

POSSIBLE REASONS FOR BREAKING ACTUATING ARMS

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Because I am seeing quite a few sales of Upper Actuating Arms (part # S290100), and Lower Actuating Arms (part # S290200), I need to comment on why these break.

Please be aware that these are designed to break when excessive force is applied to them, either at one instance, or over a cumulative period of time.

On the reverse side of this sheet is pictured the complete assembly of the Shell Knockout unit. The Upper Actuating Arm, item "E", the Lower Actuating Arms, item "D", the Lower Link, item "F". I will also discuss items "G" and "C".

IMPORTANT NOTE ON REPLACING LOWER ACTUATING ARMS: When replacing the Actuating Arm onto the hex shaft, be sure that the two raised DOTS on the arms are facing LEFT. When the Lower Actuating Arms are in place and pointing straight down, the Upper Actuating Arm will tilt to the back approximately 60° (one notch).

Usually, binding resistance must occur either during one instance or an accumulation of resistance over a period of time for these links/arms to eventually fracture and break.

My observation for probable causes (not listed in any order) are:

1. Allenhead Button Head Cap Screws (BHCS), schematic item "C" can become loose and allow any of the Actuating Arms to wobble on the Hex Shaft "G".
2. Hex Shaft "G" has become worn over time where the Upper Actuating Arm rests, causing play, which in turn can produce slop and eventual metal fatigue. Use blue Loctite® on these when reassembling.
3. The o-ring on the underside of the shot & Powder reservoir is hard, or has become dislodged, causing resistance in the Rack Gear, which in turn transfers this resistance to the Actuating Arm(s).
4. Using an aftermarket CNC aluminum shot and Powder reservoir with either the square o-ring or standard round o-ring. I do NOT like the square o-rings because they do not slide over the black plastic power Gear, nor Powder bushing easily. These CNC bases have absolutely no forgiveness in "give" at the o-ring area. Factory aluminum bases are cast and have some "give" to them.
5. The two off-white nylon tension set screws locate in the shot and power reservoir base is/are screwed down too tightly, producing excessive downward force on the Rack Gear. I rarely use them at all, and even screw them UP to eliminate any downward force on the Rack Gear.

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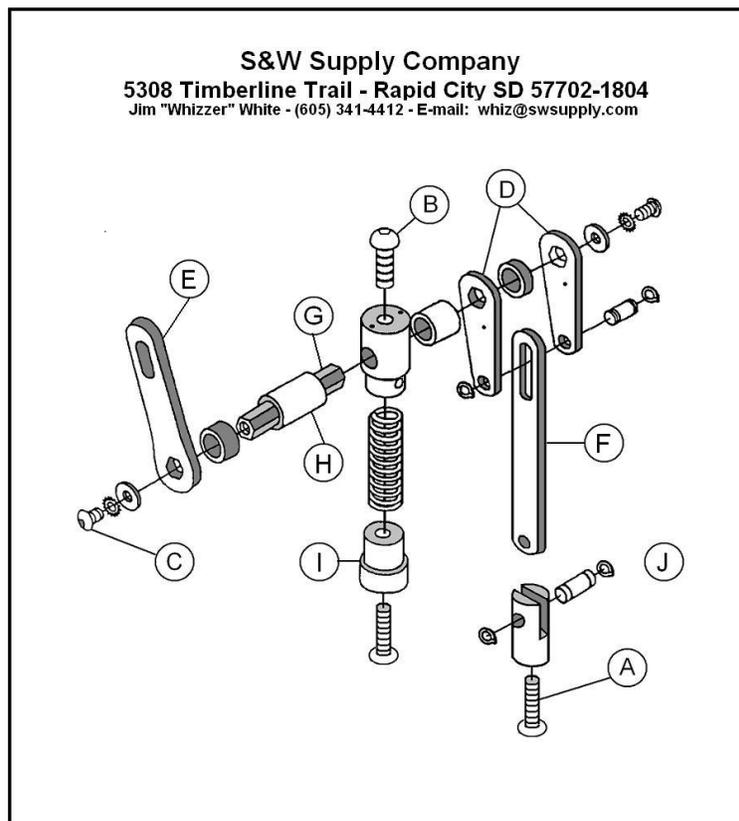
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Should you feel the need to require this force on the Rack Gear because the Gear twists or turns in its slot, then you should consider replacing the reservoir base with a new one that properly holds the Rack Gear.

6. Powder residue buildup under the black Powder Gear AND under the Shut-Off plate can cause some excessive buildup, which in turn can place excessive pressure on the Rack Gear, and that transfers to the Upper Actuating Arm.
7. The MOST CRITICAL cause of Upper Actuating Arm breakage is how it sets in the top Toolhead.
 - a. There MUST BE some play in its resting position.
 - b. With the Operating Handle held ALL THE WAY back in its home position, use your other hand and see if you can determine if there is a very small amount of clearance on the backside of the Upper Actuating Arm and the slot at the rear opening in the top Toolhead. If there is NO PLAY, you will be breaking the Upper Actuating Arm at some point. To obtain about 1/8" of play, go to my website and download my instructions for "Installing a New Index Pad."
 - c. This may sound unrelated, but this is one of the most critical adjustments on the reloader outside of proper timing. These posted instructions are for all reloaders with an Index Pad, such as the 800's, and Plus machines. However, the procedure holds true for the center rotation shaft machines such as the 900/950 and Platinum's. These do not use an Index Pad, but they do have a stub shaft in its place and its height setting is equally critical.

My website location is located at the bottom of this page.



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