

RK-753™ Rivet Tool

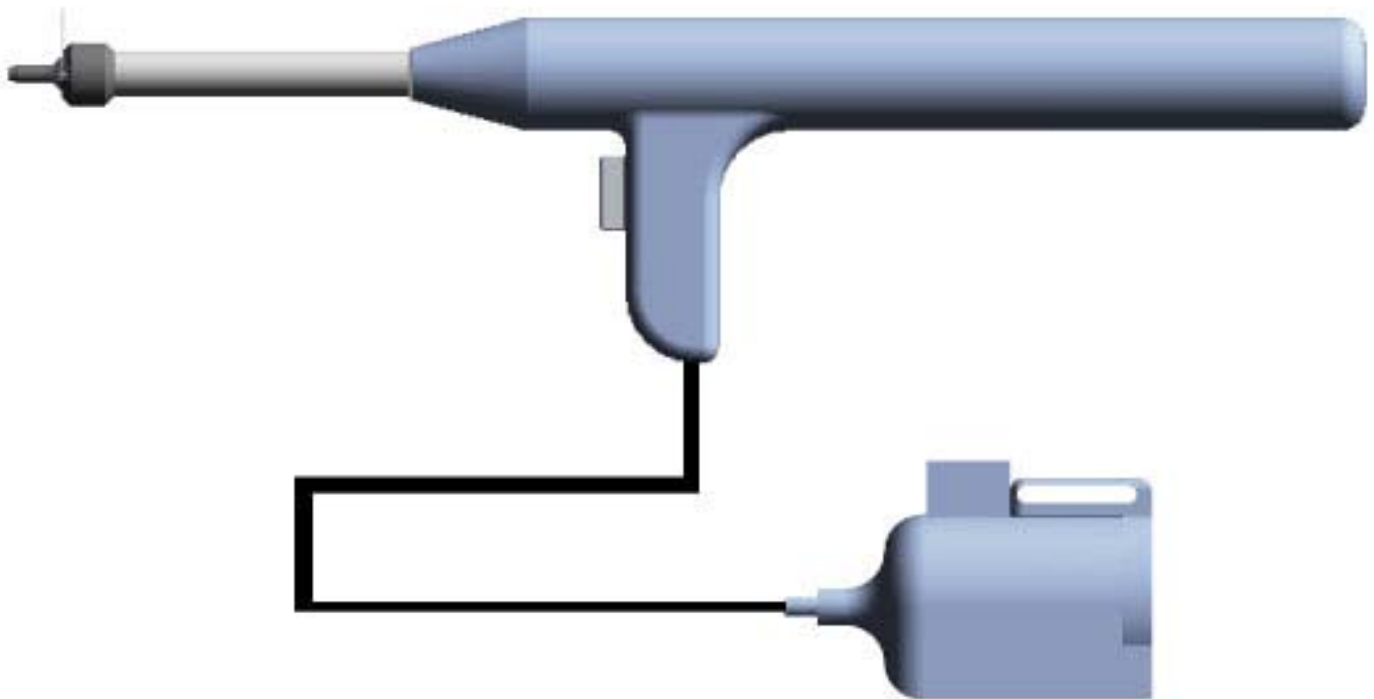
Hydro-Pneumatic QuickRivet Installation Tool



User Instruction Manual

Applicable Models:

RK-753-1
RK-753-2
RK-753-T



Your Local Authorized Distributor:



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SAFETY

- ➡ Do NOT USE EQUIPMENT WITH THIS TOOL THAT IS NOT RECOMMENDED OR SUPPLIED BY INDUSTRIAL RIVET & FASTENER Co.
- ➡ 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)
- ➡ ALL MODIFICATIONS CARRIED OUT ON THE TOOL WITHOUT THE CONSENT OF INDUSTRIAL RIVET & FASTENER Co. SHALL BE DONE SO AT THE CUSTOMERS' SOLE RESPONSIBILITY
- ➡ REFER TO THIS MANUAL BEFORE ATTEMPTING ANY MAINTENANCE OPERATION
- ➡ AVOID EXCESSIVE CONTACT WITH HYDRAULIC OIL, AS SOON AS POSSIBLE WASH HANDS THOROUGHLY
- ➡ Do NOT EXCEED 7 BAR / 100 PSI INLET PRESSURE, THE USE OF A PRESSURE REGULATOR IS HIGHLY RECOMMENDED
- ➡ INSPECT THE MANDREL REGULARLY. WHILE SOME MARKING THROUGH USE IS NORMAL EXCESSIVE PITTING AND DISTORTION MAY CAUSE A MANDREL TO FAIL. A MANDREL THAT FAILS MAY FORCIBLY EJECT FROM THE TOOL. MANDRELS SHOULD BE INSPECTED BEFORE THE RECOMMENDED NUMBER OF PLACINGS BASED UPON THE BROACH LOAD OF THE PARTICULAR APPLICATION. IF YOU ARE UNSURE OF THE BROACH LOAD CONTACT YOUR INDUSTRIAL RIVET & FASTENER Co. REPRESENTATIVE WHO WILL HELP YOU DETERMINE WHAT THIS IS AND THE SAFE NUMBER OF PLACINGS TO EXPECT FROM THE MANDREL

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-753™ RIVET TOOL

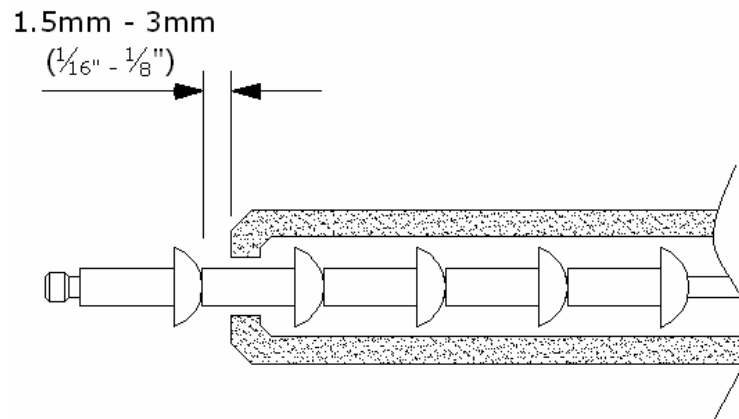
Air Pressure	Min/Max	<input type="checkbox"/> 5 – 7 bar	<input type="checkbox"/> 70 – 100 psi
Free Air Volume Required	@5.1 bar/75psi	<input type="checkbox"/> 2.6 liters	<input type="checkbox"/> .09 ft ³
Stroke	Minimum	<input type="checkbox"/> 30 mm	<input type="checkbox"/>
Pull Force	@5.5 bar/80psi	<input type="checkbox"/> 3.89kN	<input type="checkbox"/>
Cycle Time	Approximately	<input type="checkbox"/> 1-1.5 seconds	<input type="checkbox"/>
Noise Level	Less than	<input type="checkbox"/> 70 dB(A)	<input type="checkbox"/>
Weight		<input type="checkbox"/> 1.2kg	<input type="checkbox"/> 2.64 lb
Vibration	Less Than	<input type="checkbox"/> 2.5 m/s ²	<input type="checkbox"/> 8 ft/s ²

SPECIFICATIONS FOR RK-753™ INTENSIFIER / BOOSTER

Air Pressure	Min/Max	<input type="checkbox"/> 5 – 7 bar	<input type="checkbox"/> 70 – 100 psi
Intensification Ratio		<input type="checkbox"/> 30 : 1	<input type="checkbox"/>

PREPARING THE TOOL FOR SERVICE

1. Check to see if a cursor is present in the barrel, fit a cursor into the barrel (1) if not present ensuring that the spring loaded plunger of the cursor is towards the front of the barrel
2. Fit correct nose assembly for the rivet being placed
3. Connect the hydraulic hose assembly from the tool to the intensifier
4. Connect the trigger/tail jaw supply line into the quick release collet on the pilot valve bolted to the intensifier
5. Connect the main air supply to the rear of the intensifier
6. Open the tail jaws (24) by switching off the air supply through the trigger/tail jaw assembly (38)
7. Load rivets onto mandrel by inserting the mandrel through the tail of the rivets and remove the paper strips
8. Place follower spring onto the mandrel
9. Open front jaw assembly and insert loaded mandrel through the nose assembly until a gap of approximately 1.5mm (1/16") - 3mm (1/8") between the head of the first rivet and the nose assembly is achieved



10. Close tail jaws (24) to grip the mandrel, the tool is now loaded and ready for use

AIR SUPPLY

- The rivet tool is powered by compressed air at an optimum pressure of 5.5 bar (80 psi)
- 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

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

- Check for air leaks, pay particular attention to the elbow connectors (21) supplying the tail jaws. Any damaged hoses should be replaced
- Lubricate the tool by pouring a few drops of light lubricating oil into the air inlet on the intensifier
- Inspect all mandrels for signs of wear or damage. Discard any mandrels that display signs of excessive pitting or distortion
- Remove front jaw nose assembly and inspect for cracks or other damage
- Inspect and clean the cursor assembly, lubricate with light oil and replace with the spring loaded end of the cursor toward the threaded end of the barrel. If the cursor is inserted the wrong way round, the tool will not feed rivets. Carry out the following steps to reorient the cursor
 - Loosen screws (35) and remove end cover (20)
 - Remove screw (18) seals (19) and cover (17) note there are two seals one either side of the cover
 - Remove circlip (15) rear plug (16) turret assembly (22) with jaws (24) spring (23) and jaw housing (25)
 - Insert a mandrel through the barrel nut (13) holding onto the bulb end and feed the mandrel up and through the barrel. The mandrel will pull the cursor out of the barrel to be inserted correctly.

Weekly

- Carry out procedures as per daily maintenance instructions above
- Clean and inspect the tail jaws for signs of damage or wear (groove running through the jaw serrations). Follow the instructions above to re-orient the cursor to access the tail jaws in the tail jaw cylinder. Reassemble the tail jaws with a light coating of grease on the outer face that contacts the jaw housing. Do not allow grease to contaminate the grooved inner face of the jaws as mandrel slippage may result.
- Check the oil level in the reservoir, the oil should be approximately ½" below the plexiglass cover plate fitted to the intensifier. If the tool requires topping up with oil on a regular basis check for leaking seals or damaged hoses and couplings

MAINTENANCE

Follow the instructions below to perform annual service and replacement of seals, item numbers in parentheses refer to assembly drawing part numbers on page 8.

Tail Jaw Cylinder

- Disconnect tool from air supply
- Disconnect rivet tool and hose assembly from intensifier
- Loosen screws (35) and remove end cover (20)
- Remove handle covers by removing (31,32) by removing retaining screws (33, 34)
- Disconnect tail jaw supply tube from elbow connector or using a small flat screwdriver remove the elbow connector complete taking care to retain the seals
- Remove screw (18) seals (19) and cover (17) note there are two seals one either side of the cover
- Remove circlip (15) rear plug (16) turret assembly (22) with jaws (24) spring (23) and jaw housing (25). Inspect all parts for signs of wear or damage and replace if necessary
- Using an 18mm A/F open ended wrench on the flats machined onto the barrel (1) and a 13mm A/F socket wrench, remove the barrel plug (13)
- Carefully slide tail jaw cylinder (10) with return spring (11) off the barrel. Clean and inspect tail jaw cylinder and spring for signs of wear/damage
- Replace all O ring seals and lubricate with a light coating of grease including the jaws as described in the weekly maintenance instructions
- Reassemble in reverse order

Hydraulic Body

- Carry out instructions above to dismantle the tail jaw cylinder
- Disconnect trigger supply line to the trigger assembly (38). Loosen screw securing the trigger assembly in position on the barrel and slide toward the front end of the barrel and set aside
- Remove the bleed plug assembly and seal (5, 6) a small amount of hydraulic fluid will run out of the tool and care should be taken to avoid excessive contact with skin and should be disposed of safely
- Unscrew the hydraulic hose and set aside over a suitable container to catch any fluid that may leak out
- Grip stroke limiter (9) in a vise across the flats machined and using a 32mm A/F wrench unscrew hydraulic body (8) from stroke limiter and remove piston (28)
- Pry out seals (2, 7) taking care not to damage internal bore of hydraulic body
- Clean all parts and check for signs of wear/damage, replace all seals lubricating with a light coating of grease and reassemble in reverse order.
- **Tip:** When inserting the barrel through the hydraulic piston and stroke limiter assembly place the tail jaw cylinder against the back of the piston (28) in order to help keep the dynamic seal in the correct orientation. If this is not done the seal can become dislodged and the tool will leak requiring another strip down!

MAINTENANCE

Follow the instructions below to perform annual service and replacement of seals, item numbers in parentheses refer to assembly drawing part numbers on page 9.

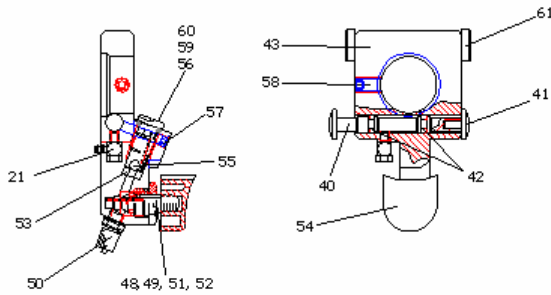
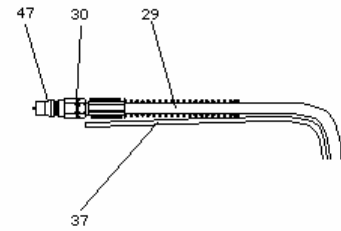
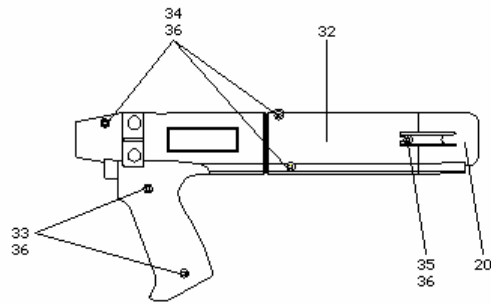
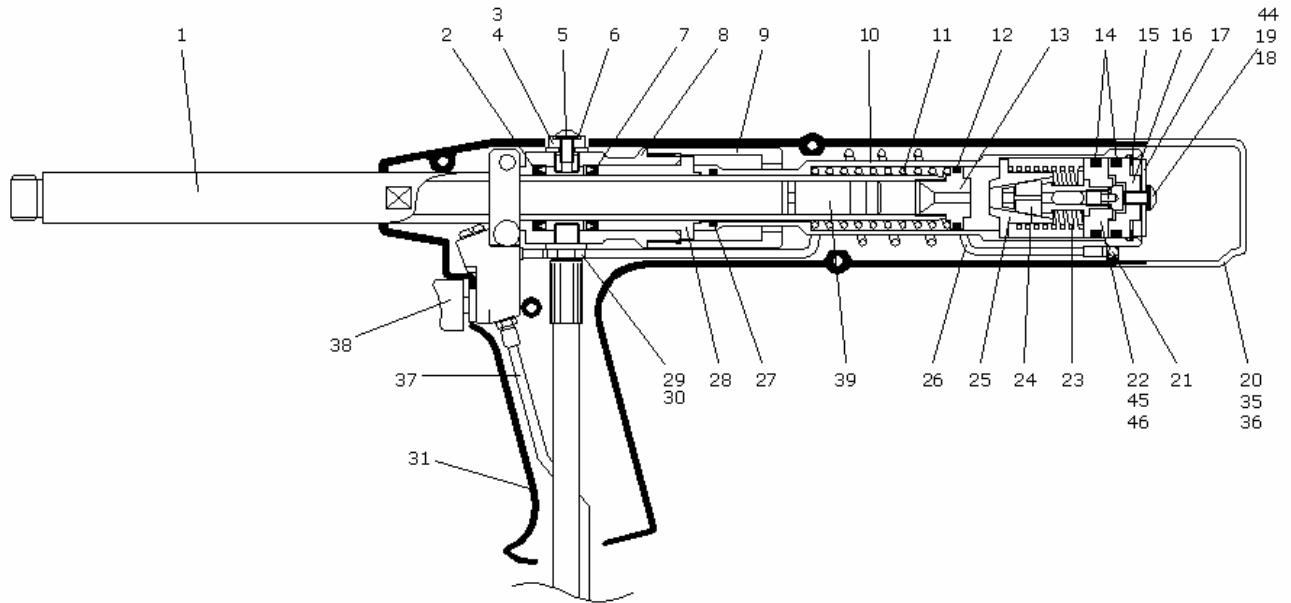
Intensifier Unit

- Disconnect tool from air supply
- Disconnect rivet tool and hose assembly from intensifier
- Remove hydraulic coupler (1) and seals (2) holding unit over a suitable container to collect the hydraulic fluid
- Remove screw (18) together with cover plate (17), spacer (19) plate (16) and silencer (30)
- Using a flat bladed screwdriver pry out and remove spiral retaining ring (15)
- Screw item 18 back into end cap (20) and pull out the end cap (20), cylinder liner (10) and piston assembly (22).
- Using an intensifier spanner/wrench as detailed on page 10, unscrew and remove the seal plug (23)
- Carefully remove all seals (24, 28, 28), spacers (25, 29) and seal housing (27)
- Remove cover plate (7) and gasket (6) by removing the four retaining screws (32) and washers (33)
- Using the other end of the intensifier spanner/wrench remove the valve assembly (5)
- Clean and inspect all parts for signs of wear or damage
- Replace all O ring seals
- Reassemble in reverse order lubricating all seals with a light coating of grease

Pilot valve

- Disconnect tool from air supply
- Remove pilot valve from base of intensifier by removing three retaining screws being careful to retain sealing rings
- Unscrew and remove end caps
- Remove pistons and valve spool, O rings & spacers, clean all items and check for damage
- Reassemble pistons with a light coating of grease.
- Lightly coat the spool with a small amount of light oil, wipe with a clean rag and replace into valve assembly
- If necessary; replace all o rings available as a service kit part number RK101-00010
- Reassemble in reverse order

General Assembly RK101-00001 Standard Handle/Hose Assembly

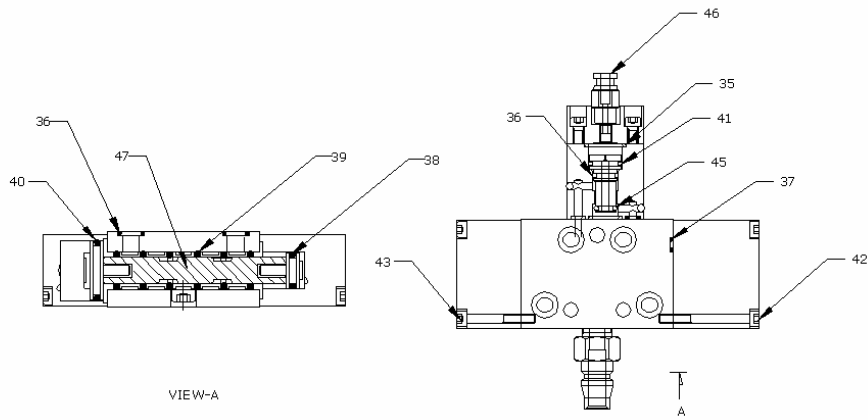
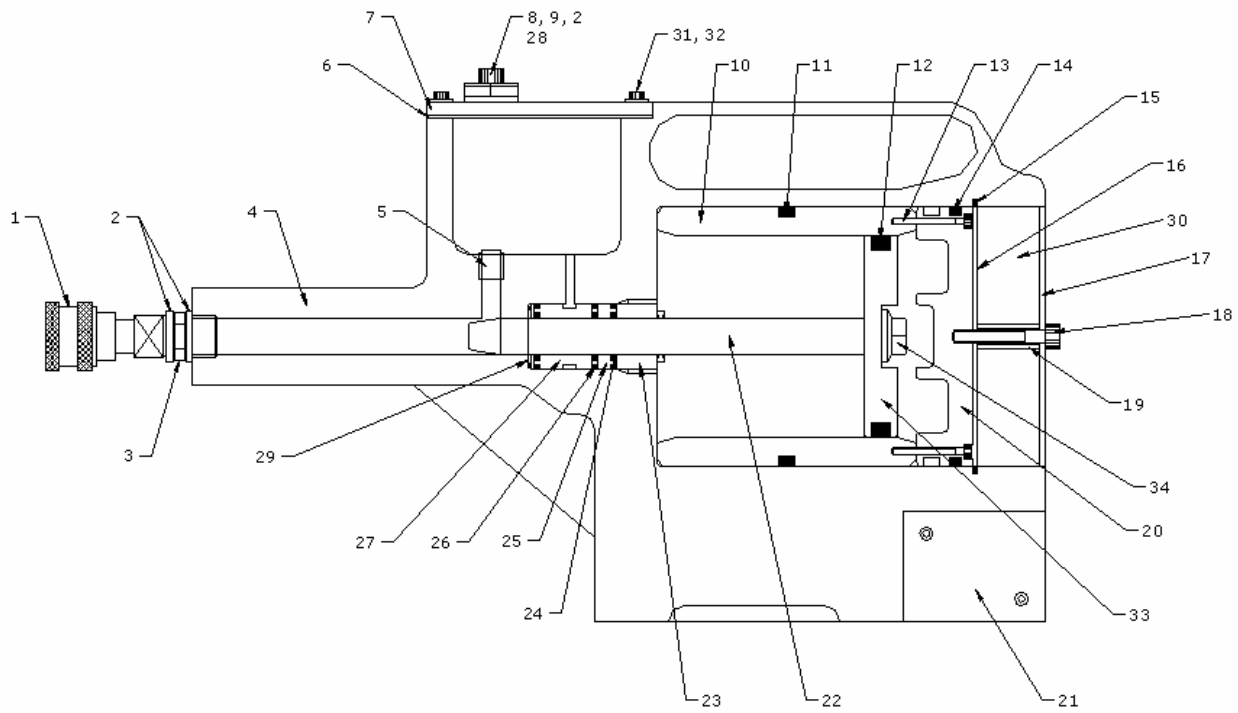


#	Part Number	Reference Number	Description	Qty	Textron Part Number
1	RK102-00001	T038	Barrel	1	07530-00201
2	VP100-00001	T039	Lip seal (static)	1	07003-00237
3	RK102-00002	T044	Bleed plug	1	07530-00501
4	VP100-00002	T013	Seal	1	07003-00142
5	VP100-00003	T043	Bleed screw	1	07001-00442
6	VP100-00004	T042	Seal	1	07003-00194
7	VP100-00005	T075	Lip seal (dynamic)	1	07003-00236
8	RK102-00003	T012	Hydraulic body	1	07530-00202
9	RK102-00004	T010	Stroke limiter	1	07530-00204
10	RK102-00005	T005	Tail jaw cylinder	1	07530-00207
11	VP100-00006	T077	Return spring	1	07490-03002
12	VP100-00007	T009	Rubbing strip	1	07530-00206
13	RK102-00006	T046	Barrel plug	1	07530-00205
14	VP100-00008	T049	O ring	2	07003-00113
15	VP100-00009	T050	Circlip	1	07004-00078
16	RK102-00007	T004	Rear plug	1	07530-00213
17	RK102-00008	T001	Cover	1	07530-00214
18	VP100-00010	T002	Screw	1	07001-00268
19	VP100-00011	T003	Seal	2	07005-00670
20	RK102-00009	T051	End cover	1	07530-00603
21	VP100-00012	T006	Elbow connector	2	07530-00215
22	RK102-00040	T008	Turret (Tail Jaw)	1	07530-00800
23	VP100-00013	T007	Spring	1	07154-04040
24	RK102-00010	T048	Tail jaw (pair)	1	07151-00403
25	RK102-00011	T047	Jaw housing	1	07530-00208
26	RK102-00012	T005	Air tube (4MM O/D)	1	07530-00211
27	VP100-00014	T074	O ring	1	07003-00167
28	RK102-00013	T011	Piston	1	07530-00203
29	RK101-00005	T016	Hydraulic hose assembly	1	700501327
30	VP100-00002	T013	Seal	2	07003-00142
31	RK102-00014	T017	Handle molding (RH)	1	07530-00601
32	RK102-00015	T057	Handle molding (LH)	1	07530-00602
33	VP100-00016	T055	Screw (M4)	2	07001-00262
34	VP100-00017	T054	Screw (M4)	3	07001-00401
35	VP100-00018	T053	Screw (M4)	2	07001-00604
36	VP100-00019	T052	Nut (M4)	7	07002-00134
37	VP100-00020	T014	Trigger hose (4MM O/D)	1	07005-01084
38	RK101-00006	T018	Trigger Assy	1	07530-00300
39	RK102-00016	T082	Cursor	1	07271-01100
40	RK102-00017	T035	Spool	1	07530-00302
41	RK102-00018	T032	Button	2	N/A
42	VP100-00021	T021	O ring	2	07003-00121
43	RK102-00019	T019	Trigger body	1	07530-00301
44	VP100-00046	T042	O ring	1	N/A
45	RK102-00035	T008-1	Tail Jaw Piston	1	N/A
46	VP100-00062	T008-2	Bolt	1	N/A
47	RK102-00036	T070	Hydraulic Coupler (Male)	1	07005-00760
48	VP100-00047	T022	Spring (Trigger Assy)	1	N/A
49	VP100-00048	T024	O ring (Trigger Assy)	1	07003-00022
50	VP100-00049	T023	Connector (Trigger Assy)	1	07005-01357
51	VP100-00050	T025	Trigger valve (Trigger Assy)	1	07241-00208
52	VP100-00051	T025-1	Spring (Trigger Assy)	1	N/A
53	VP100-00052	T021-1	Valve seat (Trigger Assy)	1	N/A



54	VP100-00053	T026	Trigger (Trigger Assy)	1	07007-00300
55	VP100-00054	T027	Ball bearing (Trigger Assy)	1	N/A
56	VP100-00055	T020	Spring (Trigger Assy)	1	07530-00308
57	VP100-00056	T028	Grub screw (Trigger Assy)	1	07001-00479
58	VP100-00057	T037	Grub screw (Trigger Assy)	1	07001-00404
59	VP100-00058	T029	Seal (Trigger Assy)	1	07003-00042
60	VP100-00059	T030	Valve cap (Trigger Assy)	1	07530-00309
61	VP100-00060	T031	Cap (Trigger Assy)	1	07530-00310

General Assembly RK101-00003 Intensifier/Booster Assembly



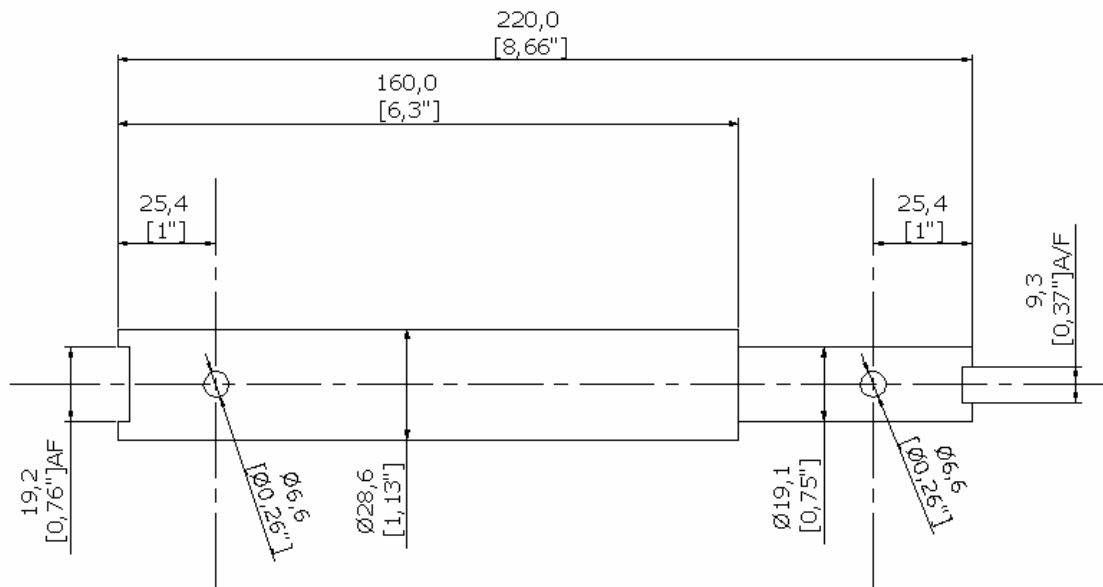
VIEW-A
PILOT VALVE ASSY

#	Part Number	Reference Number	Description	Qty	Textron Part Number
1	VP100-00022	I033	Hydraulic coupler	1	07005-00759
2	VP100-00002	I034	Seal	2	07003-00142
3	VP100-00023	I032	Double male connector	1	07005-00406
4	RK102-00020	I007	Body	1	07240-00300
5	RK101-00007	I036	Valve assembly	1	07240-00400
6	VP100-00024	I037	Gasket	1	07240-00209
7	RK102-00021	I003	Cover plate	1	07240-00210
8	VP100-00025	I041	Screw	1	N/A
9	RK102-00022	I002	Plug	1	07240-00211
10	RK102-00023	I028	Cylinder liner	1	07531-00201
11	VP100-00026	I009	Seal	1	07003-00182
12	VP100-00027	I026	Seal	1	07003-00238
13	VP100-00028	I025	Screw	1	07001-00396
14	VP100-00029	I012	Seal	1	07003-00183
15	VP100-00030	I013	Spiral ring	1	07004-00069
16	RK102-00024	I019	Plate	1	07240-00216
17	RK102-00025	I015	Cover plate	1	07240-00214
18	VP100-00031	I018	Screw	1	07001-00417
19	RK102-00026	I017	Spacer	1	07240-00215
20	RK102-00027	I011	End cap	1	07531-00204
21	RK101-00008	N/A	Pilot valve assembly	1	07005-00590
22	RK102-00034	I008	Intensifier rod	1	07240-00205
23	RK102-00028	I006	Seal plug	1	07240-00204
24	VP100-00032	I005	Seal	3	07003-00181
25	RK102-00029	I029	Spacer	1	07240-00203
26	VP100-00033	I030	Seal	3	07003-00153
27	RK102-00030	I004	Seal housing	1	07240-00202
28	VP100-00045	I001	O ring (Intensifier)	1	N/A
29	RK102-00031	I035	Spacer	1	07240-00201
30	RK102-00032	I014	Silencer	1	07240-00213
31	VP100-00035	I039	Screw	4	07001-00554
32	VP100-00036	I038	Washer	4	07002-00073
33	RK102-00032	I010	Air piston	1	07531-00202
34	VP100-00044	I016	Nut	1	07002-00017
35	VP100-00037	P003	O ring (Pilot Valve)	1	07003-00204
36	VP100-00038	P004	O ring (Pilot Valve)	6	07003-00103
37	VP100-00039	P006	O ring (Pilot Valve)	4	07003-00121
38	VP100-00040	P007	O ring (Pilot Valve)	1	08005-00127
39	VP100-00041	P008	O ring (Pilot Valve)	6	07003-00105
40	VP100-00042	P009	O ring (Pilot Valve)	1	07003-00178
41	VP100-00043	P010	O ring (Pilot Valve)	2	07003-00017
42	VP100-00063	P021	Cap Screw	2	N/A
43	VP100-00064	P026	Cap Screw	2	N/A
44	VP100-00065	P024	Cap Screw	2	N/A
45	VP100-00066	P005	O ring (Pilot Valve)	1	07003-00042
46	VP100-00067	P002	Push in connector	1	07005-00598
47	RK102-00039	P016	Spool	1	N/A

TROUBLESHOOTING

Problem	Possible Cause	Remedy
Tool will not cycle when connected to air supply	<ul style="list-style-type: none"> Low air pressure Pilot valve sticking 	<ul style="list-style-type: none"> Check air pressure and increase if necessary Remove pilot valve spool, clean and lubricate as detailed on page 7
Tool will not place fastener	<ul style="list-style-type: none"> High broach load Worn/dirty tail jaws Low air pressure Jaws not gripping mandrel Air in hydraulic system 	<ul style="list-style-type: none"> Check hole size, fastener and grip length to ensure correct fastener is being used in the application. Check for correct mandrel Clean/replace tail jaws Check air pressure and increase if necessary Mandrel worn or broken, replace with a new mandrel Re-prime tool
Tool feeds more than one rivet	<ul style="list-style-type: none"> Incorrect gap set between head of rivet and nose jaw Worn/dirty tail jaws Worn mandrel 	<ul style="list-style-type: none"> Re-set gap as to 1.5-3mm Clean/replace tail jaws Check/replace mandrel

INTENSIFIER SPANNER



Industrial Rivet & Fasteners Co. offers a comprehensive tool service and repair program, for details contact your local area sales representative or call direct:

Industrial Rivet & Fastener Co. 

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