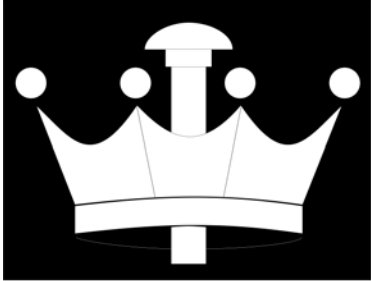


R I V E T



K I N G[®]

Instruction Manual

RK-4500

KS5 & KS6

Automatic Hand Riveter.
Continuous Riveting Machine.



**FOR SALES, SERVICE OR TECH SUPPORT CALL: 1800-BUY-RIVET
OR 1-800-289-7483**

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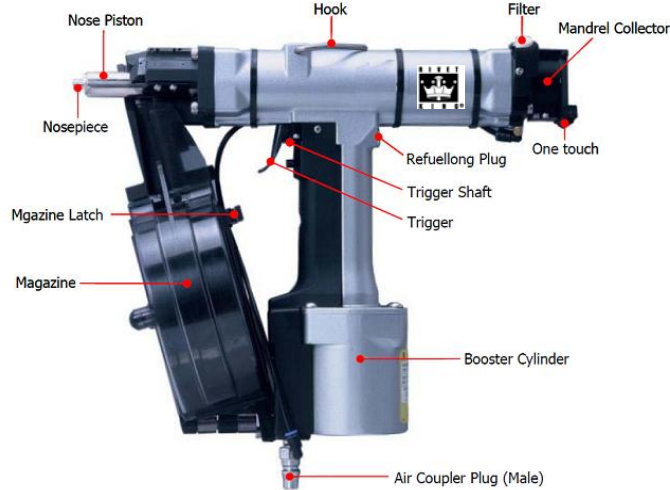
SAFETY

- DO NOT USE OUTSIDE DESIGN INTENT OR WITH EQUIPMENT THAT IS NOT RECOMMENDED BY THE MANUFACTURER.
- ALWAYS DISCONNECT THE AIR SUPPLY BEFORE ATTEMPTING ANY MAINTENANCE OR ADJUSTMENT/FITTING OF NOSE EQUIPMENT
- DO NOT OPERATE A TOOL THAT IS DIRECTED TOWARDS ANY PERSON(S) OR WITH THE NOSE PIECES OFF THE TOOL
- ALL MODIFICATIONS CARRIED OUT ON THE TOOL WITHOUT EXPRESS WRITTEN CONSENT OF THE MANUFACTURER SHALL BE DONE SO AT THE CUSTOMERS' SOLE RESPONSIBILITY
- REFER TO THIS MANUAL BEFORE ATTEMPTING ANY MAINTENANCE OPERATION. DO NOT DISASSEMBLE THIS TOOL BEFORE REFERRING TO THIS MANUAL.
- AVOID EXCESSIVE CONTACT WITH HYDRAULIC OIL, AS SOON AS POSSIBLE WASH HANDS THOROUGHLY
- DO NOT EXCEED 6 BAR / 90 PSI INLET PRESSURE, THE USE OF A PRESSURE REGULATOR IS HIGHLY RECOMMENDED
- INSPECT THE TOOL USING PREVENTITIVE MAINTENANCE TECHNIQUES AT REGULARLY SCHEDULED INTERVALS. INSPECT FOR DAMAGE AND FUNCTION BY TRAINED PERSONNEL. THE PLASTIC BODY MUST BE CHANGED WHENEVER THERE IS EVIDENCE OF IMPACT DAMAGE, CHIPPING, OR CRACKING.
- WEAR SAFETY GLASSES AND ADOPT FIRM FOOTING DURING OPERATION.
- EXPLAIN HOW TO HANDLE THE MACHINE, AND MAKE SURE THE MANUAL HAS BEEN READ AND CLEARLY UNDERSTOOD.
- DO NOT USE THE MACHINE IN AWKWARD POSITIONS.
- BE AWARE OF YOUR SURROUNDINGS DURING OPERATION, DO NOT WORK NEAR DANGEROUS OBJECTS, AND DO NOT ALLOW NON-OPERATING PERSONNEL TO COME NEAR.
- DO NOT PUT THE FACE NEAR THE AIR EXHAUST DURING OPERATION, OIL OR MANDRELS MAY COME FLYING OUT OF THE EXHAUST, CAUSING EYE INJURY.
- AVOID GETTING OIL AND GREASE ON THE SKIN, THIS MAY CAUSE INFLAMMATION OF THE SKIN, SO SHOULD BE THOROUGHLY WASHED OFF.
- DO NOT USE THE MACHINE WHEN THE COVER PLATE IS OFF. THIS MAY RESULT IN TRAPPED FINGERS OR OTHER INJURY.
- THESE SAFETY PRECAUTIONS ARE DESIGNED TO COVER ALL EVENTUALITIES FORESEEABLE BY THE MANUFACTURER, IN ANY OTHER CIRCUMSTANCE, THE USER IS URGED TO EXERCISE ALL DUE CAUTION.



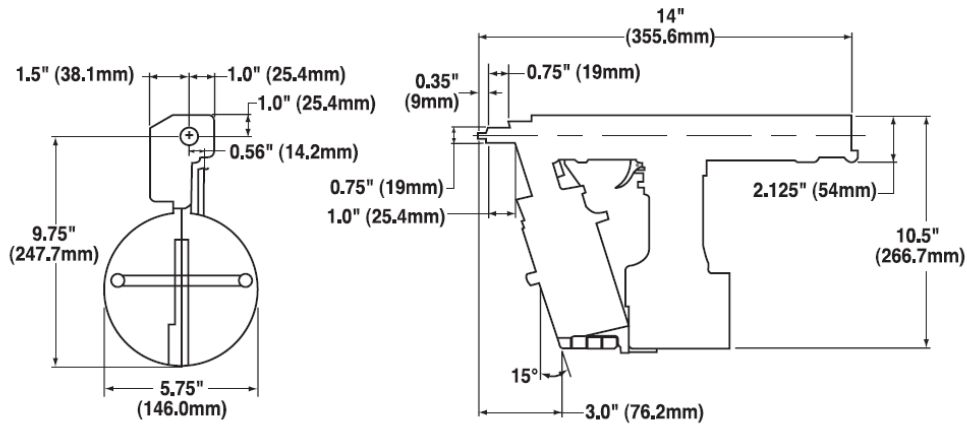
SPECIFICATIONS

The specifications and information contained in this manual are applicable only to the tool with which it was supplied. Industrial Rivet & Fastener Co reserve the right to make any changes without notice as part of Industrial Rivet & Fastener Co policy of continuous improvement.



SPECIFICATIONS FOR RK-4500 RIVET TOOL

Operating Air Pressure	85-95 psi [5-6.6 BAR]
Recommended Air Pressure	90 PSI [6 BAR]
Size	14.1x11.9x5.7" [358X303X146mm]
Pull Force	1,300 lbf [5782 N]
Stroke	.709 [18mm]
Cycle Time	0.9 seconds
Noise Level	85 dB(A)
Weight	5.08 lbs [2.3kg]
Vibration	2.5m/s ²
Hydraulic Oil	Mobil DTFE 24
Capacity	KS5 = 1/8 & 5/32" KS6 = 3/16"
Mandrel Collection Capacity	1 Full Coil



Standard Rivets

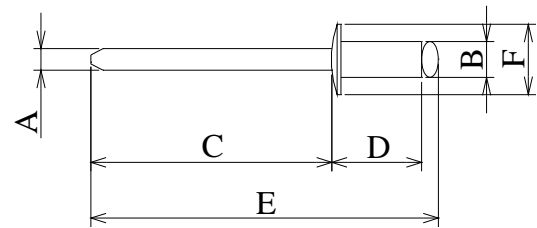
Material

Type of Rivet	Material		Rivet Outer Diameter (mm) (in)		
	Rivet Body	Mandrel	size 4 (φ3.2) (φ1/8)	size 5 (φ4.0) (φ5/32)	size 6 (φ4.8) (φ3/16)
Open	Aluminum	Aluminum	○	○	○
	Aluminum	Steel	○	○	○
	Aluminum	Stainless Steel	○	○	○
Shield	Steel	Steel	○	○	○
	Stainless Steel	Steel	○	○	×
	Stainless Steel	Stainless Steel	○	○	×

(N.B. This does not include articles with a breaking force of greater than 658 kgf)

Dimensions

A :	Suitable size -----	mandrel side tape hole size +0.1mm (Use the size of tape closest to the appropriate size)
B :	size 4 rivet ----- size 5 rivet ----- size 6 rivet -----	1/8 Inch 5/32 Inch 3/16 Inch
C :	size 4 rivet ----- size 5 rivet ----- size 6 rivet -----	1.06 In ~ 1.41 In 1.10 In ~ 1.41 In 1.14 In ~ 1.41 In
D :	RK-4500KS5 / RK-4500KS5 -----	Maximum 0.88 In
E :	Maximum -----	2.165 In
F :	RK-4500KS5 ----- RK-4500KS5 -----	Maximum 0.32 In Maximum 0.40 In



(N.B. 0.63 In when using LF tape)

For other or special rivets, please consult Industrial Rivet & Fastener Co.

TYPES OF CONNECTING TAPE

DANGER! IN ORDER TO AVOID DAMAGE TO THE RIVETER AND ACCIDENTS, USE ONLY THE RIVET KING CONNECTING TAPE.
TABLE SHOWING TYPES OF TAPE AND TAPE SELECTION OPEN TYPE AND SHIELD TYPE.

Type of Tpaе		Rivet Body Diameter	Connecting Tapes Reference Hole Dimensions	
			Rivet Body Side	Mandrel Side
KS5				
	4A type	.125 In	.119 In	.067 In
	4B type	.125 In	.119 In	.071 In
	5C type	.157 In	.150 In	.085 In
	5D type	.157 In	.150 In	.090 In
KS6				
	6E type	.188 In	.183 In	.100 In
	6F type	.188 In	.183 In	.110 In
	6M type	.188 In	.183 In	.114 In
	6H type (for LF)	.188 In	.183 In	.100 In
	6L type (for LF)	.188 In	.183 In	.110 In

STANDARD ACCESSORIES

- | | | | |
|---------------------------------------|-------|--------------------------------------|-------|
| (1) Jet Oiler ----- | 1 pcs | (7) Single-ended Wrench (15mm) ----- | 1 pcs |
| (2) Minus Screwdriver with tube ----- | 1 pcs | (8) Single-ended Wrench (14mm) ----- | 1 pcs |
| (3) Refilling Maintenance Bolt ----- | 1 pcs | (9) Hexagonal Wrench (5mm) ----- | 1 pcs |
| (4) Pipe Spanner ----- | 1 pcs | (10) Hexagonal Wrench (2.5mm) ----- | 1 pcs |
| (5) Nosepiece - 5 (AHR5V2 only) ----- | 1 pcs | (11) Training Nose Adaptor ----- | 1 pcs |
| (6) Jaw Setting Jig ----- | 1 set | (12) Air Hose Assembly ----- | 1 pcs |

NOTE: AN OPTIONAL TRAINING NOSE ADAPTOR IS SHIPPED WITH THE KINGSET™ TOOL (FIG. 2). THE TRAINING NOSE ADAPTOR MAY BE INSTALLED TO PREVENT ACCIDENTAL TOOL AND/OR APPLICATION DAMAGE DUE TO THE CYCLING MOTION OF THE NOSE PISTON UNTIL THE OPERATOR BECOMES FAMILIAR WITH THE TOOL OPERATION.
 PREPARING THE TOOL FOR SERVICE

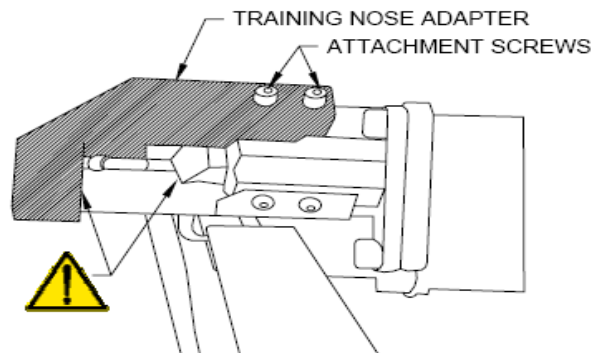


Figure 2: Training Nose Adaptor

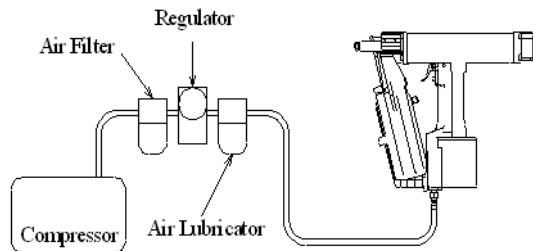
AIR SUPPLY

- The rivet tool is powered by compressed air at an optimum pressure of 90 psi (6 BAR)
- The use of a pressure regulator filter/lubricator unit within 3 meters of the tool is highly recommended to extend the life of the tool.

Dirt and/or water in the air supply can seriously impact the performance and durability of the tool; damage to the tool caused by contaminated air supply is not covered under warranty

Caution!

If the air pressure is too high, there is a danger of parts being damaged, While if it is too low, riveting may not be possible.



UNPACKING AND INSPECTION

- ➡ Unpack the tool making sure all components are present. Keep the box and do not damage it. You may wish to use it to send the tool back to us for scheduled maintenance or repair.
- ➡ Check for visible damage to the hydraulic cylinder. Mild abrasions are common in the painting process, however, check for hairline cracks or broken parts which might have occurred during shipping.
- ➡ Fit the air hose (Valve Side) to the base of the tool. Do not over tighten.
- ➡ Check the air pressure service and insure it is between 85-95 psi [5-6.6 BAR]. (adjust if necessary)
- ➡ Connect the air hose to the air service line.
- ➡ Test fire the tool without rivets listening to the tool to insure it properly cycles. Check that the only visible moving part (take-up reel located at the back left side of the tool) to insure it spins with each cycle.
- ➡ Disconnect the air hose until ready for riveting.



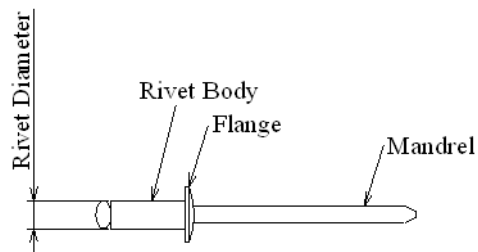
NOSEPIECE — CHECK TO MAKE SURE IT IS THE CORRECT ONE

1. Measure the diameter of the rivet to be placed.
2. Insure the proper nose piece is provided with the tool. (**See Rivet & Nose Piece Selection, page 13**). If the proper nose piece is not provided with the tool, call the sales department.
3. Hand tighten all nose piece connections. Do not over tighten.

4. Change the nosepiece to suit the size of rivet being used.

The nosepiece fitted is the one designated when ordering. The nosepiece should be changed if a different size of rivet is used.

When changing the nosepiece, use the open-end wrench supplied.



5. Areas of maintenance

When using the air-combination, remove the water from the air filter regularly, adjust the regulator air pressure, and check the volume and flow of oil in the oiler. Check for cracks in all parts, looseness of screws and fastenings and seeping or leaking of oil, and ensure that the one touch cycle (automatic rivet setting system) is functioning properly.

Danger!

5.

If too high an air pressure is used, the machine will break, possibly resulting in accident or injury. As a safety device, the machine is equipped with an alarm device near the air inlet. The outlet pressure is set at 85-95 psi [5-6.6 BAR] when assembled. The air pressure used must always be between 85-95 psi [5-6.6 BAR].

(Restarting Method)

If the alarm valve comes into operation, restart according to the procedure described below.

- (1) Disconnect the air.
- (2) Adjust the air supply pressure to an appropriate level.
- (3) Connect the air.

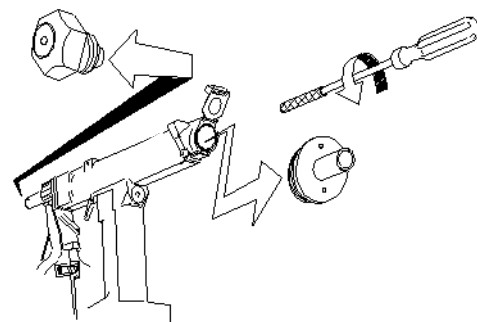
MAINTENANCE

In order to maintain the tool in a safe working order it is important to carry out regular maintenance as prescribed by the manufacturer. A thorough inspection replacement of all seals within the tool should be carried out after 500,000 placings or annually, whichever is the sooner. Item numbers in parentheses refer to assembly drawing part numbers

Daily Maintenance

- Check for air leaks. Any damaged hoses should be replaced
 - Lubricate the tool by pouring a few drops of light lubricating oil into the air inlet on the tool
 - If there is no pressure regulator, bleed the airline to clear it of accumulated dirt or water before connecting the air hose to the tool. If there is a filter, drain it.
 - Check for proper nose piece which is dependent on the size of the rivet.
 - Remove the nose piece from the front nose assembly and inspect for cracks, wear or other damage. Replace if necessary.
 - Check that front nose assembly is fully tightened onto body
1. **Clean the 3-piece Jaw from the nosepiece side.**

Using the air gun is dangerous, and protective glasses should always be worn. Remove the nosepiece using the spanner set supplied, and remove any metal filings from around the jaw using the air gun. Use a rag to prevent the metal filings from flying around. Check the amount of dirt while doing this and, if necessary, remove the jaw and clean it.



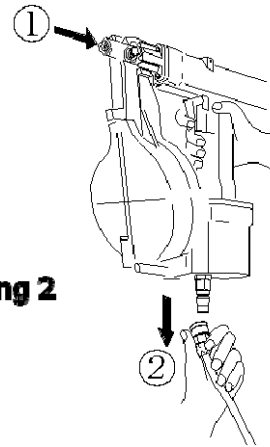
Drawing 1

2. Using the spanner supplied, remove the nosepiece. Attach a maintenance tube to the tip of the Screwdrivers supplied, and remove the slide guide. (Drawing 1)

3. While holding the trigger, affix the nose piston as far back as it will go, and remove the air plug.

(Drawing 2)

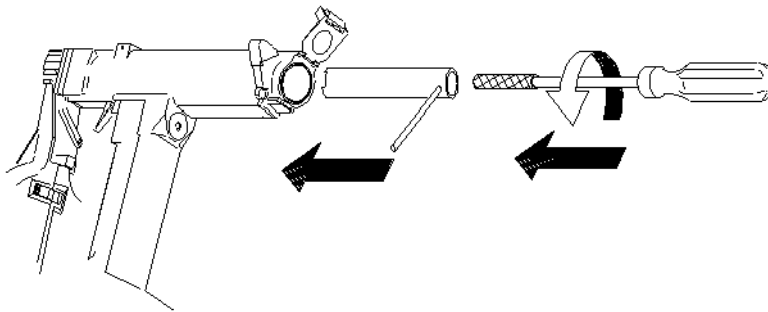
Drawing 2



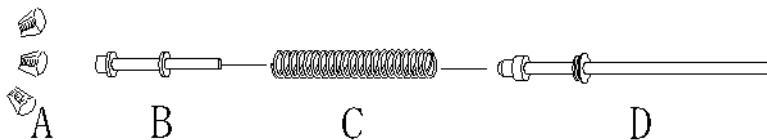
4. Using the pipe spanner and screwdriver supplied, remove (Drawing 3) the slide pipe.
(Drawing 4-D)

Use the pipe spanner by aligning with the jaw case piston at the back and affixing.

5. Hold the machine upside down, and take out the slide pipe (Drawing 4-D), jaw pusher spring (Drawing 4-C), jaw pusher (Drawing 4-B) and jaw (Drawing 4-A).
If grease has caused the jaw to become stuck to the inside, push it out from the nose piston side with the refilling maintenance bolt.



Drawing 3

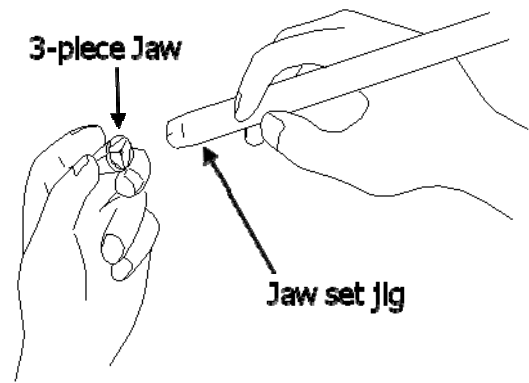


Drawing 4

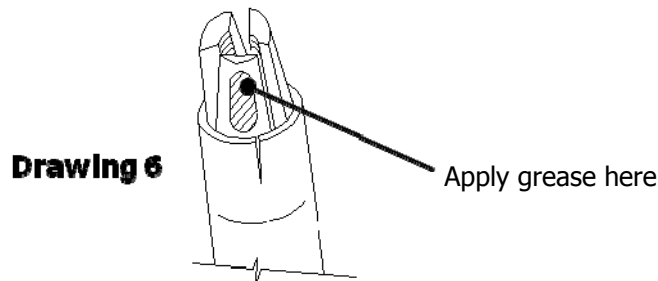
6. Clean the parts removed with kerosene or the equivalent. Use a wire brush to thoroughly remove any metal filings from the teeth of the jaw. Any filings on the body of the jaw can be removed with an air gun.

7. Insert 3 jaws into the tip of the tube on the the outside of the jaw Setting Jig.
(Drawing 5, Drawing 6)

As shown in Drawing 6, apply an over-the-counter Molybdenum grease.
(Note that applying grease to the jaw teeth will cause the teeth to slip on the rivets, and may make riveting impossible).

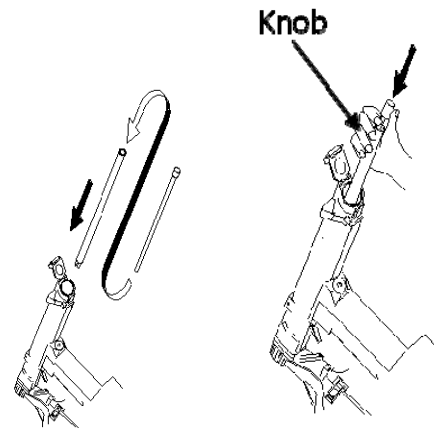


Drawing 5



Drawing 6

8. Insert the jig, as shown in (Drawing 7).
Stop it about 5mm before it touches the end,
and press the knob on the inside of the tube.
(Drawing 8)



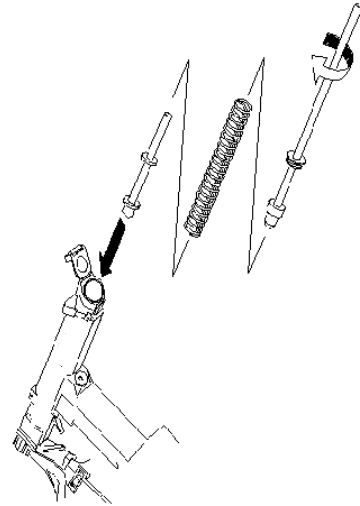
Drawing 7

Drawing 8

9. Insert the parts in the order shown in (Drawing 9), and use the screwdriver and pipe spanner supplied to attach the slide pipe.

Caution!

If the slide pipe is tightened too hard, it will be difficult to remove, and could cause damage to the head of the screwdriver.

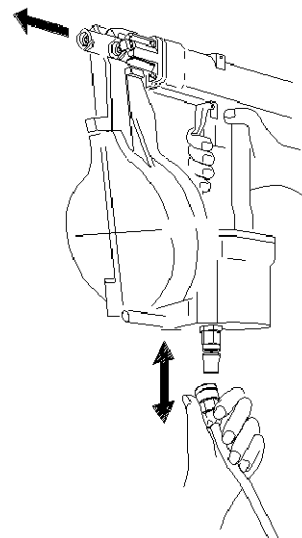


Drawing 9

10. Connect the air coupler, return the air cycle to its starting point, and disconnect the air coupler. (Drawing 10)

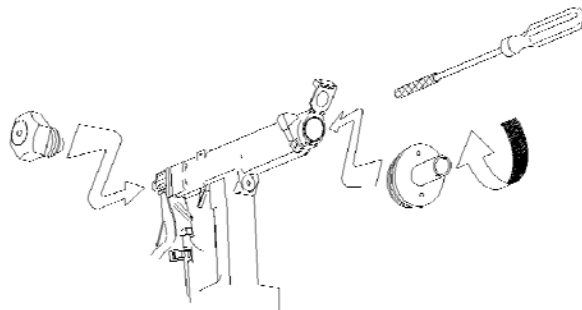
Caution!

When doing this, the nose will come forward, keep the hands clear to avoid injury.



Drawing 10

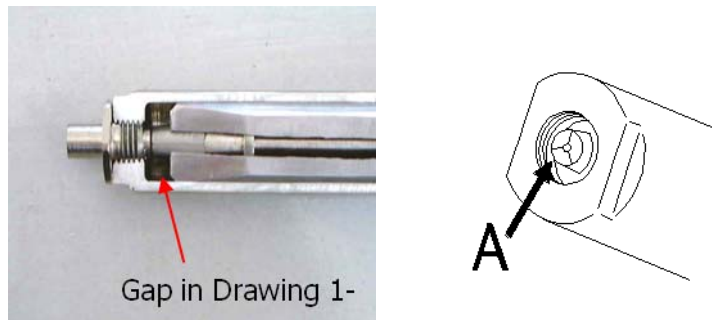
11. Use the supplied screwdriver with tube attached to attach the slide guide inside the cap case. (Drawing 11)
Use the open-end wench supplied (sizes 14mm and 15mm) to attach the nosepiece.



Air Removal (Bubbles) and Refilling Methods

Air release and refilling are needed in the following cases.

- a. Operating speed seems to have slowed
- b. After around 20,000 rivetings.
- c. A gap can be seen in the nose tip (Drawing 1-A) when disconnecting the air coupler.



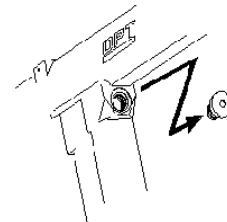
Drawing 1

1. Remove any rivets still attached to the machine, as well as all broken off mandrels. Wipe off any dirt that may be adhering to part (Drawing 1-A).
2. Stop the air supply. (disconnect the air coupler)

Danger!

Always disconnect the air hose when releasing air or refilling.

3. Use the hexagonal wrench (5mm) to remove the refilling plug. (Drawing 2)



Drawing 2

4. Cover the fuel inlet with a rag. (Drawing 3)

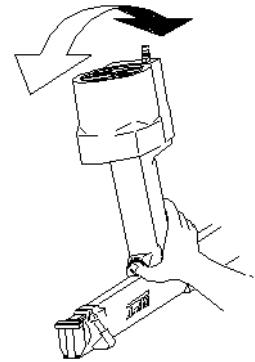


Drawing 3

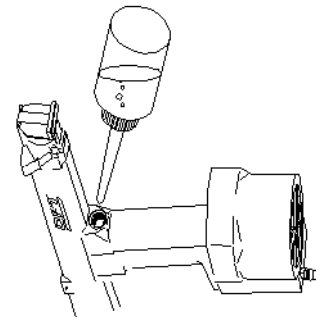
5. With the rag still in place, open the cap, and press hard on the slide pipe with the refilling maintenance bolt. (Drawing 3)

* Check that the gap in Drawing 1-A has disappeared.

6. Cover the fuel inlet with the thumb, and turn the riveter upside down to move the air in the hydraulic chamber into the booster cylinder. (Drawing 4)



7. Bring the fuel inlet slowly back to the top again, and replenish the oil to cover the amount of air bubbles that appear. (Drawing 5)



8. Repeat steps 6 and 7 2 or 3 times until the air bubbles stop appearing, then replenish until just short of overflowing and replace the refilling plug.



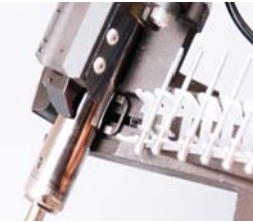
Installing the Connecting Tape



- 1) Push the magazine latch towards the magazine and open it.



- 2) Roll up the connecting tape containing the rivets, and put it in the magazine.



- 3) Feed the tip of the tape under the plate spring, and hook the first guide hole on the back of the tape on to the feeding claw.



- 4) Close the magazine to hold the connecting tape in place.



- 5) Connect the air hose and pull the trigger once. A rivet will automatically be fed into the nosepiece.

Removing the Connecting Tape



- 1) Push the magazine latch towards the magazine and open it.



- 2) Still holding the trigger, pull the finished tape upwards.

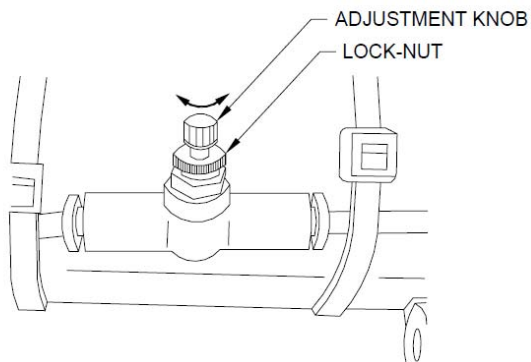


- 3) After removing the tape, release the trigger.



- 4) Turn off the air supply, and always throw away the mandrels in the holder.

Removing the Connecting Tape

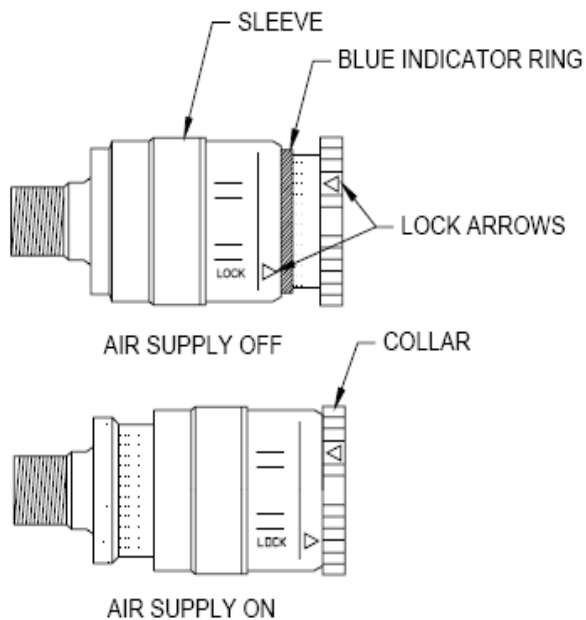


- (1) Use the speed controller to raise the vacuum pressure until the rivet is held in place.
- (2) Affix with the Lock nut.

Danger!

Always disconnect the air hose when loading the connecting tape.

The following explanation should be read and clearly understood before starting operations.



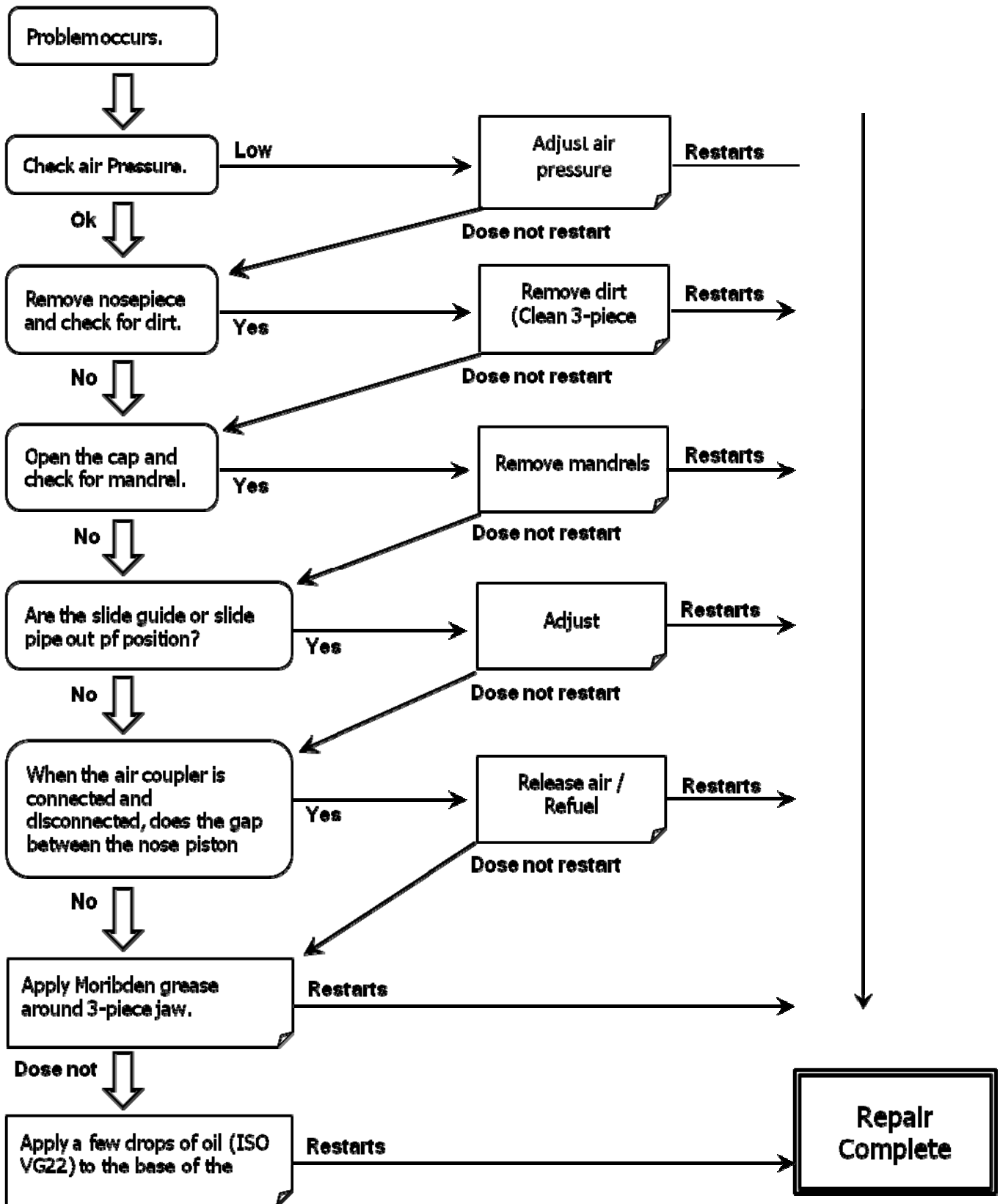
AIR FITTING OPERATION The air fitting supplied with the KingSet™ tools has an On/Off flow valve built into it. To operate the valve, do the following:

1. Push the female Quick-connect hose fitting over the male fitting on the KingSet™ tool. When fully connected you will see a blue Indicator Ring (Fig. 1).
2. To turn on the air supply to the tool, slide the Sleeve toward the blue Indicator Ring.
3. To lock the fitting so that the air does not accidentally get shut off, twist the Collar and Sleeve so that the Locking Arrows line up.

Figure 1: Tool Air Supply fitting.

TROUBLESHOOTING

RK-4500 Trouble Countermeasures



TROUBLESHOOTING

Symptom	Cause	Action
Nose piston does not stop moving backwards and forwards.	Air was supplied when the trigger's main axis was at the air passage changeover point.	With the air supply connected, pull the trigger for 3 seconds or more.
The mandrels do not break.	Air pressure is too low.	Adjust air pressure to 85-95 psi [5-6.6 BAR].
	Unsuitable rivets (high breaking strength) were used.	After resetting, remove the jaw and rivets.
	There is not enough oil.	Carry out air release and refilling.
	The jaw is worn or loaded.	Clean or replace jaw.
The nose piston stops halfway back.	The mandrel has gone too far inside the Mandrel Collector.	After resetting, open the cap and remove the mandrel.
	The slide pipe or slide guide have come off.	Remove the slide guide and slide pipe. Remove all mandrels from inside, then reassemble. *N.B. If even one is left, the tool will not restart.
The nose piston is stuck at the back position.	There is dirt between the nose piston and jaw case.	Remove the nosepiece, and clean around the jaw with an air blower. *If the trigger is pulled, then the air supply is stopped immediately, a gap will open between the pistons, making cleaning easier.
	Air has accumulated in the hydraulic chamber.	Carry out air release and refilling.
	Air release was insufficient, meaning that a large amount of oil has come in.	Carry out air release and refilling as described in step 5, and check that the gap in Drawing 1-A has disappeared.
	The grease around the 3-part jaw has dried, so the jaw has become stuck to the jaw case.	Clean the jaw, apply Moly grease to the back of the jaw, then reposition the jaw.
The operating speed has dropped.	Air pressure has dropped.	Wait until the pressure inside the compressor is back to normal.
	Air has accumulated in the hydraulic chamber.	Carry out air release and refilling.
	The grease has dried on one or more parts.	Apply 1 or 2 drops of oil (MOBILE DTE) to the base of the nose piston and coupler, and move 5 ~ 10 times. *Keep an oiler permanently on hand.
The mandrel is jammed.	The nosepiece is the wrong size.	Use a nosepiece which is compatible with the rivets.
	The jaw pusher and slide pipe are the wrong size.	Use a jaw pusher and slide pipe which are compatible with the rivets.
	Incompatible rivets are being used.	Contact the dealer or maker.
The rivets are not being held.	The filter is blocked.	Exchange cotton ball in the filter.
The rivets will not load.	The nosepiece is the wrong size.	Use a nosepiece compatible with the rivets.
	The rivets are not inserted properly in the connecting tape.	Find the problem and correct it. Do not use in the event of damage likely to have an effect on the operation of the tool.
	The plate spring attachment has been removed, causing faulty positioning.	Apply to us or the retailer for repairs.
There is a noise in the coupler area.	The alarm device has been activated.	Check the air pressure, and adjust to the appropriate level.

TROUBLESHOOTING

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-1	Nose Piston	1	1
RK4500-2	Jaw Case	1	1
RK4500-3	Trigger Shaft	1	1
RK4500-4	Trigger Cover	1	1
RK4500-5	Trigger Shaft Sleeve	1	1
RK4500-6	Jaw Case Piston	1	1
RK4500-10	High Pressure Piston	1	1
RK4500-12	Trigger Block	1	1
RK4500-13	Ejector Nozzle	1	1
RK4500-14	Diffuser	1	1
RK4500-15	Jaw Pusher Spring	1	1
RK4500-16	Trigger Spring	1	1
RK4500-17	Trigger Pin	1	1
RK4500-18	Tool Hanger - Horizontal	1	1
RK4500-19	Grip Cover	1	1
RK4500-20	Relief Valve Spring	1	1
RK4500-21	Relief Valve	1	1
RK4500-22	Pilot Piston - Trigger	1	1
RK4500-23	Slide Guide	1	1
RK4500-24	Centering Finger	2	2
RK4500-25	Centering Shaft	2	2
RK4500-27	Trigger	1	1
RK4500-28	Diffuser Pin - MCS	1	1
RK4500-29	Centering Spring	2	2
RK4500-30	Alarm Valve Screw	1	1
RK4500-31	Air Valve Supply Tube	1	1
RK4500-32	Air Supply Tube	1	1
RK4500-33	Air Chamber Supply Tube	1	1
RK4500-34	Piston Retract Supply Tube	1	1
RK4500-35	Return Supply Tube	1	1
RK4500-36	Air Valve Shuttle Supply Tube	1	1
RK4500-37	Mandrel Deflector	1	1
RK4500-39	Cap - MCS	1	1
RK4500-40	Latch Box	1	1
RK4500-41	Cap Shaft - MCS	1	1
RK4500-42	Latch Shaft - MCS	1	1
RK4500-43	Latch Spring Receiver - MCS	1	1
RK4500-44	Latch - MCS	1	1
RK4500-46	Magazine Base	1	1
RK4500-48	Indexer Exhaust Bolt	1	1
RK4500-49	Latch Spring - MCS	1	1
RK4500-50	Magazine Pin	1	1
RK4500-78	O-ring S40	2	2
RK4500-79	O-ring JASO3067	1	1

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-80	O-ring S4	5	5
RK4500-81	O-ring P10	1	1
RK4500-82	O-ring P6	2	2
RK4500-83	O-ring S2	3	3
RK4500-85	O-ring P18	2	2
RK4500-86	Mini Y-packing φ8	1	1
RK4500-87	Mini Y-packing φ24	1	1
RK4500-88	Penta Seal φ15	1	1
RK4500-89	Penta Seal φ24	1	1
RK4500-90	Piston Air Seal φ41.5	2	2
RK4500-91	DU Bushing 2408	1	1
RK4500-92	DU Bushing 1810	1	1
RK4500-93	DU Bushing 1508	1	1
RK4500-94	DU Bushing 0404	4	4
RK4500-95	Gasket M5	1	1
RK4500-96	O-Ring S71	1	1
RK4500-97	SUS E-Ring E3	2	2
RK4500-98	SUS E-Ring E2	5	5
RK4500-99	Retaining Ring - Internal	1	1
RK4500-101	Refilling Plug	1	1
RK4500-102	Cap Bolt - SUS M3x35	2	2
RK4500-103	Cap Bolt - SUS M5x16	1	1
RK4500-104	Cap Bolt - SUS M5x20	4	4
RK4500-105	Torx Head Cap Bolt - SUS M5x25	2	2
RK4500-106	Button Head Cap Bolt - SUS M6x16	4	4
RK4500-107	Machince Screw - SUS M3x8	2	2
RK4500-108	Tapping Screw - SUS M3x5	1	1
RK4500-109	Machince Screw - SUS M4x8	1	1
RK4500-110	Machince Screw - SUS M5x8	1	1
RK4500-111	Hexagonal Bolt - SUS M5 x 20	1	1
RK4500-112	Cap Bolt - SUS M4x20	1	1
RK4500-113	Set Screw - SUS M4x8, Cone Point	1	1
RK4500-114	Set Screw - SUS M3x6, Flat Point	2	2
RK4500-115	Cap Bolt - SUS M3x8	2	4
RK4500-116	O-ring S6	1	1
RK4500-117	O-ring JASO2030	1	1
RK4500-118	Push to Connect Male 6mm x M6	4	4
RK4500-119	Push to Connect Male 4mm x M5	1	1
RK4500-120	Push to Connect Elbow 6mm x M5	2	2
RK4500-121	360 Degree Barb Elbow 6mm x M5	2	2
RK4500-122	360 Degree Barb Elbow 4mm x M5	1	1
RK4500-123	Push to Connect Male 6mm x 1/8	1	1
RK4500-124	Nose Piston Hydraulic Seal	1	1
RK4500-125	Wear Ring φ41.5	2	2



Common Parts

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-126	Jaw Case Piston Hydraulic Seal	1	1
RK4500-127	Steel Ball - 4mm	2	2
RK4500-128	Set Screw - SUS M5x5, Flat Point	1	1
RK4500-129	Machince Screw - SUS M3x5	1	1
RK4500-130	O-ring P28	1	1
RK4500-132	Cap Bolt - SUS M3x8	4	4
RK4500-133	Steel Ball - 3mm	11	12
RK4500-136	Indexer Exhaust Gasket M3	1	1
RK4500-138	Steel Ball - 2mm	1	1
RK4500-139	Cap Bolt - SUS M2.5x12	2	2
RK4500-140	Air Operated Valve	1	1
RK4500-141	Cap Bolt - SUS M3x14	2	2
RK4500-142	Cap Bolt - SUS M3x8	3	3
RK4500-143	SUS E-ring E3	2	2
RK4500-144	Magazine Foot	2	2
RK4500-145	Washer M3	2	2
RK4500-146	Cap Bolt - SUS M3x12	2	2
RK4500-151	Mandrel Collector Housing	1	1
RK4500-162	Magazine Latch	1	1

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-163	Magazine Latch Pin	1	1
RK4500-164	Magazine Latch Spring	1	1
RK4500-174	Torx Head Bolt - SUS M3x8	2	2
RK4500-176	360 Deg Barb Elbow 6mm x M5	1	1
RK4500-178	Casing	1	1
RK4500-180	Booster Cylinder	1	1
RK4500-182	Filter Holder	1	1
RK4500-183	Filter Case	1	1
RK4500-184	Cotton Ball	2	2
RK4500-185	O-ring 1A-SS12	1	1
RK4500-402	Vacuum Tube Elbow Fitting	2	2
RK4500-403	Vacuum Adjuster	1	1
RK4500-404	Vacuum Tube - Long	1	1
RK4500-405	Vacuum Tube - Short	1	1
RK4500-406	Cable Tie	2	2
RK4500-407	Coupler Plug - Male	1	1
RK4500-409	Inline Hook	1	1
RK4500-410	Retaining Ring - E-Ring	1	1
RK4500-421	Vacuum Tube Support	1	1

Exclusive Parts

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-11	Valve Block - 5	1	-
RK4500-45	Magazine Cover - 5	1	-
RK4500-47	Cover Plate	1	-
RK4500-51	Centering Finger Base - 5	1	-
RK4500-52	Plate Spring - 5	1	-
RK4500-53	Plate Spring Support - 5	1	-
RK4500-54	Indexer Piston A - 5	1	-
RK4500-55	Indexer Piston B - 5	1	-
RK4500-56	Pawl - 5	1	-
RK4500-57	Indexer Cap - 5	1	-
RK4500-58	Indexer Spring - 5	2	-
RK4500-59	Indexer Buffer Spring - 5	1	-
RK4500-60	Indexer Housing - 5	1	-
RK4500-61	Jaw Pusher - 5	1	-
RK4500-62	Slide Pipe - 5	1	-
RK4500-134	Button Head Cap Bolt - SUS M3x6	2	-
RK4500-135	O-ring P20	2	-
RK4500-137	Cap Bolt - SUS M2.5x10	4	-
RK4500-414	Wear Ring 24mm	1	-

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-417	Unit Jaw - 5	1	-
RK4500-26	3-part Jaw - 6	-	3
RK4500-201	Plate Spring - 6	-	1
RK4500-202	Pawl - 6	-	1
RK4500-203	Indexer Housing - 6	-	1
RK4500-204	Indexer Spring - 6	-	1
RK4500-205	Centering Finger Base - 6	-	1
RK4500-206	Indexer Piston A - 6	-	1
RK4500-207	Indexer Piston B - 6	-	1
RK4500-208	Indexer Cap - 6	-	1
RK4500-209	Indexer Buffer Spring - 6	-	1
RK4500-210	Plate Spring Support - 6	-	1
RK4500-211	Magazine Cover - 6	-	1
RK4500-214	Valve Block - 6	-	1
RK4500-215	Jaw Pusher - 6	-	1
RK4500-216	Slide Pipe - 6	-	1
RK4500-220	O-ring P16	-	1
RK4500-416	Wear Ring φ20	-	3



Assembly Parts

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-603	Nose Assembly - 5	1	-
RK4500-604	Alarm Valve Assembly - 5	1	-
RK4500-605	Cap Assembly	1	1
RK4500-607	Jaw Case Piston Assembly	1	1
RK4500-608	Trigger Shaft Assembly	1	1
RK4500-609	Trigger Valve Assembly	1	1
RK4500-610	Casing Assembly	1	1
RK4500-611	Nose Piston Assembly	1	1
RK4500-612	Alarm Valve Assembly - 6	-	1
RK4500-613	Nose Assembly - 6	-	1
RK4500-614	Mandrel Collector Housing Assmblly	1	1
RK4500-616	Magazine Assembly - 5	1	-
RK4500-617	Magazine Assembly - 6	-	1
RK4500-618	3-piece Jaw Set - 5	1	-
RK4500-619	3-piece Jaw Set - 6	-	1

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-620	Centering Assembly - 5	1	-
RK4500-621	Centering Assembly - 6	-	1
RK4500-622	Booster Cylinder Assembly	1	1
RK4500-623	Jaw Setting Jig	1	1
RK4500-638	Nose Piston Sub Assembly	1	1
RK4500-639	Jaw Case Piston Sub Assembly	1	1
RK4500-640	Trigger Valve Sub Assmblly	1	1
RK4500-641	Nose Sub Assembly - 5	1	-
RK4500-642	Nose Sub Assembly - 6	-	1
RK4500-643	Mandrel Collector Housing Sub Assembly	1	1
RK4500-644	Casing Sub Assembly	1	1
RK4500-646	Booster Cylinder Sub Assmblly	1	1
RK4500-649	Filter Assembly	1	1
RK4500-651	Centering Finger Sub Assembly	2	2

Nosepieces

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-500	Nosepiece - 4 - FINE	Acc	-
RK4500-501	Nosepiece - 4	1	-
RK4500-502	Nosepiece - 5	1	-
RK4500-503	Nosepiece - 6	-	1

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-525	Nosepiece - 4 - FINE/FLAT	Acc	-
RK4500-527	Nosepiece - 4 - FLAT	Acc	-
RK4500-528	Nosepiece - 5 - FLAT	Acc	-
RK4500-529	Nosepiece - 6 - FLAT	-	Acc

Accessories

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-67	Jaw Hold Tube	1	1
RK4500-68	Jaw Pushing Tube	1	1
RK4500-69	Jaw Pushing Knob	1	1
RK4500-70	Pipe Spanner	1	1
RK4500-71	Refuelling Maintenance Bolt	1	1
RK4500-72	Single-ended Wrench (15mm)	1	1
RK4500-73	Single-ended Wrench (14mm)	1	1

Parts No.	Parts Name	Q'ty	
		KS5	KS6
RK4500-74	Minus Screw Driver with Tube	1	1
RK4500-75	Training Nose Adaptor	1	1
RK4500-153	Hexagonal Wrench (5mm)	1	1
RK4500-154	Hexagonal Wrench (2.5mm)	1	1
RK4500-155	Jet Oiler	1	1
RK4500-636	Air Hose Assembly	1	1
RK4500-998	Spindle Oil - 1 Quart	1	1
RK4500-999	Moly Grease - 2.5 oz	1	1

Assemblies/Kits

Kit# 603 Part# RK4500-603-KS5 Nose Ass'y (Cut version)

KCK Part#	IRF Part#	Part Name	Q'ty
48	RK4500-048-KS	Indexer Exhaust Bolt	1
52	RK4500-052-KS5	Plate Spring - 5	1
53	RK4500-053-KS5	Plate Spring Support - 5	1
54	RK4500-054-KS5	Indexer Piston A - 5	1
55	RK4500-055-KS5	Indexer Piston B - 5	1
56	RK4500-056-KS5	Pawl - 5	1
57	RK4500-057-KS5	Indexer Cap - 5	1
58	RK4500-058-KS5	Indexer Spring - 5	2
59	RK4500-059-KS5	Indexer Buffer Spring - 5	1
78	RK4500-078-KS	O-ring S40	1
80	RK4500-080-KS	O-ring S4	2
85	RK4500-085-KS	O-ring P18	2
113	RK4500-113-KS	Socket Set Screw - SUS M4x8, Cone Point	1
115	RK4500-115-KS	Socket Head Cap Bolt - SUS M3x8	2
135	RK4500-135-KS5	O-ring P20	2
136	RK4500-136-KS	Indexer Exhaust Gasket M3	1
137	RK4500-137-KS5	Socket Head Cap Bolt - SUS M2.5x10	4
174	RK4500-174-KS	Torx Head Cap Bolt - SUS M3x8	2
414	RK4500-414-KS5	Wear Ring ϕ 24	1
641	RK4500-641-KS5	Nose Sub Assembly - 5	1

Kit# 604 Part# RK4500-604-KS5 Alarm Valve Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
11	RK4500-011-KS5	Valve Block - 5	1
20	RK4500-020-KS	Relief Valve Spring	1
21	RK4500-021-KS	Relief Valve	1
30	RK4500-030-KS	Alarm Valve Screw	1
83	RK4500-083-KS	O-ring S2	1
122	RK4500-122-KS	360 Degree Barb Elbow 4mm x M5	1
123	RK4500-123-KS	Push to Connect Male 6mm x 1/8	1

Kit# 605 Part# RK4500-605-KS5 Cap Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
37	RK4500-037-KS	Mandrel Deflector	1
39	RK4500-039-KS	Cap - MCS	1
42	RK4500-042-KS	Latch Shaft - MCS	1
43	RK4500-043-KS	Latch Spring Receiver - MCS	1
44	RK4500-044-KS	Latch - MCS	1
49	RK4500-049-KS	Latch Spring - MCS	1
98	RK4500-098-KS	SUS E-Ring E2	2
129	RK4500-129-KS	Cross-recessed Pan-head Machine Screw - SUS M3x5	1

Kit# 607 Part# RK4500-607-KS5 Jaw Case Piston Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
90	RK4500-090-KS	Piston Air Seal ϕ 41.5	1
117	RK4500-117-KS	O-ring JASO2030	1
125	RK4500-125-KS	Wear Ring ϕ 41.5	1
126	RK4500-126-KS	Jaw Case Piston Hydraulic Seal	1
639	RK4500-639-KS	Jaw Case Piston Sub Assembly	1



Assemblies/Kits *continued*

Kit# 608 Part# RK4500-608-KS5 Trigger Shaft Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
3	RK4500-003-KS	Trigger Shaft	1
83	RK4500-083-KS	O-ring S2	2

Kit# 609 Part# RK4500-609-KS5 Trigger Valve Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
4	RK4500-004-KS	Trigger Cover	1
5	RK4500-005-KS	Trigger Shaft Sleeve	1
16	RK4500-016-KS	Trigger Spring	1
17	RK4500-017-KS	Trigger Pin	1
27	RK4500-027-KS	Trigger	1
80	RK4500-080-KS	O-ring S4	2
82	RK4500-082-KS	O-ring P6	2
98	RK4500-098-KS	SUS E-Ring E2	1
99	RK4500-099-KS	Retaining Ring - Internal	1
118	RK4500-118-KS	Push to Connect Male 6mm x M6	3
119	RK4500-119-KS	Push to Connect Male 4mm x M5	1
608	RK4500-608-KS	Trigger Shaft Assembly	1
640	RK4500-640-KS	Trigger Valve Sub Assmblly	1

Kit# 610 Part# RK4500-610-KS5 Casing Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
87	RK4500-087-KS	Mini Y-packing ϕ 24	1
89	RK4500-089-KS	Penta Seal ϕ 24	1
96	RK4500-096-KS	O-Ring S71	1
644	RK4500-644-KS	Casing Sub Assembly	1

Kit# 611 Part# RK4500-611-KS5 Nose Piston Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
88	RK4500-088-KS	Penta Seal ϕ 15	1
90	RK4500-090-KS	Piston Air Seal ϕ 41.5	1
124	RK4500-124-KS	Nose Piston Hydraulic Seal	1
125	RK4500-125-KS	Wear Ring ϕ 41.5	1
638	RK4500-638-KS	Nose Piston Sub Assembly	1

Kit# 612 Part# RK4500-612-KS5 Alarm Valve Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
20	RK4500-020-KS	Relief Valve Spring	1
21	RK4500-021-KS	Relief Valve	1
30	RK4500-030-KS	Alarm Valve Screw	1
83	RK4500-083-KS	O-ring S2	1
122	RK4500-122-KS	360 Degree Barb Elbow 4mm x M5	1
123	RK4500-123-KS	Push to Connect Male 6mm x 1/8	1
214	RK4500-214-KS6	Valve Block - 6	1



Assemblies/Kits *continued*

Kit# 613

Part# RK4500-613-KS5

Nose Ass'y KS-6

KCK Part#	IRF Part#	Part Name	Q'ty
48	RK4500-048-KS	Indexer Exhaust Bolt	1
78	RK4500-078-KS	O-ring S40	1
80	RK4500-080-KS	O-ring S4	2
85	RK4500-085-KS	O-ring P18	2
113	RK4500-113-KS	Socket Set Screw - SUS M4x8, Cone Point	1
115	RK4500-115-KS	Socket Head Cap Bolt - SUS M3x8	4
136	RK4500-136-KS	Indexer Exhaust Gasket M3	1
174	RK4500-174-KS	Torx Head Cap Bolt - SUS M3x8	2
201	RK4500-201-KS6	Plate Spring - 6	1
202	RK4500-202-KS6	Pawl - 6	1
204	RK4500-204-KS6	Indexer Spring - 6	1
206	RK4500-206-KS6	Indexer Piston A - 6	1
207	RK4500-207-KS6	Indexer Piston B - 6	1
208	RK4500-208-KS6	Indexer Cap - 6	1
209	RK4500-209-KS6	Indexer Buffer Spring - 6	1
210	RK4500-210-KS6	Plate Spring Support - 6	1
220	RK4500-220-KS6	O-ring P16	1
416	RK4500-416-KS6	Wear Ring φ20	3
642	RK4500-642-KS6	Nose Sub Assembly - 6	1

Kit# 614

Part# RK4500-614-KS5

Mandrel Collector Housing Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
40	RK4500-040-KS	Latch Box	1
41	RK4500-041-KS	Cap Shaft - MCS	1
78	RK4500-078-KS	O-ring S40	1
80	RK4500-080-KS	O-ring S4	1
98	RK4500-098-KS	SUS E-Ring E2	2
130	RK4500-130-KS	O-ring P28	1
132	RK4500-132-KS	Socket Head Cap Bolt - SUS M3x8	4
402	RK4500-402-KS	Vacuum Tube Elbow Fitting	1
409	RK4500-409-KS	Inline Hook	1
410	RK4500-410-KS	Retaining Ring - E-Ring	1
605	RK4500-605-KS	Cap Assembly	1
643	RK4500-643-KS	Mandrel Collector Housing Sub Assembly	1

Kit# 616

Part# RK4500-616-KS5

Magazine Ass'y - KS5

KCK Part#	IRF Part#	Part Name	Q'ty
45	RK4500-045-KS5	Magazine Cover - 5	1
46	RK4500-046-KS	Magazine Base	1
50	RK4500-050-KS	Magazine Pin	1
97	RK4500-097-KS	SUS E-Ring E3	2
144	RK4500-144-KS	Magazine Foot	2
162	RK4500-162-KS	Magazine Latch	1
163	RK4500-163-KS	Magazine Latch Pin	1
164	RK4500-164-KS	Magazine Latch Spring	1

Kit# 617

Part# RK4500-617-KS6

Magazine Ass'y - KS6

KCK Part#	IRF Part#	Part Name	Q'ty
46	RK4500-046-KS	Magazine Base	1
50	RK4500-050-KS	Magazine Pin	1
97	RK4500-097-KS	SUS E-Ring E3	2
144	RK4500-144-KS	Magazine Foot	2
162	RK4500-162-KS	Magazine Latch	1
163	RK4500-163-KS	Magazine Latch Pin	1
164	RK4500-164-KS	Magazine Latch Spring	1
211	RK4500-211-KS6	Magazine Cover - 6	1



Assemblies/Kits *continued*

Kit# 618 Part# RK4500-618-KS5 3 Piece Jaw – KS5

KCK Part#	IRF Part#	Part Name	Q'ty
417	RK4500-417-KS5	Unit Jaw-5	1

Kit# 619 Part# RK4500-619-KS6 3 Piece Jaw – KS6

KCK Part#	IRF Part#	Part Name	Q'ty
26	RK4500-026-KS6	3-part Jaw 6	3

Kit# 620 Part# RK4500-620-KS5 Centering Ass'y – KS5

KCK Part#	IRF Part#	Part Name	Q'ty
25	RK4500-025-KS	Centering Shaft	2
29	RK4500-029-KS	Centering Spring	2
47	RK4500-047-KS5	Cover Plate	1
51	RK4500-051-KS5	Centering Finger Base - 5	1
114	RK4500-114-KS	Socket Set Screw - SUS M3x6, Flat Point	2
134	RK4500-134-KS	Button Head Cap Bolt - SUS M3x6	2
651	RK4500-651-KS	Centering Finger Sub Assembly	2

Kit# 621 Part# RK4500-621-KS6 Centering Ass'y – KS6

KCK Part#	IRF Part#	Part Name	Q'ty
25	RK4500-025-KS	Centering Shaft	2
29	RK4500-029-KS	Centering Spring	2
114	RK4500-114-KS	Socket Set Screw - SUS M3x6, Flat Point	2
205	RK4500-205-KS6	Centering Finger Base - 6	1
651	RK4500-651-KS	Centering Finger Sub Assembly	2

Kit# 622 Part# RK4500-622-KS Booster Cylinder Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
95	RK4500-095-KS	Gasket M5	1
110	RK4500-110-KS	Cross-recessed Pan-head Machine Screw - SUS M5x8	1
646	RK4500-646-KS	Booster Cylinder Sub Assembly	1

Kit# 623 Part# RK4500-623-KS Jaw Setting Jig

KCK Part#	IRF Part#	Part Name	Q'ty
67	RK4500-067-KS	Jaw Hold Tube	1
68	RK4500-068-KS	Jaw Pushing Tube	1
69	RK4500-069-KS	Jaw Pushing Knob	1

Kit# 638 Part# RK4500-638-KS Nose Piston Sub Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
1	RK4500-001-KS	Nose Piston	1
93	RK4500-093-KS	DU Bushing 1508	1

Kit# 639 Part# RK4500-639-KS Jaw Case Piston Sub Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
2	RK4500-002-KS	Jaw Case	1
6	RK4500-006-KS	Jaw Case Piston	1



Assemblies/Kits *continued*

Kit# 640 Part# RK4500-640-KS Trigger Valve Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
12	RK4500-012-KS	Trigger Block	1
127	RK4500-127-KS	Steel Ball - 4mm	1
133	RK4500-133-KS	Steel Ball - 3mm	3

Kit# 641 Part# RK4500-641-KS5 Nose Sub Ass'y – KS5

KCK Part#	IRF Part#	Part Name	Q'ty
60	RK4500-060-KS5	Indexer Housing - 5 (Cut Ver.)	1
92	RK4500-092-KS	DU Bushing 1810	1
133	RK4500-133-KS	Steel Ball - 3mm	5
138	RK4500-138-KS	Steel Ball - 2mm	1

Kit# 642 Part# RK4500-642-KS6 Nose Sub Ass'y KS6

KCK Part#	IRF Part#	Part Name	Q'ty
92	RK4500-092-KS	DU Bushing 1810	1
133	RK4500-133-KS	Steel Ball - 3mm	6
138	RK4500-138-KS	Steel Ball - 2mm	1
203	RK4500-203-KS6	Indexer Housing – 6	1

Kit# 643 Part# RK4500-643-KS Mandrel Collector Housing Sub Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
13	RK4500-013-KS	Ejector Nozzle	1
14	RK4500-014-KS	Diffuser	1
28	RK4500-028-KS	Diffuser Pin – MCS	1
116	RK4500-116-KS	O-ring S6	1
133	RK4500-133-KS	Steel Ball - 3mm	2
151	RK4500-151-KS	Mandrel Collector Housing	1

Kit# 644 Part# RK4500-644-KS Casing Sub Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
91	RK4500-091-KS	DU Bushing 2408	1
127	RK4500-127-KS	Steel Ball - 4mm	1
128	RK4500-128-KS	Socket Set Screw - SUS M5x5, Flat Point	1
178	RK4500-178-KS	Casing	1

Kit# 646 Part# RK4500-646-KS Booster Cylinder Sub Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
133	RK4500-133-KS	Steel Ball - 3mm	1
180	RK4500-180-KS	Booster Cylinder	1

Kit# 649 Part# RK4500-649-KS Filter Ass'y

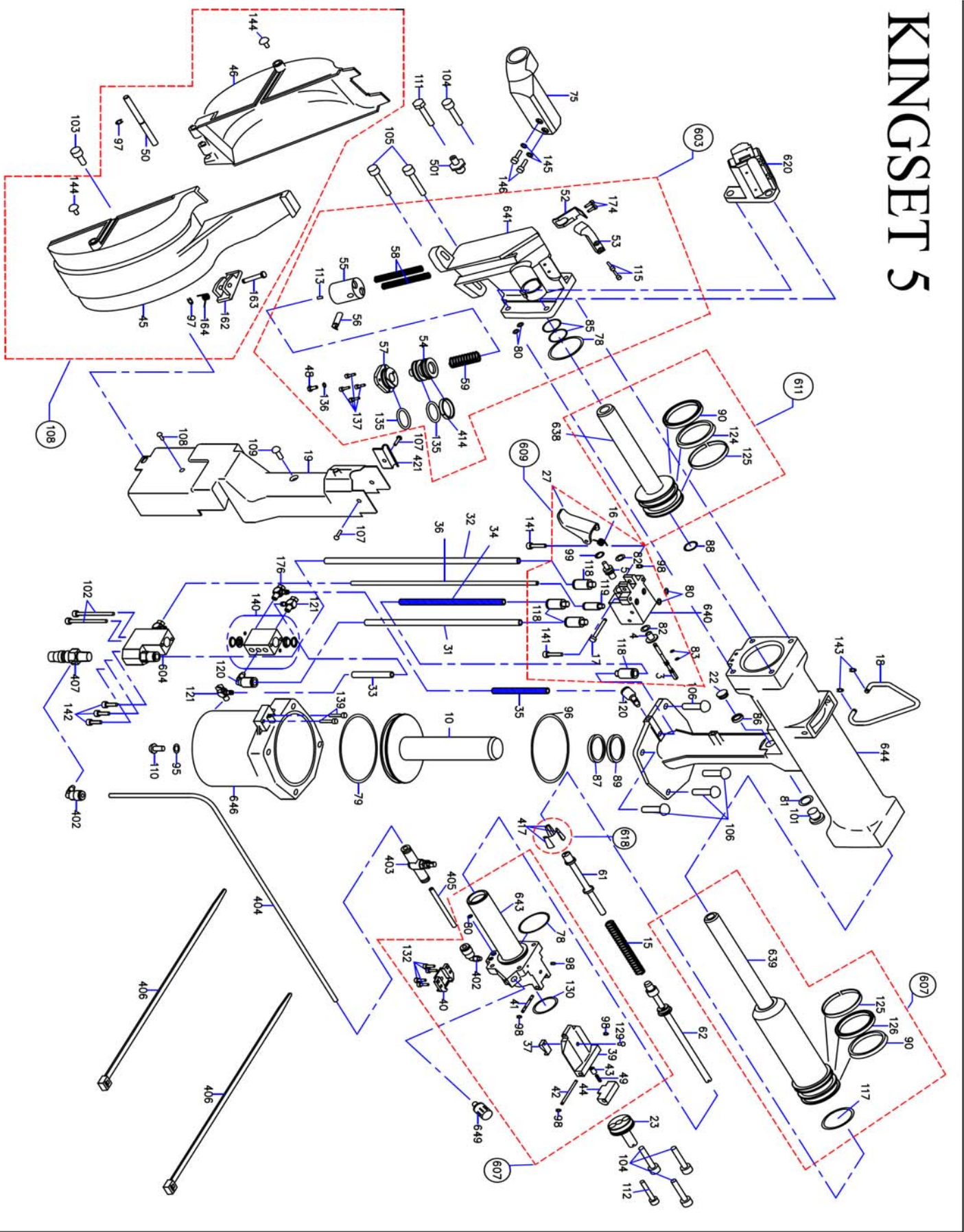
KCK Part#	IRF Part#	Part Name	Q'ty
182	RK4500-182-KS	Filter Holder	1
183	RK4500-183-KS	Filter Case	1
184	RK4500-184-KS	Cotton Ball	2
185	RK4500-185-KS	O-ring 1A-SS12	1

Kit# 651 Part# RK4500-651-KS Centering Finger Sub Ass'y

KCK Part#	IRF Part#	Part Name	Q'ty
24	RK4500-024-KS	Centering Finger	1
94	RK4500-094-KS	DU Bushing 0404	2



KINGSET 5



Lubricant Details

MOLY GREASE (MSC P/N: 60002136) (RK4500-MOLY)

Manufacturer:

T.S. Moly-Lubricants, Inc., Houston, TX
Emergency: (713)671-2676
MSDS Number: TS-122 Lithium EP-2 Moly Poly Grease

First Aid:

SKIN:

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis. No chronic health problems known.

INGESTION:

May cause irritation and gastrointestinal discomfort consisting of nausea, vomiting, lethargy and/or diarrhea.

EYES:

Flush eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

Fire:

FLASH POINT: 450°F/232°C

Use water to cool containers exposed to fire. For fires in enclosed areas, firefighters should use self-contained breathing apparatus. Avoid fumes or burning product.

Environment:

WASTE DISPOSAL:

Because material uses, transformations, mixtures, processes, etc. may affect classification, it is the responsibility of the user to determine the method of disposal according to the latest EPA, state and local regulations

SPILLAGE:

Recover free product. Add sand, earth, or some other suitable adsorbent. Keep product out of sewers and watercourses by diking or impounding.

Handling/ Storage:

Store in cool dry area in original or equivalent container in accordance with all applicable regulations. Do not apply high heat or flame to container.

Emhart Approved Equivalents:

None

MOBIL· VELOCITE OIL #10 (MSC P/N: 60002144) (RK4500-OIL)

Manufacturer:

EXXONMOBIL Oil Corp., Fairfax, VA
Emergency: (609)737-4411 (call collect)
MSDS Number: 600684-00

First Aid:

SKIN:

Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, and then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.

INGESTION:

Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention.

EYES:

Flush with water. If irritation occurs, get medical attention.

Fire:

FLASH POINT: 345 °F/174 °C

Material will float and can be re-ignited on the surface of water. Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO₂) to extinguish flames. Do not use a direct stream of water.

Environment:

WASTE DISPOSAL:

Because material uses, transformations, mixtures, processes, etc. may affect classification, it is the responsibility of the user to determine the method of disposal according to the latest EPA, state and local regulations.

SPILLAGE:

Soak up residue with an absorbent such as clay, sand or other suitable material. Place in a non-leaking container and seal tightly for proper disposal. Report spills/releases as required to appropriate authorities.

Handling:

Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet. Properly dispose of leather articles such as shoes or belts that cannot be decontaminated. Use in a well ventilated area. High pressure injection under the skin may occur due to the rupture of pressurized lines. Always seek medical attention.

Storage:

Keep containers closed when not in use. Do not store in open or unlabelled containers. Store away from strong oxidizing agents and combustible materials. Do not store near heat, sparks, flame or strong oxidants.

Emhart Approved Equivalents:

- Shell Spindle Oil #22
- Shell Tellus Oil #22



Warranty Statement:

Industrial Rivet & Fastener Co. Inc. (hereinafter "IRF"), hereby warrants to the initial retail customer and original distributor ("Warrantee") only that its products will be free from defects in material and workmanship for a period of 1 year from the purchase date, provided that the products are used in accordance with "IRF's" instructions as to maintenance, operation and use.

The said warranty does not extend to goods subjected to misuse, neglect, accident or improper installation or maintenance or which have been altered or repaired by anyone other than the seller or its authorized agents.

The warrantee's only remedy and IRF's only obligation in the event of a defect or failure in the products, is that IRF, at its sole option, repair, replace or rework the products, but in no case shall the cost of the foregoing exceed the invoice price of the products.

This warranty shall be void if any person seeking to make a claim for defective or failed products fails to notify IRF within 30 days of receipt of evidence that the product is defective or has failed, or if said person fails to provide IRF with such evidence as is reasonably requested concerning the effect or failure, including without limitation, evidence of the date of purchase and date of installation.

This warranty is in lieu of all other warranties, expressed or implied, including merchantability, or fitness provided for herein. Under no circumstance shall IRF be liable for incidental or consequential damages arising from the defect or failure in its products.

Seller's sole obligation under the foregoing warranty will be limited to, at Seller's option, repair or replacement of the tool (and shipping to the buyer with transportation charges paid to any place within the contiguous 48 states). Returned goods will be evaluated by our warranty repair department and a conclusion will be determined and classified as:

- a) Warranty Repair (free of charge)
- b) Abuse /Neglect (bench fee and/or hourly rate)
- c) Maintenance (Flat Fee)

If inspection by the seller of returned goods shows no breach of the forgoing warranty, Seller's regular conditioning charges (as stated above) apply. Upon this conclusion we will either repair the tool at no cost to you and return it postage paid, or call you to inform you of the repair cost. The repair will need to be approved in writing before any work is performed.

A comprehensive tool service and repair program, for details contact your local area sales representative or call:

Industrial Rivet & Fastener Co.
200 Paris Ave
Northvale, NJ 07647
1-800-BUY-RIVET
www.rivet.com