

STAR SIZER INSTRUCTIONS

MAGMA ENGINEERING CO. P O BOX 161 Queen Creek AZ 85242

To add lube unscrew the top screw and nut. Reverse the top screw (#108) and screw it onto the top of the piston rod (#128), now pull out the pressure assembly.

Add one stick of Magma lube, (blue, red or green). Replace pressure assembly and tighten to suitable pressure. During operation notice when the lube is not filling out the groove and add pressure by tightening the pressure screw.

Feed all bullets nose first. Insert a bullet in the die and push it into the die until the push rod (#114) actuates high-pressure piston (#124) with fulcrum lever (#112) and forces lube into the lube groove.

- (A) All die holes must be plugged with #7 or #8 shot except the row being used on a particular bullet. On single lube groove bullets you will use only the middle row of holes. Most dies have three rows. With two row dies use the top row.
- (B) Bullets with multiple grease grooves will use the appropriate rows for their design. Dies can be ordered with proper spacing for most bullets.

To install a new die, remove the bullet punch. Loosen the set screw, if there is one, and pull the die with the extractor. See Instructions. **Second method:** Leave the punch in and tap the die up with a brass or wood rod and a hammer.

Plugging dies: Bullets of the same diameter but different lube grooves can be sized with the same die if the plugs are changed each time. You can also purchase a die for each style of bullet you intend to size.

- (A) Again use #7 or #8 shot. Use a brass hammer or punch to firmly seat the shot, use two shot pellets if necessary.
- (B) To remove plugs drill out the shot with a #45 or smaller drill. Caution: never attempt to remove plug with a punch or you may damage the die.
- C (C) To size two different type slugs (same diameter but different groove spacing) separate
- D sizing dies will be required.
- (D) Always use a fine layer of oil or grease to install a die. If not, possible damage may occur.

To install a bullet punch so it does not bind proceed as follows. (Only necessary when punch is near sizing diameter)

- (A) Insert punch in lubricator to correct position.
- (B) Place handle (#117) so the punch is at the tightest spot in the die.
- (C) Tighten the (#134) bullet punch nut.
- (D) Actuate handle to assure bullet punch operates freely within the die without binding.
- (E) Should the punch bind - repeat steps above until the punch travels freely within the die.

Keep the throat of the die lubricated. Re-size a lubricated bullet every 15 - 20 cycles to lube the die.

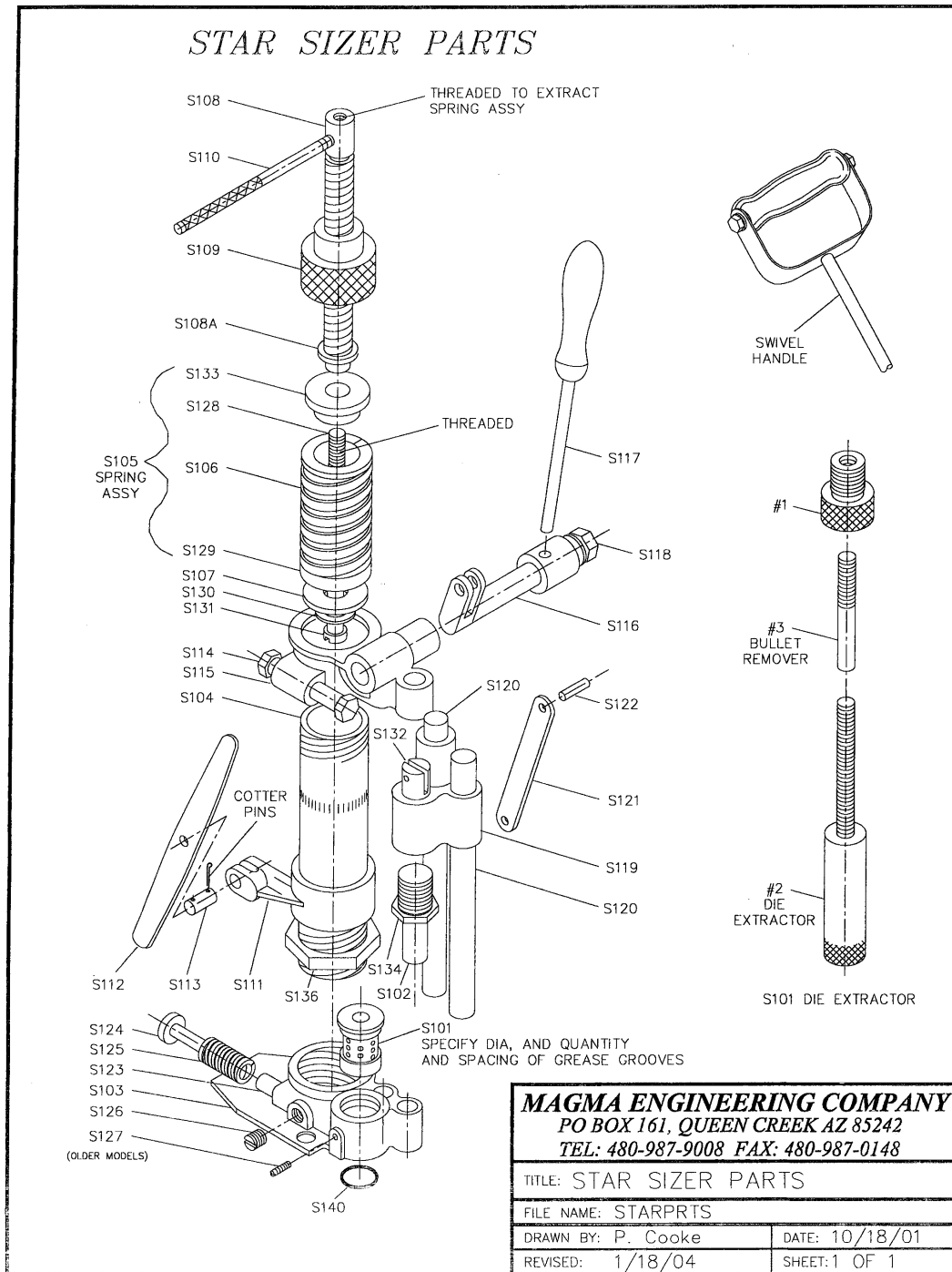
Gas checks can also be seated nose first also. Put gas checks on bullets and stack them in feed tubes or feed nose first by hand. The punch holds the gas check in place during sizing.

Heated Base: The thermostat on your heated base is adjusted in our plant using Magma Lube. When you first turn on the heated base allow it to cycle several times (until the light goes off) before sizing. When sizing, lack of lube flow will indicate too cold. If the lube is mushy or liquid it is too hot.

To adjust turn the slotted screw clockwise to increase or counter clockwise to decrease the temperature. Adjust the slotted screw in 1/8" increments and allow the temperature to stabilize before testing. Once your Heated Base is adjusted you should not need to re-set the temperature as long as conditions remain stable. Large room temperature changes can have an effect on the sizer.

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STAR SIZER PARTS

12-22-08

S101 Sizing Die, Specify Diameter and Number of Lube Grooves
S101E Sizing Die Extractor
S101-2 Die Extractor Body
S101-1 Die Extractor Nut
S101-3 Bullet Remover
S102 Star Bullet Punch Standard
S102N Custom Nose Punch
S102F Bullet Follower For Spitzer Bullets
S103 Base Casting Factory Install Only
S104 Lube Cylinder Tube Factory Install Only
S105 Pressure Spring Assembly
S106 Star Pressure Spring Factory Only
S107 Hycar Washer
S108 Pressure Screw
S108A Pressure Screw Washer
S109 Pressure Screw Nut
S110 Pressure Screw Handle
S111 Fulcrum Lever Bracket Factory Only
S112 Fulcrum Lever Factory Only
S113 Fulcrum Lever Pin
S114 Fulcrum Lever Push Rod Assembly
S115 Crank Shaft Bearing Factory Only
S116 Crank Shaft Assembly
S117 Handle
S117A Shovel Handle
S118 Handle Clamp Screw
S119 Bullet Punch Ram Factory Only
S120 Ram Guide Column (2) Each
S121 Ram Link
S122 Link Pin (2) Each
S123 Pump Guide Bushing
S124 Pump Plunger
S125 Pump Spring
S126 Inspection Plug
S127 Die Set Screw
S128 Pressure Spring Piston Rod
S129 Pressure Spring Steel Piston
S130 Pressure Spring Steel Washer
S131 Pressure Spring Piston Screw
S132 Ram Link Cross Head Factory Only
S133 Thrust Collar, Factory Only
S134 Punch Nut
S136 Star Lube Tube Nut
S140 Die "O" Ring (2) Each
JAVELINA Javelina-Alox Soft Wax Bullet Lube (per stick)
STARLUBE Magma's Hard Wax Lube (per pound, 9 sticks)
Available in Red, Blue and Green.

Prices subject to change

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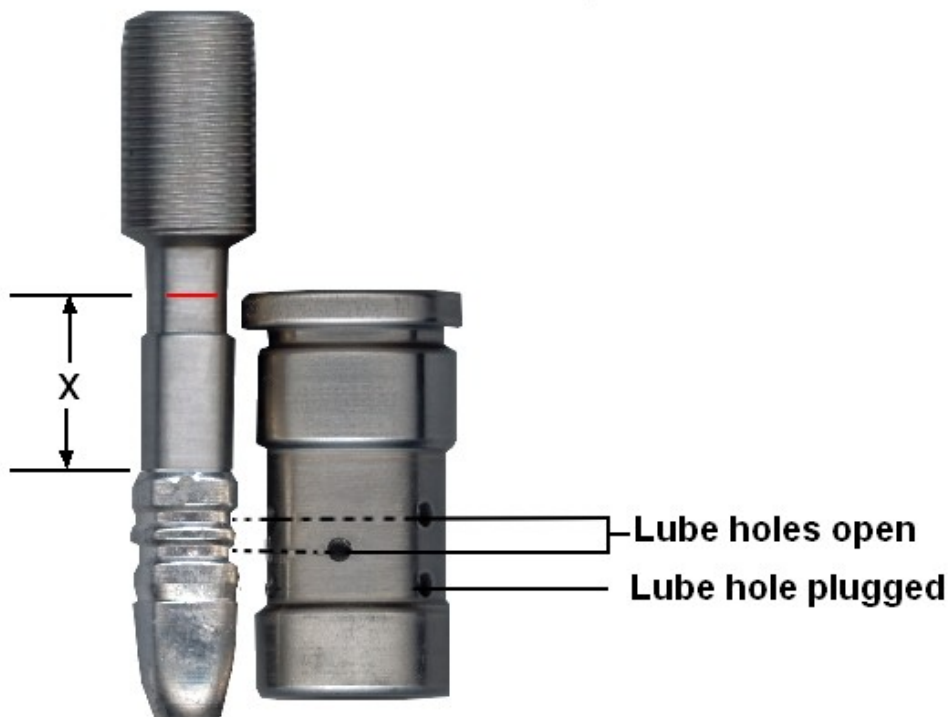
Place the bullet to be lubed next to the sizing die and line up the lube holes next to the lube grooves in the Bullet.

Measure the distance from the base of the bullet to the top of the die ("X" per picture). Then push the bullet into the die to that depth making sure the grooves are in line with the holes.

Insert the die into the sizer being careful not to move the bullet. Screw the bullet punch up into the sizer beyond where it should be – then bring the punch down using the handle until it stops. Unscrew the punch until it just touches the bullet and tighten the lock nut. This should be very close to the setting you need. Raise the punch as high as it will go and measure from the bottom of the punch to the top of the die.

WRITE DOWN THAT MEASUREMENT. It should be the same each time.

If you compare a bullet that you know the setting with a new bullet you can raise or lower the punch according To the lube groove distance from the base and it should work.



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STAR BULLET PUNCH SETTINGS

Approximate distances are indicated from the top of the die to bottom of punch when the punch is in the uppermost position. This is not a complete list but a good reference for comparison to other bullets.

30-115RN	1 11/64
32-100SGG	1 9/32
32-78RN	1 1/8
32-20-115	1 7/32
32-98WC	1 23/64
380-95RN	1 5/32
09X18X93	1 5/32
09-122FP	1 7/32
09-125CN	1 3/16
09-125RN	1 3/16
09-147FP	1 3/16
38-148SGG DBB	1 5/16
38-148WC DBB	1 3/8
38-148WC #50	1 7/32
38-158RN	1 1/4
38-158SWC	1 1/4
38S-150SWC	1 1/4
38S-160SWC	1 7/32
38S-160RN	1 45/64
10-175SWWC	1 1/4
10-170SWC	1 17/64
41-215SWC	1 1/4
44-215SWC	1 1/4
44-240SWC	1 1/4
44-240RN	1 1/4
45-185SWC #130	1 13/64
45-200SWC #68	1 7/32
45-185SWC #68	1 13/64
45-180SWC #68	1 11/64
45-175SWC #68	1 5/32 64
45-225FP	1 7/32
45-230RN	1 7/32
45-255SWC	1 1/4
45-160SWC	1 11/64

If you have trouble, our shop number is : (480) 987-9008 FAX (480) 987-0148

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20955 E Ocotillo Rd PO Box 161
Queen Creek, AZ 85242 Queen Creek, AZ 85242*

WEB – magmaengr.com

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(starpunch)

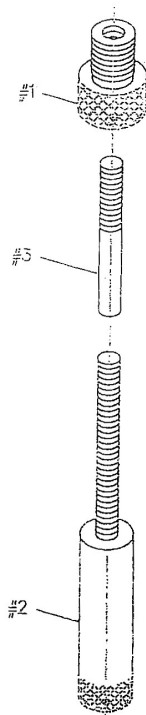
STAR SIZER INSTRUCTIONS

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DIRECTIONS FOR REMOVING SIZING DIE WITH THE DIE PULLER

It is assumed there is a bullet in the sizing die. Remove the bullet punch (#102) and the nut (#134) from the lubricator. Screw the knurled nut (#1 in plastic bag) into part #119 and screw the short rod (#3) into the knurled nut and bring the lubricator handle down to remove the bullet

With the knurled nut (#1) still in the lubrisizer (#119) remove the short rod (#3) . Insert (#2) through the bottom of the die in the sizer and screw it into the knurled nut (#1) until it reaches the bottom the die. Lift the handle and remove the die.



S101 DIE EXTRACTOR

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STAR BULLET FEEDER INSTRUCTIONS

Remove (S134 Star Parts List) Bullet Punch Nut.

Replace with actuator collar and bolt assembly (AF190) with bolt head facing up. The new bullet punch nut (AF197) should be installed on the bullet punch (S102) with the shoulder upward to enter and center the actuator collar (AF 195).

With the handle of the Star Sizer in the middle position, slip the base plate (AF010) over the shoulder of the Star die to position it with relation to the sizer. Be sure the actuator collar (AF195) clears the transfer bar housing (AF030) and that the actuator bolt (AF191) is directly beneath the lever arm of the feeder unit. This part, on the up stroke of the handle moves the transfer bar (AF149 – AF155) into the bullet drop position. Adjusting this bolt regulates the amount of forward stroke of the transfer bar (AF149 – AF155). Do not over adjust this travel. When the bullet drops freely, the movement is adequate.

If you have the Magma Heated Base the feeder will bolt directly to it. If not, with the feeder in position on the left side of the Star Sizer, locate, drill and tap for the ¼”-20 mounting screw provided or using a long ¼” bolt, drill through your mounting surface and bolt the feeder down solidly. The spacer block is provided to raise the transfer bar housing (AF030) to the correct height for operation.

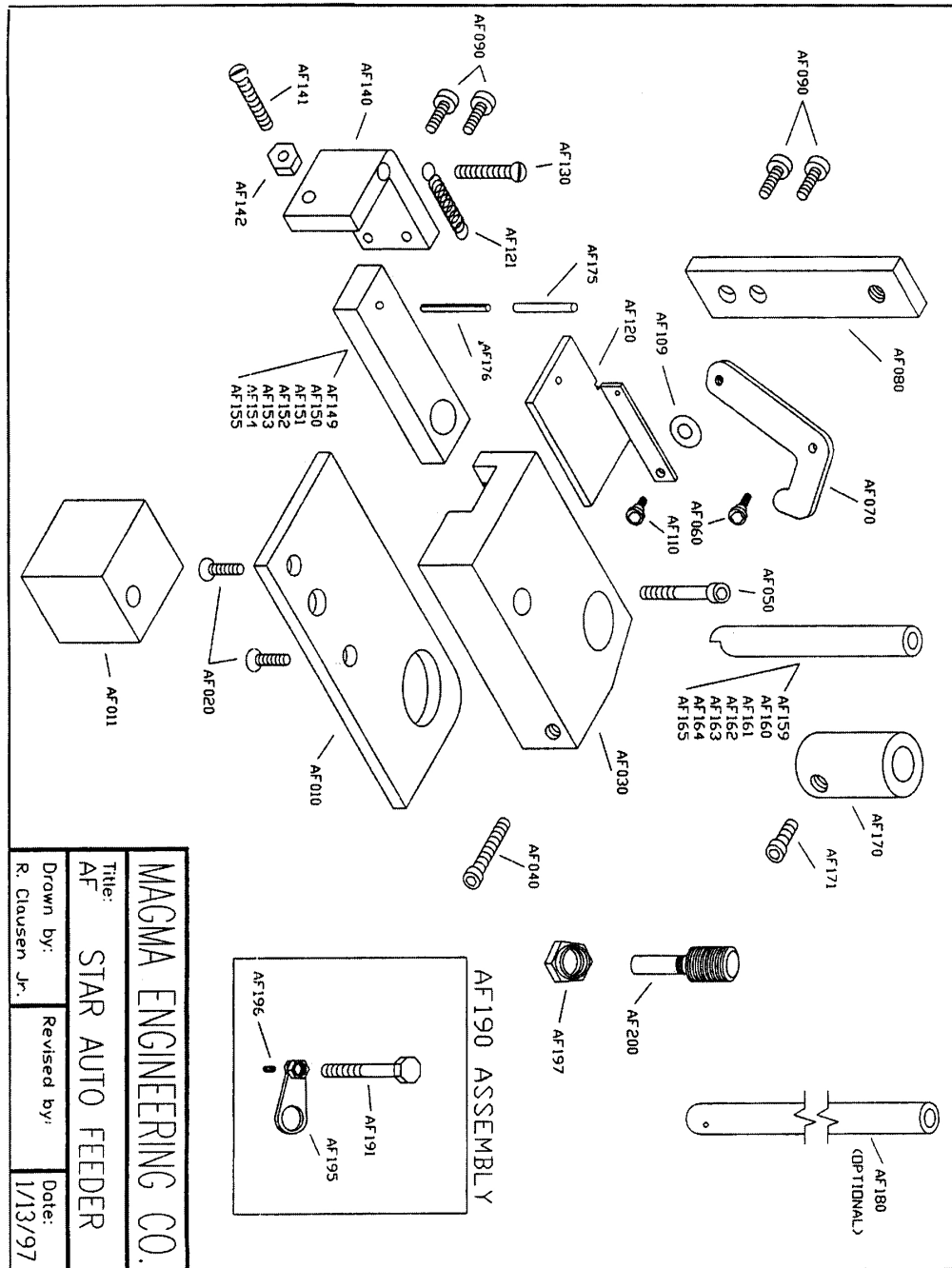
When bolted into position an upward movement of the sizer handle should transfer bullets from the drop tube into the Star Die. This position is adjustable using the transfer bar stop screw (AF141) and transfer bar stop nut (AF142) at the rear of the transfer bar stop (AF140). Adjust the transfer bar stop screw (AF141) until the bullet drops freely into the transfer bar (AF149 – AF155).

A downward movement on the handle allows the spring to pull the transfer bar (AF149 – AF155) out of the way and the bullet punch then pushes the bullet through the die.

Bullets can be individually inserted into the drop tube one at a time or with the use of an adaptor (AF170/AF172) bullets can be tube fed (AF180/AF181) to the bullet feeder.

STAR SIZER INSTRUCTIONS

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(StarSizerInstructions.pdf)

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Parts List

Item	Description
AF001	STAR AUTO FEEDER W/ CONV.
AF010	BASE PLATE
AF011	MOUNTING BLOCK
AF020	BASE PLATE MOUNTING SCREWS
AF030	BASE BLOCK
AF040	DROP TUBE MOUNTING SCREW
AF050	MOUNTING BLOCK SCREW
AF070	STAR FEEDER L ARM
AF080	"L" ARM BRACKET
AF110	SHUTTLE PLATE SHOULDER SCREW
AF120	TRANSFER SHUTTLE PLATE
AF121	TRANSFER BAR SPRING
AF130	RETURN SPRING SCREW
AF149	#2 TRANSFER BAR 40/10/41/38-40
AF150	TRANSFER BAR - 9MM & 38 CAL.
AF151	TRANSFER BAR .44/.45/45-70 CAL
AF152	TRANSFER BAR .32CAL
AF153	.380 TRANSFER BAR
AF154	TRANSFER BAR 22 CAL.
AF155	TRANSFER BAR - 25 CAL.
AF156	50 CAL TRANSFER BAR
AF157	Transfer Bar, 38-55
AF158	TRANSFER BAR FOR BULLETS UNDER 1/2"
AF159	#3 DROP TUBE/.44/.45/45-70 CAL
AF160	#1 DROP TUBE - 9MM & 38 CAL
AF161	#2 DROP TUBE 40/10/41/38-40CAL
AF162	DROP TUBE .32 CAL
AF163	DROP TUBE 380 CAL
AF164	DROP TUBE - 22 CAL.
AF165	DROP TUBE - 25 CAL.
AF166	50 CAL DROP TUBE WITH CLAMP
AF167	DROP TUBE CLAMP 50 CAL
AF168	DROP TUBE 44-45 CAL. UNDER 1/2"
AF170	LARGE DROP TUBE ADAPTER
AF171	DROP TUBE ADAPTER SCREW
AF172	SMALL DROP TUBE ADAPTER
AF175	ROLL PIN SLEEVE
AF176	1/8 1 3/4 ROLL PIN
AF180	SMALL PLASTIC DROP TUBE
AF181	LARGE PLASTIC DROP TUBE
AF182	PLASTIC DROP TUBE COTTER PIN
AF183	50 CALIBER PLASTIC TUBE
AF190	ACTUATOR COLLAR ASSEMBLY
AF191	ACTUATOR BOLT
AF195	ACTUATOR COLLAR
AF196	ACTUATOR COLLAR SET SCREW
AF197	BULLET PUNCH NUT FOR ACTUATOR COLLAR
AF200	PUNCH NUT FOR ACTUATOR COLLAR
AF32CONV	.32 CONVERSION
AF380CONV	.380 CONVERSION
AFCONV	CALIBER CONVERSION
STARHBAFOS	STAR SIZER W/HB/AF O.S.

STAR SIZER INSTRUCTIONS

MAGMA ENGINEERING CO. P O BOX 161 Queen Creek AZ 85242

STAR SIZER HEATED BASE

9-20-08

HEATED BASE PARTS

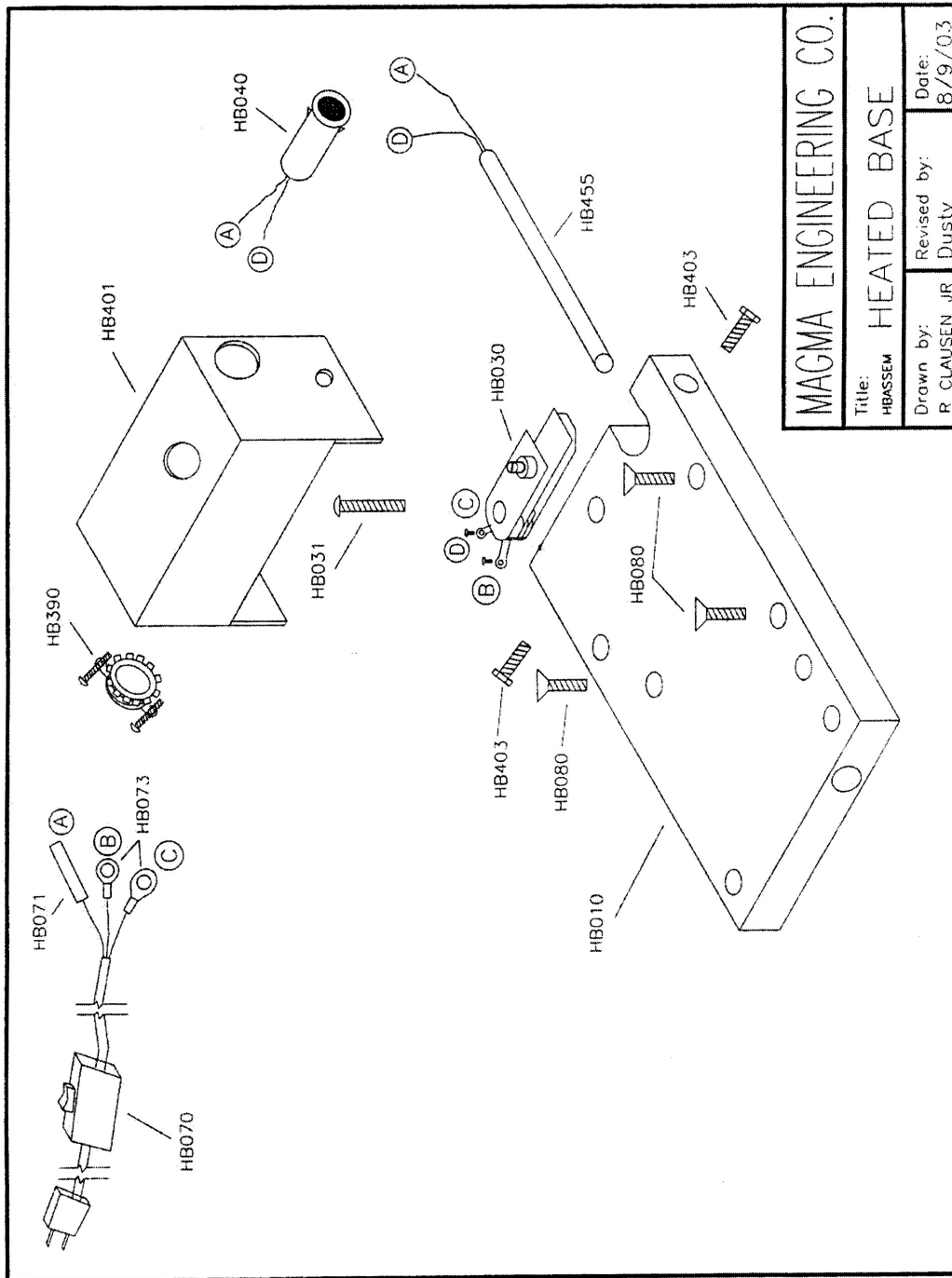
HB010 Base Block
HB030 Thermostat
HB031 #8 -32 X 1" Thermostat Screw
HB040 Pilot Light
HB070 Electric Cord w/ Switch
HB080 Star Sizer Mounting Screws
HB071 Butt Connector
HB073 Ring Connector
HB080 1/4 - 20 X 3/4" Flathead Star Sizer Mounting Screw
HB390 3/8" Romex Connector
HB401 Electrical Box
HB403 Self Tapping Screw
HB455 Heating Element

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MAGMA ENGINEERING CO.			
Title:	HBASSEM	HEATED BASE	
Drawn by:	R CLAUSEN JR	Revised by:	Dusty
		Date:	8/9/03

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STAR SIZER INSTRUCTIONS

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STAR AIR CYLINDER INSTALLATION INSTRUCTIONS

9-19-08

STAR AIR CYLINDER PARTS

Air Cylinder with all parts attached.

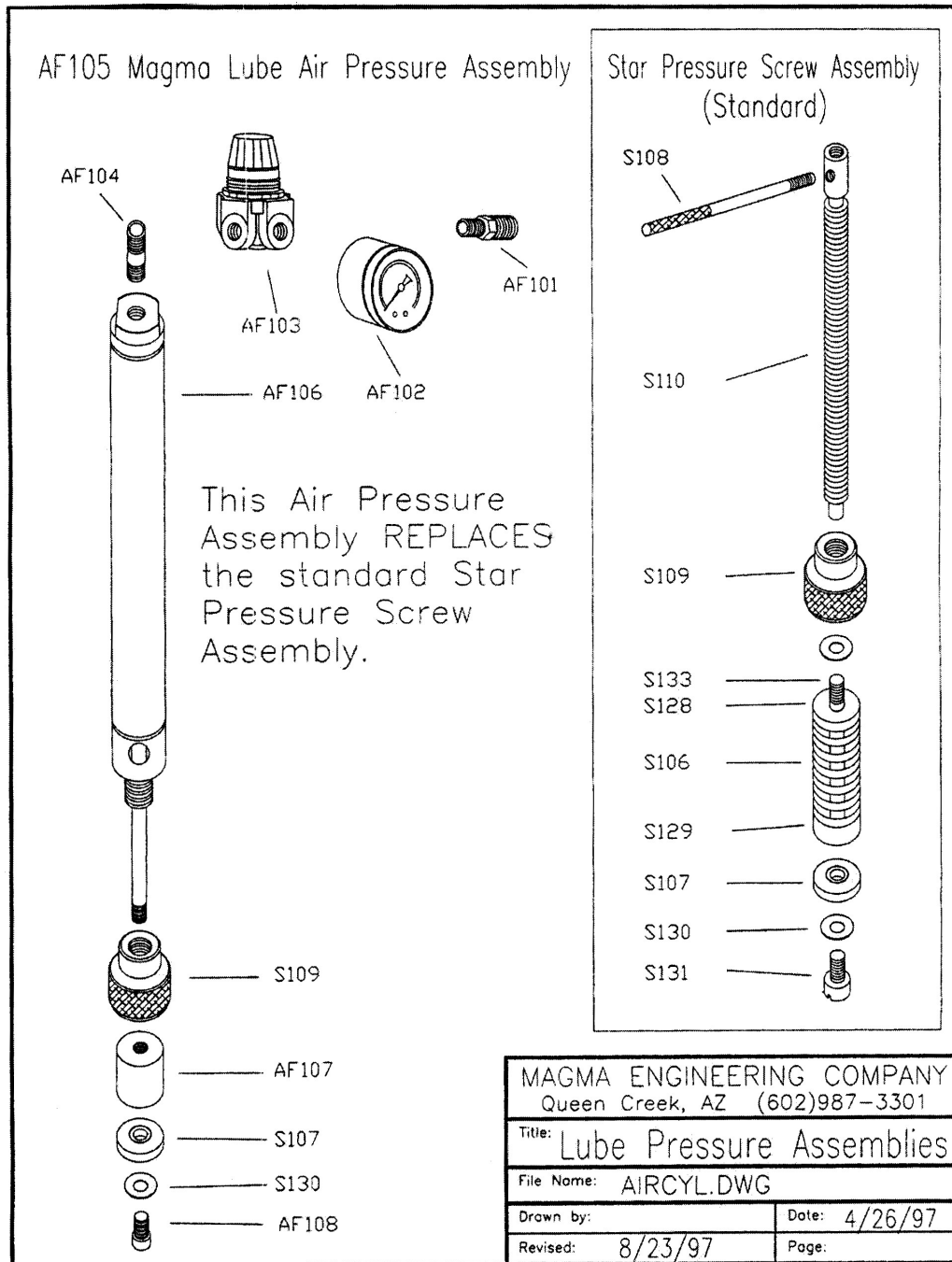
AF101 1/8" Quick Disconnect
AF102 Pressure Gage
AF103 Air Regulator
AF104 1/8" Double Street Elbow or Straight Nipple
AF105 Lube Air Pressure Assembly
AF106 Air Cylinder
AF107 Aluminum Piston
AF108 Hycar Washer Mounting Screw
AF109 #10 SAE Flat Washer

Instructions:

1. Remove the pressure screw assembly from the Star sizer.
2. To Remove the pressure screw cap from the screw you must knock off the retaining washer from the end of the screw.
3. Install pressure screw cap nut onto air cylinder.
4. Remove pressure spring hycar piston screw and attach rubber bushing and washer to end of aluminum piston on air cylinder using new screw provided.
5. Install piston assembly onto end of air cylinder assembly.
6. Install air cylinder assembly on to Star Sizer.
7. Set air regulator 20-50 PSI.

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