

# PACKAGE TYING MACHINE INSTRUCTION MANUAL

FOR ALL STANDARD TABLE MODELS

Donham Packaging Equipment • 14203 Proton Road • Dallas Texas • 972-960-9935

#### TY-TECH POLY TAPE TO TWINE CONVERSION

- If twine to be used is 8 or 10 ply then remove the medium/heavy stringholder button spring and replace with a light spring.
- 2. Remove the cam roller arm assy., (Page 9, numbers 3 & 4) along with the #1432 bolt, #PW6 washers, and 1434 spring from the tension box.
- 3. Increase the spring tension of the drawback lever assembly.
- 4. Re-adjust the (back) running tension as needed.
- 5. Externally re-adjust the stringholder button pressure.
  - \*\* For conversion from twine to tape do opposite of instructions 1, 2 and 3 and then do numbers 4 and 5 as needed.

For 12 & 16 ply twine the medium/heavy stringholder button spring is o.k. to use.

#### SALES BULLETIN #1

#### TO: TY-TECH DISTRIBUTORS

### TY-TECH PACKAGE TYING MACHINES

### SALES FEATURES AND COMPARISONS

- 1. 1/3 H.P. Motor
- 2. Spare main drive belt furnished and installed
- 3. TM-36 Approximately 120# heavier than Bunn BT-16 TM-45 - Approximately 130# heavier than Bunn BT-18
- 4. Trip Lock is Standard on all machines
- 5. All Shafts are Ball or Needle Bearings with grease fittings
- 6. Ball Bearing Spindle Standard
- 7. Door on Front Guard Cover Make main table adjustments without removing guard
- 8. External Button Tension Adjustment
- 9. More Drawback Lever Motion allows larger machines to tie smaller bundles than competitive units
- 10. Single wrap and 3 wrap machines available on special order
- 11. Machines will run #24, #28, #35 Poly-Tape or 10, 12, and 16 ply Twine with no changes of parts or adjustment (for 8 ply, change button spring only)
- 12. Only 1 knotter and 1 stripper covers all materials
- 13. Large twine arm hub and twine arm hub 2+ inches tapering to 5/8"
- 14. TM-25, TM-36 and TM-45 Identical machines from the main table down. "A" frame bolts to subframe, mounting different size twine arms. Minimizes parts stocking
- 15. TM-25, TM-36 and TM-45 standard cycle time is approximately 40 cycles per minute
- 16. TM-25 and TM-36 available in High Speed Models: High Speed Models cycle approximately 48 cycles per minute
- 17. All machines are equipped with a mechanical brake Mechanical brakes appreciably extend the life of main gear and the chain gear

#### TO: TY-TECH DISTRIBUTORS

### TY-TECH PACKAGE TYING MACHINES

### SALES FEATURES AND COMPARISONS

- 1. 1/3 H.P. Motor
- 2. Spare main drive belt furnished and installed
- 3. TM-36 Approximately 120# heavier than Bunn BT-16 TM-45 - Approximately 130# heavier than Bunn BT-18
- 4. Trip Lock is Standard on all machines
- 5. All Shafts are Ball or Needle Bearings with grease fittings
- 6. Ball Bearing Spindle Standard
- 7. Door on Front Guard Cover Make main table adjustments without removing guard
- 8. External Button Tension Adjustment
- 9. More Drawback Lever Motion allows larger machines to tie smaller bundles than competitive units
- 10. Single wrap and 3 wrap machines available on special order
- 11. Machines will run #24, #28, #35 Poly-Tape or 10, 12, and 16 ply Twine with no changes of parts or adjustment (for 8 ply, change button spring only)
- 12. Only 1 knotter and 1 stripper covers all materials
- 13. Large twine arm hub and twine arm hub 2+ inches tapering to 5/8"
- 14. TM-25, TM-36 and TM-45 Identical machines from the main table down. "A" frame bolts to subframe, mounting different size twine arms. Minimizes parts stocking
- 15. TM-25, TM-36 and TM-45 standard cycle time is approximately 40 cycles per minute
- 16. TM-25 and TM-36 available in High Speed Models: High Speed Models cycle approximately 48 cycles per minute
- 17. All machines are equipped with a mechanical brake Mechanical brakes appreciably extend the life of main gear and the chain gear

#### SALES BULLETIN #1

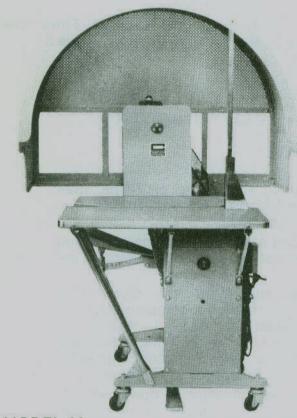
#### TO: TY-TECH DISTRIBUTORS

#### TY-TECH PACKAGE TYING MACHINES

#### SALES FEATURES AND COMPARISONS

- 1. 1/3 H.P. Motor
- 2. Spare main drive belt furnished and installed
- 3. TM-36 Approximately 120# heavier than Bunn BT-16 TM-45 - Approximately 130# heavier than Bunn BT-18
- 4. Trip Lock is Standard on all machines
- All Shafts are Ball or Needle Bearings with grease fittings
- 6. Ball Bearing Spindle Standard
- 7. Door on Front Guard Cover Make main table adjustments without removing guard
- 8. External Button Tension Adjustment
- 9. More Drawback Lever Motion allows larger machines to tie smaller bundles than competitive units
- 10. Single wrap and 3 wrap machines available on special order
- 11. Machines will run #24, #28, #35 Poly-Tape or 10, 12, and 16 ply Twine with no changes of parts or adjustment (for 8 ply, change button spring only)
- 12. Only 1 knotter and 1 stripper covers all materials
- 13. Large twine arm hub and twine arm hub 2+ inches tapering to 5/8"
- 14. TM-25, TM-36 and TM-45 Identical machines from the main table down. "A" frame bolts to subframe, mounting different size twine arms. Minimizes parts stocking
- 15. TM-25, TM-36 and TM-45 standard cycle time is approximately 40 cycles per minute
- 16. TM-25 and TM-36 available in High Speed Models: High Speed Models cycle approximately 48 cycles per minute
- 17. All machines are equipped with a mechanical brake -Mechanical brakes appreciably extend the life of main gear and the chain gear

#### MODEL 36



#### MODEL 60

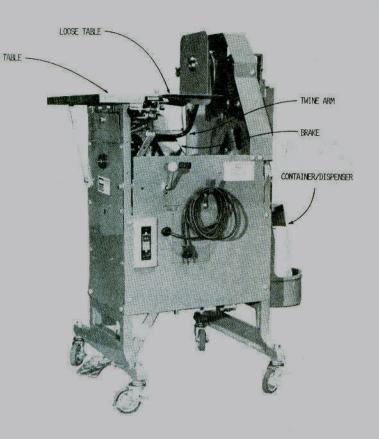
## **CAUTION!**

#### FOR YOUR SAFETY

- 1. Only the operator should be near the machine while in operation.
- 2. Do not touch gears, chains, belts or other moving parts while machine is in operation.
- 3. Do not leave machine unattended while motor is running.
- 4. When machine is not operating move Safety Arm to "ON" position. This locks clutch and prevents Tying Arm from rotating.
- When servicing, adjusting or threading machine is Poly Tape or Twine be sure to disconnect from power source.

TO INSURE EFFICIENT OPERATION PLEASE READ THIS MANUAL.





#### **ASSEMBLY INSTRUCTIONS**

REFER TO FIG. "A".

- 1. TABLE
- 2. LOOSE TABLE
- 3. TWINE ARM
- 4. BRAKE
- 5. REAR TENSION
- 6. CONTAINER/DISPENSER
- 7. MOTOR
- 8. BELT
- 9. SPARE BELT
- Remove all protective shipping covers and guards from Tying Arm, Motor, Pulleys and table.
- 2. Remove all excess grease from parts.
- Place V-Belt on motor pulley and Main Drive Wheel. Adjust belt tension.
- 4. It is recommended that the container/dispenser be mounted on the rear of the machine. Side mounting is used when the machine is positioned with its back flush against a wall surface.
- 5. To loan Poly Tape or Twine see threading instructions, page 3.

#### MANUAL CYCLE TEST

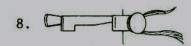
## ALWAYS MANUALLY CYCLE THE BAND-TYER AFTER ASSEMBLY OR OTHER SERVICE WORK.

- 1. Make sure machine is disconnected from power source.
- 2. Place safety arm LOCK-OUT in "OFF" position.
- 3. Depress Foot Pedal.
- 4. Manually rotate Main Drive Wheel in a clockwise direction. Note: Crosstie machines will automatically stop at the Crosstie position. Depress Foot Pedal again and continue to rotate the Main Drive Wheel to complete the tying cycle.
- 5. While manually rotating the Main Drive Wheel check the Tying Arm travel to be sure there are no obstructions to its movement within the Safety Cage and under the table.

- 6. Thread Poly Tape or Twine. (See THREADING INSTRUCTIONS, Fig. "B", page 3.)
- Place a sample package to be tied against the Vertical Standard on the table.
- 8. Manually rotate the Main Drive Wheel through a complete cycle as outlined in steps 1 through 5. Observe action of Tying Arm, Knotter Head, Draw Slide and Stripper for proper function and operation.
- Connect machine to power source. Machine is ready for production operation.

#### THREADING INSTRUCTIONS

REFER TO FIG. "B".



- 1. When threading machine disconnect power source.
- Poly-Tape or Twine dispenses from the outside of the tube. Place tube in the Container/Dispenser with the center core transfer tail down in the bottom of the Container/Dispenser as illustrated.
- 3. Pull Poly-Tape or Twine through the guide hole in the top of the Container/Dispenser.
- 4. Thread through Tensioner, over Roller Guide and into the rear of the Main Hub.
- Press Poly-Tape or Twine into Main Hub until visible in the hole above the Tying Arm. Using tweezers or needle nose pliers pull Poly-Tape or Twine out and over Roller Guide.
- Thread Poly-Tape or Twine under Roller Guide on Tying Arm and over Roller Guide on Twine Draw-Up Lever.
- 7. Feed Poly-Tape or Twine through the Ring Guide at the Tying Arm elbow and through the Tip Guide.
- Thread Poly-Tape or Twine around Stringholder Button on Stringholder assembly.

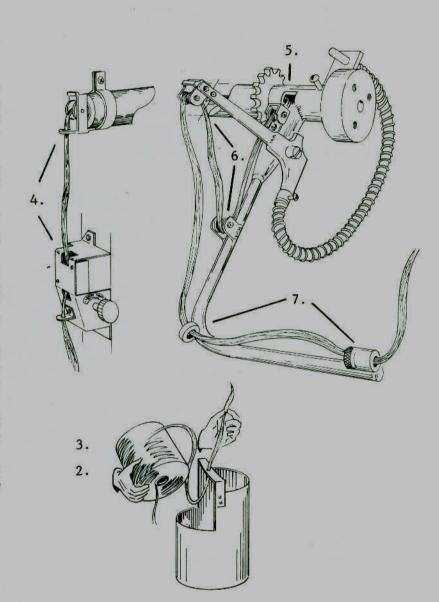
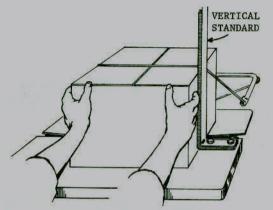


FIG. "B".

#### **OPERATING PROCEDURE**

REFER TO FIG. "C".



PACKAGE VERTICAL STANDARD

CORRECT SPACE

PACKAGE VERTICAL STANDARD

INCORRECT

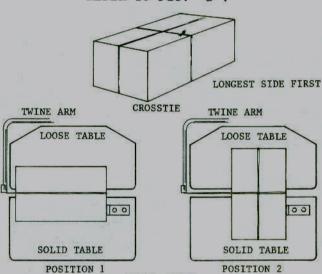
FIG. "C".

- 1. Hold package firmly in position on table against Vertical Standard.
- 2. DO NOT PLACE HANDS BEHIND VERTICAL STANDARD.
- 3. Depress Foot Pedal.
- 4. Hold package firmly in place until tying cycle is completed.

#### **CROSSTIES**

(An optional feature)

REFER TO FIG. "D".



- FIG. "D".
- Place the package to be crosstied on the table flush against the Vertical Standard. TIE THE LONGEST SIDE FIRST.
- 2. Hold the package firmly and depress the Foot Pedal. Remove your foot from the Pedal instantly.
- 3. The Twine Arm will make one revolution and stop.
- 4. Turn the package 90 degrees on the table in a clockwise direction. Your right hand comes toward your body. Slide the package on the table surface. Do not lift.
- 5. Slide the short side of the package against the Vertical Standard and hold firmly in position.
- Depress the Foot Pedal. Again, remove your foot instantly.
- The Twine Arm will make a second revolution and the knot will be tied. Your Crosstied package is complete.

#### **OPERATING TIPS**

REFER TO FIGS. "E"-1 & "E"-2.

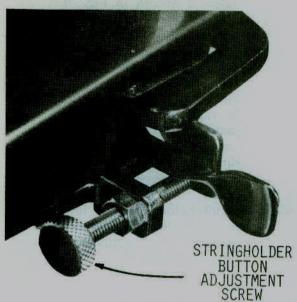


FIG. "E"-1.

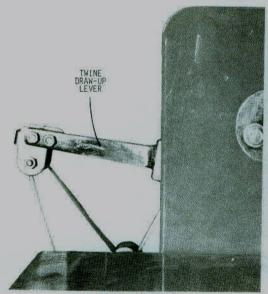


FIG. "E"-2

- THREADING. Be sure your machine is properly threaded. Incorrect threading is a major cause of malfunction. (See THREADING INSTRUCTIONS, Page 3 in this manual.)
- 2. STRINGHOLDER BUTTON. Too much pressure in the Stringholder Button will cause the Poly-Tape or Twine to break or fray, leaving bits of Poly-Tape or Twine at the back of the button. Pressure may be changed with the Adjustment Screw. (See Fig. "E".)

Pressure is decreased by turning the Adjustment Screw to the left—counter-clockwise. Pressure is increased by turning the Adjustment Screw to the right—clockwise. The proper operating pressure is the MINI-MUM required to retain the Poly-Tape or Twine in the Stringholder Button during a complete tying cycle.

Keep the Stringholder Button free of Poly-Tape or Twine bits. A build-up of debris in the Button and Spring can cause a reduction of pressure and tension between the Button and Block. Cleaning may be accomplished by simply blowing the area with compressed air or by picking the debris out with a pair of tweezers.

3. TWINE RUNNING TENSION. For best performance the tension on both the Stringholder Button and the Rear Tension should be about equal. Twine running tension is adjusted by the flat spring on the Tension Bracket at the back of the machine. The rear tension is increased by simply turning the Adjustment Nut to the right. Decrease tension by turning the Nut to the left. The rear tension is considered correct when the Twin Draw-Up Lever rests in a horizontal position

#### ADJUSTING STRIPPER

REFER TO FIGS. "F" & "G".

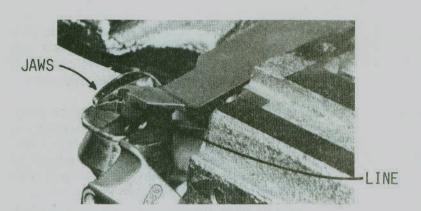


FIG. "F".

The proper position of the Stripper in relation to the Jaws is shown in Fig. "F". The notch in the Stripper should be in line with the opening between the jaws - as shown.

The level of the Stripper can be raised or lowered by adjusting the Stripper Lift Pin. Loosen the locking nut and turn the Adjusting Bolt of the Stripper lift lever clockwise to raise the Stripper, turn counter-clockwise to lower. Be certain to secure the Locking Nut after adjustments. Refer to Figure "G".

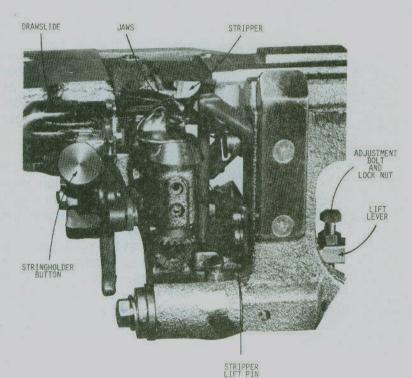


FIG. "G".

#### REMOVING STRINGHOLDER ASSEMBLY

REFER TO FIG. "H".

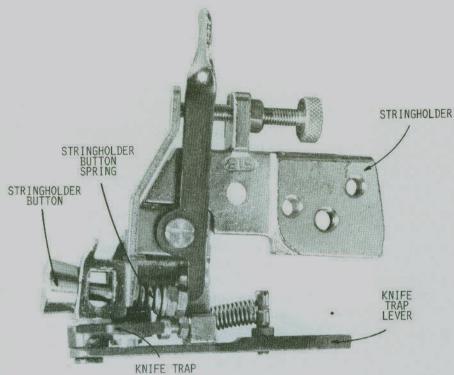


FIG. "H".

- 1. STRINGHOLDER
- 2. STRINGHOLDER BUTTON
- 3. KNIFE TRAP LEVER
- 4. KNIFE TRAP
- 5. STRINGHOLDER BUTTON SPRING

- 1. Remove shouldered screw in Knife Trap Lever.
- 2. Remove large black allen head cap screw holding assembly to Main Table.
- 3. Stringholder Assembly is held in position by two pins. With the allen head cap screw removed the assembly will drop free.
- 4. To replace, reverse the above procedure.
- 5. With the Stringholder Assembly removed check the following:
  - A. Replacement of Knife Blade.
  - B. Replacement or adjustment of Stringholder Button Spring.
  - C. Lubrication of Knife Trap Lever.
  - D. Replacement of Knife Trap Spring.

#### KNOTTER HEAD REMOVAL

REFER TO FIGS. "I"-1 & "I"-2.

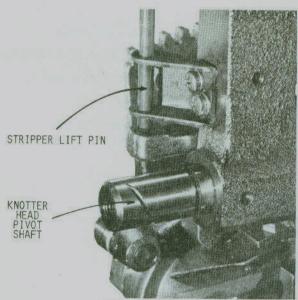
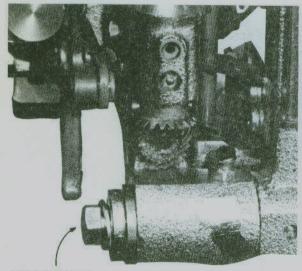


FIG. "I"-1.



SUPPORT LEVER AND STUD

FIG. "1"-2

- 1. Remove Stringholder Assembly as per instructions.
- 2. Remove front Table as follows:
  - A. Remove Vertical Standard - Stop Bar.
  - B. Remove lower bolts on table support brackets.
  - C. Loosen the two bolts securing the Table to the frame.
- Loosen nuts at both ends of the support lever between Knotter Head and frame. Swing support lever downward from the stud.
- Remove two outside bolts in front of Tying Table. Remove bolt at top left side of Tying Assembly.
- 5. Tying Assembly can now be lifted out of machine.
- 6. Remove Knotter Head support lever.
- 7. Gently slip Knotter Head off
  Pivot Shaft. Tip-up Lever will slip
  off stud on Knotter Head.
- 8. To replace line the Tip-up Lever with the stud and gently maneuver Knotter Head back into position on Pivot Shaft. DO NOT USE FORCE. When in proper alignment, the Knotter Head will slip easily into position to tie properly and securely.

#### REPLACING TYING ASSEMBLY

- 1. Be sure Main Cam is in neutral position.
  - Knotter Rack and Cross Tie Block (or slot if block has been removed) should be in the position shown in Fig. "J".
- 2. Lower the assembly so that the Draw Slide Operating Lever rests in the brass portion of the Main Cam.
- 3. The bolt at the top left of the assembly assists in aligning the bolt holes in front. Replace the two front mounting bolts.
- 4. Replace Knotter Head Support Lever and secure to frame.
- 5. Replace Stringholder assembly.
- 6. Test by rotating manually, refer to page 2.

#### REPLACING KNOTTER FLAT SPRINGS

REFER TO FIG. "J".

The Knotter Flat Springs are a very important part of the Tying Head. The pressure these springs apply on the Knotter lever controls the gap and grip of the Knotter Jaws in the Poly-Tape or Twine. If the pressure is too great, the Jaws will not release the Poly-Tape or Twine. Too little pressure results in not enough grip, again causing a typing failure. Since the springs are in constant use they are subject to weakening through fatigue.

To Replace the Springs remove the Knotter Head per instructions on page 8.

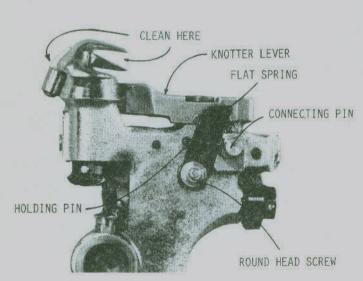


FIG. "J".

- Remove locknut and bolt securing Flat Springs to Knotter Head.
- 2. Replace with two number 812 Springs.
- 3. With Knotter Jaw turned out of the Knotter Lever, screw down bolt and nut securely. Do not tighten excessively.
- 4. Rotate Jaw
  Assembly until
  roller locks into
  Knotter Lever.
  Rotate against
  lever to check
  Spring pressure.
  Tighten springs
  until resistance is
  definite.
- 5. Pressure can be reduced after assembly but cannot be increased. To reduce pressure turn the bolt into the Pressure Relief Post on the front side of the Main Table.

#### **LUBRICATION AND PREVENTIVE MAINTENANCE**

REFER TO FIGS. "K", "L", "M".

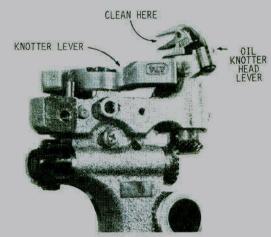


FIG. "K".

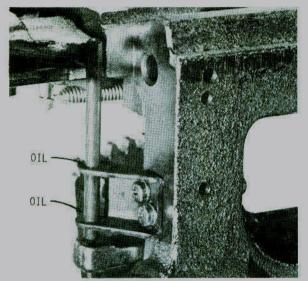


FIG. "L".

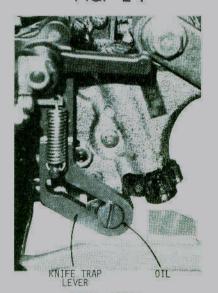
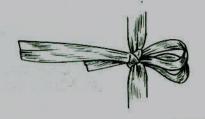


FIG. "M".

- 1. Daily Inspect:
  - a. Knotter Head Roller.
  - b. Stripper Lift Pin.
  - c. Knife Trap Lever.
- Weekly Oil. Oil inlets are marked in red. Care should be taken to insure the clutch leather is free of oil.
- Lubricate on a monthly schedule. All Shafts rotate on sealed roller bearings. Grease Zirks are Metric measurement.

#### THE POLY-TAPE KNOT

A good knot should be hard with two loops of equal size and one long and one short tail. An improper knot is the result of either miss-adjustment or wear.



Following are common problems and their solutions:

	RAGGED END ON POLY-TAPE. Cause: Dull Knife Blade.	= 10	Solution:	Replace Knife Blade.
В.	SMALL, ABNORMALLY SHAPED LOOPS IN KNOT. Cause: Excessive clearance between Stripper and Knotter Jaws.		Solution:	Replace Stripper.
	Cause: Stripper level out of adjustment.	1007	Solution:	Adjust level by raising or lowering Pin Riser.
C.	SMALL AND LOOSE KNOTS.  Cause: Knotter Jaw does not close tight. Too little		Solution:	Tighten or replace Knotter Head Flat Spr-
	grip on Poly-Band. Cause: Dirt or debris in Knot- ter		Solution:	ings. Remove obstructions. Clean with compress- ed air.
D.	LOOPS ARE NOT OF EQUAL SIZE OR SHAPE.		Calution	Adjust Button pres-
	Cause: Button pressure too tight.		Solution:	sure screw.
	Cause: Stripper level too high or too low.		Solution:	Adjust Pin Riser.
	Cause: Dull Knife Blade.		Solution:	Replace Knife Blade.
Ε.	KNOT HAS ONLY ONE LOOP. Cause: Reverse excess drag by Tensioner over- coming Stringholder		Solution:	Adjust Tensioner.
	Button pressure. Cause: Button pressure too light or weak Button		Solution:	Increase Button pressure or replace Springs.
	Springs.  Cause: Accumulated waste in Stringholder.	N.	Solution:	Clean Stringholder regularly.
F.	TOP OF LOOPS SHREDDED			
	OR RAGGED. Cause: Stripper level out of		Solution:	Adjust Pin Riser.
	adjustment. Cause: Burrs on Draw Slide, Tip-Up or Knotter Jaw.		Solution:	Make sure that all sur- faces that make con- tact with Poly-Band
G.	KNOTS ARE LOOSE OR IN- COMPLETE.			are smooth and clean.
	Cause: Weak Knotter Head		Solution:	Replace Flat Springs.
	Flat Springs. Cause: Jaw Gap too large.	M	Solution:	Adjustment.

#### **MACHINE TROUBLE SHOOTING**

## BEFORE WORKING ON TY-TECH TYING MACHINES BE SURE TO DISCONNECT FROM POWER SOURCE

	-	-	-				
P	н	( )	н			n	л
		u	$\mathbf{L}$	_	_	1	41

- A. Motor does not start.
- B. Clutch or Pulley noise.
- C. Rotating Arm does not stop at end of cycle.
- D. Arm rotation is not smooth.
- E. Stringholder Button loses Poly-Band at beginning of rotation.
- F. Poly-Band is not caught by Knotter.
- G. Poly-Band does not enter Stringholder Button.
- H. Poly-Band is not cut at end tying cycle.
- I. Poly-Band breaks down.

#### SOLUTION

Broken wire, loose terminal.

Lack of grease in Pulley Needle Bearing. Improper or broken rivet in Clutch Disc. Friction between Clutch Kick Out and Clutch Block. Replace Parts. Lack of oil between Clutch Pulley and Clutch Shaft Collar.

Worn Clutch Kick Out and/or Clutch Block Kick Out Lever.

V-Belt stretch or slippage. Oil on leather Clutch Disc. Failure of Clutch Spring. Worn Clutch Shaft Taper Pin. Loose motor Pulley. Brake Cushion too heavy.

Twine Tension Spring is too tight. Tighten Cushion with Stringholder Button Adjusting Screw. Adjust Twine setting. Poly-Band is knotted or caught in guides. Improper Poly-Band size or twine size. Stringholder parts are worn and should be replaced.

Check Draw Slide Cam for excessive wear. Check Switch Cam and Draw Slide Roller for excessive wear. Replace worn parts.

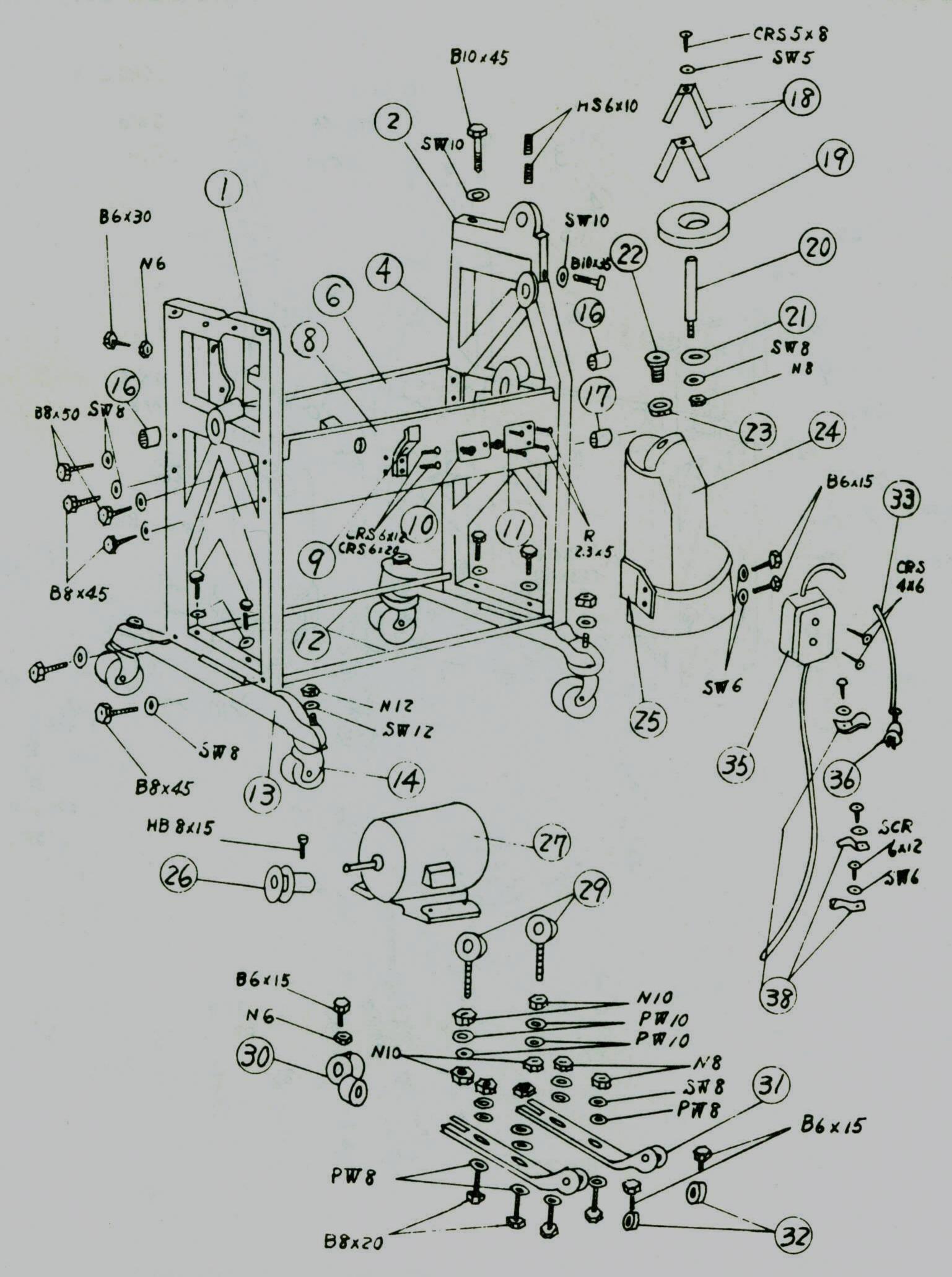
Increase twine tension dial. Replace Draw Slide Spring.

Check for wear and adjustment of Knife Trap Lever, Pin, Spring, adjusting screw.

Loosen Stringholder Button adjusting screw. Check Poly-Band guides for abrasions. Correct any improper threading. Decrease pressure of twine tension Spring.

To insure your Tying Machine warranty mail warranty card

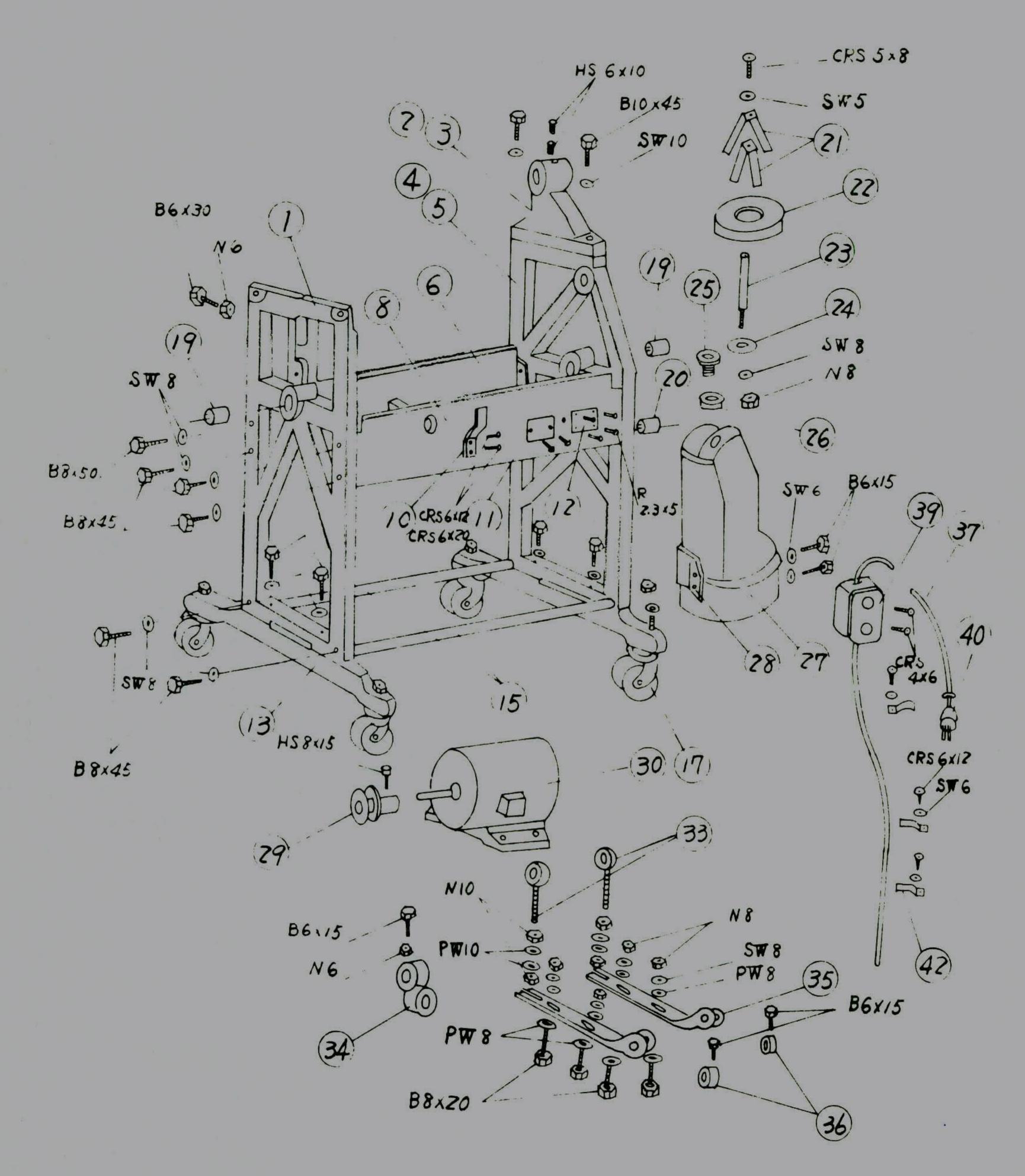
# DETAILS OF FRAME, MOTOR & TWINE CAN MODEL 25



No.	Code No.	Description	Q'ty	No.	Code No.	Description	Q'ty
1	601-4	Front End Frame	1	21	1163-1	Twine Bobbin Shaft Washer	1
2	681K-2	Twine Arm Bearing Base	1	22	696	Twine Guide	1
4	602B-4	Rear End Frame	1	23	697	Twine Guide Nut	1
6	684B-1	Left Side Frame	1	24	623K-3	Twine Can	1
8	685-6	Right Side Frame	1	25	629K-1	Twine Can Holder	1
9	622C	Hock for Electric Cord	1	26		Motor Pulley	1
10	790A	Trade Mark Plate	1	27		Motor	1
11	790B	String Diagram	1	29	830B-1	Motor Adjusting Screw	2
12	686R-2	Frame Stay	2	30	674B	Pedal Joint Bracket	1
13	606-1	Foot Base	2	31	1027	Motor Base	2
14		Castor	4	32	10314K	Collar	2
16		Needle Roller Bearing SC1616Z	2	33		Electric Cord	1
17		Needle Roller Bearing SC1416Z	1	35		Switch	1
18	630	Twine Bobbin Holder Spring	1	36		Plug	1
19	1164-3	Bobbin Base	1	38	631-2	Electric Cord Keeper	3
20	1162-3	Twine Bobbin Shaft	1				100

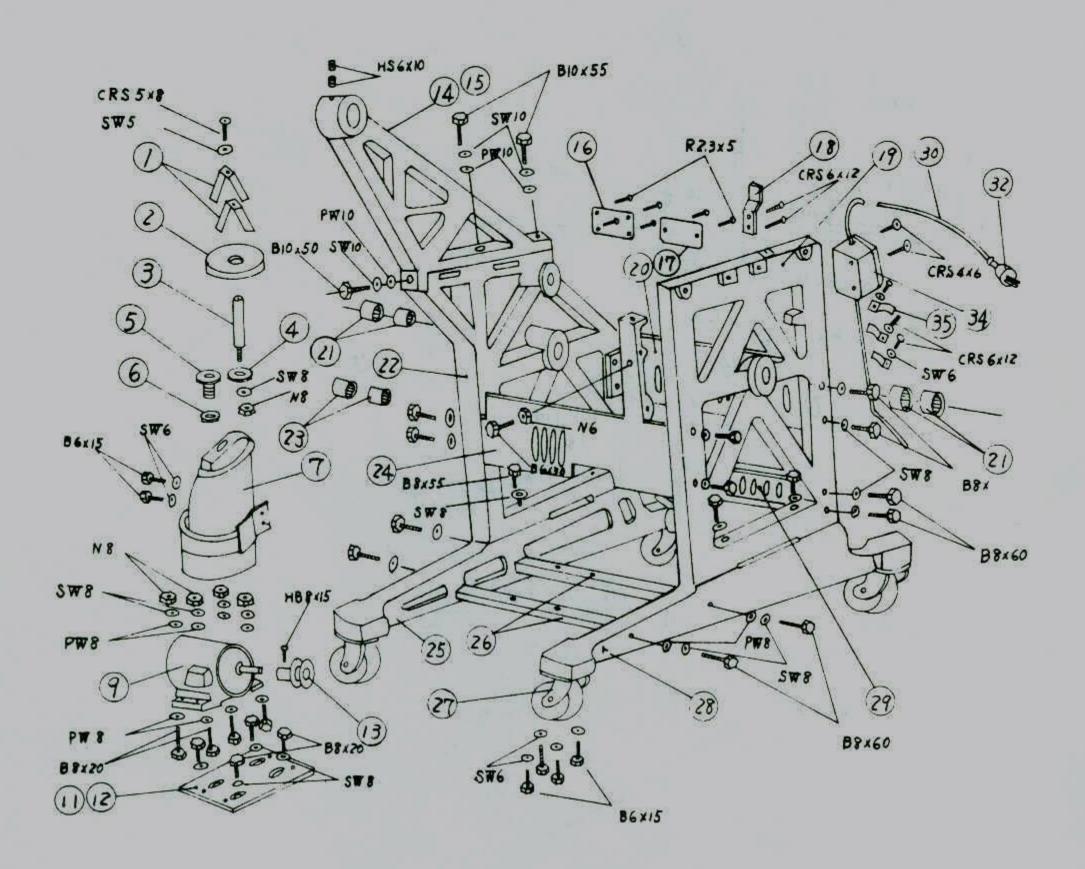
# DETAILS OF FRAME, MOTOR & TWINE CAN

MODEL 36, 45 & 60



2 3 4 5 6 8 10 11 12 13 15 17 19 20 21	601-4 603K-1 683-1 602-5 602D-1 604-3 605-2 622C 790A 790B 606-1 607R-3	Twine Arm Bearing Base for 45 Twine Arm Bearing Base for 60 Rear End Frame for 45 Rear End Frame for 60 Left Side Frame Right Side Frame Hook for Electric Cord Trade Mark Plate String Diagram Foot Base Frame Stay Castor Needle Roller Bearing SC1616Z Needle Roller Bearing SC1416Z Twine Bobbin Holder Spring Bobbin Base	Q'ty 1 2 1 2 1 2 1 2 1 2 1 3 1 3 1 3 2 3 3 1 2 3 4 2 3 1 4 2 4 3 1 4 2 4 3 1 4 2 4 3 1 4 2 4 3 1 4 4 2 4 3 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	3 4 5 6 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Code No. 1162-3 1163-1 696 697 623K-3 629K-1 830B-1 674B 1027 10314K	Twine Bobbin Shaft Twine Bobbin Shaft Washer Twine Guide Twine Guide Nut Twine Can Twine Can Holder Motor Pulley Motor Motor Adjusting Screw Pedal Joint Bracket Motor Base Collar Electric Cord Switch Plug Electric Cord Keeper		Q'ty 1 1 1 1 1 1 2 1 2 1 1 3
----------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------	----------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------

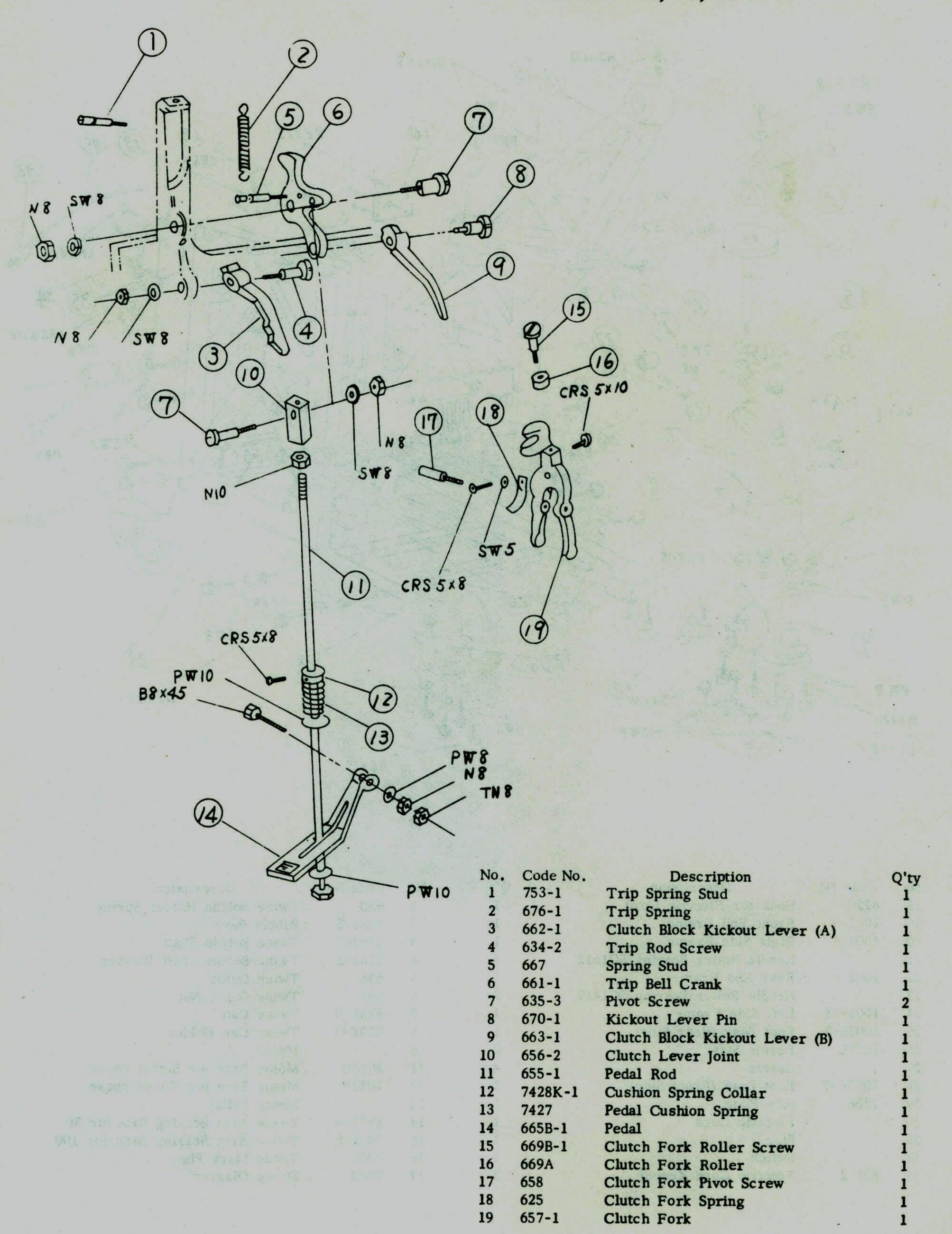
# DETAILS OF FRAME, MOTOR & TWINE CAN MODEL 80 & 100



No.	Code No.	Description	Q'ty	No.	Code No.	Description	Q'ty
18	622C	Hook for Electric Cord	1	1	630	Twine Bobbin Holder Spring	2
19	1001-5	Front End Frame	1	2	1164-3	Bobbin Base	1
20	1004-8	Right Side Frame	1	3	1162-3	Twine Bobbin Shaft	1
21		Needle Roller Bearing SC1612	4	4	1163-1	Twine Bobbin Shaft Washer	1
22	1002-6	Rear End Frame	1	5	696	Twine Guide	1
23		Needle Roller Bearing SC1412	2	6	697	Twine Guide Nut	1
24	1005-14	Left Side Frame	1	7	623K-3	Twine Can ASSV.	1
25	1003B-3	Foot Base (Rear Side)				100	
26	1007L	Frame Stay	2	9		Motor	1
27		Castor	4	11	1023H	Motor Base for Single Phase	1
28	1003A -2	Foot Base (Front Side)	1	12	1023F	Motor Base for Three Phase	1
29	1006	Side Plate	1	13		Motor Pulley	1
30		Electric Cord	1	14	8501-4	Twine Arm Bearing Base for 80	1
32		Plug	1	15	1008-2	Twine Arm Bearing Base for 100	1
34		Switch	1	16	790A	Trade Mark Plate	1
35	631-2	Electric Cord Keeper	3	17	790B	String Diagram	1

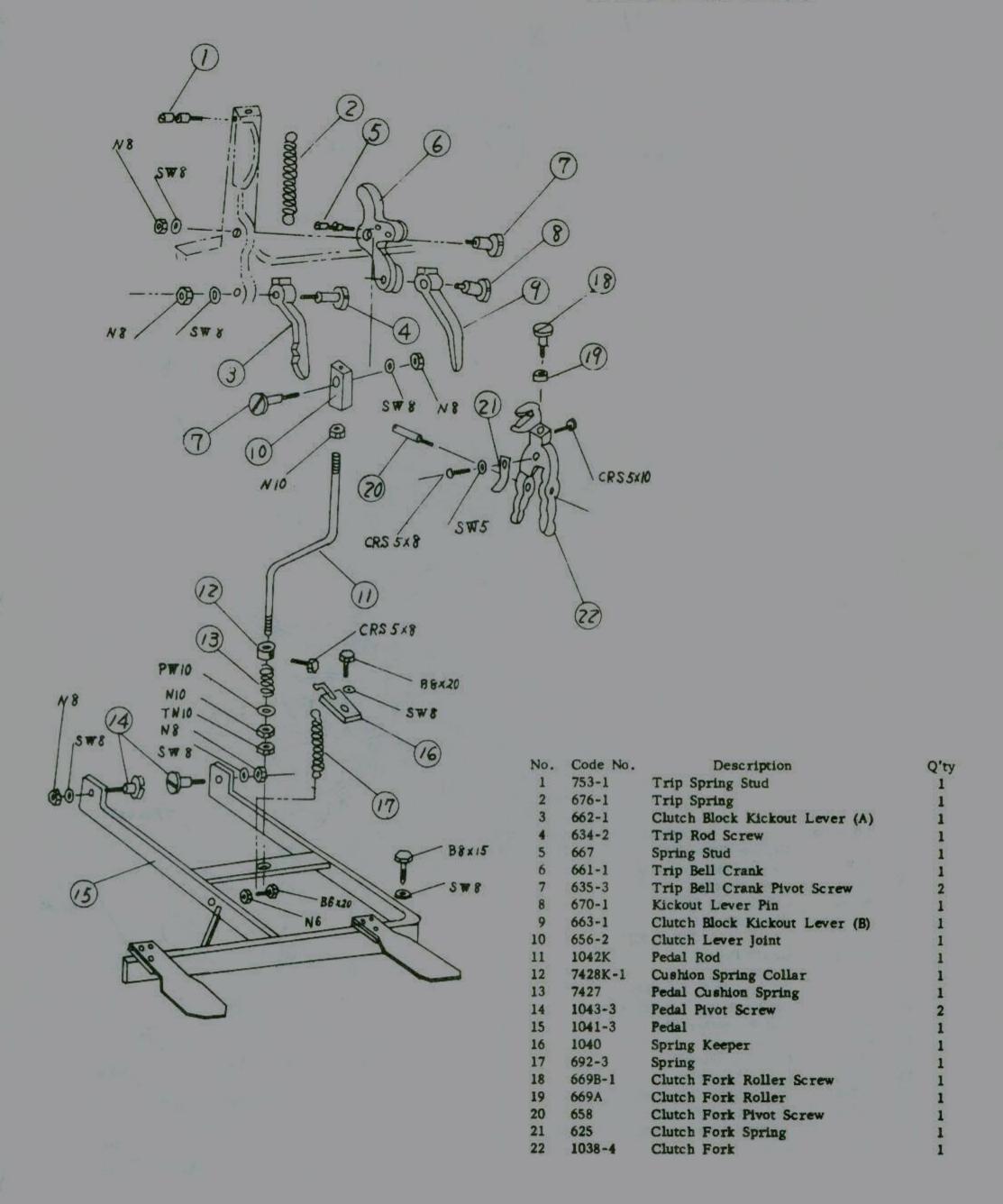
# DETAILS OF KICKOUT LEVER

MODEL 25, 36, 45 & 60



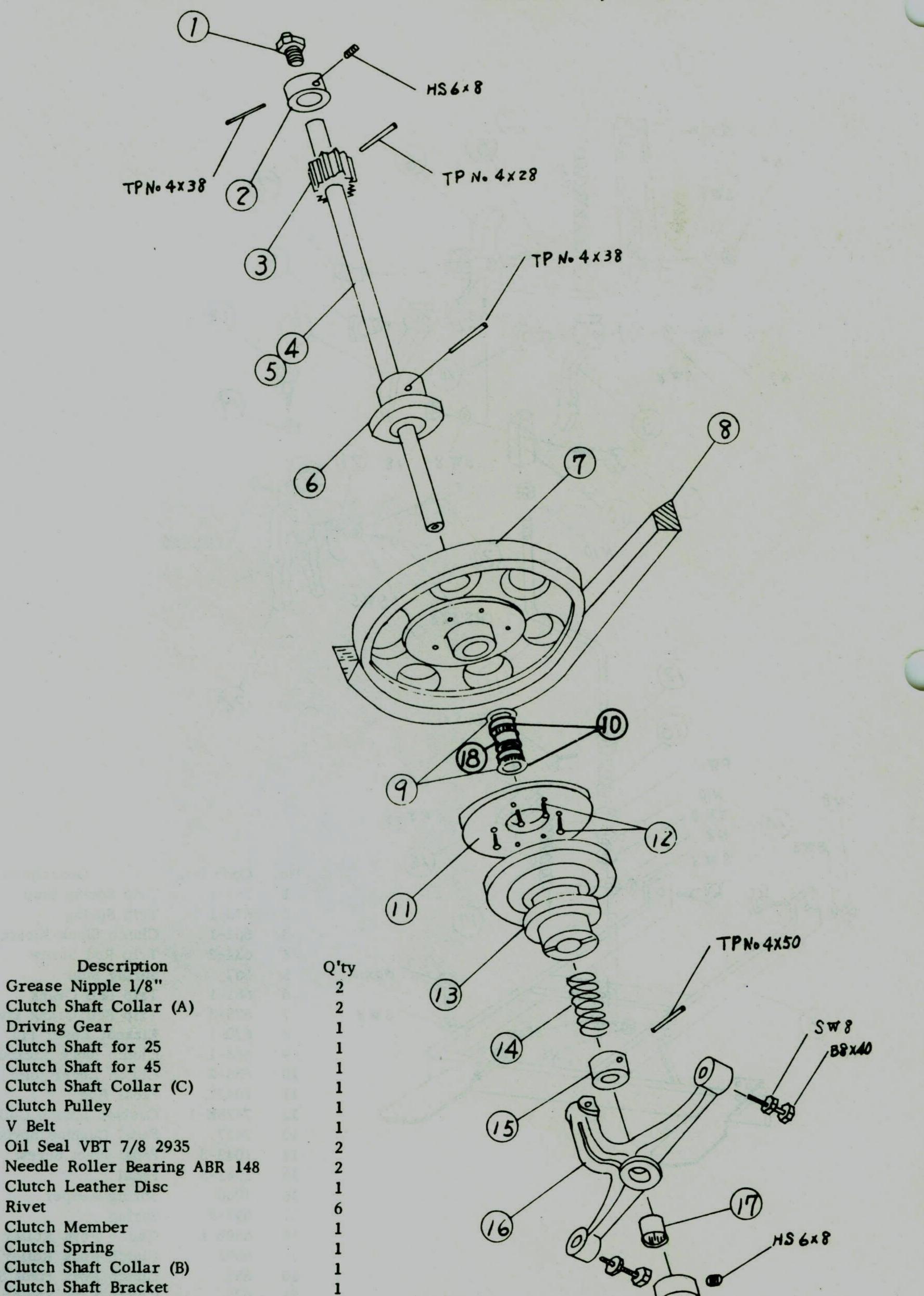
## DETAILS OF KICKOUT LEVER

#### **MODEL 80 & 100**



# DETAILS OF CLUTCH SHAFT

MODEL 25, 36 & 45



Code No.

651

668-1

687-4

650-5

688-1

672K-1

675-1

660-1

652-4

659-4

699

16

18

671A-2

V Belt

Rivet

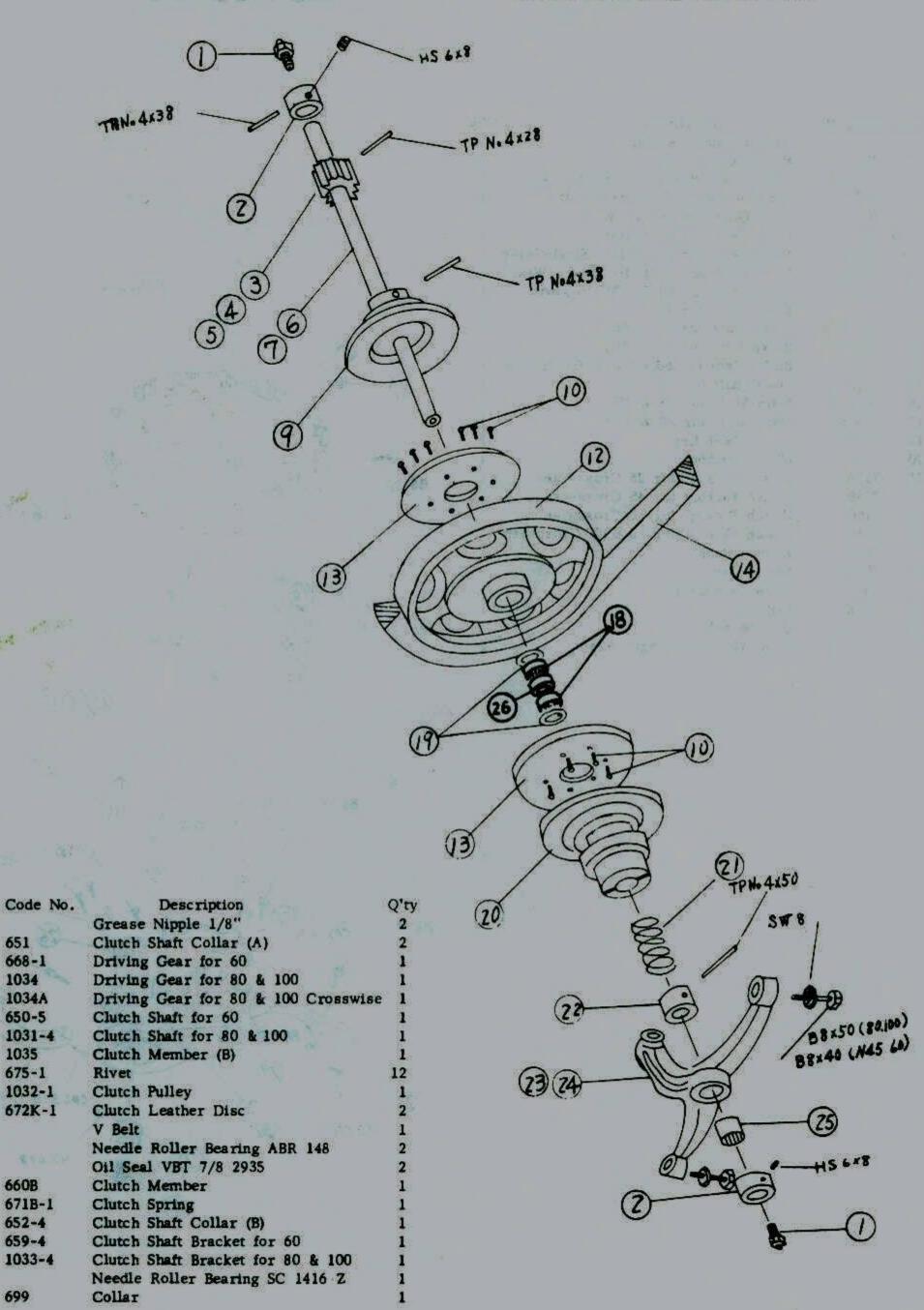
Collar

Needle Roller Bearing SC 1416 Z

653

## DETAILS OF CLUTCH SHAFT

MODEL 60, 80 & 100



668-1

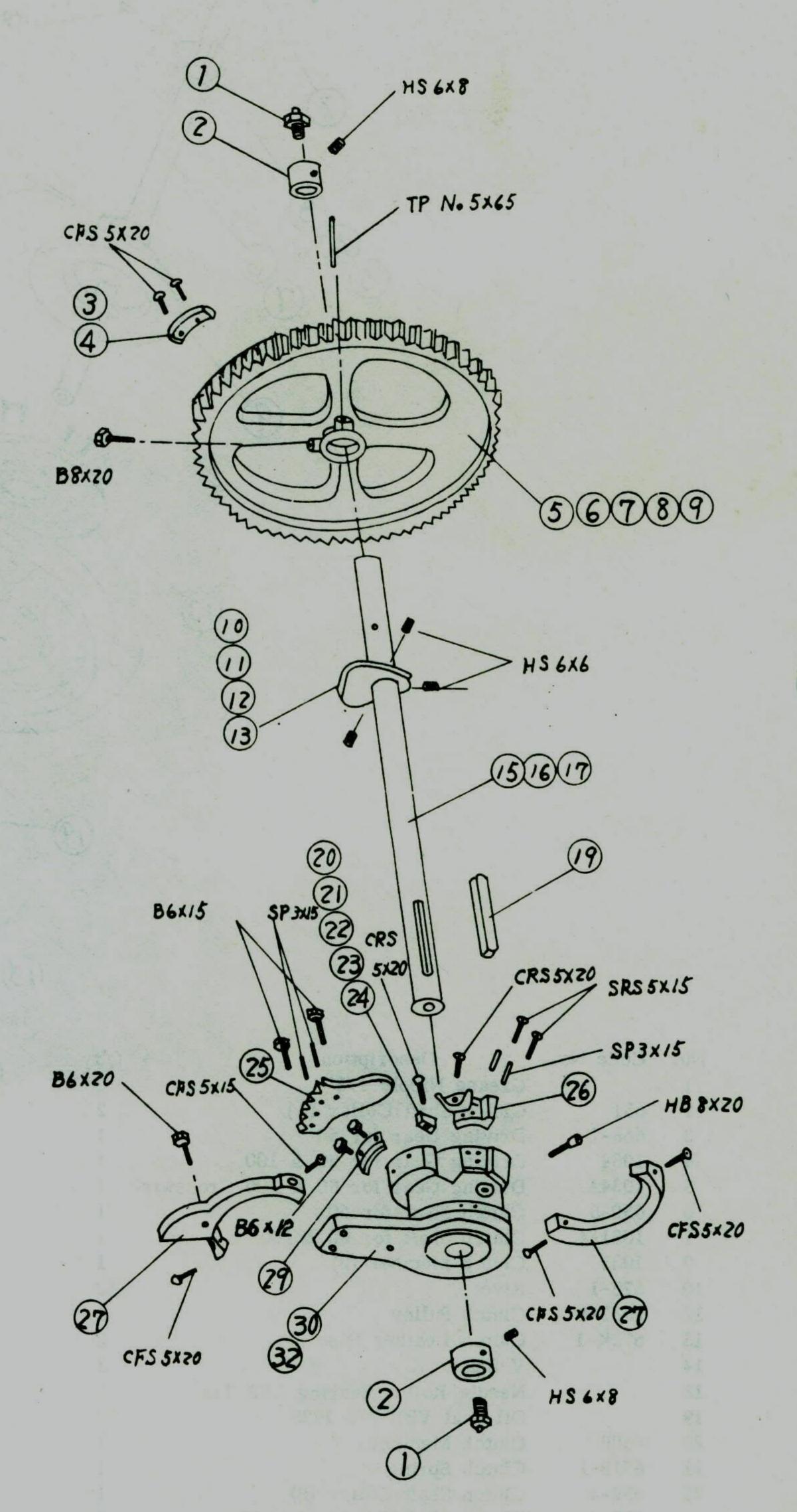
1034A

650-5

660B

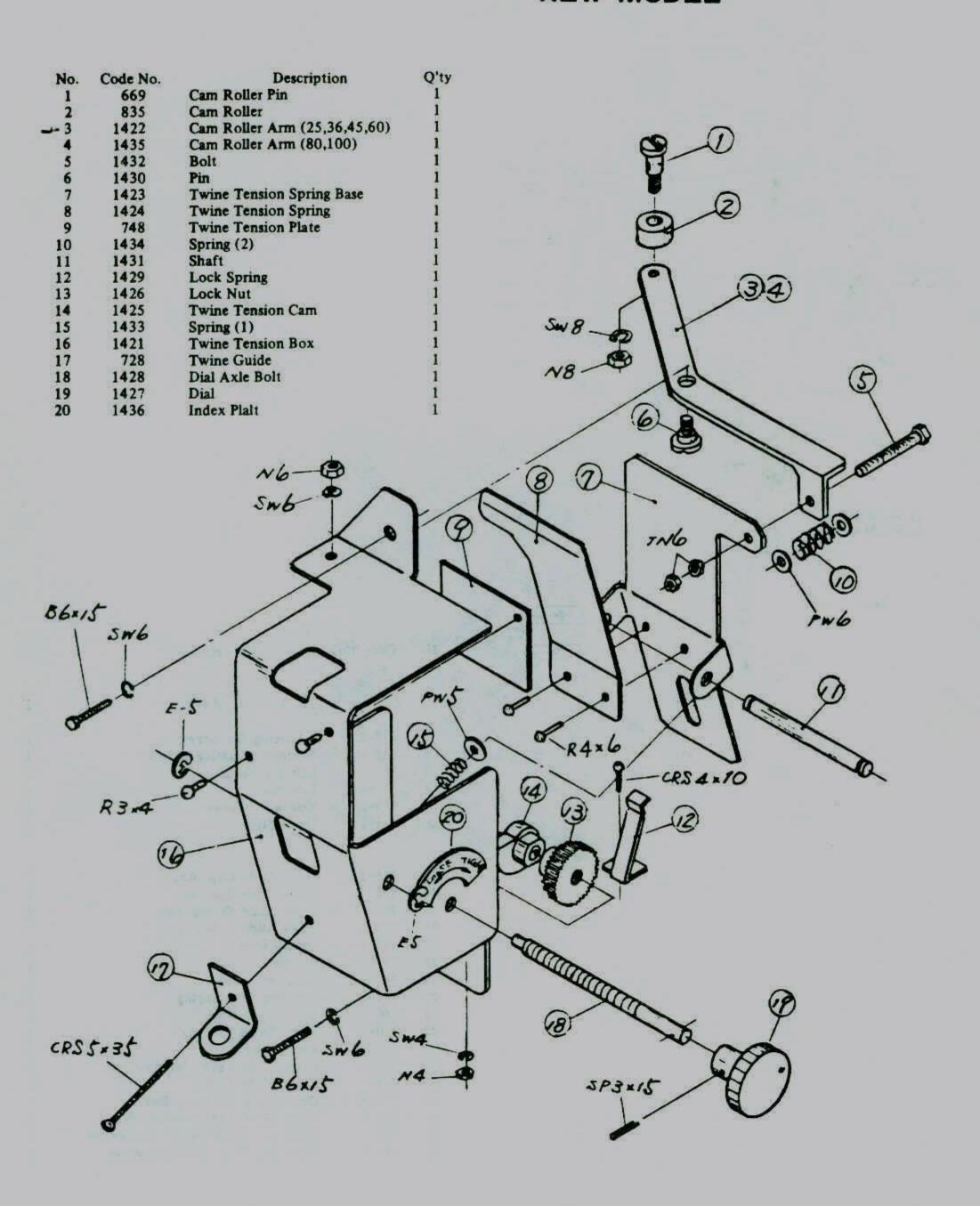
# DETAILS OF MAIN GEAR

No	Code No.	Description	O'ty
No.	Code No.	Grease Nipple A-M6F	Q'ty
2	701	Main Shaft Collar	2
2	737K-2	Tension Booster Cam for 25 & 45	1
	737K-2	Tension Booster Cam for 60, 80 & 100	i
4	704K	Main Gear for 25, 45 & 60	i
5		Main Gear for 80 & 100	1
6	1052K		1
7	704B	Main Gear for 25, 45 & 60 Single Wrap	1
8	1052A 1052B	Main Gear for 80 & 100 Single Wrap Main Gear for 80 & 100 Crosswise	-
9	960	Brake Cam for 25	,
10	837-3	Brake Cam for 45 & 60	1
12	1112-1	Brake Cam for 80 & 100	1
13	827	Brake Cam for 60, 80 & 100 Crosswise	1
		Main Shaft for 25	i
15	712K-1	Main Shaft for 45 & 60	1
16	700K-1		1
17	1051K-1	Main Shaft for 80 & 100	1
19	708-1	Cam Wheel Key	1
20	707	Clutch Kickout	1
21	715A	Clutch Kickout for 25 Crosswise	-
22	715B	Clutch Kickout for 45 Crosswise	-
23	715C	Clutch Kickout for 60 Crosswise	1
24	715D	Clutch Kickout for 80 & 100 Crosswise	
25	706-1	Knotter Rack	1
26	703-1	Switch Cam	-
27	705M	Draw Slide Cam	
29	702K	Lift Cam	1
30	709-3	Cam Wheel	1
32	709C-1	Cam Wheel for Single Wrap	1

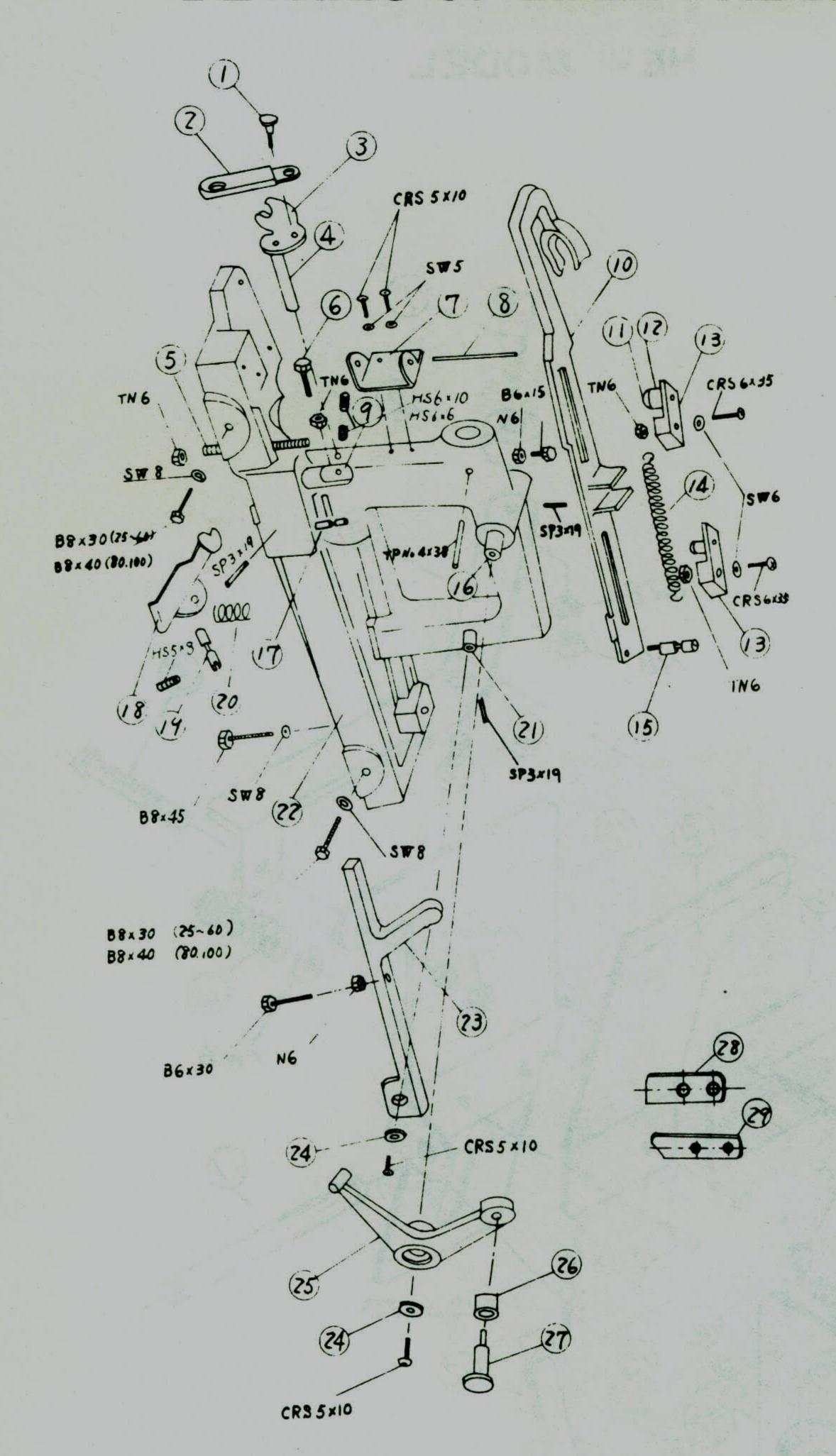


## DETAILS OF TENSION BOOSTER

#### **NEW MODEL**

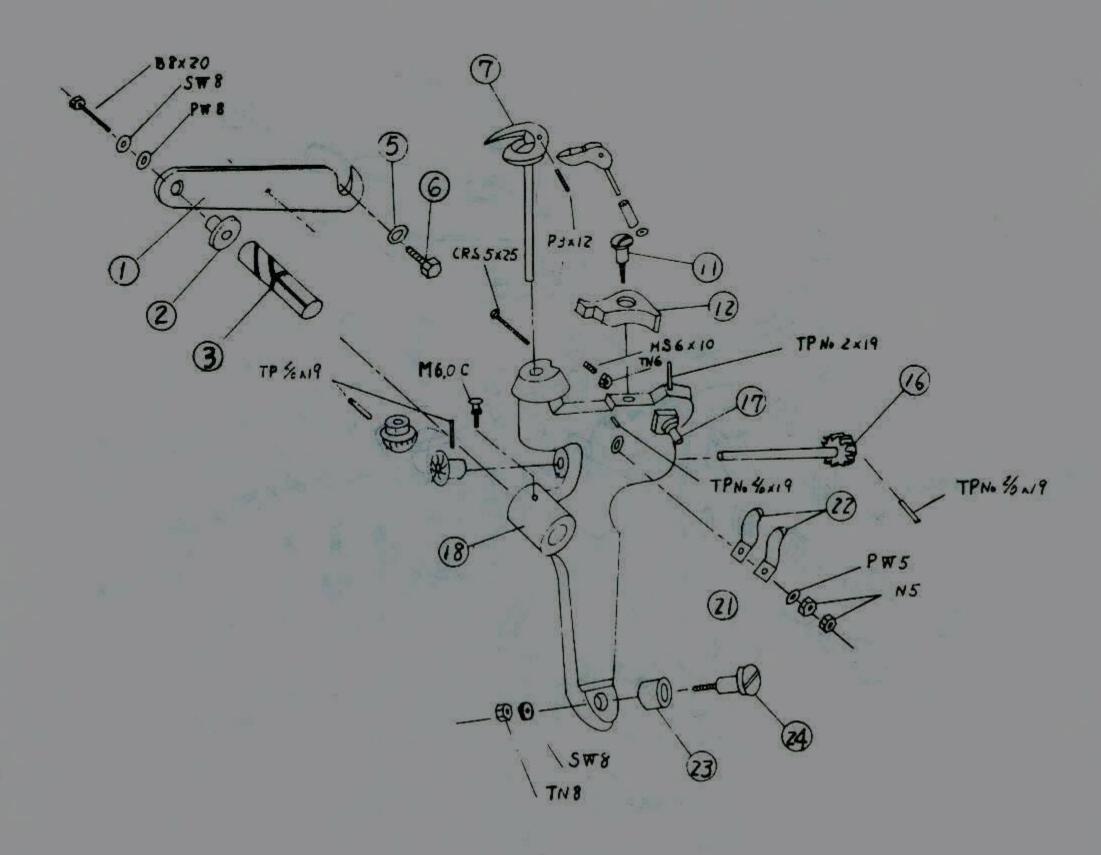


# DETAILS OF MAIN TABLE CASTING



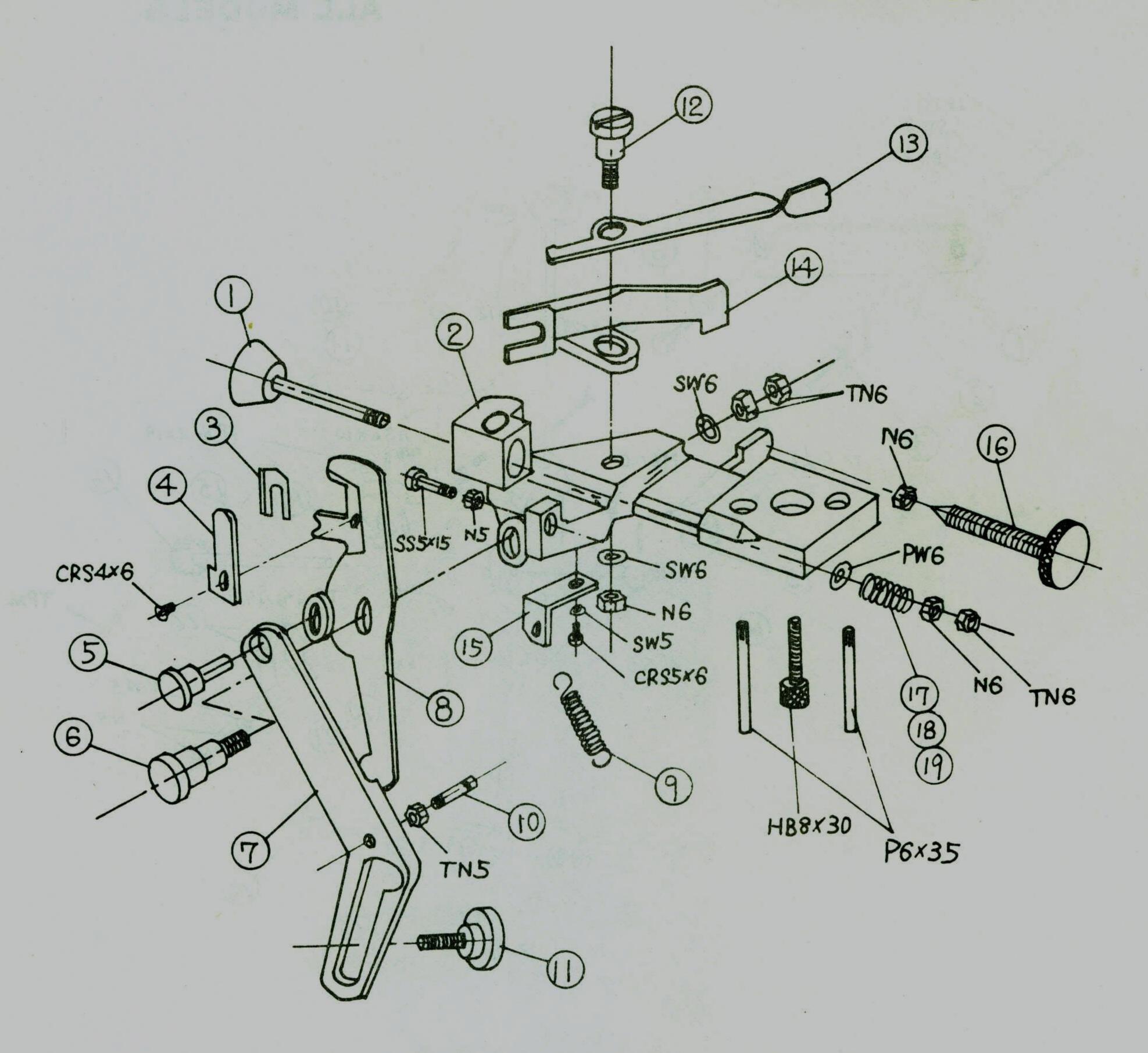
No.	Code No.	Description	Q't
1	766-2	Tip Up Lever Pin (A)	1
2	765-5	Tip Up Lever	1
3	752B-1	Tip Up Nail	1
4	764	Tip Up Nail Shaft	1
5	817-2	Adjusting Set Screw	1
6	813	Knotter Adjusting Screw	1
7	763-1	Lift Pin Guide	1
8	762-1	Lift Pin	1
9	814-2	Knotter Release Post	1
10	751-2	Draw Slide	1
11	761A-2	Draw Slide Cap Roller Stud	2
12	761B-1	Draw Slide Cap Roller	2
13	756-2	Draw Slide Cap	2
14	772	Draw Slide Sparing	1
15	767-1	Draw Slide Spring Stud	1
16	759-1	Draw Slide Lever Stud	1
17	753-1	Spring Stud	1
18	757K-3	Stripper	1
19	755-4	Stripper Screw	1
20	771-1	Stripper Coil Spring	1
21	760	Lift Lever Stud	1
22	750-7	Main Table Casting	1
23	758K-1	Lift Lever	1
24	769-1	Draw Slide Lever Washer	2
25	754K-2	Draw Slide Lever	1
26	776-3	Draw Slide Lever Roller	1
27	768-1	Draw Slide Lever Roller Pin	1
28	713-3	Plate for 25, 45 & 60 Crosswise	1
29	714-2	Plate for 80 & 100 Crosswise	1

## DETAILS OF KNOTTER HEAD



No.	Code No.	Description		Q'ty
1	816-3	Knotter Head Supporter		1
2	849	Knotter Head Pivot Washer		1
3	809L	Knotter Head Pivot		1
5	821-1	Washer for Supporter Bolt		1
6	820-1	Supporter Bolt		1
7	KH-AM	Knotter	29	ı
11	815K-3	Knotter Lever Screw		1
12	801-1	Knotter Lever		1
16		Pinion (Star Wheel) #559		1
17	808K	Tip Up Lever Stud		1
18	800-4	Knotter Head		1
21	824	Knotter Type Number Plate		1
22	812K	Knotter Flat Spring		2
23	776-3	Knotter Head Roller		2
24	807K-1	Knotter Head Roller Pin		1
	(KH-AM)	Knotter KHAM Knotter Head Ass'y. (Includes 7, 8, 9, 10 & 13, TP 2/0 x 19)		

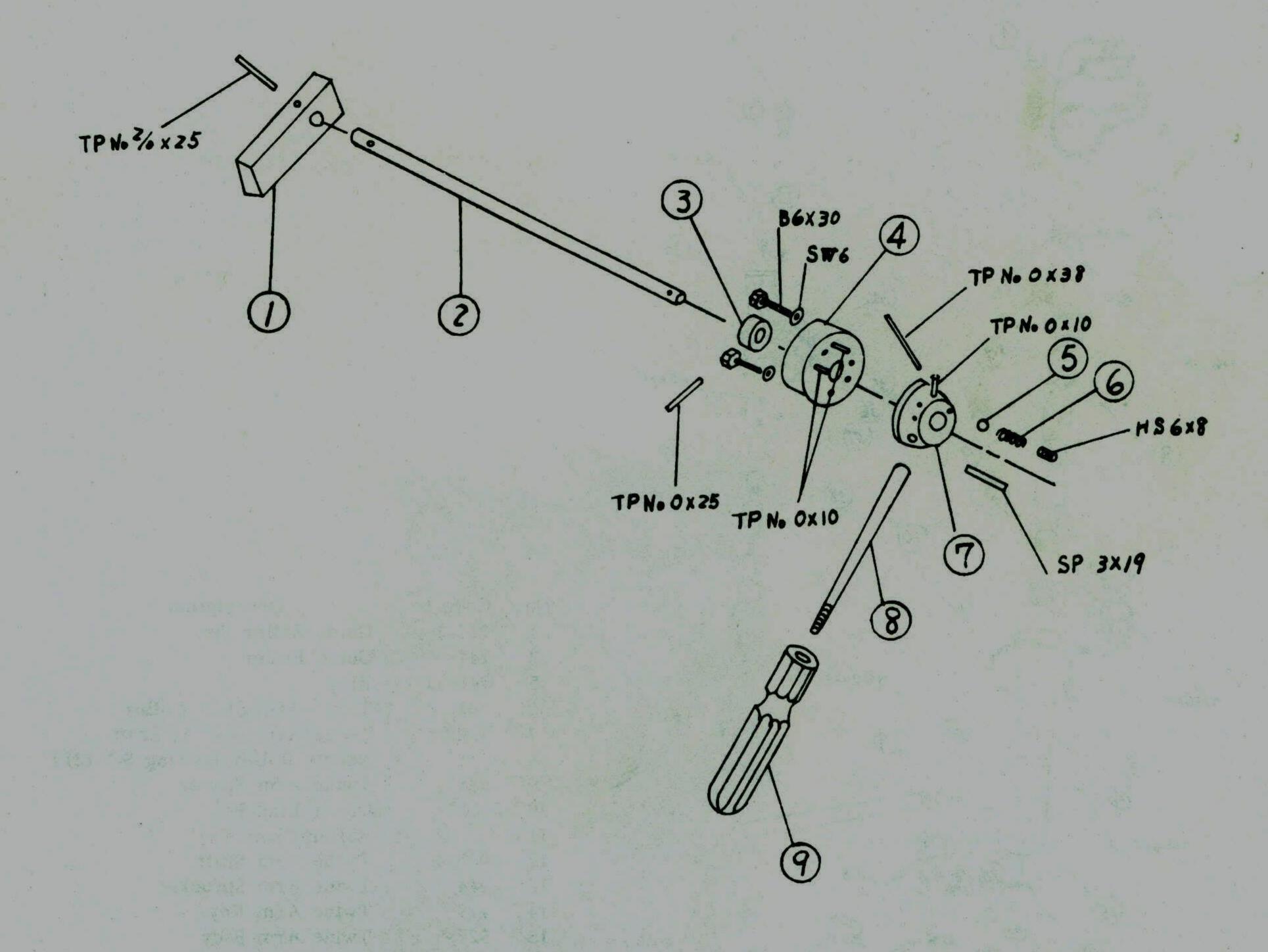
# DETAILS OF STRINGHOLDER



No.	Code No	o. Description C	('ty
1	851-3	Stringholder Button	1
2	850E-3	Stringholder	1
3	859K-3	Knife	1
4	854B-1	Knife Holder	1
5	861-2	Knife Trap Lever Pin	1
6	860-4	Knife Pivot Screw	1
7	852L-2	Knife Trap Lever	1
8	853	Knife Trap	1
9	862	Knife Trap Spring	1
10	857K	Knife Trap Spring Stud	1
11	811-3	Knife Trap Guide Pin	1
12	869-1	Stringholder Release Lever Pivot Screw	1
13	856-1	Stringholder Button Release Lever	1
14	868	Stringholder Button Adjusting Screw	1
15	858K	Spring Stud	1
16	870-1	Stringholder Adjusting Screw	1
17	855A-2	Stringholder Button Spring (1.4m/m)	1
18	855B-2	Stringholder Button Spring (1.6m/m)	1
19	855C	Stringholder Button Spring (1.8m/m)	1
	0-D	Stringholder Ass'y. (Includes 1-19)	
20	11-A	Knife Ass'y. (Includes 3, 4, CRS 4x6, 5, 7, 8, 10 & TN-5)	

# DETAILS OF SAFETY DEVICE

MODEL 25, 36, 45 & 60



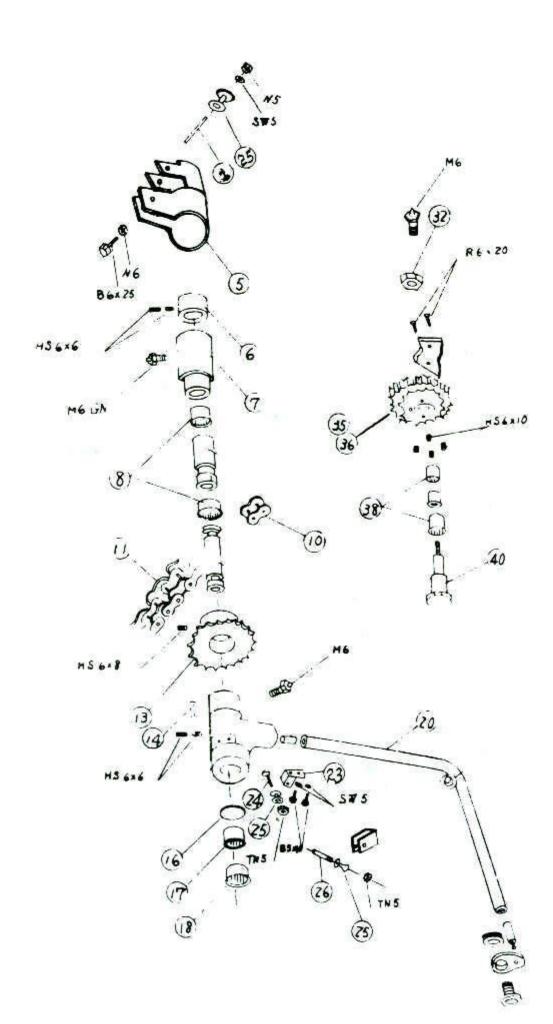
No.	Code No.	Description	Q'ty
1	881-1	Stopper Plate	1
2	880-1	Shaft	1
3	879	Collar	1
4	877K	Safety Device Part	1
5	882	Steel Ball 6m/m	1
6	883-1	Spring	1
7	876A	Safety Device Part	1
8	876B	Lever	1
9	875	Grip	1

## DETAILS OF TWINE ARM

## MODEL 25

Code No.

745-1



CO-THE	Of Controlling	A CONTRACTOR CONTRACTO	-
5	741B-1	Ring	1
6	931	Twine Arm Shaft Collar	1
7	932K	Twine Arm Bearing Shaft	1
8		Needle Roller Bearing SC 1212	2
10		Offset Link $P=\frac{1}{2}$ "	1
11		Roller Chain $P=\frac{1}{2}$ "	1
13	944	Twine Arm Sprocket	1
14	919	Twine Arm Key	1
16	941	Bearing Base Plate	1
17		Needle Roller Bearing ABR 128	1
18		Needle Roller Bearing ABR 1212	1
20		Twine Arm Assy.	1
23	1254K	Twine Guide Roller Bracket (A)	1
	1257B-1	Roller Pin	1
25	1256B-5	Twine Guide Roller	2
26	1380-1	Roller Pin	1
32	626	Nut	1
			1
35	CHAIN G	EAR ASSY. for Single & Double Wrap	1
36		THE HETY, for Triple Wrap	î
38	-114111 0	Needle Roller Bearing MHK 2520	2
	210402200000000000000000000000000000000		
40	646C-3	Gear Shaft	1

Description

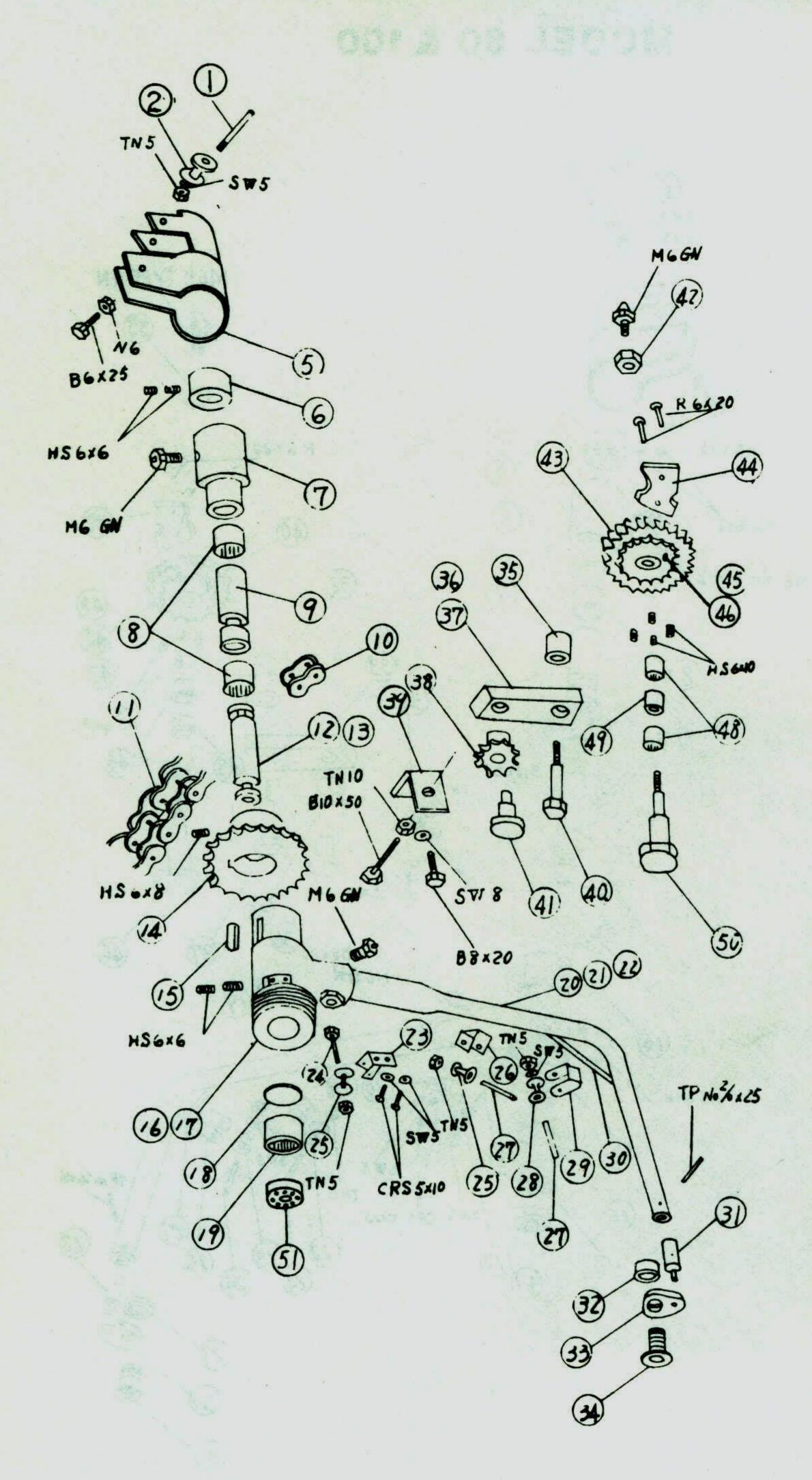
Guide Roller Pin

Q'ty

# DETAILS OF TWINE ARM

MODEL 36, 45 & 60

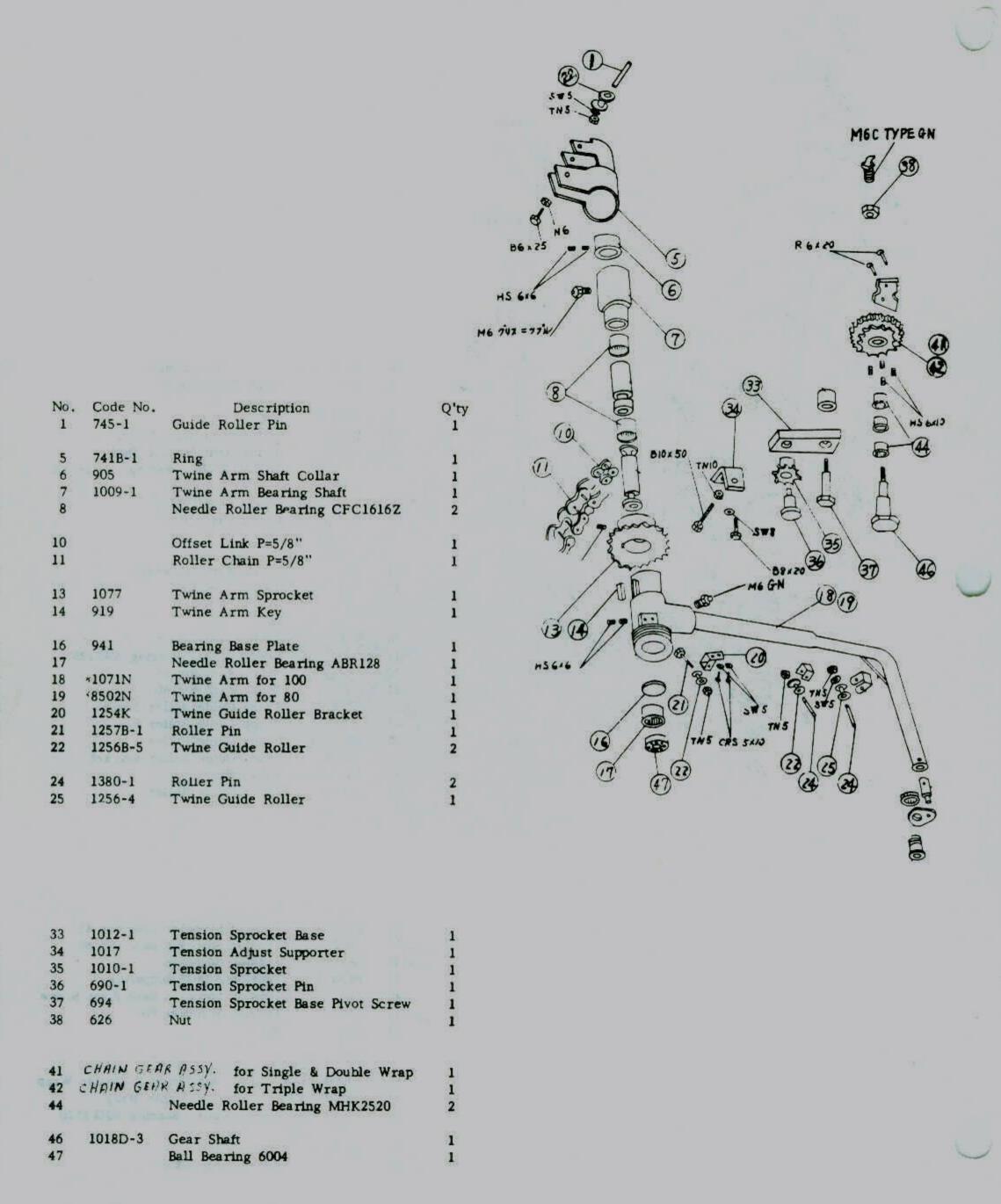
Complete Juin arm Cont 27470 + 40% H5663



No.	Code No.	Description	Q'ty
1	745-1	Guide Roller Pin	1
2	744-4	Guide Roller	31
5	741B-1	Ring	1
6	905	Twine Arm Shaft Collar	1
7	902-1	Twine Arm Bearing Shaft	1
8		Needle Roller Bearing CFC1616Z	2
9	903-1	Twine Arm Spacer	1
10	No. of the last	Offset Link $P=\frac{1}{2}$ "	1
11		Roller Chain $P=\frac{1}{2}$ "	1
12	901M-1	Twine Arm Shaft for 45	1
13	901L-2	Twine Arm Shaft for 60	1
14	904	Twine Arm Sprocket	1
15	919	Twine Arm Key	1
16	900C-1	Twine Arm Body for 45	1
17	1073K-1	Twine Arm Body for 60	1
18	941	Bearing Base Plate	1
19		Needle Roller Bearing ABR128	1
20	908M	Twine Arm for 45	1
21	909N	Twine Arm for 60	1
23	125K	Twine Guide Roller Bracket	1
24	1257B-1	Twine Guide Roller Pin	. 1
25	1256B-5	Twine Guide Roller	2
26	1263K	Twine Guide Roller Bracket	1
27	1380-1	Roller Pin	2
28	1256-4	Twine Guide Roller	1
29	949K	Twine Guide Roller Bracket	1
30	1203-5	Twine Arm Reinforcement	1
31	1280-1	Pin	1
32	1283-3	Twine Guide Nut	1
33	1281-2	Twine Guide Bracket	1
34	1282-1	Twine Guide	1
35	695-3	Pivot Screw Collar	1
36	691L-2	Tension Sprocket Base for 45	1
37	1012-1	Tension Sprocket Base for 60	1
38	689-2	Tension Sprocket	1
39	693K-1	Tension Adjust Supporter	1
40	694	Tension Sprocket Base Pivot Screw	1
41	690-1	Tension Sprocket Pin	1
42	626	Nut	1
43	645A-3	Spur Gear	1
44	632K-1	Sprocket Cam	1
45	627A	Sprocket for Single & Double Wrap	1
46	647-2	Sprocket for Triple Wrap	1
48		Needle Roller Bearing MHK2520	2
49	648A-2	Gear Shaft Collar	1
50	646C-3	Gear Shaft	1
51		Ball Bearing 6004	1

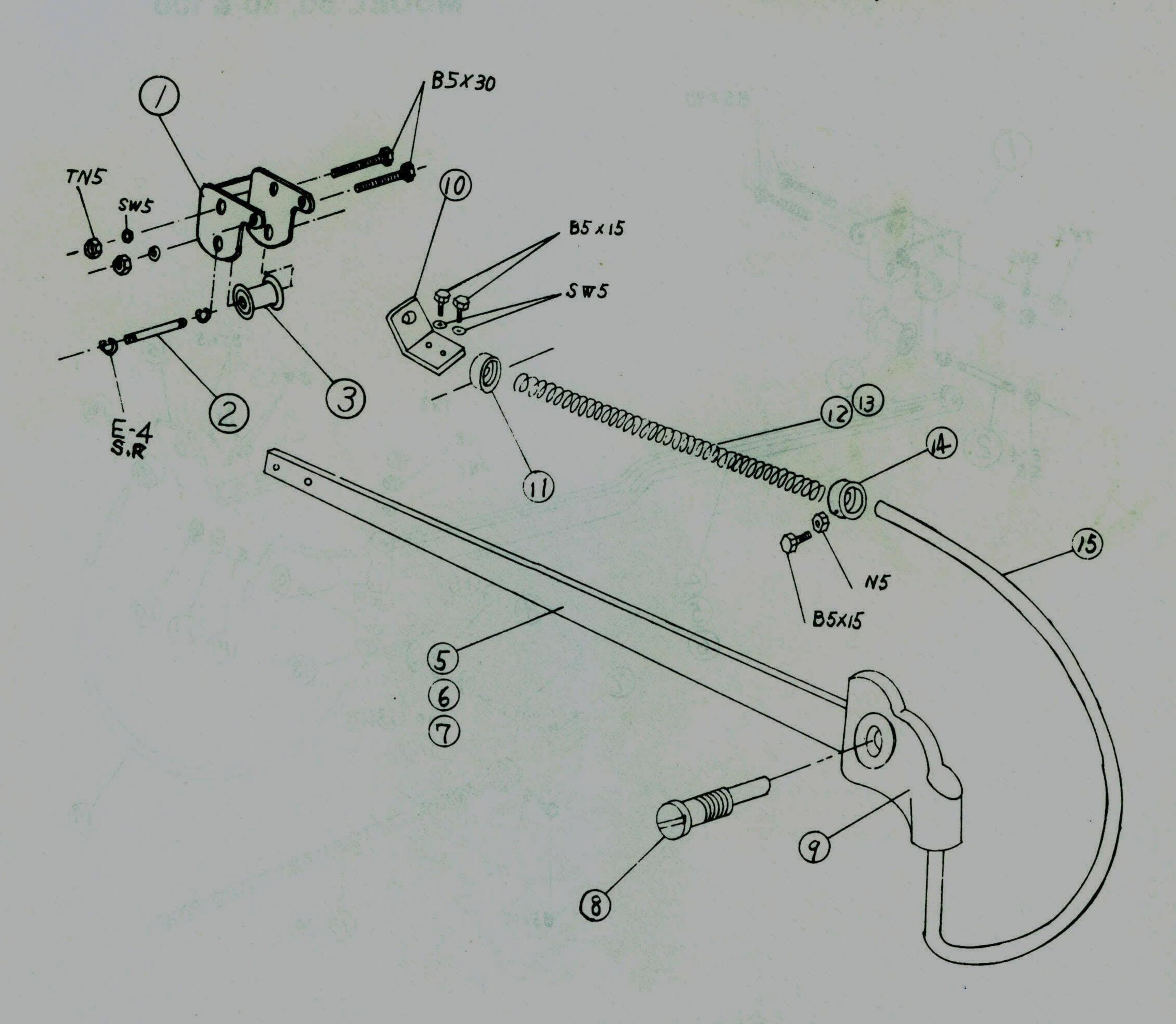
## DETAILS OF TWINE ARM

#### **MODEL 80 & 100**



# DETAILS OF TWINE DRAW UP LEVER

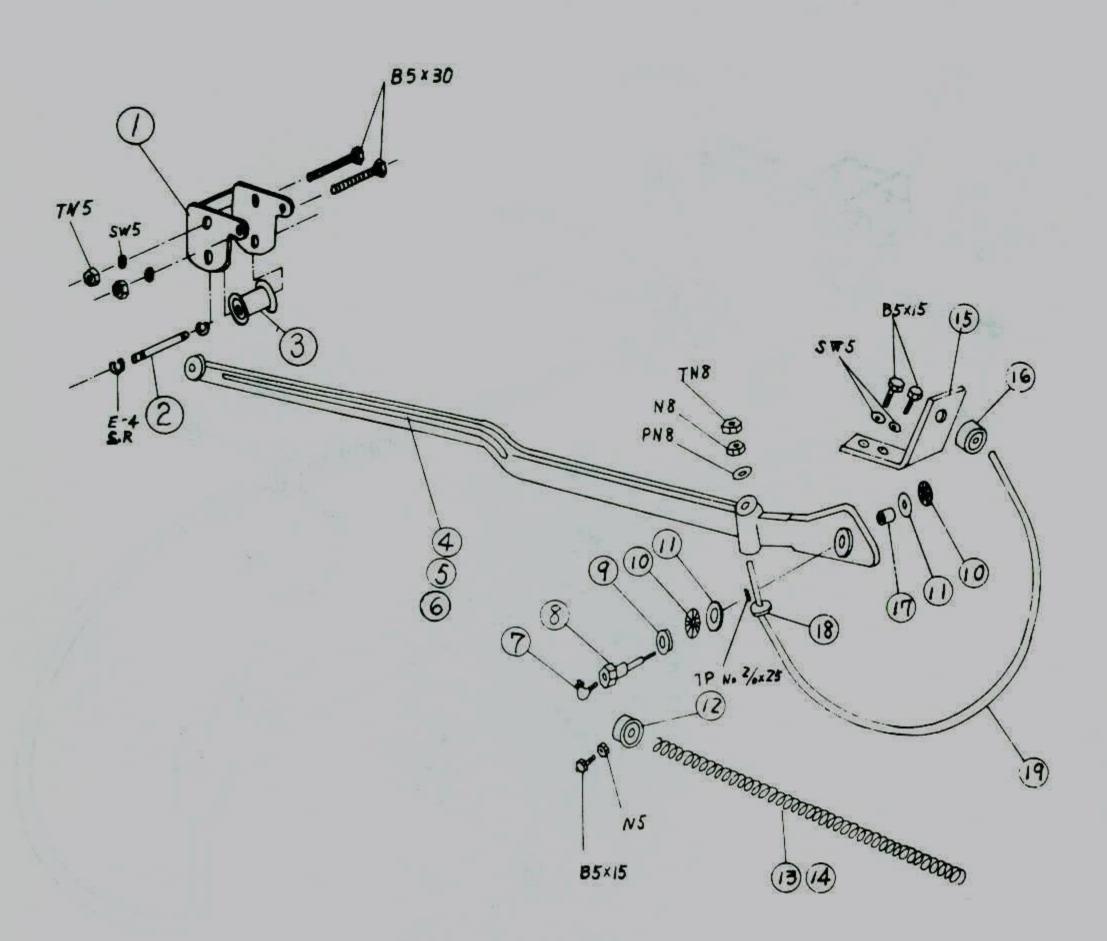
MODEL 25, 36 & 45



No.	Code No.	Description Q'ty
1	1015	Twine Guide Bracket
2	1016	Twine Guide Roller Pin 1
3	1256-4	Twine Guide Roller 1
5	922L-2	Twine Draw Up Lever for 25
7	918-5	Twine Draw Up Lever for 45
8	916D-2	Twine Draw Up Lever Pin 1
9	915-2	Cushion Spring Head
10	917K	Cushion Spring Guide Head 1
11	845B-2	Collar 1
12	920A-1	Cushion Spring for 25
13	920-1	Cushion Spring for 45
14	843L	Collar 1
15	948-1	Cushion Spring Guide 1
		AND THE RESIDENCE OF THE PROPERTY OF THE PROPE

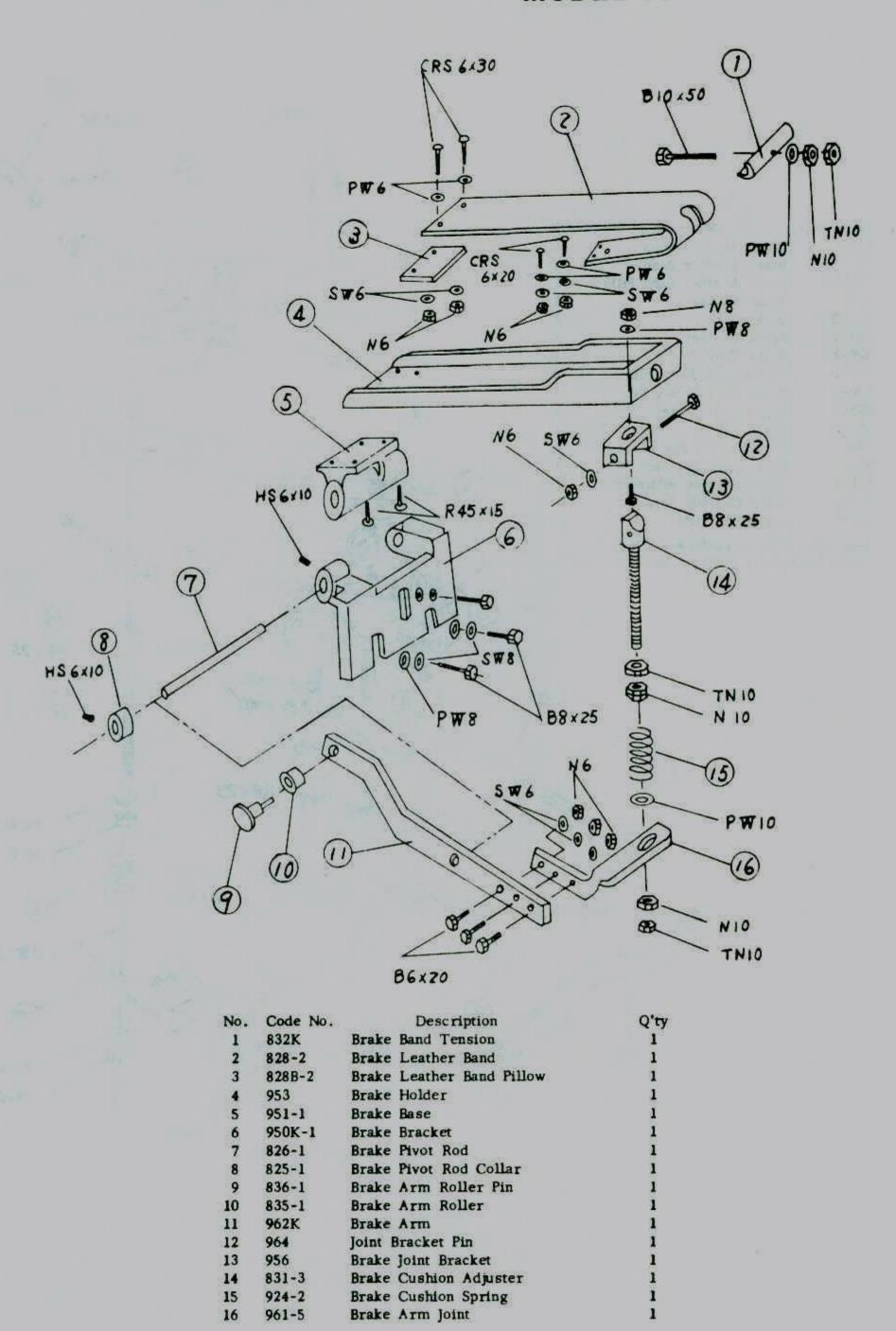
sandy desired conferr

# DETAILS OF TWINE DRAW UP LEVER MODEL 60, 80 & 100

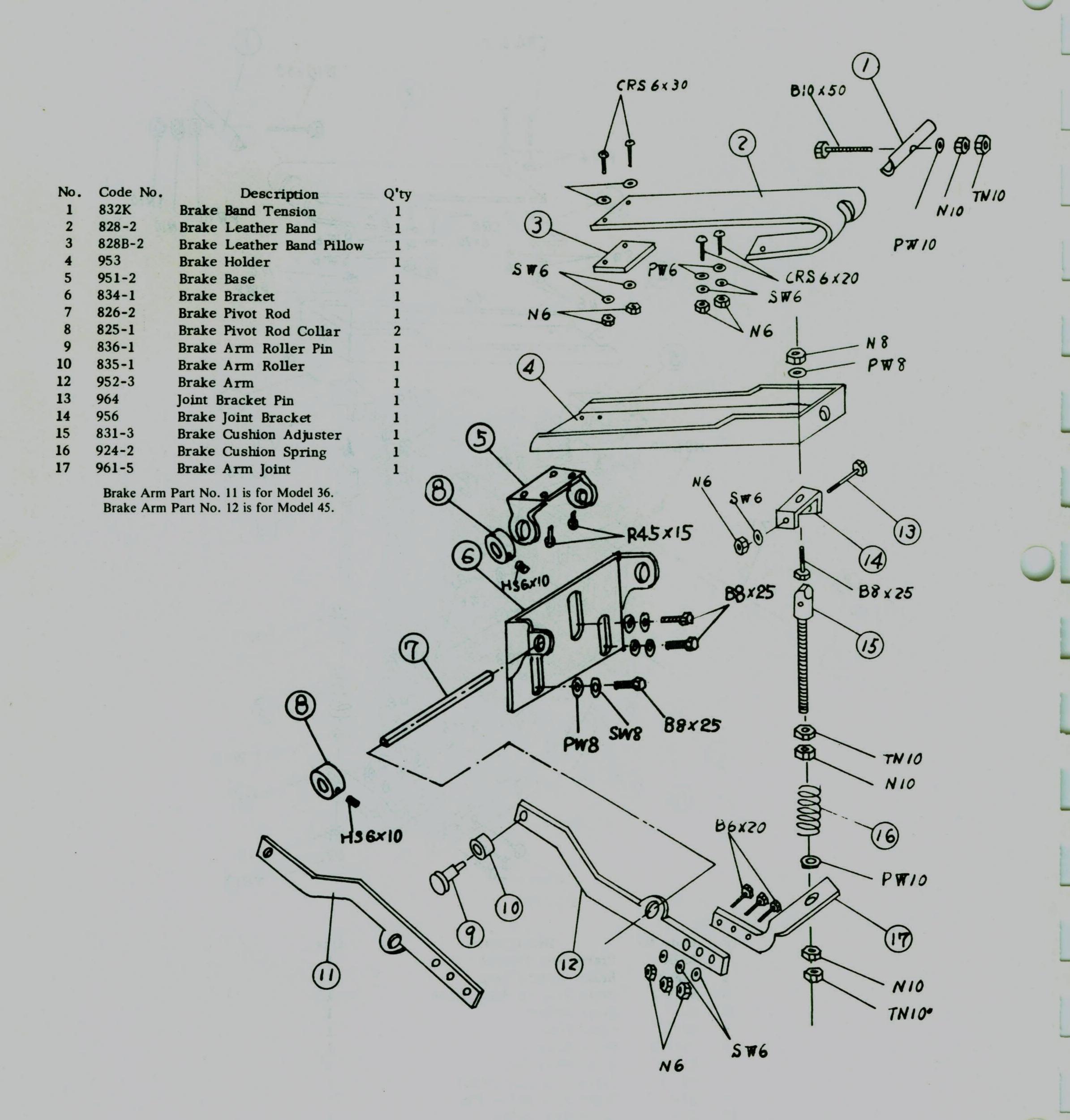


No.	Code No.	Description	Q'ty
1	1015	Twine Guide Bracket	1
2	1016	Twine Guide Roller Pin	1
3	1256-4	Twine Guide Roller	1
4	923K-1	Twine Draw Up Lever for 60	1
5	8541-1	Twine Draw Up Lever for 80	1
6	1078L-2	Twine Draw Up Lever for 100	1
7		Grease Nipple 6M	1
8	916L	Twine Draw Up Lever Pin	1
9	1068	Bearing Cover	1
10		Thrust Needle Bearing AX1326	2
11		Thrust Bearing Race PL1326	2
12	843L	Collar	1
13	920E-1	Cushion Spring for 60	1
14	1107K-3	Cushion Spring for 80 & 100	1
15	917C-1	Cushion Spring Guide Head	1
16	845B-2	Collar	1
17		Needle Roller Bearing TLA1210	1
18	1067B	Spring Guide Collar	1
19	948L-2	Cushion Spring Guide	1

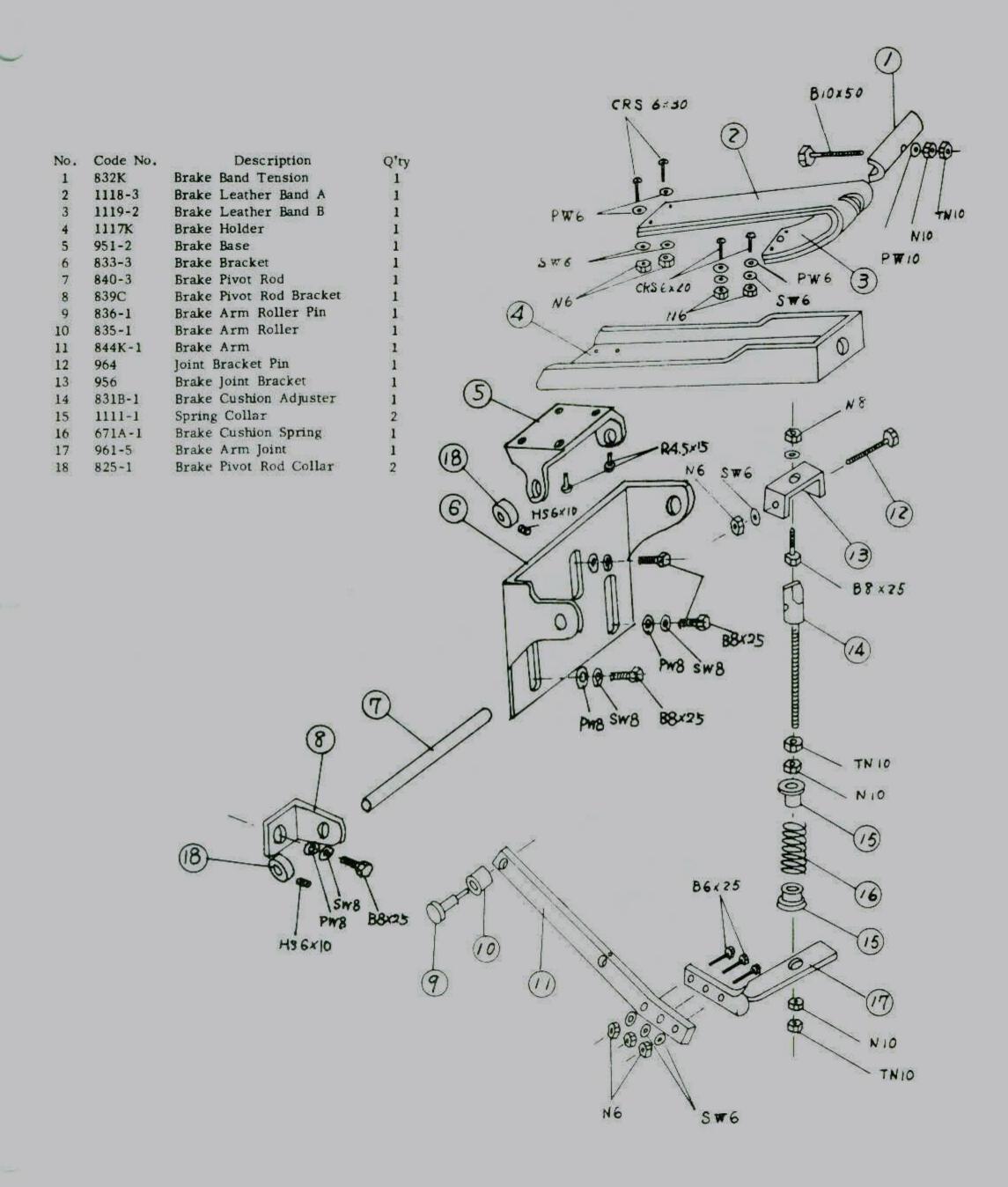
### MODEL 25



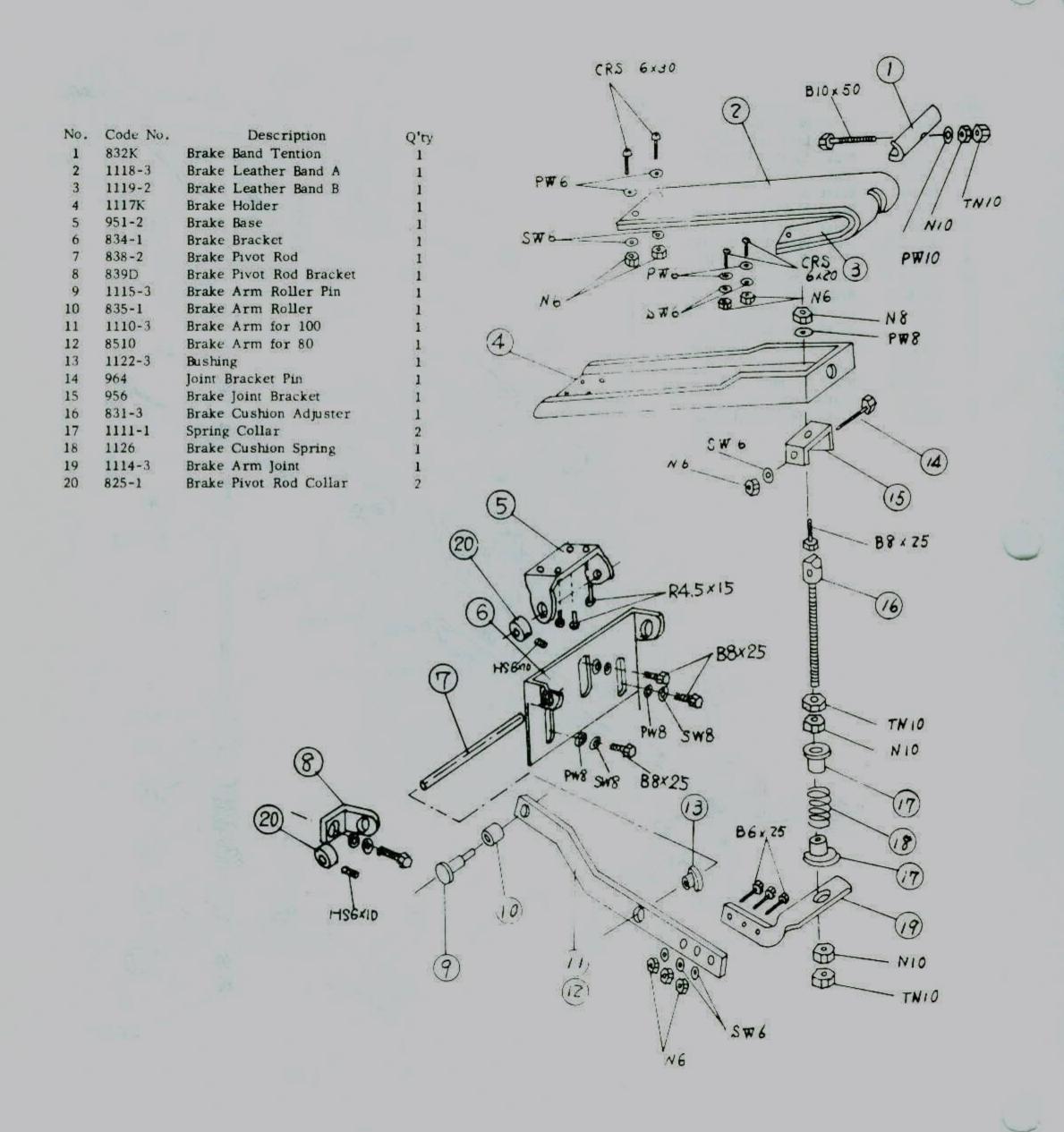
## **MODEL 36 & 45**



### MODEL 60

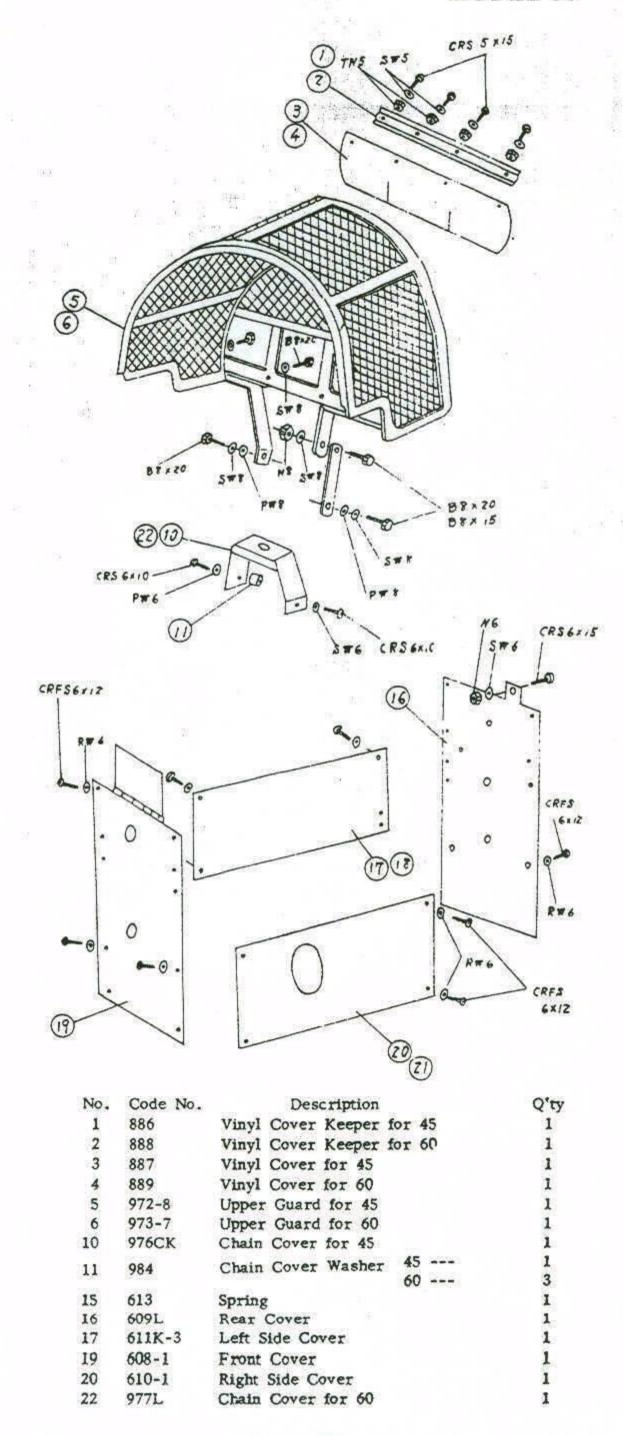


#### **MODEL 80 & 100**



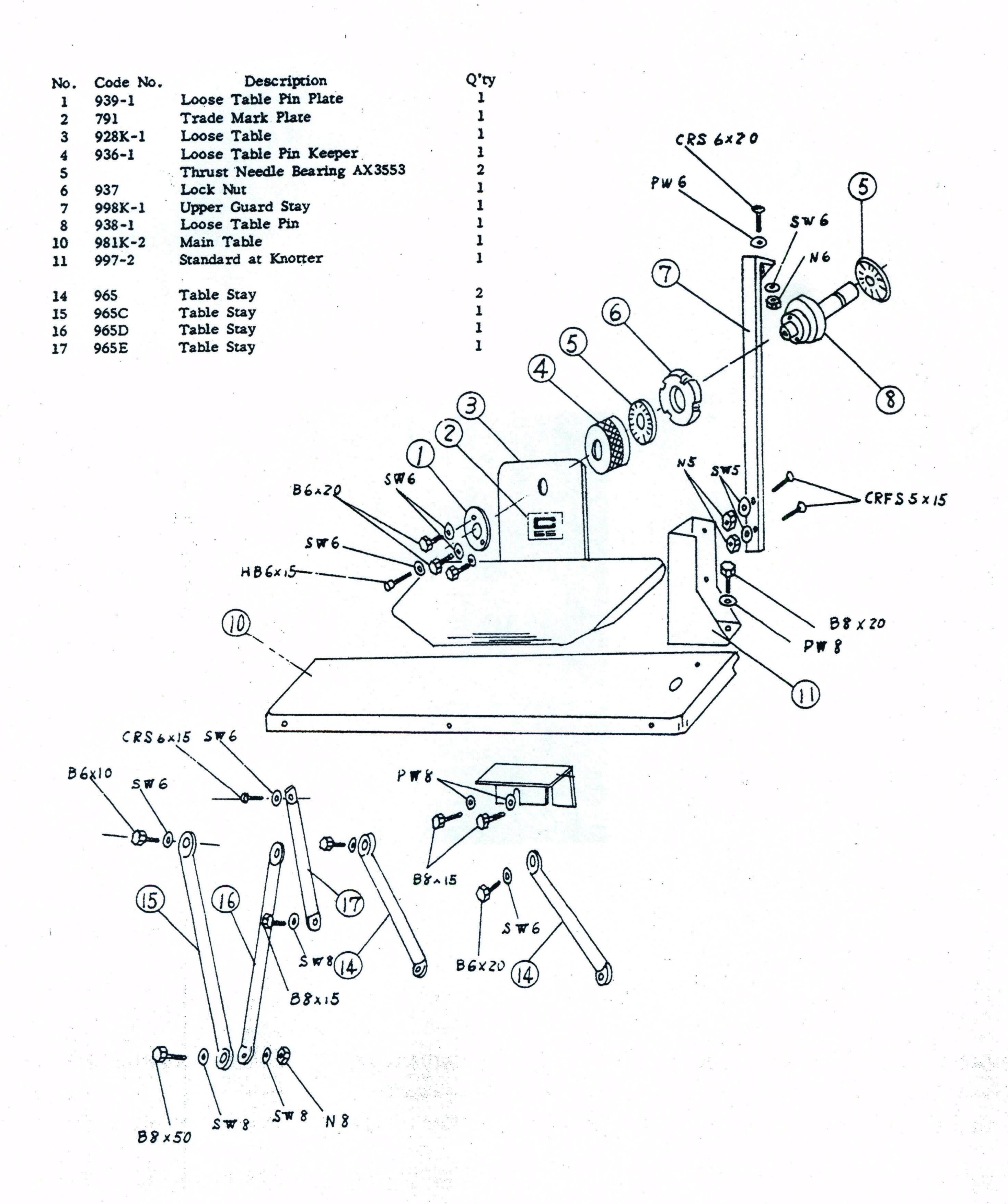
## DETAILS OF GUARD & COVER

### MODEL 60



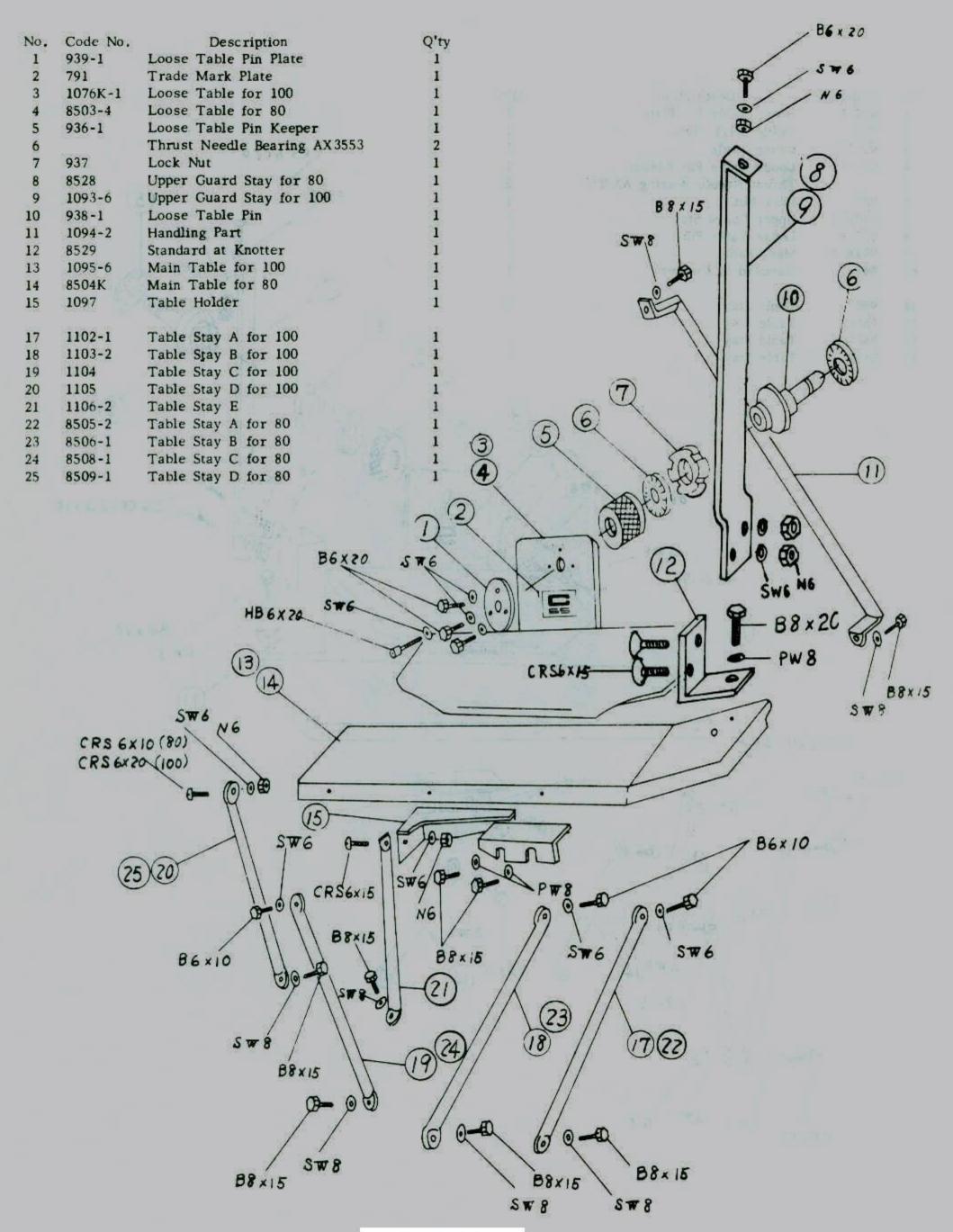
# DETAILS OF TABLE

# MODEL 60



## **DETAILS OF TABLE**

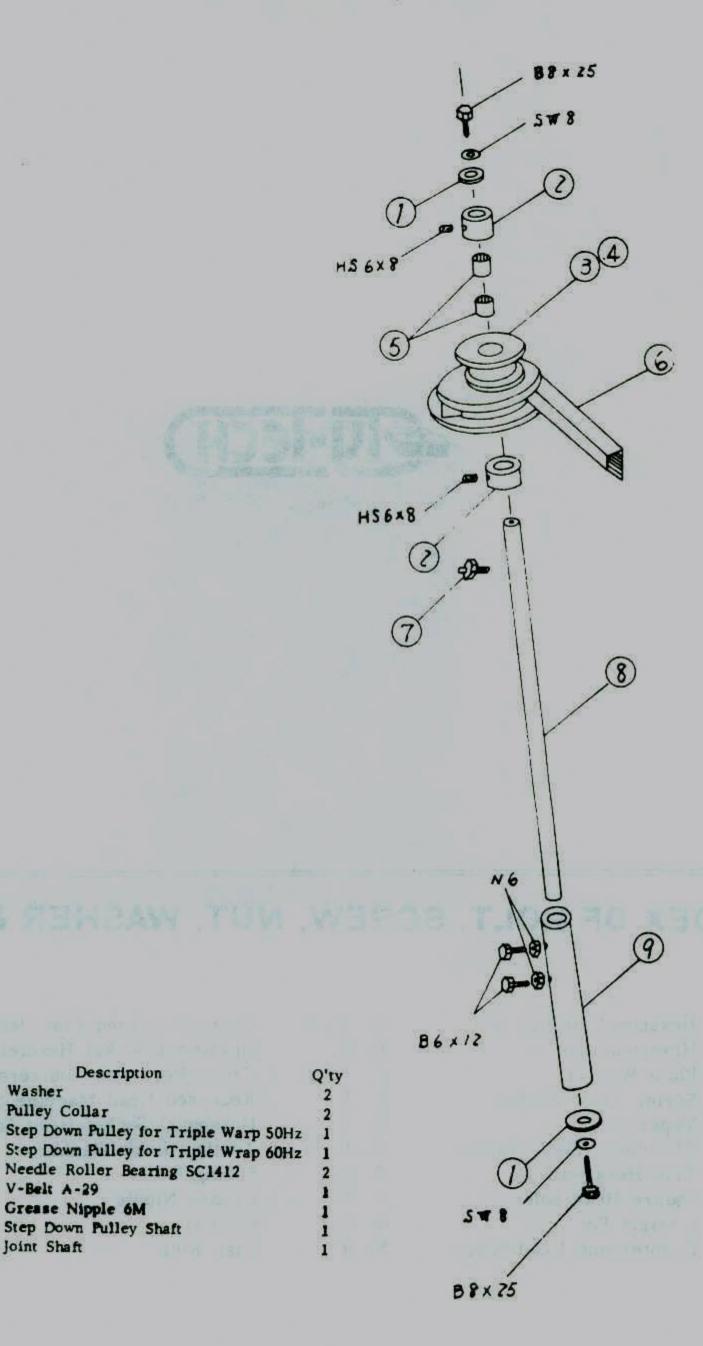
### **MODEL 80 & 100**



Page 25

## DETAILS OF STEP DOWN PULLEY

## MODEL 80 & 100 Triple wrap 50 & 60 Hz 100 Double wrap 60 Hz



No.

Code No.

Washer

Pulley Collar

V-Belt A-29

Joint Shaft

1163-1

1053-3

1054-3

1055-1

1056-1

651