TK-MECH

COIN MECHANISM
SERVICE MANUAL

January 1, 1996

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TROUBLE SHOOTING

LUBRICATION POINTS

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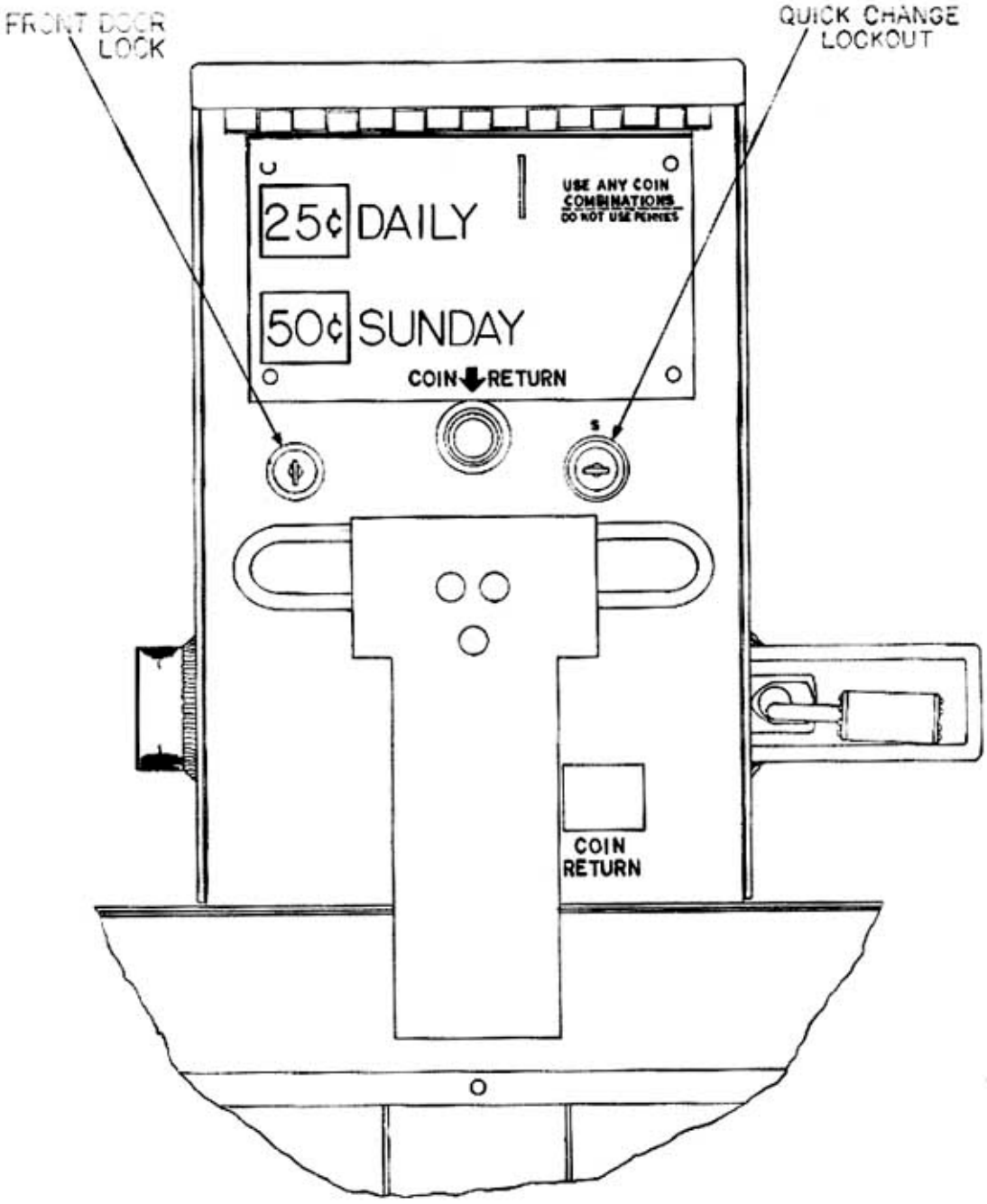
Motor Oil (Winterlube Oil): Shown by “A” – Pages 4, 5, 6, 7, 8, 10

Lubriplate 105 (White Grease): Shown by “B” – Pages 4, 5, 6, 10

Door Ease (Stainless Stick Lubricant): Shown by “C” – Page 10

FRONT DOOR LOCKS AND QUICK CHANGE LOCKS

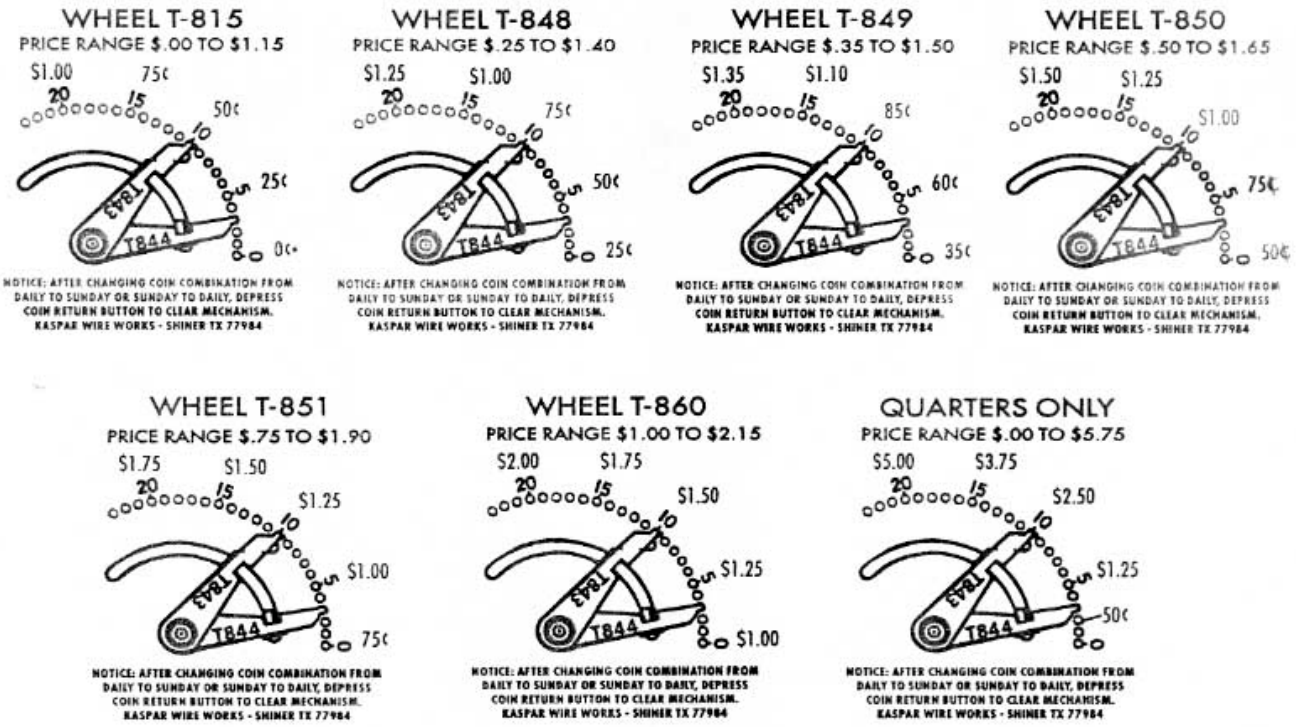


The Optional Front Door Lock will allow paper compartment door to be opened without inserting money into TK-Mech. This option can be ordered from the factory when original Sho-Rack is purchased or installed in the field.

Quick Change Lockout in the position below is for Daily papers. To change to Sunday, insert key and turn to “S” which is Sunday and pull key out.

NOTE: After changing from Daily to Sunday or from Sunday to Daily, **be sure to push in Coin Return Button to set Mechanism.**

SETTING TK-MECH PRICES



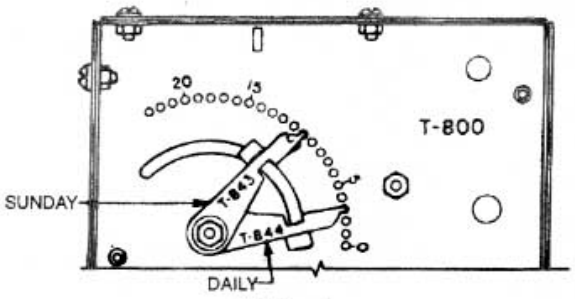


FIG. 1

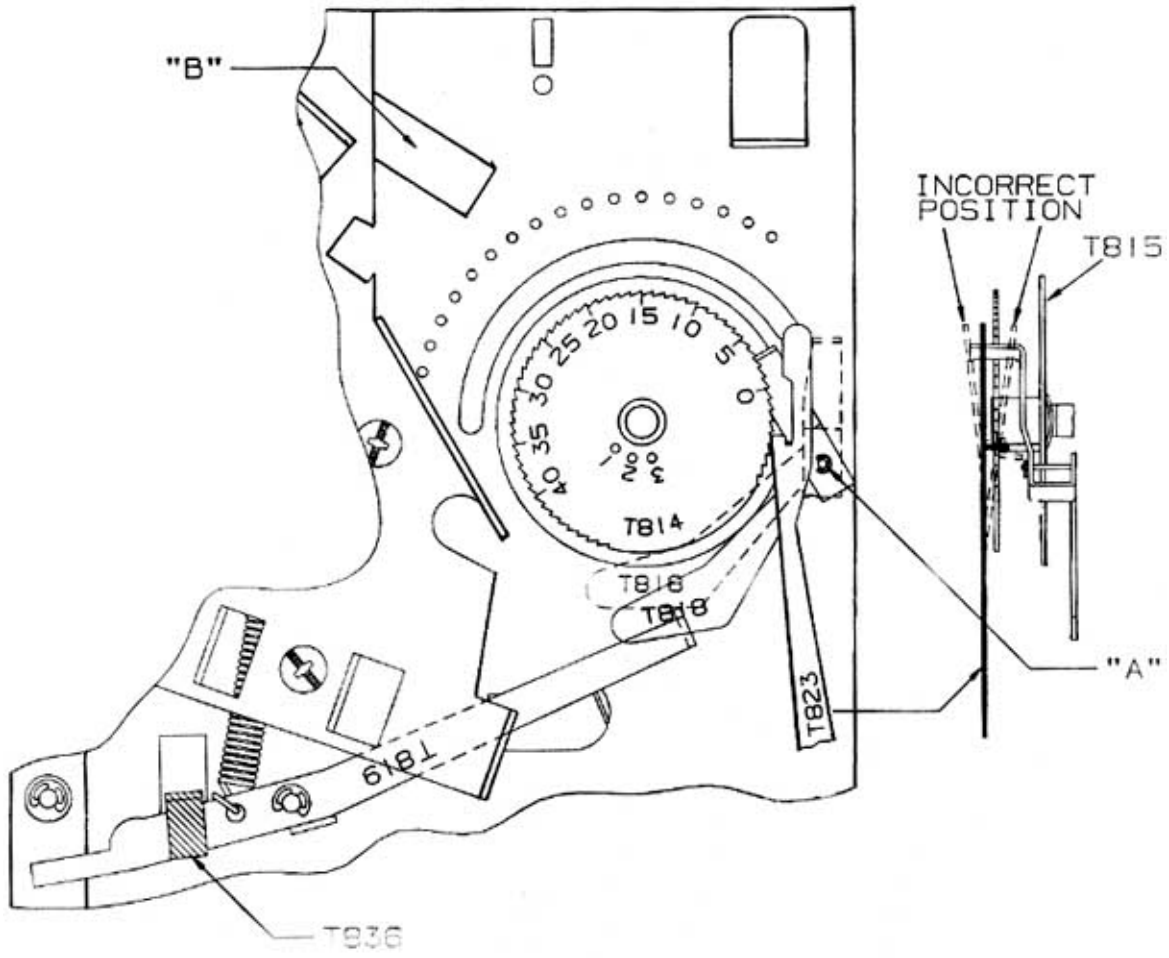
TK PRICE RANGE WHEELS

PRICE RANGE	PART NO.	WHEEL NO.	HOLE ASSY NO.
0 - 1.15	T815	1	1
.25 - 1.40	T848	2	1
.35 - 1.50	T849	3	1
.50 - 1.65	T850	4	2
.75 - 1.90	T851	5	2
1.00 - 2.15	T860	6	3

HOW TO CHANGE PRICE: Move the Daily Price Setter (T-844) and the Sunday Price Setter (T-843) by the small tabs and place in proper setting. **DO NOT** loosen nut. Each hole in quarter circle marked “0” through “20” represents 5 cent increments. If using a (T-849) Wheel “0” is $.35, the Illustration above in Figure 1 shows the Daily Price Setter (T-844) in hole #10 representing $.85. The labels above show the price ranges for each Wheel, move the Price Setters as needed. When changing the (T-844), make sure (T-843) does not move from its proper setting.

WHEEL AND TOTALIZER ARM SETTINGS

"TK-Mech May Not Total Properly or Wheel May Not Return to Proper Position"



Drawing shows proper position of Parts T-814, T-818 and T-823. When TK-Mech is in Sho-Rack and working, notice that T-823 rests **Half-way** between two teeth or 7 ½ notches below the Ratchet Pawl (T-818) and should also hit the T-814 fairly centered as illustrated in the picture above on the right. Also, T-818 must fit **Snug** and **Square** in **One** tooth. Positions other than described above, even though Price Setting is correct, will cause TK-Mech to mistotal. Each tooth represents "1" Nickel, starting at "0" Nickels through "23" Nickels (For Price Wheel T-815). Drawing above shows Daily Price set at $.15. As Nickels are inserted in the TK-Mech, T-818 will ratchet to "0" Nickels and Sho-Rack door can be opened. When a Quarter is inserted, the T-818 moves (five) 5 notches on the Wheel and a Dime moves the T-818 (two) 2 notches.

When the rack door is open the Ratchet Pawl (T-818) should lift away from the Wheel allowing the Wheel to reset as shown by the Dotted Line in the Drawing. The Rocker Arm Reset Link (T-836) controls this.

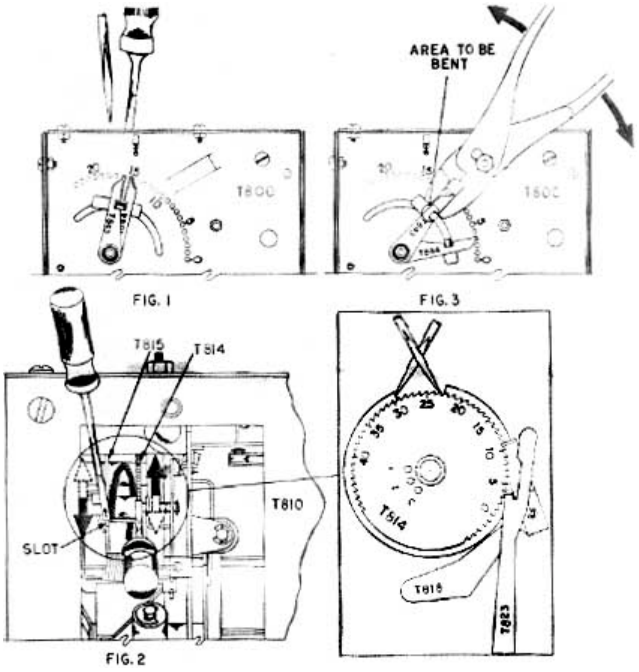
WHEEL ADJUSTMENTS

"TK-Mech May Not Total Properly"

If the T-818 is not fitting **Snug** and **Square** in **One** Tooth of T-814 as shown on Page 4, the wheel may need to be moved.

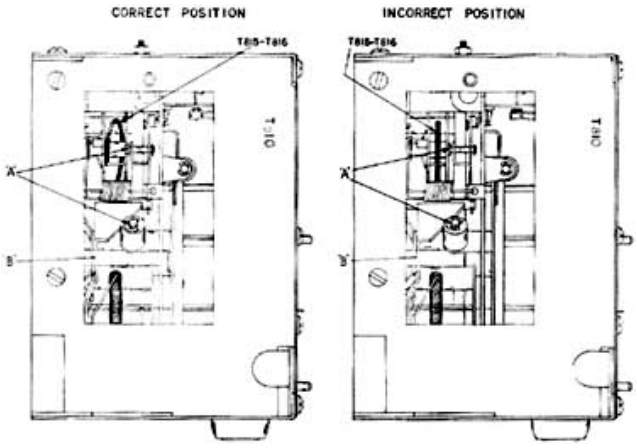
ON DAILY: Take one or both Price Setters and put in position as shown in Figure 1. Remove Top Cover Plate (T-811). Push Coin Reject Button. This will cause T-815 to rotate and position the slot in T-815 to an **Up** position. As shown in Figure 2, use **Two Screwdrivers** to push in direction of solid arrows. Check to see if T-818 is seated in Tooth properly by pushing Coin Reject Button. If not, exert force with **Two Screwdriver** as shown by dashing arrows. Check again by pushing Reject Button. Movement between T-814 and T-815 will be very small to seat T-818 properly. **NOTE:** Excessive force will loosen the pin of T-815. After adjustment, return to proper Price Setting.

ON SUNDAY: Check Daily Setting first before checking your Sunday Setting. If Sunday does not fall in the tooth **Snugly**, see Figure 3, using pliers grip T-843 as shown and bend in either direction indicated by arrow. Push Coin Reject and see if T-818 is seated properly. If not, apply pressure and bend in direction of other arrow. Push Reject Button and check setting.



INDEX WHEEL SPRING POSITION

"Index Wheel May Stop Turning and Coins May Hang Up"

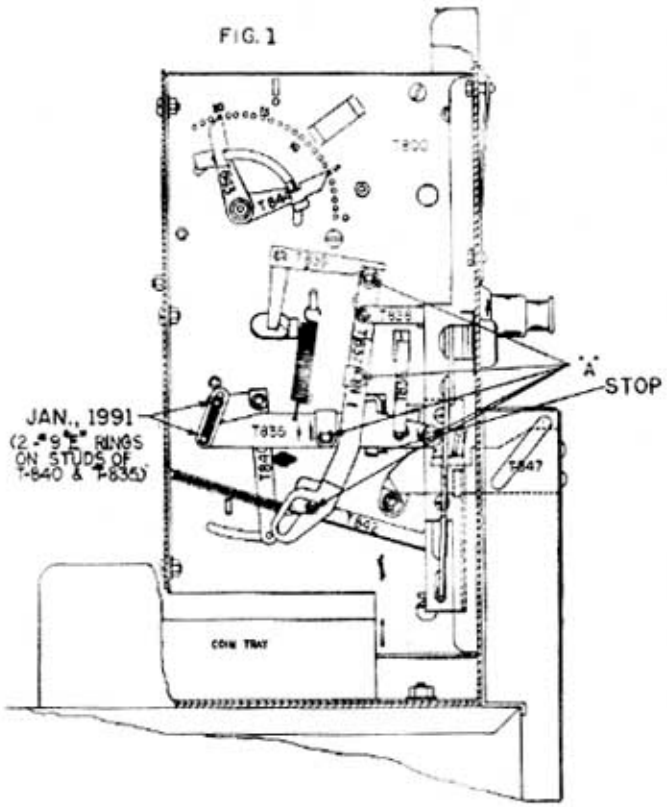


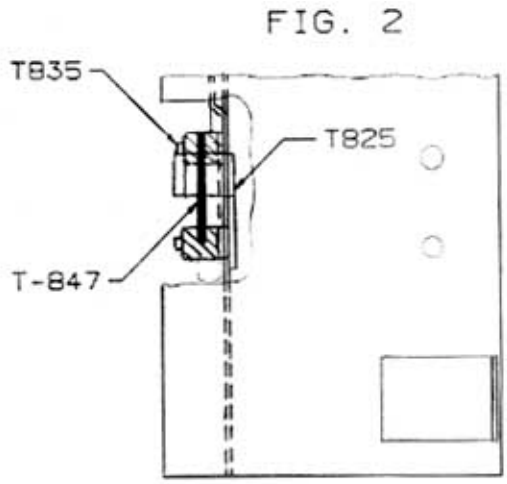
Continual use of the TK-Mech will sometimes cause Index Wheel Spring (T-815 – T-816) to become stacked, see Correct and Incorrect Position of Springs on Drawing to left. Stacked means loops of Spring intertwined causing Index Wheel to stop turning and registering coins. To solve this, move Spring to far left as shown in Drawing or to far right. **DO NOT** remove or unhook Spring.

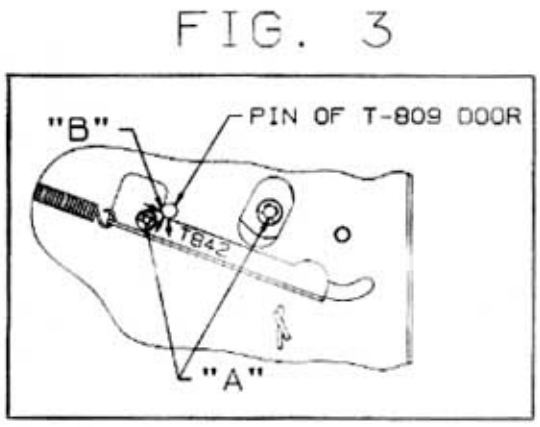
NOTICE LUBRICATION POINTS "A" & "B", SEE LUBRICATION AND OILING INSTRUCTIONS ON BACK COVER.

INDEX WHEEL VS DOOR OPERATION

"Index Wheel May Not Return to Proper Position or Rack Door May Not Close"







Rocker Arm (T-835) moves to Stop on T-800 (Follow Arrows) that may get bent up or down causing Index Wheel not to return to correct Price Setting. Position of Stop should be as illustrated above on Figure 1. If Rocker Arm is too far **Up**, Index Wheel will not return to proper Price Setting. If too far **Down**, the paper compartment door will not close. Bend with pliers to straighten.

Check for proper space between T-820 and T-815. See Illustration on Page 10 for correct spacing.

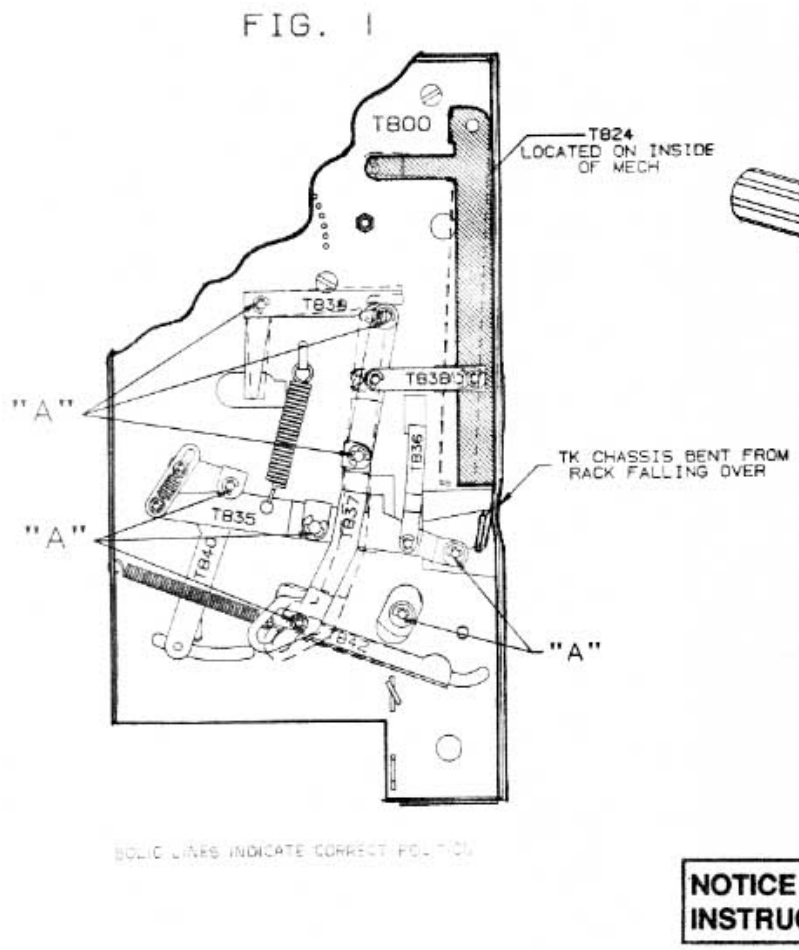
The 2 #9 E-Rings will keep the T-835 and T-840 Spring from popping off as illustrated above in Figure 1.

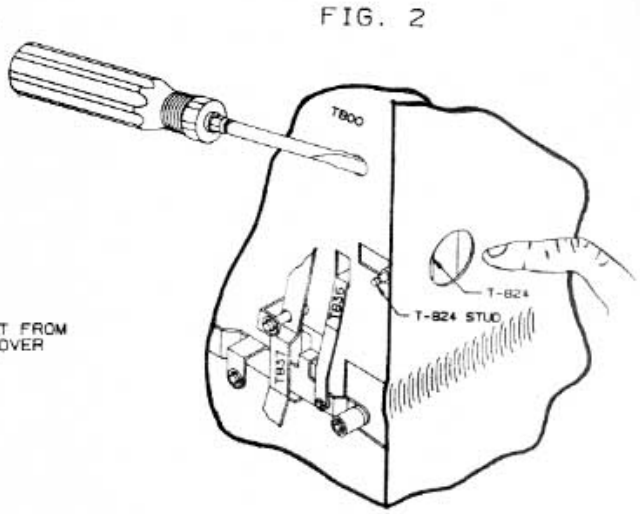
Figure 2: The T-835 (Rocker Arm) binding with the T-825 (Latch) can keep the rack door from closing.

Figure 3: The T-837 (Actuator Arm) has been removed for better clarity to show the lubrication around the pin of the T-809 Door.

COIN RETURN BAR ADJUSTMENT

"TK-Mech Will Not Reject Properly or Rack Door May Not Open"





NOTICE LUBRICATION POINTS "A", OILING INSTRUCTIONS ON BACK COVER.

Coins will not reject properly if the Coin Return Bar (T-824) is bent. This happens when excessive pressure was applied to the Reject Button or the Sho-Rack fell over on its face. Figure 1 shows the Coin Return Bar (T-824) straight and in its proper position, shown by Shaded Area. The **DOTTED LINE** on Figure 1, shows the Actuator Bar (T-837) pushing up on the Release Arm Actuator (T-839). This happens when the Coin Return Bar (T-824) gets bent and can keep the Rack Door from opening. To correct, look at the Illustration in Figure 2, disconnect the Rocker Arm Connector Link (T-838) from the Stud on the T-824 and straighten the stud with pliers. Some parts have been removed for better visibility. Make sure the T-824 is snug fitting up against the inside of the Chassis, **IF NOT**, place a screwdriver through the hole under the number T-800 on the side of the Chassis, putting a little twist in the T-824 while holding the T-824 with your finger (or pliers) where the Coin Return Button hits it from the front. The Coin Return Bar (T-824) should fit flush against the front hole where the Coin Return Button hits it and it should work freely.

Both figures show the front of the TK Chassis being bent from the Rack falling over. The Chassis can be hammered back out to fit into the Rack. Sometimes the Chassis will be damaged too badly and will need to be replaced.

NOTICE LUBRICATION POINT "A", OILING INSTRUCTIONS ON BACK COVER.

CRADLE AND COIN GUIDE PLATE ADJUSTMENTS

"Coins Will Not Fall Through TK-Mech or May Not Total Properly"

FIG. 1

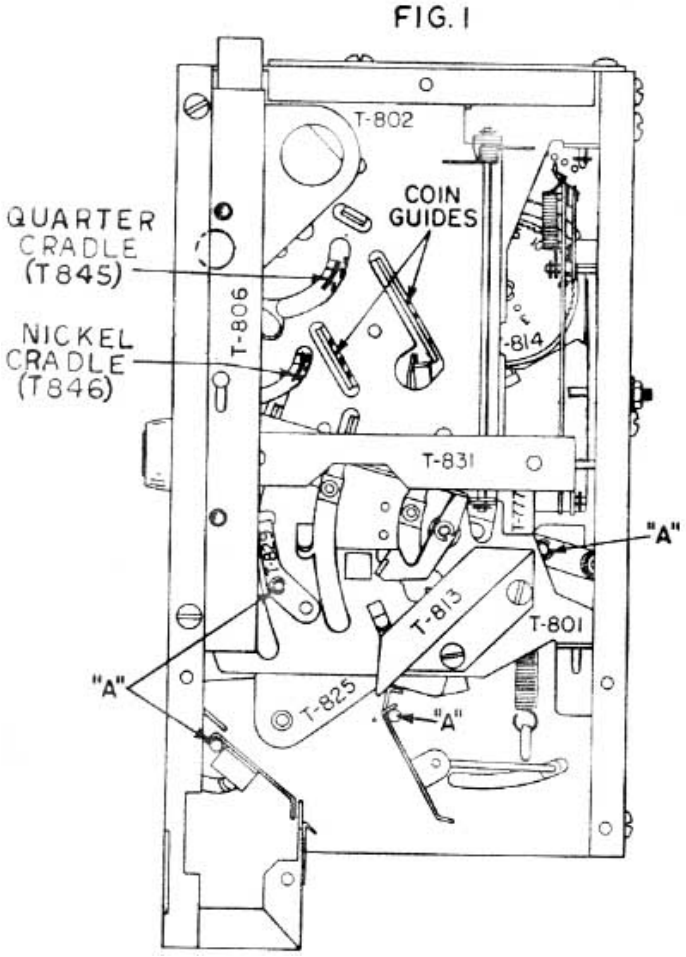
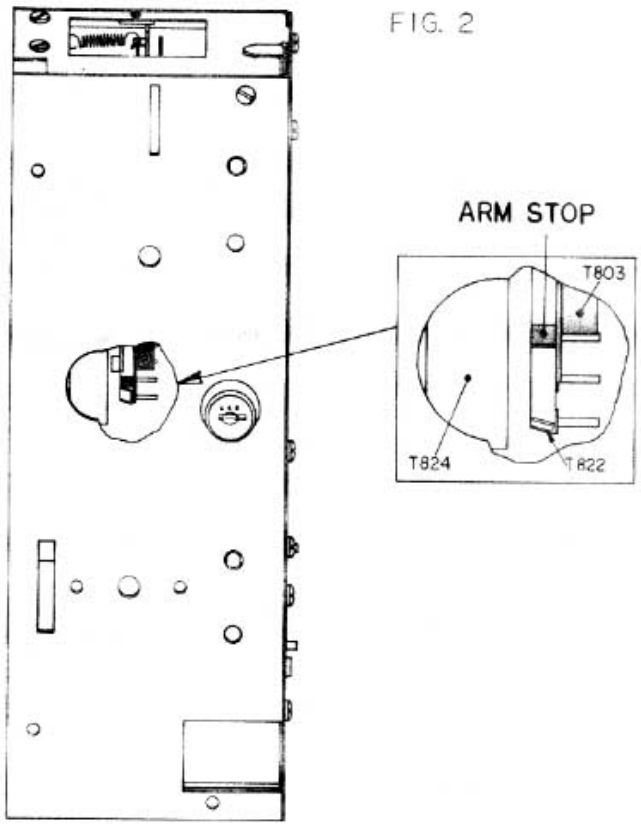


FIG. 2



Sometimes Nickel Cradle (T-846) and/or Quarter Cradle (T-845) is bent (As Shown by Dashed Line in Figure 1) and touch side of slots in Base and Swing Plates. Coins will not fall and register properly. Use a small screwdriver to bend cradle(s) back to position as shown by Solid Lines in Drawing.

Also, Coin Guide Plate Coin Guides must be centered in slots to allow proper coin drop to Totalizer Arm. These Coin Guides also should be bent with pliers to proper position as shown by Solid Lines in Figure 1. In this Drawing the Side Mounting Plate (T-807) is left off for clarity of other parts shown. The TK-Mech will not work without Side Mounting Plate installed. Follow Arrows.

NOTE: Totalizer Arm (T-822) must be parallel and flush with edge of Plate (T-803) to work properly. See Inset Drawing on Figure 2 above. If the Totalizer Arm (T-822) is bent or the bushing or pins are loose the TK-Mech will not total properly or coins may hang up.

SWINGPLATE AND STOP PAWL ADJUSTMENTS

"Coins Will Not Fall Through TK-Mech and Total Properly"

The following are the most common problems of coins not falling through TK-Mech.

ALL PLATES ARE TOO CLOSE TOGETHER

Here, check mainly for bent stops or brackets holding rollers. In proper position there should be no more or less than .104 between Swing Plate (T-802) and Base Swing Plate (T-801). The Base Swing Plate (T-801) should rest against heads of bolts that fasten Coin Guide Plate (T-803) to TK Chassis. If T-801 and T-802 Plates are too close together coins will not fall through, if the Plates are too far apart the coins will fall straight through without totalizing.

DIRT BETWEEN PLATES

Here any type of material is likely. Check Cleaning and General Care Instructions.

TOO MUCH OIL

The TK-Mech needs only cleanliness to operate properly. Check Cleaning and General Care Instructions.

FOREIGN OBJECTS

Any object or material inserted through coin slot may cause Base and Swing Plate to lodge tight together or spread apart. This will cause a mistotal and also may make Coin Reject inoperable.

TK-MECH WILL NOT TOTAL PROPERLY WITH DIMES

Figures 1 and 3 both show exact position and contact between Totalizer Arm (T-822) and Dime Stop Pawl (T-777). **At this point 1 Dime is registered.** A problem causing a mistotal would be if (T-822) Totalizer Arm is bent too far in or too far back. See Figure 3 for proper position.

WITH NICKELS

Solid Line of Nickel Stop Pawl (T-829) shows proper position. Dotted Line shows Nickel Pawl on top of Plate (T-801) causing a mistotal. See Figure 1. Both the above can either be solved by bending with pliers to position as shown in Illustration, Figure 2. **TK-Mech will not total properly if Nickel Stop Pawl (T-829) is missing.**

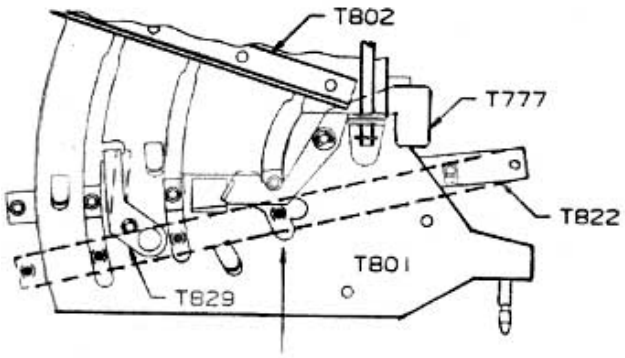


FIG. 1

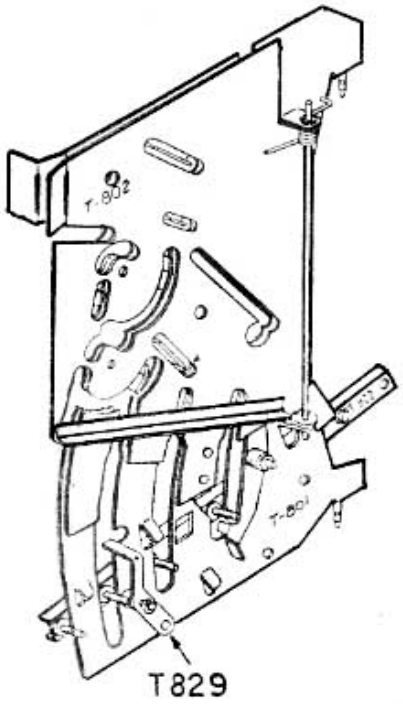


FIG. 2

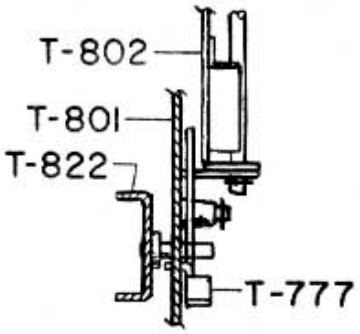
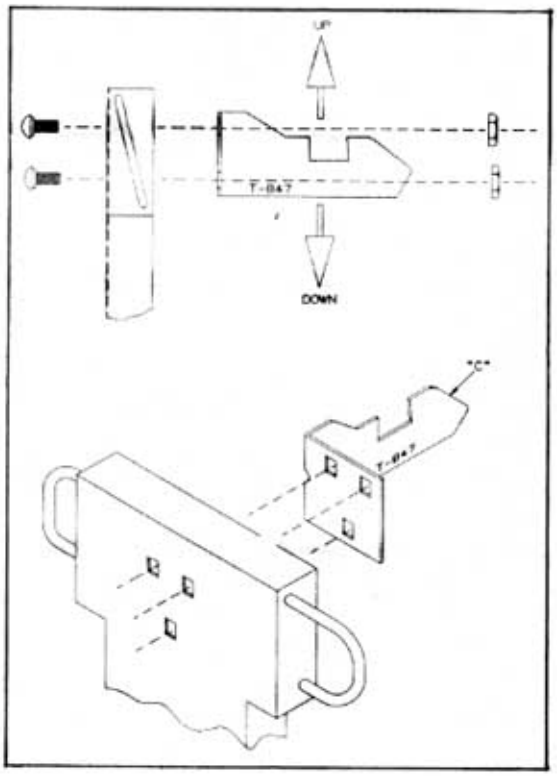


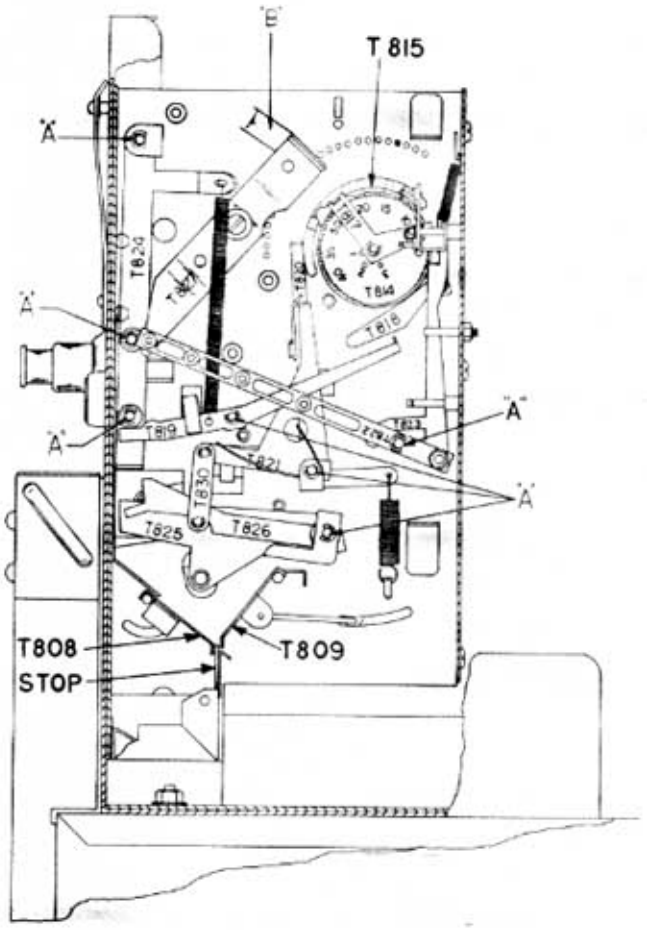
FIG. 3

DOOR AND DOOR HOOK ADJUSTMENTS

"Coins May Not Total Properly, Door May Not Open, or Door May Open Without Money"



NOTICE LUBRICATION POINTS "A", "B" & "C", SEE LUBRICATION AND OILING INSTRUCTIONS ON BACK COVER.



Coins will not be totaled properly if Latch Release (T-820) is resting against Price Range Wheel (T-815), which is caused by Door Hook (T-847) being too high. Loosen nuts on Door Hook and move down till Latch Release moves away from Price Range Wheel. **CAUTION:** If Hook is too low, door will open without money. See Drawing above on the left for Door Hook (T-847) Adjustments.

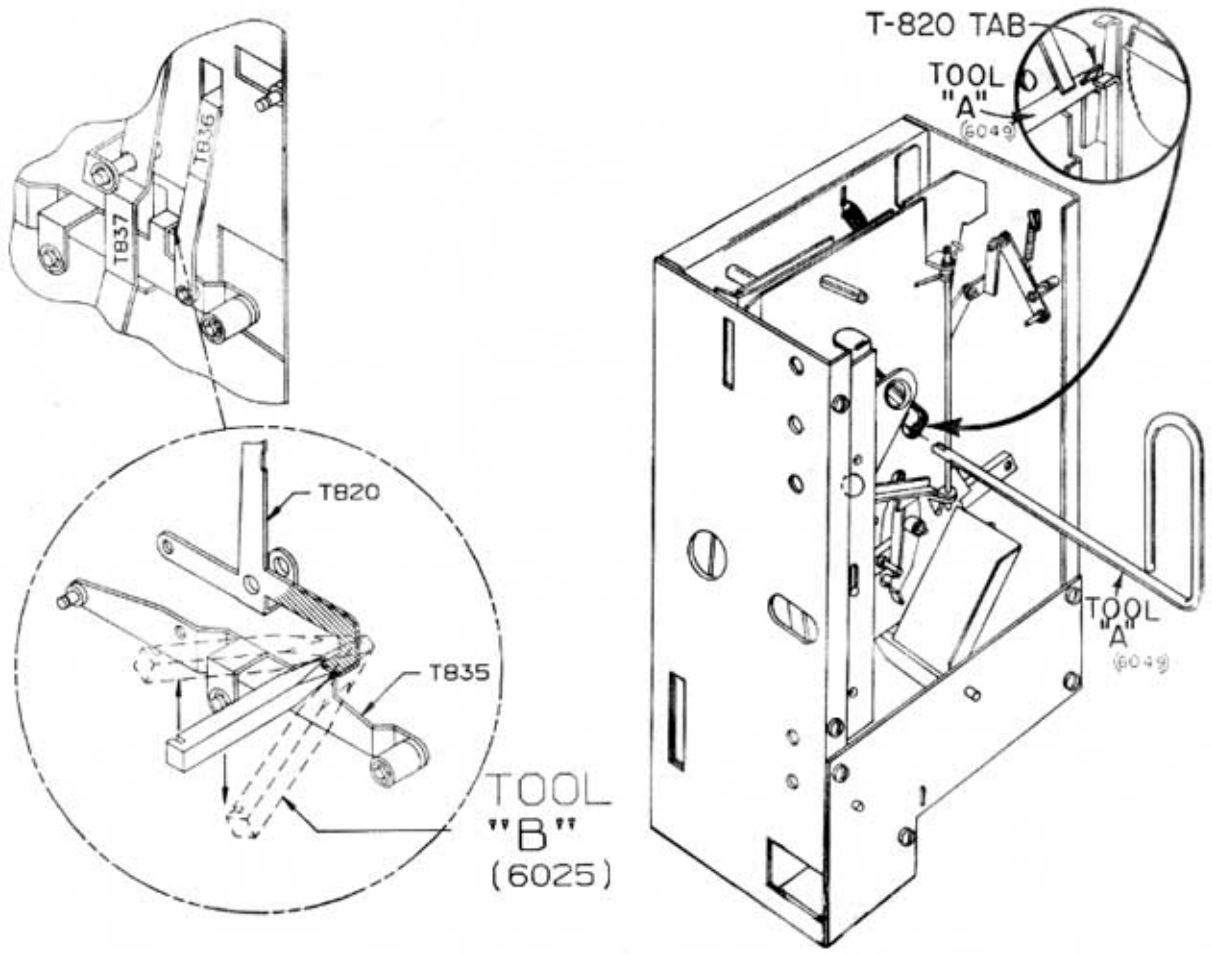
NOTE: If T-804 Door Hook (Old Style) is used, the space between T-820 and T-815 is 1/16". If T-847 Door Hook (New Style) is used, the space is 7/32".

The Illustration above on the right, shows TK-Mech mounted in Housing and sitting on rack. For clarity, Base, Swing and Coin Guide Plates are shown missing. Also, Side Mounting Plate (T-807) is not shown. Side Mounting Plate must be installed for Coin Return Door (T-808) and Coin Receiver Door (T-809) to work properly. Notice the **STOP** that T-808 and T-809 rests against. If T-809 goes beyond Stop, money will not fall in Coin Tray. Replace Coin Receiver Door (T-809).

Check Door Adjustments with rack and door latch bracket fitting properly against Housing front. Notice if Door Pull has pushed in Housing. This causes Door Hook not to release and coins cannot be rejected. Take TK-Mech out of Sho-Rack and straighten TK Chassis and Mech Housing. Check for bent Door Hook (T-847) and straighten with pliers if needed. Also check for bent Latch (T-825). Also make sure Door Hook (T-847) comes into the rack hitting fairly centered on the rollers of the Latch (T-825) and the Rocker Arm (T-835).

LATCH RELEASE ADJUSTMENT

"Door and Door Hook are Set Correctly, but Door Keeps Opening or Does Not Open"
"Index Wheel May Not Return to Proper Position"

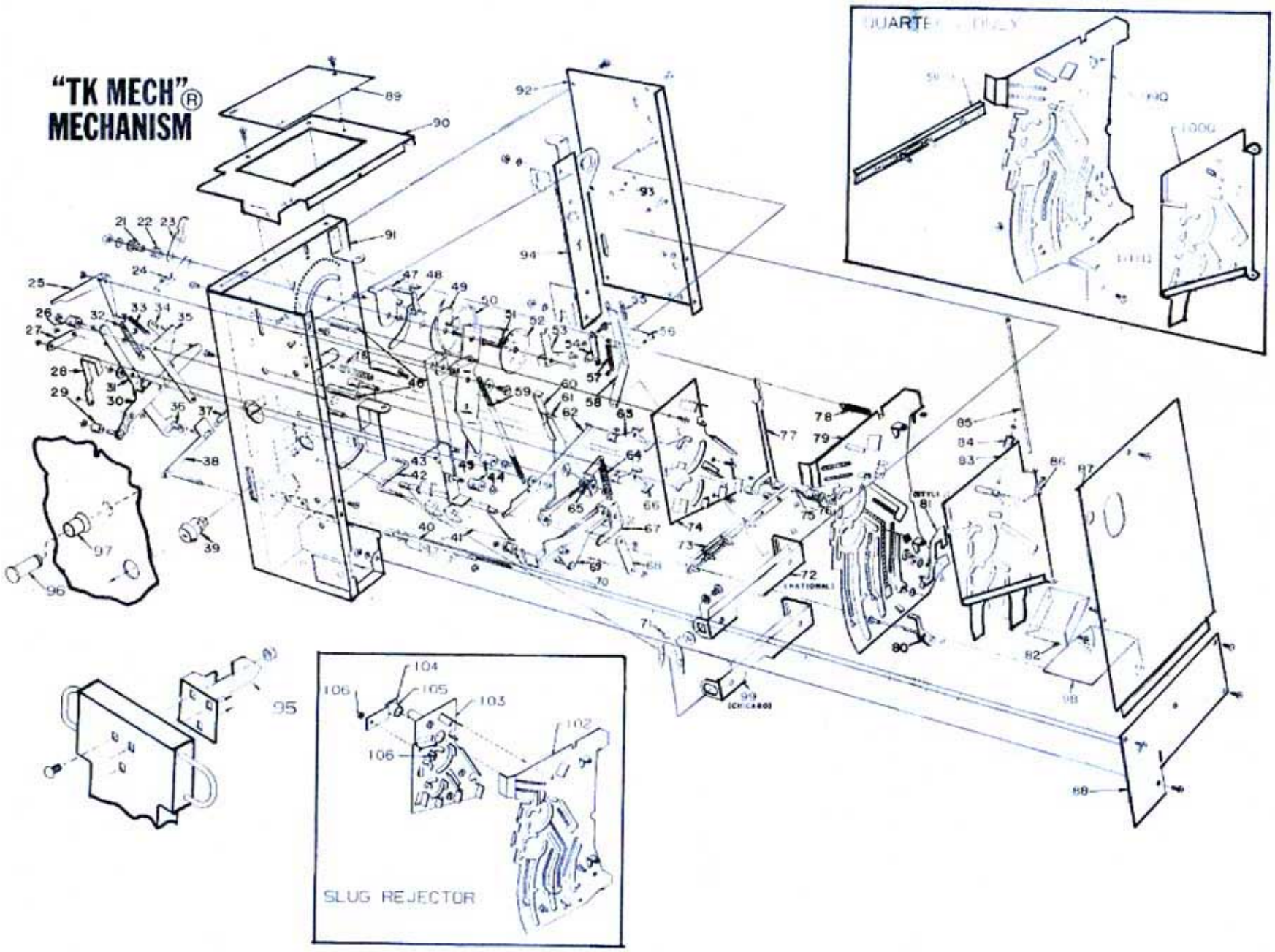


With the (T-847) Door Hook the space between the Latch Release (T-820) and the Wheel (T-814) should be 3/16" to 7/32". To make adjustment, bend the T-820 tab with TOOL A (6049) as shown above. Make sure not to bend too far in either Direction. If space is wider than 7/32", the door will open without putting in money. Less than 3/16", the door may not open or if Latch Release (T-820) is touching the Wheel (T-814) coins will not total.

The 7/32" space adjustment being out of alignment will cause the same problems as the Door Hook (T847) not being adjusted properly. **Make sure Door Hook and Door are in proper alignment before adjusting 7/32" space.** Refer to Page 10 for Door and Door Hook Adjustments.

When the door is open there should be 1/16" space between the Latch Release (T820) and the Wheel. Use a Tailbender, TOOL B (6025) on the T-820 tab where the T835 tab connects onto it. This allows your Wheel to reset.

"TK MECH"® MECHANISM



TK-MECH® MECHANISM

PART NO.	ILLUS. NO.	DESCRIPTION	PRICE CODE NO.
T50	(21)	INDEX WHEEL STUD BUSHING	5001
T843-T844	(22)	INDEX WHEEL STUD SPRING	5002
T843	(23)	LEFT PRICE SETTER	5003
T844	(24)	RIGHT PRICE SETTER	5004
T839	(25)	RELEASE ARM ACTUATOR	5005
T82	(26)	ROLLER	5006
T838	(27)	ROCKER ARM CONNECTOR LINK	5007
T836	(28)	ROCKER ARM RESET LINK	5008
T82	(29)	ROLLER	5006
T835	(30)	ROCKER ARM	5009
T837	(31)	ACTUATOR BAR	5010
T800-T835	(32)	EXTENSION SPRING	5011
T835-T840	(33)	EXTENSION SPRING	5012
T841	(34)	ROCKER ARM LINK	5013
T840	(35)	RECEPTACLE ARM	5014
T80	(36)	ROLLER	5015
T800-T842	(37)	EXTENSION SPRING	5016
T842	(38)	COIN RETURN DOOR ARM	5017
T853	(39)	CYLINDER LOCK (WITH BOLT, WASHER CLIP & TWO KEYS - SPECIFY KEY NO.)	5018
T808	(40)	COIN RETURN DOOR	5019
T809	(41)	COIN RECEIVER DOOR	5020
T81	(42)	RECEIVER DOOR LINK	5021
T824	(43)	COIN RETURN BAR	5022
T82	(44)	ROLLER	5006
T827	(45)	REJECT CAM	5023
T43	(46)	GUIDE PLATE SPACER	5024
T816	(47)	ROTARY PLATE	5025
T818	(48)	RACHET PAWL	5026
T815	(49)	PRICE RANGE WHEEL	5027
T848	(49)	PRICE RANGE WHEEL	5094
T849	(49)	PRICE RANGE WHEEL	5095
T850	(49)	PRICE RANGE WHEEL	5096
T851	(49)	PRICE RANGE WHEEL	5097
T815-T816	(50)	INDEX WHEEL SPRING	5028
T53	(51)	INDEX WHEEL STUD	5029
T82	(84)	ROLLER	5006
T79	(85)	HINGE PIN	5061
T801-T802	(86)	TORSION SPRING	5062

PART NO.	ILLUS. NO.	DESCRIPTION	PRICE CODE NO.
T814	(52)	INDEX WHEEL	5030
T817	(53)	ROTARY ARM	5031
T833	(54)	ROTARY CONNECTOR LINK	5032
T805-T832	(55)	EXTENSION SPRING	5033
T832	(56)	QUICK SET ROCKER ARM	5034
T834-T832	(57)	EXTENSION SPRING	5035
T834	(58)	QUICK SET ARM	5036
T819-T824	(59)	EXTENSION SPRING	5037
T820	(60)	LATCH RELEASE	5038
T821	(61)	CUSHION ARM	5039
T819	(62)	RESET ARM	5040
T845	(63)	QUARTER CRADLE	5041
T800-T820	(64)	EXTENSION SPRING	5042
T820-T821	(65)	TORSION SPRING	5043
T846	(66)	NICKEL CRADLE	5044
T826	(67)	ANTI-CHEAT STOP	5045
T830	(68)	CUSHION ARM LINK	5046
T825	(69)	LATCH	5047
T82	(70)	ROLLER	5006
T854	(71)	CYLINDER LOCK RETAINER CLIP	5048
T831N	(72)	LOCK EXTENSION (NATIONAL)	5049
T831C	(99)	LOCK EXTENSION (CHICAGO)	5098
T822	(73)	TOTALIZER ARM	5050
T803	(74)	COIN GUIDE PLATE	5051
T52	(75)	INDEX PAWL STUD	5052
T51	(76)	COUNTER WEIGHT	5053
T823	(77)	INDEX PAWL	5054
T800-T801	(78)	EXTENSION SPRING	5055
T801	(79)	BASE SWING PLATE	5056
T829	(80)	NICKEL STOP PAWL	5057
T828	(81)	DIME STOP PAWL (STYLE #1)	5090
T777	(81)	DIME STOP PAWL (STYLE #2)	5058
T-778		TK-WEST MECH RELEASE BAR LEVER	3268
CM-100-72		TK-WEST MECH RELEASE BAR LEVER BUSHING	3269
T813	(82)	COIN SLIDE	5059
T802	(83)	SWING PLATE	5060
T812	(87)	SIDE COVER PLATE	5063
T807	(88)	SIDE MOUNTING PLATE	5064

TK-MECH® MECHANISM

PART NO.	ILLUS. NO.	DESCRIPTION	PRICE CODE NO.
T811	(89)	TOP COVER PLATE	5065
T810	(90)	TK TOP	5066
T800	(91)	TK CHASSIS	5067
T805	(92)	TK BACK	5068
T77A	(93)	INDEX PAWL GUIDE STUD	5069
T806	(94)	HOLD DOWN ASSEMBLY	5070
T804	(95)	DOOR HOOK (FOR BROWN, GREEN, BLUE & RED CHASSIS)	5091
T847	(95)	DOOR HOOK (FOR YELLOW CHASSIS)	5071
T852	(96)	COIN RETURN ACTUATOR (INCLUDES "E" RING)	5072
SR-200-20	(97)	COIN RETURN ACTUATOR BUSHING	5073
T779	(98)	THEFT PROOF BAFFLE	5092
5133-9ZF		"E" RING (FOR 3/32" DIA SHAFT)	5074
5133-12ZF		"E" RING (FOR 1/8" DIA. SHAFT)	5075
5133-15ZF		"E" RING (FOR 5/32" DIA. SHAFT)	5076
5133-18ZF		"E" RING (FOR 3/16" DIA. SHAFT)	5077
5133-25ZF		"E" RING (FOR 1/4" DIA. SHAFT)	5078
5131-25ZF		BOWED "E" RING (FOR 1/4" DIA. SHAFT)	5079
5133-50ZF		"E" RING (FOR 1/2" DIA. SHAFT)	5080
T855		M4 X8MM PAN HEAD MACHINE SCREW	5081
T856		M4 X 8MM FLAT HEAD MACHINE SCREW	5082
T857		M4 X .7 HEX NUT WITH EXTERNAL TOOTH LOCK WASHER ATTACHED	5083
T857-1		M4 X .7 NYLON STOPNUT	5099
T858		M4 X 10MM PAN HEAD MACHINE SCREW	5084
T859		10-32 X 1/2" CARRIAGE BOLT & KEP NUT (FOR T804 & T847)	5085

TK-MECH PARTS (FOR QUARTERS ONLY)

PART NO.	ILLUS. NO.	DESCRIPTION	PRICE CODE NO.
*T822-1	98-Q	TOTALIZER ARM	5086
*T801-1	99-Q	BASE SWING PLATE	5087
*T802-1	100-Q	SWING PLATE	5088
*T860-1	101-Q	TOTALIZER ARM STOP	5089

* THE ABOVE PARTS ARE NEEDED FOR SPECIAL (QUARTER ONLY) TK-MECHS.

TK-MECH

PART NO.	DESCRIPTION		PRICE CODE NO.
TK-MECH	COIN MECHANISM WITHOUT DOOR HOOK (QUICK CHANGE LOCKOUT STANDARD) (GIVE COIN COMBINATION) (GIVE KEYING INSTRUCTIONS)		4250
	WITH DOOR HOOK (INC. NUTS & BOLTS)	ADD	4251

CLEANING AND GENERAL CARE
METHODS OF WASHING

Soak your Mechs in hot sudsy water for up to 30 minutes. Soaking time depends on the amount of dirt and grime built up. Dawn Dishwashing Liquid is good to use for washing your Mechs. Rinse your Mechs thoroughly and then it is best to blow-dry them. Make sure to reoil all studs that have working parts on them, including studs that have rollers attached.

If putting in a dishwasher and you have the T779 (Protection Baffle) in the Mech, remove the T812 (Side Cover Plate) and T811 (Top Cover Plate) and run through a full cycle. Reoil studs. If your Mech does not have the T779 (Protection Baffle), we recommend the following parts be removed and put in the dishwasher along with the Mech and run through a full cycle. These parts are: T812 (Side Cover Plate), T810 (Top), with T811 (Top Cover Plate), Quick Change Lock Assembly, T801-T802 (Swing Plate Assembly), the Wheel Assembly and T822-T823 (Totalizer Arm Assembly). Reoil studs.

If using an all purpose degreaser spray, wash your Mechs in hot water, rinse in hot water and blow dry. Reoil studs.

If using Century SS Safety Solvent – Spray on Mechs – blow out or wipe off excess dirt. Reoil studs.

After cleaning the Mechs, if the TOTALIZER ARM and the WHEEL are STILL SLUGGISH, you may have to use a .125 Drill Bit to ream them out.

Any defective parts should be replaced at this time and all minor adjustments made. Usually a clean TK-Mech will solve most of the problems when it is not totaling properly.

LUBRICATION AND OILING INSTRUCTIONS
"DO NOT OIL MECH"

The notation above applies to all TK-Mechs. Most of the problems of a Mech not totaling properly are due to too much oil which attracts dirt and cxauses money not to fall through or Mech will mistotal. Amsoil 100% Synthetic 5W-30 Motor Oil (Winterlube Oil) should be used. **APPLY OIL TO MECH BY PUTTING OIL ON ARTIST BRUSH AND APPLY BRUSH TO AREA DESIGNATED TO RECEIVE OIL ONLY – DO NOT SPRAY MECH WITH AEROSOL LUBRICANT (DO NOT USE WD-40).** Some areas of the TK-Mech should receive **Light Applications** of Lubriplate 105 anmd Door Ease or equivalent. The following legend denotes areas where each of the above are to be applied. Look for these letter symbols on TK-Mech illustration.

LUBRICATION POINTS

Amsoil 100% Synthetic 5W-30
Motor Oil (Winterlube Oil): Shown by "A" – Pages 4, 5, 6, 7, 8, 10

Lubriplate 105 (White Grease): Shown by "B" – Pages 4, 5, 6, 10

Door Ease (Stainless Stick Lubricant): Shown by "C" – Page 10