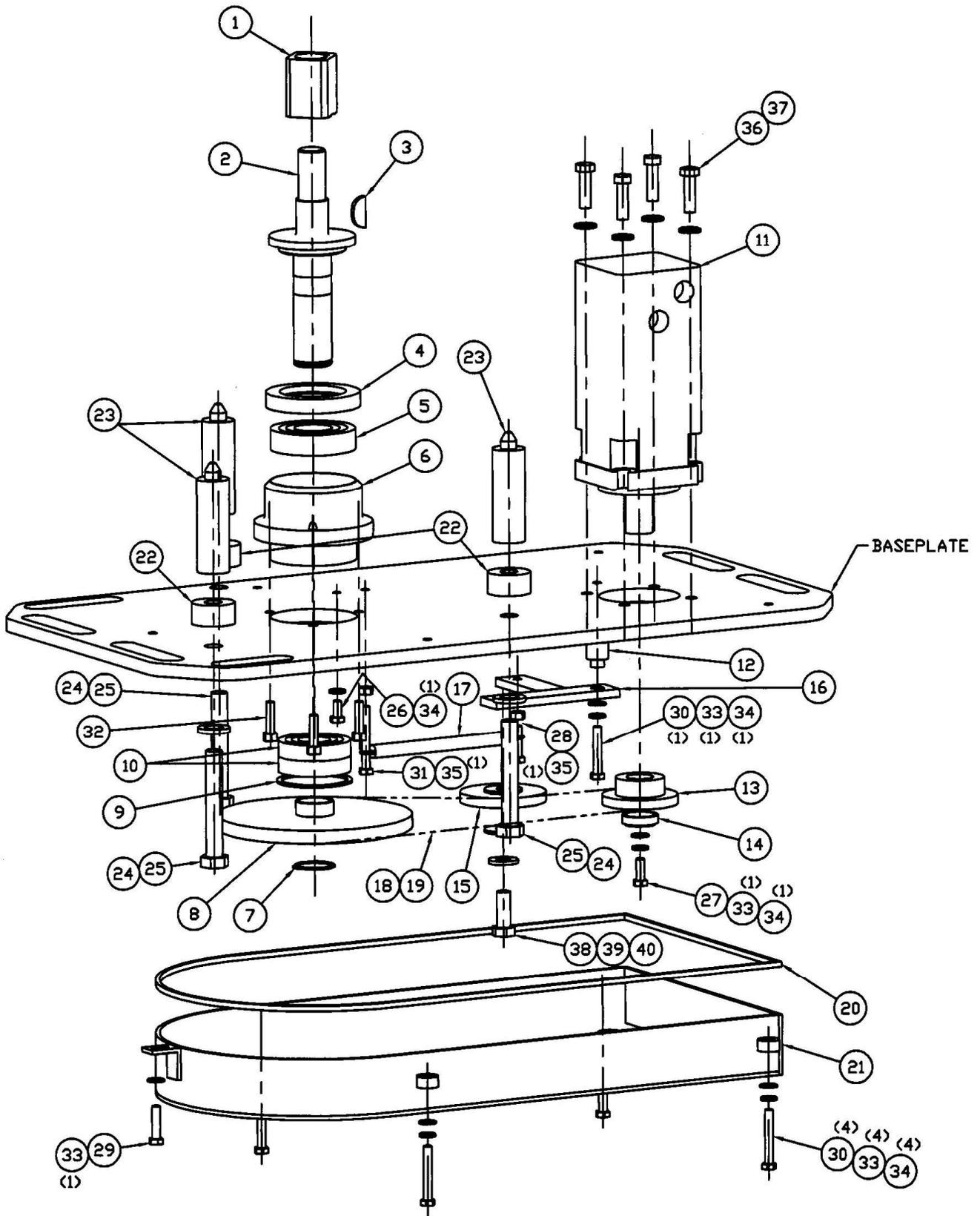


FIGURE 37  
 POWER TRAIN ASSEMBLY

NO.	PT.NO.	QTY	DESCRIPTION
1	705364	1	BOWL DRIVE SLEEVE
1A	705234	1	BOWL DRIVE SLEEVE (1" WEAR PLT.)
*2	705385	1	SHAFT
*3	7901059	1	KEY, WOODRUFF
*4	705231	1	SEAL
*5	7101031	1	BEARING – UPPER SEALED
*6	705493	1	BEARING HOUSING
*7	7901114	1	RING, SNAP
8	705448	1	SPROCKET
*9	7901108	1	RING, RETAINING
*10	7101057	2	BEARING – LOWER SEALED
11	7202117	1	MOTOR – HYDRAULIC
12	705235	1	BUSHING, IDLER BRACKET
13	711363	1	SPROCKET, DRIVE
14	705871	1	CAP, SPROCKET
15	7105064	1	SPROCKET, IDLER
16	705016	1	BRACKET, IDLER
17	7901060	1	SPRING, IDLER
18	7105056	5'	CHAIN, ROLLER (ADJUST TO 51" FOR INSTALLATION)
19	7105061	1	LINK, CONNECTING
20	705302	1	SEAL, CHAIN GUARD
21	705061	1	GUARD, CHAIN
22	705371	3	SPACER
23	705209	3	STAND, HOPPER
24	8042166	3	BOLT
25	8177017	3	WASHER
26	8041048	1	BOLT
27	8041050	1	BOLT
28	8041052	1	BOLT
29	8041054	1	BOLT
30	8041055	5	BOLT
31	8041058	1	BOLT
32	8048127	3	CAP SCREW
33	8172009	7	WASHER, FLAT
34	8177012	7	WASHER, LOCK
35	8142003	2	NUT
36	8041096	4	BOLT
37	8172011	4	WASHER, FLAT
38	8041140	1	BOLT
39	8172013	1	WASHER, FLAT
40	8177016	1	WASHER, LOCK

Note: For complete mainshaft assembly (excluding sprocket) order part #705513. Individual items included are marked with an (\*).

**OPTIONAL PARTS**  
**WATER BOOSTER PUMP**  
709052

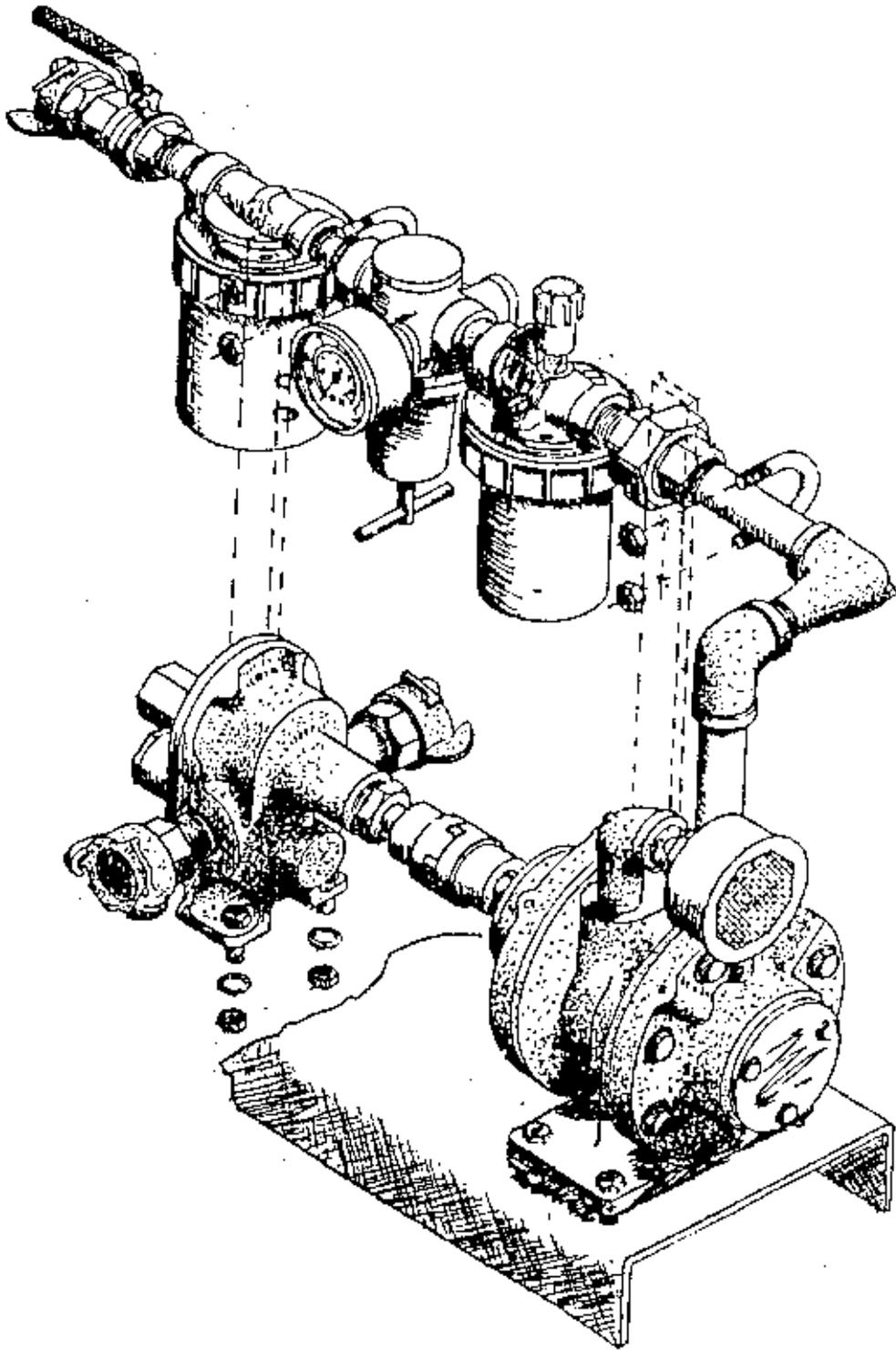


FIGURE 38

## ACCESSORY KITS

### HIGH PRODUCTION (150 FT)

QTY.	PRODUCT	PART NUMBER
1 ea.	NOZZLE ASSEMBLY - COMPLETE	709009
3 ea.	2" X 50' GUNNING HOSE COUPLED M&F	709324
3 ea.	¾" X 50' WATER HOSE- COUPLED	7401081
1 ea.	WATER HOSE ADAPTER	7504030
1 ea.	2" X 50' AIR HOSE-COUPLED	709345

### LOW PRODUCTION (150 FT)

QTY.	PRODUCT	PART NUMBER
1 ea.	1-1/2" GUNNING NOZZLE-COMPLETE	709249
3 ea.	1-1/2" X 50' GUNNING HOSE-COUPLED	709319
3 ea.	¾" X 50' WATER HOSE-COUPLED	7401081
1 ea.	WATER HOSE ADAPTER	7504030
1 ea.	2" X 50' AIR HOSE-COUPLED	709345

## NOZZLE SERVICE:

Your nozzle is completely assembled and ready to use when connected to the water hose and the material hose from the gun.

### Assembling the Nozzle Parts:

1. The two Water Ring Seals should be clean and free from grit when placed in the Seal Ring grooves. The holes in the Water Ring should be inspected to see if they are open. Put oil on the Water Ring and Seals before inserting into the Nozzle Body. The nozzle tip with Nozzle Liner is then screwed into the nozzle body as tightly as possible by hand.

### Maintenance:

1. The nozzle should be dismantled and thoroughly cleaned after each use. Check the holes in the Water Ring and be sure that they are clean and free flowing. The Water Rings and Seals should be oiled for each installation. Inspect all threads to see that there is no concrete build-up. Failure to clean the nozzle will allow build-up and ruin it for future use.

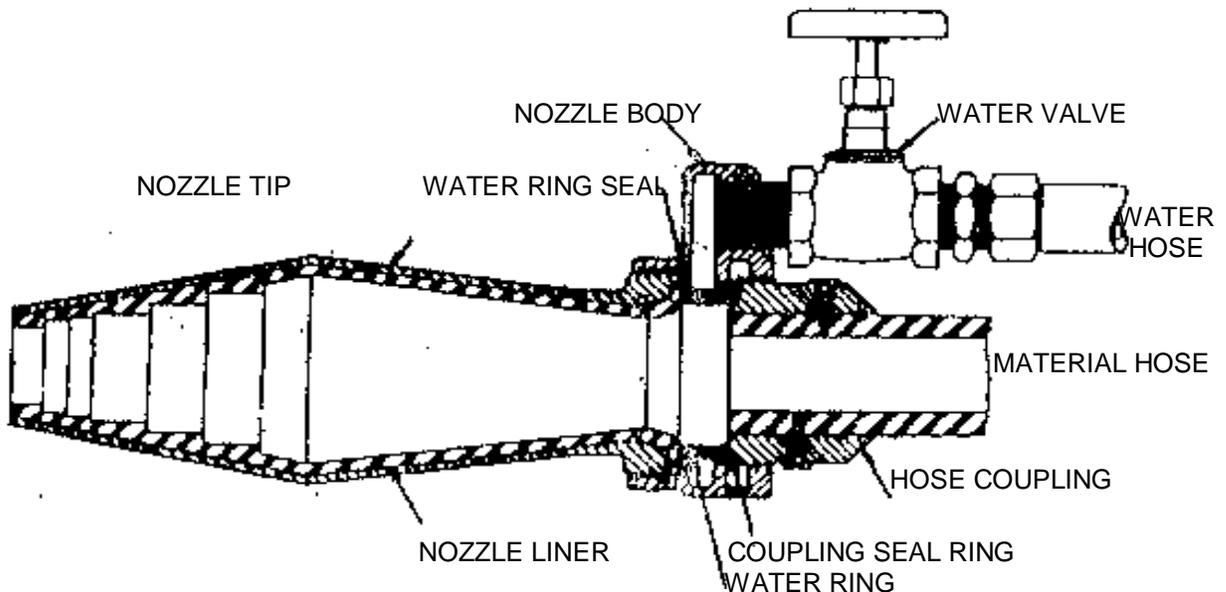


FIGURE 39

## **CARE AND MAINTENANCE OF YOUR NOZZLE:**

Clean inside of Nozzle at least at the end of each day by rinsing or wiping out. Normally Nozzle Body and Nozzle Tip Liner can be cleaned by operating with air and water only, or by pointing Nozzle Tip down with water running, provided it is cleaned often enough so that the material has not set up. If this does not rinse out all the material, unscrew the Nozzle Tip from the Nozzle Body and remove the water ring.

### **INSUFFICIENT WATER AT THE NOZZLE:**

If not enough water to hydrate material.

1. Check water pressure at source. Be sure water valves are wide open. Minimum nozzle pressure of 15 PSI above operating pressure at gun should be maintained with water flowing. Gauge pressure measured with valves closed may drop considerably when water is flowing.
2. If water pressure is O.K., remove Nozzle Tip and all internal Nozzle parts and clean thoroughly. Any foreign matter in a Seal Ring groove can cause excessive binding of the Water Ring. Polish the two external surfaces of the Water Ring that engages the Seal Rings, if they do not appear to be polished. Re-assemble.

**NOTE:** If any foreign matter is found in the cavities in front of or behind the Water Ring or in the Seal Ring grooves, it likely entered through the water line. If trouble of this sort persists, take steps to insure clean water. Often, if pumping from a barrel, foreign matter will fall into the barrel and ultimately cause trouble, especially if the barrel is close enough to the Nozzle to get an occasional bit of rebound or blown dirt. In this case, the barrel should be covered or shielded. Often a fine strainer on the water supply is required.

If material comes out of one side of the Nozzle Tip and water comes out of the opposite side of Tip, it is likely caused by foreign matter between the Water Ring and the Nozzle Body. This causes the Water Ring to bind or cock within the Nozzle Body. Remove all internal parts of the Nozzle and clean thoroughly as described.

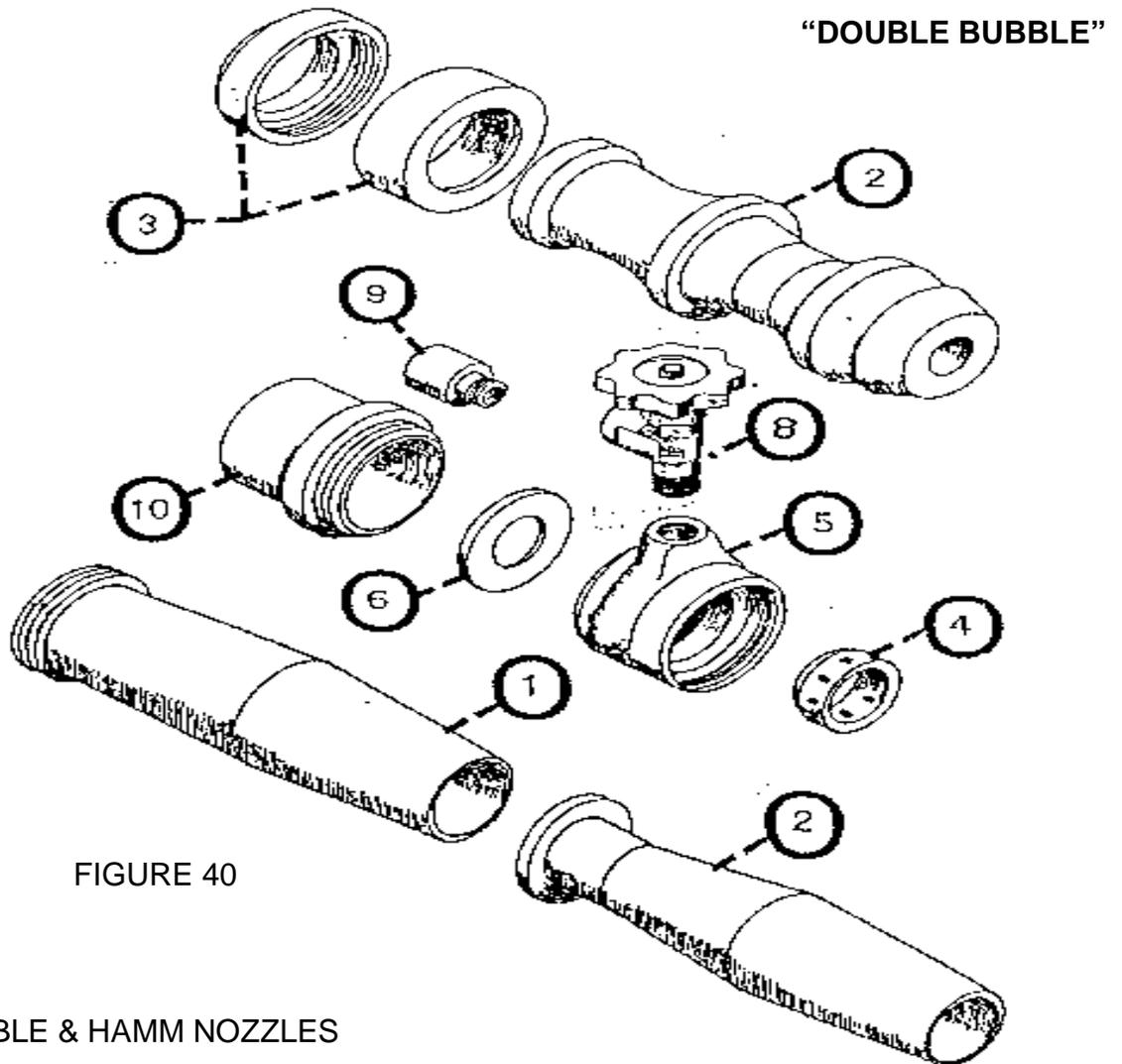


FIGURE 40

“HAMM”  
DOUBLE BUBBLE & HAMM NOZZLES

NOZZLE ASEMBLY, COMPLETE, EITHER STYLE INCLUDES ITEMS 1 THRU 9 (IF APPLICABLE)

ITEM NO.	DESCRIPTION	“HAMM” STYLE			“DOUBLE BUBBLE”		
		1-1/4”	1-1/2”	1-5/8”	1”	1-1/4”	1-1/2”
1	NOZZLE TIP ONLY	709034	709035	709208	N/A	N/A	N/A
2	RUBBER LINER OR RUBBER TIP	7601063	7601064	7602069	7602074	7602063	7602064
3	DOUBLE TIP ADAPTER (2 PIECE)	N/A	N/A	N/A	709263	709263	709263
4	WATER RING BRASS	709078	709079	709222	709239	709078	709079
5	NOZZLE BODY W/PLUGS	709086	709084	709223	709229	709086	709084
6	BACK-UP WASHER	7602062	7602061	7602061	7602104	7602062	7602061
8	WATER CONTROL VALVE (3/8”)	7203143	7203143	7203143	7203143	7203143	7203143
9	BRASS NUT, TAILPIECE & RUBBER WASHER (3/8”)	7504030	7504030	7504030	7504030	7504030	7504030
10	COUPLING HALF THREADED	SEE LISTING FOR COUPLINGS					

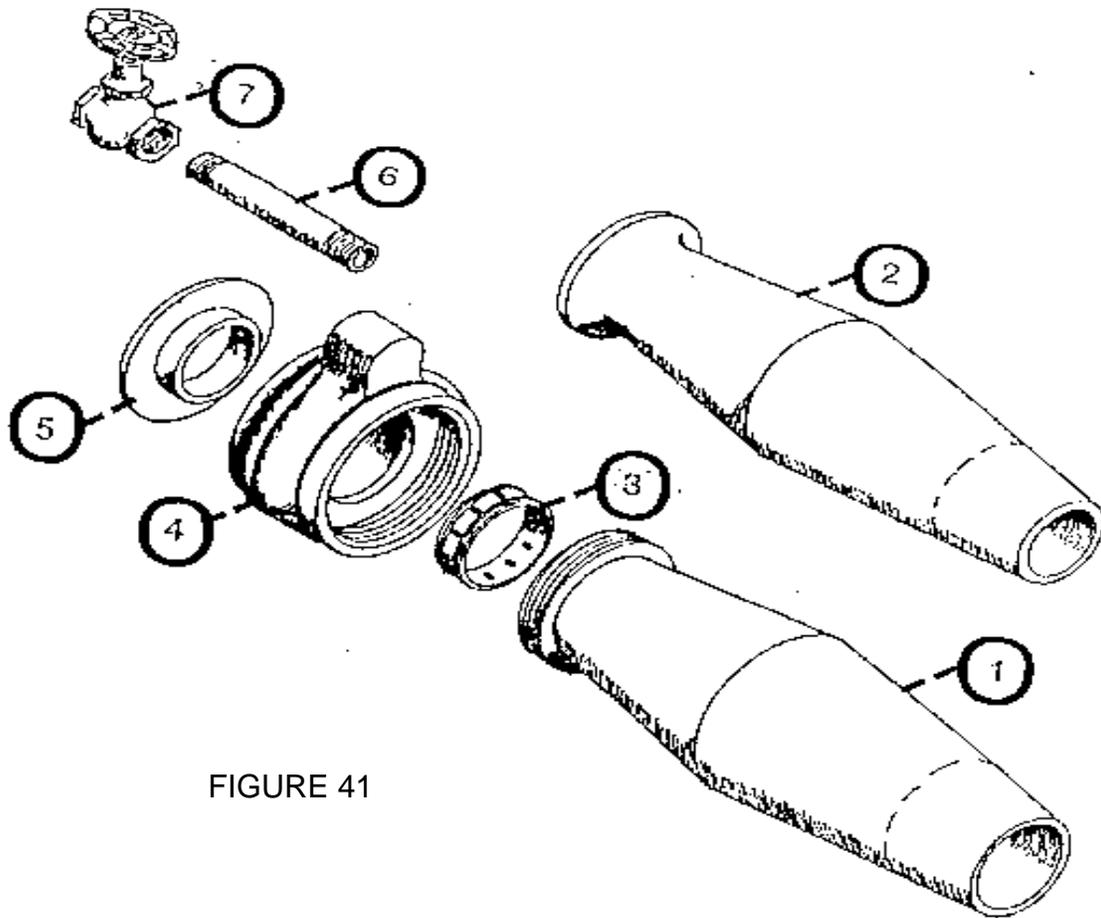


FIGURE 41

RIDLEY NOZZLES

ITEM NO.	DESCRIPTION	C-6000 1-5/8"	GS-200		BOOMER	
			1-3/4"	2"	1-3/4"	2"
	NOZZLE ASSEMBLY, COMPLETE INCLUDES ITEMS 1 THRU 8	709046	709045	709009	709074	709207
1	NOZZLE TIP	709048	709011	709011	709064	709064
2	NOZZLE LINER	7602058	7602052	7602057	7602059	7602065
3	WATER RING	709017	709017	709017	709017	709017
4	NOZZLE BODY W/PLUGS	709010	709010	709010	709010	709010
5	BACK-UP WASHERS	7602053	7602053	7602053	7602053	7602053
6	NIPPLE (1/2" X 5")	9411055	9411055	9411055	9411055	9411055
7	WATER VALVE, 1/2"	7203070	7203070	7203070	7203070	7203070
8	THREAD ADAPTOR, 1/2" IPT X GHT	7504146	7504146	7504146	7504196	7504146

GUNNING HOSE

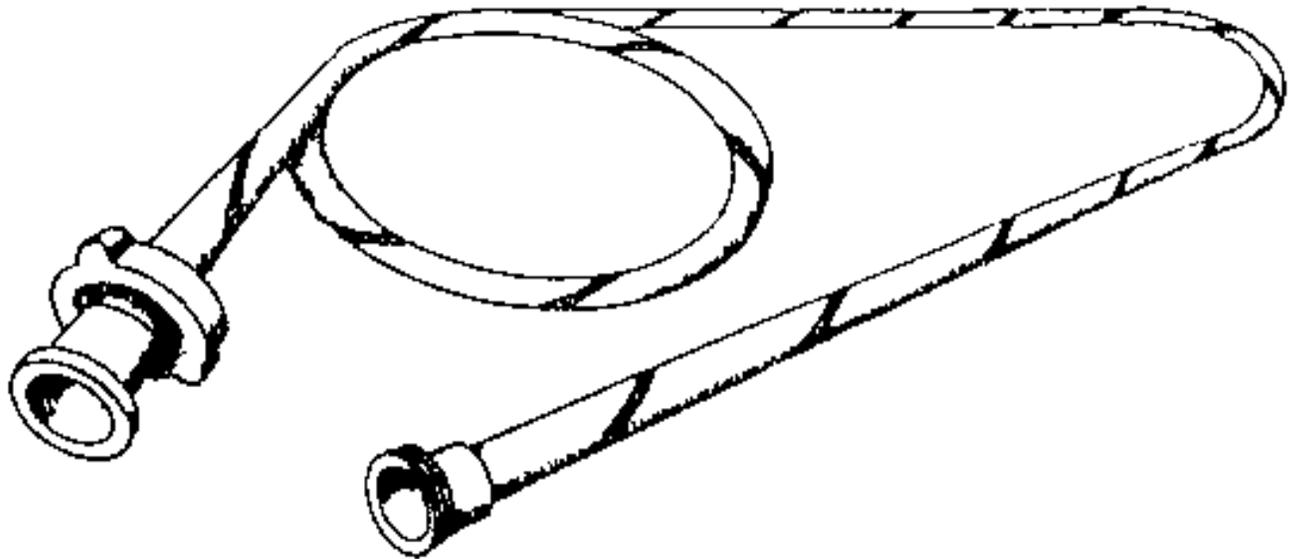


FIGURE 42

GUNITE 50' LONG WITH COUPLINGS

HOSE DIA.	STRIPE COLOR	COUPLINGS		NUT MTL.	ORDER BY THIS PART NO
		THD.	MTL.		
2"	RED	NONE			7510004
2"	BLUE	NONE			7510008
2"	RED	3-7/8"	ALUM	ALUM	709324
2"	BLUE	3-7/8"	ALUM	ALUM	709323
2"	RED	3-7/8"	ALUM	STEEL	709326
2"	BLUE	3-7/8"	ALUM	STEEL	709325
2"	RED	3-7/8"	STEEL	STEEL	709328
2"	BLUE	3-7/8"	STEEL	STEEL	709327
1-3/4"	RED	3-1/4"	ALUM	STEEL	709322
1-3/4"	RED	3-1/4"	STEEL	STEEL	709321
1-5/8"	RED	3-1/4"	ALUM	STEEL	709320
1-1/2"	RED	3-1/4"	ALUM	STEEL	709319
1-1/2"	RED	3-1/4"	ALUM	ALUM	709329
1-1/4"	RED	3-1/4"	STEEL	STEEL	709318
REFRACTORY (STATIC CONDUCTING) 50' LONG WITH COUPLINGS					
1-1/4"	ALL BLACK	3-1/4"	ALUM	STEEL	709330
1-1/2"	ALL BLACK	3-1/4"	ALUM	STEEL	709331
2"	ALL BLACK	3-7/8"	ALUM	STEEL	709349

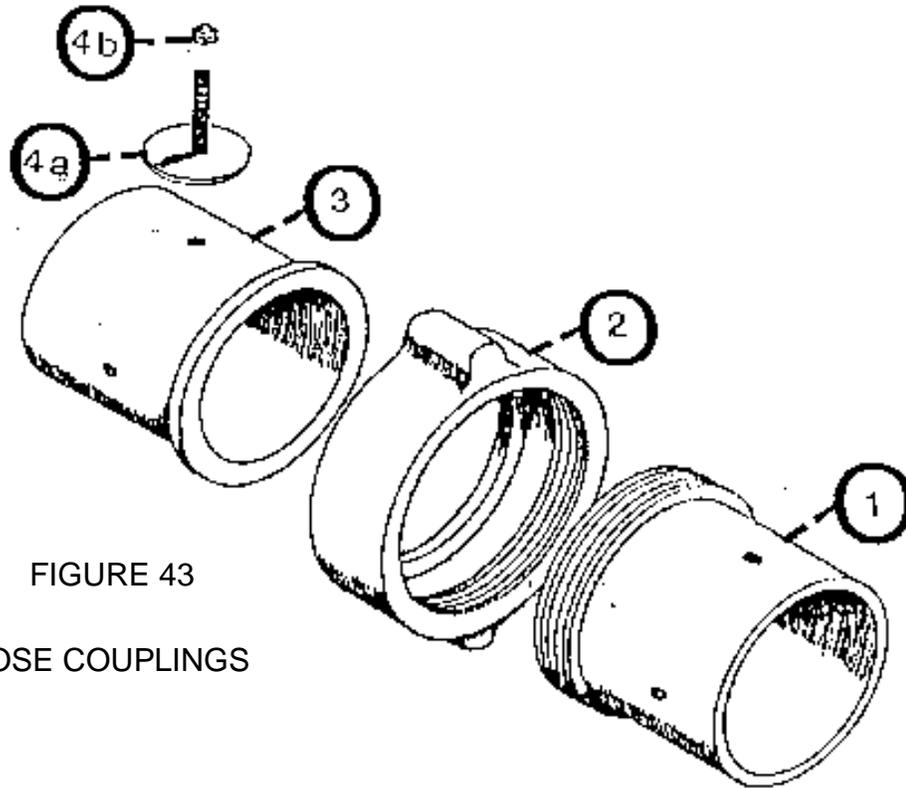


FIGURE 43

RIDLEY GUNITE HOSE COUPLINGS

SERIES 200 3 PIECE – ALL ALUMINUM

ITEM NO	DESCRIPTION	NOMINAL HOSE I.D.			
		1-5/8"	1-3/4"	2"	2" OS.
	COUPLING ASSEMBLY, COMPLETE INCLUDES ITEMS 1THRU 3	709069	709018	709020	709070
1	THREADED COUPLING HALF ONLY	709066	709014	709015	709068
2	THREADED WING NUT ONLY	709016	709016	709016	709016
3	FLANGED COUPLING HALF ONLY	709065	709012	709013	709067
4A	ELEVATOR BOLT	9027004			
4B	HEX NUT	8142001			

SERIES 300 3 PIECE - ALL STEEL (2" OS. ONLY)

	COUPLING ASSEMBLY, COMPLETE INCLUDES ITEMS 1- THRU 3	709019
1	THREADED COUPLING HALF ONLY	709075
2	THREADED WING NUT ONLY	709076
3	FLANGED COUPLING HALF ONLY	709099
4A	ELEVATOR BOLT	9027004
4B	HEX NUT	8142001

OTHER SIZES  
AVAILABLE  
UPON REQUEST

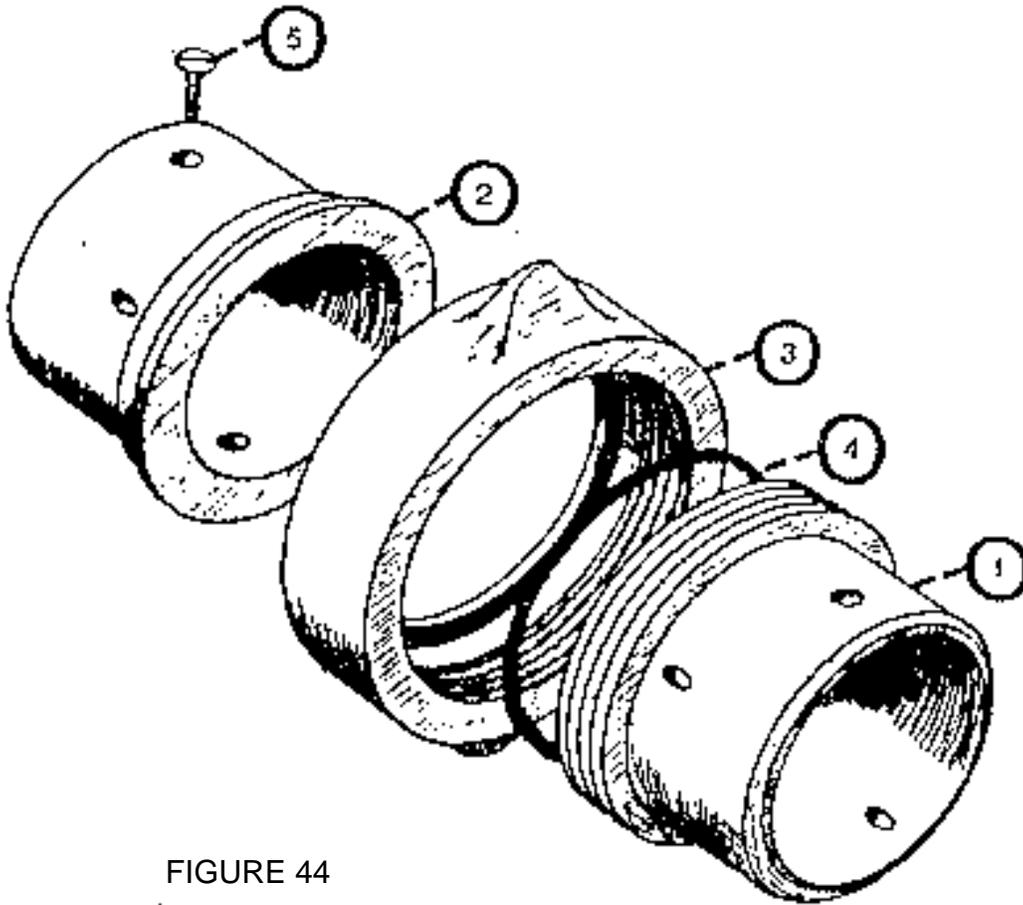


FIGURE 44

GUNITE HOSE COUPLINGS

ITEM NO.	DESCRIPTION	NOMINAL HOSE I.D.	
		1-1/4"	1-1/2"
	COUPLING ASSEMBLY, COMPLETE INCLUDES ITEMS 1 THRU 5	680118	680119
1	THREADED COUPLING HALF	614093	614094
2	FLANGED COUPLING HALF	614098	614099
3	COUPLING RING (WING NUT)	614097	614097
4	"O" RING	9531142	9531142
5	SHEET METAL SCREWS (AS REQ'D)	8113062	8113062

## NOTES