

CHANCE[®]

Insulated Hand Tools

Catalog 2100 May 2014



Insulated Hand Tools -2100

Live-Line Work Minimum Approach Distances						
Nominal Voltage in Kilovolts Phase-to-Phase		Distance				
		Phase-to-ground exposure		Phase-to-phase exposure		
		(ft.-in.)	(m)	(ft.-in.)	(m)	
0.05	to 1.0	*	*	*	*	
1.1	to 15.0	2-1	0.64	2-2	0.66	
15.1	to 36.0	2-4	0.72	2-7	0.77	
36.1	to 46.0	2-7	0.77	2-10	0.85	
46.1	to 72.5	3-0	0.90	3-6	1.05	
72.6	to 121	3-2	0.95	4-3	1.29	
138	to 145	3-7	1.09	4-11	1.50	
161	to 169	4-0	1.22	5-8	1.71	
230	to 242	5-3	1.59	7-6	2.27	
345	to 362	8-6	2.59	12-6	3.80	
500	to 550	11-3	3.42	18-1	5.50	
765	to 800	14-11	4.53	26-0	7.91	

• Distances agree with OSHA guidelines in Table R-6 of the Federal Register published 1/31/94. These distances take into consideration the highest switching surge an employee will be exposed to on any system with air as the insulating medium and the maximum voltages shown.

• The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.

*Avoid contact.



Grip-All Clampsticks External Control Rod

- External Operating Rod Type
- Tested per OSHA & ASTM F711
- Versatile tool puts an easy-to-control "finger" on an insulated pole
- Primarily designed for installing hot-line and grounding clamps
- Also serves both overhead and underground circuits with various end fittings

Operation

- Operating mechanism (or "shotgun") incorporates a sliding hand grip that opens the hook to grasp a clamp eyescrew and retract it into tool head
- Latch must be depressed to release locked hand grip that opens the hook
- For smooth operation, investment-cast stainless-steel components include Jaw, Jaw Holder, Safety Stop, Lockbar and Latch illustrated below
- Lexan® tool head is designed for close-quarter operations
- Worker must maintain recommended work distance based solely on the Epoxiglas® pole section of the handle, as the hook and its actuator are metal parts
- Easy-care Grip-All Clampsticks do not require field stripping to clean
- All insulated parts, including the operating rod, are outside the main pole, readily accessible to wipe dry



To accept grounding clamps with long eyescrews, all Grip-All clampsticks feature 6¾ inches of head travel.

Notch in tool head aligns the clamp while the operator places it.



Single-Piece Style

†Catalog No.	Overall Length	Weight	*Storage Bag
C4030291	1¼" x 4' 9"	5¾ lb./2.6 kg.	P6434
C4030292	1¼" x 6' 8"	6½ lb./2.9 kg.	P6436
C4030293	1¼" x 8' 7"	7¼ lb./3.3 kg.	P6438
C4030294	1¼" x 10' 7"	8 lb./3.6 kg.	P64310
C4030295	1¼" x 12' 7"	8¾ lb./3.9 kg.	P64312

†For metal universal fitting, add suffix "A".

*For storage bags, see Catalog Section 2500.

Hinged Style

Ideal for troubleshooters with limited tool-storage space in their vehicles, this folding version operates with the same features as the one-piece style.

†Catalog No.	Folded	Extended	Weight	*Storage Bag
C4030296	3'4"	1¼" x 6' 9"	8 lb./3.6 kg.	P6432
C4030297	4'4"	1¼" x 8' 8"	9 lb./4.1 kg.	P6432
C4030298	5'4"	1¼" x 10' 8"	10 lb./4.5 kg.	P6433
C4030299	6'4"	1¼" x 12' 8"	10½ lb./4.7 kg.	P6435
C4030342	7'4"	1¼" x 14' 8"	11 lb./5.0 kg.	PSP6435005
C4030343	8'4"	1¼" x 16' 8"	11½ lb./5.2 kg.	PSP6435004

†For metal universal fitting, add suffix "A".

*For storage bags, see Catalog Section 2500.

†For metal universal fitting on handle end of any Single-Piece or Hinged Grip-All, add suffix "A" to the Catalog Number.



To convert any Grip-All stick to use all Universal Tool Accessories, the M1867 Adapter secures in the clampstick hook and head housing.

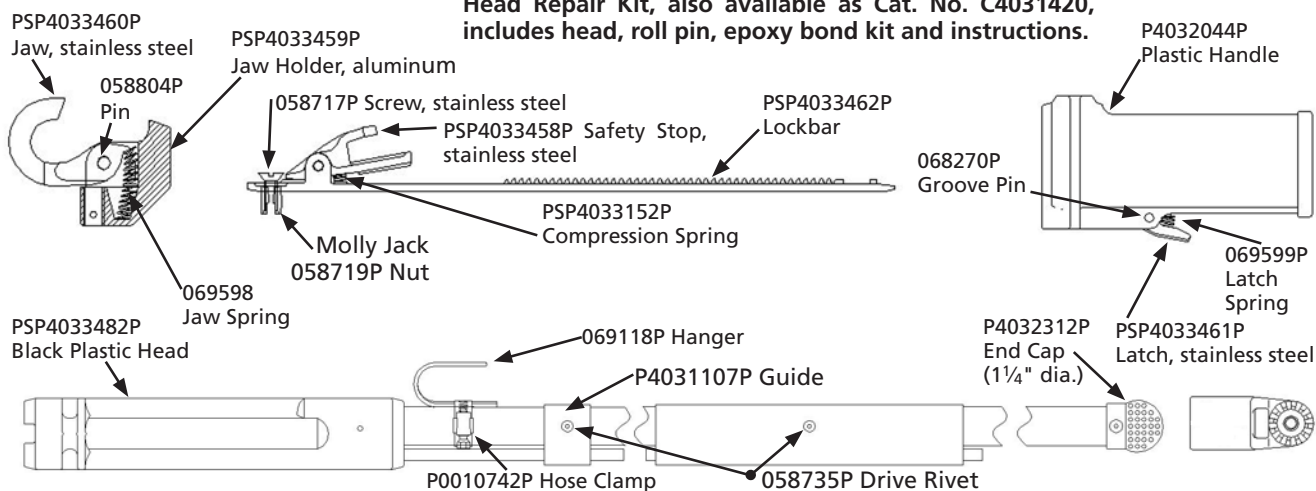


M1867

Replacement Parts

for External Control Single-Piece and Hinged Grip-All Clampsticks

Head Repair Kit, also available as Cat. No. C4031420, includes head, roll pin, epoxy bond kit and instructions.



Phone: 573-682-5521 Email: hpsliterature@hubbell.com Web: hubbellpowersystems.com

Grip-All Clampsticks, Telescoping

Tested per OSHA & ASTM F711

Features & Applications

- Tested per OSHA & ASTM F711
- Available in two sizes, each readily locks at variable working lengths
- Design features rotating coupler and an engineered positive-lock button with safety stop to keep sections from parting or hook releasing while in use
- Mechanism locks sections into a solid, rattle-free tool
- Black head makes it obvious head is not included in minimum approach distance
- Can replace several conventional clampsticks
- Allows linemen to adhere to safe-working distances and positioning needs, with fewer sticks
- Reduces the number of clampsticks required on a line truck, saving limited storage space
- Engineered interface between sections ensure tool retracts with full control
- Close fit helps keep out dirt and moisture
- Top section is made with foam-center Epoxiglas® insulated pole
- Functions of this telescoping style are identical to fixed-length style
- All controls can be easily accessed while wearing gloves
- Easy to disassemble, stick must be kept clean and dry inside to ensure long life

Catalog No.	Extended Tool can lock at each length:	Retracted Length	Weight
C4031035	5'6¾", 6'9½", 8'	5'2¾"	6 lb./2.7 kg.
C4031036	8'6¾", 10'4½", 12'2¼", 14'	8'2¾"	8 lb./3.6 kg.

For storage bags, see Catalog Section 2500.

Telescoping Style with Universal Fitting on Handle

Catalog No.	Extended Tool can lock at each length:	Retracted Length	Weight
C4033060	5'10½", 7'1¼", 8'3¾"	5'6½"	6 lb./2.7 kg.
C4033061	8'10½", 10'8¼", 12'6", 14'3¾"	8'6½"	8 lb./3.6 kg.

For storage bags, see Catalog Section 2500.

For SAFETYSHIELD™ Hot Stick Barrier to fit tools on this page, see page 2129.



Factory-installed universal fitting on end opposite the clampstick head.



Grip-All Clampstick Assist Ring

Features & Applications

- Provides a suspension midpoint for any Grip-All clampstick
- Assembly permits support line to attach at smaller ring – helpful on longer sticks
- Insulated, properly-sized Strain Link Stick should be used in the handline to help maintain safe-working clearances for hotline procedures
- Assist Ring halves assemble simply by threaded fasteners
- Keyhole shape for operating rod permits clampstick to function as usual



Catalog No.	Description	Weight
E4032543P	Grip-All Assist Ring	1½ lb./0.68 kg.

*For Strain Link Sticks, see Catalog Section 2250.



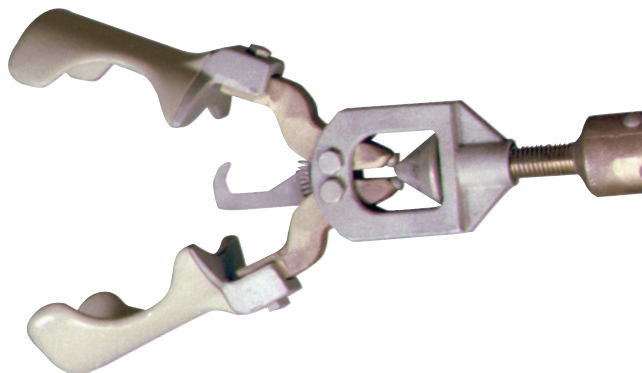
ELBOW PULLER TOOLS

Note: Grippers are not included with tools on this page. To order grippers interchangeable for 15, 25 and 35 kV, see REPLACEMENT GRIPPERS table on page 2105.

Features & Applications

- Tested per OSHA & ASTM F711
- Facilitate removing elbow connectors from transformer bushings and other apparatus
- Elbows can be difficult to remove when silicone grease on the interface of elbow and bushing dries out and hardens over time
- Special integral hook on tool head fits through rubber eye of elbow or metal hook of bushing cap
- Used in this manner, hook adds extra control and pulling power to grippers

For SAFETYSHIELD™ Hot Stick Barrier to fit tools on this page, see page 2129.



IMPACT Elbow-Puller Tools

Features & Applications

- Lightweight tool uses slide-hammer mechanism to easily disengage and replace elbows
- Tool and grippers help operator to control elbow and stiff underground cable lead
- For sure, balanced grip, 5-lb. slide hammer is plastisol coated and flared at both ends
- For secure handling, both front and rear handgrip areas of pole are coated with Griptread
- Available in three lengths, tools are made of 1-1/4"-diameter orange Epoxiglas® pole
- 6' to 8' foot units meet OSHA requirements
- 4-1/2' unit, labeled "For Rubber Glove Use Only", has 5"-long insulation length

Operation

To pull an elbow connector:

- Insert hook through eye on elbow
- Close down grippers on elbow by rotating pole
- Support tool with one hand on front grip behind handguard and other hand on slide hammer
- Slide hammer from front to rear anvil
- Resulting impact should release elbow with sufficient momentum to withdraw it from bushing without extended arcing

To install an elbow connector:

- Follow the same procedures for pulling, EXCEPT use slide hammer impact against front anvil to help seat the elbow



Impact Elbow Pullers
(Grippers not included. Order Grippers separately. See REPLACEMENT GRIPPERS table, page 2104.)

Catalog No.	Description	Weight
C4031822	†6-foot length	12 lb./5.4 kg.
C4031850	†8-foot length	12¼ lb./5.6 kg.
C4031851	*4½-foot length	11½ lb./5.2 kg.

*4½-foot tool labeled "For Rubber Glove Use Only."
†6- and 8-foot tools meet OSHA insulation requirements.

Storage Bags (Yellow vinyl/fabric)

P6436	Bag for 4½' or 6' tool above
P6438	Bag for 8' tool above

ELBOW CONNECTOR TOOL REPLACEMENT GRIPPERS

FOR 15 kV, 25 kV and 34.5 kV ELBOWS



C4030704

Features & Applications

- Provides a sure grip for installing and disconnecting elbow terminators
- Grabs the elbow and has a special integral hook that fits through the rubber eye of an elbow or the metal hook of a bushing cap
- Gives lineman complete, positive control, overcoming resistance of stiff underground cable

ORDERING INFORMATION

REPLACEMENT GRIPPERS (Also required for Elbow Puller Tools, page 2105)

Catalog No.	Description	Weight
C4030704	15 kV Plastic-Coated Grippers	5/8 lb./0.3 kg.
C4030613	25 kV Plastic-Coated Grippers	1 lb./0.5 kg.
C4030614	25 kV Uncoated Grippers	5/8 lb./0.3 kg.
C4030814	34.5 kV Plastic-Coated Grippers. Fits RTE 200 AMP and 600 AMP Elastimold "T" Elbow	1 lb./0.5 kg.

Arc Snuffer Removal & Replacement Tools – specifically for use in Grip-All clampsticks –



C4032037



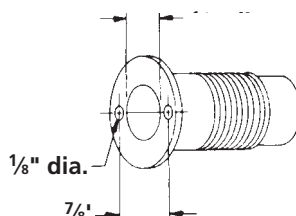
C4032036

Features & Applications

- Two hot-line tools permit easy retrieval of broken arcsnuffers and installation of replacements
- Does not de-energize URD bushings
- Designed to ensure adequate electrical clearances
- Specifically for use in Grip-All clampsticks
- Integral ring on each tool retracts into clampstick
- Tool bodies are high-impact plastic with steel inserts
- Removal Tool works like bolt extractor and when inserted into a damaged arcsnuffer, it permits retrieval by unscrewing the broken part
- Replacement Tool controls alignment with a spring-action center post that snaps into arc snuffer bore
- Two steel tool lugs engage holes in snuffer collar to transmit tightening torque

Tools fit many
15 & 25 kV snuffers.

These tools fit bushing
arc snuffers with dimen-
sions given at right.



ORDERING INFORMATION

Catalog No.	Description	Weight
C4032037	Removal Tool	1/4 lb./0.1 kg.
C4032036	Replacement Tool	1/4 lb./0.1 kg.

WIRE-HOLDING STICKS

Features & Applications

- Tested per OSHA & ASTM F711
- Used on or around energized lines for forming, bending and positioning jumper wires
- Also used for holding conductors during splicing operations
- Gripper, with an eye for extra sticks, will handle No. 6 copper through 1590 kcmil ACSR

Operation

- Grips like locking-type pliers
- By tightening the knurled nut at control lever, wire-holding jaws can firmly grip conductor
- When doing this, tightening control lever must be in relaxed position about 1" from pole
- To secure conductor grip, push lever down to the pole
- To release conductor, simply move the control lever all the way up along the rod
- Head of tool locks in three stop positions, allowing lineman to easily position conductors
- Knurled screw handle below jaw opening adjusts head position from straight to right to left

Conductor Capacity: #6 to 1590 kcmil ACSR (0.162" to 1.5")

Catalog No.	Pole Dia. & Overall Length	Approx. Weight
C4033068	1¼" x 6'5"	6½ lb./2.7 kg.
C4033069	1¼" x 8'5"	6¾ lb./3.0 kg.
PSC4030592	1¼" x 10'5"	7½ lb./3.4 kg.
T4032992	1¼" x 11'2"	8¼ lb./3.7 kg.

For SAFETYSHIELD™ Hot Stick Barrier to fit tools on this page, see page 2129.

Positive Grip
Clamp Stick
HG30302

Positive Grip Clampstick

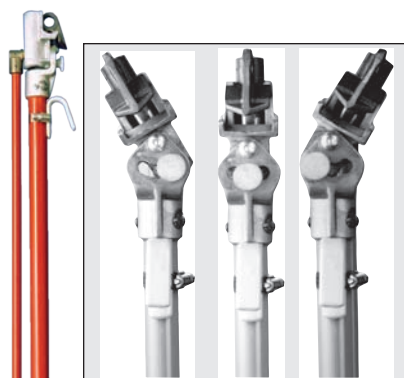
Features & Applications

- Tested per OSHA & ASTM F711
- For use on eyescrew grounding or hot line clamps
- Can be mounted on the line and tightened at up to 30° angles
- Aluminum and bronze fittings

Operation

- Install clamp by aligning locking ring with slot in housing
- Place eye of clamp in housing
- Holding locking ring and clamp in one hand, rotate pole clockwise to trap eye
- Remove clamp by engaging clamp body locking ring and rotating pole clockwise to trap eye
- Butt end is equipped with a combination tool hanger and universal head

Catalog No.	Pole Dia. & Overall Length	Type Head	Approx. Weight
HG30302	1¼" x 8'6"	Regular Length	4 lb./1.8 kg.
HG303012	1¼" x 8'6"	Extra Long	4 lb./1.8 kg.
HG30422	Reg. Length Clampstick Head Only		1 lb./0.45 kg.
HG30425	Extra Long Clampstick Head Only		1½ lb./0.5 kg.



Head of the tool locks in three positions . . . enables lineman to handle conductor from any angle.



With handle positioned as shown in photo above, the knurled nut can be turned to adjust the gripper to the exact wire size.

Wire Holding Stick
C4033068



HG30425

Extra long head (above) for use with long eyescrew ground clamps.



TELESCOPING DISCONNECT TOOLS

Features & Applications

- Tested per OSHA & ASTM F711
- Allow linemen to perform many routine jobs from ground level
- Universal end fitting on insulated top section accepts a wide variety of attachments
- This allows lineman to disconnect switches and replace cutout tubes
- Also allows lineman to remove pole covers, prune trees, plus other overhead tasks
- Sticks retract to approximately 5 ft. for easy truck transport (even in most cab sections)
- Heavy-duty, spring-loaded plastic buttons keep extended tool sections locked in place
- As each section extends and slightly twists, buttons also pop securely into place

Standard Versus Heavy Duty

- Both units feature same telescoping tube design
- Heavy-duty units have slightly larger tip sections: 1-1/4" versus 1-1/8"
- Each heavy-duty telescoping tube is also slightly larger
- This results in more rigidity, important for managing heavyweight maintenance tasks
- Both tip sections feature proven Chance Epoxiglas®
- This unicellular foam-core material prevents moisture trapping voids between foam and tool

Disconnect Head included with each tool.



When space is extremely limited for truck storage, a 23 ft. Telescoping Tool that compacts to 4 ft. is available as Catalog No. C4031739.



Standard Duty (1 1/16"-dia. Tip)

Catalog Number	Extended Length (Tool can be locked at each length shown)	Storage Retracted Length	Base Dia.	Number of Sections	Weight
C4031023	8 ft.	56"	1 1/4"	2	2 lb./0.9 kg.
C4031017	8 - 12 ft.	57"	1 1/2"	3	2 3/4 lb./1.2 kg.
C4031018	12 - 16 ft.	59"	1 11/16"	4	4 lb./1.8 kg.
C4031019	12 1/2 - 16 1/2 - 20 ft.	61"	1 7/8"	5	5 1/4 lb./2.4 kg.
C4031020	16 1/2 - 20 1/2 - 25 ft.	63"	2 1/16"	6	7 lb./3.2 kg.
C4031021	17 1/2 - 21 1/2 - 25 1/2 - 30 ft.	65"	2 1/4"	7	8 3/4 lb./3.9 kg.
C4031022	22 - 26 - 30 1/2 - 35 ft.	67"	2 1/2"	8	11 lb./5 kg.
T4033349	22 - 28 - 34 - 40 ft.	74 1/2"	2 1/2"	8	12 lb./5.45 kg.

Compact Standard Duty (1 1/16"-dia. Tip)

T4032205	7 ft.	28"	1 7/8"	5	2 3/4 lb./1.2 kg.
C4031739	14 - 17 - 20 - 23 ft.	48"	2 1/2"	8	9 lb./4.1 kg.
T4033240	10 ft.	36"	1 11/16"	4	4 lb./1.8 kg.

Heavy Duty (1 1/4"-dia. Tip)

C4031597	8 ft.	56"	1 1/2"	2	3 lb./1.4 kg.
C4031598	8 - 12 ft.	57"	1 11/16"	3	3 3/4 lb./1.7 kg.
C4031599	12 - 16 ft.	59"	1 7/8"	4	5 lb./2.3 kg.
C4031600	12 1/2 - 16 1/2 - 20 ft.	61"	2 1/16"	5	6 1/2 lb./2.9 kg.
C4031601	16 1/2 - 20 1/2 - 25 ft.	63"	2 1/4"	6	8 1/2 lb./3.7 kg.
C4031602	17 1/2 - 21 1/2 - 25 1/2 - 30 ft.	65"	2 1/2"	7	10 1/4 lb./4.6 kg.

Telescoping Tool Repair Kits

Features & Applications

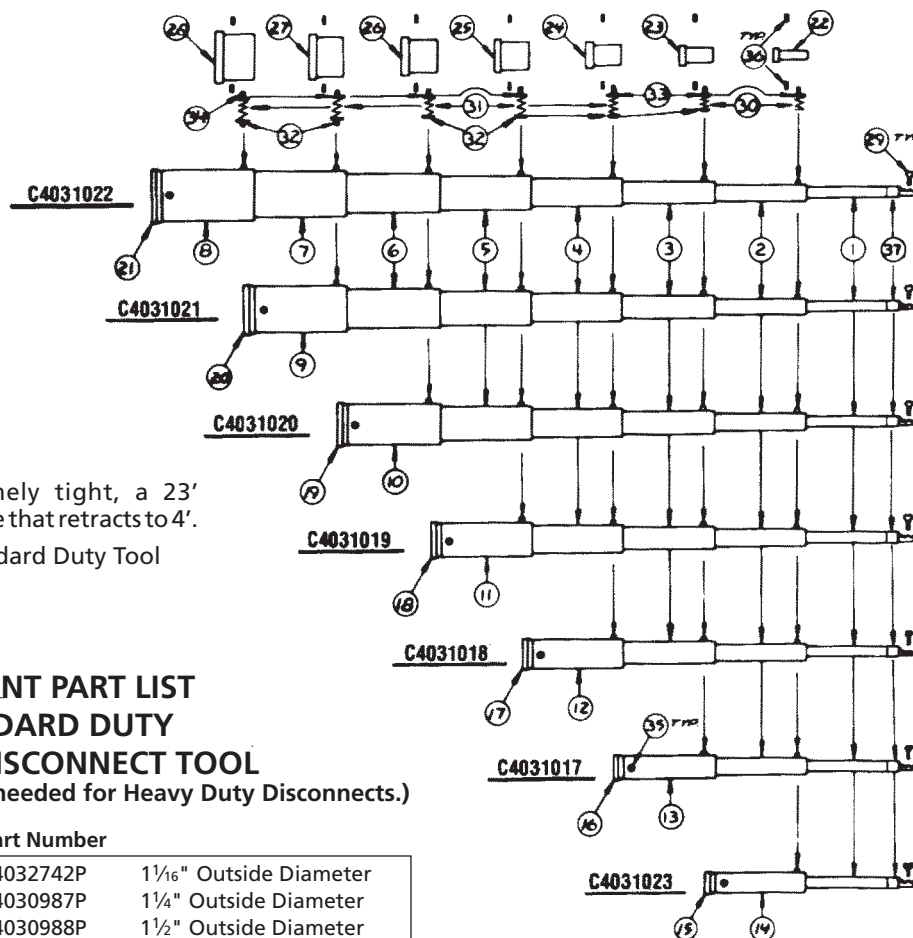
- Chance Telescoping Tools are designed and built for long life
- For necessary repairs, a complete kit is available with all buttons and springs for various stick lengths
- Refer to cross reference at right for individual kit part numbers
- For single parts, refer to the drawing and table to order correct part numbers

Standard Duty Tool Cat. No.	Heavy Duty Tool Cat. No.	Button & Spring Kit No.
C4031023	C4031597	T4031245
C4031017	C4031598	T4031246
C4031018	C4031599	T4031247
C4031019	C4031600	T4031248
C4031020	C4031601	T4031249
C4031021	C4031602	T4031250
C4031022	N/A	T4031251
T4032205	N/A	T4031248



Sticks For Small Vehicles

When storage is extremely tight, a 23' Telescoping Tool is available that retracts to 4'.
Cat. No. C4031739 — Standard Duty Tool



REPLACEMENT PART LIST FOR STANDARD DUTY TELESCOPING DISCONNECT TOOL

(Refer to factory for specific parts needed for Heavy Duty Disconnects.)

Item	Description	Part Number
1	Pole & Ferrule	E4032742P
2	Tube	P4030987P
3	Tube	P4030988P
4	Tube	P4030989P
5	Tube	P4030990P
6	Tube	P4030991P
7	Tube	P4030992P
8	Base Tube	P4030999P
9	Base Tube	P4030998P
10	Base Tube	P4030997P
11	Base Tube	P4030996P
12	Base Tube	P4030995P
13	Base Tube	P4030994P
14	Base Tube	P4030993P
15	Bottom Cap	P4031014P
16	Bottom Cap	P4031013P
17	Bottom Cap	P4031012P
18	Bottom Cap	P4031011P
19	Bottom Cap	P4031010P
20	Bottom Cap	P4031009P
21	Bottom Cap	P4031008P

Item	Description	Part Number
22	Plug	P4031007P
23	Plug	P4031006P
24	Plug	P4031005P
25	Plug	P4031004P
26	Plug	P4031003P
27	Plug	P4031002P
28	Plug	P4031001P
29	Thumbscrew	P4030467P
30	Spring	P4032351P
31	Spring	P4032352P
32	Retainer	P4031977P
33	Button	P4033002P
34	Button	P4033001P
35	Mach. Screw	P0010309P
36	Drive Lock Pin	P0010419P
37	Universal Fitting	P4032514P



Telescoping Measuring/Disconnect Tool

• *One tool does it all* • *English AND Metric Scales*

Tested per OSHA & ASTM F711

Features & Applications

- Tested per OSHA & ASTM F711
- English and metric scales for measuring pole heights and conductor clearances from ground
- Easy-to-read scales feature large black characters on Chance orange fiberglass sections
- English scales are marked with 1' increments
- Each inch is marked in bold numbers and half inches are indicated with intermediate bars
- Removable disconnect head for operating switches and cutouts
- End fitting on insulated top section accepts other Universal Tool Accessories (Pages 2120 - 2127) for energized conductor applications, all from the ground
- Positive spring-load locking-button mechanism and plug feature prevent tool separation
- Once snapped into place, buttons securely lock into position – no unexpected tool retractions

Operation

- To extend tool to desired length, pull out top section and rotate it until button engages in next section
- For measuring aerial distances, continue this process until tip reaches desired height
- Next, set butt of tool on ground and read scale at eye level for exact distance of tip above ground
- To retract, depress button of largest section first, then rotate it to disengage and collapse section
- Continue this process by taking each next smaller section in turn

English AND Metric Scales

feet, inches, half inches AND meters, decimeters, centimeters

*Catalog Number	Number of Sections	Length		Weight
		Min. (storage)	Max. (extended)	
C4031022EM	8	5' 7" (1.70m)	34' 9.3" (10.6m)	11 lb./5.0 kg.



Both scales are marked:
(on the right) English feet, inches, half inches
AND
(on the left) Metric meters, decimeters, centimeters.



Tool's top end section is insulated for maximum protection. There are no moisture-trapping voids between foam and tool wall because the tool wall is built around the foam.

- Two-section telescoping tool
- Two sizes and three styles

Features & Applications

- Tested per OSHA & ASTM F711
- For substations and close-clearance worksites
- Clearly marked at each 1' extension lock
- One of these tools can replace as many as eight single-length hotsticks
- Adjustable sticks can be stored in short collapsed lengths and to avoid difficulties of maneuvering extra-long sticks through busswork structures
- Heavy-duty construction
 - Classified as Heavy-Duty due to its large (1-1/4"-diameter) insulated top section and 1-1/2"-O.D. epoxy-reinforced fiberglass base tube
- 24" overlap at usable-length extremes
 - In each size, a 2' section of Epoxiglas® foam-core top section remains inside the base section at the longest locked, usable length
 - At the shortest locked length, insulated top section extends a full 2' beyond base

Operation

- Easy to use, yet rugged mechanism
- High-strength plastic buttons – same as those in other Chance telescoping tools – keep tools locked at each length
- As top section is extended and twisted, lock button pops into place
- One worker can quickly adjust length with a convenient alignment dot at each 1' setting on the insulated section that matches another dot at the top of the base section

For SAFETYSHIELD™ Hot Stick Barrier to fit tools on this page, see page 2129.

Ordering Information

Disconnect-Style NEMA Head:

Catalog No.	Lockable Lengths, ft.	Collapsed	Weight
C4032600	10, 11, 12, 13, 14	8' 2¾"	6½ lb./2.9 kg.
C4032601	12, 13, 14, 15, 16, 17, 18	10' 2¾"	8 lb./3.6 kg.

Switch-Style NEMA Head:

C4032602	10, 11, 12, 13, 14	8' 2"	6½ lb./2.9 kg.
C4032603	12, 13, 14, 15, 16, 17, 18	10' 2"	8 lb./3.6 kg.

Universal Fitting* Style:

C4032604	10, 11, 12, 13, 14	8' 3¾"	6½ lb./2.9 kg.
C4032605	12, 13, 14, 15, 16, 17, 18	10' 3¾"	8 lb./3.6 kg.

• Universal Fitting* Style



• Switch-Style Head
Bronze, NEMA-Standard



• Disconnect-Style Head
Bronze, NEMA-Standard



Extension length is clearly marked at each hole for button engagement.

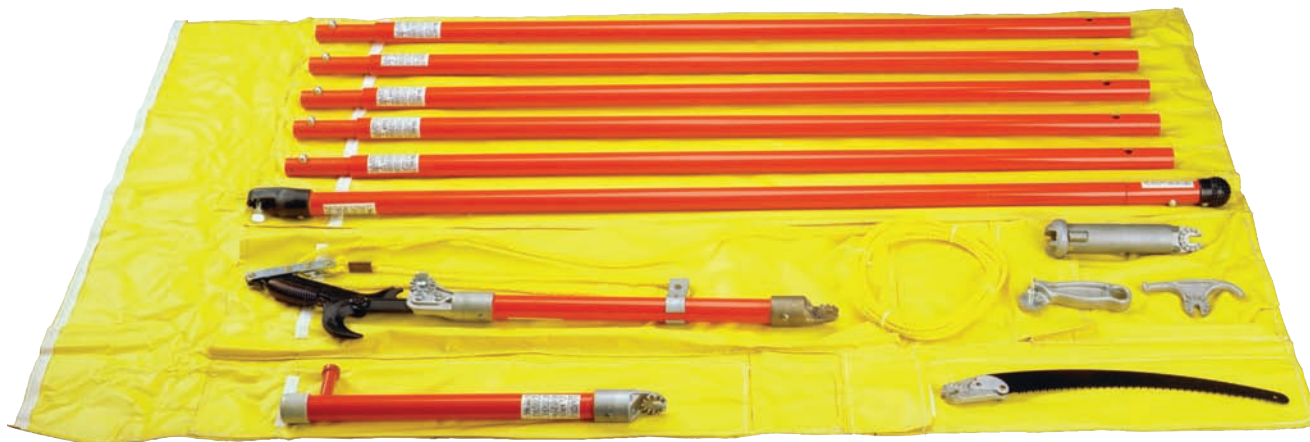
*Top section may be removed for use alone since it is essentially a single-piece hotstick of standard Epoxiglas construction with uni-cellular foam center.



*Universal disconnect head (Part No. M4455-9) must be ordered as a separate item for universal-fitting style sticks (Catalog Numbers C4032604 or C4032605).



Trouble Shooter Kit



Tested per OSHA & ASTM F711

Features & Applications

- Includes six 4' sections of field-proven 1-1/4" Epoxiglas® Universal Pole that snap together
- Spring-loaded locking buttons for use at 4', 8', 12', 16', 20' and 24' lengths
- Butt section has end cap
- Fitting on top section with thumbscrew accepts Universal Accessories in kit

Kit Universal Accessories

- Aluminum Disconnect Head for opening and closing switches, and opening enclosed cutouts, has built-in hanger hook
- Non-Metallic Disconnect Head provides additional insulation for indoor substations where busswork and switches are in close proximity. Platisol cap at top; 19" overall length with 15" long Epoxiglas section
- Clamp Stick Head for use with 6" long eyescrew ground clamps has locking ring with detent ball for on-off operation. Aluminum alloy
- Tree Trimmer mounted on 18" pole adds 1-1/2' to reach

with 3-to-1 mechanical advantage pulley and 25' of furnished rope. Offset universal fitting on trimmer accepts pruning saw

- Pruning Saw with black Teflon® coating on fine-tooth blade for smooth, non-stick action attaches directly to top pole, tree trimmer or pistol grip
- Pistol Grip Saw Handle of aluminum alloy is for use when limbs can be reached and insulation is not needed
- Storage Case of yellow heavy-duty vinyl-impregnated fabric has separate pockets for individual tools and Velcro flap closures

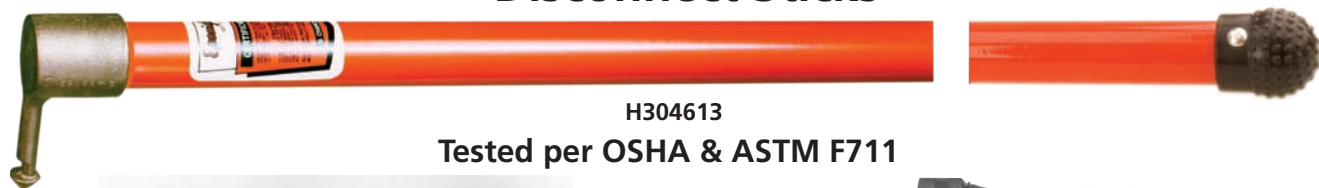


Kit forms compact 4' x 9" unit secured by two straps and plated buckles. At 24 pounds, kit easily totes by center carrying handle.

Catalog No.	Description	Weight
C4031612	Complete Trouble Shooter Tool Kit	24 lb./10.8 kg.

Catalog No.	Separate or Replacement Components	Weight
C4032046	Top Section Epoxiglas Pole	2¼ lb./1.0 kg.
C4032062	Mid Section Epoxiglas Pole	2¼ lb./1.0 kg.
M44559	Aluminum Disconnect Head	⅞ lb./0.06 kg.
E4031614P	Non-Metallic Disconnect Head	1¼ lb./0.6 kg.
M445529B	Clamp Stick Head	1¼ lb./0.6 kg.
H21064	Tree Trimmer	3½ lb./1.6 kg.
C4032213	Pruning Saw	½ lb./0.2 kg.
M445566	Pistol Grip Saw Handle	½ lb./0.2 kg.
P4032996	Storage Case	3¼ lb./1.5 kg.

Disconnect Sticks



H304613

Tested per OSHA & ASTM F711

SPLICE FOR H3146 SERIES

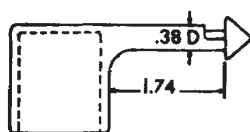
Used on Cutouts and Disconnect Switches Features & Applications

- Provide insulation for linemen in opening and closing disconnect switches and cutouts
- Also used for installing and removing open-link fuse links
- Poles are made of Epoxiglas®
- NEMA-standard heads of cast bronze
- Available in three types: switch head, disconnect head, or spliced disconnect head

Spliced Disconnect Sticks Features & Applications

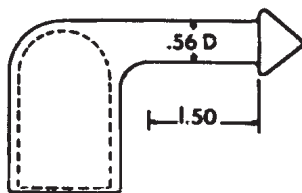
- For convenient transporting and/or when greater length is required
- Splice is strong and rigid – easy to assemble and disassemble
- Taking-down feature makes sticks easy to carry on line trucks and in tool trailers

For SAFETYSHIELD™ Hot Stick Barrier to fit tools on this page, see page 2129.



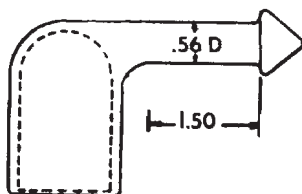
1 1/4" Switch Stick Head

Catalog No.	Pole Dia. & Length	Weight
H3046	Head Only	4 oz./0.11 kg.
H304611	1 1/4" x 4'	1 1/4 lb./0.6 kg.
H304612	1 1/4" x 6'	1 1/2 lb./0.7 kg.
H304613	1 1/4" x 8'	2 1/4 lb./1.0 kg.
H304614	1 1/4" x 10'	2 3/4 lb./1.2 kg.
H304617	1 1/4" x 12'	3 5/8 lb./1.6 kg.



1 1/2" Disconnect Head

H30462	Head Only	5 oz./0.14 kg.
H304622	1 1/2" x 6'1"	2 1/4 lb./1.0 kg.
H304623	1 1/2" x 8'1"	2 13/16 lb./1.3 kg.
H304624	1 1/2" x 10'1"	3 7/16 lb./1.5 kg.
H304615	1 1/2" x 12'1"	4 lb./1.8 kg.
H304616	1 1/2" x 16'1"	5 5/16 lb./2.4 kg.
H304618	1 1/2" x 18'1"	6 lb./2.7 kg.
H304620	1 1/2" x 20'1"	6 9/16 lb./3 kg.



1 1/4" Spliced Disconnect Head

	Top and Bottom	
H314612	1 1/4" x 6' and 1 1/2" x 6'1"	6 lb./2.7 kg.
H314616	1 1/4" x 8' and 1 1/2" x 8'1"	7 1/2 lb./3.4 kg.
H314618	1 1/4" x 8' and 1 1/2" x 10'1"	8 1/4 lb./3.7 kg.
H314620	1 1/4" x 10' and 1 1/2" x 10'1"	9 lb./4 kg.
H314624	1 1/4" x 12' and 1 1/2" x 12'1"	10 1/2 lb./4.7 kg.

Tested per OSHA & ASTM F711



Fiberglass Head Features & Applications

- Provides additional insulation required when bus and disconnect switch spacings are confined, as in indoor substations
- See illustration at left

Catalog No.	Pole Diameter & Length	Approximate Weight
H30465	1 1/4" x 4'	1 1/8 lb./0.5 kg.
H30466	1 1/4" x 6'	1 5/8 lb./0.7 kg.
H30467	1 1/4" x 8'	2 1/8 lb./1.0 kg.
H30468	1 1/4" x 10'	2 5/8 lb./1.2 kg.
H30469	1 1/4" x 12'	4 lb./1.8 kg.



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Sectional Disconnects and Universal Sticks

Tested per OSHA & ASTM F711

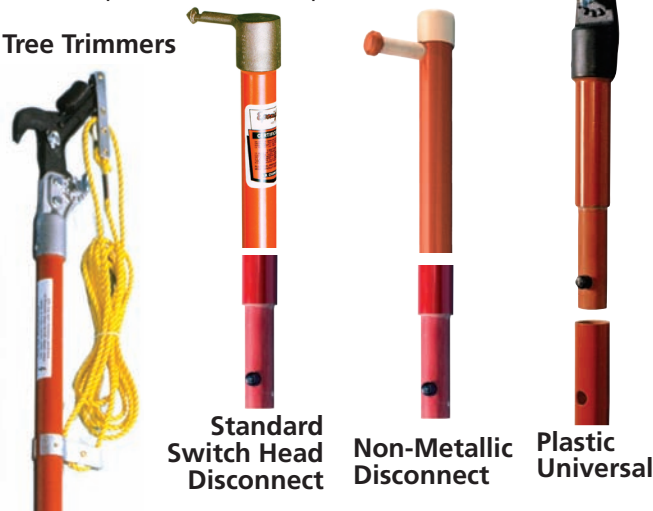
CHANCE®

Features & Applications

- Tested per OSHA & ASTM F711
- Non-conductive splices snap together for just the right job length
- Compact fittings interchange on orange Epoxiglas® insulated sections
- Easily store in limited space
- Rounded metal buttons and stainless-steel springs for long life
- Silicone coating and gloss finish seal out moisture
- Base cap included with top sections

Note: For SAFETYSHIELD™ Hot Stick Barrier to fit tools on this page, see page 2129.

Tree Trimmers



1 1/4"-diameter Pole

Catalog Number	Length	Approx. Weight
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Standard Switch Head Disconnect

C4032073	6 inches	3/4 lb./0.34 kg.
C4032053	4 feet	2 3/8 lb./1.07 kg.
C4032054	6 feet	2 5/8 lb./1.18 kg.
C4032055	8 feet	2 7/8 lb./1.29 kg.

Non-Metallic Disconnect Head

C4032095	6 inches	1 lb./0.45 kg.
C4032060	6 feet	2 1/2 lb./1.13 kg.
C4032061	8 feet	2 3/4 lb./1.22 kg.

Plastic Universal Head

C4032071	6 inches	5/8 lb./0.28 kg.
C4032046	4 feet	2 lb./0.90 kg.
C4032047	6 feet	2 1/4 lb./1.01 kg.
C4032048	8 feet	2 1/2 lb./1.13 kg.

Tree Trimmer Head

C4032096	*2 feet	3 1/4 lb./1.46 kg.
C4032097	*4 feet	3 1/2 lb./1.57 kg.

*Length excludes trimmer head fitting.

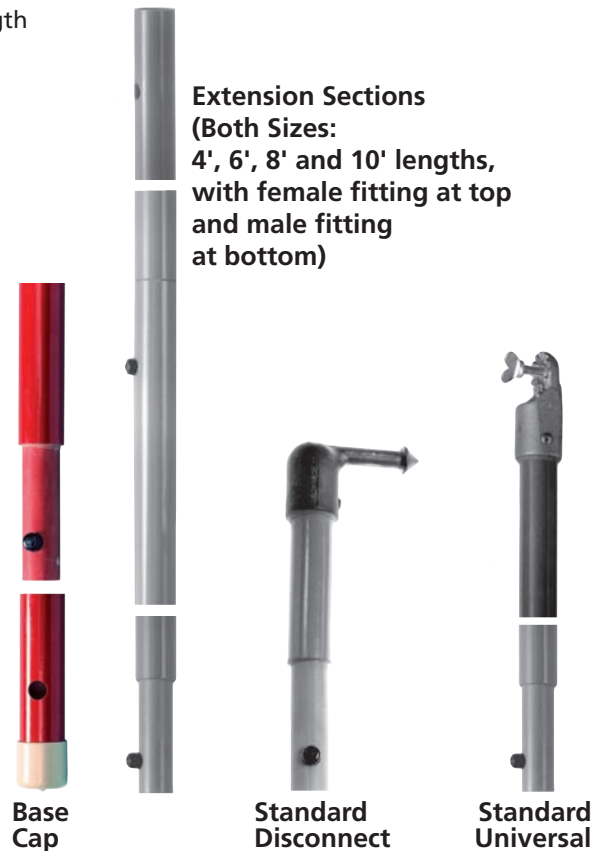
Extension Section

C4032062	4 feet	2 lb./0.90 kg.
C4032063	6 feet	2 1/4 lb./1.01 kg.
C4032064	8 feet	2 1/2 lb./1.13 kg.
C4032133	10 feet	2 3/4 lb./1.22 kg.

Base Cap

C4032069	5 inches	1/8 lb./0.06 kg.
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**Extension Sections
(Both Sizes:
4', 6', 8' and 10' lengths,
with female fitting at top
and male fitting
at bottom)**



1 1/2"-diameter Pole

Catalog Number	Length	Approx. Weight
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Standard Disconnect Head

C4032074	6 inches	1 lb./0.45 kg.
C4032056	6 feet	3 1/8 lb./1.41 kg.
C4032057	8 feet	3 5/8 lb./1.63 kg.
C4032058	10 feet	4 1/8 lb./1.86 kg.

Standard Universal Head

C4032072	6 inches	1 lb./0.45 kg.
C4032049	4 feet	2 7/8 lb./1.29 kg.
C4032050	6 feet	3 3/8 lb./1.52 kg.
C4032051	8 feet	3 7/8 lb./1.74 kg.
C4032052	10 feet	4 1/8 lb./1.86 kg.

Extension Section

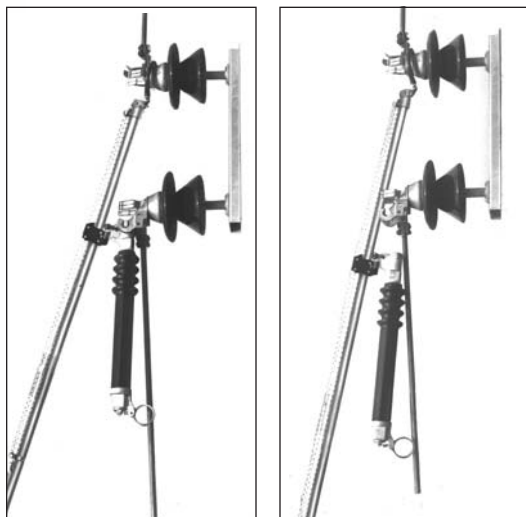
C4032065	4 feet	2 lb./0.90 kg.
C4032066	6 feet	2 1/2 lb./1.13 kg.
C4032067	8 feet	3 lb./1.35 kg.
C4032068	10 feet	3 1/2 lb./1.57 kg.

Base Cap

C4032070	5 inches	1/4 lb./0.11 kg.
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Features & Applications

- Tested per OSHA & ASTM F711
- Removes and installs power fuse holders up to 50 lbs.
- Unlike hookstick, operator never has to balance and lift dead weight when lifting fuse
- Epoxiglas® pole is tested to ensure insulating strength
- Operating lines are made with polypropylene rope
- Plastisol-coated carrier bands and shepherd hook attachments
- Disconnect prong is located on bottom ferrule of tool



How To Remove A Power Fuse — Hook carrier prong into the eye on the inverted lower end of fuse holder. Lift the fuse holder out of the contact trunnions, then lower carrier.



WARNING

Operating lines must be kept clean and dry to avoid dangerous current flow in the rope.

How to Order — Select one of the Power Fuse Lift Sticks from Table I, based on the desired pole length.

Then, in Table II, find the applicable Power Fuse Type and select the Fuse attachment that is to be installed at the top of the Lift Stick.

Finally, in Table III, again find the applicable Power Fuse type and select the Lift Finger to be installed on the Carrier.

Operation

- During fuse holder removal and replacement, fuse mount supports weight of fuse holder and tool
- Ropes and pulleys for lowering and raising power fuse holder much like flag on flagpole
- Operator has complete control of fuse holder at all times
- Pole hangs free so operator can easily steady it during raising/lowering operation
- Only during the actual opening and closing of power fuse does operator support tool weight
- To remove power fuse, hook carrier prong into eye on lower inverted end of fuse holder, lift fuse holder out of contact trunnions, then lower carrier



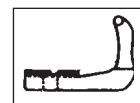
M4221



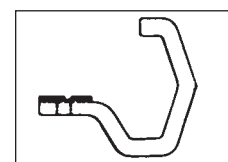
M42212



M42213



M42191



M42192

TABLE I — POWER-FUSE LIFT STICK

Each includes an all-weather storage bag.

Catalog No.	Diameter and Overall Length	Weight
H422114	1½" x 14'1"	10¼ lb.
H422116	1½" x 16'1"	11¼ lb.

TABLE II — POWER FUSE ATTACHMENTS

Catalog No.	For Power Fuses	Weight
M4221	S&C SM, Size 5	14 oz.
M42212	S&C SMD; West'g're BA & DBA; GE. EF-1, EF-1B & EF-2B	1½ lb.
M42213	S&C SM & HSO; S.S. HBA & BTA; West'g'e BA & DBA; G.E. EF-1, EF-1B, & EF-2	1½ lb.

TABLE III — CARRIER LIFT FINGERS

Catalog No.	For Power Fuses	Weight
M42191	West'g' BA & DBA; S&C SM, SMD, & HSO; G.E. EF-1, EF-1B & EF-2	4 oz.
M42192	S.S. HBA & BTA	7 oz.



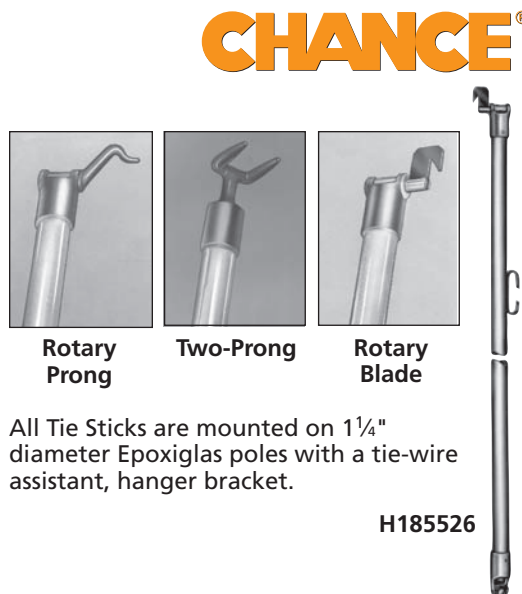
TIE STICKS

Features & Applications

- Tested per OSHA & ASTM F711
- Made with variety of heads for versatile lineman needs
- Rotary Prong Tie Sticks quickly and easily handle looped ties
- Two-Prong Tie Sticks effectively handle hot ties with loops
- Rotary Blade Tie Sticks swivel for greater freedom of movement than fixed-blade types

Catalog No.	TIE STICKS		Overall Length	Approx. Weight
	Head	End		
H185519	Rotary Prong	Universal	8'3"	3 lb./1.4 kg.
H185520	Two-Prong	Universal	8'4"	4 lb./1.8 kg.
H185525	Rotary Prong	Rotary Blade	8'2"	3½ lb./1.6 kg.
H185526	Rotary Blade	Universal	8'3"	3¼ lb./1.5 kg.

For universal tool accessories, see Pages 2120 through 2126.



All Tie Sticks are mounted on 1¼" diameter Epoxiglas poles with a tie-wire assistant, hanger bracket.

ALL-ANGLE COG WRENCH

Features & Applications

- Tested per OSHA & ASTM F711
- 15 ft-lb maximum torque rating
- Controls permit operator efficiency in locating the wrench on energized hardware
- Handgrip steadies tool and holds cog housing in place while pole is rotated, turning cogs to engage wrench on the nut or bolt
- Wrench head angle in relation to handle is adjustable within a range of 140°
- Wing nuts on either side of head tightens to hold head in position during use
- Chance Epoxiglas® Hot Line Tool is 1-1/2" in diameter with 3/8" diameter fiberglass control rod
- Aluminum alloy handgrip, bronze alloy cog housing, and hardened steel gears

Catalog No.	All-Angle Cog Wrench Description	Approximate Weight
C4030184	6-foot length	7 lb./3.2 kg.
C4030185	8-foot length	7½ lb./3.4 kg.
C4030186	10-foot length	8 lb./3.6 kg.
PSC4030187	12-foot length	9 lb./4.1 kg.

½-inch square drive

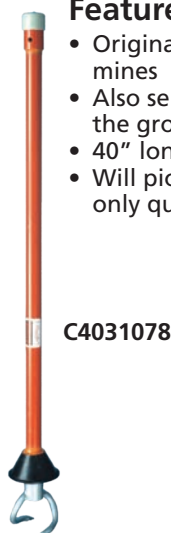


CABLE LIFT TOOL

Features & Applications

- Originally designed to move heavy electrical cables in mines
- Also serves as efficient method of moving heavy cables on the ground
- 40" long and has two ½"-diameter spiral grab hooks
- Will pick up cables up to 2" diameter by rotating the tool only quarter turn

Catalog No.	Description	Weight
C4031078	40" Cable Lift Tool	3¾ lb./1.5 kg.



Align the grab hooks on both sides of cable.

Turn the tool 90° clockwise, to slip hooks under cable.



Lift the cable and move to desired position.



Flexible Insulated Wrenches



Features & Applications

- Tested per OSHA & ASTM F711
- 40 ft-lb torque rating
- Used for tightening nuts on hardware fittings on high-voltage lines

- Universal joint coil spring gives operator flexibility to control socket at various angles
- Spring is easily removed for lubrication
- Wrenches are made to fit any 1/2" square-shank socket
- All wrenches are mounted on 1-1/2"-diameter Epoxiglas® poles

Ratchet Wrench
066780



Catalog Number	Description	Overall Length	Approx. Weight
H18912	w/Flexible 1/2" Sq. Plug and Fixed 1/2" Sq. Plug	6'3"	5 1/2 lb./2.5 kg.
H18913	w/Flexible 1/2" Sq. Plug and Fixed 1/2" Sq. Plug	8'3"	6 1/2 lb./2.9 kg.
H18915	w/Flexible 1/2" Sq. Plug and Univ. Head - Hole Through Ferrule for 5/8" Turning Rod	6'3"	5 1/2 lb./2.5 kg.
H18916	w/Flexible 1/2" Sq. Plug and Univ. Head - Hole Through Ferrule for 5/8" Turning Rod	8'3"	6 1/2 lb./2.9 kg.
066780	Ratchet Wrench		1 1/2 lb./0.7 kg.

Note: For SAFETYSHIELD™ Hot Stick Barrier to fit tools on this page, see page 2129.

Heavy-Duty FLEXIBLE INSULATED WRENCHES — 75 ft.-lb. torque rating



Features & Applications

- Tested per OSHA & ASTM F711
- 75 ft-lb torque rating
- Standard square socket in lower end accepts 1/2" square-shank ratchet or similar hand tools
- Square shank on upper end fits any 1/2"-drive socket
- Mounted on 1-1/2" diameter Epoxiglas® extensions

- Used for tightening nuts on hardware fittings on high-voltage lines
- Universal joint coil spring limits flexibility, giving operator socket control at various angles
- Spring easily removes for lubrication

Catalog No.	Overall Length	Weight, each
C4032137	6 ft. 3 in.	5 1/2 lb./2.5 kg.
C4032136	8 ft. 3 in.	6 1/2 lb./2.9 kg.

Epoxiglas® Torque Extension Stick for hydraulic power tools



Features & Applications

- Tested per OSHA & ASTM F711
- 75 ft-lb torque rating
- Designed for hot-line work with hydraulic tools on bucket trucks
- 7/16" hexagonal quick-connect fitting couples with a power tool's drive socket

- Square detent-ball fitting accepts all 1/2"-drive wrenches
- 1-1/4" x 4' Epoxiglas® pole handguard is 6" from ferrule with hex fitting

Catalog No.	Description	Weight
T4033009	Torque Extension Stick	5 lb./2.25 kg.

HEX SOCKET SETS

Features & Applications

- Available in SAE and metric sizes
- Each set includes sockets to fit any 1/2" (12.17 mm) square-shank tool (such as the Chance All-Angle Cog Wrench and Flexible Insulated Wrench)



Tested per OSHA & ASTM F711

SAE (in.) Set
Catalog No. C4031085
includes 11 deep-well 6-point sockets
in sizes from 1/2" through 1 1/8"

METRIC Set
Catalog No. C4031085M
includes 10 deep-well 6-point sockets
in sizes from 10mm through 19mm



Phone: 573-682-5521 Email: hpsliterature@hubbell.com Web: hubbellpowersystems.com

AMERTONGS



Fits most meters up to 3.25" width



Trigger at end of operating rod controls roller to open and close ammeter jaws.

Features & Applications

- Tested per OSHA & ASTM F711
- Can be adjusted at collar to fit an ammeter
- Plastic-coated castings securely grip while protecting the meter's finish
- Fiberglass operating rod for maximum insulation

Catalog No.	Description	Pole Dia. and Overall Length	Weight
H19686	Amertong	1 1/4" x 6'3"	4 lb./1.8 kg.
H19688	Amertong	1 1/4" x 8'3"	4 1/2 lb./2.0 kg.
H19786	Hinged Amertong	1 1/4" x 6'3"	5 lb./2.3 kg.
H19788	Hinged Amertong	1 1/4" x 8'3"	5 1/2 lb./2.5 kg.

PLASTIC HEAD FOR UNIVERSAL TOOLS

Features & Applications

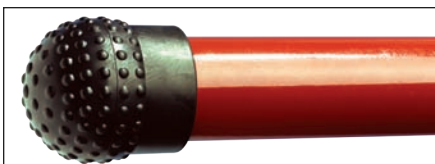
- Sized to retrofit over 1-1/4"-diameter Chance Epoxiglas® hot-line tools
- Available in kit form for shop installation
- For users concerned about hotsticks with metal ferrules that could draw an arc or effect a short circuit in close-clearance worksites



- Kit includes:
 - Black plastic (glass-filled nylon ferrule with splines to accept Chance Universal Tool Accessories (Catalog pages 2120 - 2127)
 - Thumbscrew to hold the accessory in use
 - Two drive screws
 - Instruction tag
- Simple procedure requires attaching ferrule to pole with Epoxiglas® Bond Kit H1917, drilling through holes and installing the drive screws

Catalog No.	Description	Weight
C4031996	Plastic Universal Head Kit: Ferrule, Thumbscrew, 2 Drive Screws, Instructions	5 oz./0.14 kg.

HEAVY-DUTY END CAP



Catalog No.	Description
P4032312P	Heavy-Duty End Cap for 1 1/4" Epoxiglas pole

Features & Applications

- Designed to withstand rough working conditions
- Quickly fits on any 1-1/4"-diameter pole with Chance Epoxy Bond Kit, Catalog No. H1917
- Molded nubs on exterior, ball shape, and thick walls cushion repeated impacts of use
- Black ethylene vinyl acetate material provides optimum resistance to abrasion and cuts

THREADED HEX FITTING & UNIVERSAL POLES



Features & Applications

- Tested per OSHA & ASTM F711
- Insulating black plastic ferrule accepts threaded-stud fitting unique to Safety Line brand interchangeable tool accessories

Catalog No.	Description	Weight
P4032252P	Plastic Hex Ferrule only	6 oz./0.17 kg.



Both Ends: Plastic Hex Ferrules Installed

Catalog No.	Description	Weight
C4001585	6-foot length	2 1/4 lb./1 kg.
C4001586	8-foot length	3 lb./1.4 kg.
C4001587	10-foot length	3 3/4 lb./1.7 kg.

- Made from same glass-filled nylon materials as Chance universal-tool ferrules
- Extends insulation to end of tool handle
- Ferrule may be ordered either separate for retrofit on customer poles or factory-installed on 1-1/4"-diameter Epoxiglas® poles



Opposite Ends:

Plastic Hex and Chance Universal* Ferrules

Catalog No.	Description	Weight
C4001582	6-foot length	2 1/4 lb./1 kg.
C4001583	8-foot length	3 lb./1.4 kg.
C4001584	10-foot length	3 3/4 lb./1.7 kg.

*Thumbscrew included with Chance universal fitting.

Universal Poles



Features & Applications

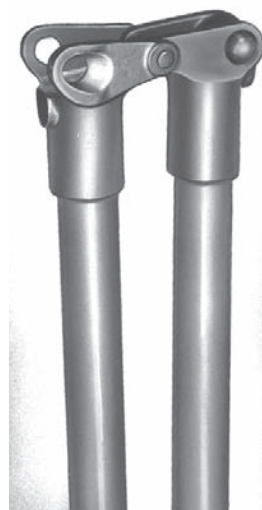
- Tested per OSHA & ASTM F711
- Designed for use as a hotstick handle for Universal Tools
- Made with Epoxiglas® and lightweight aluminum castings
- Universal Tools shown on following pages fit under the thumbscrew of the spline on the Universal Pole
- Splines allow angling the tool up to 90° depending on individual tool design
- Universal Adapter M445584 (shown on page 2123) may be added between the pole and tool to gain any angled desired

Storm Tool for Bad Weather

- A Universal Pole with special rubber insulator skirts, designed for emergency use
- Provides extra leakage distance and disrupts water paths
- Skirts break up water streams that would otherwise run down pole

Universal Fittings for Spliced Poles

- Universal fittings are threaded for use on Epoxiglas® poles with Rigid Splices
- Also see Catalog Section 2500 for Rigid Pole Splices and Epoxiglas® Blank Poles



Hinged Pole
H1770



Spliced Poles
H17602 & H17606

Catalog No.	Description	Pole Dia.	Overall Length	Weight
PST4032913	Pole with one universal head	1¼"	4'2"	1.9 lb./0.9 kg.
H1760	Pole with one universal head	1¼"	8'2"	3.4 lb./1.5 kg.
H17601	Pole with one universal head	1¼"	6'1"	2.7 lb./1.2 kg.
H17602	Rigid spliced pole with one universal head	1¼"	4'1" +4'	5.5 lb./2.5 kg.
H17603	Pole with two universal heads	1¼"	6'3"	3.1 lb./1.4 kg.
H17604	Pole with two universal heads	1¼"	8'3"	3.8 lb./1.7 kg.
H17606	Rigid spliced pole with two universal heads	1¼"	4'1" + 4'1"	5.8 lb./2.6 kg.
H176010	Pole with two universal heads	1¼"	10'3"	4.6 lb./2.1 kg.
H176012	Pole with two universal heads	1¼"	12'3"	5.3 lb./2.4 kg.
H176014	Pole with two universal heads	1¼"	14'3"	6.1 lb./2.8 kg.
PST4032914	Universal storm tool with two skirts and one universal head	1¼"	4'3"	2.2 lb./1.0 kg.
H1761	Universal storm tool with two skirts and one universal head	1¼"	8'2"	3.6 lb./1.7 kg.
H1770	Hinged pole with one universal head	1¼"	8'2"	5.4 lb./2.4 kg.
H17908	Pole with two universal head, pole hanger	1½"	8'3"	5.8 lb./2.6 kg.
H179010	Pole with two universal heads	1½"	10'3"	6.7 lb./3.0 kg.
H179012	Pole with two universal heads	1½"	12'3"	7.7 lb./3.5 kg.
H179014	Pole with two universal heads	1½"	14'3"	8.8 lb./4.0 kg.
H4455	Universal head only	1¼"	—	0.25 lb./0.11 kg.
H4455A	Universal head only	1½"	—	0.33 lb./0.15 kg.
P4030467P	Replacement Thumbscrew	—	—	—

Crossarm Tool Hanger

Features & Applications

- Adjustable to crossarms in widths from 3-1/4" to 4-1/2" in width (depth of crossarm does not matter)

Catalog No.	Description	Weight
M1860	Crossarm Tool Hanger	2 lb./9 kg.

- Crossarm Tool Hanger is made of strong, lightweight aluminum alloy and cadmium-plated steel hardware



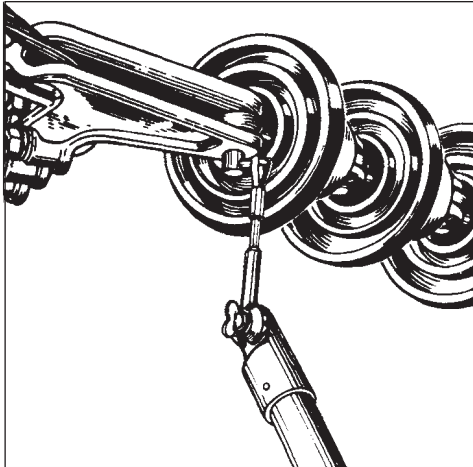
Universal Tool Kits



Features & Applications

- Over 75 individual Universal Tools to select from for various maintenance jobs
- Kits are a convenient way of ordering, with one single catalog number shipped in a single carton – one number for the complete set

- Most frequently used tools by hotstick crews were selected by Chance Hot Line Tool Demonstrators
- Although all Universal Tools shown on the following pages are still available as individual part numbers, ordering one or more of the following kits will cover most tool requirements

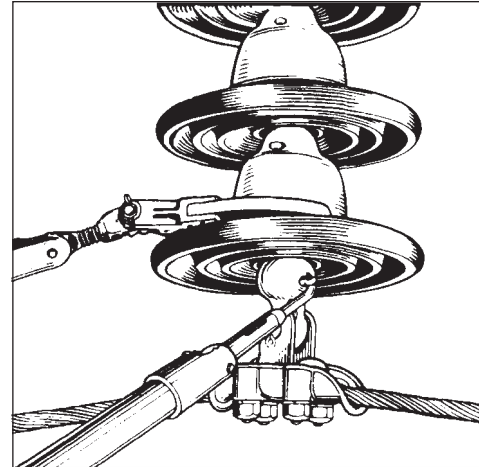


**Universal Tool Kit
for Clevis Type Insulators
C4031112**

- 10-piece kit contains the Universal Tools normally used to handle cotter keys, bolts and insulator hardware for insulator control on Clevis-tongue type suspension or deadend insulator strings.

C4031112 Kit consists of

Part No.	Description	Cat. Page Ref.
M44552	Pin Holder	2120
M445512	Cotter Key Remover	2120
M445515	Locating Pin	2120
M445538	Clear Vision Mirror	2122
M445539	Shepherd Hook	2122
M445567	Insulator Fork	2122
M445582	Cotter Key Tool	2123
M445584	Universal Adapter	2123
C4030177	All Angle Pliers	2125



**Universal Tool Kit
for Ball Socket Insulators
C4031113**

- This 7-piece kit contains those Universal Tools required to handle cotter keys, bolts and hardware on ball and socket type suspension or deadend insulator.

C4031113 Kit consists of

Part No.	Description	Cat. Page Ref.
M445512	Cotter Key Remover	2120
M445519	Cotter Key Pusher	2121
M445522	Ball Socket Adjuster	2121
M445538	Clear Vision Mirror	2122
M445567	Insulator Fork	2122
M445596	Ball Socket Cotter Key Remover	2124
C4030177	All Angle Pliers	2125

Complete Kit for Hot Stick Trailer — C4031114

- Tool trailers are usually equipped for maximum efficiency for a variety of hot stick jobs. This 21-piece kit contains the Universal Tools most frequently used with Chance Tool Trailers.

C4031114 Kit consists of

Part No.	Description	Cat. Page Ref.
M44552	Pin Holder	2120
M44555	Cutout Tool	2120
M44556	Ratchet Wrench	2120
M445512	Cotter Key Remover	2120
M445515	Locating Pin	2120
M445522	Ball Socket Adjuster	2121
M445528	Screw Driver	2121
M445538	Clear Vision Mirror	2122

Part No.	Description	Cat. Page Ref.
M445539	Shepherd Hook	2122
M445546	Wrench Head	2122
M445567	Insulator Fork	2122
M445579	Spiral Disconnect	2123
M445582	Cotter Key Tool	2123
M445584	Universal Adapter (2 Furnished)	2123
M445596	Ball Socket Cotter Key Remover	2124
M4455102	Clevis Pin Installer	2124
M4455103	Cotter Key Tool	2125
C4030011	Knocker	2125
C4030126	Ball Socket Adjuster	2125
C4030177	All Angle Pliers	2125





Pin Holder

For replacing pins and bolts. Bolt head fits into a slot and is held tight by spring action. Will take bolts or pins up to 5/8" diameter. Fits EEI and NEMA insulators.

Part No. M44552.....10 oz.

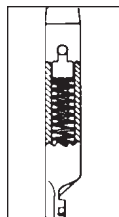
Snapout Cotter

Key Remover

Hammer-like action makes it extremely useful in pulling out stuck cotter keys.

Release of the compression spring by a quick jerk of the pole deals the cotter key a hammer blow without disengaging the eye.

Part No. M445512.....8 oz.



Cutout Tool

While this tool was designed for removing and replacing the doors of enclosed cutouts, its finger-like grasp makes it useful on many other jobs where a sure grip is required. Jaws open to accommodate an object 3-3/4" wide. All parts that contact porcelain are plastisol covered.

Part No. M44555.....1 3/4 lb.

Locating Pin

Used as a drift pin in aligning bolt holes as an aid in bolt and pin insertions. Recommended for making hardware connections on tower transmission lines and line deadends where aligning or hardware fitting is difficult.

Part No. M445515.....10 oz.



Ratchet Wrench

1/2"-square drive

This Ratchet Wrench is used for tightening bolts in substation equipment, hardware, transmission and distribution lines, etc.

Part No. M44556.....1 3/4 lb.

Folding Rule

Adaptable to many uses.

Particularly suited for obtaining measurements near live conductors in congested areas.

Part No. M445516....8 1/2 oz.



Disconnect

Used for opening and closing switches, opening enclosed cutouts, etc.

Aluminum:

Part No. M44559.....2 oz.

Bronze:

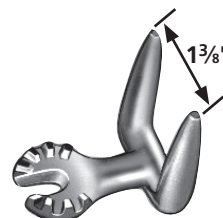
Part No. C4001418.....6 oz.

Fixed Prong

Tie Stick Head

Often preferred for manipulating tie wires which have looped ends. Useful in close quarters where loose ends of tie wire must be rolled up to prevent contact with crossarm or hardware while untying.

Part No. M445517.....1 lb.



Chuck Blank (5/8" opening)

Screw drivers, hack saws, and other tools may be inserted in this device and secured by soldering. For wingnut tightened Chuck Blank order No. M445537.

Part No. M445510.....4 1/2 oz.

Chuck Blank (5/8" opening)

The Chuck Blank can be used for a variety of applications, such as inserting screw drivers, saws, etc. The wing nut tightens the installed tool.

Part No. M445537.....5 oz.



Universal Tool Accessories

— See Universal Tool KITS on Page 2119 —

CHANCE®



Cotter Key Pusher

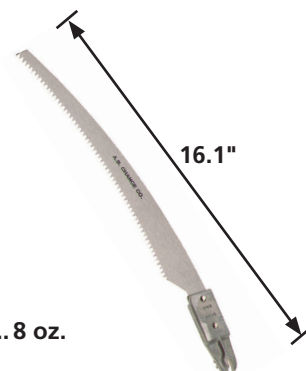
For ball and socket insulator coupling. Straight end of the tool enters the socket opening to force cotter key out. Curved end forces cotter key back into position.

Part No. M445519..... 9 oz.

Pruning Saw

These saws can be used with Chance Pistol-Grip Handle, Tree Trimmers, Universal or Telescoping Tools.

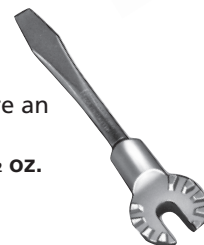
C4032213 8 oz.



Screw Driver

Ideal for a number of odd jobs where an insulated handle is needed.

Part No. M445528.....3½ oz.



Ball Socket Adjuster

Useful in controlling the adapter between clevis clamps and ball and socket insulator pins.

Part No. M445522.....9 oz.

Universal Cutout Tool

4-in-1 tool for 100 amp fuse holders and Chance Electronic Sectionalizer. Works on major brands of cutouts (ABB, Chance, S&C) for easy lift out, placement, *opening and closing operations. Holds fuse holder in inverted position, more secure method than a disconnect prong. Lightest weight of its kind (other designs can weigh nearly twice as much).

PSC4033484 4 oz.

*When opening a cutout, follow all work rules and OSHA regulations. Not for use with loadbreak cutouts.



Hack Saw

Excellent for use at various angles where a hack saw is needed near energized conductors, comes with 10 blades.

Part No. M445523..... 1 lb. 12 oz.

P4030369P..... Blade only

Clamp Stick Head

A Universal Clamp Stick Head for use with Eye Screw Grounding Clamps.

The 6" head is for long eye screw grounding clamps.

Part No. M445529B (6") 1¼ lb.



Paint Brush

A three-inch brush for painting around live apparatus. Useful for applying conductor paint on insulator heads.

Part No. M445525.....9 oz.

Link Stick Head

Use with light conductors. The clamp will hook into a cum-a-long ring. Jaw openings range from .750 to .22. Jaws have rounded edges to prevent scarring conductors. The hook is made of heat-treated aluminum alloy. Screw is Everdur.

Part No. M445536..... 1 lb.

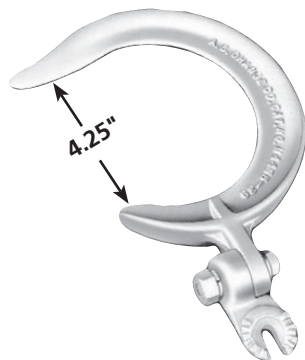




Clear Vision Mirror

Angle adjustment enables the operator to inspect insulators, switch bases, and other equipment which is difficult to see without coming in contact with energized conductors.

Part No. M445538..... 14 oz.



Shepherd Hook

The self-aligning shepherd hook is designed for pulling and lifting insulator strings. Swivel action permits it to rotate and maintain its alignment with the insulator at all times. Heat treated aluminum alloy.

Part No. M445539.....14 oz.



Fixed Blade Tie Stick Head

For manipulating tie wires with or without looped ends. The sharp V-notched blade gets into tight places to pry tie wires loose. The head is set at 60° angle from the pole when attached, for ease in operation.

Part No. M445540..... 8 oz.



Flexible Wrench Head 1/2"-square drive

Made to fit standard wrench sockets. Flexibility permits use at various angles.

Part No. M445546..... 1 lb.



Skinning Knife

For cutting or scraping insulation, cleaning conductors, etc., prior to making splices. Its use with a universal pole permits work near energized lines with safety.

Part No. M445550..... 7½ oz.

Conductor Cleaning Brush

V-position of brushes gives 2-sided cleaning action. As brushes wear, they can be rotated, by loosening the anchor screws, so that unused bristles will come in contact with conductor.

Part No. M445563..... 11 oz.

Part No. M1889 With Hand Grip..... 16 oz.

Part No. M1899 Box of 10

Replacement Brushes.....5 lb.



Storm Tool

A universal pole extension with rubber insulator skirts. Splined fitting at top of tool receives other universal tools. Overall length 19½".

Part No. H445564 1¼ lb.



Pistol Grip Saw Handle

Developed for use with a pruning saw when limbs are convenient and insulation is not needed. Aluminum alloy.

Part No. M445566..... 8 oz.



Adjustable Insulator Forks

Designed to grasp 9" and 10" disk insulators used in deadend construction, will raise most pin type insulators up to 15 lb. Fiber jaws open and close by rotating screw.

Part No. M445567

Jaws adjust from 3" to 4¼" across inside center of fork..... 1 lb. 11 oz.

No. T4031101

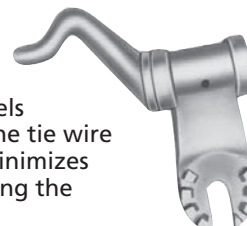
For polymer insulators, jaws adjust from 2¼" to 3½" 1 lb. 6 oz.



Rotary Prong Tie Stick Head

For placing insulator ties with looped ends. Head treated aluminum alloy body. Prong swivels freely, permitting a full turn on the tie wire without releasing contact. This minimizes the possibility of kinking or burning the wires.

Part No. M445569..... 6 oz.



Universal Tool Accessories

— See Universal Tool KITS on Page 2119 —

CHANCE®



Rotary Blade Tie Stick Head

For manipulating tie wires with or without looped ends. The heat treated aluminum alloy body design permits a swivel action. Wire is wrapped or unwrapped without turning universal pole. A V-notched carbon steel blade grasps tie wire securely.

Part No. M445570..... 6 oz.

Spiral Disconnect

Extremely effective in opening switches and removing and installing cutout doors on porcelain enclosed type cutouts. Also called "Pigtail" Disconnect.

Part No. M445579.....6½ oz.



Pointed Disconnect

A pointed disconnect head for use on certain types of disconnect switches. Made of aluminum alloy.

Part No. M445571..... 3 oz.

Tree & Rope Hook

The Universal Tree and Rope Hook is made of aluminum alloy and is attached to a universal pole to push tree limbs out of the way of hot-stick work and to clear rope if it becomes tangled.

Part No. M445580..... 1 lb.



Conductor Gauge

This aluminum gauge is small, compact, and light. It is used to make a quick, accurate check on the gauge of ACSR, solid or stranded copper conductors.

Range: #4 Cu. through 4/0 ACSR.

Part No. M445572..... 3 oz.

All-Purpose Cotter Key Tool

For pulling and replacing hump-type cotter keys. Particularly suitable for use on clevis pins and ball socket insulators. Easy guiding of cotter key provided by contoured slot and raised eye pin.

Part No. M445582..... 5 oz.



Full Range Conductor Gauge

This aluminum gauge has multiple range scales to make a quick, accurate check on the gauge of Copper, ACSR, AAAC, AASC/ASC conductors. Includes hard shell storage case.

Range:

#4 ACSR through 954 kcmil ACSR.
PSC4032956 9 oz.

Universal Adapter

When this adapter is mounted on a universal stick and any universal tool is mounted on the adapter, the tool can be set at almost any angle to the stick. Useful for working in limited access areas.

Part No. M445584..... 5 oz.



Fuse Puller

The Chance Fuse Puller may be preset to any position desired and locked there by tightening the wing nut. A spring assembly also permits the tool to be preset without locking, so that it will align with the fuse during the pulling operation. The Fuse Puller is opened and closed by turning the pole. Its jaws are plastisol covered.

Part No. M445577
(½" to 1½" Fuse)..... 1⅞ lb.

Part No. M445578
(1½" to 2½" Fuse)..... 2½ lb.

Hammer

Used for many operations around energized conductors such as moving conductors, suspension clamps and other pieces of hardware requiring a forceful blow.

Part No. M445585..... 1 lb.





Ball Socket Adjuster

Used on heavy socket clevises, particularly where aluminum suspension and deadend clamps are attached to ball and socket insulators.

Part No. M445587.....10 oz.



Bolt Head Wrench

Used on heads of $\frac{3}{4}$ " and $\frac{5}{8}$ " dia. bolts to keep bolt from turning as nut is being tightened. Extremely useful on rural ridge pin type construction — outer edges of wrench are tapered so that they can be wedged between flanges on channel and bolt head to keep bolt from turning.

Part No. M445588. 1 lb. 2 oz.



Ratchet Wrench

This Ratchet Wrench is for tightening square nuts on $\frac{5}{8}$ " pole line hardware, regardless of the length of the bolt running beyond it. The long socket permits wrench handles to swing past crossarm when tightening top ridge pin nut.

Part No. M445589..... 2½ lb.



Aerosol Can Holder

By pulling the rope on this tool, a prong reaches out to depress the nozzle of an aerosol can to apply G.E. Insuljel to insulators or insecticides to bee and wasp nests on poles and crossarms. Also useful for applying paint, lubricant, etc., in hard-to-reach places.

C4032270 12 oz.

Conductor Cleaning Brush

Semi-tubular shape allows linemen to clean 6" of entire circumference of conductor with two stick position.



Part No. M445592

1¼" Dia. Tube with Universal Fitting.....13 oz.



Part No. C4030320

1¼" Dia. Tube with clip.....6 oz.



Part No. M445593

1¼" Dia. Tube only.....5 oz.



Cotter Key Puller

This Cotter Key Puller is used to partially withdraw a ball-socket cotter key so that the insulator can be removed from another insulator hanger. This puller with its thin prong is preferred for prying out standard keys deeply set on long insulator strings.

Part No. M445596..... 12 oz.

Tool for "W" Keys

This tool is used for handling the "W" shaped keys used in suspension insulators which are popular in western Europe and Japan.

Part No. M445597..... 14 oz.



Super Tester Adapter

Designed for attaching a Super Tester (H1990ST, Section 2450) to a Grip-All, a Universal Pole or a Positive-Grip Stick. With this adapter the tester can be used in any position, above or below the lineman.

Part No. M445598.....5 oz.



Clevis Pin Installer

This tool has particular application on EHV hardware and insulators where the pin must be placed in semi-recessed areas. The three-finger device is spring-loaded with cadmium-plated music wire for positive grip.

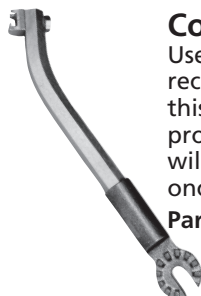
Part No. M4455102..... 1 lb.



Universal Tool Accessories

— See Universal Tool KITS on Page 2119 —

CHANCE®



Cotter Key Holder

Used to install cotter keys into semi-recessed hardware such as found on EHV, this tool will hold the keys in position for proper insertion into clevis pins. The tool will hold the key firmly, yet readily release once engagement is made

Part No. M4455103..... 1 lb.

Plastic Insulator Tool

Plastic coating of the Chance Ball and Socket Adjuster prevents damage to Epoxilator distribution deadend insulators during lifting or rotating of the insulator. Arms of the tool are designed to fit between the skirts of the insulator.

Part No. C4030175..... 12 oz.



Cotter Key Tool

Used for ball and socket insulator couplings, this tool is used to push the cotter key into position where great force is required.

Part No. C4030005..... 1¼ lb.



Cotter Key Tool

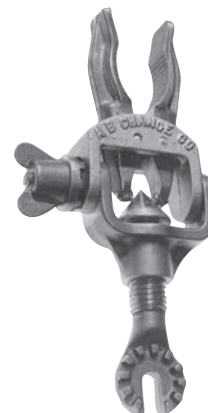
The Cotter Key Tool is a companion tool to Part No. C4030005, both designed for ball and socket type insulator couplings. C4030005 enters the socket opening to force the cotter key out while C4030006, shown here, forces the key back into position. Effectiveness of both tools is enhanced with the use of the Universal Knecker.

Part No. C4030006..... 1¼ lb.

All-Angle Pliers

Designed to grasp from any angle, and tighten by clockwise rotation of the Universal Tool handle. The jaws are held firmly in position with a wing-nut. Used as a holding device for retaining bolt heads and loose hardware, adjusting arcing horns, replacing cotter keys, etc.

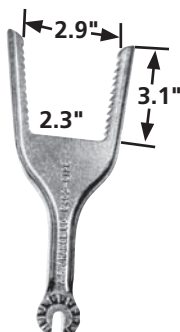
Part No. C4030177..... 1½ lb.



Knocker

Designed to knock out and pull the cotter keys on fog-type insulators, the Knocker Tool is spring assisted for greater impact in restricted space and under adverse working conditions. The Knocker has a standard universal fitting one end and a Universal fitting one end and a Universal fitting with wingnut on the other end to receive various Cotter Key Tools at top of this page.

Part No. C4030011..... 10 oz.



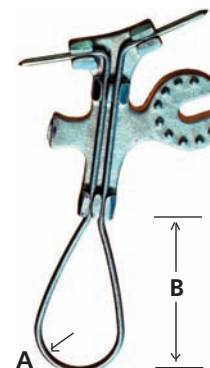
Ball Socket Adjuster

Similar to the M445587 Chance Ball socket Adjuster, this Adjuster is designed to handle socket adapters up to 2¾ inches wide.

Part No. C4030126..... 14 oz.

Hot Rodder Tool

Ideal for applying line ties and other formed wire products on energized lines. The smaller unit (C4031071) is particularly adaptable to Super Top-Ties®. The loop type work end permits rotational control which is difficult with conventional tying tools.



Part No.	Dim. A.	Dim. B.	Weight
C4031071	17/32"	1¾"	12 oz.
C4030834	11/16"	3"	13 oz.

Tie Wire Claw

Features & Applications

- Hand-like hot-line tool easily and neatly applies tie wires, both factory- and field-formed
- With grip equal to pliers, securely wraps tight coils onto conductors
- Available either as a Universal Tool accessory with splined fitting or ferrule style mounted on insulated Epoxiglas® handles



**Tie Wire Claw
C4031416
Universal Tool Fitting**



**Tie Wire Claw
C4031764 & C4031765
Epoxiglas Handle Mounted**

ORDERING INFORMATION

Tool Head only

Catalog No.	Description	Weight
C4031416	Tie Wire Claw/Universal Fitting	½ lb./0.2 kg.

Epoxiglas Handle with Tool

Catalog No.	Description	Weight
C4031764	6' x 1¼" Handle/Tie Wire Claw	3 lb./1.35 kg.
C4031765	8' x 1¼" Handle/Tie Wire Claw	4½ lb./2 kg.

Tested per OSHA & ASTM F711

Utility Head

Features & Applications

- Gator-look shape makes this tool popular for many hot-line jobs
- Designed for placing/removing blocks, slings, circuit breakers, line hooks and strain breakers
- Available either as a Universal Tool accessory with splined fitting or ferrule style mounted on insulated Epoxiglas® handles

**Utility Head
C4031417
Universal Tool Fitting**



**Utility Head
C4031766 & C4031767
Epoxiglas Handle Mounted**

ORDERING INFORMATION

Tool Head only

Catalog No.	Description	Weight
C4031417	Utility Head/Universal Fitting	½ lb./0.2 kg.

Epoxiglas Handle with Tool

Catalog No.	Description	Weight
C4031766	6' x 1¼" Handle/Utility Head	3 lb./1.35 kg.
C4031767	8' x 1¼" Handle/Utility Head	4½ lb./2 kg.

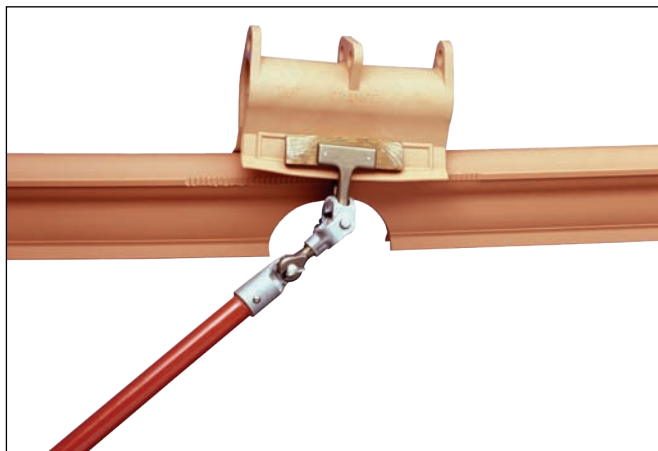
Tested per OSHA & ASTM F711



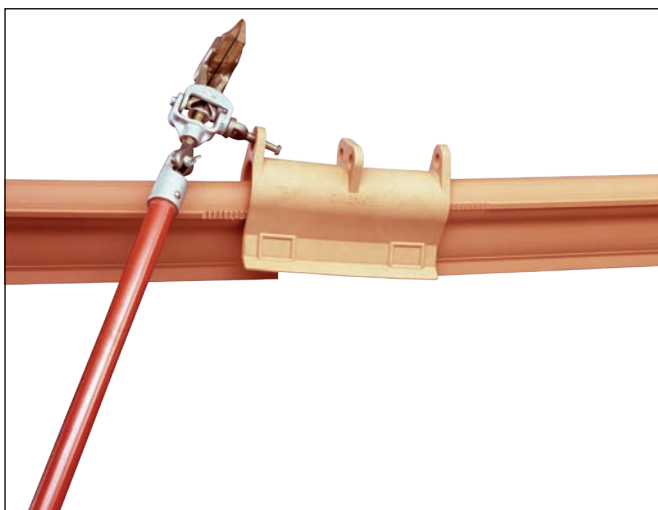
Hot Line Applicator Tools for Rubber Line Hose & Blankets

Features & Applications

- Designed to grasp the extended lip on Class 4 rubber line hose
- Also permits placement/removal of rubber cover-up blankets with insulated hotsticks
- Available in two styles to fit either clampsticks or universal hotsticks
- Each style comes in three wood blade lengths



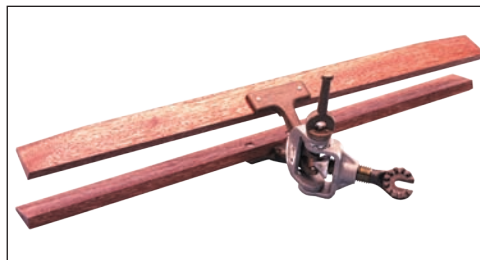
- Especially useful for hose couplers, tools with 6" blades also may be used to position rubber blankets and shorter line hose lengths



- Prong on universal tool may be used in several techniques to remove and place line hose couplers, insulator hoods and rubber blankets



- Grip-All clampstick operates applicator tool to install Class 4 line hose with ease
- Simply rotating the stick clockwise tightens the tool's grasp on the hose lip



- Universal tool mounts by its fitting with thumbscrew
- Adjustable hinge feature can be set at various working angles simply by unscrewing the prong, meshing the pivot cogs and tightening the prong again.

Catalog No.	Description	Weight
C4032525	Universal Tool 6"	1.7 lb./0.8 kg.
C4032526	Universal Tool 24"	2.5 lb./1.1 kg.
C4032527	Universal Tool 36"	3.0 lb./1.4 kg.



- Beveled top corner on each blade end helps insert tool between hose lips
- Notice that blades fit in flat area recessed full length on outside of one hose lip



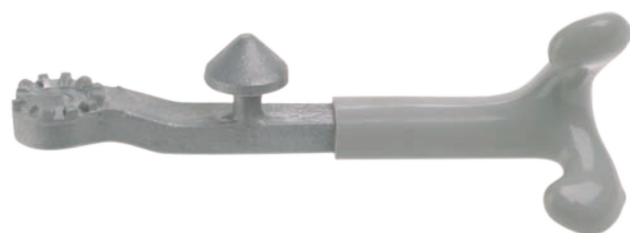
- Clampstick tool features an eyescrew similar to grounding and tap clamps

Catalog No.	Description	Weight
C4032505	Clampstick Tool 6"	1.7 lb./0.8 kg.
C4032506	Clampstick Tool 24"	2.5 lb./1.1 kg.

Fuse Grappler Tool

Features & Applications

- Helps remove and install power fuses and barriers in pad-mounted switchgear
- Specifically fits S&C Electric Company power fuses SM-4Z, SM-20, SML-4Z and SML-20
- Designed to be attached to an insulated universal tool
- Tool features aluminum casting with plastisol coating on hooks to help avoid scuffing



Ordering Information

Catalog No.	Description	Weight
C4033284	Fuse Grappler Tool	1/2 lb. / 0.23 kg.

SAFETYSHIELD™

Hot Stick Barrier

Features & Applications

- Mounts on 1-1/4" or 1-1/2"-diameter live line tool in less than a minute
- Adds up to a 24"-diameter protective screen between linemen and a electrical hazard
- Used by major electric utilities, co-operatives, contractors and industrial customers in the U.S. and abroad
- Fits on clampsticks, disconnect sticks, and elbow-puller tools
- Should be mounted on the hotstick nearest the point where an electrical arc flashback may occur
- Made with a flame-retardant transparent polycarbonate protective shield
- Shield is affixed with a nylon fastener to a glass-filled nylon clamp

Tested per ASTM Standard F2522-05: Test Method for Determining the Protective Performance of a Shield Attached on Live Line Tools or on Racking Rods for Electrical Arc.



Orange protective storage case and Instructions are included with each

SAFETYSHIELD™
Hot Stick Barrier.

- Available in three diameters

Catalog No.	Diameter	Weight
PSC4170627	16" (406.4 mm)	1 lb. 6 oz. /0.62 kg.
PSC4170628	21" (533.4 mm)	2 lb. 6 oz./1.08 kg.
PSC4170629	24" (609 mm)	2 lb. 14 oz./1.3 kg.



SAFETYSHIELD[™] Hot Stick Barrier for Ratchet Wire Cutters[†]

Features & Applications

- Mounts on 1-1/4" or 1-1/2"-diameter live line tool in less than a minute
- Adds up to a 16"-diameter protective screen between linemen and a electrical hazard
- Used by major electric utilities, co-operatives, contractors and industrial customers in the U.S. and abroad
- Fits on clampsticks, disconnect sticks, and elbow-puller tools
- Should be mounted on the hotstick nearest the point where an electrical arc flashback may occur
- Made with a flame-retardant transparent polycarbonate protective shield
- Shield is affixed with a nylon fastener to a glass-filled nylon clamp



Tested per ASTM Standard F2522-05: Test Method for Determining the Protective Performance of a Shield Attached on Live Line Tools or on Racking Rods for Electrical Arc.

Orange protective storage case and Instructions are included with each SAFETYSHIELD[™] Hot Stick Barrier.



Ordering Information SAFETYSHIELD[™] Hot Stick Barrier for Ratchet Wire Cutters[†]

Catalog No.	Diameter	Weight
PSC4170630	16" (406.4 mm)	1 lb. 6 oz. /0.62 kg.

[†]See Catalog Section 2150 for these Ratchet Wire Cutters: Catalog No. C4031381, C4031382, C4031383 & C4031384.

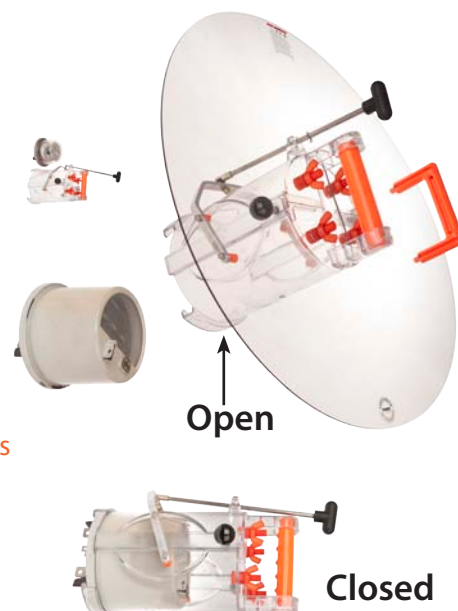
Meter Claw™ and Safetyshield™ Barrier

Added protection for pulling and installing electrical meters

- Transparent polycarbonate 24" diameter barrier for full view and protection
- Ergonomic handles for stable control, leverage and minimal fatigue, help prevent injuries from repeated pulls/installs
- Fit single and multi-phase meters (residential and commercial)
- Non-conductive jaws grasp back of meter base not just bezel



NOT RECOMMENDED:
Improper/unsafe methods for loosening and removing meter by hand can result in injury/death due to breakage and electrical arcing.



EASY 4-STEP PROCESS TO MAINTAIN CONTROL WITH METER CLAW™ AND SAFETYSHIELD™ BARRIER



1
Positioning on residential meter



2
Closing non-conductive jaws with actuating rod



3
Removing/pulling meter



4
Meter removed from socket base

NOTE: The two black ball-type handles may be grasped if using Meter Claw without Safetyshield barrier.



Catalog No.	Description
PSC4170638	Meter Claw™ & Safetyshield™ Barrier with Bag PSC4170643
PSC4170639B	Meter Claw™ with Bag PSC4170644
PSC4170639	Meter Claw™ only (1 orange handle & 2 ball-type handles)
PSC4170640	Meter Safetyshield™ Barrier with Bag

Storage Bags*

PSC4170643	Bag for both Meter Claw™ & Safetyshield™ Barrier
PSC4170644	Bag for Meter Claw™ only



PSC4170641 Retrofit Kit for Meterpuller® by Rauckman Utility Products includes shield, adapter plate and four fasteners.



PSC4170642 Retrofit Kit for Meter Grabber by Utility Solutions includes shield, actuating rod with handle and two fasteners

Retrofit Kits - each includes a storage bag*

Catalog No.	Description
PSC4170641	Retrofit Kit for Meterpuller® by Rauckman Utility Products*
PSC4170642	Retrofit Kit for Meter Grabber by Utility Solutions

*Storage bags are orange heavy-duty vinyl-impregnated fabric.

*Meterpuller® is the registered trademark of Rauckman Utility Products.

Rescue Hook

Features & Applications

- Handle meets ASTM F711 and IEC 60855 specifications
- 3/4" high strength steel hook with 18" diameter and coated with black paint
- Hook mounted on a 1-1/4" diameter Epoxiglas® pole
- Available in 6' and 8' handle lengths

ORDERING INFORMATION

Epoxiglas Handle with Tool

Catalog No.	Description	Weight
PSC4033703	6' Rescue Hook	7.25 lb./3.29 kg.
PSC4033704	8' Rescue Hook	8.00 lb./3.63kg



Animal Catcher

Features & Applications

MUST BE USED WITH HOT STICKS — NOT FOR RUBBER GLOVE USE

- Universal attachment end for primary control
- Hot stick loop end for activation of the device
- Lightweight and compact design
- High-visibility orange storage bag

ORDERING INFORMATION

Catalog No.	Description
PSC4033614	Animal Catcher



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HUBBELL[®]

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