

Maintenance Tools 150-540

MAINTENANCE TOOLS

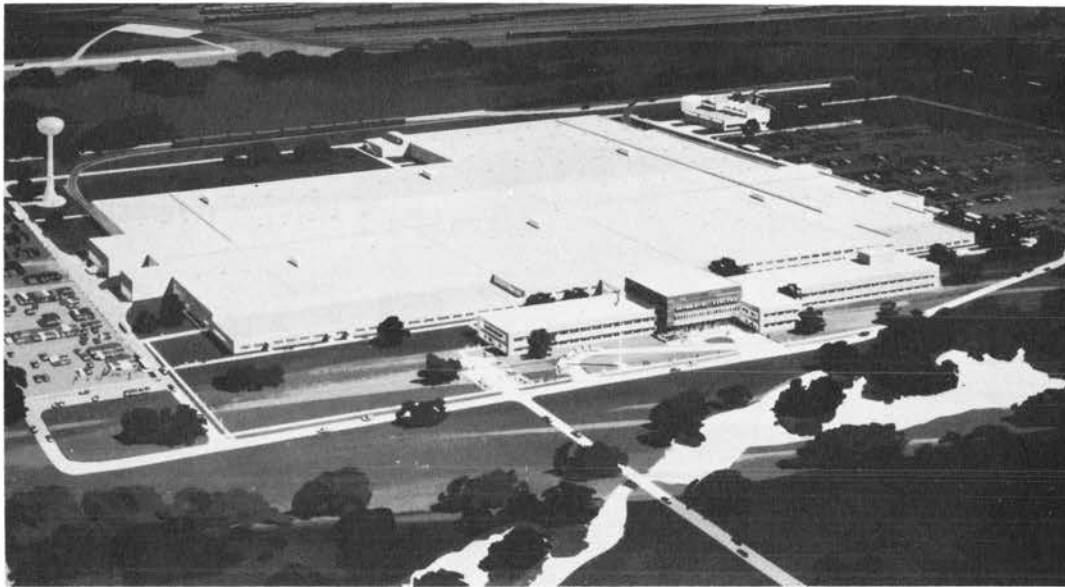
Technical
bulletin 150-540

AUTOMATIC ELECTRIC

Subsidiary of

GENERAL TELEPHONE & ELECTRONICS





Factory, development laboratories, and general office at Northlake, Illinois, U.S.A.

AUTOMATIC ELECTRIC COMPANY is an organization of designing, engineering, and manufacturing specialists in the fields of communication, electrical control, and allied arts. For more than 70 years the company has been known throughout the world as the originator and parent manufacturer of the Strowger Automatic Telephone System. Today Strowger-type equipment serves over 65% of the world's automatic telephones. The same experience and technique that have grown out of the work of Automatic Electric engineers in the field of telephone communication are also being successfully applied on an ever-increasing scale to the solution of electrical control problems in business and industry.

Makers also of electrical control apparatus for industrial, engineering, and public utility companies, telephone apparatus for railroads and pipe-line companies, recording and answering, electrical and communication devices for aircraft and airways control, and special communication apparatus for military and naval departments.



Factory, and general office at Waukesha, Wisconsin, U.S.A.



Factory, and general office at Genoa, Illinois, U.S.A.

FOREWORD

This bulletin is an up-to-date listing, with descriptions and functions, of the principal tools most useful in the maintenance of central-office equipment and telephones manufactured by Automatic Electric Company.

In addition to tools such as screwdrivers, pliers, and soldering irons, the listing includes a wide variety of special tools and gauges which serve particular purposes in the maintenance of specific items of apparatus. So far as practicable, the various tool illustrations are grouped in classifications according to use.

The tool descriptions show, in addition to the illustrations, the name of the tool, its code number, and the use to which it is put. Included also is supplementary information such as precautions to be taken and dimensions which affect tool use.

All tools listed are indexed alphabetically in the front of the bulletin and numerically in the back.

In some cases, two or more tools may be listed under the same name. An example is the "Adjuster, Vertical Armature" having code numbers H-7056, H-13398, and H-13700. Unless otherwise identified, it is suggested that the tool with the highest code number be ordered. This tool is ordinarily associated with the latest type of equipment. The lower-numbered tools may be better suited for older types of equipment or may be preferred by service personnel.

Customers in the United States or possessions may obtain any of the tools listed through the Automatic Electric Sales Corporation, Northlake, Illinois, U.S.A. Orders from customers abroad should be placed with Automatic Electric International, Inc., at the same address.

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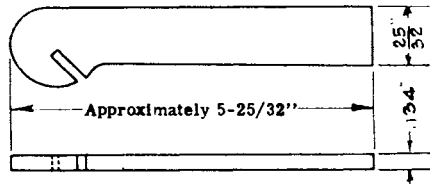
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MAINTENANCE TOOLS

ADJUSTER, ARMATURE

H-7056

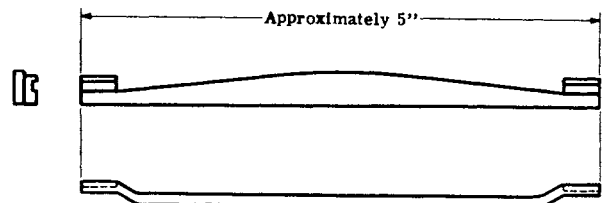


1/8" slot

For use on Strowger switch rotary armature

ADJUSTER, ARMATURE

H-56518



.114" saw slot in each end

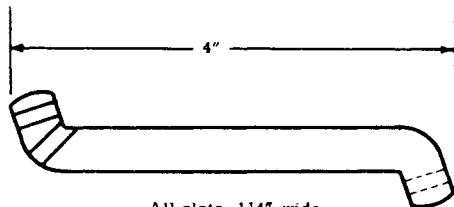
For use on Type 10 alternating current relay

ADJUSTER, ARMATURE

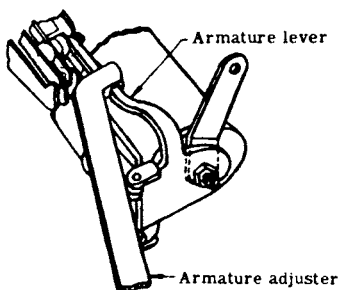
H-88502-1

ADJUSTER, ARMATURE

H-14768

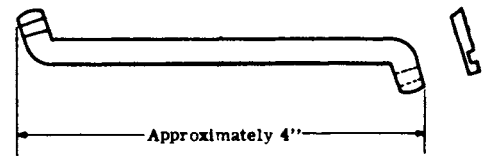


All slots .114" wide



ADJUSTING THE ARMATURE LEVER

For use on Type 57 and Class A relays

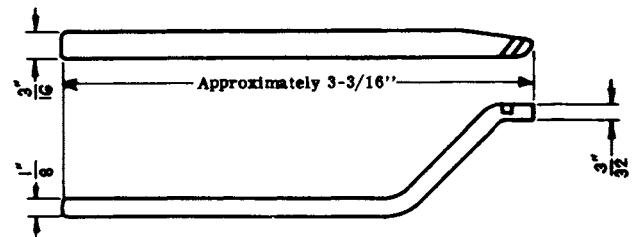


.115" width of slot in each end

For use on Type 57 and Class A relays

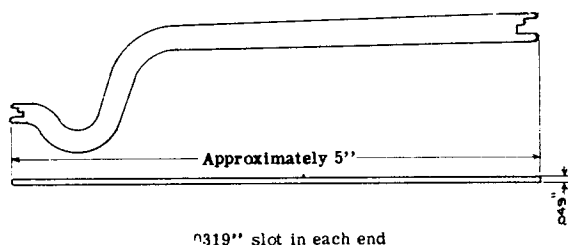
ADJUSTER, ARMATURE STOP

H-46410

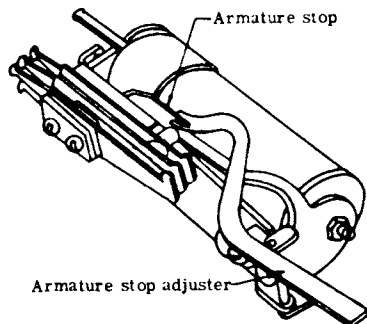


.055" slot

For use on 8 and 2 position mechanical indicators on Power Supervisor's Board

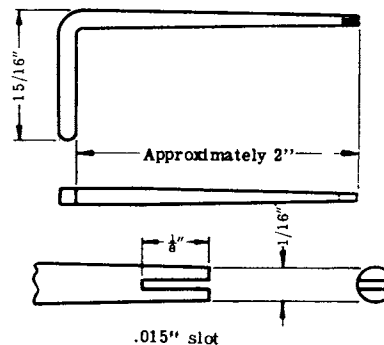


.0319" slot in each end



ADJUSTMENT OF ARMATURE BACKSTOP

For use on horizontal (Class A) relays

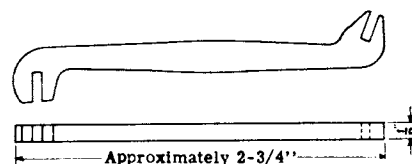


ENLARGED VIEW

For use on 8 position mechanical indicators in Power Supervisor's Board, paystation springs and dial governor wings

ADJUSTER, DOUBLE DOG

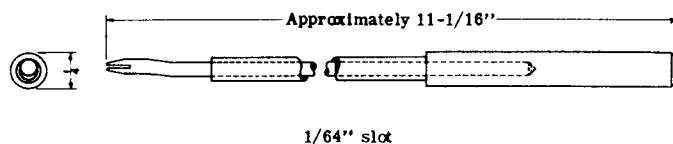
H-7067



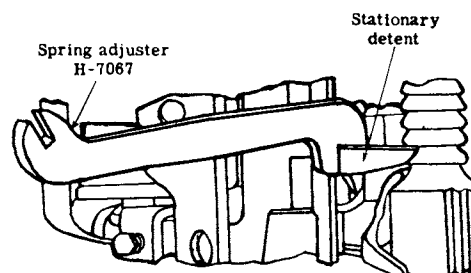
3/32" slot in each end

ADJUSTER, BANK CONTACT

H-7068-3



For use on plunger lineswitch bank contacts



ADJUSTING STATIONARY DETENT

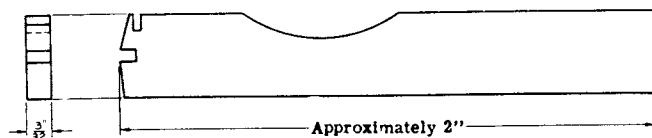
For use on Strowger switch double dog

ADJUSTER, FRAME

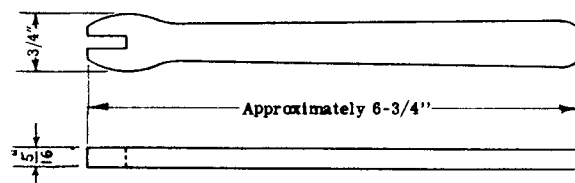
H-13701

ADJUSTER, CAM

H-47202



Both slots .028" min. and .030" max.



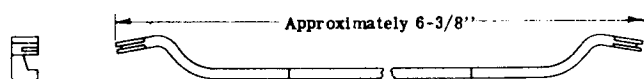
1/8" slot

For use on Strowger switch multi-level normal post cam

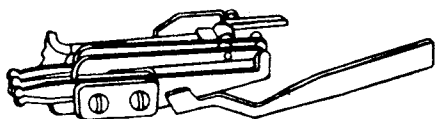
For use on plunger lineswitch bank frame

ADJUSTER, SPRING

H-20777



1/32" saw slot in each end

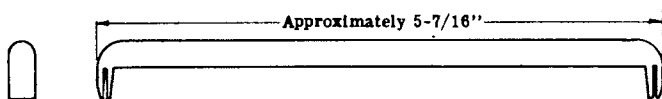


ADJUSTING SPRINGS TO MEET GAUGING REQUIREMENTS

For use on horizontal (Class A) type relays

ADJUSTER, SPRING

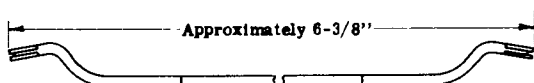
H-24600



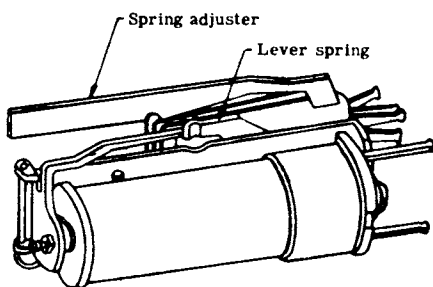
For use on horizontal (Class A) relay springs

ADJUSTER, SPRING

H-42873



.018" slot in center of each end

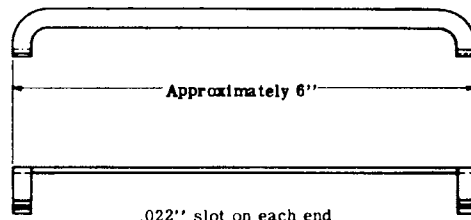


ADJUSTING LEVER SPRINGS FOR TENSION

For use on horizontal (Class A) relays

ADJUSTER, SPRING

H-44359

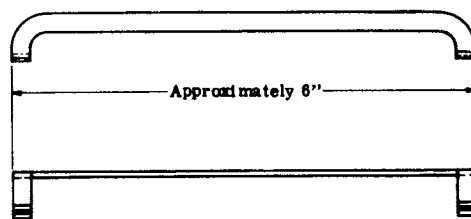


.022" slot on each end

For use on Type 27 manual relay

ADJUSTER, SPRING

H-45590

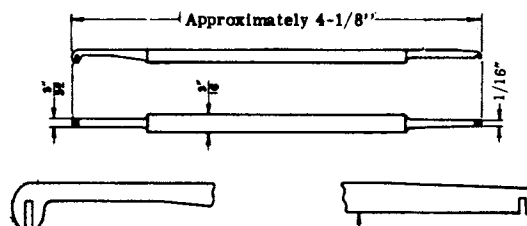


.039" slot on each end

For use on Type 27 manual relay

ADJUSTER, SPRING

H-46411



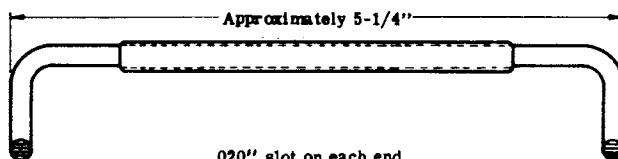
Enlarged views

.020" slot on each end

For use on 8 and 2 position mechanical indicator on Power Supervisor's Board

ADJUSTER, SPRING

H-46716-1

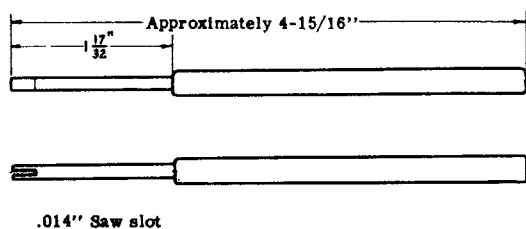


.020" slot on each end

For use on plunger lineswitch line relay springs

ADJUSTER, SPRING

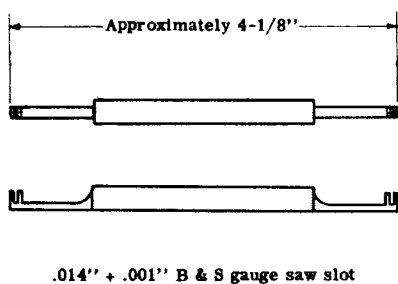
H-46974-1



For use on class "S" relay

ADJUSTER, SPRING

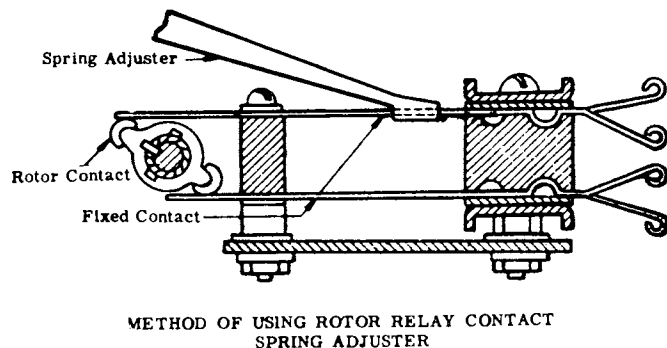
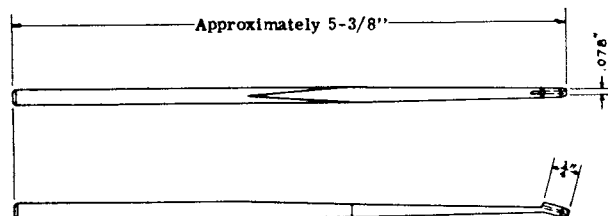
H-46975-1



For use on class "S" relay

ADJUSTER, SPRING

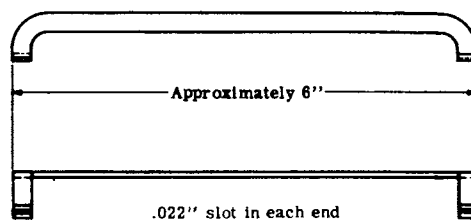
H-64670



For use on rotor relay contact springs

ADJUSTER, SPRING

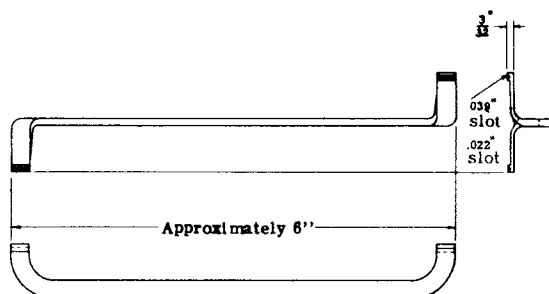
H-64980



For use on minor type relays

ADJUSTER, SPRING

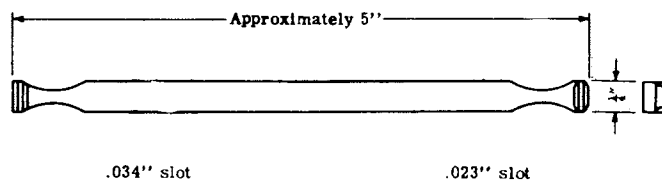
H-88385



For use on Type 27 manual relay

ADJUSTER, SPRING

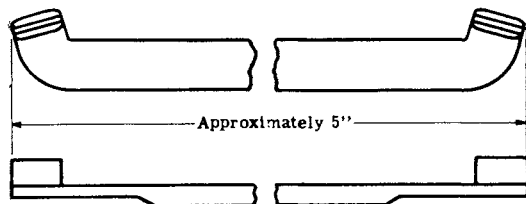
H-88390



For use on Type 26 lever keys

ADJUSTER, SPRING

H-88504-1
and 2

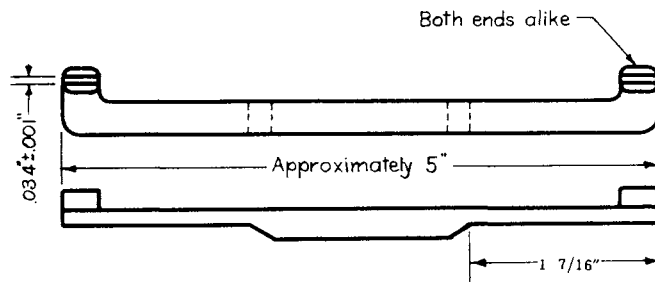


H-88504-1 (.034" slot in each end)
H-88504-2 (.018" slot in each end)

For use on Type 57 relays

ADJUSTER, SPRING

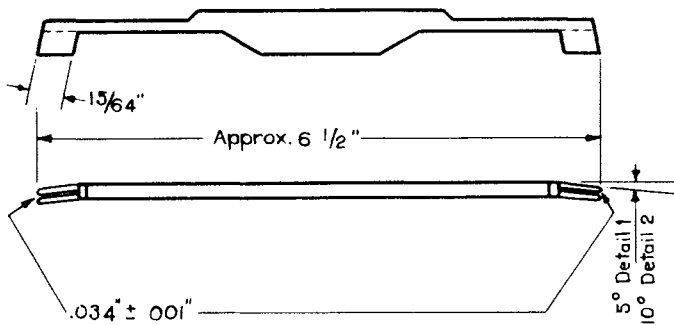
H-881859-1



For use on Type 57A relay

ADJUSTER, SPRING

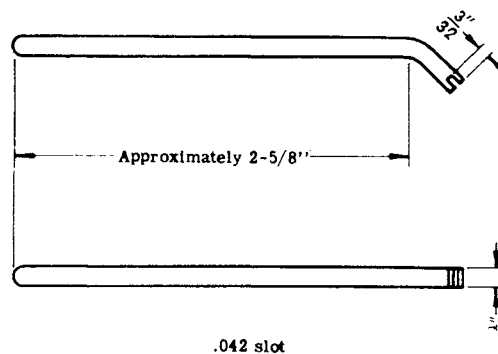
H-881602-1&2



For use with Type 57-A relays. Special back to back mounted relays.

ADJUSTER, SPRING HOLDER

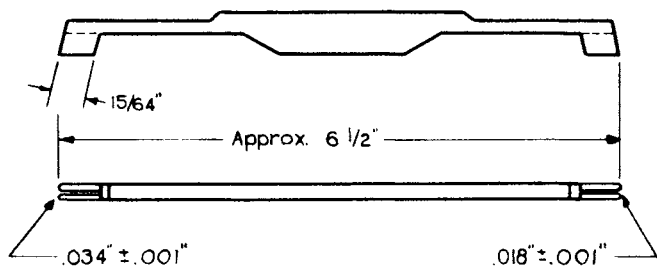
H-46412



For use on 8 and 2 position mechanical indicators on Power Supervisor's Board

ADJUSTER, SPRING

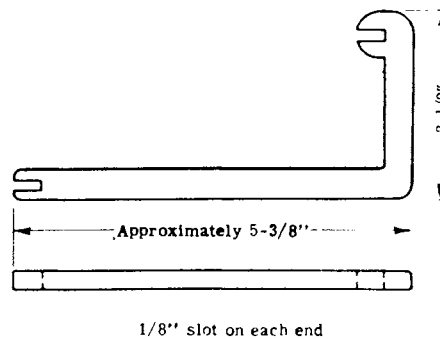
H-881603-1



For use with Type 57-A relays

ADJUSTER, VERTICAL ARMATURE

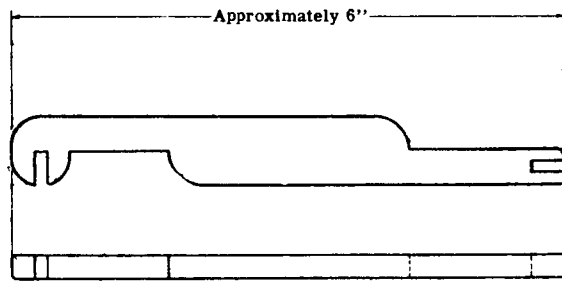
H-13398-1



For use on Strowger switch vertical armature

ADJUSTER, VERTICAL ARMATURE

H-13700

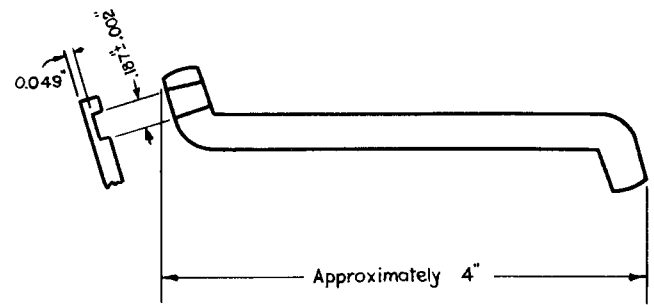


1/8" slot on each end

For use on Strowger switch vertical and rotary armature

ADJUSTER, STEPPING TOOL

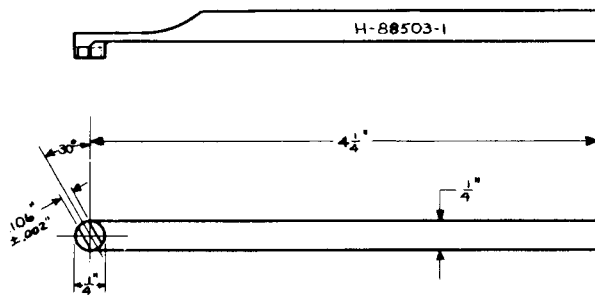
H-881384-1



For use with type 44 rotary switch

ADJUSTER, ARMATURE

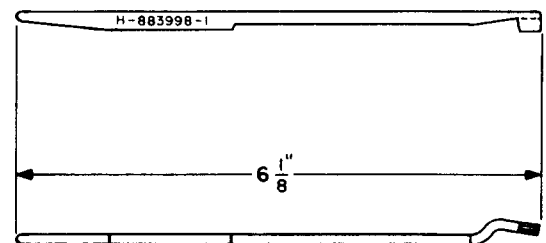
H-88503-1



For use on Type 57-A relay

ADJUSTER, SPRING

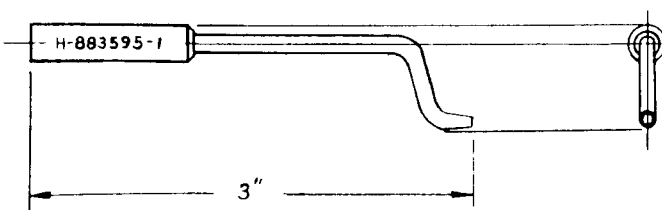
H-883998-1



For use on BarRelay (Type 59 Detector).

ADJUSTER, POLE PIECES

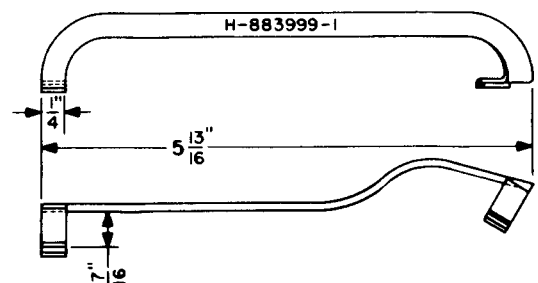
H-883595-1



For use on polarized relay

ADJUSTER, SPRING

H-883999-1



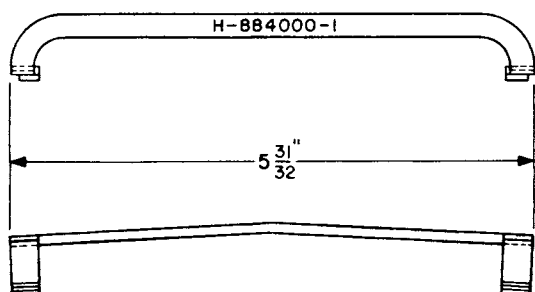
For use on BarRelay (Type 59 Detector).

ADJUSTER, SPRING

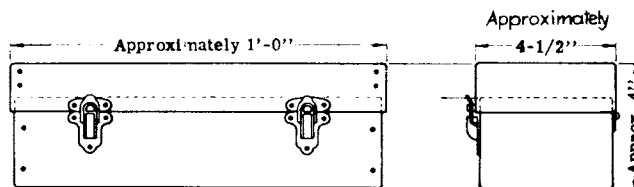
H-884000-1

BOX, STEEL TOOL

H-46556



For use on BarRelay (Type 59 Detector).



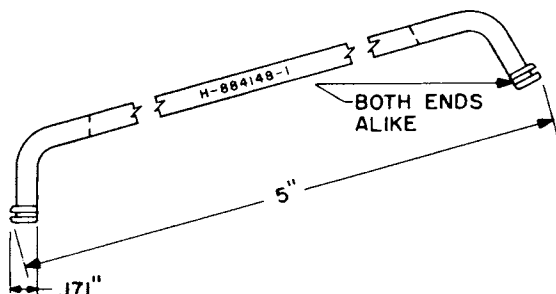
For general use

ADJUSTER, SPRING

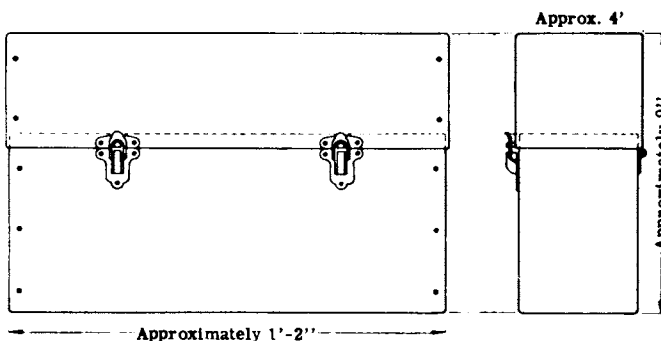
H-884148-1

BOX, STEEL, BLUEPRINT

H-46557



For Class E relay.



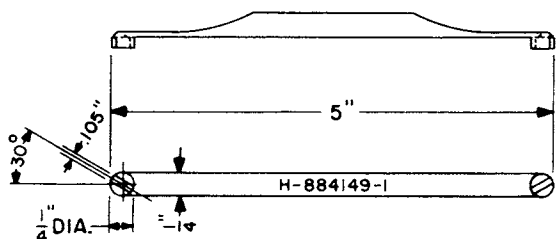
For use in holding maintenance prints

ADJUSTER, BACKSTOP and
ARMATURE ARM

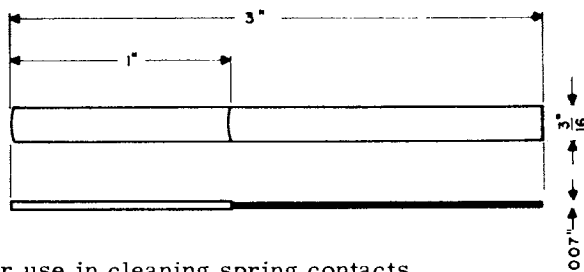
H-884149-1

BURNISHER, CONTACT
SMOOTH FINISH

H-883699-1



For Class E relay.



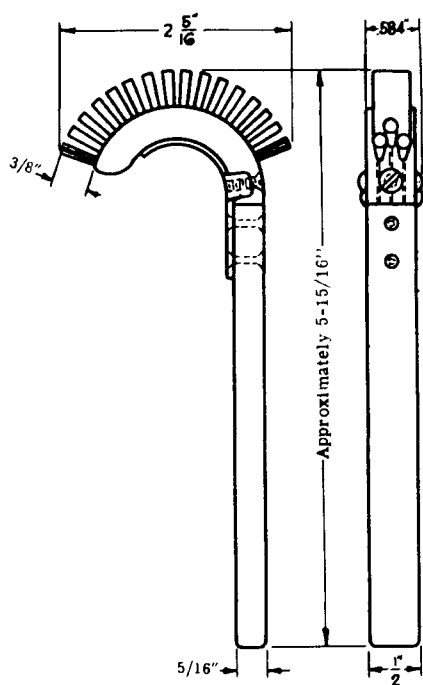
For use in cleaning spring contacts.

BRUSH, BANK CLEANING

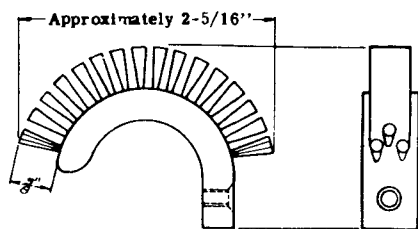
H-88844-1
and 2

CLEANING TOOLS

H-56628-1
and 2

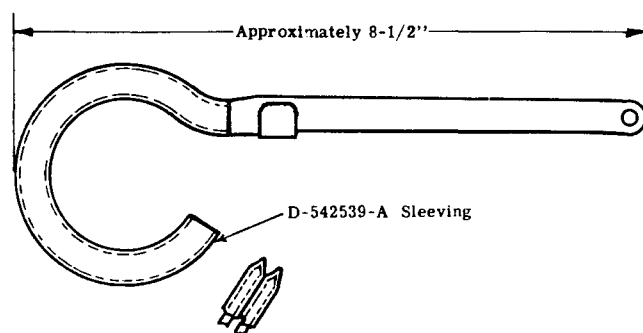


ASSEM. 1



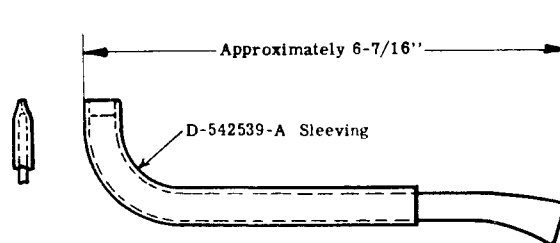
ASSEM. 2

For use in cleaning Strowger switch banks



Type 13 and 14 rotary switch

H-56628-1



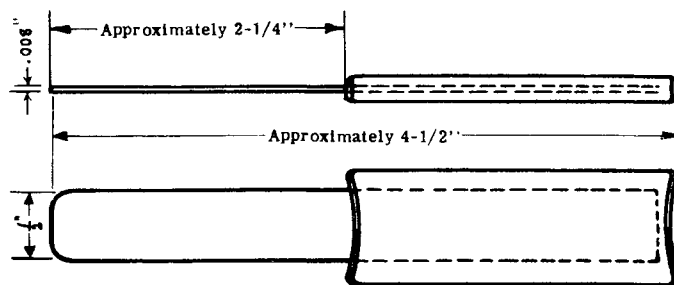
Type 13, 14, and 45 rotary switch

H-56628-2

For use on rotary lineswitch banks

CLEANING TOOL

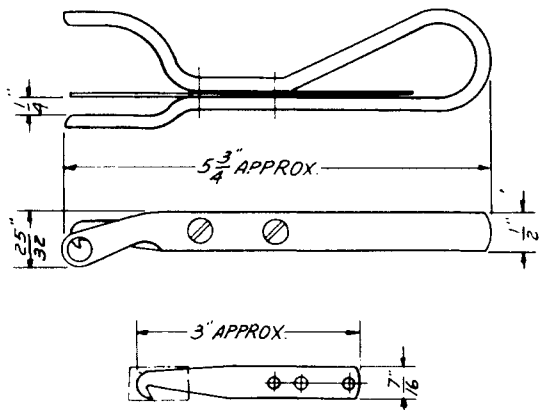
H-47386-1



For use on rotary switch wiper spring hubs and banks

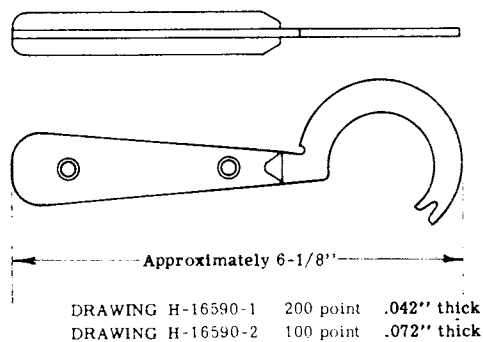
CABLE STRIPPER

H-884210-1



CLEANING TOOL, BANK

H-16590-1
and 2

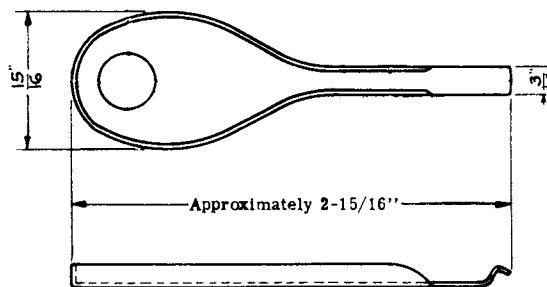


DRAWING H-16590-1 200 point .042" thick
DRAWING H-16590-2 100 point .072" thick

For use on Strowger switch banks

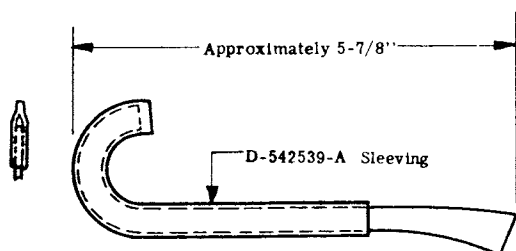
DIAL ESCUTCHEON TOOL

H-26917



CLEANING TOOL

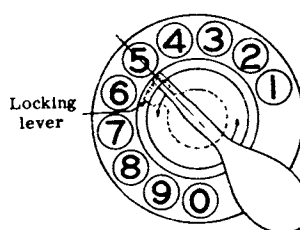
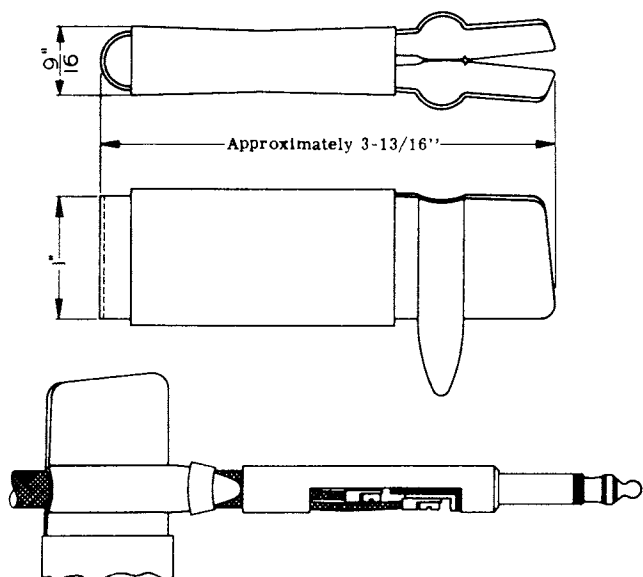
H-56628-4



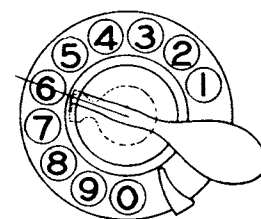
For use on Type 44 rotary switch banks

CLIP, PLUG CUSHION PLACING

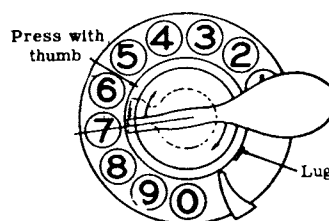
H-883348-1



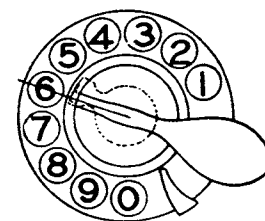
TO UNLOCK ESCUTCHEON RING



ESCUTCHEON RING UNLOCKED



TO LOCK ESCUTCHEON RING



ESCUTCHEON RING LOCKED

For use in removing dial escutcheon

For use in putting plug cushion over plug and on cord

EXTRACTOR, LAMP

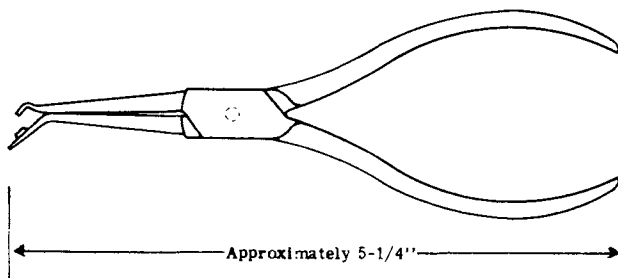
H-885224-1



For use in removing switchboard lamps

EXTRACTOR, HEAT COIL

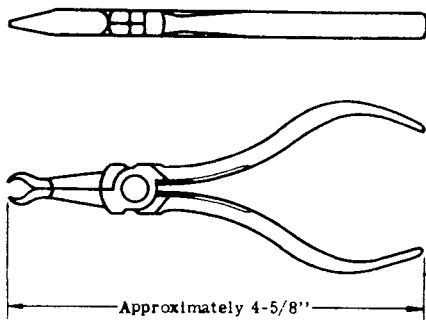
H-44514-1



For use in removing Automatic Electric Company Type 676 heat coils

EXTRACTOR, LAMP CAP

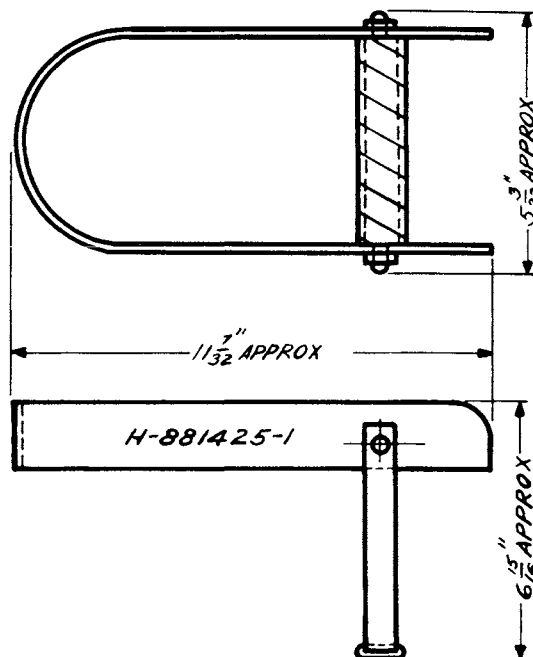
H-883114-1



For use in extracting lamp caps, number plates and W. E. Co. heat coils

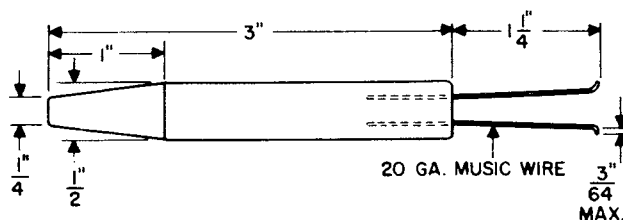
EXTRACTOR, MULTI-JACK

H-881425-1



EXTRACTOR, BUSHING

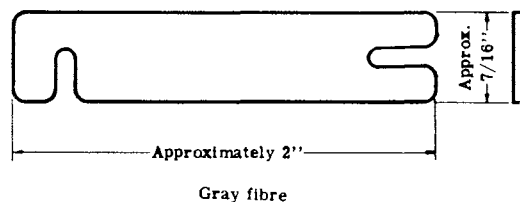
H-884696-1



For use in inserting or extracting the insulating bushing of lamp jack assemblies (D-42733-A)

FUSE, DUMMY

D-57043-A



For use in vacant alarm type fuse locations

FUSE REPAIR KIT

H-14315-1

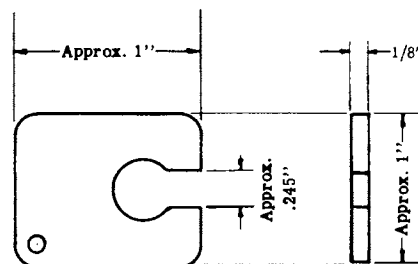
GAUGE, MANUAL BOARD PLUG

MP-5127-A

Flux Automatic Electric Company Specification 2003
Fuse wire Automatic Electric Company Specification 5129
 (1-1/3, 3 and 5 amperes)
Solder Automatic Electric Company Specification 2001

Consisting of fuse wire, solder, soldering flux and sandpaper

For use with indicating and alarm fuses

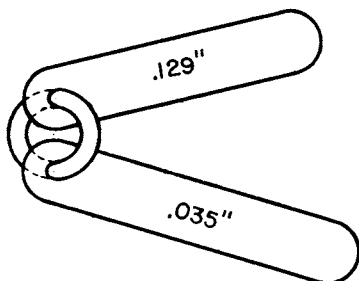


Opening .245" max., .2445" min.

For use in checking worn plugs

GAUGES, PAYSTATION

H-46795-53

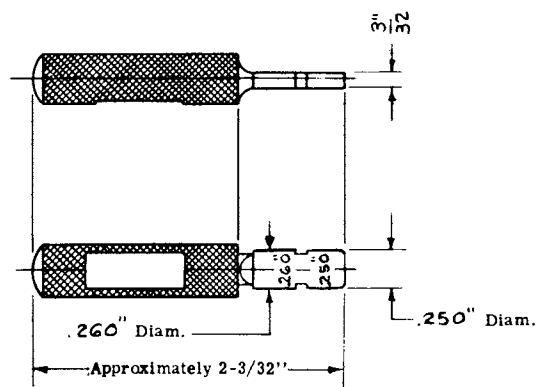


DETAIL NO. 4

For use in adjusting polar relay of pre-pay and post-pay paystations (thickness, feeler gauges)

GAUGE, JACK SLEEVE

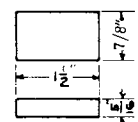
H-88409



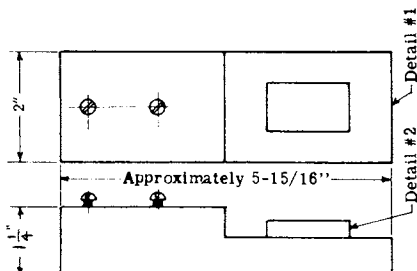
For use on manual switchboard jacks

GAUGE BLOCK, LINE SWITCH PLUNGER

H-7541-3



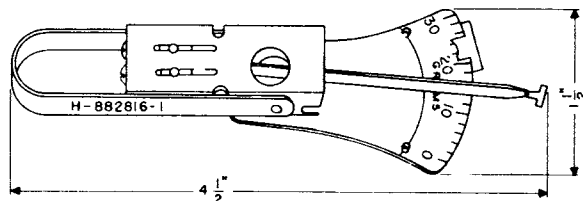
GAUGE BLOCK
DET. #2



For use in adjusting plunger of plunger lineswitch

GAUGE

H-882816-1
and 2



0-30 Grams (H-882816-1)
0-150 Grams (H-882816-2)

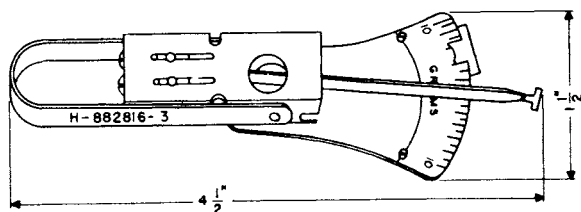
For general use

GAUGE

H-882816-3
and 4

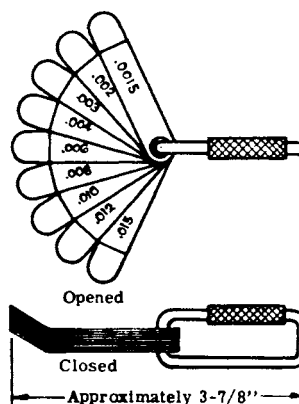
GAUGES, THICKNESS

H-46795-1 and 50



10-0-10 Grams (H-882816-3)
50-0-50 Grams (H-882816-4)

For use in adjusting SATT (Strowger Automatic Toll Ticketing) dial springs



Assem. 1

ASSEM. 1

.0015 "
.002 "
.003 "
.004 "
.006 "
.008 "
.010 "
.012 "
.015 "

ASSEM. 50

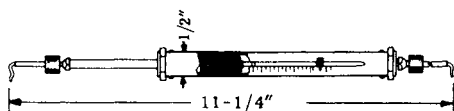
(* Gauge width tapered)

.002 " .011 "
.003 " .012 "
.004 " * .012 "
.005 " .013 "
.006 " .014 "
.007 " .015 "
.008 " .016 "
.009 " * .016 "
.010 " .017 "
* .010 " .018 "

GAUGE, PUSH-PULL TENSION

H-884369-2

For general use

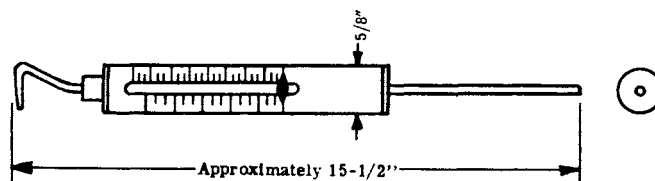


0-1000 Grams

For general use

GAUGE, PUSH-PULL TENSION

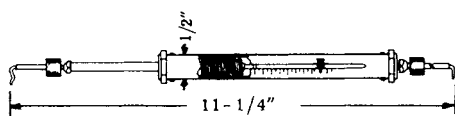
H-881513-1



0-500 Grams (Accurate 75 to 500)
0-16 Ounces

GAUGE, PUSH-PULL TENSION

H-884369-1



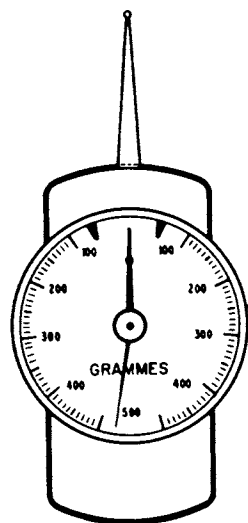
0-200 Grams

For general use

For general maintenance use and measuring tension on retractile, "double dog" and interrupter springs on Strowger and other types of switches.
(An inexpensive gauge for use in the horizontal position only)

GAUGE, STYLUS PRESSURE

H-885287



ASSEM. 1

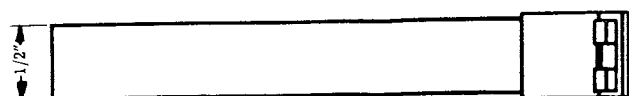
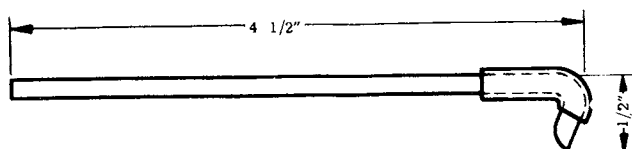
ASSEM. 2

ASSEM. 3

25-250 Grams. 100-500 Grams. 100-1000 Grams.

HANDLE REMOVER

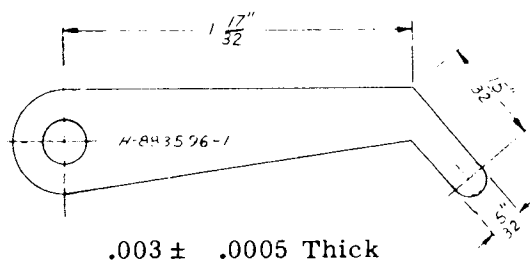
H-881419-1



For use in removing unthreaded handles of lever keys

GAUGE, THICKNESS

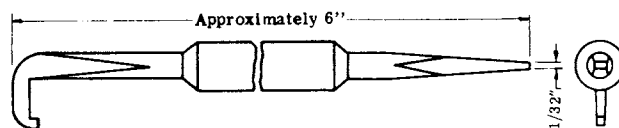
H-883596-1



For checking residual gap on polar relay

LAMP VISUAL FACE TOOL

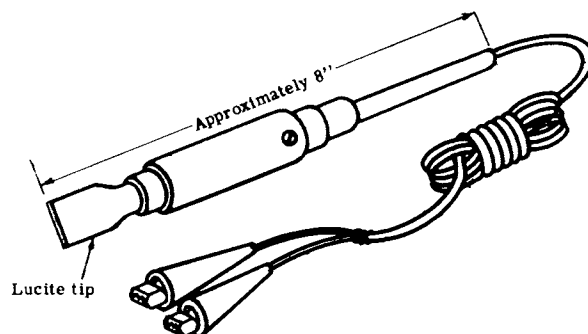
MP-4425-A



For use in removing designation strip and lamp caps from manual switch boards

LAMP, INSPECTION

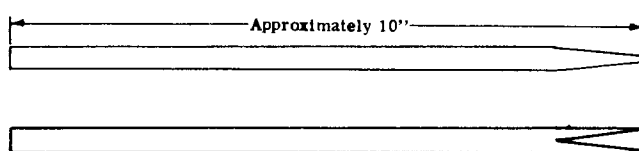
H-880922-1



For use in visual inspection and gauging of relay contacts

LINESWITCH MOUNTING TOOL

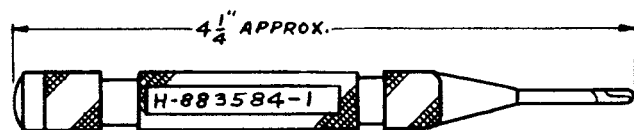
H-24528



For use in mounting plunger lineswitches

CERTI-LOK INSERTION TOOL

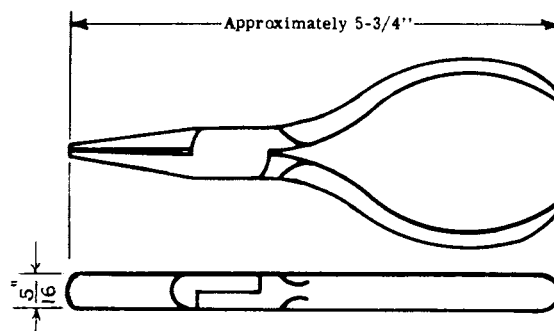
H-883584-1



For use with the detector access unit and the "D.U." field

PLIERS, DUCK BILL

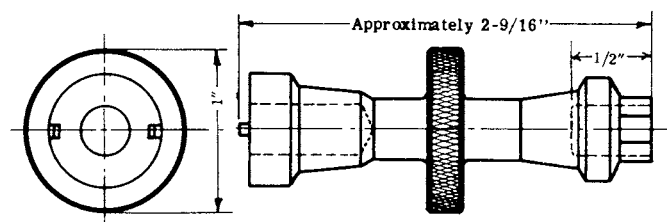
H-50620



For general use

MONOPHONE TOOL

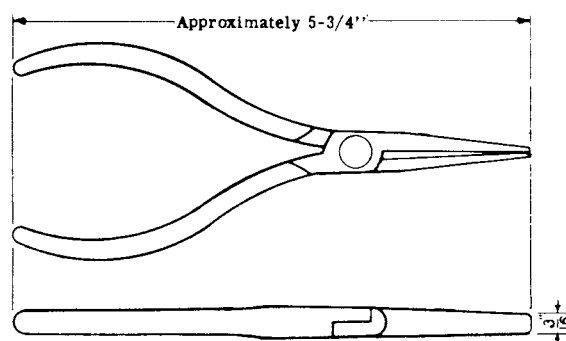
H-50754



For use on Types 1A, 31, 35A5 and 50 Monophones and Type 38 handset as a receiver earpiece wrench, a spanner wrench and with hookswitches having a collapsible (telescoping) plunger. For solid plunger use H-43172-1.

PLIERS, DUCK BILL

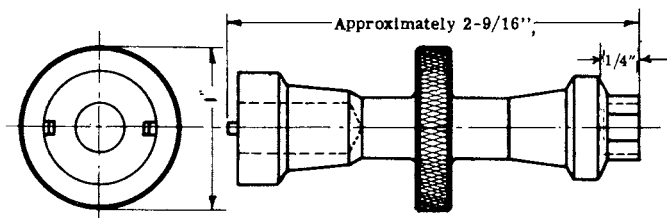
H-74611



For general use in adjusting springs on relays, switches, etc.

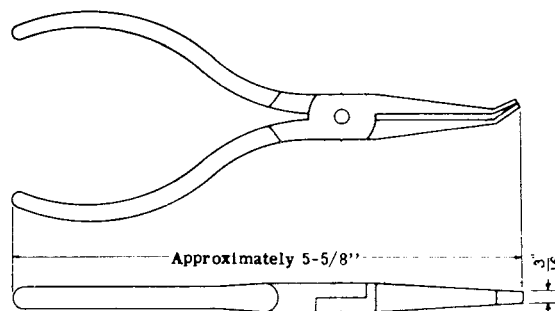
MONOPHONE TOOL

H-43172



For use on Types 1A, 31, 35A5 and 50 Monophones and Type 38 handset as a receiver earpiece wrench, a spanner wrench and with hookswitches having a solid plunger. For collapsible (telescoping) plunger use H-50754-1.

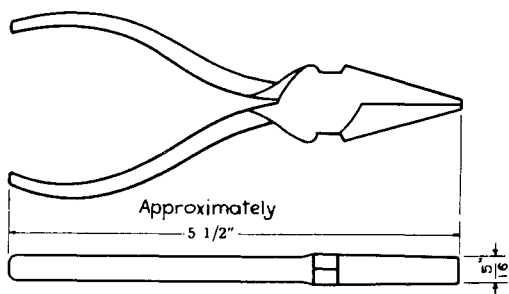
PLIERS, 30° DUCK BILL

H-88436
P-60481-3

For use with rotary cam springs and general spring adjustment. Also for use in adjusting polar relay of pre-pay and post-pay paystations (spring adjusting)

PLIERS, JACK SPRING

H-880621-1

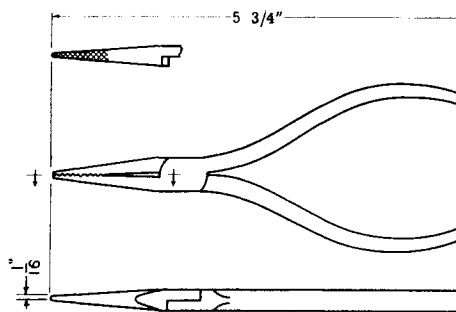


ASSEM. 1

For use in adjusting jack springs

PLIERS, LONG NOSE

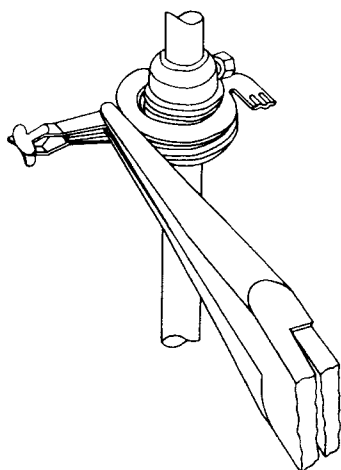
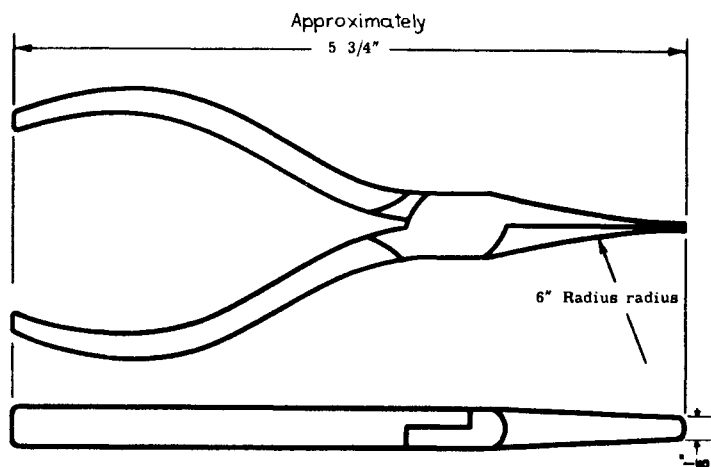
H-50619



For general use

PLIERS, SPRING ADJUSTING
(DIAL PLIERS)

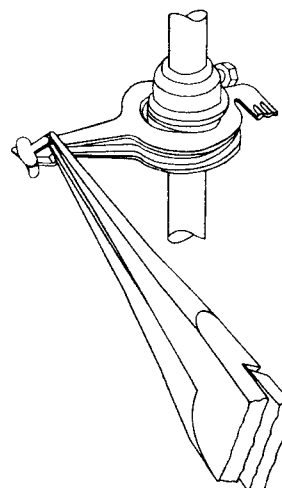
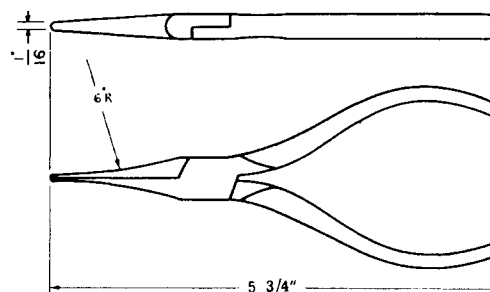
H-16290-7



For use in adjusting tension on dial governor, pulse and shunt springs, Strowger switch wipers, and tensioning master-switch governor springs.

PLIERS, WIPER SPRING AND
STROWGER SWITCH

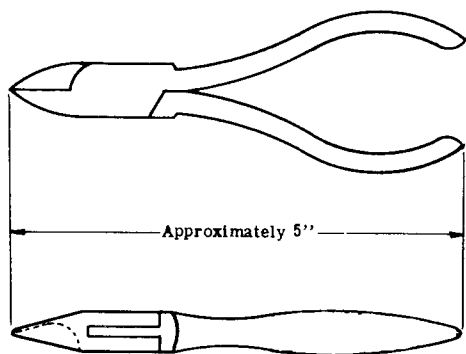
H-881637-1



For general use

PLIERS, OBLIQUE CUTTING

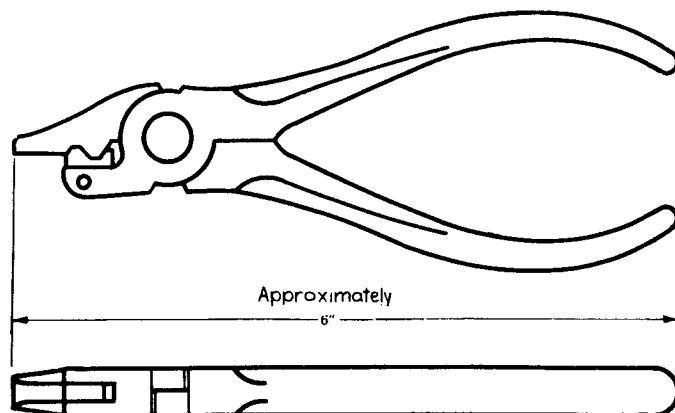
H-22945



For general use

PLIERS, WIPER

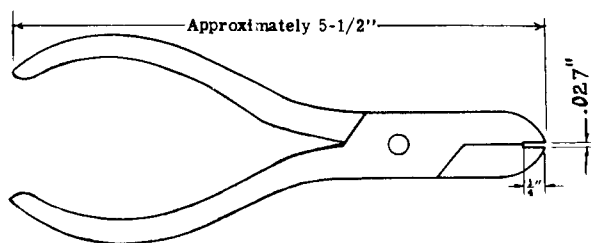
H-881674-1



For use in readjustment of Strowger switch wipers and reforming wiper tips that may be accidentally damaged

PLIERS, PAYSTATION

H-883377-1

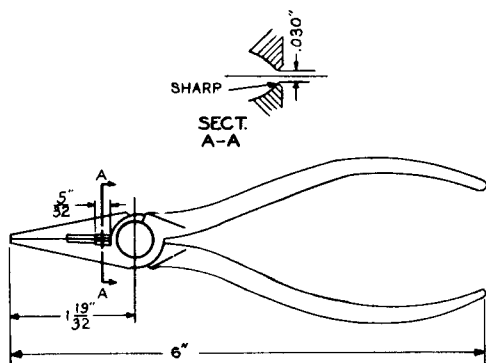


DETAIL NO. 5

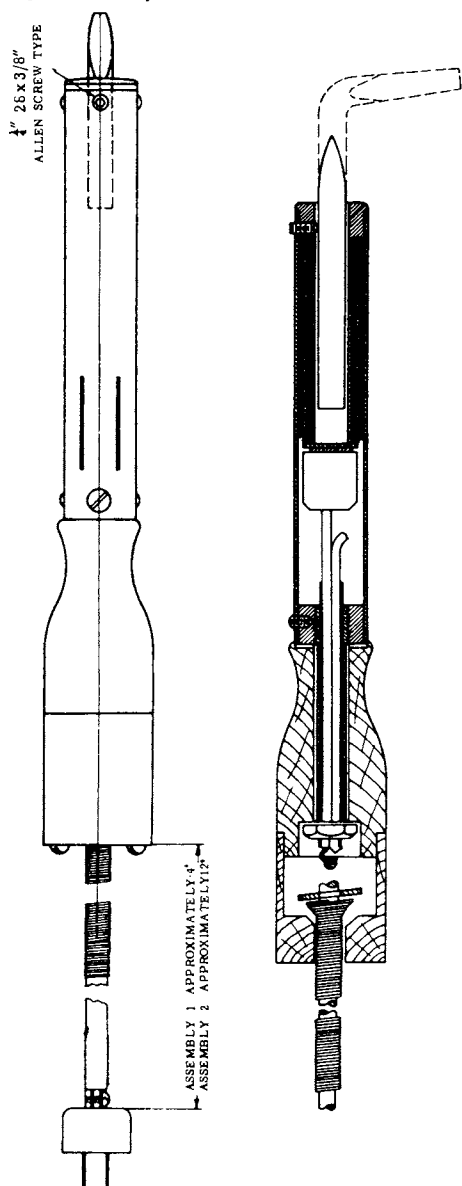
For use in adjusting polar relay of pre-pay and post-pay paystations (crimping)

PLIERS, INSULATION SKINNING

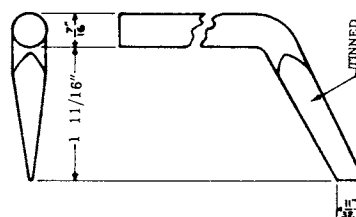
H-883312-1



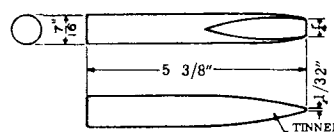
For use on P.V.C. (22 A.W.G.) wire



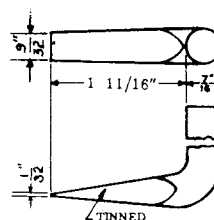
For general use



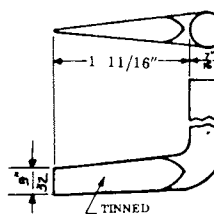
Detail #13



Detail #14



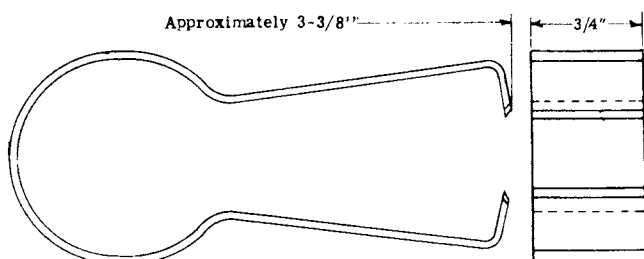
Detail #15



Detail #16

SCRAPER, WIRE

H-25906-1

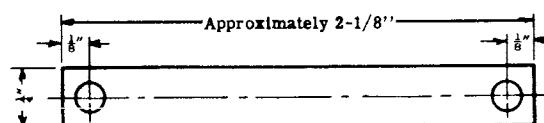


.049" Spring steel

For general use

SPACER, INSULATING

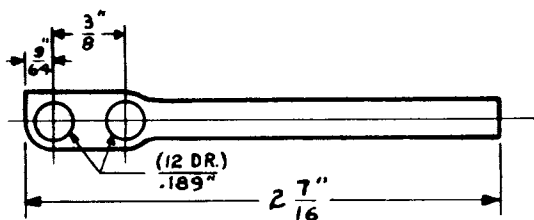
D-440197-A
and B



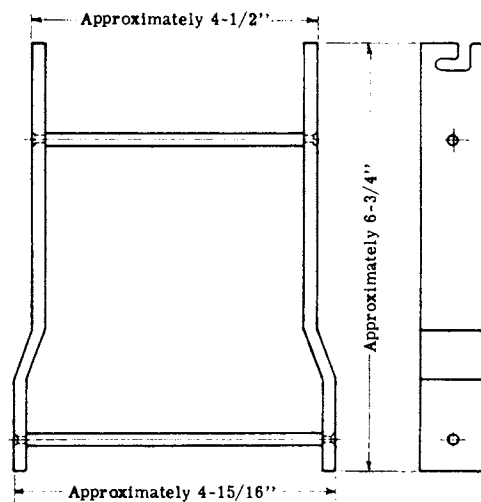
D-440197-A 1/16\" thick
D-440197-B 3/32\" thick

Red fibre

For use in blocking out lines on line and cut-off relays



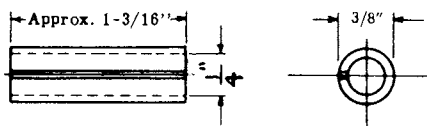
For use in separating springs on B.C.O. (bridge cut-off) relay, to insulate protector springs and to hold relay springs operated.



For use in checking rear of Strowger switch while on shelf

SLEEVE, PLUG

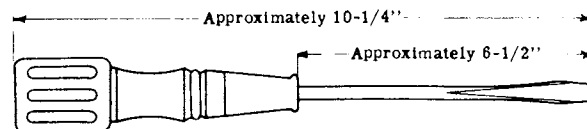
D-18175-A



For use on plug sleeve (out of order plugs)

SCREWDRIVER

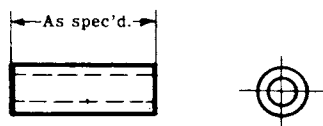
H-24664



For general use

SLEEVING, CLEANING TOOL

D-542539-A



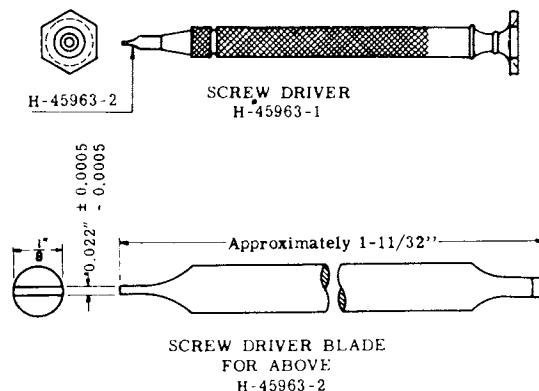
D-542539-A Packed Dry (Order per foot)
H-880842-1 (90 ft. can with bottle of oil)
H-881496-1 (90 ft.) abrasive webbing

See Bulletin No. 506 "Care of Strowger Switch Bank Contacts" for other materials and instructions

For use with 100 and 200 point bank cleaning tools H-16590-2 and 1 respectively.

SCREWDRIVER

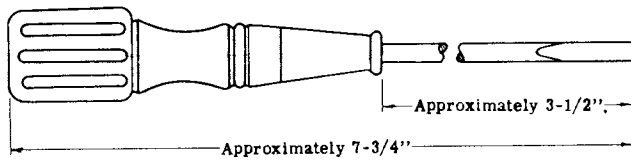
H-45963-1 and 2



For use on power supervisor's board

SCREWDRIVER

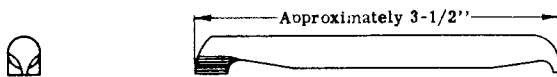
H-880622-1



For general use

SCREWDRIVER, OFF-SET

H-21766

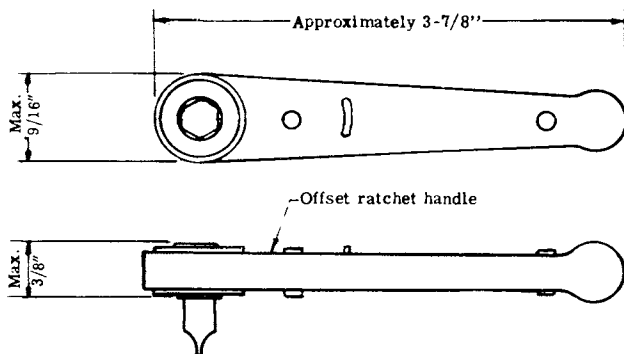


Blade on each end .037" maximum thickness

For general use

SCREWDRIVER,
RIGHT ANGLE RATCHET

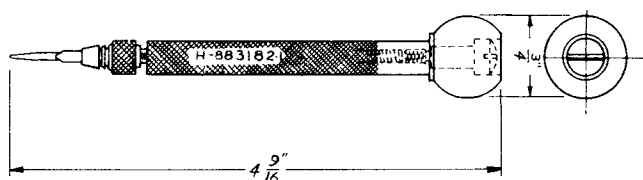
H-47754-1



For use on short lever relay armature and general use

SCREWDRIVER, GUIDE PIN

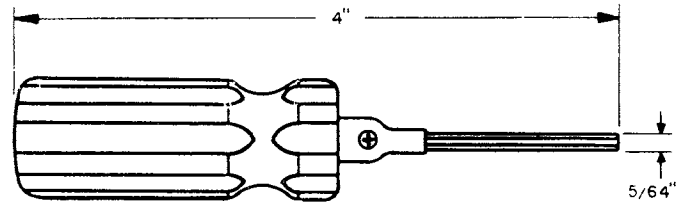
H-883182



For use on switchboard cord and plug assembly

SCREWDRIVER, KEY TYPE

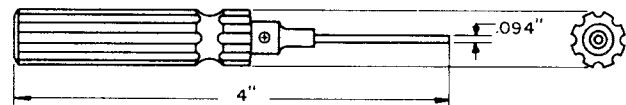
H-883794-1



For use on Model 21 I.B.M. writer assembly (ticket printer)

SCREWDRIVER, KEY TYPE

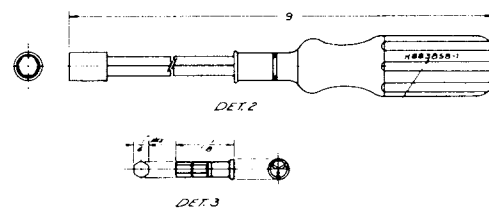
H-883822



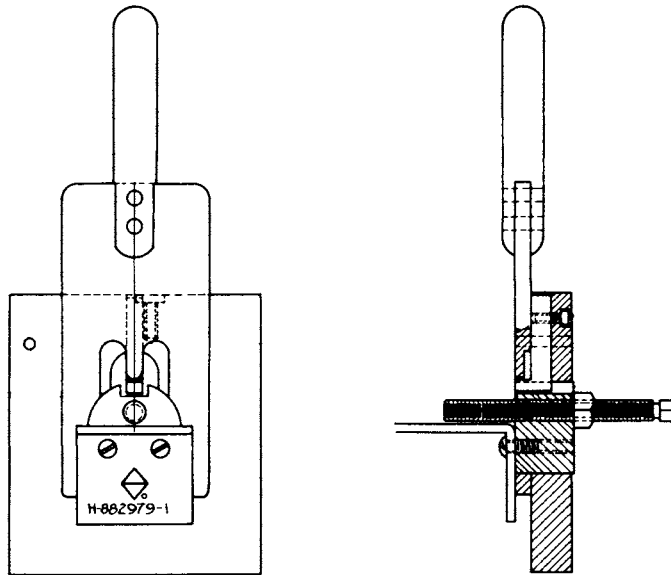
For adjusting setscrews on series PTW polar relays

SCREWDRIVER

H-883858-1



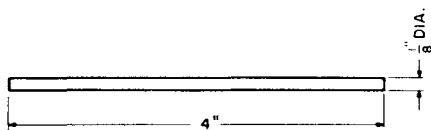
For use on 8 Holt pan head screw (emergency reporting telephone).



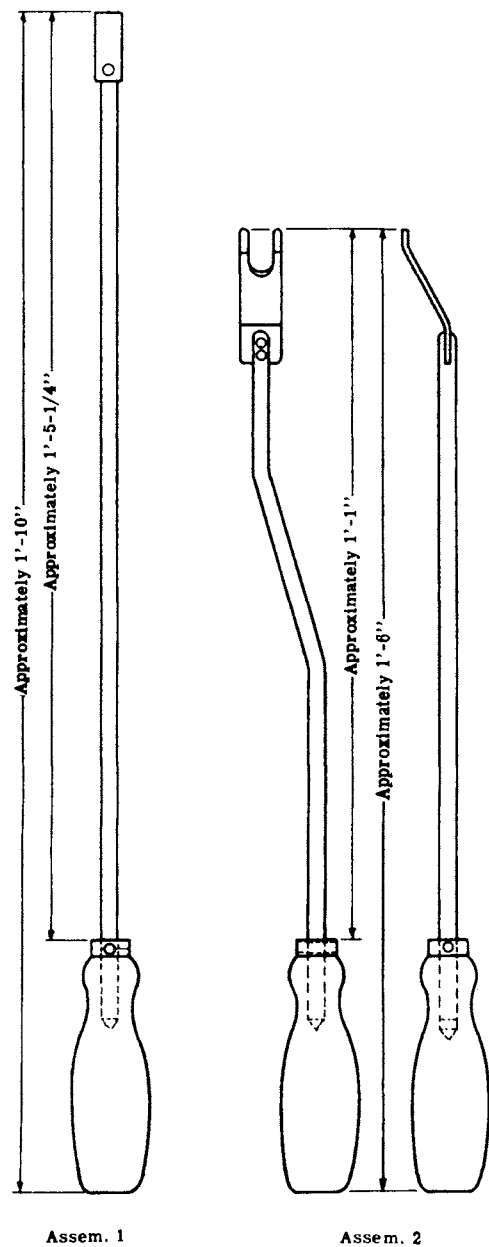
For snap-on type normal post cam.

TOOL, TENSION ADJUSTING

H-883857-1



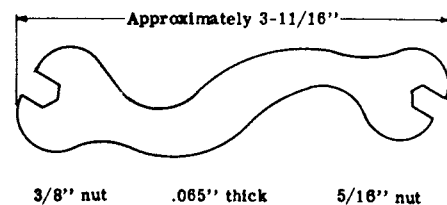
For emergency reporting telephone.



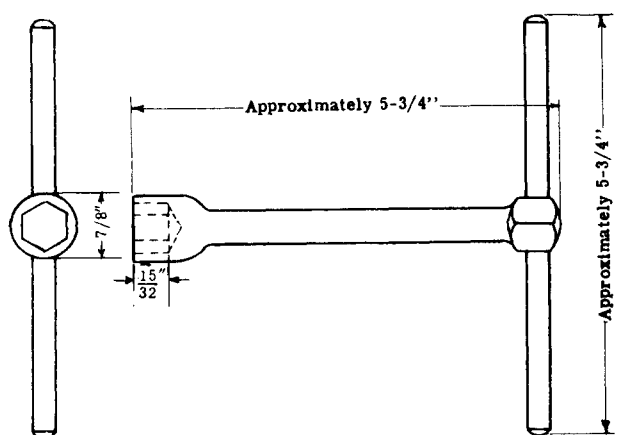
For use in mounting manual board jack strips

WRENCH, "S" HEXAGON

H-10774

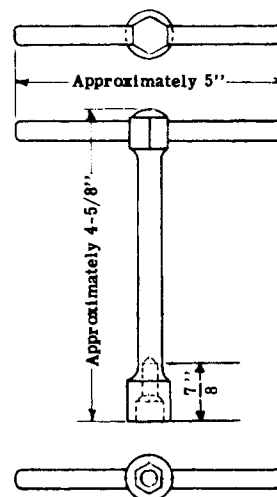


For general use



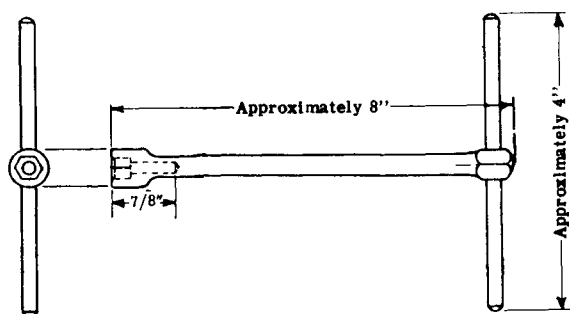
For 9/16" nut

For use on line switchboard sections



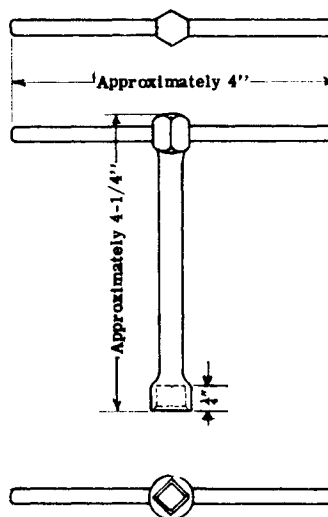
For 3/8" nut

For use on Strowger switch rotary magnets and general use



For 5/16" nut

For use on plunger lineswitch banks

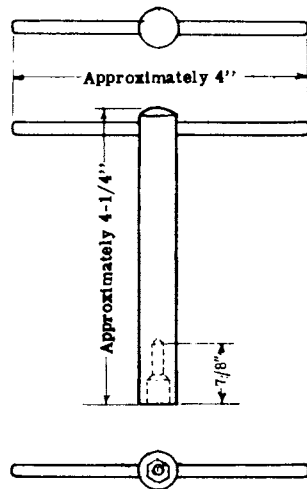


For 1/4" nut

For use on master switch shaft clamping screws

WRENCH, HEXAGON SOCKET

H-10053-1

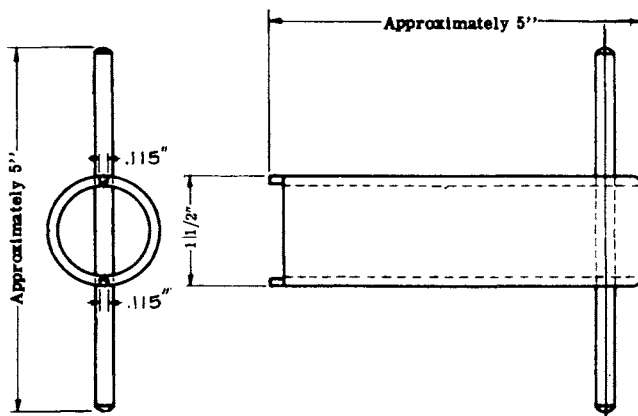


For 5/16" nut

For use on plunger lineswitches and general use

WRENCH, MONOPHONE SPANNER

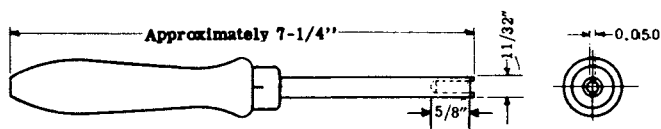
H-43173-1



For use in removing cradle from Types 1A and 31 Monophones

WRENCH, SLOTTED NUT

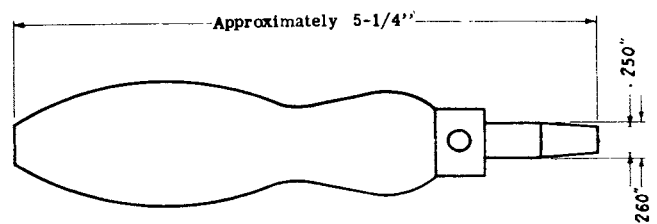
H-7065-1



For use on #8 circular slotted nuts

WRENCH, JACK THIMBLE

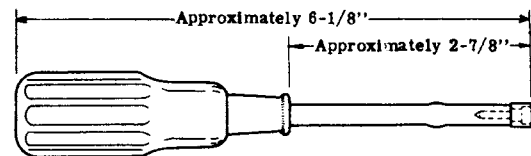
MP-1221-A



For use on jack thimble of magneto manual boards

WRENCH, SPINTITE

H-46437-1

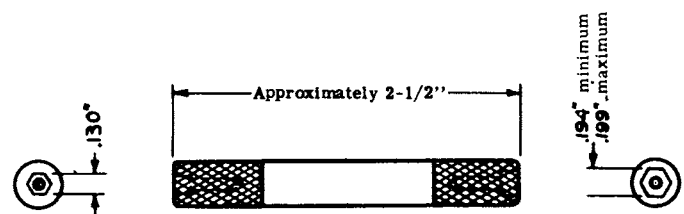


For 3/16" nut

For use in assembling wipers to Strowger switch shaft

WRENCH, CAM NUT SOCKET

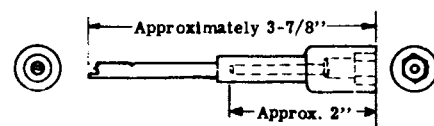
H-16480



For use on dial cam nut

WRENCH, HEXAGON SOCKET

H-10772

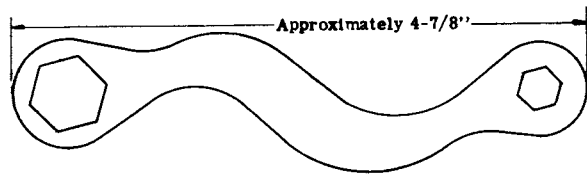


For 5/16" nut

For use on flat type terminal strip assemblies used in a hand drill or screw drivers having a chuck for holding interchangeable blades

WRENCH, "S" HEXAGON

H-20703

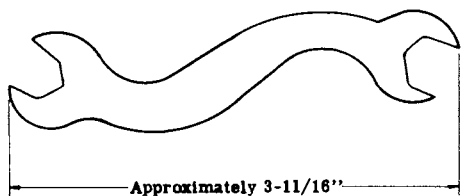


For 5/8" hexagon nut .095" thick For 5/16" hexagon nut

For use on rotary line switch Types 13 and 14

WRENCH, OPEN END

H-880773-1

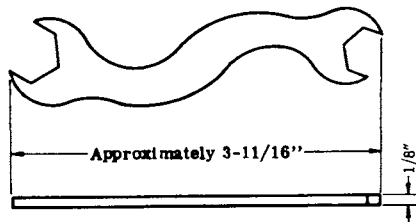


3/8" nut 1/8" thick 7/16" nut

For use with Type 44 and 45 switch

WRENCH, "S"

H-50448

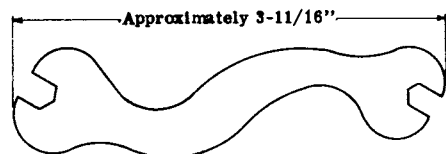


7/16" nut 9/16" nut

For use on Type 29 ringing converter and general use

WRENCH, "S"

H-7062

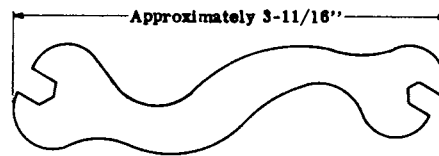


1/4" nut .065" thick 7/32" nut

For general use and adjusting residual screw on relays

WRENCH, "S"

H-7063

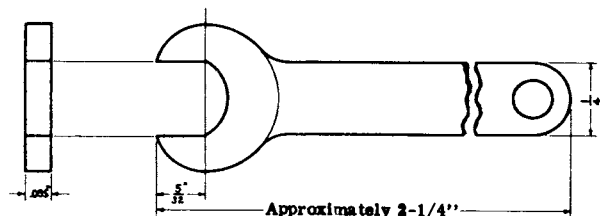


3/8" nut 1/8" thick 5/16" nut

For general use

WRENCH, DIAL

H-25937

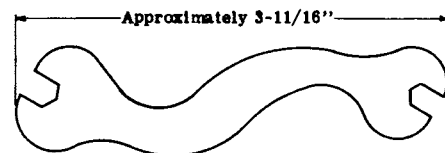


Opening .256" max., .253" min.

For use on dial governor and cam nut

WRENCH, "S"

H-20309

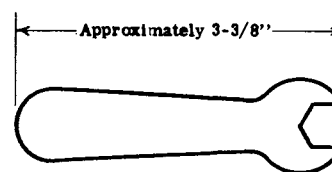


5/16" nut 1/8" thick 7/32" nut

For use on harmonic ringer

WRENCH, PAYSTATION

H-883376-1

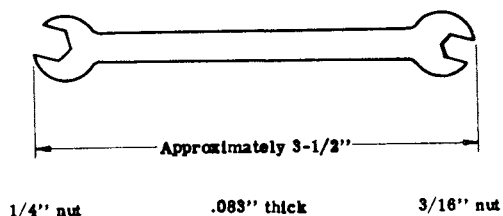


DETAIL NO. 2
3/16" THICK
5/16" nut

For use in adjusting polar relay of pre-pay and post-pay paystations (tightening pivot screw lock nut)

WRENCH, OPEN END

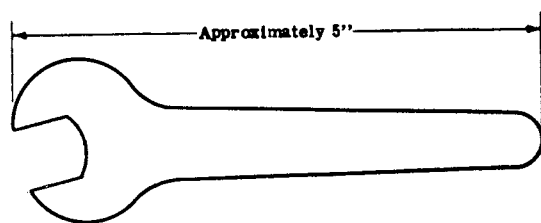
H-880772-1



For use with Type 44 and 45 rotary switch

WRENCH, END

H-23865

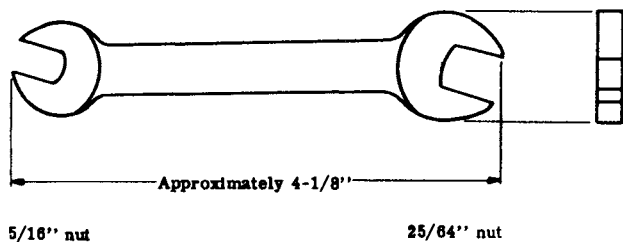


5/8" nut

For use on rotary lineswitch armature adjusting screw

WRENCH, OPEN END

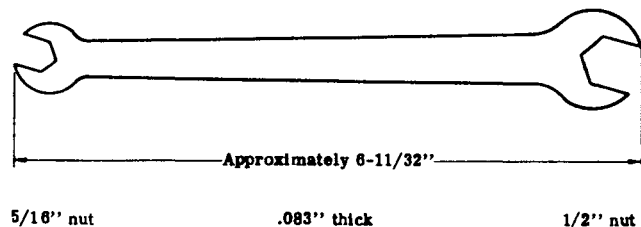
H-880672-1



For use on Strowger switch vertical and rotary magnet locking cap and general use

WRENCH, OPEN END

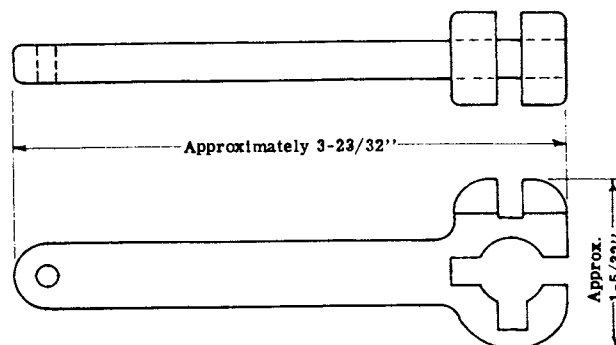
H-880771-1



For use on Type 45 rotary switch

WRENCH, WIPER

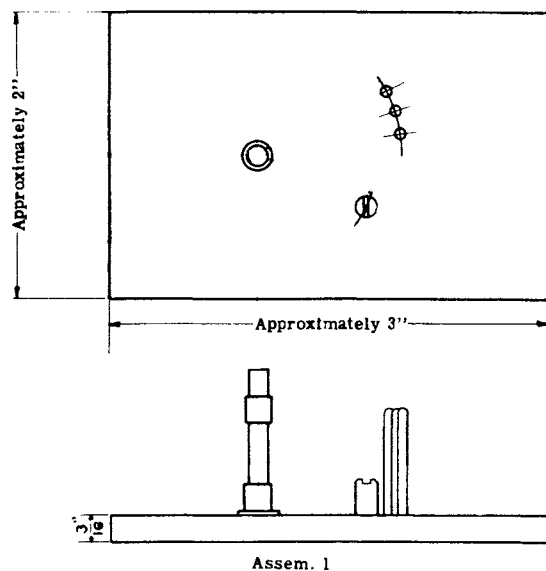
H-7057



For use on Strowger switch wiper with threaded hub and nut

WIPER, ASSEMBLY TOOL

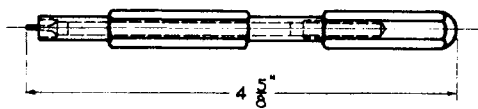
H-50829-1



For use in reassembling minor switch wiper

WRENCH, HEXAGON SOCKET, DOUBLE-END WITH SCREW-DRIVER

H-883772-1



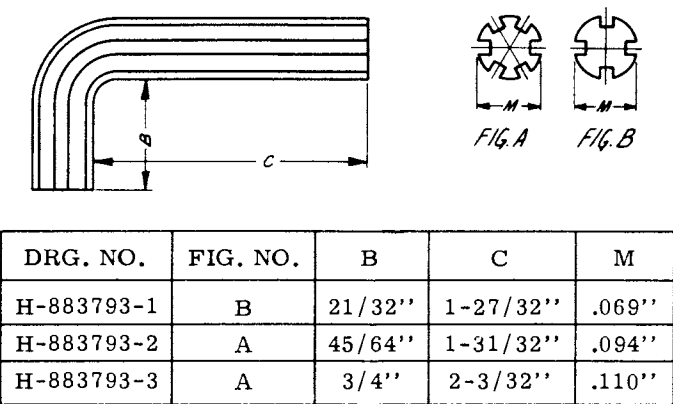
For use in adjusting relay armature residual screws and nuts (Engages 7/32" and 1/4" hexagon nuts) (Screw driver .02" thick)

WRENCH, SOCKET KEY

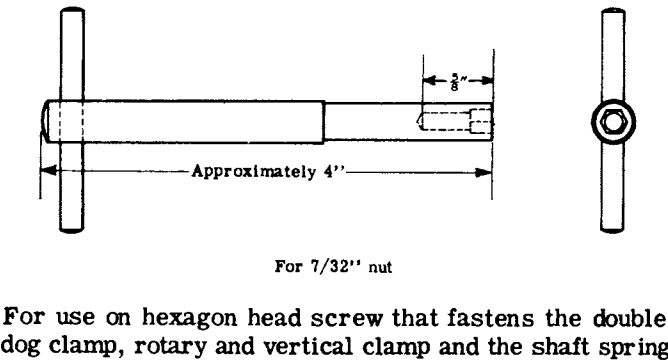
H-883793-1,
2 and 3

WRENCH, HEXAGON SOCKET

H-46440-1

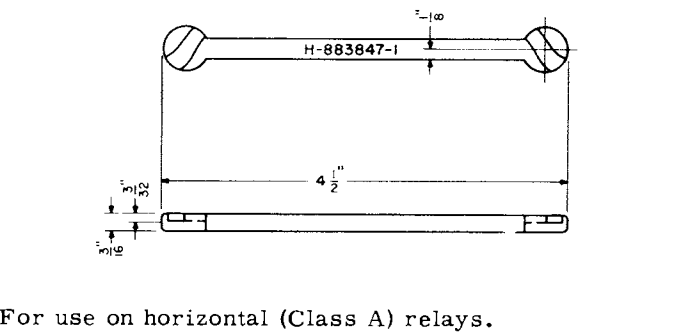


For use on Model 21 I.B.M. writer assembly (ticket printer)



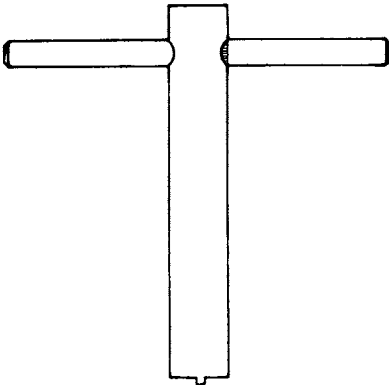
WRENCH, ARMATURE BENDING

H-883847-1



WRENCH, ROUND
CASTELLATED NUT

H-884315



For use on push and turn keys

PRODUCT-TOOL-USAGE GUIDE																										
TOOLS		PRODUCTS																								
DESCRIPTION	PART NO.	STEPPING SWITCHES					RELAYS								MISCELLANEOUS											
		STROWGER (2 MOTION)	MINOR SWITCH (10 Point)	Type 13 (25 Point)	Type 14 (50 Point)	Type 26 (11 Point)	Type 44 (10 Point)	Type 45 (25 or 50 Point)	Horiz. Class "A" & Type 28 Class "Z,"	Type 57-A Class "B"	Type 58-A Class "C"	Class "E"	Type 10 Class "F"	Type 27 Class "M"	Rotor Relay and BarRelay	Class S	Series YQA (Codel)	DIAL	KEYS - LEVER, PUSH and TURN	LAMP JACK STRIPS	MONOPHONE	PLUG JACK STRIPS	SLEEVE MOUNTING JACK	TARGET INDICATOR	MASTER-SWITCH AND PLUNGER LINESWITCH	
Wrench, Open End	H-880771-1						X																			
Wrench, Open End	H-880772-1						X	X			X															
Wrench, Open End	H-880773-1						X	X																		
Adjuster, Stepping Tool	H-881384-1						X																			
Handle Remover	H-881419-1																	X								
Adjuster, Spring	H-881602-1 & 2								X																	
Adjuster, Spring	H-881603-1								X																	
Pliers, Wiper Spring	H-881637-1	X																								
Pliers, Wiper	H-881674-1	X																								
Adjuster, Bk stop & Arm.	H-884149-1									X																
Adjuster, Spring	H-881859-1								X																	
Adjuster, Spring	H-88385												X													
Adjuster, Spring	H-88390																	X								
Gauge, Jack Sleeve	H-88409																			X						
Pliers, Duck Bill 30 ^o	H-88436	X							X												X					
Adjuster, Armature	H-88502-1							X	X																	
Adjuster, Spring	H-88504-1 & 2								X																	
Brush Bank Cleaning	H-88844-1 & 2	X																								
Wrench, Jack Fastener	M-6656-1 & 2																		X		X					
Wrench, Jack Thimble	MP-1221-A																						X			
Lamp, Visual Face Tool	MP-4425-A																		X							
Gauge, Manual	MP-5127-A																				X					
Wrench, Hexagon Socket	H-883772-1							X																		
Extractor, Lamp Cap	H-883114-1																		X							
Extractor, Lamp	H-885224-1																		X							
Tool, Bending	H-882979-1	X																								
Wrench, Arm. Bending	H-883847-1							X																		
Adjuster, Spring	H-883998-1														X											
Adjuster, Spring	H-883999-1														X											
Adjuster, Spring	H-884000-1													X												
Adjuster, Spring	H-884148-1									X																
Wrench Castellated Nut	H-884315-1																	X								

PRODUCT-TOOL-USAGE GUIDE

TOOLS		PRODUCTS																								
DESCRIPTION	PART NO.	STEPPING SWITCHES							RELAYS										MISCELLANEOUS							
		STROWGER (2 MOTION)	MINOR SWITCH (10 Point)	Type 13 (25 Point)	Type 14 (50 Point)	Type 26 (11 Point)	Type 44 (10 Point)	Type 45 (25 or 50 Point)	Horiz. Class "A" & Type 28 Class "Z"	Type 57-A Class "B"	Type 58-A Class "C"	Class "E"	Type 10 Class "F"	Type 27 Class "M"	Rotor Relay and BarRelay Class S	Series YQA (Codel)	DIAL	KEYS - LEVER, PUSH and TURN	LAMP JACK STRIPS	MONOPHONE	PLUG JACK STRIPS	SLEEVE MOUNTING JACK	TARGET INDICATOR	MASTER-SWITCH AND PLUNGER LINESWITCH		
Lineswitch, Mounting Tool	H-24528																							X		
Adjuster, Spring	H-24600		X						X																	
Wrench, Dial	H-25937																X									
Dial, Escutcheon Tool	H-26917																			X						
Adjuster, Spring	H-42873		X						X	X		X														
Burnisher, Contact	H-883699-1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X		X		
Monophone Tool	H-43172																			X						
Wrench, Mono. Spanner	H-43173-1																			X						
Adjuster, Spring	H-44359													X												
Adjuster, Spring	H-45590													X												
Adjuster, Armature Stop	H-46410																						X			
Adjuster, Spring	H-46411																						X			
Adjuster, Spring Holder	H-46412																						X			
Adjuster, Detent	H-46413																						X			
Wrench, Spintite	H-46437-1	X																								
Wrench, Hexagon Socket	H-46440-1	X																								
Gauge, Thickness	H-46795-1 & 50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							X		
Adjuster, Spring	H-46974-1														X											
Adjuster, Spring	H-46975-1														X											
Adjuster, Cam	H-47202	X																								
Cleaning Tool	H-47386-1		X	X	X	X	X	X																		
Pliers, Duck Bill	H-50620						X	X																		
Monophone Tool	H-50754																			X						
Wiper, Assembly Tool	H-50829-1		X																							
Adjuster, Armature	H-56518												X													
Cleaning Tools	H-56628-1 & 2			X	X																					
Cleaning Tool	H-56628-4			X	X	X		X																		
Adjuster, Spring	H-64670														X											
Adjuster, Spring	H-64980															X										
Pliers, Jack Spring	H-880621-1																			X						
Wrench, Open End	H-880672-1	X																								
Wrench, End	H-23865			X	X	X																				

PRODUCT-TOOL-USAGE GUIDE																								
TOOLS		PRODUCTS																						
DESCRIPTION	PART NO.	STEPPING SWITCHES						RELAYS						MISCELLANEOUS										
		STROWGER (2 MOTION)	MINOR SWITCH (10 Point)	Type 13 (25 Point)	Type 14 (50 Point)	Type 26 (11 Point)	Type 44 (10 Point)	Type 45 (25 or 50 Point)	Horiz. Class "A" & Type 28 Class "Z"	Type 57-A Class "B"	Type 58-A Class "C"	Class "E"	Type 10 Class "F"	Type 27 Class "M"	Rotor Relay and BarRelay Class S	Series YQA (Codel)	DIAL	KEYS - LEVER, PUSH and TURN	LAMP JACK STRIPS	MONOPHONE	PLUG JACK STRIPS	SLEEVE MOUNTING JACK	TARGET INDICATOR	MASTER-SWITCH AND PLUNGER LINESWITCH
Spacer, Insulating	D-44757-A	X																						
Sleeving, Cleaning Tool	D-542539-A	X	X	X	X	X		X																
Adjuster, Armature	H-7056	X																						
Wrench, Wiper	H-7057	X																						
Wrench, Hexagon Socket	H-7058-1	X		X	X	X																		
Adjuster, Spring	H-7059																		X					
Wrench, Square Socket	H-7061-1																							X
Wrench, "S"	H-7062	X		X	X	X			X	X	X			X										X
Wrench, "S"	H-7063	X																						
Adjuster, Spring	H-7066								X	X		X												X
Adjuster, Double Dog	H-7067	X																						
Adjuster, Bank Contact	H-7068-3																							X
Gauge Blk., Plunger L.Sw.	H-7541-3																							X
Adjuster, Plunger Arm	H-10001-3																							X
Wrench,Hexagon Socket	H-10053-1																							X
Wrench, Hexagon Socket	H-11841-1																							X
Adjuster, Vert. Armature	H-13398-1	X																						
Adjuster, Vert. Armature	H-13700	X																						
Adjuster, Frame	H-13701																							X
Wrench, Hexagon Socket	H-13748-1												X											X
Adjuster, Armature	H-14768								X	X		X												
Adjuster, Armature Stop	H-14769								X															
Pliers, Spring Adjusting	H-16290-7	X														X								
Wrench, Cam Nut Socket	H-16480															X								
Cleaning Tool, Bank	H-16590-1 & 2	X																						
Adjuster, Spring	H-20179-1			X	X	X																		
Adjuster, Spring	H-20777		X						X	X		X												
Adjuster, Rotary Pawl	H-23413-1	X																						

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		H-46716-1	4
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