

# OPERATIONAL MAINTENANCE

## INSTRUCTIONS FOR STIMPSON 489 MACHINES

### For use with Parts Catalog No. 489-83

The Stimpson model 489 Machines are built to give many years of trouble free service if maintained and operated as instructed. Your machine has been adjusted for the sample work or blueprint submitted with your order; performance tested and is ready for operation. Tools and pockets are made to order. To avoid any unnecessary downtime it is suggested you keep a spare set of tools and pockets on hand at all times.

**CAUTION: USE CARE IN REMOVING THE MACHINE FROM ITS CRATE AND PACKING. DO NOT MOVE OR LIFT THE MACHINE BY ITS HOPPER BOX, ROADWAY OR GUARDS.**

**(POWER TO THE MACHINE MUST BE OFF WHILE LUBRICATING, CLEANING, LOADING, ADJUSTING OR REPAIRING THE MACHINE. BE SURE THE MACHINE IS IN THE HOME POSITION BEFORE TURNING ON POWER.)**

#### LUBRICATION

**ALL 489 MACHINES HAVE BEEN FACTORY LUBRICATED/DO NOT OVER LUBRICATE:** Excess oil, if not wiped clean, will only lead to an accumulation of dust and other abrasive particles causing premature wear and improper functioning of the machine.

**NEVER LUBRICATE:** Box Carrier Roadway No. 85, Box No. 122, Cut Off No. 65 or Pockets No. 259, these parts must be absolutely free of oil and grease. All points requiring lubrication are provided with oil cups or access holes, except the plunger and pivot points where pins are installed. A drop or two of oil in these areas is sufficient.

**FIRST TWO WEEKS:** It is advisable to oil your machine every morning at each oil point using a few drops of a good grade medium viscosity machine oil; thereafter, about twice a week for machines in steady service.

**KEEP YOUR MACHINE CLEAN:** It is recommended that machines in steady use be cleaned daily (more often should you find it necessary because the work is of a nature which tends to throw off lint or other particles). The best method is using air pressure, which will blow out any particles accumulated in the roadways and other places not easily accessible by hand method. Make sure there are no foreign objects mixed in with the goods. Remove the Box No. 122 periodically, clean it and remove any damaged goods. After replacing Box No. 122, be sure that the square hole in the Box Spring No. 30 is placed on the square of the Box Stud No. 32 or 32A before tightening the Box Nut No. 31. Wipe the carrier face with a clean rag and remove any accumulation of dirt or lint. Make sure box has no play back and forth on the Box Stud No. 32 or 32A.

A regularly scheduled cleaning program will help eliminate unnecessary machine downtime.

**CAUTION:** Never use a hard object, such as a screwdriver, to remove foreign matter or damaged goods from the box or roadway. Serious damage can occur.

**ELECTRIC MACHINES:** The most important lubrication points are the Main Shaft No. 819-127 which is lubricated through the Oil Cup No. 819-104, the Clutch Finger No. 819-119, the Flywheel No. 819-144 through Oil Cup No. 819-158.

**PNEUMATIC MACHINES:** Your machine is equipped with a Pressure Gauge No. 137, Pressure Regulator No. 151, Air Filter No. 149 and an Air Lubricator No. 154. Air Pressure and Lubricator have been adjusted for your work. The Lubricator has been filled with an S.A.E. 10 weight oil. Do not allow oil level to drop below 1/8 full. When filling or making adjustments **BE SURE TO SHUT OFF AIR PRESSURE.** The Air Filter Bowl must be kept clean to assure filtering efficiency and to avoid a pressure drop. Before opening the Drain Cock **SHUT OFF AIR PRESSURE.** Water accumulation must not reach the Baffle. Excessive accumulation of water at the machine is an indication that an additional filter or an air dryer is needed downstream of the compressor.

#### LOADING MACHINE

With power off, put an adequate supply of eyelets in the Box No. 122. **DO NOT OVERFILL.** The box must never be more than 1/2 full. Overfilling will hamper the feed and cause damage to the goods. Rotate the box counter-clockwise until the roadway is full. Your machine is now ready for production.

## ADJUSTMENTS

**BEFORE ANY ADJUSTMENTS ARE MADE SHUT OFF POWER TO MACHINE, AS AN ADDED PRECAUTION, DISCONNECT POWER CORD OR AIR SUPPLY.**

**ALL 489 MACHINES/ANVIL NO. 69, 73, OR 263:** To adjust anvil to obtain correct tightness of setting, loosen Locknut No. 38, 40 or 48 and the Anvil Lock Screw No. 45 or 265. Raise or lower the Anvil Adjusting Screw No. 41A, 41B or 49. Raising the bottom set too high will cause a loss of setting force and can damage the setting tools. Maximum setting force is exerted when the plunger link in the Plunger Unit No. 37 is slightly less than in a vertical position.

**POCKETS NO. 489-259:** To adjust the pockets merely loosen the Pocket Holder Screw No. 257. Align the pocket opening with the roadway opening and bring the pockets to approximately 1/32" below the roadway and retighten the Pocket Holder Screw. **ON THE ELECTRIC MACHINE BE SURE THE POWER IS OFF AND THE POWER CORD IS DISCONNECTED. ON THE PNEUMATIC MACHINE BE SURE THE AIR SUPPLY LINE IS DISCONNECTED.**

**BOX CARRIER ROADWAY NO. 85:** The opening at the bottom of the Roadway must be centered with the Pockets No. 259 and the Top Set Spindle No. 262. To adjust, loosen Locknut No. 40. Back off Cut-Off Screw No. 39. Loosen Carrier Fastening Screw No. 64. Center Roadway, and retighten screws and locknut, making sure Cut-Off No. 65 moves freely.

**SPINDLE STOP NO. 326:** If your machine is equipped with a spindle stop, it must be adjusted if you:

1. Raise or lower the bottom set.
2. Replace the bottom set.
3. Replace the top set and/or the top set spindle.
4. Replace or adjust the Pockets or Pocket Holder.

The top set spindle must stop approximately 1/64" above the bottom set point. Loosen Locknut No. 40 and Clamping Screw No. 327. For Footpower machines depress Treadle No. 82 until Spindle No. 328 is 1/64" above the bottom set's point.

**ON ELECTRIC MACHINES SHUT THE POWER OFF,** trip the machine by pulling down on the Solenoid Trip Rod No. 225 and turn fly wheel until the plunger brings the spindle 1/64" above the bottom set's point. Be sure the machine is in the home position before turning on power.

**ON PNEUMATIC MACHINES, DISCONNECT THE AIR SUPPLY,** then press down on the Intermediate Lever No. 61B or 61C, which is connected to the air cylinder, until desired spindle position is reached. It is recommended to do this job with the assistance of another person.

After using one of the above mentioned methods of locating the spindle 1/64" above the bottom set point, move the Spindle Stop No. 326 up so that it touches the Spindle Stop Pin No. 325 of the Top Set Spindle No. 328 and then tighten the clamping screw. SEE SPINDLE STOP ATTACHMENT PARTS LIST FOR ADJUSTMENT POSITION.

**DOUBLE RATCHET PAWL NOS. 308 and 309:** To adjust Double Ratchet, loosen the Pawl Stud Clamp Screw No. 302. Depress Foot Treadle No. 82. Position the Upper Pawl No. 309 above the center line of the Ratchet No. 55. The Lower Pawl No. 308 must be clear of the intermediate lever fulcrum pin. In this position retighten the Pawl Stud Clamp Screw.

**489 ELECTRIC MACHINES BELT ADJUSTMENT NO. 118:** To adjust the tightness of the Belt, loosen Upper Locknut No. 244 and with the same wrench turn Lower Nut No. 244 to either tighten or loosen the Belt. Tighten upper locknut when desired tension is obtained. Belt should flex approximately 1/2". Excessive tension on the belt will cause premature motor and flywheel bearing wear.

## 489 PNEUMATIC MACHINES

**AIR PRESSURE:** Your machine has been factory set at 80 P.S.I. If it becomes necessary to adjust the air pressure, merely pull up knob of Pressure Regulator No. 151 and turn until the desired pressure is reached, then push knob down to lock.

**AIR LUBRICATOR:** To adjust the oil flow, turn the adjusting screw on the top of the lubricator counterclockwise to increase the flow, clockwise to decrease. Oil vapor coming through the Muffler No. 125 indicates that the oil flow must be decreased. Two to five drops a minute should be sufficient. Only 5% of the oil droppings enter the air stream.

**AIR FILTER:** Check and drain bowl every morning.

**FLOW CONTROL VALVE NO. 129:** To adjust the speed of the down stroke, loosen the lock nut on the adjusting screw of the flow control valve and turn clockwise to slow down and counterclockwise to speed up the down stroke of the plunger. Tighten lock nut after setting of desired speed.

**BEFORE MAKING ANY ADJUSTMENTS, REPAIRS OR REPLACING OF PARTS, SHUT OFF POWER TO THE MACHINE AND DISCONNECT POWER CORD OR AIR SUPPLY.**

## PROCEDURE FOR CHANGING SETTING TOOLS

### FOR ALL 489 MACHINES

**TOP SET:** Remove Pocket Holder Screw No. 257 and remove Pocket Holder No. 255 with Pockets No. 259. Loosen Locknut No. 38. Hold the Top Set firmly as it is under spring tension. Loosen Lock Screw No. 41. Top Set No. 261, Top Set Spindle No. 262 or 328 and Spindle Spring No. 260 can now be removed. To reinstall the Top Set, insert Spindle Spring No. 260 into Plunger No. 37. Insert Top Set No. 261 with Top Set Spindle No. 262 or 328 into Plunger No. 37 being sure Top Set is seated against its shoulder and the flat is aligned with the Lock Screw. Tighten Lock Screw No. 41 and Lock Nut No. 38. Install Pocket Holder with Pockets. See adjustments "Pockets".

**ANVIL NO. 69, 73 OR 263:** Loosen Anvil Lockscrew No. 45 or 265 and remove the Anvil. Before installing new Anvil, loosen Locknut No. 48, 40 or 38 and lower the Anvil Adjusting Screw No. 49, 41A or 41B. To install the Anvil, reverse the above procedure. Be sure the Anvil is seated on the Anvil Adjusting Screw and the flat on the Anvil is aligned with the Lockscrew, see Adjustments-Anvil.

**CUT-OFF ASSEMBLY NOS. 65, 66 and 67:** Remove the Box Nut No. 31, Box Spring No. 30, Box No. 122, Box Spacer No. 121, Nut for Cut-Off Screw No. 40, Cut-Off Screw No. 39, Carrier Fastening Screw No. 64. The Box Carrier Roadway can now be removed. Remove Cotter Pin No. 3, Washers No. 17, Ratchet Pawl No. 86 and Pawl Pin No. 5. To replace the Cut-Off Assembly, the Pawl Pin is fed through the slot in the Cut-Off Link with the head to the outside. The Pawl Pin is then inserted through the Head Lever No. 58 or 58A. Replace the Ratchet Pawl, properly positioned on the Ratchet No. 55. Replace the Washers and Cotter Pin. Spread the Cotter Pin Legs. Replace the Box Carrier Roadway, Box Spacer, Box, Box Spring and Box Nut. Align the Roadway opening with the Pockets and Top Set. Replace the Fastening Screws, Cut-Off Screw and the Locknut. Check the Cut-Off to be sure it moves freely.

**CONVERSION UNIT:** Follow same procedure as described in sections headed Top Set, Anvil and Cut-Off Assembly.

### PROCEDURE TO CHANGE CLUTCH NO. 819-136 AND/OR CLUTCH KEY NO. 819-141, CLUTCH KEY SPRING NO. 819-142 AND CLUTCH FINGER NO. 819-119.

Remove Head Guard No. 1G, Belt Guard No. 98 and Inboard Belt Guard No. 242. Loosen Allen Screw No. 819-150 and remove Split Collar No. 819-149. Remove the Flywheel No. 819-144 and the Space Ring No. 819-143, disengage the Clutch Finger No. 819-119 and remove the Clutch to replace Clutch Key No. 819-141 or the Clutch Key Spring No. 819-142. Simply remove the Stop Screw No. 819-140. Replace the necessary parts; apply a light coat of oil to the Clutch Key and reassemble.

**TO INSTALL THE CLUTCH:** Reverse the procedure in the first paragraph. Make sure that there is no side play of the assembly. Be sure the machine is in the home position before turning on power.

**TO REPLACE THE CLUTCH FINGER:** Remove the Fork Lever Spring No. 819-156, rear Cotter Pin No. 819-121, Clutch Finger Pin No. 819-120, Screw No. 819-108 and Clutch Finger Stop No. 819-107. Remove Clutch Finger. To reassemble, reverse the above procedure. Be sure the machine is in the home position before turning on power.

## TROUBLE SHOOTING

**BEFORE WORKING ON YOUR MACHINE, SHUT OFF POWER TO MACHINE. AS AN ADDED PRECAUTION, DISCONNECT POWER CORD OR AIR SUPPLY.**

### FOR ALL 489 MACHINES

**CAUTION:** NEVER USE a screwdriver or other hard metal implement to force goods down track. Such use will only lead to marring of the Roadway and cause further sticking of goods.

### NO FEED — POOR FEED

Check Box for goods. Over-filling will hamper feed. Box should never be more than  $\frac{1}{2}$  full. Check the Box and Roadway for damaged or incorrect size goods. Check for foreign matter, oil or grease in or on related feed parts. Check for play between the Box No. 122 and Carrier No. 85. Check if Box turns freely. Check if Box Spring and Box Nut are seated properly. Check if Pawl is seated properly.

**DAMAGED EYELETS:** Check Box. It must not be more than  $\frac{1}{2}$  full and must be free of any foreign matter. Check Cut-Off for wear and freedom of movement.

**OCCASIONAL LOOSE SETTING:** Operator must keep Foot Valve No. 148 or 271 down long enough to complete setting.

**LOOSE SETTINGS:** Check Eyelet for proper length. Check Anvil adjustment. On Pneumatic Machines-Foot Valve must be kept down long enough to complete the setting. Check for air leaks. Check lubricator oil level. Check Air Filter Bowl for dirt and fluids.

**POOR SETTING:** Check Anvil or Receding Spindle Anvil for wear or breakage. Check Top Set for chipped edges. Check Roadway alignment. Check Pockets for wear or damage and for adjustment.

### ELECTRIC POWER MACHINE FAILING TO TRIP

**PROPERLY:** Check the following: Missing or broken Solenoid Pin No. 233, missing or broken Retaining Ring No. 234 or Roll Pin No. 235: Missing or broken Trip Rod Spring No. 819-105A: Broken Solenoid Spring No. 231. Check wiring between Switch No. 250, Foot Switch No. 247 and Solenoid No. 237 for continuity. Check Micro

Switch inside of the Foot Switch Housing. Check Solenoid for continuity. Check Fork Lever No. 819-116 and Clutch Finger No. 819-119 for freedom of movement. Clutch Key is under spring tension and if movement is slow or sluggish it may be necessary to replace the Clutch Key Spring No. 819-142. See procedure for changing Clutch. Be sure the machine is in the home position before turning on power.

#### **CHECK THE SOLENOID & TRIP ROD**

When energized, the Solenoid must complete its stroke or it will buzz and overheat. If the cause is not corrected, the Solenoid will burn out. Check for foreign matter between the Solenoid Coil and Solenoid Core. The Solenoid Core must move freely. If there is no foreign matter and the core moves freely, then a trip rod adjustment may be necessary. Remove the Retaining Ring No. 234, Roll Pin No. 235 and Solenoid Pin No. 233. Move the Trip Rod up. Loosen Locknut No. 229. Adjust the Screw so the Trip Rod and Solenoid Core, when in the down position, disengages the Clutch Finger from the Clutch Key. Retighten the Locknut, replace the Solenoid Pin, Roll Pin and Retaining Ring. Be sure the machine is in the home position before turning on power.

#### **ELECTRIC POWER MACHINE REPEATS**

##### **SHUT OFF THE POWER IMMEDIATELY AND DISCONNECT THE POWER CORD.**

Check the following: Broken or missing Fork Lever Spring No. 819-156. Broken or worn Clutch Key No. 819-141. Broken or worn Clutch Finger No. 819-119. Missing or broken Clutch Finger Pin No. 819-120. Check the Clutch Finger for freedom of movement. If the Clutch Finger binds, remove the Clutch Finger Stop No. 819-107, polish the surface that aligns the Clutch Finger, lubricate and replace the Finger and Stop Plate. Be sure machine is in the home position before turning on power.

#### **MACHINE JAMS**

##### **SHUT OFF POWER TO MACHINE AND DISCONNECT THE POWER CORD.**

The machine will jam when two or more settings are made on top of each other. To clear the machine, do the following: Lower the bottom set. If this is not enough to free the machine, use a rod or heavy screw driver inserted into the hole provided in the clutch body to turn the Clutch and Main Shaft counterclockwise. After jam has been cleared, turn the machine over by hand to re-engage the Clutch in a neutral position and reset the bottom set. Be sure hands are clear of the point of operation at all times.