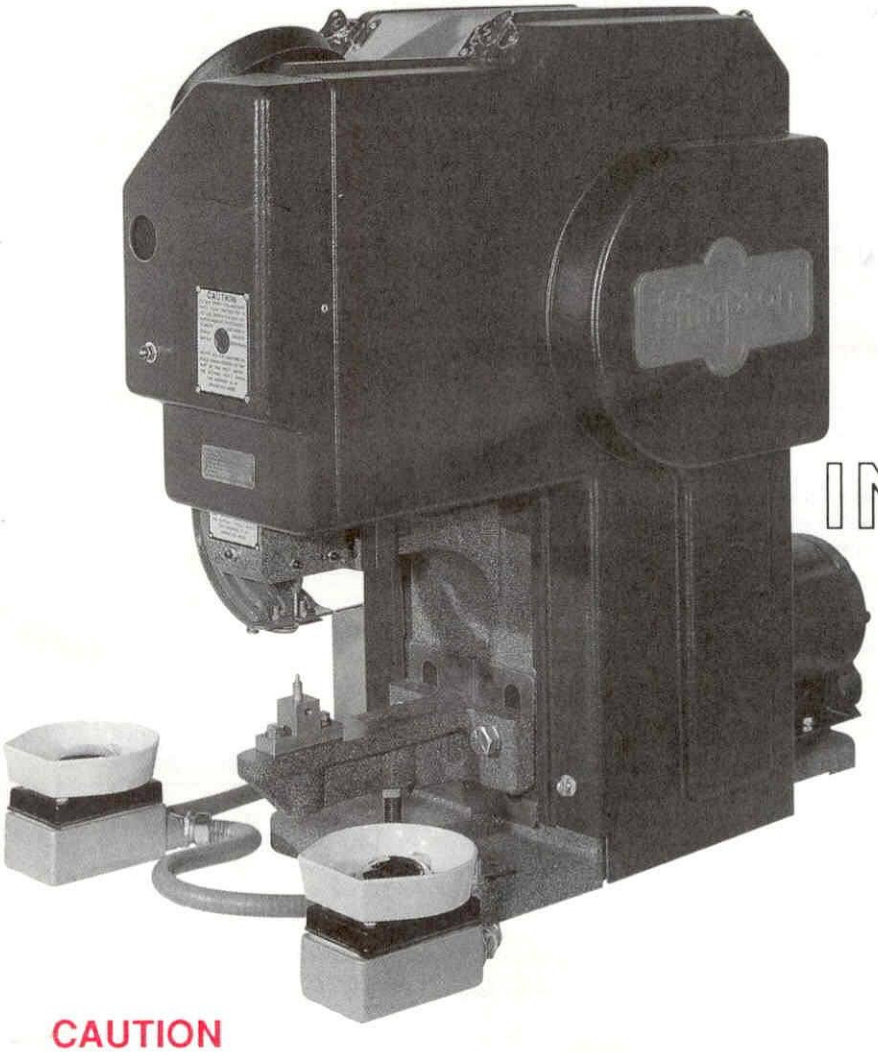
Stimpson Co. Inc.

model S-83

SERIES EYELET AND GROMMET ATTACHING MACHINES



INSTRUCTION AND PARTS MANUAL

CAUTION

Do not use any of these machines without proper point of operation safe guarding.

Do not start or use any of these machines unless and until you have been fully instructed in their use and are thoroughly familiar with all safety, operating, and parts handling procedures.

Under no circumstances should fingers, hands, or any parts of the body be placed between the setting tools while the machine is in operating mode.

The Eyelet Attaching Machine shipped to you was tooled and tested using a specific eyelet as indicated on the identification tag fastened to the machine.

It may be dangerous to use this machine for any assembly or purpose other than that for which it was originally designed and built. Should this machine be retooled, appropriate safety devices should be employed to meet the requirements of the new job. Consult Edward Segal, Inc. for recommendation on safety equipment required.

Manufactured to Stimpson Specifications by Edward Segal, Inc.

Model	Serial No.	Eyelet	R.P.M.

Set Die	Set Cap	Spindle	Spindle Tip

Spindle Shank	Spindle Tip Holder	Other

WARNING - IMPORTANT

Read and understand thoroughly all of the information and instructions contained in this manual prior to setting up, operating, or adjusting this machine. Contact EDWARD SEGAL, INC. at once if there are any questions as to safety or operation.

DO's and DONT's

1. **DO lubricate regularly as recommended below.**
2. **DO clean machine regularly. If compressed air is available, blow out dirt, dust, lint, chips, etc.**
3. **DO check all springs periodically. These parts are inexpensive and should be considered expendable. The springs used in this machine are designed for long wear and hard use, but springs in constant use will sometimes take a set. Most efficient operation will be maintained by replacing springs regularly.**
4. **DO NOT lift by or pull on raceway when moving machine.**
5. **DO NOT operate machine at higher speeds than indicated.**
6. **DO NOT change the eyelets for which your raceway and tools have been built without checking dimensions. Eyelets of different dimensions will usually require completely new raceway and tools.**
7. **DO NOT force eyelets in hoppers and raceways. If eyelets do not move easily, check dimensions. Constant prying with hard objects will distort the hopper opening and tracks necessitating expensive replacement.**
8. **DO NOT fill hopper box more than 1/3 to 1/2 full.**
9. **DO NOT use an oily lubricant on eyelets.**
10. **DO NOT operate machine without approved safety device and all guarding in place. Check frequently that safety devices are in proper working order and adjustment.**

EYELET OR GROMMET SETTING ADJUSTMENT — TO ADJUST TOOLS, SEE PAGE 6 PARAGRAPH 4 UNDER TH-1.

LUBRICATION

WARNING: NEVER ATTEMPT TO LUBRICATE MACHINE WHILE IT IS IN OPERATION. AVOID PINCH POINTS.

Lubricate periodically in accordance with instructions listed below. Most maintenance problems begin with indifferent attention to lubrication. All oil holes, oiling areas, and grease fittings have been painted red for convenience in locating lubricating points.

Lubricate as follows:

a. Grease Fittings (Weekly): An NLGI #2 Multi-purpose Lithium base Grease.
b. Oil Holes and Oil Areas (Weekly): SAE-40, exteme pressure treated oil. Also see figures 2 & 3.
c. Cam (Weekly): Lubriplate - Extreme Pressure Lubricant or equivalent.

ELECTRICAL SPECIFICATIONS

Motor - 1140 RPM, 1/4 HP, or 1/3 HP, 115/230 Single Phase or 230/460 Three Phase. Manufacturer's instruction plates are attached to motor giving full information on maintenance and wiring.

"V" BELTS

"V" belt grooves in motor pulley and flywheel should be in line for proper running of machine. Proper tension of "V" belt will be maintained if deflection is held between 1/4" and 3/4".

MOUNTING MACHINE ON STAND OR TABLE

DO NOT Grasp Raceway When Moving Machine.

1. Position machine on stand or table.
2. Drill four holes in stand or table for mounting base of machine. Use 3/8" drill.
3. If the machine has a mechanical foot trip, drill hole in stand or table for Upper Trip Rod (C24). Use 1" drill. Trip rod must move freely through hole.
4. This machine should be mounted on a flat surface only. Table top should be reasonably level.
5. Always cycle machine carefully by hand 2 or 3 times before turning on power. Observe alignment of Raceway and Tooling which may have been shifted by rough handling during shipping. Realign, if required, in accordance with instructions on Page 4 and 6.

Ordering Instructions for Setting Tools and Machine Parts:

All orders, whether for Setting Tools or Machine Parts, must include Machine Model, Serial Number and Eyelet Identification Number. The Machine Model and Serial Number are found on the Identification Plate attached to the apron and stamped into the main frame casting as shown in Fig. 1, Pg. 2. The Eyelet Number is stamped into the raceway rail as shown in Fig. 2, Pg. 3.

Orders for **Setting Tools** should be sent to:
Stimpson Co., Inc.
900 Sylvan Ave., Bayport, NY 11705
Phone: 516-472-2000 Fax: 516-472-2425

Orders for **Machine Parts** should be sent to:
Edward Segal, Inc.
360 Reynolds Bridge Road, P.O. Box 429, Thomaston, CT 06787
Phone: 203-283-5821 Fax: 203-283-0871

All orders for electrical parts should indicate electrical service.
All orders for Raceway parts should indicate the eyelet for which the Raceway is used.

WARNING: SWITCH OFF AND DISCONNECT THE MACHINE FROM POWER SOURCE BEFORE SERVICING OR INSPECTING.

CAUTION

We recommend reading the entire instructions before installing or operating this machine. Mishandling can result in injury to personnel or damage to the machine.

It is mandatory to shut off electric power before adjusting or handling moving parts, cleaning machine or removing any guard.

Because of vibration imposed during transportation, it is possible that loosening of components and adjustments can occur.

Before installation or operating the machine, the entire machine should be carefully inspected for loose fasteners and adjustments. If any are found, they should be tightened and corrected before operating the machine.

OPERATOR SAFETY PRECAUTIONS

Handout for Anyone Operating This Machine

Before You Operate This Machine You Must Read and Understand These Safety Precautions

DANGER

NEVER

Place Your Hands or Any Part of Your Body in This Machine

See Reverse Side for Other Safety Precautions.

OVER

BOTTOM DIE ADJUSTMENT

To adjust bottom die pressure, loosen the bottom die adjusting locknut directly under the die on the botto of the arm. Then loosen the allen set screw which is located on the side of the bottom arm, parallel to the die. Turn the bottom die adjusting screw on the bottom of the arm a 1/4 of a turn (Clockwise to raise the die and Counter clockwise to lower the die). Lock the bottom die adjusting locknut and allen set screw. Cycle machine once by hand. If the setting thickness is still not correct, repeat process.

DO'S AND DON'TS

1. DO lubricate regularly as recommended below.

2. DO clean machine regularly. If compressed air is available, blow out dirt, dust, lint, chips, etc.

3. DO check all springs periodically. These parts are inexpensive and should be considered expendable. The springs used in this machine are designed for long wear and hard use, but springs in constant use wil sometimes take a set. Most efficient operation will be maintained by replacing springs regularly.

4. DO NOT lift by or pull on raceway when moving machine.

5. DO NOT operate machine at higher speeds than indicated.

6. DO NOT change the eyelets for which your raceway and tools have been built without checking dimensions. Eyelets of different dimensions will usually require completely new raceway and tools.

7. DO NOT force eyelets in hoppers and raceways. If eyelets do not move easily, check dimensions. Constant prying with hard objects will distort the hopper opening and tracks necessitating expensive replacement.

8. DO NOT fill hopper box more that 1/3 to 1/2 full.

9. DO NOT use an oily lubricant on eyelets.

10. DO NOT operate machine without approved safety device and all guarding in place. Check frequently that safety devices are in proper working order and adjustment.

TO CHANGE RAM (C14 OR C14LT).

WARNING: DISCONNECT POWER SOURCE BEFORE PROCEEDING.

1. Remove horn (H1A or H1C) by removing two horn locking screws (H2B). Do not disturb horn adjusting screw (H1S) or lock nut (H1N). See Fig. 6, Page 8.
2. Hold out raceway by wedging a 1" to 1 1/2" wide block of wood between it and the ram housing (C15).
3. Remove all setting tools. If machine has "LT" designation remove limited travel eccentric screw (251 See Fig.4 Page 7.)
4. Manually trip clutch and rotate flywheel by hand in direction of arrows until ram (C14) is at top of stroke.
5. Remove ram and link set screws (C13S). Remove ram and link shaft (C13) by inserting a 10-32 screw into front of shaft. Place other hand under bottom of ram to prevent it from falling when shaft (C13) is removed.
6. Push ram (C14 or C14LT) down and remove from ram housing (C15). Replace with new ram.
7. Line up holes in top of ram with hole in crankshaft link (C12) and replace ram link shaft (C13). Remove 10-32 screw from front of ram link shaft.
8. Replace set screws (C13S) in ram and lock ram and link shaft (C13) in place.
9. Check ram for fit (see instructions on gib adjustment below).
10. Replace upper set tooling and limited travel eccentric screw (251) if required.
11. Replace horn and check alignment of set tools (see alignment of tool holder page 6).
12. Lubricate as indicated (see lubrication page 1).
13. Remove block of wood and cycle by hand. Check alignment of pickoff of eyelet as described on page 4 adjustment of raceway.
14. Be sure machine is in neutral before turning on power.

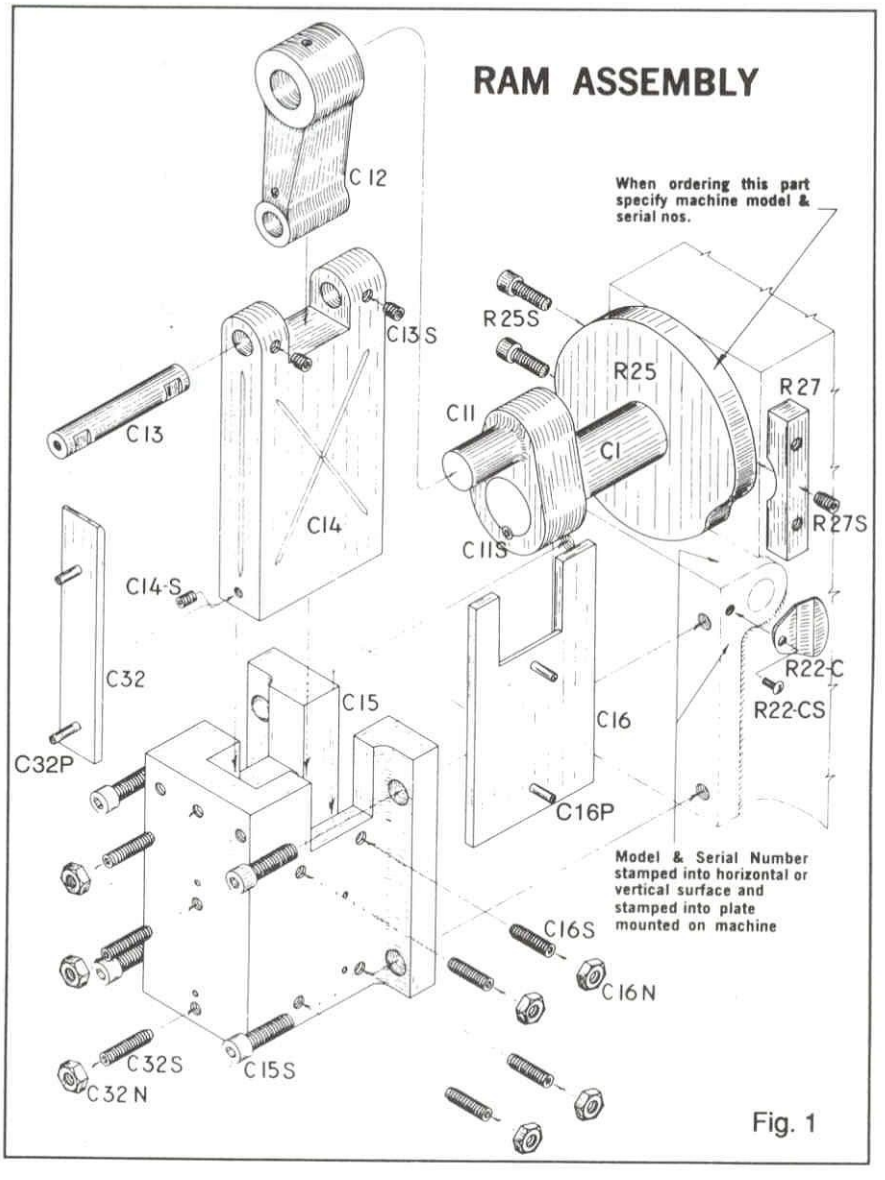


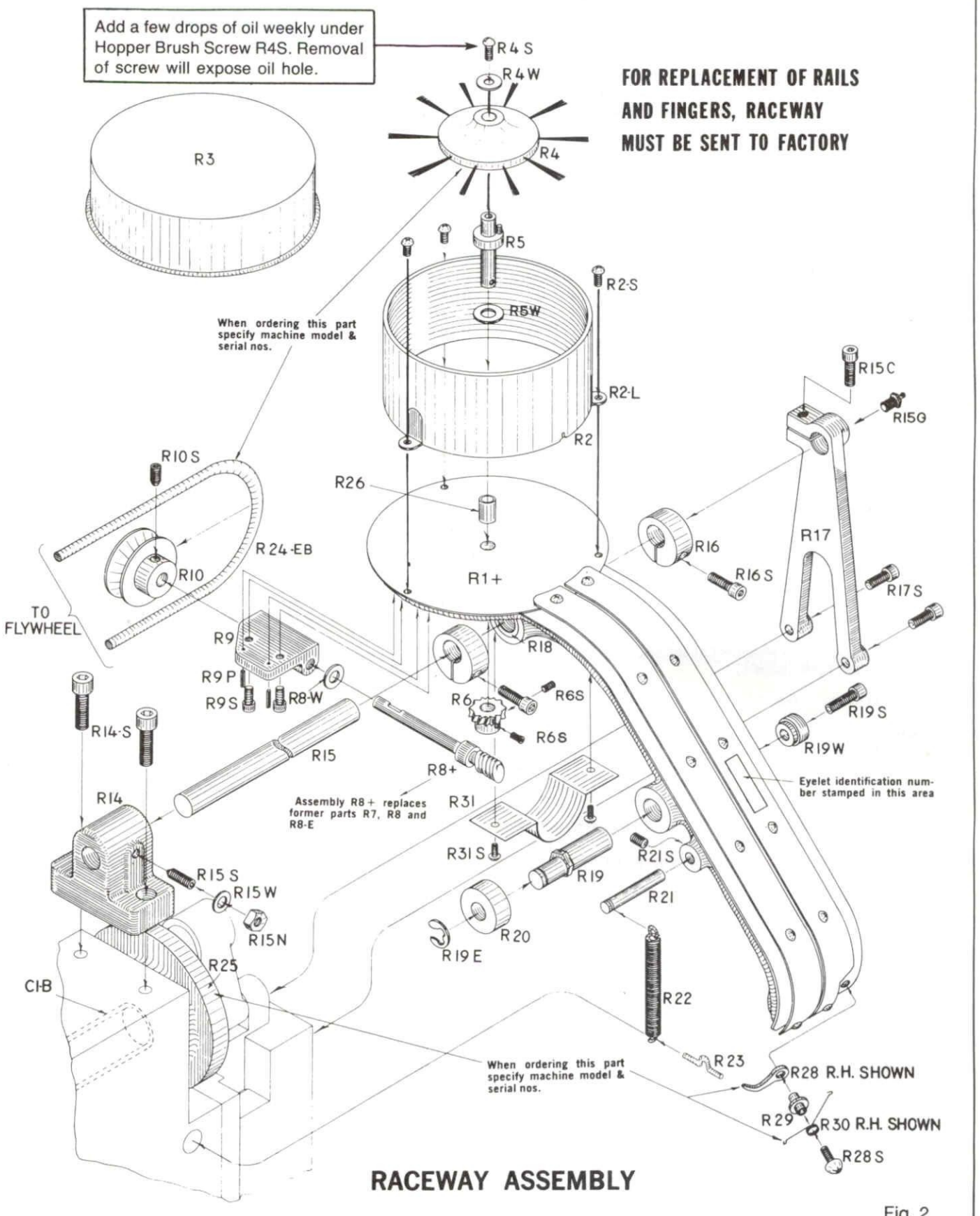
Fig. 1

ADJUSTMENT OF GIBS (C16 AND C32)

WARNING: DISCONNECT POWER SOURCE BEFORE PROCEEDING.

1. Ram (C14) should be checked periodically to see that it has not developed excessive play due to wear of the adjustable gibs. (C16) and (C32).
2. Hold out raceway by wedging a 1" to 1 1/2" wide block of wood between it and the ram housing (C15).
3. Remove all setting tools and limited travel eccentric screw (251 Fig. 4 Page 7) if machine has "LT" designation.
4. Manually trip clutch and rotate flywheel by hand in direction of arrows until ram (C14) is at top of stroke.
5. Remove ram and link set screws (C13S). Remove ram and link shaft (C13) by inserting a 10-32 screw into front of shaft and pulling it out of ram. Place one hand under bottom of ram to prevent it from falling when shaft (C13) is removed.
6. Grasp ram firmly and try to rock it front to rear and from side to side. Do this with the ram in the top and bottom of the stroke positions. If the ram can be rocked in either or both directions, at either position, the gibs need to be adjusted.
7. Loosen all nuts (C16N and C32N) using a 7/16" hex wrench.
8. Continually slide the ram (C14) up and down through the ram housing (C15) while gradually adjusting the top and botton screws (C16 and C32) using a 1/8" Allen wrench. Continue to adjust the screws until the ram (C14) slides slowly down through the housing of its own weight. Carefully adjust the remaining screws. Hold the Allen wrench in the head of each screw to prevent it from turning and tighten each nut. Lightly lubricate all sides of the ram. Slide the ram up and down again checking for elimination of front-to-rear and side-to-side play and make final adjustments.
9. Line up holes in top of ram (C14) with holes in crankshaft link (C12) and replace ram link shaft (C13). Remove 10-32 screw from front of ram link shaft.
10. Replace set screws (C13S) in ram and lock ram (C14) and link shaft (C13) in place. Be sure shaft does not protrude from front or rear of ram.
11. Install setting tools including limited travel eccentric screw if required.
12. Cycle the machine by hand and check alignment of set tools (see alignment of tool holder page 6).
13. Cycle the machine several more times by hand, checking to be sure there is no perceptible binding in any position of the ram.
14. Remove block of wood and cycle by hand. Check alignment of pickoff of eyelet as described on Page 4. "Adjustment of Raceway".

WARNING: Replace all guards and safety mechanisms. Keep hands and body clear of machine while reconnecting power and restarting.



RACEWAY ASSEMBLY

Fig. 2

WARNING: DISCONNECT POWER BEFORE CHANGING OR ADJUSTING RACEWAY.

WARNING: DISCONNECT POWER BEFORE CHANGING OR ADJUSTING RACEWAY

TO CHANGE RACEWAY (RI) - SEE RACEWAY ASSEMBLY DRAWING PAGE 3.

1. Make sure machine is in neutral position with crankshaft eccentric (C11) and crankshaft link (C12) straight up in 12 o'clock position.
2. Release raceway pull in spring (R22) by withdrawing spring retaining loop (R23) (use device similar to shoe button hook to relieve spring tension as loop is withdrawn).
3. Remove raceway belt (R24EB) from raceway pulley (R10).
4. Remove raceway shaft support (R17).
5. Remove front raceway locating collar (R16). Loosen rear raceway locating collar but do not remove.
6. Remove raceway.
7. If the new raceway is for an eyelet with dimensions different from the old eyelet, remove old setting tools and replace with new ones. (See pages 6 through 8.)
8. Install new raceway. Replace front raceway locating collar (R16) and raceway shaft support (R17). Lock raceway shaft support in place. (Do not tighten raceway locating collars (R16) until raceway has been checked for alignment, front to back with setting tools. See adjustment of raceway.)

Note: If the change of raceway is for an eyelet with a different flange diameter, adjustment of the raceway cam (R25) might be necessary. See Cam adjustment below.

9. Replace raceway pull in spring (R22) and insert spring retaining loop (R23). Replace raceway belt (R24EB).
10. Lubricate as indicated.

Adjustment of Raceway.

Note: The barrel of the first eyelet in raceway should be tight against and squared with raceway finger (R28) before adjustment is made. Rails should be at least 3/4 full of eyelets to ensure proper back pressure.

1. Disengage clutch knife (C17) by activating the trip mechanism.
2. Rotate flywheel **slowly by hand** until spindle is almost touching eyelet in raceway. Adjust raceway, front to rear, by loosening raceway collars (R16) and shifting raceway on raceway shaft (R15). Spindle should be centered over first eyelet in raceway. When raceway is properly aligned, set raceway locating collars (R16) snug with raceway bushing (R18) and tighten in place. Use hard plastic or rubber mallet to move raceway forward or back.
3. Leaving spindle in the same position as in step 2, check alignment of raceway from side to side. If adjustment is needed, loosen the raceway eccentric shaft locking screw (R19S) with a 1/4" Allen wrench. Then using a 3/4" open end wrench adjust setting by turning hex shoulder located between raceway frame and raceway roller (R20). Spindle should be centered over first eyelet in raceway. When adjustment is made, lock eccentric in place by tightening the eccentric shaft locking screw (R19S) with about 15 foot pounds torque.
4. Check pickoff by manually setting eyelet.

WARNING: DISCONNECT POWER BEFORE ADJUSTING CAM.

TO ADJUST CAM (R25) SEE RAM ASSEMBLY PAGE 2

1. Loosen raceway cam locking strap screws (R25S) and raceway cam locking screw (R27S). If advance timing of swing out is required, turn the raceway cam slightly clockwise; if delay, slightly counterclockwise.
2. Tighten the raceway cam locking screw (R27S) **only** and test for clearance by disengaging clutch and rotating flywheel slowly by hand. The tip of the set cap should barely miss the raceway when the raceway swings out after an eyelet has been picked off.
3. When cam has been properly adjusted, tighten the two raceway cam locking strap screws (R25S) with about 15 foot pounds torque.

WARNING: DISCONNECT POWER BEFORE WORKING ON HOPPER.

TO REPLACE HOPPER BRUSH (R4) IN HOPPER BOX (R2) SEE RACEWAY ASSEMBLY DRAWING, PAGE 3.

1. Remove hopper brush screw (R4S) and hopper brush washer (R4W) and lift out hopper brush.
2. Replace with new hopper brush, replace hopper brush washer and screw.

NOTE: New brushes may require trimming to provide proper clearance between the end of the bristles and the inside wall of the hopper box (R2). Measure the outside barrel diameter of the eyelet being fed and trim the bristles so the clearance between the end of the bristles and the inside of the hopper is 1/2 the eyelet barrel diameter.

WARNING: DISCONNECT POWER BEFORE REPLACING WORM GEAR OR WORM SHAFT ASSEMBLY.

TO REPLACE WORM GEAR (R6) OR WORM SHAFT ASSEMBLY (R8+) - SEE RACEWAY ASSEMBLY PAGE 3

WORM SHAFT ASSEMBLY (R8+)

1. Remove Raceway Belt from Pulley (R10)
2. Remove Gear Guard Screws (R31-S) and remove Gear Guard (R31).
3. Remove Worm Housing Screws (R9-S) holding Worm Shaft Housing (R9) to Raceway frame.
4. Remove Worm Shaft Housing by prying up with screwdriver.
5. Loosen Brush Driving Pulley Set Screw (R10-S) and remove Pulley.
6. Withdraw Worm Shaft Assembly (R8+) from Worm Shaft Housing.
7. Replace with new Worm Shaft Assembly by reversing steps described above.
8. Reassemble Gear Guard (R31) with Screws (R31-S).
9. Lubricate Shaft as indicated. (Refer to Lubrication Page 1)

WORM GEAR (R6)

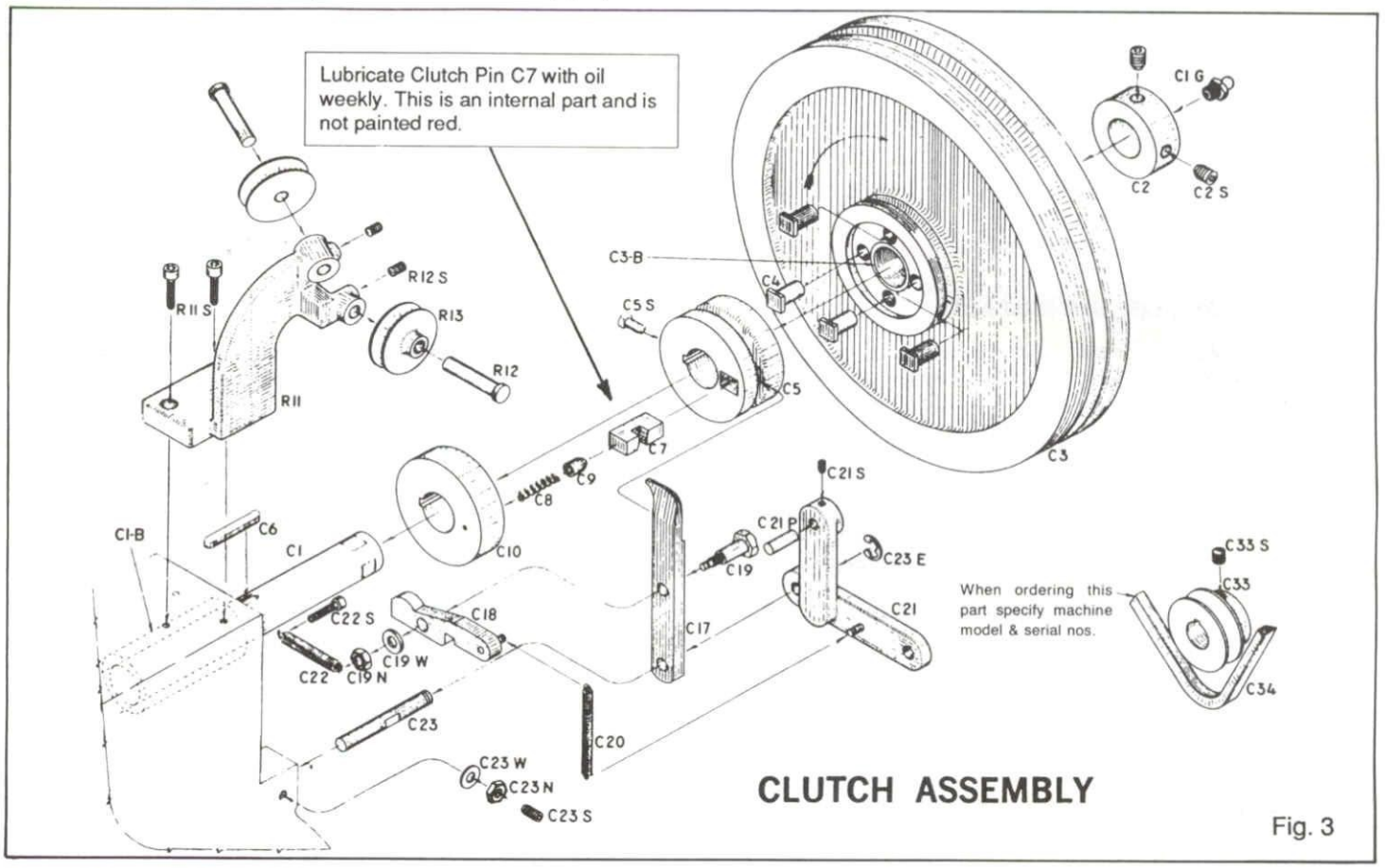
1. Remove Raceway Belt and Gear Guard as above.
2. Loosen Worm Gear Set Screws (R6-S) using Allen Wrench. Remove Worm Gear (R6) from Hopper Brush Shaft. (R5)
3. Replace with new Worm Gear, and align.
4. Tighten Worm Gear Set Screws.
5. Reassemble Gear Guard (R31) with screws (R31-S)

WARNING: REPLACE ALL GUARDS AND SAFETY MECHANISMS. KEEP HANDS AND BODY CLEAR OF MACHINE WHILE RECONNECTING POWER AND RESTARTING.

WARNING: DISCONNECT POWER BEFORE WORKING ON CLUTCH OR CRANKSHAFT.

TO REPLACE CLUTCH OPERATING PARTS

1. Loosen motor mounts.
2. Remove "V" Belt (C34) & Raceway Belt (R24-EB).
3. Loosen Set Screws (C2S) and remove Flywheel Collar (C2).
4. Remove Flywheel (C3). Inspect Flywheel Pins (C4) for wear. Rotate Pins 180° if excessive wear is apparent.
5. Be sure Clutch Dog (C17) is engaged with Clutch Pin (C7) before removing Flywheel or Clutch Pin will fly out under spring pressure.
6. Holding thumb over outer face of Clutch Pin (C7), release Clutch Dog (C17) and slowly pull back on Clutch Hub (C5) being careful that Clutch Pin Spring (C8) and Spring Cap (C9) do not fly out.
7. Check non repeat knockoff screw (C5S) for wear. (see non repeat device page 6).
8. Remove Clutch Pin (C7) from Hub and inspect for wear.
9. Remove Clutch Pin Spring (C8) Clutch Pin Spring Cap (C9) and Clutch Spring Retaining Collar (C10). Remove Clutch Hub Key (C6).
10. Remove Clutch Dog Spring (C22), Clutch Lever E-Ring (C23E), and remove Clutch operating parts. Inspect and replace worn parts or springs.
11. Re-assemble parts in reverse order.
12. Lubricate as indicated. (Refer to Page 1)
13. To keep Clutch Pin Spring and Cap from flying out during re-assembly, first put Key (C6) in place in Shaft. Place Collar (C10) on shaft and insert spring (C8) and cap (C9) into Collar. Place Clutch Pin (C7) (squared end facing flywheel) into Clutch Hub (C5) and place on Shaft. Compress Clutch Pin Spring and Cap and hold compressed with tip of screwdriver. Holding outer face of Clutch Pin with thumb, push Clutch Hub forward on Shaft until contact with screwdriver blade is made. Still holding face of Clutch Pin in, remove screwdriver and push Hub into proper position. Engage Clutch Dog (C17) into "locked" position in Clutch Pin (C7). Attach Clutch Dog Spring (C22). Assembly will now hold itself in place while Flywheel is being re-assembled to machine.
14. When replacing Flywheel, be sure crankshaft does not move forward. Check Flywheel endplay before tightening Flywheel Collar Set Screws.



CLUTCH ASSEMBLY

Fig. 3

CRANKSHAFT REPLACMENT

1. Remove Raceway. (Ref. pg. 4 & Fig. 2)
2. Remove Ram and Link Shaft (C13) and lower Ram (C14) to clear Raceway Cam (R25). (Ref. Pg. 2, Fig. 1.)
3. Remove Flywheel and clutch operating parts. (Ref. pg. 5 & Fig. 3.)
4. Withdraw crankshaft from front of machine.
5. Reassemble in reverse order. See note 4 above regarding Flywheel pins.
6. Lubricate grease fittings (Refer to Page 1)
7. Run machine through a few cycles BY HAND to ensure proper alignment of all parts BEFORE turning on power.

WARNING: SWITCH OFF AND DISCONNECT THE MACHINE FROM POWER SOURCE BEFORE SERVICING OR INSPECTING.

NON-REPEAT DEVICE — OPERATION AND CHECK — (See CLUTCH ASSEMBLY Drawing Fig. 3)

WARNING: DISCONNECT POWER BEFORE PROCEEDING WITH FOLLOWING INSTRUCTIONS.

1. Make sure that Non-Repeat Knockoff Screw (C5-S) is bottomed.
2. Turn Flywheel slowly BY HAND in direction of arrows until Knockoff Screw comes in contact with Non-Repeat Latch (C18).
3. Continue turning Flywheel by hand. Knockoff Screw will raise Non-Repeat Latch (C18) until Clutch Lever Pin (C21-P) is disengaged from slot in Non-Repeat Latch.
4. At the instant when the Clutch Lever Pin is freed, Clutch Dog (C17) will snap into position ready to engage Clutch Pin (C7) at completion of cycle.
5. Non-Repeat Latch should not rise more than 1/8" to avoid undue stretch of Non-Repeat Latch Spring (C20).

WARNING: DISCONNECT POWER BEFORE PROCEEDING WITH FOLLOWING INSTRUCTIONS

TO CHANGE TOOLS — (See TOOL HOLDERS Drawing, Page 8)

SET DIE — Bottom Tool

TH - 1

1. Loosen Tool Holder Set Screw (T1-S) and remove Set Die.
2. Replace with new Set Die and tighten Set Screw.
3. Set a few eyelets BY HAND to check for proper setting of eyelet.

TOOL ADJUSTMENT

If tightness adjustment is required, remove Set Die and raise or lower Adjusting Screw (T1-A) accordingly. (Raising or lowering of the Adjusting Screw can be made by using an Allen Wrench inserted in the Set Die hole in the Tool Block.) To raise Set Die turn counterclockwise, to lower turn clockwise. DO NOT REMOVE TOOL BLOCK FOR THIS ADJUSTMENT. Replace Set Die, lock in place and test for setting again.

TH - 2 or TH - 3

1. LOOSEN Socket Cap Screw (T4-S) in right side of tool block and remove Set Die from top of tool block.
2. REPLACE with new Set Die and tighten Socket Cap Screw securely.
3. HAND set a few eyelets to check setting. If adjustment is required, adjust spring tension or raise or lower Set Die accordingly. (If Set Die height has to be changed, remove Set Die and raise or lower Adjusting Screw (T4-A) in Adapter.) See par. 4 above.

ALIGNMENT OF TOOL HOLDER

If top and bottom tooling appear to be misaligned, first check Spindle and replace if bent. Loosen the Tool Block and place an eyelet on the pilot of the Set Die. Bring Ram down by hand and set the eyelet. Leave Ram at bottom of stroke. Tighten tool holder mounting bolts securely. Make several settings in parts and observe results before running under power. Proper alignment of tools is important to ALL machines to insure proper setting.

WARNING: DISCONNECT POWER BEFORE PROCEEDING WITH THE FOLLOWING INSTRUCTIONS.

SET CAP AND SPINDLE — Top Tools

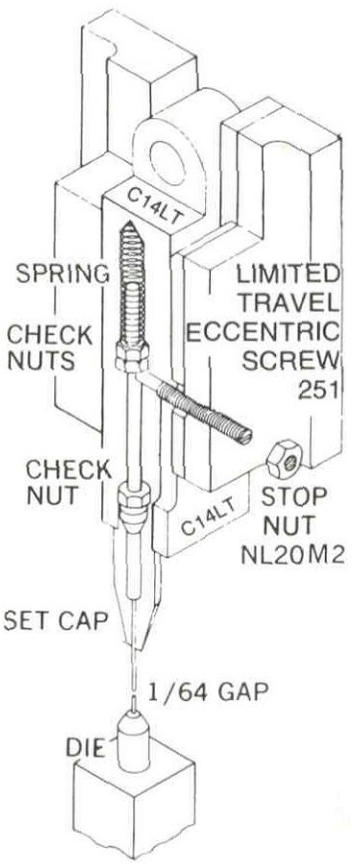
STANDARD MACHINE WITHOUT LIMITED TRAVEL

1. Disengage Clutch Dog (C-17). Turn Flywheel in direction of arrows BY HAND and bring Ram down until the Set Screw (C14-S) is exposed.
2. Loosen Set Screw (C14-S). Remove Set Cap, Spindle and Spindle Spring. Examine parts and replace if worn.
3. Reinsert Spring, Spindle and Set Cap in Ram. (Be sure Set Cap is fully seated in Ram.) Lock Set Cap in position with Set Screw.
4. Bring Ram down by rotating Flywheel in direction of arrows BY HAND. As the Spindle reaches the Set Die, check that the Set Die is centered under the Set Cap. If not, See ALIGNMENT OF TOOL HOLDER above. Complete cycle of machine.
5. Check to see that proper spring tension is maintained on Spindle. With Ram in up position, push Spindle up into Set Cap; it should snap back. Repeat several times.

LIMITED TRAVEL SPINDLE ASSEMBLY - SPINDLE TIP REPLACEMENT AND ADJUSTMENT- MODEL S-83LT, S-83GM-CT, S-83LT-LR USED WHEN EYELET BARREL DIAMETER IS .090" OR LESS

WARNING: DISCONNECT POWER BEFORE PROCEEDING WITH FOLLOWING INSTRUCTIONS.

1. Hold out Raceway by wedging a 1½" block of wood between it and Ram Housing.
2. Disengage the Clutch Dog (C17) by activating the trip mechanism (power disconnected).
3. Rotate the Flywheel by hand in direction of arrows until bottom of Ram (C14LT) extends below Ram Housing (C15LT) to expose the Set Cap Retaining Screw (C14S).
4. Loosen Set Cap Retaining Screw (C14S) and remove Set Cap.
5. Counter-rotate Flywheel until Ram is in uppermost position.
6. Loosen Check Nut NL20M2 and back out Eccentric Adjusting Screw 251 until Spindle Assembly can be removed from bottom of Ram.
7. Loosen Lower Check Nut A5303 and remove 254 Spindle Tip Holder Assembly from Spindle Tip Clamping Screw A5100.
8. Remove and replace Spindle Tip.
9. Reassemble 254 Spindle Holder Assembly onto Spindle Clamping Screw until it bottoms and tighten Lower Check Nut A5303 with a wrench. Reinsert assembly into Ram.
10. Screw in Eccentric Adjusting Screw 251 just far enough so that the end of Screw supports Spindle Assembly (Fig. 4). Align Spindle Tip with Set Die Pilot and check to see that there is vertical clearance between the end of the Spindle Tip and the end of the Pilot. If there is interference rotate the 251 Eccentric Adjusting Screw to see if clearance can be obtained. A 1/64" gap is desirable.
11. If clearance (gap) can not be obtained back out the 251 Eccentric Adjusting Screw and remove Spindle Assembly. Loosen the two A5303 check nuts on the upper end of the 5100+ Spindle Clamping Screw Assembly and move them down to increase the gap or up to decrease the gap. One full turn of these nuts changes their position by approximately 1/32". Reinsert assembly into Ram and repeat step 10.
12. After rough positioning has been made, carefully install Set Cap over Spindle and lock in place in Ram with Set Cap Retaining Screw (C14S). Be sure the Eccentric Adjusting Screw is not dragging against the side of the threaded shank of the A5100+Assembly by placing a screwdriver blade or other flat tool against the end of the Spindle Tip and moving it up and down. If contact is felt, back out the 251 by 1/2 turns until no contact is felt.
13. Check the limit of the downward travel of the Spindle by hand turning the flywheel to bring the Spindle to its lowest position. Adjust the clearance between this Spindle Tip and Set Die Pilot by turning the 251 Eccentric Adjusting Screw counter clockwise.
14. Once proper setting has been obtained, hold Screw in place with 3/16 Allan wrench and tighten Check Nut NL20M2 against the ram housing with a 9/16" box wrench.



LIMITED TRAVEL SPINDLE

Fig. 4

SPINDLE ASSEMBLY

Fig. 5

NOTE: If a change in eyelet application is being made, which affects Eyelet length or Set Die length the Set Die height adjustment should be made prior to obtaining the Spindle gap clearance. Make trial settings by hand with the Spindle mechanism removed and the Raceway held out as in step #1 above. Place the work piece and eyelet on the Pilot of the Set Die and slowly rotate Flywheel by hand. After both pressure and gap adjustments have been made, and machine is completely re-assembled, release Raceway and run the machine through a few cycles by hand to check for proper alignment of all parts. Try machine under power and make any necessary final adjustments.

NOTE: When converting a model S-83LT series machine from an Eyelet with barrel diameter .090" or less to a larger diameter Eyelet the Limited Travel Spindle is not required. The 251 Eccentric Screw (See Fig. 4) should be removed from the lower right side of the Ram Housing (C15). The Limited Travel Spindle Clamping Screw Assembly (A5100+) and Limited Travel Spindle Spring (A5130) are replaced with the A9884-1 Spindle Spring and A9884-2 Spindle Spring Guide.

WARNING: REPLACE ALL GUARDS AND SAFETY MECHANISMS. KEEP HANDS AND BODY CLEAR OF MACHINE WHILE RECONNECTING POWER AND RESTARTING.

WARNING: DISCONNECT POWER BEFORE PROCEEDING WITH THE FOLLOWING INSTRUCTIONS

HORNS

DO NOT RAISE OR LOWER HORN TO ADJUST FOR TIGHTER OR LOOSER EYELET SETTING AS THIS WILL RESULT IN TOOL MISALIGNMENT. SEE NOTE CONCERNING TOOL ADJUSTMENT ON PAGE 6.

Before raising or lowering Horn by Horn Adjusting Screw (H1-S), make sure the Horn Locking Bolts (H2-B) and Nuts (H2N) are loosened.

Before locking Horn in place, make sure it is flush with back plate. Recheck tool alignment. See Note concerning tool alignment on page 6.

WARNING: REPLACE ALL GUARDS AND SAFETY MECHANISMS. KEEP HANDS AND BODY CLEAR OF MACHINE WHILE RECONNECTING POWER AND RETARTING.

HORNS PARTS LIST — (See HORNS Drawing, Page 8)

Part No.	Description	Per Mach
H1-AG	Horn	1
H1-C	Horn (12" Long or 18" Long)	1
H1-N	5/8-11 Jam Nut	1
H1-S	5/8-11 x 2 Square Head Screw	1
H2-B	5/8-18 x 3 Hex Head Bolt.	2
H2-W	Horn Locking Bolt Washer (Front)	2
H2-WN	Horn Locking Bolt Washer (Rear)	2
H2-N	Horn Locking Nut, 5/8" 18 Hex	2

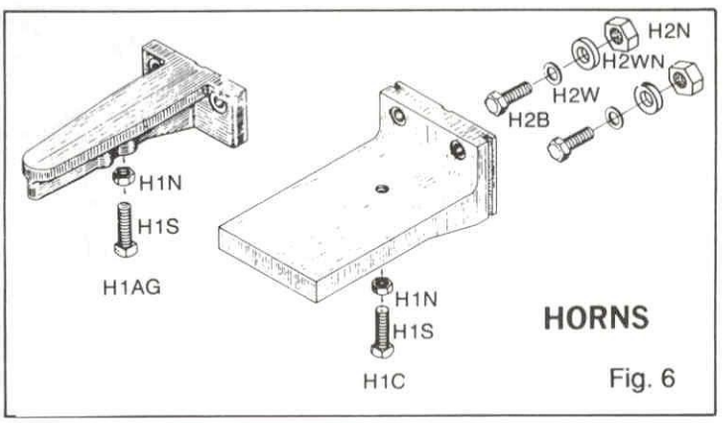


Fig. 6

TOOL HOLDER PARTS LIST

Part No.	Description	Per Mach
* TH-1	Tool Block Assembly - See Diagram Below	1
T1-A-5/16	3/8-24 x 3/8 Nylok Socket Set Screw	1
T1-A-1/2	5/8-18 x 5/16 Socket Jam Screw	1
T1-B	5/16-18 x 1 Hex Cap Screw	2
T1-S	1/4-28 x 5/16 Socket Set Screw	1
* TH-2	Tool Block Assembly - See Diagram Below	1
T2-B	5/16-18 x 1 Hex Cap Screw	2
* TH-3	Tool Block Assembly - See Diagram Below	1
T3-B	5/16-18 x 1 Hex Cap Screw	2
C19-W	5/16 Washer (Special)	2

Part No.	Description	Per Mach
* T4	Adapter Bushing	1
T4-A	3/8 - 24 x 3/8 Socket Set Screw (Nylok)	1
T4-S	8-32 x 1/2 Socket Cap Screw	1
T5	Compensating Spring	1
T5-C	Compensating Spring Caps	2
T5-S	5/8-11x1-1/2 Socket Set Screw	1
T6	Pressure Pad Spring	2
T7	Pressure Pad	1
T7-RI	Rubbert Insert	1
T7-S	1/4 x 1-1/2 Stripper Bolt	2

* Specify Set Die Shank Diameter

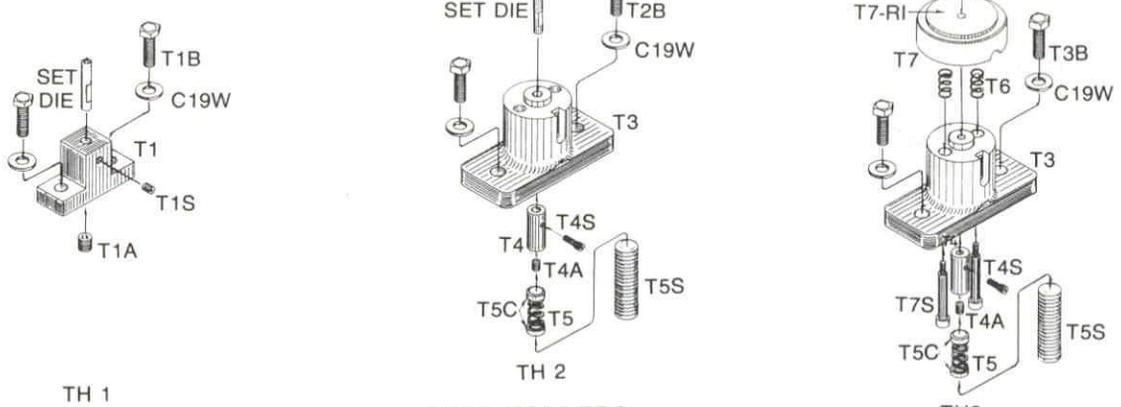


Fig. 7

Note: Set Die is not included with Tool Block Assembly

WARNING: SWITCH OFF AND DISCONNECT THE MACHINE FROM POWER SOURCE BEFORE SERVICING OR INSPECTING.

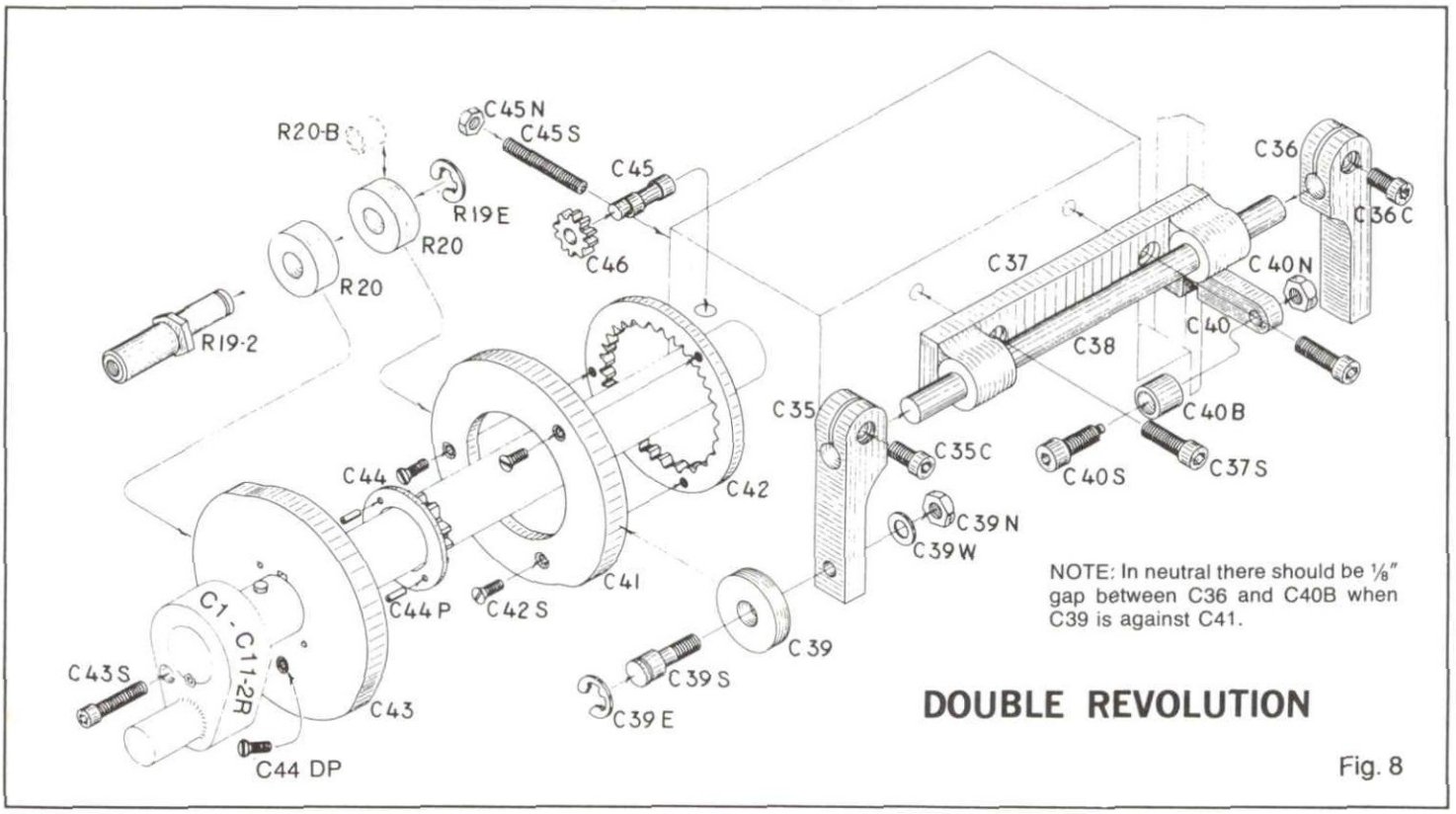


Fig. 8

WARNING: DISCONNECT POWER BEFORE PROCEEDING WITH THE FOLLOWING INSTRUCTIONS

TO CHECK OPERATION OF SINGLE TRIP, DOUBLE REVOLUTION ATTACHMENT

SEE DOUBLE REVOLUTION DRAWING, ABOVE (FIG. 8)

NOTE: In neutral, the Raceway is held out by the Holdout Cam (C41).

FIRST REVOLUTION

1. Pull down Clutch Trip Rod (C47-2 Fig 9 or C24 Fig 10.) Rotate flywheel **by hand** in direction of arrow. Holdout Cam (C41) holds Raceway out for first revolution of machine (Perforation Cycle).
2. The Holdout Cam also prevents the Clutch Dog (C17) from engaging the Clutch Pin (C7) by pushing on the Single Trip Roller (C39). Pressure on this Roller actuates the Single Trip Arm, rear (C36) to hold the Non-Repeat Latch (C40) from functioning. It releases the Non-Repeat Latch at the end of the first revolution.

NOTE: Be sure to complete the second revolution and return the machine to neutral before reapplying power.

SECOND REVOLUTION

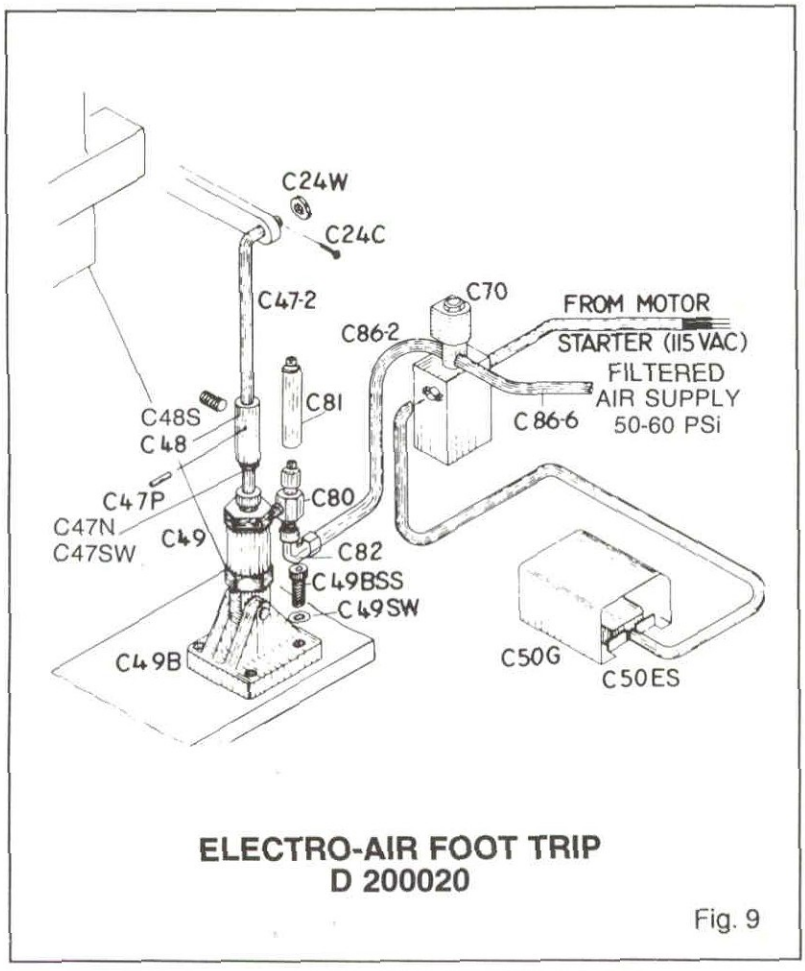
1. At the end of the first revolution the Raceway Throwout Cam (C43) takes over control of the Raceway. It allows the Raceway to move under the Ram before the second revolution begins so that an eyelet may be picked off.
2. After the eyelet is picked off, the Raceway Throwout Cam swings the Raceway out and the eyelet is set. Then the Machine returns to neutral at the end of the second revolution.

TO CHANGE FROM DOUBLE REVOLUTION TO SINGLE REVOLUTION

SEE DOUBLE REVOLUTION DRAWING, ABOVE (FIG. 8) AND DOUBLE REVOLUTION PARTS LIST, PAGE 14.

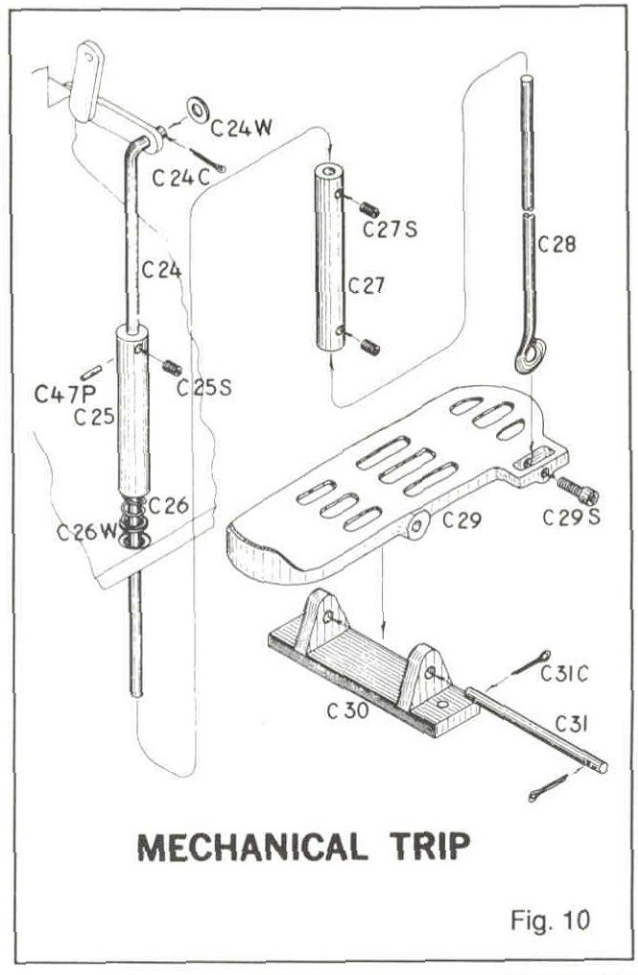
1. To make Single Trip Attachment inoperative, loosen Single Trip Arm Front (C35) by loosening clamping Screw (C35-C).
2. Swing Single Trip Arm, front (C35) out about 1/2". Tighten Clamping Screw.
3. Remove Raceway Roller Retaining Ring (R19-E) at rear of Raceway Eccentric Shaft (R19-2).
4. Remove Raceway Roller (R20) that makes contact with the Cutout Cam (C41).
5. Replace Roller (R20) with Bushing provided. (R20-B).
6. Replace Raceway Roller Retaining Ring. (R19-E).

WARNING: SWITCH OFF AND DISCONNECT THE MACHINE FROM POWER SOURCE BEFORE SERVICING OR INSPECTING.



ELECTRO-AIR FOOT TRIP
D 200020

Fig. 9



MECHANICAL TRIP

Fig. 10

ALL MACHINES ARE QUOTED TO INCLUDE POINT OF OPERATION SAFETY DEVICES. THE MECHANICAL FOOT TRIP AND THE ELECTRO AIR FOOT TRIP WILL ONLY BE PROVIDED ON WRITTEN REQUEST OF THE PURCHASER.

WARNING: DISCONNECT POWER BEFORE PROCEEDING WITH THE FOLLOWING INSTRUCTIONS

ELECTRO-AIR FOOT TRIP D200020
SEE FIGURE 9 ABOVE

1. Used in place of mechanical foot trip and included as part of the D200025 Ring Guard. (See parts list page 11)
2. Item C81 is required only when flywheel speed is 160 R.P.M. or less. Refer to specification box (top of page 1) for flywheel speed.

ASSEMBLY OF MECHANICAL TRIP MECHANISM
SEE FIGURE 10 ABOVE AND PARTS LIST PAGE 13.

WARNING: Position of Spring Guard (C25) on Upper Trip Rod (C24) has been set at the factory for proper functioning of Non-Repeat Device. DO NOT disturb this position of Spring Guard.

1. Insert Trip Rod Spring (C26) on Upper Trip Rod and push into Trip Rod Spring Guard. Slip Trip Rod Spring Washer (C26-W) onto Trip Rod and move up to Spring.
2. Push bottom of Trip Rod (straight end) through hole in base of machine and 1" dia. hole in table. Trip rod must move freely through hole.
3. Insert top of Upper Trip Rod through hole in Clutch Lever (C21). Fasten with 5/16" SAE Washer (C24-W) and Cotter Pin (C24-C).
4. Loosen Trip Rod Link Set Screws (C27-S) and slip Trip Rod Link (C27) on Upper Trip Rod.
5. Insert end of Lower Trip Rod (C28) into Trip Rod Link.
6. Remove Treadle Screw (C29-S) and place bottom end of Lower Trip Rod (circle bend) into slot in Treadle (C29). Re-insert Treadle Screw and tighten.
7. Place Treadle Base (C30) in working position and fasten to permanent location.

NOTE: It may be necessary to bend C-28 for proper alignment and positioning of C-30.

8. Adjust Treadle to proper working height and tighten Trip Rod Link Set Screws.

WARNING: REPLACE ALL GUARDS AND SAFETY MECHANISMS, KEEP HANDS AND BODY CLEAR OF MACHINE WHILE RECONNECTING POWER AND RESTARTING.

RING GUARD ASSEMBLY (ELECTRO AIR) D200025

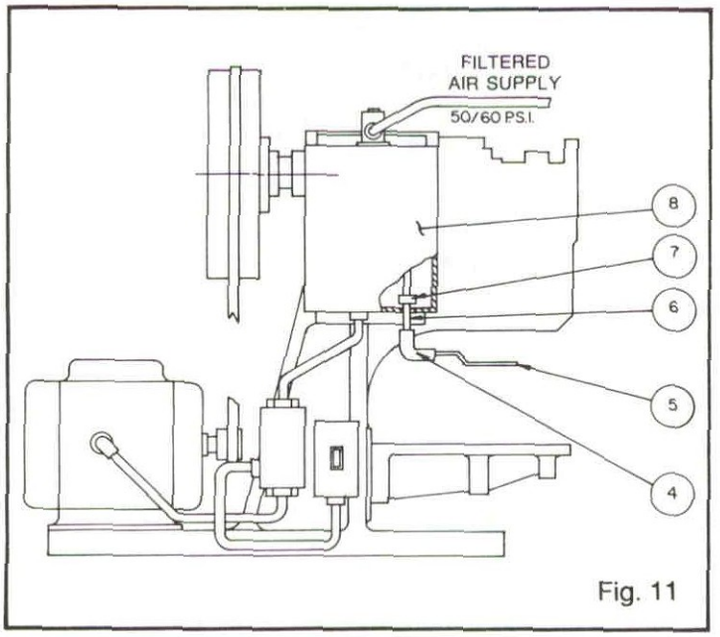


Fig. 11

RING GUARD STROKE ADJUSTMENT

1. The upper adjustment is made by positioning the foot (item no. 4) on the probe shaft (item no. 6) with the ram in it's lowest position. The probe (item no. 5) should just clear the ram.
2. The lower adjustment is made by positioning the collar (item 7) inside the ring guard control box (item No. 8) on the probe shaft (item No. 6) with the probe (item No. 5) in it's lowest position. The probe (item No. 5) should just clear the work piece.

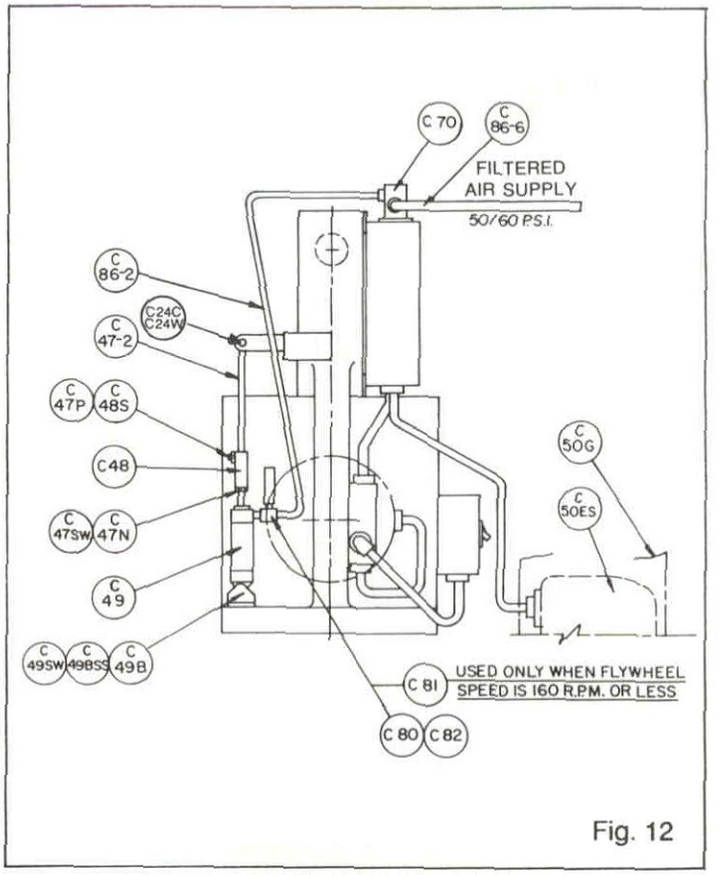


Fig. 12

Electro-Pneumatic Schematic C200026

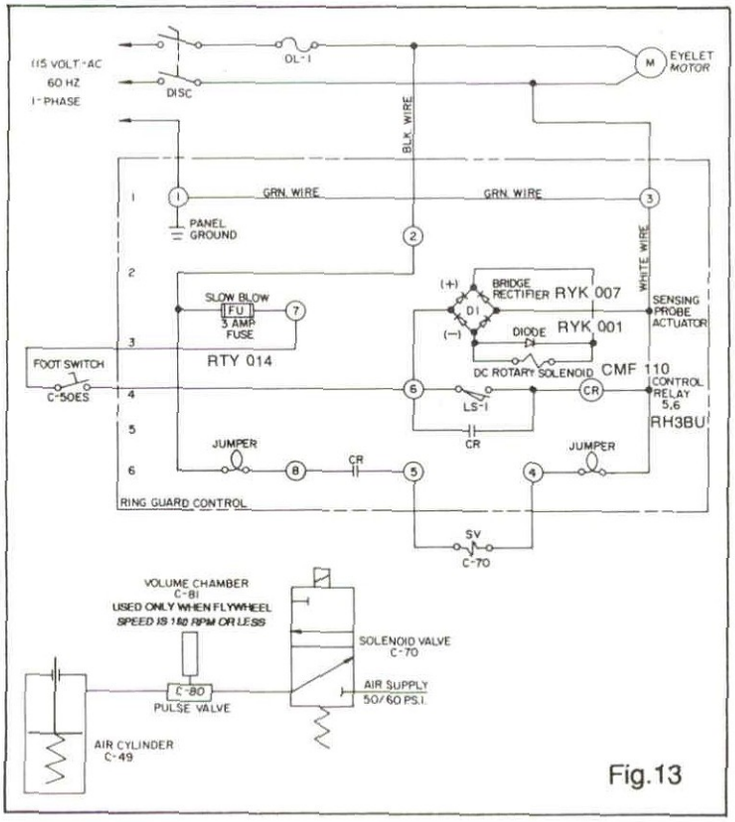


Fig.13

Part No.	Description	Per Mach.
C 24C	$^{3}/_{32}$ x $^{3}/_{4}$ Cotter Pin	1
C 24W	$^{5}/_{16}$ SAE Washer	1
C 47-2	Air Trip Rod	1
C 47N	$^{5}/_{16}$ - 18 Hex. Nut	1
C 47SW	$^{5}/_{16}$ Star Washer	1
C 47P	$^{3}/_{32}$ x $^{5}/_{8}$ Roll Pin	1
C 48	Air Trip Link	1
C 48S	$^{1}/_{4}$-28 x $^{1}/_{4}$ Soc. Set Screw	1
C 49	Air Trip Cylinder	1
C 49B	Bracket	1
C 49BSS	#10-32 x $^{3}/_{4}$ Soc. Cap Screws	4
C 49SW	#10 Star Washer	4
C 50ES	Electric Foot Switch	1
C 50G	Foot Switch Guard	1
C 70	Solenoid Valve—115 VAC	1
C 80	Pulse Valve	1
* C 81	Volume Chamber	1
C 82	$^{1}/_{4}$ x $^{1}/_{8}$ x 90° Male Elbow	3
C 86-2	$^{1}/_{4}$ O.D. Air Line (2 feet)	1
C 86-6	$^{1}/_{4}$ O.D. Air Line (6 feet)	1

*Used only when Flywheel speed is 160 RPM, or less.

DOUBLE HAND BUTTON SAFETY TRIP (Electro Air) D200016

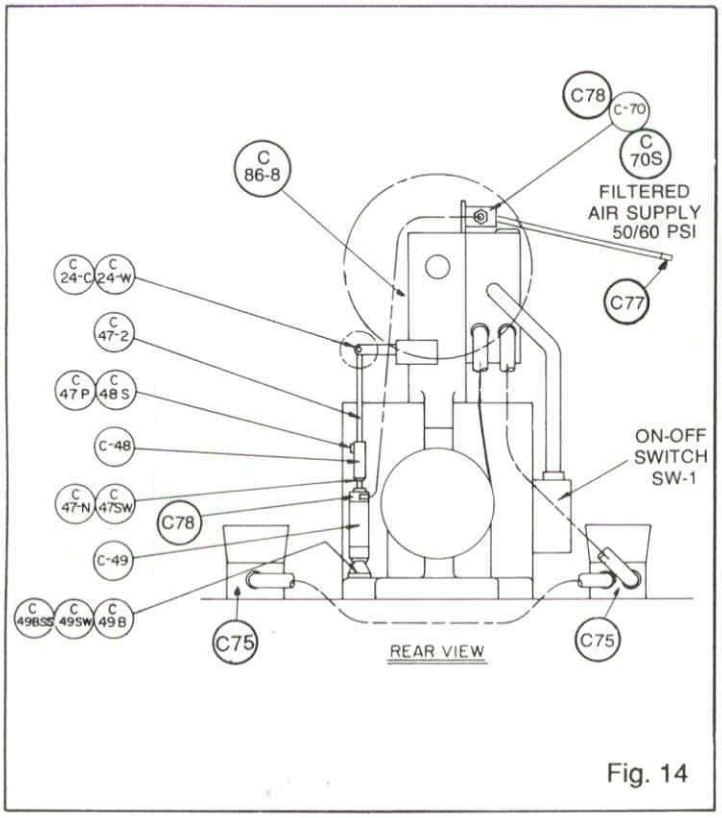


Fig. 14

Double Palm Button Electro Air Trip Schematic C 200017

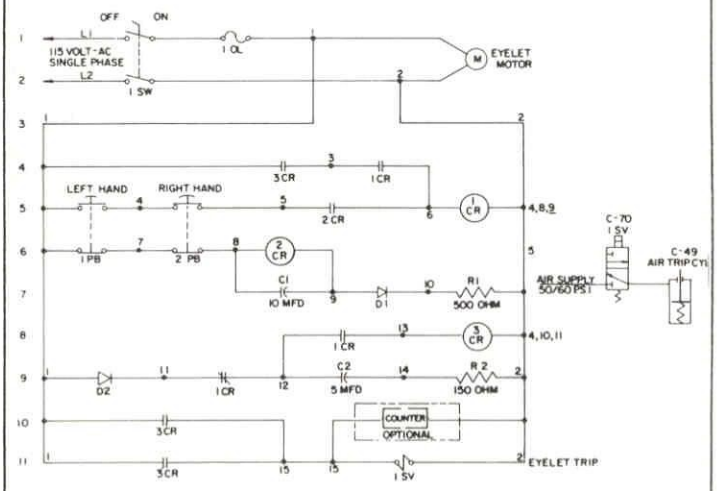
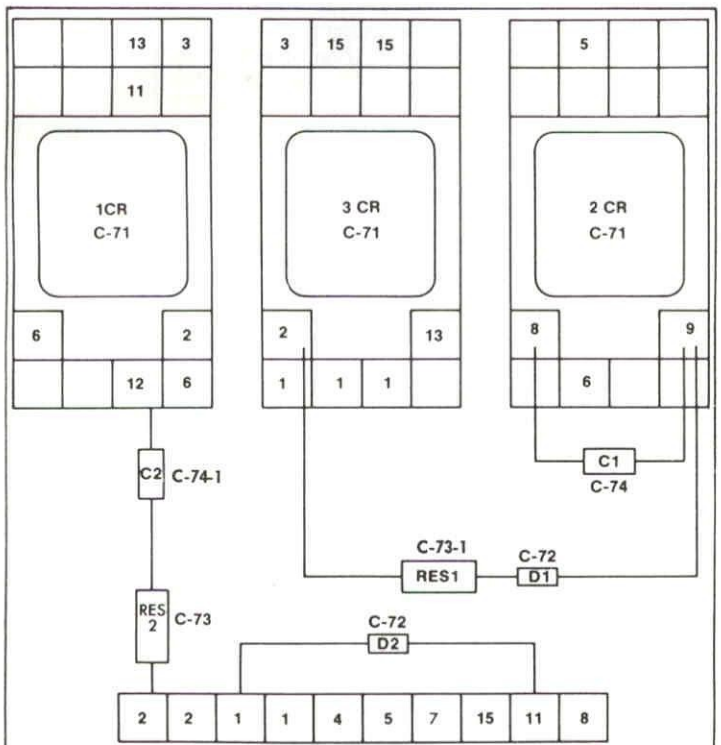


Fig. 15



DOUBLE HAND PALM BUTTON ELECTRIC TRIP (SCHEMATIC)

Fig. 16

QUANTITY	PART NO.	DESCRIPTION
1	C-24C	3/32" x 3/4" Cotter Pin
1	C-24W	5/16" SAE Washer
1	C-47-2	Air Trip Rod
1	C-47N	5/16" - 18 Hex Nut
1	C-47P	3/32" x 5/8" Roll Pin
1	C-47SW	5/16" Internal Tooth Star Washer
1	C-48	Air Trip Link
1	C-48S	1/4" - 28 x 1/4" Socket Set Screw
1	C-49	Air Trip Cylinder
1	C-49B	Air Trip Bracket
4	C-49BSS	10-32 x 3/4" Socket Cap Screw
4	C-49SW	No. 10 Star Washer
1	C-70	Solenoid Valve 115 VAC
2	C-70-S	10-32 x 3/8" Slotted Rnd. Hd. Screw
3	C-71	Relay 115 VAC
2	C-72	Dicde 115 VAC
1	C-73	Resistor 115 VAC 150 OHM 10W
1	C-73-1	Resistor 115 VAC 500 OHM 10W
1	C-74	Capacitor 250 VDC 10 MFD
1	C-74-1	Capacitor 250 VDC 5 MFD
2	C-75	Operator Switch 115 VAC
1	C86-8	8" Length 1/4" O.D. Plastic Air Line
1	C-77	1/8" x 1/4" Male Connector
3	C-78	1/8" x 1/4" Male Elbow

WHEN ORDERING PARTS, SPECIFY MACHINE MODEL NO. & SERIAL NUMBER

MODEL S-83 PARTS LIST - (See RAM ASSEMBLY, CLUTCH ASSEMBLY and MECHANICAL TRIP Drawings)

	Part No.	Description	Per Mach
	C1	Crankshaft including C11 Eccentric	1
	C1-2R	2R Crankshaft with C11 Eccentric	
	C1-B	Bronze Bushing 1 1/8 IDx1 3/8 ODx3	2
	C1-G	1/8 Pipe Grease Fitting	1
	C2	Flywheel Collar	1
	C2-S	3/8-24 x 1/2 Socket Set Screw	2
	C3 11 7/8"	Flywheel 11-7/8 Dia.	1
	C3-10"	Flywheel 10" Dia.	1
	C3-B	Bronze Bushing 1-1/8 IDx1 3/8 ODx3	1
	C3-13 3/8"	"G" Flywheel 13-3/8 Dia.	1
	C4	Flywheel Pin	4
	C5	Clutch Hub	1
o	C5-S	Non-Repeat Knock Off Screw.	1
	C6	Clutch Hub Key	1
o	C7	Clutch Pin	1
o	C8	Clutch Pin Spring	1
o	C9	Clutch Pin Spring Cap	1
	C10	Clutch Spring Retaining Collar	1
	C11	Crankshaft Eccentric	1
	C11-LS	Crank. Ecc. Long Stroke	1
	C11-SS	Crank Ecc. Short Stroke	1
	C11-S	5/16-24 x 3/4 Socket Set Screw (Nylok)	1
	C12	Crankshaft Link	1
	C12-A	Crankshaft Link Adjustable	1
	C13	Ram and Link Shaft	1
	C13-S	1/4-28 x 1/4 Socket Set Screw	2
	C14	Ram	1
	C14 LT	Ram - Limited Travel	1
	C14-G	Ram - Grommet	1
	C14SG	5/16-24 x 1/2 Soc. S. Scr. Cn. Pt.	1
	C14-S	1/4 28 x 1/2 Socket Set Screw	1
	C15	Ram Housing	1
	C15-S	5/16 - 18 x 1 Socket Cap Screw (Oversize Head)	4
	C16	Ram Housing Gib, Side	1
	C16-S	1/4-20 x 7/8 Socket Set Screw	4
	C16-N	1/4-20 Light Jam Nut	4
	C16-P	1/8 x 1/2 Roll Pin	2
	C17	Clutch Dog	1
	C18	Non-Repeat Latch	1
	C19	Non-Repeat Latch Stud	1
	C19-N	5/16 24 Hex Jam Nut	1
	C19-W	Non-Repeat Latch Washer (Special)	1
o	C20	Non-Repeat Latch Spring	1
	C21	Clutch Lever	1
	C21-P	5/16 Dia. x 1 Dowel Pin	1
	C21-S	10-32 x 3/8 Socket Set Screw	1
o	C22	Clutch Dog Spring	1
	C22-S	10-32x1 Socket Cap Screw	1
	C23	Clutch Lever Shaft	1
o	C23-E	E Ring #5133-37	1
	C23-N	1/4-20 Light Jam Nut	1
	C23-S	1/4-20 x 3/4 Socket Set Screw	1
	C23-W	1/4 S.A.E. Washer	1
	C24	Trip Rod, Upper (mech. trip only)	1
	C24-C	3/32x3/4 Cotter Pin	1
	C24-W	5/16 S.A.E. Washer	1
	C25	Trip Rod Spring Guard	1
	C25-S	1/4-28x1/4 Socket Set Screw	1
	C26	Trip Rod Spring (mech. trip only)	1
	C26-W	5/16 S.A.E. Washer	1
	C27	Trip Rod Link	1
	C27-S	1/4-28 x 1/4 Socket Set Screw	2
	C28	Trip Rod, Lower	1
	C29	Treadle	1
	C29-S	1/4 - 20x1 Socket Cap Screw	1
	C30	Treadle Base	1
	C31	Treadle Base Shaft	1
	C31-C	3/32x3/4 Cotter Pin	2
	C32	Ram Housing Gib, Front	1
	C32-S	1/4-20 x 1 Socket Set Screw	3
	C32-N	1/4-20 Jam Nut	3
	C32-P	1/8 x 1/2 Roll Pin	2
	C33	Motor Pulley - 1.7 P.D. "A" Belt	1
	C33-S	5/16-18 x 3/8 Set Screw	1
o	* C34	(See Pg. 14) Main Drive Belt*	1

	Part No.	Description	Per Mach
	† R1+	Raceway Frame Assembly	1
	† R1-G+	Raceway Frame—Assembly Grommet	1
	R2	Hopper Box	1
	R2L	Hopper Box Lug	3
	R2-G	"G" Hopper Box	1
	R2-S	10-24 x 3/8 Rd. Phillips Head Screw	3
	R3	Hopper Box Cover	1
	R3-G	"G" Hopper Box Cover	1
o	R4	Hopper Brush	1
	R4-G	"G" Hopper Brush	1
	R4-S	10-32 x 1/2 Round Head Screw	1
	R4-W	#10 S.A.E. Washer	1
	R5	Hopper Brush Shaft	1
o	R5-W	Washer (Nylon)	1
o	R6	Worm Gear	1
	R6-S	10-32 x 3/16 Socket Set Screw	2
o	†R8+	Worm Shaft Assembly	1
o	R8-W	Worm Shaft Washer (Nylon)	1
	R9	Worm Shaft Housing	1
	R9-P	1/8 x 1/2 Split Pin	2
	R9-S	10-24 x 3/8 Socket Cap Screw	2
	R10	Brush Driving Pulley	1
	R10-S	1/4-28 x 5/16 Socket Set Screw	1
	R11	Idler Pulley Bracket	1
	R11-S	5/16 - 18 x 3/4 Socket Cap Screw	2
	R12	Idler Pulley Shaft	2
	R12-S	1/4 - 20 x 1/2 Socket Set Screw	2
	R13	Idler Pulley	2
	R14	Raceway Shaft Block	1
	R14-S	5/16 - 18 x 3/4 Socket Cap Screw	2
	R15	Raceway Shaft	1
	R15-CS	1/4 -20 x 5/8 Socket Cap Screw	1
	R15-G	1/4 - 28 Grease Fitting	1
	R15-N	1/4-20 Jam Nut	1
	R15-S	1/4-20 x 1 Half Dog Point Socket Set Screw	1
	R15-W	1/4 S.A.E. Washer	1
	R16	Raceway Locating Collar	2
	R16-S	10-32 x 1/2" Socket Cap Screw	2
	R17	Raceway Shaft Support	1
	R17-S	1/4-20 x 3/4 Socket Cap Screw	2
	R18	Bronze Bushing - 5/8 x 7/8 x 3 (Included with Part R1)	1
	R19	Raceway Eccentric Shaft	1
o	R19-E	E Ring #5133-50	1
	R19-S	5/16 - 24x1 Socket Cap Screw	1
	R19-W	Shoulder Washer (Special)	1
	R20	Raceway Roller	1
	R20-LS	Raceway Roller, Long Stroke	1
	R21	Raceway Spring Retaining Pin	1
	R21-S	1/4-20 x 5/16 Socket Set Screw	1
o	R22	Raceway Pull-In Spring	1
	R22-C	Raceway Pull-In Spring Guard	1
	R22-CS	10-32x3/8 Round Head Screw	2
o	R23	Raceway Pull-In Spring Retaining Loop	1
o	* R24-EB	(See pg. 14) Raceway Belt R24EB	1
	R25	Raceway Cam (single rev. only)	1
	R25G	'G' Raceway Cam (Single Rev. Only)	1
	R25-S	1/4-28x 1 1/2 Socket Cap Screw	2
	R26	Bronze Bushing - 3/8x1/2x5/8	1
	R27	Raceway Cam Locking Strap	1
	R27-S	5/16-18x3/4 Socket Set Screw	1
o	**R28	Raceway Finger (See note Fig. 2)	1
	R28-S	10-32x5/8 Truss Head Screw	1
o	R29	Raceway Finger Bushing	1
o	**R30	Raceway Finger Spring (See note Fig.2)	1
	R-31	Gearguard	1
	R-31S	10-24 x 3/8 Phillips Round Head Screw	2

o Recommended spare parts
* Orders for these belts must specify Machine Serial Number as belt length varies.
** Order must specify right or left hand
† Sold as an assembly only

WHEN ORDERING PARTS, SPECIFY MACHINE MODEL NO. & SERIAL NUMBER

CHIP DISPOSAL ASSEMBLY

(Used on Double Revolution Machine Only)
CAN NOT BE USED ON MACHINE WITH RING GUARD

Part No.	Description	Per Mach
R32	Raceway Tip Brush Bracket	1
R32-S	10-32 x 1/2 Socket Cap Screw	1
R32-N	10-32 Hex Nut	1
R33	Raceway Tip Brush	1
R33-S	10-32 x 3/8 Socket Cap Screw	1
R33-N	10-32 Hex Nut	1

MAIN DRIVE BELT C34*

Part No.	Belt Length	Used on Machine Series
C34-1	49"	83 with 11-7/8" dia. Flywheel
C34-4	46"	83 with 10" dia. Flywheel
C34-5	52"	83 with 13-3/8" dia. Flywheel

*Specify Machine Serial Number When Ordering

DOUBLE REVOLUTION PARTS LIST — (See DOUBLE REVOLUTION Drawing, Page 10)

Part No.	Description	Per Mach
R20	Raceway Roller	2
R20-B	Single Rev. Bush 1/2 ID x 5/8 OD x 1/2	1
C35	Single Trip Arm, Front	1
C35-C	5/16 - 24 x 3/4 Socket Cap Screw	1
C36	Single Trip Arm, Rear	1
C36-C	5/16 - 24 x 3/4 Socket Cap Screw	1
C37	Single Trip Bracket	1
C37-S	5/16 - 18 x 3/4 Socket Cap Screw	2
C38	Single Trip Shaft	1
C39	Single Trip Roller	1
C39-E	E Ring #5133-50	1
C39-N	5/16-24 Jam Nut	1
C39-S	Single Trip Roller Stud	1
C39-W	5/16 S.A.E. Washer	1
C40	Non-Repeat Latch	1

NOTE

Part No.	Description	Per Mach
C40-B	Non-Repeat Latch Bushing	1
C40-N	5/16-24 Jam Nut	1
C40-S	Non-Repeat Latch Screw (Special)	1
C41	Holdout Cam	1
C42	Cutout Cam Ring Gear	1
C42-S	8-32 x 1/2 Flat Head Screw	3
C43	Throwout Cam	1
C43-S	1/4-20 x 1-1/8 Socket Cap Screw	1
C44	Throwout Cam Stud Gear	1
C44-P	1/8 x 1/2 Split Pin	2
C44-DP	Drive Pin	1
C45	Idler Gear Eccentric Shaft	1
C45-S	1/4-20 x 1 Socket Set Screw	1
C45-n	1/4-20 Jam Nut	1
C46	Idler Gear	1
R19-2	Raceway Eccentric Shaft	1

NOTE: Parts C41 through C44-P and C46 must be sold as an assembly to assure proper fit. Old assembly may be returned for repair.

SINGLE REVOLUTION GROMMET MACHINE (G83)

Use all parts on Model 83 machine except the following:

Instead of	C3	- Use	C3-G
	C14	-	C14-G with C14-SG
	R1	-	R1-G
	R2	-	R2-G
	R3	-	R3-G
	R25	-	R25-G

Instead of A-8702 use A-1549 (9/16 OD x 5-1/2 long spindle spring).

SPINDLE SPRINGS

Part No.	Used on
A5130	Machines with Retractable Spindle Fittings and 149 type Set Caps (1/2" shank dia.)
A8702	Machines without Retractable Spindle Fittings and with 146 type Set Caps (1/2" shank dia.)
A9884-1	Machines with Retractable Spindle Fittings converted to use Eyelets .090" dia. and larger and using 146 type Set Caps.
A1549	G or G2R machines with 175 type Set Caps (3/4" shank dia.)
A146-2	Machines without Retractable Spindle Fittings and using 101 type Set Caps (5/16" shank dia.)
A1059-1	Machines with Retractable Spindle Fittings and using 101 type Set Caps (5/16" shank dia.)

RACEWAY BELT R24EB*

Part No.	Belt Length	Used on Machine Series
R24EB-1	43"	83 except as noted below
R24EB-2	31"	83 GMCT
R24EB-3	51"	83 with left & right raceways or 11" Deep Throat
R24EB-4	38"	83 with R38 Offset Hopper Raceway
R24EB-5	45"	83 with 9-1/4" deep throat
R24EB-6	581/2"	15" Deep Throat
R24EB-9	411/2"	83 with oscillating feed

* Specify MachineSerial Number When Ordering

LIMITED TRAVEL SPINDLE ASSEMBLY

(See Spindle Drawing Fig. 5., Page 7)

Part No.	Description	Per Mach.
A5130	Spindle Spring	1
A5100+	Spindle Clamping Screw Assem (includes 3 ea—5303)	1
A5303	Checknut	3
254*	Spindle Tip Holder	
249Y*	Spindle Tip	1
251	Eccentric Adjusting Screw	1
NL 20M2	Adjusting Screw Checknut	1

* Specify Eyelet When Ordering

IMPORTANT INFORMATION

Illustrations shown are not meant to depict specific models; rather they are used with the text wherever an instruction or procedure can thus be more clearly described. In the case of special machines or machines equipped with work handling devices, assembly drawings and/or wiring diagrams, which are usually available upon request, provide information beyond that contained in this manual. Because these machines may be highly specialized, their maintenance is not specifically covered in this manual. Much of the information in the manual, however, is directly applicable in those areas of special machines where there are common or similar subassemblies.

If this manual doesn't answer a particular question, please forward your question-and the model and serial number of the machine involved-to our service department for a prompt reply.

WARRANTY, REPAIR OR REPLACEMENT EXCLUSIVE REMEDY

The Company warrants that its products are free from defects in workmanship and materials under normal use and service for a period of one (1) year from the date of delivery, except for purchased components, in which case the original manufacturers warranty is automatically extended or setting tools which are expendable.

The liability of the Company shall be limited solely to the repair or replacement (at the Company's option) of any product found to be defective, and no consequential or incidental damages will be allowed.

No other express warranty is given and no affirmation of the Company, by words or action, shall constitute a warranty. This warranty shall not apply to, and the Company shall not be responsible for, any equipment or part which has been repaired or altered in any way, that in the Company's sole judgment affects its stability or its reliability, or which has been subjected to misuse, negligence, or accident.

Every claim on account of defective material and/or workmanship shall be deemed waived by the Buyer unless made in writing to the Company within three (3) months from the date of delivery to Buyer's plant.

The liability of the Company arising out of supplying said equipment, or its use, whether by guarantee, warranty, or otherwise, is limited as herein provided and does not extend to, and specifically excludes, any special damages or any consequential damages including, but not limited to, loss of use.

The foregoing is in lieu of and excludes all other guarantees and/or warranties, express or implied, by operation of law or otherwise.

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