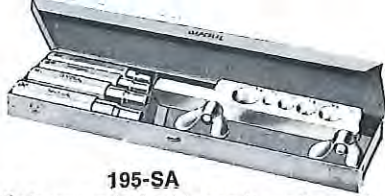


EQUIPMENT AND TOOLS IMPERIAL FLARING AND SWAGING TOOLS



193-S

SWAGING TOOL KITS



195-SA

Enlarges end of tubing so it can be used to make solder joints without fittings.

CAT. NO.	PART NO.	DESCRIPTION
34816	195-SA	Kit with flaring bar and 4 swaging tools for 1/4", 3/8", 1/2" and 5/8" O.D. tubing.
34818	193-S	4 Swaging Tools only for 1/4", 3/8", 1/2" and 5/8" O.D. tubing.

SWAGING PUNCHES ONLY



93-S



94-S

CAT. NO.	P/N	O.D. Size	CAT. NO.	P/N	O.D. Size
34819	93-S	3/16"	34826	93-S	5/8"
34820	93-S	1/4"	34827	93-S	3/4"
34821	93-S	5/16"		93-S	7/8"
34822	93-S	3/8"	34825	94-S	1/2", 5/8"
34823	93-S	1/2"			7/8"

SCREW-TYPE SWAGING TOOL



Far easier to work within close quarters than punch type tools. No punch to drop, no chance of doing a poor job. Perfect swage alignment of tube every time. Adapters change quickly For 1/2", 5/8" & 7/8" OD Tube. in plastic kit

CAT. NO. 34824

FLARING (45°) & SWAGING TOOL



Flares or swages. Converts quickly Screw type feed. Ideal close quarters tool. Two bars included cover 9 sizes. Swivel type swaging adapters and spreader cone are hard chrome finished for easy operation. Self-centering, slip-on forged steel yoke.

CAT. NO.	P/N	DESCRIPTION
34833	275-FS	Flares 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8" and 3/4" O.D. Includes 5 Swage adapters for - 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", O.D. in plastic kit

PRODUCTION FLARING & SWAGING TOOL



Flares and Swages 6 Sizes of soft copper, aluminum or brass tubing. Portable - can be used anywhere there is a vice or bench. Change sizes quickly. Self-gauging for accurate flare size or swage depth.

45° and 37° for 3/16", 1/4", 5/16", 3/8", 1/2" & 5/8" OD tubing. Supplied with 45° and 37° flaring cones and 6 swaging adapters.

CAT. NO. 34874

NOTE: FLARING ANGLES - Refrig/Air Cond. Work, 45° - Plumbing Work 37°

FLARING TOOL 45°

P/N 300 - FA



Flares 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. Tubing.

CAT. NO. 34834

9 IN 1 FLARING TOOL 45°

P/N 900 - FB



Flares and automatically burnishes 9 sizes of tubing - 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", and 3/4" O.D. Tubing. Tube sizes are clearly marked on both faces of chrome plated die bar.

CAT. NO. 34839

ECONOMY 45° FLARING TOOL

P/N 296 - FA



Flares 7 sizes of tubing. Easy operating swivel-type, hard chrome finished cone to assure smooth flares. Sizes - 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" and 5/8" O.D. Tubing.

CAT. NO. 34888

FLARING TOOL WITH QUICK SLIP-ON YOKE 45°

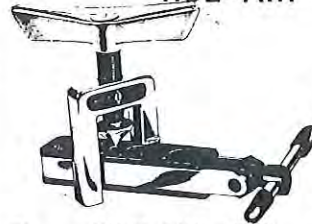
P/N 195 - FC



Exceptional ease and speed of operation. Yokes made of forged steel. Flares - 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" and 5/8" O.D. Tubing.

CAT. NO. 34832

ROL-AIR® FLARING TOOL



Large handle with better leverage and precision threads on feed screw makes flaring effortless. Satin and black nickel finish. Faceted, hard chrome finished cone rolls out perfect flares above die block - then automatically burnishes flare face. Original wall thickness is maintained at base of flare.

Flares - 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" OD Tubing.

45° P/N 500-FA

CAT. NO. 34838

"Grabber" ROL-AIR® FLARING TOOL



Universal application. Unique, self-adjusting tube holding mechanism. permits flaring any size tubing 3/16" thru 5/8".

Innovative single opening design is more compact and easier to use than conventional multi-opening flaring bars. Yoke slips over top of bar, then locks into position with slight turn.

Satin and black nickel finish ONE OPENING HOLDS ALL SIZES 3/16" to 5/8" O.D.

45° P/N 525-F

CAT. NO. 34829

EQUIPMENT AND TOOLS IMPERIAL FLARING AND SWAGING TOOLS

WIDE RANGE FLARING (45°) KIT



Compact kit holds 2 flaring bars and one yoke for flaring 9 tube sizes. Self-centering forged steel yoke has latest slip-on feature. Hard chrome finished, swivel-type flaring cone reduces effort required. Positive clamping action of flaring bars eliminates tube movement. Satin finish nickel chrome plated.

CAT.NO.	PART NO.	DESCRIPTION
34836	375 - FS	Flares - 1/8", 3/16", 1/4", 5/16" 3/8", 7/16", 1/2", 5/8" and 3/4" O.D. Tubing In plastic kit
34837	376 - FS	Flares - 1/2", 5/8" and 3/4" O.D. Tubing.

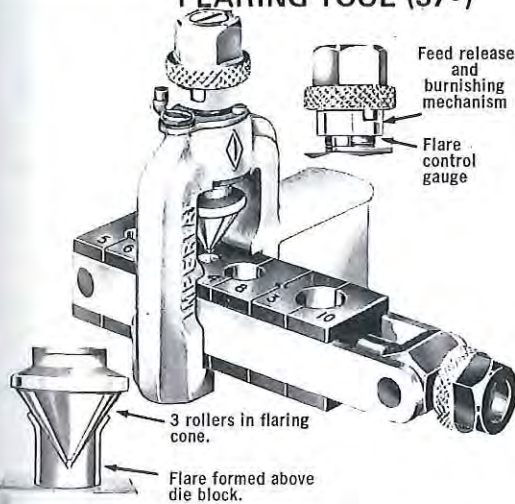
FLARING TOOLS (45°) FOR LARGER SIZES



Flares larger tube sizes. Quick slip-on yoke. Hard chrome finished, swivel flaring cone reduces effort required. Positive clamping action of flaring bar eliminates tube movement. Satin finish nickel-chrome plated.

CAT.NO.	PART NO.	DESCRIPTION
34831	203 - FA	Flares - 5/8", 3/4", 7/8" and 1-1/8" O.D. Tubing.
34830	103 - FS	Flares - 3/4", 7/8" and 1" O.D. Tubing.

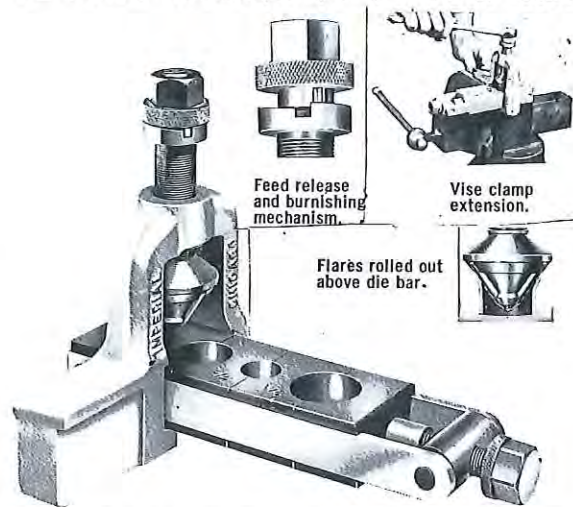
FLARING TOOL (37°)



Forms 37° flares to AN Standards in steel, stainless steel (including MIL-T-6845), titanium and other metal tubing. Positive stop gauge assures correct size of flare. Special burnishing action polishes flare face. 3 rollers in flaring cone roll out 37° flare above die block. Roller action cuts effort required; maintains original wall thickness; eliminates stress concentration. Extension on yoke for clamping in vise. Satin chrome and black nickel finish. Furnished in plastic kit.

CAT.NO.	PART NO.	DESCRIPTION
34879	400 - F	Flares - 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. Tubing.
	402 - FA	Flaring and Reaming Kit. Contains No. 400-F Flaring Tool and No. 401-FA Reaming Yoke for 1/4", to 5/8" O.D. Tubing. In Plastic Kit.

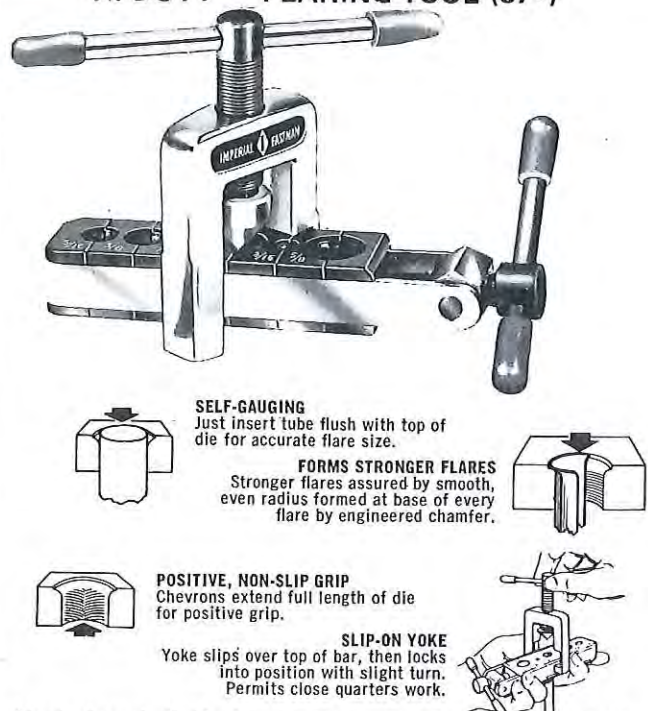
FLARING TOOLS (37°) 1-1/4" TO 2" O.D.



For Soft Steel, Copper, Aluminium, Annealed Stainless Steel Tubing
3 cylinders in flaring cone roll out 37° flare above die block. Flares soft steel, copper, aluminium and fully annealed stainless steel tubing. Roller action cuts effort required; maintains original wall thickness; eliminates stress concentration. Automatic burnishing action. Vise clamp extension on yoke. Heat treated dies clamp tubing without marking it. Satin chrome and black nickel finish. Supplied in steel kit.

CAT.NO.	PART NO.	DESCRIPTION
34877	537 - F	Flares and Burnishes - 3/4", 7/8", 1" and 1-1/4" O.D. Tubing.
34878	637 - F	Flares and Burnishes - 1-1/4", 1-1/2" and 2" Tubing.

HI-DUTY® FLARING TOOL (37°)



Hard chrome finished cone makes exceptionally smooth, high strength flares with a radius at base of flare - instead of the sharp angle formed by ordinary tools. New slip-on yoke permits use in tight quarters, lets you flare where there is little space between nut and tube end. New feed screw design provides smoother, easier operation. Positive gripping and self-gaging of tube for exact flare size. Sliding die blocks lock in place by lever clamp action. Satin chrome and black nickel finish.

Flares - 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. Tubing.

P/N 437 - FA

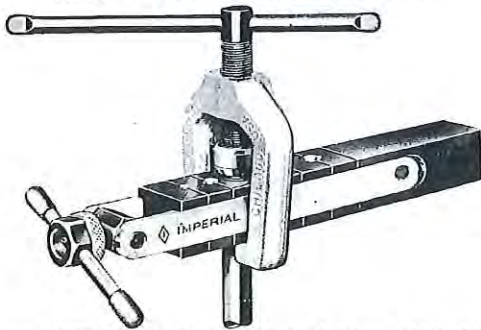
CAT. NO. 34876

NOTE : FLARING ANGLES - Refrig./Air Cond. Work 45° - Plumbing Work 37°

EQUIPMENT AND TOOLS

IMPERIAL FLARING AND SWAGING TOOLS

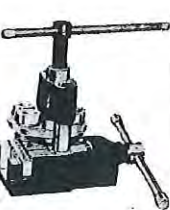
HEAVY DUTY FLARING TOOL (37°)



Forms 37° flares in annealed stainless steel (MIL-T-6845 or AMS5566), cold drawn stainless steel and annealed copper or aluminium tubing. Ideal for use where considerable number of 37° flares in stainless steel tubing must be made every day. Built to withstand continuous rugged service. Ball thrust bearing flaring cone mechanism reduces effort required. Hardened tool steel die features non-slip grip of tubing, even after repetitive flaring. Bar has vise extension.

PART No. 447 - F for 1/8", 3/16", 1/4", 5/16", 3/8" and 1/2" O.D. Tubing.

CAT. No. 34880



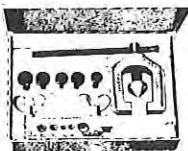
DOUBLE FLARING TOOL (45°)

For welded or brazed soft steel tubing (such as Bundy). Also makes single or double flares on other soft tubing.

P/N 251-F - For 3/16", 1/4", 5/16", 3/8" and 1/2" O.D. Tubing.

CAT. No. 34842

DOUBLE FLARING TOOL KIT (45°)



For brazed steel and other tubing. Overcomes tendency of brazed steel tubing to split when flared. Tool also single flares. Complete in plastic kit.

P/N 93-FB Double flares 3/16", 1/4", 5/16", 3/8" and 1/2" O.D. Tubing.

CAT. No. 34840

AUTO. AIR COND. DOUBLE FLARING TOOL (45°)



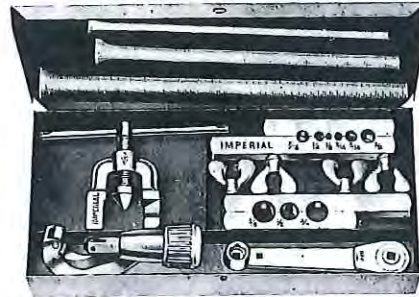
P/N 195-FB Double flares 1/4" 5/16", 3/8", 1/2", 5/8" and 3/4" O.D. Tubing having not over .135 inch wall. Complete in metal kit.

CAT. No. 34841

Designed for automotive air conditioning service. Makes double flares in soft copper or aluminium tubing (wall thickness to .035"). Easy operating ball bearing swivel-type hard chrome-finished flaring cone. Quick slip-on yoke. Flaring bar offers positive grip of tubing. Makes flare with double-thick, double-strength walls. Also makes single flares and oversize flares.

WE BELIEVE IN GOOD QUALITY PARTS AND EQUIPMENT, RELIABLE SERVICE, BACKED BY LARGE STOCK HOLDINGS SUPPLIED BY REPUTABLE AND TRUSTWORTHY COMPANIES

WIDE RANGE FLARING AND CUTTING TOOL KITS



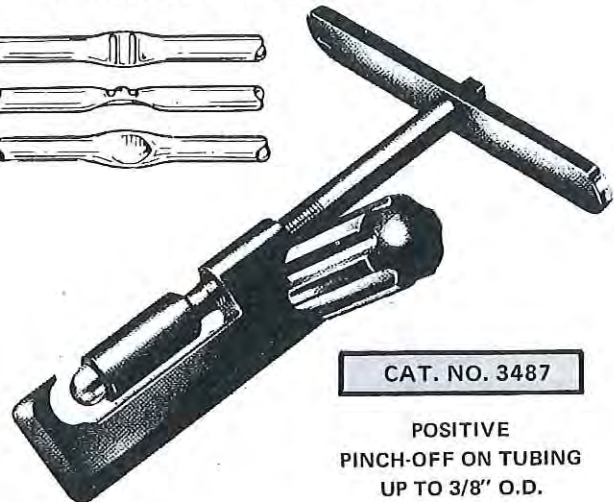
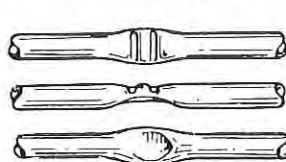
P/N 120-F
CAT. No.
34885

P/N 121-F
(Illustrated)
CAT. No.
34887

No. 120-F WIDE RANGE FLARING AND CUTTING KIT (45°) Contains : No. 274-FC Cutting Tool, and No. 375-FS Wide Range Flaring Tool for tube sizes 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8" and 3/4" O.D. In plastic carrying case.

No. 121-F ALL PURPOSE TUBING TOOL KIT Contains tools listed above plus three No. 102-F Bending Springs for 1/4", 3/8" and 1/2" O.D. tubing; and the No. 123-C Ratchet Wrench with 1/4" ratchet, 3/16" and 1/4" square opening and 1/2" hex. in handle. In steel carrying case.

ROBINAIR PINCH - OFF TOOL

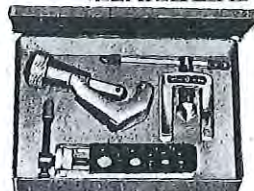


CAT. NO. 3487

POSITIVE
PINCH-OFF ON TUBING
UP TO 3/8" O.D.

The only Pinch-Off Tool available to provide the field serviceman with a seal that duplicates the factory seal. The tool's unique design employs screw-type action, with ball bearings accepting the thrust for thread safety and ease of operation. Turn the screw with the handle provided or with a ratchet wrench and the tube is easily de pressed to a positive pinch-off without being weakened, cut or perforated. It is ideal for closing off compressor process tubes.

FLARING (45°) AND CUTTING TOOL KITS



All kits include Part No. 274-FC Tube Cutter, for tubing from 1/8" to 1-1/8" O.D.

Flaring Tools included are as listed below.

CAT. NO.	PART NO.	Flaring Tool P/N Included
34881	1226-FA	195-FC
34882	123-FA	300-FA
34886	124-FA	500-FA

NOTE

FLARING ANGLES : Refrig./Air Cond. Work 45°
Plumbing Work 37°

EQUIPMENT AND TOOLS REPLACEMENT PARTS FOR IMPERIAL FLARING AND SWAGING TOOLS

Note : Complete Tool Part Nos. are listed in numerical order.

Complete TOOL P/N	PART CAT.NO.	REPLAC P/N	PART DESCRIPTION
93 - FB	34851	32638	Yoke Assembly
	34867	32640	Compressor Cone
		36849	Bolt for Open End of Bar
		36850	Bolt for Pivot End of Bar
	34892	38381	Bar Assembly
		38388	3/16" Adapter
	34858	38584	Wing Nut (2 required)
		68012	1/4" Adapter
		68013	5/16" Adapter
		34872	68014
	34869	68015	1/2" Adapter
103 - FS		28357	Bolt for Open End of Bar
		38586	Bolt for Pivot End of Bar
		28359	Wing Nut (2 required)
	34857	38903	Yoke Assembly
		38904	Compressor Cone Only
	38905	Bar Assembly	
194 - S		278-FS	Individual Swaging Adapters Specify Size: 1/2, 5/8 or 7/8" O.D.
		32644	Rivet
		36849	Bolt—open end of bar (6-sided)
		36850	Bolt—pivot end of bar (4-sided)
	34858	38584	Wing Nut
		78858-01	Yoke Assembly
	69947	Bar Assembly	
195 - FB		28357	Bolt
		28359	Wing Nut (2 required)
		38586	Bolt
	34856	64250	Yoke Assembly
		64252	Compressor Cone
		64253	Bar Assembly
		68012	1/4" Adapter
		68013	5/16" Adapter
	34872	68014	3/8" Adapter
	34869	68015	1/2" Adapter
34870	68016	5/8" Adapter	
34871	68017	3/4" Adapter	
195 - FC		32644	Rivet (2 required)
	34858	38584	Wing Nut (2 required)
	34865	64462	Compressor Cone
		73938	Bolt (2 required)
	34850	75531	Bar Assembly
34848	75534	Yoke Assembly	
203 - FA		28357	Bolt for open end of bar
		28358	Rivet
		28359	Wing Nut
	34857	38586	Bolt for pivot end of bar
		38903	Yoke Assembly
	38904	Compressor Cone	
	70603	Bar Assembly	
251 - F	34891	63587	Pair of Die Blocks In Base
275 - FS	34863	278-FS	3/16, 1/4, 3/8" O.D. (1 Adapter)
	34860	278-FS	1/2" O.D. (Adapter)
	34861	278-FS	5/8" O.D. (Adapter)
	34862	278-FS	3/4" O.D. (Adapter)
	34858	38584	Wing Nut (2 required)
	34843	78858-01	Yoke Assembly without cone or adapters
	34868	38600	Compressor Cone
	34859	38766	Bar for 1/8", 3/16", 1/4", 5/16", 3/8" and 7/16" O.D. Tubing
34849	38767	Bar for 1/2", 5/8" and 3/4" O.D. Tubing	
296 - FA		30009	Rivet
		36849	Bolt for open end of bar (6 sided)
		36850	Bolt for pivot end of bar (4-sided)
	34858	38584	Wing Nut
		64464	Bar Assembly
	34847	71470	Yoke Assembly

Complete TOOL P/N	PART CAT.NO.	REPLAC P/N	PART DESCRIPTION
300 - FA	34846	79134-01	Yoke Assembly
	34865	64462	Compressor Cone
	34896	79133-01	Die Holder Assembly
375 - FS	34867	32640	Compressor Cone
		36849	Bolt for Open End of Bar
		36850	Bolt for Pivot End of Bar
	34858	38584	Wing Nut (4 required)
	376 - FS	34859	38766
	34849	38767	Flaring Bar for 1/2", 5/8" and 3/4" O.D.
	34844	38769	Yoke Assembly
400 - F		60232	Gauge Retaining Screw Spring
		60233	Gauge Retaining Screw
		61818	Gauge
		61825	Drive Nut Retaining Screw
		79249-01	Die Holder Assembly Complete
		68050	Drive Nut Retaining Spring
		68146	Flaring Cone Roller Retaining Cap
		69063	Yoke Assembly Complete
		69064	Flaring Cone
		69065	Flaring Cone Rollers (3 required)
437 - FA		79146-01	Yoke Assembly
		68128	Compressor Cone
447 - F		79147-01	Die Holder Assembly
		79248-01	Die Holder Assembly
500 - FA		73146	Yoke Assembly
	34855	78992-01	Yoke Assembly
	34889	67863	Compressor Cone
507 - FA	34890	78987-01	Die Holder Assembly
		79150-01	Yoke Assembly
525 - F		68009	Compressor Cone
		79151-01	Die Holder Assembly
	34893	80851-01	Yoke Assembly
527 - F	34894	80867-01	Cone
		80852-01	Tube Holding Assembly
		80868-01	Yoke Assembly
		80869-01	Cone
		80852-01	Tube Holding Assembly
537 - F		79234-01	Die Holder Assembly Complete
		61948	Yoke Assembly Complete
		61952	Rollers for Flaring Cone (3 required)
555 - FS		79174-01	Set of Dies Only
	34866	70348	45° Flaring Cone Only
		70349	37° Flaring Cone Only
		560-S	Swaging Adapters Only Specify Size Required: 3/16", 1/4", 5/16", 3/8", 1/2" or 5/8" O.D.
		70469	Guide
637 - F		64219	Yoke Assembly Complete
		64227	Rollers for Flaring Cone (3 required)
		79268-01	Die Holder Assembly Complete

NOTE : ITEMS SHOWN WITH CAT. NOS.
ARE THE NORMALLY STOCKED ITEMS
OTHERS AVAILABLE EX OVERSEAS

TELEPHONE YOUR ORDER

EQUIPMENT AND TOOLS

GAS CYLINDERS



All Cylinders are manufactured in accordance with SAA Codes and supplied complete with built-in Relief Valves.

CAT. NO.	WATER CAP. kg	TYPE P/N	FILLING RATIO				
			1.36	1.15	1.03	1.07	0.53
			REFRIGERANT CAPACITY kg				
RHEEM							
			R11	R12	R22	R502	R717
3941	11	VPR	15	12.5	11.0	11.8	5.8
3942	22	VPR	30	25.0	22.5	23.5	11.7
3493	43	VPR	59	50.0	44.0	46.0	23.0
3498	65	VPR	89	75.0	67.0	70.0	34.0
3499	108	VPR	147	124.2	111.2	115.6	57.6

HUDSON						
34918	4.5	1631		5.2	4.7	4.9
34919	9.1	1632		10.5	9.4	9.7
34920	22.0	1633		25.0	22.5	23.5
34921	65.0	1634		75.0	67.0	70.0

TRANSFERS FOR GAS CYLINDERS

For the convenient branding of Cylinders, tanks, etc. with the refrigerant contained therein. Black lettering.

CAT. NO.	DESCRIPTION
3494	R12 with Red background.
3495	R22 with Yellow background.
34922	R502.
34923	R500.

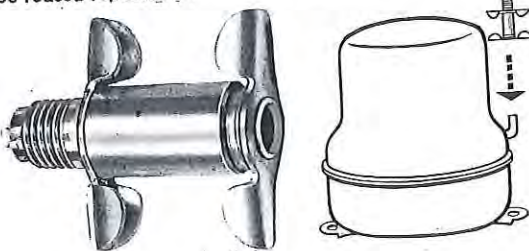
SEALED UNIT CHARGING TOOLS

A special tool (and spare parts) designed to fit on to various makes of Compressors for charging purposes.

CAT. NO.	PART NO.	DESCRIPTION
34937	MR664	Kirby Charging Valve Tool less hose & fitt.
34939	MR659	Kirby Charging Valve Tool c/w hose
34929	MR428	Kirby Charging Hose and Fittings
34935	MR716-1	Kirby Bush Charging Valve 1/4 Flare
34942	MR517	Kirby "O" Ring Seals
34940	ST41	Frigidaire
34941	M1	Kelvinator
34938	2834	Rubber Seals for 1/4" Charging Lines

IMPERIAL - PROCESS TUBE ADAPTER FOR CHARGING AND TESTING

Offers a convenient method of making a service connection to a hermetic unit. Also ideal for providing a connection in testing coils, tubing installations, etc. Handles pressures to 100psi (690kPa). To connect to a hermetic system, pinch-off tube is cut off and Adapter is slipped over cut end of tube and tightened. Synthetic rubber seal of Adapter grips outside of tube. This gives a 1/4" male flare connection to the system for purging, charging or testing. After system is recharged, tube is pinched off next to Adapter, which is then removed and tube cut off and sealed with solder. Adapter can be reused repeatedly.



CAT. NO.	PART NO.	TUBE OD (INS)	FLARE END OD (INS)
349140	241-F-03	3/16	1/4
34961	241-F-04	1/4	1/4
349138	241-F-05	5/16	1/4
349139	241-F-06	3/8	1/4

IMPERIAL - TUBING TEST PLUGS

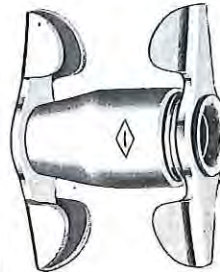


For temporary shut-off of tubing without pinching it off or installing a valve. Especially handy for plumbing, heating, refrigeration and instrumentation when trouble shooting for leaks. Light weight, fast acting, dependable. Insert Plug in tube end and tighten wing nut. Synthetic rubber expander seals tube and holds pressures to 100 psi. (690 kPa).

CAT. NO.	O.D. SIZE	PART NO.	WEIGHT g.
34978	1/4"	140 - F	14
34979	3/8"		21
34980	1/2"		28
34981	5/8"		43
34982	3/4"		57
34983	7/8"		85
34984	1-1/8"		113
34985	1-3/8"		113
34986	1-5/8"	142	

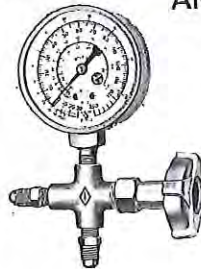
IMPERIAL - TUBING TEST CAPS

For shutting off tube ends temporarily without pinching off or installing a valve. Used for working pressures to 100 psi. (690 kPa). No need to deburr tubing. Can be used even when tube surface is rough. Also, wall thickness of tube is unimportant. Place Cap over tube end and tighten wing nut. Synthetic rubber seal of Cap grips outside of tube.



CAT. NO.	O.D. TUBE	PART NO.
34971	1/4"	240 - F
34972	5/16"	

IMPERIAL - SINGLE GAUGE CHARGING AND TESTING UNIT



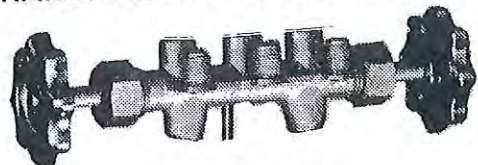
A compact single gauge unit which will perform a variety of charging and testing operations. Body is forged brass, with 1/4" O.D. flare connections. Supplied with wheel handle not assembled.

466-C - Charging and Testing Unit with 425-CB 2 1/2" compound gauge 30" - 0 - 250 lbs. pressure. Metric gauge also available.

401-C - Charging and Testing Unit without gauge.

CAT. NO.	PART NO.
34990	466 - C
34991	401 - C

UNIWELD CHARGING AND TESTING MANIFOLD



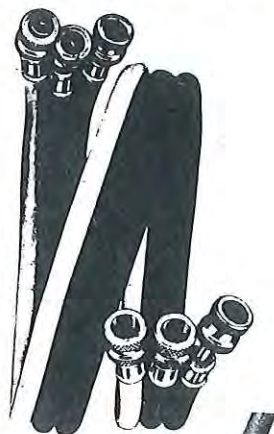
- Quick Action - 1/2 Turn Full Open - 1/2 Turn Closed
- Solid Brass Forged Body
- Extended Valve Stems
- Quick Seal Long Life Seats
- Gauge Connections 1/8 NPT. Hoses 1/4 Flare

CAT. NO. 349195

NOTE: FIRST 3 NUMERALS OF CAT. No. INDICATES PAGE No.

EQUIPMENT AND TOOLS

IMPERIAL CHARGING LINES AND COUPLINGS



CHARGING LINES — COLOUR CODED 1/4" SAE KWIK-KUPLER CONNECTION

Three colours — red, blue and yellow — provide easy identification of lines for high side, low side and charge. Colour coding matches that of the Gould-Imperial Analyzer. Cover is pin pricked to prevent build-up of gas — an important safety feature. Kwik-Kupler connections with knurled nuts provide easy, fingertip connections. 45° elbow end has valve core depressor for use with depressor valve port on System Analyzer and automotive air conditioning systems.

STANDARD LINES 36" LENGTH — 45° ELBOW END

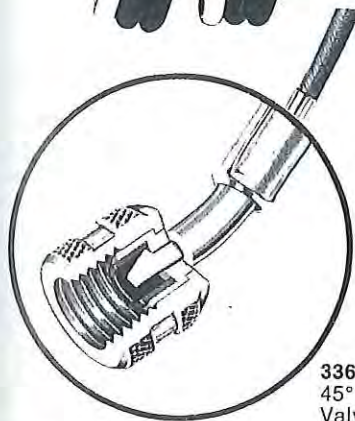
MRE CAT. NO.	IMPERIAL CAT. NO.	IMPERIAL PART No.	DESCRIPTION
34930A	34930	303 - FTB	Set 3 Charging Lines, Blue, Red, Yellow
349107A	349107	336 - FTB	Blue Charging Line
349108A	349108	336 - FTR	Red Charging Line
34927A	34927	336 - FTY	Yellow Charging Line
—	349109	79583 - 01	Seal Gasket
—	349110	79573 - 01	Core Depressor

60" LENGTH — 90° ELBOW END

—	349115	360-FTY-90	Yellow
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LONG LINES — 45° ELBOW END

349143A	349143	348 - FTB	48" Lengths — Blue
34924A	34924	348 - FTY	48" Lengths — Yellow
349144A	349144	348 - FTR	48" Lengths — Red
349145A	349145	360 - FTB	60" Lengths — Blue
349146A	349146	360 - FTR	60" Lengths — Red
34925A	34925	360 - FTY	60" Lengths — Yellow
349161A	349161	372 - FTB	72" Lengths — Blue
349162A	349162	372 - FTR	72" Lengths — Red
34926A	34926	372 - FTY	72" Lengths — Yellow
349163A	349163	396 - FTB	96" Lengths — Blue
349164A	349164	396 - FTR	96" Lengths — Red
349165A	349165	396 - FTY	96" Lengths — Yellow
349166A	349166	3144 - FTB	144" Lengths — Blue
349167A	349167	3144 - FTR	144" Lengths — Red
34933A	34933	3144 - FTY	144" Lengths — Yellow
34932A	34932		Set 3 Chrg. Lines - 72" Blue,Red,Yellow



336-FTB
45° Elbow
Valve Core
Depressor End



360-FTY-90
90° Elbow
Valve Core
Depressor End



BIG JOB CAPACITY LINE — 3/8" HOSE

3/8" hose in three lengths for larger jobs or applications where reduced charging time is desired. 3/8" Kwik-Kupler ends. Available in Yellow only.

349112	536 - FTY	36" Length.
349113	548 - FTY	48" Length.
349114	560 - FTY	60" Length.
349111	79583-01	Seal Gasket.
349117	79583-02	" "



BULK CHARGING HOSE AND ATTACHABLE COUPLINGS

Imperial "Make-UP" Charging Lines are especially advantageous when servicing portable units where long lines or special end fittings are needed. Also ideal for other hard-to-get-at applications. Hose has Buna N tube, braid reinforcement, neoprene cover. It is refrigerant, oil and abrasive resistant. Has burst strength of 1600 lbs, which is far more than needed in actual service.

34993	98 - FT	100 ft. Reel Charging Hose (2-50 ft. lengths).
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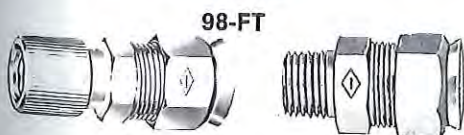
ATTACHABLE COUPLINGS

KWIK — KUPLER — FEMALE FLARE SWIVEL		
34994	97 - FT	1/4" Flare Swivel.
34995	63433	Extra Gasket.

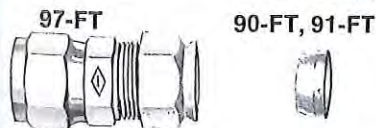
FLARE SWIVEL NUT		
34996	92 - FT	1/4" Female Flare.
34997	93 - FT	3/8" " "

MALE FLARE CONNECTOR		
34998	89 - FT	1/4" Male Flare.
34999	94 - FT	3/8" " "

MALE PIPE THREAD CONNECTOR		
349100	90 - FT	1/8" Male P.T.
349101	91 - FT	1/4" " "
	95 - FT	SLEEVE
	96 - FT	NUT



98-FT



97-FT

90-FT, 91-FT



92-FT, 93-FT

95-FT



89-FT, 94-FT

96-FT

6

EQUIPMENT AND TOOLS

IMPERIAL SERVICE MANIFOLDS — SYSTEM ANALYZERS

SERIES 450/460 FLAT-BACK 4 - PORT, 2 - VALVE SYSTEM ANALYZER



Deep Vacuum Valve Design
Diaphragm valve design operates with fingertip precision. One turn to full open.

T-Grip Controls
Non-slip even with oily fingers.

Complete Colour Coding.

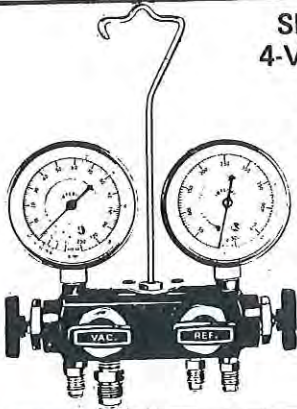
Built-in Hose Closures
Hose end screws into special body fittings.

4-Port Connections
Permit connecting vacuum, low side, high side and refrigerant lines at the same time. 4th. port with depressor valve provides vacuum connection. Connections are 1/4" flare.

Tough Gauge Crystals
Impact resistant Lexan. Front recalibration.

CAT. NO.	MODEL	DESCRIPTION
34960	453 - CB	Analysers Manifold only without Gauges or Charging Lines.
34992	461 - CB	Analysers with Gauges and 3 — 36" Charging Lines.
34987	462 - CB	Same as 461 - CB but with Plastic Carrying Case/Kit.

SERIES 620-C MAX-VAC® 4-Valve SYSTEM ANALYZER



4-Valve Efficiency
Vacuum, low side, high side and refrigerant lines are individually connected and controlled. No need to switch charging lines.

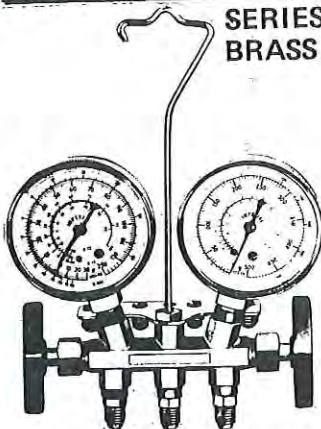
Deep Vacuum Valve Design
Proven diaphragm type, soft seat valves require only fingertip pressure to close completely. One turn to full open. Superior for deep vacuum service.

4-Times Faster Evacuation
3/8" vacuum port and oversize internal passages evacuate systems four times faster than ordinary manifolds. 3/8" port has greater area than combined inlets of high and low side lines.

60" Charging Lines — Standard
Includes one 3/8" line, three 1/4" lines

CAT. NO.	MODEL	DESCRIPTION
349179	620 - C	Manifold with Gauges - No Lines.

SERIES 490 CONVERTIBLE BRASS SERVICE MANIFOLD



Tough Gauge Crystals
Impact resistant Lexan. Front recalibration.

Unique Swivel Hanger

Soft-Seat Valves
Brass stems with long wearing soft tips seat tightly, with finger-tip pressure.

T-Grip Controls
Non-slip even with oily fingers.

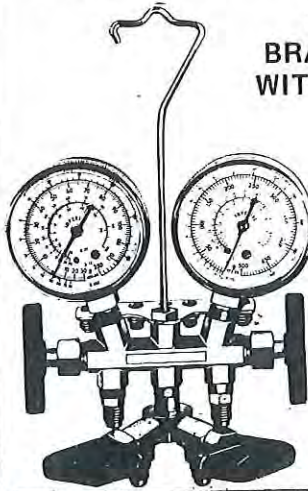
Brass Hose End Closure Bracket

Complete Colour Coding

2-Valve or 4-Valve Operation
Choose the conventional 2-valve style, or add the unique Plus-2 converter for more convenient 4-valve operation. All connections are 1/4" flare.

CAT. NO.	MODEL	DESCRIPTION
34977	494 - C	Manifold only without gauges or Charging Lines.
349182	495 - C	Manifold with gauges but without Charging Lines.
349181	496 - C	Manifold with gauges and 3 — 36" Charging Lines.

SERIES 490 2-PLUS-2 BRASS SERVICE MANIFOLD WITH 4-VALVE OPERATION



4-Valve Operation
Vacuum, low side, high side and refrigerant lines are individually connected and controlled. No need to switch charging lines.

Tough Gauge Crystals
Impact resistant Lexan. Front recalibration.

Unique Swivel Hanger

Brass Hose End Closure Bracket

Soft-Seat Valves
Brass stems with long wearing soft tips seat tightly, with finger-tip pressure.

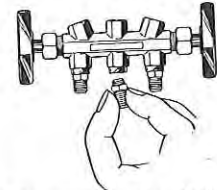
T-Grip Controls
Non-slip even with oily fingers.

CAT. NO.	MODEL	DESCRIPTION
349174	493 - C	Manifold with gauges and 4 — 60" Charging Lines and Carrying Case.

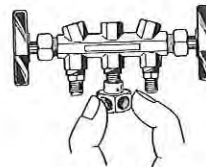
491-C Plus-2 Converter

Instantly adapts 2-valve units to 4-valve operation. Converts any two valve side handle manifold. No need to switch charging lines. Connections are 1/4" flare.

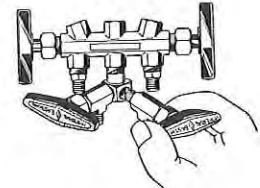
CAT. NO. 349150



1. Remove center fitting.



2. Thread adapter into port.



3. Thread valves into adapter.

640-C HIGH CAPACITY SERVICE MANIFOLD

SPECIFICALLY DESIGNED FOR
FAST SYSTEM EVACUATION

CAT. NO. 349170



Up to 30-Times Faster Evacuation
Oversize 1/2" internal passages. Evacuate systems as much as thirty times faster than conventional manifolds on systems with large access fittings. Evacuates six times faster on systems with 1/4" core valve fittings.

Vacuum Sensor Port
Electronic vacuum gauge sensor port and valve control simplifies use with micron gauges.

5-Valve Efficiency
Vacuum pump, vacuum gauge, low side, high side and refrigerant supply valve controls. No need to switch charging lines.

T-Grip Controls
Tee handles on valves give non-slip operation, even with oily fingers.

Deep Vacuum Valve Design
Soft seat valves require only fingertip pressure to close completely. One turn to full open. Superior for deep vacuum service.

Impact Resistant Crystals
Solid brass gauge cases. Impact resistant crystals on gauges. Front recalibration.

Carrying Case and Hoses
Includes case, two 3/8" x 60" and one 1/4" x 60" long hoses and two 3/8" to 1/4" adapters

ROBINAIR® EQUIPMENT AND TOOLS

"DUO-TEST" CHARGING HOSES 1/4" S.A.E.



FEATURES INCLUDE :

All brass barb and ferrule. Long quick coupler nut for easy finger tightening. Improved quality rubber covered hose is extremely flexible, and impervious to common refrigerants. Has a max. working pressure of 500 psi (3448 kPa) and average burst pressure of 2000 psi (13790 kPa). Moulded gasket is easy to replace but won't pop out. Free swiveling Quick Coupler eliminates binding or kinking of hose when tightening. Valve depressor supplied in elbow end of all 1/4" lines. Can be easily removed if not required or for replacement. New 45° bend on barb. **Colour Coded Sets :** Colour coding eliminates line tracing during testing, evacuation or recharging. Speeds up service work, cuts costs. Packaged in sets or supplied individually. Each hose has valve depressor in elbow end.

CAT. NO.	PART No.	DESCRIPTION
34949	40035	Set 3 - 36" - White, Blue, Red
349196	40037	1 - 36" - Blue (Single Hose)
349197	40042	1 - 36" - Red (Single Hose)
349198	40043	1 - 36" - White (Single Hose)
34943	40044	1 - 36" - Yellow (Single Hose)
34945	40083	Set 6 - 1/4" Gaskets

CAT. NO.	PART No.	DESCRIPTION
349199	40056	Set 3 - 72" - White, Blue, Red
349201	40064	1 - 72" - Blue (Single Hose)
349202	40066	1 - 72" - Red (Single Hose)
349203	40067	1 - 72" - White (Single Hose)
34946	40068	1 - 72" - Yellow (Single Hose)
394204	40082	6 Replacement Valve Depressors

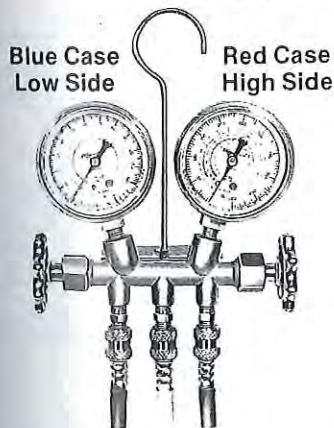
HEAVY DUTY 1/4" HOSES : For R22 intermittent charging and testing. Recommended for permanent application with R12. These hoses are of heavy construction, will not collapse under high vacuum and will provide long and reliable service. Maximum working pressure of 350 psi (2413 kPa) and average burst pressure of 1750 psi (12066 kPa).

CAT. NO.	PART No.	DESCRIPTION
34944	40045	36" Hose with 1/4" Quick Coupler on one end (Single Hose)

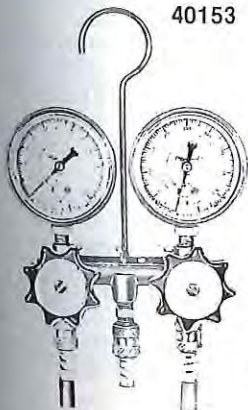
LARGE DIAMETER HOSE 3/8" S.A.E. : For R22 Intermittent charging and testing. Recommended if faster evacuation or transfer of refrigerant is desired. Heavy construction but flexible, with long service rubber outer covering. Have 3/8" S.A.E. Quick Couplers. 350 psi (2413 kPa) working pressure and 1750 psi (12066 kPa) burst pressure.

CAT. NO. 34957	PART NO. 40096	36" Hose with 3/8" Straight Quick Coupler (Single Hose).
CAT. NO. 34958	PART NO. 40099	60" " " " " " " " " " " " "
CAT. NO. 349205	PART NO. 40084	Replacement Gaskets.

CHARGING AND TESTING MANIFOLDS



40153



40166

The ideal unit for testing, evacuating, recharging or setting controls. Available with standard 2 1/2" diameter colour coded gauges. Gauges have restriction screw, front recalibrator and temperature scale for Refrigerant 12, 22 and 502. Compound gauge (blue case) has 30" vacuum to 120 PSI with retard to 250 PSI. Pressure gauge (red case) has 0 to 500 PSI range, 1/8" FPT gauge connections; other connections are 1/4" SAE male flare.

All brass forged body, compact, lightweight yet designed for rugged use. Special stem seats and double "O" ring seals provide positive leakproof shut-off. Stem seats, "O" rings and flare connections can be replaced. Machined for maximum flow, with only 2 1/2 turns of hand wheel. Equivalent Metric gauges available.

CAT.NO.	PART NO.	DESCRIPTION
34976	40153	Manifold bar, complete with hook, hose holder, colour coded gauges and colour coded 36" hoses.
	40154	METRIC
34975	40166	Manifold bar with colour coded gauges.

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349-d

EQUIPMENT AND TOOLS ROBINAIR®



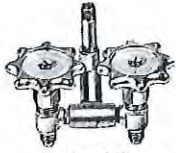
HOSE HOLDERS

Attaches to back of Double Port unit. Keeps hose dry and free from dirt when not in use.

CAT. NO. 349188

PART NO. 40223

Fits P/N 40166 Unit.



40107

FOUR-WAY CONVERSION KITS

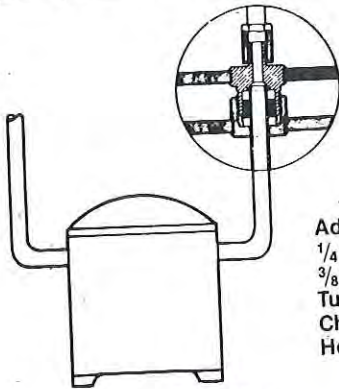
40107 Converts any Robinair double port manifold into a permanent 4-way unit. Consists of conversion elbow, and 2 service valves. Valve connection 1/4" S.A.E. Male Flare

CAT. NO. 349187

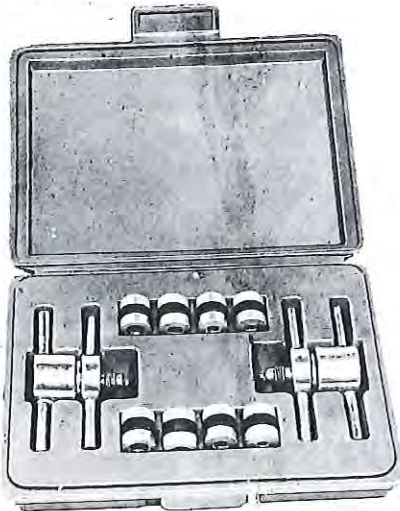
PART NO. 40107

PROCESS TUBE FITTINGS

Designed to provide the fastest and easiest means of connecting charging lines to process tubes for evacuating and recharging a system. Design assures an absolute seal between tubing and charging hose. Eliminates flaring and the possibility of tube chips getting into the system. Simply cut off process tube seals, insert tube into proper size adapter, tighten to seal, attach charging line, evacuate and recharge. After recharging use companion tool 12396 Pinch-Off Tool **CAT. NO. 3487** to crimp tubing. Remove Process Fitting and solder the end of the process stub.

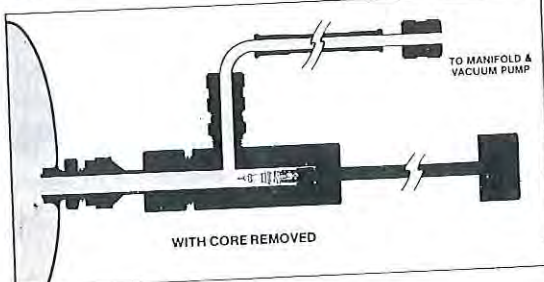
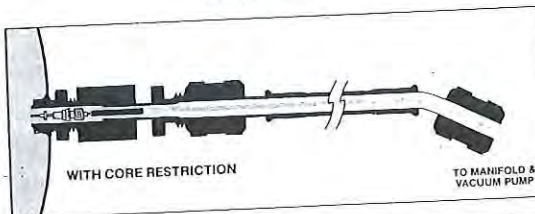


Adapts 3/16", 1/4", 5/16" and 3/8" Copper Tubing to a Charging Hose



CAT. NO.	PART NO.	DESCRIPTION
34950	12458	PROCESS TUBE ADAPTER KIT Adapts 3/16", 1/4", 5/16" & 3/8" tubing to charging hose.
REPLACEMENT SEALS – 2 each required.		
349208	43536	3/8"
349209	43537	5/16"
349210	43538	1/4"
349211	43539	3/16"
REPLACEMENT WASHERS – 4 each required.		
349212	43540	3/8"
349213	43541	5/16"
349214	43542	1/4"
349215	43543	3/16"
349216	43546	Plastic Box.

Access valve core remover and replacer



Designed specifically for use when evacuating or recharging any system using "Schrader" type access valves. This tool removes the valve core and holds it back out of the way, inside the tool to eliminate restriction and provide full flow. Use of this tool makes it possible to evacuate and recharge in half the time normally required. Replacement "O" Rings and gaskets supplied with tool.

A. With core upset method a considerable restriction results, slowing down evacuation and recharging.
B. The "core removal" method provides maximum flow greatly reducing the time required to perform this important service operation.

New flat type "O" ring to seal on flare fittings. Two "O" rings to seal shaft with oil wick to keep shaft lubricated.

CAT. NO.	PART NO.
34959	10515
Replacement "O" Ring Kit	
349217	40708

EQUIPMENT AND TOOLS CHARGING EQUIPMENT

349-e

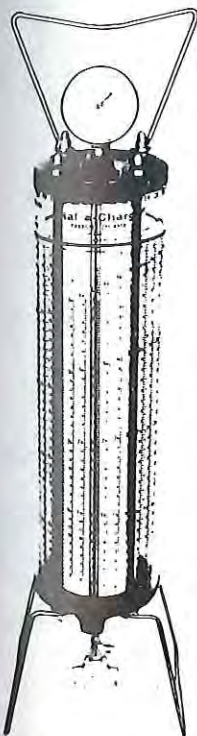
HUDSON

CHARGING CYLINDER

Graduated in metric and imperial units
for refrigerants R12, R22 and R502.



CAT. NO.	CAPACITY		DIMENSIONS L x W mm	MASS (Empty)	PART NO.
	grams	ozs.			
34911	1100	38.8	560 x 70	3.06 kg	A15500
34910	2360	83.3	580 x 100	4.31 kg	A15501



ROBINAIR®

Dial-a-charge® charging cylinders

Duplicate factory accuracy when recharging systems in the field
Accuracy $\pm 1/4$ oz.

Dial-A-Charge Charging Cylinders permit the serviceman to easily compensate for volume fluctuations resulting from temperature variations. They allow the serviceman to buy refrigerant in economical drums and provide accuracy in recharging, eliminating and over and under charging which might require call backs.

These cylinders are provided with heating elements. The use of the cylinders with the heating element allows the serviceman to overcome equalization of pressure between the system and the charging cylinder and reduce time required to recharge.

Cylinders with heating elements eliminate the need to warm with a heating blanket, or immerse the cylinder in a container of hot water or heat the base with a torch.

Simply "dial" the calibrated plastic shroud so the pressure heading at the top of the shroud corresponds to the gauge reading and the cylinder is ready to charge. Cylinders have shut-off valves with Teflon seats for finger tip control in charging systems to factory specifications, and are accurate to $1/4$ oz. of refrigerant when charging system.

WARNING

Due to the chemical nature of most refrigerants, high ambient and working temperatures will cause high pressures within the cylinder. To eliminate this potentially dangerous condition all Robinair Charging Cylinders are equipped with automatic pressure relief valves for your safety.

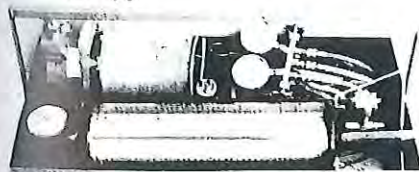
CAT. NO.	PART No.	CAPACITY GRAMS	GAUGE	GRADUATION INCREMENTS
34916	20310	1100	kPa/PSI	25 g
34912	20311	2200	kPa/PSI	25 g
34913	20312	4400	kPa/PSI	50 g
REPLACEMENT PARTS				
	14764	Cylinder Pressure Gauge kPa/PSI		
	14322	Replacement Heating Element		
34951	43291	Sight Glass		
34952	10746	1100	Gasket Kits :	
34953	10747	2200	Sight Glass and	
34954	10748	4400	Inner Cylinder	

ROBINAIR®

CHARGING STATIONS

TAKE YOUR SERVICE SHOP TO THE JOB

6

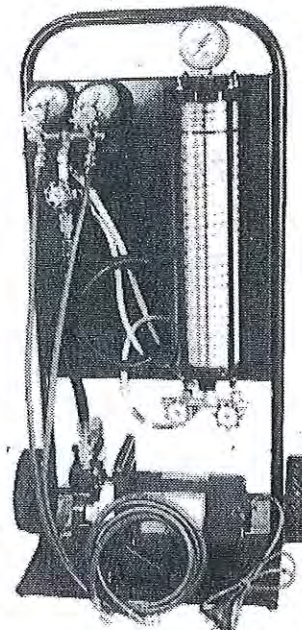


ROBI-PAK P/N 49001

These portable charging kits are designed as the ideal service aid for appliance and automotive repair shops. Consists of:
15096 High Vacuum Pump
43769 5 lb. Charging Cylinder
40153 Gauge Manifold Set

These portable charging stations are designed as the ideal service aid for appliance and automotive repair shops. They are also used by some servicemen to make home repair calls. Utilizing the 15096 Vacuum Pump and one of the heated Dial-A-Charge Charging Cylinders along with the necessary manifold, gauges, lines, etc., these units require only one hook-up to dehydrate and recharge a refrigerant system. For appliance repair, they are ideal for window air conditioners, freezers, refrigerators, etc. since they are mobile and can be taken to the job. This same feature makes them the only practical piece of equipment available for garage mechanics working on automotive air conditioners.

The carts are constructed with 5/8" square steel handles, framing rigid sheet metal support plates and mounted on 1" x 8" wheels.



13105

CAT. NO.	PART No.	CYLINDER CAPACITY lbs.	PUMP CAPACITY CFM	DESCRIPTION
349125	13105	5	1	PORTABLE CHARGING STATION
349126	13106	10	1	
349133	49001	5	1	ROBI-PAK CHARGING KIT

EQUIPMENT AND TOOLS IMPERIAL SERVICE KITS

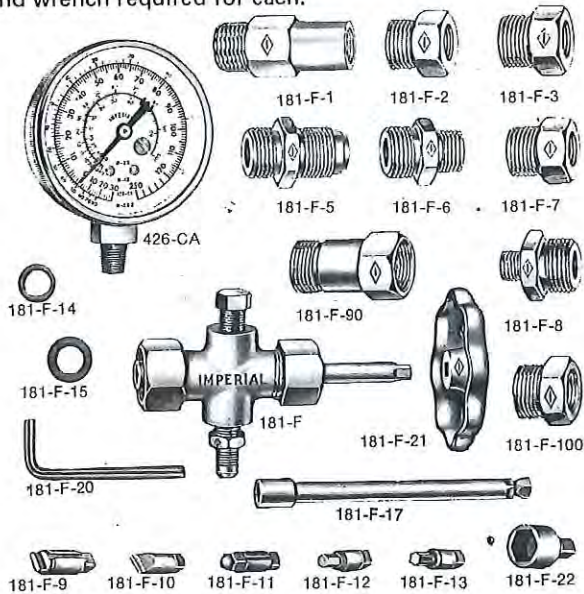
SERVICE VALVE KIT FOR HERMETIC UNITS

For charging, purging and testing hermetically sealed units. Valve equipped with wheel handle for easy operation. Has chrome plated compound retard gauge. Reads from 30" to 120 lbs., retard to 250 lbs. Has temperature scale for R-12, R-22, and R-502. Recalibration screw on gauge face. Metric Gauge available.



289-F

Kit furnished complete in special metal case so arranged that wheel handle and gauge need not be removed from valve when placed in box. Includes 9 adapters, 6 wrenches, 5 gaskets, plug for gauge connection; also a set screw wrench for loosening valve on machines requiring spline wrench. Chart on cover lists units serviced and adapter and wrench required for each.



CAT. NO. 34970	No. 182-F	Service Valve Kit without gauge.
CAT. NO. 34968	No. 289-F	Service Valve Kit with 2 1/2" compound.



181-F-18

ADAPTER for servicing refrigerators, freezers and air conditioning units. Adapter attaches to compressor valve body and is used with a compound gauge to indicate low side pressures while diagnosing and servicing the system.

CAT. NO. 34969

PART NO. 181 - F - 18

AIR CONDITIONING SERVICE KIT



P/N	CONTENTS OF KIT. Description
10-C	90° swivel adapter.
124-C	4-way ratchet wrench.
336-FTB	3' blue charging line.
336-FTR	3' red charging line.
338-C	Tap-A-Can dispensing valve.
372-FTY	6' yellow charging line.
380-G	One pair safety goggles.
495-C	Brass charging manifold with pressure and compound retard gauges.
602-T	Dial fahrenheit thermometer —1-3/8" face. —40° to +160°F in 2° increments.
5100	Complete service manual for air conditioning systems in cars and light trucks.

Here's all you need to handle air conditioning service jobs. Imperial's master service kit includes a professional charging manifold, complete with gauges and charging lines; Tap-A-Can safety dispensing valve for tapping refrigerant cans; 4-way ratchet wrench, goggles, thermometer and a 90 degree Swivel Adapter for use in automotive air conditioning applications. A complete Auto Air Conditioning Service Manual covering service and repair techniques is included.

CAT. NO. 349178 PART NO. 490-F Air Cond. Service Kit.

KWIK-CHARGE® Liquid Low Side Charger

Provides fast, safe charge essential when using tracing dye



Up to 8 times faster than vapor charging | One charger services all units 1/2 ton or larger
No need to heat refrigerant cylinder | No pressure drop in cylinder
Built-in check valve opens for drawing unrestricted vacuum



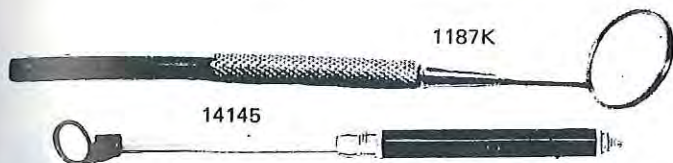
Kwik-Charge accepts liquid refrigerant charges into low side of the system. Charging rate is up to eight times faster than vapour charging. In addition, liquid charging is required when using tracing dye. Kwik-Charge is attached to the low side of the charging manifold. Charging hose is connected from Kwik-Charge outlet to low side of refrigeration system. Internal Kwik-Charge metering element reduces liquid flow to a level below capacity of compressor. This assures a safe, fast charge without endangering the compressor. A built-in ball check valve automatically opens when drawing a vacuum to assure rapid, unrestricted evacuation. Can be used with all fluorinated hydrocarbon refrigerant systems.

CAT. NO. 349186

Kwik-Charge 1/4" Female S.A.E. Flare Inlet, 1/4" Male S.A.E. Flare Outlet.

EQUIPMENT AND TOOLS

INSPECTION MIRRORS



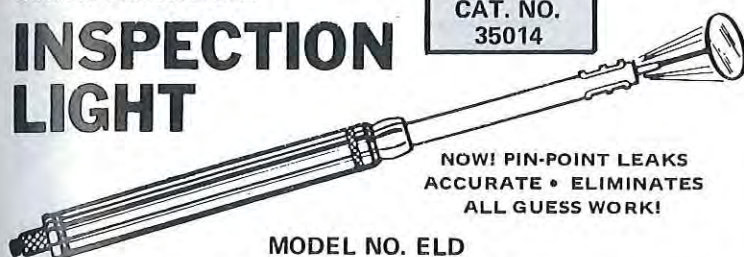
Invaluable for inspecting that "hard to see" place, particularly after soldering or brazing to make sure the metal has flowed right round the joint.

CAT. NO.	MAKE	P/N	DESCRIPTION
3501	ZEAL	1187K	Std. Fixed Head.
35063	ROBINAIR	14145	Adjust. Head, Illuminated Battery powered. 12 1/4" long O/A.

USE ONE HAND TO READ SERIAL NUMBERS
INSPECT INACCESSIBLE AREAS AND JOINTS.
USE AS FLASHLIGHT

INSPECTION LIGHT

CAT. NO. 35014



NOW! PIN-POINT LEAKS
ACCURATE • ELIMINATES
ALL GUESS WORK!

MODEL NO. ELD

Made entirely of durable Aluminium alloy.
Light extending tube — complete with reflecting mirror.
Contains 2 standard pen light batteries.

Unique push-button or continuous lock lighting switch. Can be used as a flashlight (Mirror and flashlight can be separated for individual applications).
Also used to inspect blind spots on sweat joints.

WATSCO SEARCH® LEAK DETECTOR FOAM

A special chemical that forms a thick foam in the container when shaken. When the foam is dispensed to a suspected area per medium of the plastic nozzle any leak is quickly located by the formation of large bubbles.

CAT. NO. 3502	4 oz. Plastic Container
---------------	-------------------------

LEAK DETECTOR SPIRIT

A high quality spirit suitable for all spirit burning leak detectors.

CAT. NO.	
3503	1/4 Gall. Container.
3504	1 Gall. Container.

PHILIPS INDICATING SCREWDRIVER



A small 5" (13 cm) Screwdriver Invaluable when carrying out electrical repairs. The neon Indicator tube located in the handle glows when the un-insulated end of the blade comes in contact with an active terminal or wire. Suitable for all voltages between 110 and 500.

CAT. NO. 3507	PART NO. 7800-15
CAT. NO. 3508	Replac. Neon Tube

SOCKET SCREW (ALLEN) KEYS



A set of 8 Keys on ring 1/16, 5/64, 3/32, 1/8, 5/32, 3/16, 7/32 and 1/4. The special spring "clip-on" device makes it easy to remove and replace the keys on the ring which ensures you have the right key on the job at all times.

CAT. NO. 3506	PART NO. MASTER SET 1A
---------------	------------------------

IMPERIAL INNER - OUTER TUBE REAMER



Reams both inside and outside edges of tube with three hollow ground tool steel cutters. Fluted body is shaped to fit comfortably in palm. 208-FSS has high speed steel cutters.

208-F for copper, aluminium and brass tubing.

208-FSS for aircraft grade stainless steel tubing, hard or soft copper, aluminium, brass and steel tubing.

Reaming capacity — 3/16 to 1-1/2" O.D.

CAT. NO. 3509	PART NO. 208 - F
CAT. NO. 35010	PART NO. 208 - FSS

6

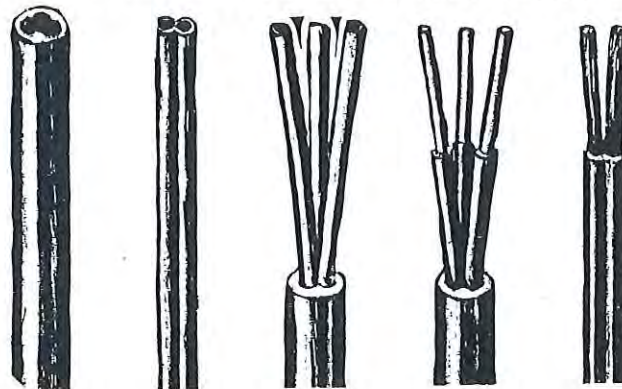
JOKARI WIRE STRIPPING PLIERS

REVOLUTIONARY NEW TIME SAVER NO ADJUSTMENT FOR SIZES 1/32" TO 1/4" CABLE NO DAMAGE TO INNER CONDUCTORS



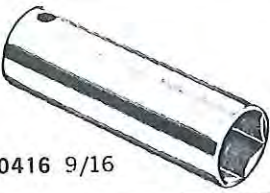

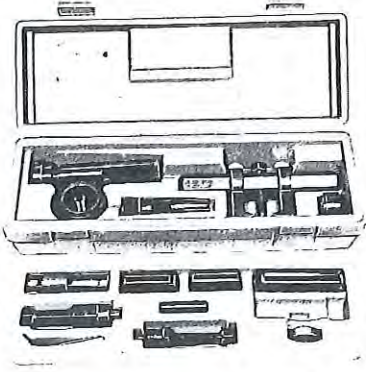

A new, improved type for stripping without adjustment solid conductors and stranded wires from 0.75 to 6.0 mm (1/32" to 1/4"). Easy and simple to use - Clean and smooth cut - No damage to stranded wires or inner conductors - job done within seconds. Continuously ready for use because of its additional tension spring. Equipped with wire cutter.

CAT. NO. 35074



STRIPPING WITHIN SECONDS - THAT'S IT

USE OUR TELEX SERVICE FOR YOUR ORDER

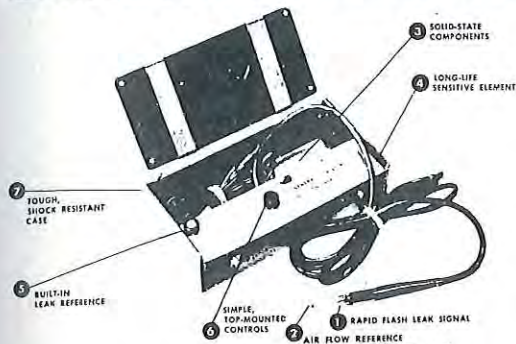
<p>CAT. NO.</p>	<p align="center">THIN WALL HEX SOCKET</p> <p>(G.M. Compressors)</p> <p>This socket is used to remove and tighten compressor shaft nut. Outside diameter of socket is ground to a special size to assure getting on the nut without interference with other parts. 3/8" drive.</p>	 <p>10416 9/16</p>
<p>35058</p>	<p align="center">CLUTCH HUB HOLDING TOOL</p> <p>(G.M. Compressors 4, 5 and 6 cylinder)</p> <p>When compressor has failed electrically and clutch cannot be energized or when servicing on a work bench, compressor shaft nut cannot be loosened unless clutch hub is held, 10418 does the job.</p>	 <p>10418</p>
<p>35062</p>	<p align="center">BELT TENSION GAUGE</p> <p>For checking strand tension of belts to air conditioning compressors, power steering, fans and generators. Faster . . . easier . . . more accurate because of many new features. Positive stop insures accurate readings and repeatability. Use of reset button and lazy hand pointer enables the technician to reach awkward locations, make a check and remove the gauge to take his reading. All steel constructed case makes gauge rugged and durable, able to withstand real punishment in your service area. Packaged complete with belt strand tension specifications, in pounds.</p>	 <p>10640</p>
<p>P/N 10500 CAT. NO. 35059</p> <p>P/N 10550 CAT. NO. 35616</p> <p>P/N 40672 CAT. NO.</p>	<p align="center">GM-6 CYLINDER COMPRESSOR TOOL KIT</p> <p>The three popular types of compressors currently used on U.S. auto air conditioning systems are:</p> <ol style="list-style-type: none"> 1. G.M. Frigidaire/Delco air conditioning — 10500 2. York Models A-206, 209 and 210 — 10550 3. Tecumseh HG850 and HG1000 — 10550 <p>Two economical tool sets have been developed for field servicing of shaft bearings and seals for the above models — 10500 and 10550. Each tool is a necessity, and a definite time saver.</p> <p>40672 — Molded plastic storage case with convenient molded tray.</p>	
<p>35060</p>	<p align="center">10522 UNIVERSAL COMPRESSOR TOOL KIT</p> <p>This kit is comprised of Robinair's two popular Compressor Tool Kits, 10500 & 10550, plus G. M. 5 Cylinder Compressor Tools, Chrysler, "EPR" Tool and Snap Ring Pliers.</p> <p>Services: Shaft Seals Clutches Retainer Rings "EPR" Valves Bearings "O" Rings Pulleys Checks Oil Level</p> <p>Applicable to COMPRESSORS: G.M.—Frigidaire York Models A-206, 209 & 210 • Tecumseh Models HG 850 & HG 1000 • Chrysler Air Temp</p> <p>Kit consists of: 10520 Tool Board, 10500 GM Compressor Tool Set and 10550 York & Tecumseh Compressor Tool (less cases). Set, 40687 & 40689 GM 5 Cylinder Hub Drive Plate Remover and Installer Tools, 10551 EPR Remover and Installer (Chrysler Products), and Snap Ring Pliers #21, #22, #23 and #26.</p>	

THERE'S JUST NOT ENOUGH SPACE TO LIST ALL OF THE EQUIPMENT AND SERVICES WE CAN OFFER YOU
 LET US KNOW ABOUT YOUR REQUIREMENTS

EQUIPMENT AND TOOLS

LEAK DETECTORS

GENERAL ELECTRIC 'H-10A' -ELECTRONIC TYPE - 240V. A.C.



The G.E. H-10A Leak Detector draws in sample air through the probe tip. There is an instantaneous signal flash when you are near a leak. The faster the light flashes, the closer you are to the leak. An easy-to-see ball float built into the probe gives you a constant check on airflow through the probe.

Solid state components add long life and minimise maintenance. The sensitive platinum element seldom requires replacement. When it does, a replacement simply plugs in. Has handy top-mounted controls for quick settings and adjustments. The H-10A's sensitivity is easily regulated with the Hi-Low switch. Hi can be used for most jobs; Low is for auto. air conditioner leaks.

SPECIFICATIONS

Power Supply: 240 volts, 50 cycles, 12 watts.
Sensitivity: 0.5 oz/year of R12 on Hi. 1.0 oz/year of R12 on Low.
Response Time: Approx. 1 second.
Reference Leak: R11 (refillable) Approx. life, 1 year.
Warm-up Time: Approx. 1 minute.
Dimensions: 114 x 66 x 216 mm (4.5 x 2.6 x 8.5 inches). **Weight:** 1 kg (2.2 lb).

CAT. NO. 3512 MODEL H-10A G.E. ELECTRONIC LEAK DETECTOR

REPLACEMENT PARTS FOR MODEL H-10 & NEW MODEL H-10A					
CAT. NO.	PART No.	DESCRIPTION	CAT. NO.	PART No.	DESCRIPTION
35115	1250K46G0700	Sensitive Element	35114	4777K45G0700	Maintenance Kit
	1474K14G0701	Bellows Assembly (H-10A)	35112	4777K46G0700	Reference Leak Refill
	1474K40G0700	Bellows Assembly (H-10)	35121	4869K18P0002	NE-2H (Probe Tip)
35117	1609K45G0700	Body Assy. Lead w/o Probe Tip	35122	4869K40P0001	Glow Lamp (AR9/K4A)
	1609K45G0702	Body Assembly (H-10A)	35111	5844K40P0002	Balance Potentiometer
35125	1621K16G0700	FS-2, P.C.B. (H-10)		5932K10G0001	Pump Assembly (H-10A)
	1623K35G0001	P.C.B. (H-10A)		6705K90P0012	IN648 Diode
35118	1654K42G0700	Reference Leak Assembly (H-10)		7840K42P0001	Speaker
35151	1654K42G0704	Reference Leak Assembly (H-10A)	35119	8159K40P0028	FS-2 Sensitivity Switch
	2164K23P0002	Tan Case (H-10)		8159K40P0070	Sensitivity Switch (H-10A)
	2164K33P0002	Case & Cover Assembly (H-10A)	35116	8511K41G0700	Probe Tip
	3731K41G0700	Pump Solenoid	35123	8600K53P0004	FS-2 Transformer
	3731K41G0702	Pump Solenoid (H-10A)	NOTE: Some Parts are common to both Models H-10 & H-10A		



LEAK DETECTOR

- Portable • Battery Powered • Audible and Visible Detection • Audible signal increases in pitch when pinpointing leak • Rugged construction • Flexible 356 mm (14") Probe • Coiled cord extends to 1.02 m (40") • Balance control • Low battery indicator • 2 position High-Low switch permits leak detection in contaminated areas • Supplied with protective carrying case.

SPECIFICATIONS

Power Supply: 4 AA size batteries (not included) **Sensitivity:** 1/2 oz. per year
Response Time: Instantaneous **Weight:** 0.7 kg (24 oz.) with batteries
Battery Life: Up to 80 hours (alkaline batteries) **Operating Temperature:** 0.6°C to 38°C (33°F to 100°F)
Dimensions: 178 x 76 x 38 mm (7" x 3" x 1.5")

CAT. NO. 35126	P/N 14850	CAT. NO.	P/N 46450 Replacement Sensing Element
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6

New Leak Detector for Refrigeration Engineers

HALOTECK

- Rapid Response • Audio Output
- No Warm-up Time • Only one control
- Sensitive to less than 1/10th. oz. per year
- Battery Operated • Lightweight • Built-in Test Leak
- Completely new design sensor tip insensitive to draughts



The Halotek is a rugged, completely portable gas leak detector which will detect refrigerant and other halogenated gases down to 1/10th. oz per year. The instrument is ready for use immediately it is switched on and will not be adversely affected by large concentrations of halogenated gases in the atmosphere.

A completely new design of sensor tip is a special feature of the Halotek. It provides almost instantaneous response which is unrivalled by most other detectors. The new sensor also eliminates draught problems which have previously created severe difficulties. For noisy areas, use the earphone accessory and simply plug into jack socket provided.

SPECIFICATIONS

Sensitivity: Better than 1/10th oz/yr. R12. **Response Time:** 0.1 sec. to 1 oz/yr. leak R12
Battery: 9 volt alkaline (PP3 size) **Battery Life:** 30 hours normal use
Duty Cycle: Continuous **Operating Temperature:** 0°C to 40°C
Check Leak: Nominally 1/2 oz/yr (14 g/yr) **Probe Length:** 240 mm (9.5")
Weight: 305 g (10.7 oz) with batteries and spares
Spares Supplied: 1 spare sensor, 1 pack filters, 1 check leak

CAT. NO.	TYPE No.	DESCRIPTION
35146	78.000	Halotek Leak Detector
ACCESSORIES/REPLACEMENT PARTS		
35148	78.100	Maintenance Kit - Comprises: 2 Sensors, 1 pack Filters, 2 Alkaline Batteries
35149	78.200	Earphone
	78.300	Pack of 5 Sensors
35147	13.500	Leak Check

EQUIPMENT AND TOOLS

tif 5000: Automatic Halogen Leak Detector... so simple to operate, all you do is turn it on.



Sophisticated electronics make this the most automatic Leak Detector you can buy. Simply turn it on and begin searching for leaks. A computer-like beeping signal increases in both speed and frequency as the leak source is approached. So sensitive to halogen, it detects leaks as small as ½ ounce per year. It automatically recalibrates itself when turned off and on. Two C-cell batteries provide cordless operation for over 300 service calls.

FEATURES

- No calibration required
- Finds leaks in contaminated atmospheres
- Super-sensitive: responds to minute traces of halogen gas (3 PPM) ½ oz. year leak-rate.
- Auto-set control: re-sets to any ambient level
- Cordless: operates on two C-cell batteries (3 volts)
- Sensor not poisoned by large doses of refrigerant
- Instant on – no warm up
- Constant power indication
- No dangerous or poisonous gases are generated
- Long flexible stainless probe for hard-to-reach areas.

Price includes: Earphone, Extra Sensing Tip, Tip Protector, Leak Source, 6 Filter Cloths, 2 "C" Cell Batteries and Carrying Case.

SPECIFICATIONS

Weight: 0.8 kg with batteries Dimensions: 203 x 76 x 46 mm (8" x 3" x 1.8")
 Probe Length: 317.5 mm (12½") Warm-up Time: Instant
 Operating Temperature Range: 0°C to 38°C (32°F to 100°F)
 Battery Life: Approx. 70 hours, normal usage (alkaline batteries)
 Control: One Duty Cycle: Continuous, no limitation

CAT. NO.	TIF5000 PART No.	HLD440 PART No.	DESCRIPTION
35138	TIF5000	Obsolete	Automatic Halogen Leak Detector
REPLACEMENT PARTS & OPTIONAL ACCESSORIES			
35135	TIF446	HLD446	Earphone
35129	TIF447	HLD447	Carrying Case
35132	TIF444	HLD444	Maintenance Kit — includes items listed below
35130	TIF441	HLD441	2 Sensing Tips.
35131	TIF442	HLD442	3 Sensing Tip Protectors
35134	TIF443	HLD443	1 Leak Source
35127	TIF445	HLD445	12 Filter Cloths

tif 4000: Electronic Sightglass... a far superior, electronic method of charging refrigeration systems.



What is an Electronic Sight Glass ?

It's a revolutionary new tool for charging refrigeration systems. The TIF4000 is a small, portable, battery operated instrument which actually detects bubbles through refrigerant tubing with ultrasonic waves. It emits an audible signal letting you know when a system is precisely charged.

How does it work ?

Simply secure the clamps of the TIF4000 onto the refrigerant tubing and begin charging the system. The clamps are fast and easy to get on and off and will not harm tubing. An ultrasonic wave is passed between the two clamps as the instrument "looks" through the tubing for bubbles. The TIF4000 then audibly signals you when the system is full.

An absolute requirement for capillary systems which have no sight glass whatsoever, the 4000 also is necessary when charging household and commercial refrigerators/freezers, packaged systems such as window/room air conditioning units and many late model automobiles with factory air.

The TIF4000 is also ideal for expansion valve systems. It is much more convenient and accurate to "hear" when the system being charged is full.

FEATURES

- Optimizes refrigerant charge
- Detects flash gas and bubbles in liquid line
- Detects droplets in suction line
- Detects starved evaporators
- Checks for refrigerant floodback
- Maximizes evaporator capacity
- Useful for multiple evaporator balancing
- Aids in adjusting thermostatic expansion valves
- Operates on any metal tubing
- Cordless operation
- Transducer clamps fit tubing from 1/8" to 1½" diameter
- Low battery indicator

Price includes : Carrying Case, Service Hook, 9-Volt Transister Battery and Matched Set of Transducers.

SPECIFICATIONS

Weight : 0.4 kg with battery Dimensions: 203 x 76 x 46 mm (8" x 3" x 1.8")
 Transducer cord length: 1.1 m (42") Two second continuous audible alarm
 Response time: 4 seconds initially Battery Life: 30 hours
 Operating Temperature Range: 0°C to 38°C (32°F to 100°F)

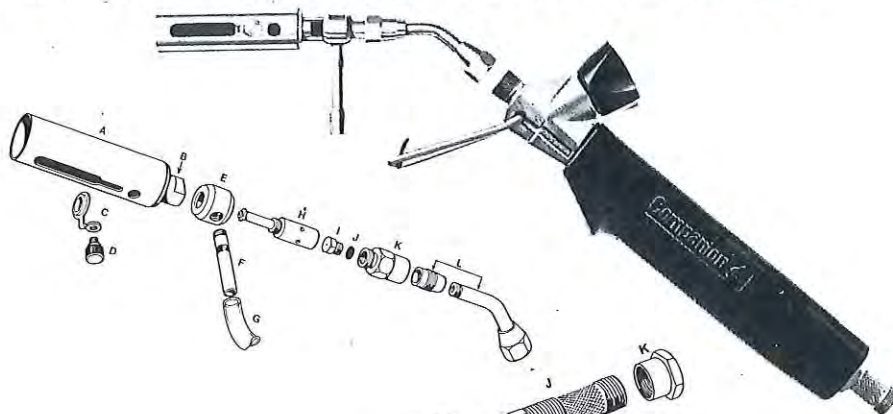
CAT. NO.	PART No.	DESCRIPTION
3519	TIF4000	ELECTRONIC SIGHT GLASS
REPLACEMENT PARTS		
	TIF4007	Carrying Case
	TIF4001	Service Hook
	TIF4004	Matched Set of Transducers

EQUIPMENT AND TOOLS

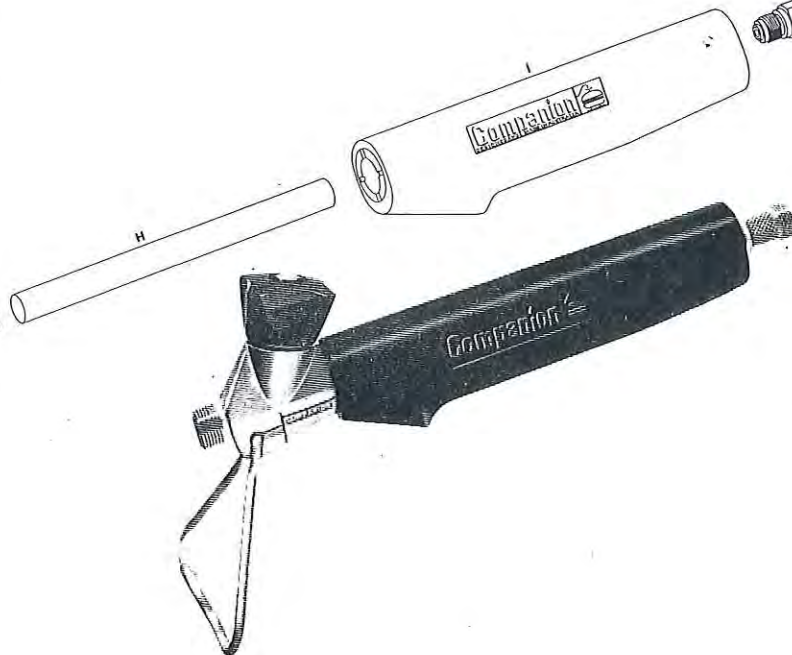
SIEVERT "COMPANION" LEAK DETECTORS

604 COMPANION LEAK DETECTOR

Completely new design. Small, neat and highly efficient. This extremely sensitive leak detector is used to detect and locate leaks in refrigeration installations. It has a flexible detection tube and can be used on all refrigeration plants employing non-inflammable gases of the halogen type. Comprises 520 handpiece and 776 leak detector attachment



COMPANION HANDPIECE MODEL 520 (Registered Design)
An attractively designed robust handpiece which suits all Companion attachments. The Companion handpiece fits comfortably into the hand and features a conveniently located fine control valve. Complete operation can be effected by one hand, leaving the other hand free. Standard equipment includes a rotary hose coupling which allows the hose to remain untangled. Fan use in awkward applications, the control valve on the handpiece can be rotated and locked in various positions. A perfectly balanced standing leg, which folds back when not required, allows the handpiece to be rested or hung up even with heavy attachments.



CAT. NO.	PART No.	DIAG. REF.	DESCRIPTION
35278	604		MODEL 604 LEAK DETECTOR COMPLETE
35274	77601	B	Burner Tube and
	77602	A	Burner Outer Assembly
35237	77610	C	Catalyst
35238	77611	D	Catalyst Screw
35267	73701	H	Burner Inner
35280	776		Leak Detector Head Assembly Use with cylinder size of choice plus 806 hose & 520 Handle Piece
35268	73732		Nipple
35270	55110		Neck Tube
35260	806		6ft. Hose with couplings (Old Type)
35261	1401		Soldering Bit

CAT. NO.	PART No.	DIAG. REF.	DESCRIPTION
352100	520		Model 520 Handpiece Complete
35281	52025	A	Hand Piece Screw
35282	52024	B	Control Knob
35283	52023	C	Cover Nut
35284	52031	D	Valve Spindle
35285	52032	E	"O" Ring
35286	52022	F	Valve Body
35287	52011	H	Tube
35288	52001	I	Handle
35289	52040	J	Rotary Connection Assembly

35232	9568		Primus to Sievert Adaptor
35273	561		Straight Neck Tube

USE ONLY GOOD TOOLS

CHEAP TOOLS ARE A POOR INVESTMENT AND CAN CAUSE ENDLESS GRIEF AND STRIFE ON THE JOB. IN COMPARING OUR PRICES ON TOOLS AND EQUIPMENT, REMEMBER WE DO NOT SELL CHEAP AND SHODDY TOOLS. OUR TOOLS ALL CARRY NATIONAL AND INTERNATIONAL BRAND NAMES AND ARE THE VERY "FINEST".

6

EQUIPMENT AND TOOLS

LEAK DETECTORS

SIEVERT "COMPANION" L.P. GAS OPERATED

SPARES FOR OLD STYLE UNITS



CAT. NO.	P/N	DESCRIPTION
35237	16876	Catalyst
35238	16907	Catalyst Screw
35239	938	Burner (Uses 16429 Nipple)
	16779	Screw
35245	16606	Knob
35246	16607	Screw. Note: Screwed into valve spindle No. 16608 with No. 13983 "O" Ring Seal
35247	16608	Valve Spindle
35259	13983	"O" Ring Seal
35260	806	Hose — 6 ft.
	16605	Stop Nut
352100	E3	Hand piece (support)

COMPANION BURNERS

Effective metal to metal seal on Companion Burners eliminates the use of lead washers. Most Companion Burners are designed for peak performance with propane gas supplied at 40 PSI. Built-in stability allows operation from 28 to 120 PSI supply pressure. All burners are available with alternative connection threads to suit old model equipment. Burners numbered 740 to 744 have stainless steel burner tubes and unique air flow cooling for indefinite life.

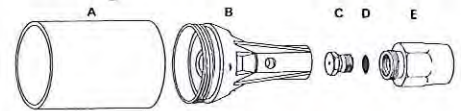
CAT. NO.
35293
35292



MODEL 742 A broad flame. For heavy soldering work, brazing and annealing.



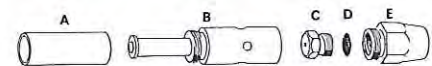
MODEL 741 Gives a broad bushy flame designed for electrical soldering, brazing and annealing work.



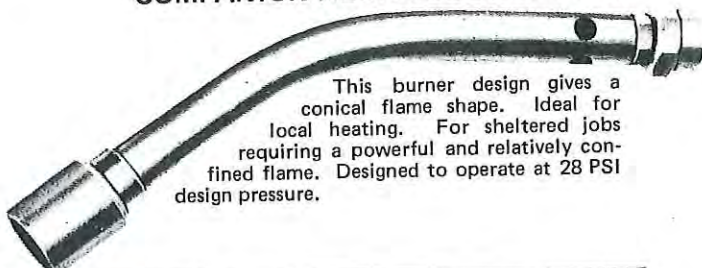
PRIMUS PARTS

CAT. NO.	PART No.	DESCRIPTION
352101	2000	Cylinder ¾ lb. Capacity
35232	9568	Adaptor — Primus to Sievert

CAT. NO.
35294
35295
35296



COMPANION NECK TUBE BURNERS



This burner design gives a conical flame shape. Ideal for local heating. For sheltered jobs requiring a powerful and relatively confined flame. Designed to operate at 28 PSI design pressure.

MODELS 737, 738 AND 739 — are brass burners with a needle shaped flame. Precision heating for instruments, jewellery and fine soldering work.

CAT. NO.	NEW PART NO.	OLD PART NO.	APPLICATION
35248	950	2950	A small burner for the handyman. Soft soldering and work with plastics.
35250	951	2951	For silver and soft soldering jobs, lead wiping etc.
35252	952	2952	Most powerful burner in this series. For brazing, small tube bending and annealing.

PARTS	
A	— Burner Tube
B	— Burner Inner
C	— Nipple
D	— Gauze
E	— Burner Nut

PRIMUS AND COMPANION GAS CYLINDERS



2000 (PRIMUS)



480 (COMPANION)



3967 (COMPANION)



3965 (COMPANION)

CAT. NO.	PART No.	CAPACITY kg
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PRIMUS

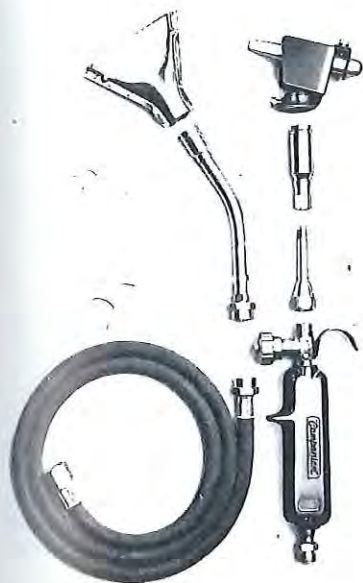
352101	2000	0.34
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COMPANION

35255	480	4.5
35256	3967	1.0
35257	3965	2.0
35258	481	9.0

EQUIPMENT AND TOOLS

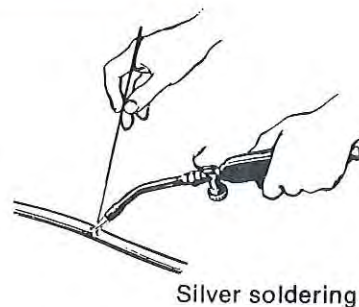
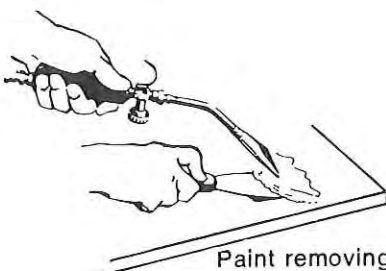
COMPANION HANDYMAN KIT



Do a professional job on jewellery work, copper enamelling, waxing skis, silver soldering and many more. Kit connects to any Companion Gas Cylinder. Includes handpiece, soldering iron, pencil point and conical flame burners, paint remover, hose and spanner. Companion's Handyman Kit enables you to do a professional job of removing paint from roofs, fences and window frames, soft soldering toys, radios, guttering, silver soldering copper and brass pipes, sheet copper, annealing wrought iron, copper and brass tubes. And a hundred and one other jobs. Companion have a kit to handle any job.

KIT NO. 400

CAT. NO. 352420



HALOGAZ HALIDE LAMP LEAK DETECTOR

FEATURES

A proven principle providing safe operation.
 Low gas consumption.
 Ease and speed of putting into operation.
 Heavy gauge copper burner for long life.
 Simplicity of operation.

SPECIFICATIONS

Height - 31 cm (12 1/4"). Diameter - 99 mm (4").
 Operating Weight - 920 g (2lbs).
 Length of Rubber Hose - 75 cm (30").
 Duration of Charge - Approx. 5 Hours.

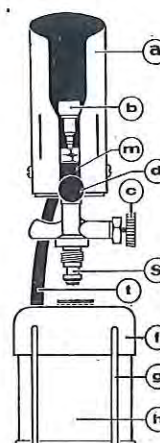
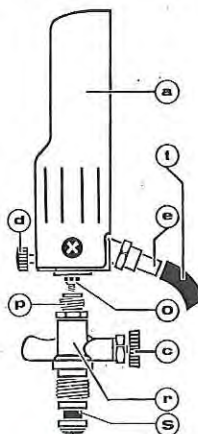
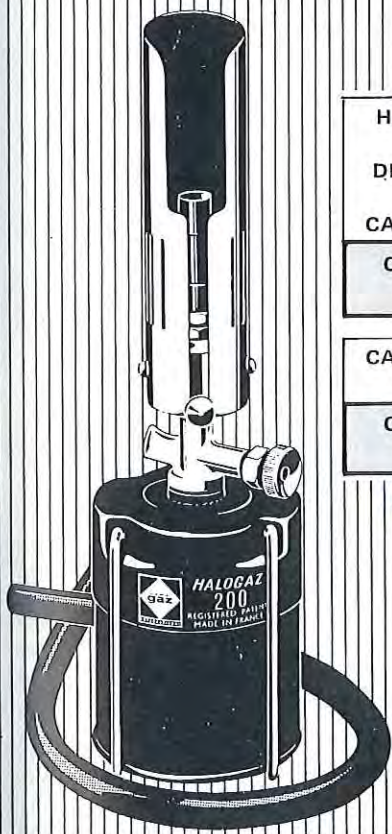
HALOGAZ
 LEAK
 DETECTOR
 LESS
 CARTRIDGE

CAT. NO.
 35226

CARTRIDGE
 ONLY

CAT. NO.
 35228

35220



CAT. NO.	PART No.	DIAG. REF.	DESCRIPTION
35226	16616		HALOGAZ 200 DETECTOR (Less Cartridge)
35228	C200		CARTRIDGE ONLY
352361	2603	a	Flame Guard
35227	2600	b	Burner Unit
352362	2601	e	Hose Nipple

CAT. NO.	PART No.	DIAG. REF.	DESCRIPTION
352363	2796	d	Rotating Sleeve
35225	2756		Jets
352365	2755	r	Jet and Tap Unit
352366	4183		Washer
352367	2575	h	Cartridge Holder
352116	2602	t	Rubber Hose

EQUIPMENT AND TOOLS BRAZING AND SOLDERING TORCHES



TurboTorch® propane

TurboTorch

"Total LP" Gas Contractor's Kit

Operates on Propane, Mapp, Apachi, HP, Flamex, etc.



Kit includes:
T-4 Tip
T-5 Tip
H-1 Handle
H-9 Hose
R-2 Regulator

WINGARDNER INC.
17750 10th St.
Van Nuys, CA 91411

MODEL
LP-1

TurboTorch

"Total LP" Gas Service Kit

Operates on Propane, Mapp, Apachi, HP, Flamex, etc.



Kit includes:
T-2 Tip
T-3 Tip
H-1 Handle
H-9 Hose
R-2 Regulator

WINGARDNER INC.
17750 10th St.
Van Nuys, CA 91411

MODEL
LP-2

TurboTorch

"Total LP" Gas Starter Kit

Operates on Propane, Mapp, Apachi, HP, Flamex, etc.



Kit includes:
T-4 Tip
H-1 Handle
H-9 Hose
R-2 Regulator
HAS-P4 Heat Shield

WINGARDNER INC.
17750 10th St.
Van Nuys, CA 91411

MODEL
LP-3

The "Total LP" TurboTorch is a newly developed line of TurboTorches specifically designed to burn all of the major LP gases. The new "Total LP" TurboTorch eliminates the need for a torch for each of the LP gases. The adjustable regulator can be set for each LP gas at the correct pressure needed for ideal performance. The torch kit operates with any tank equipped with a Standard POL fitting.













Using LP propane gas, the new "Total LP" torch is considered the most economical, the lightest and the highest performing air/gas LP torch available. It is ideal for soft soldering and silver soldering as well as general heating of copper tubing and steel pipe. The "Total LP" Torch, utilizing propane as a fuel, will produce a target heat of approximately 982°C (1800°F), a very satisfactory heat range for plumbing rough-in and soft soldering of copper tubing.

CAT. NO.	PART NO.	ITEM	DESCRIPTION
352286	LP-1	Contractor's Kit	Contains P4 tip, P6 tip, H-1 handle, H-9 hose, R-2 pressure regulator. For soft soldering 10 mm to 150 mm, silver soldering 6 mm to 50 mm.
352287	LP-2	Service Kit.	Contains P3 tip, P5 tip, H-1 handle, H-9 hose, R-2 pressure regulator. For soft soldering 6 mm to 62 mm, silver soldering 3 mm to 37 mm.
352288	LP-3	Starter Kit.	Contains P4 tip, H-1 handle, H-9 hose, R-2 pressure regulator, HAS-P4 heat shield. For soft soldering 10 mm to 37 mm, silver soldering 6 mm to 25 mm.
352289	LP-4	Master Brazing Kit.	Contains P5 tip, P6 tip, P7 tip, P8 tip, H-1 handle, H-24 hose, R-2 pressure regulator, L-1 striker, C-2 carrying case. For soft soldering 25 mm to 200 mm, silver soldering 25 mm to 200 mm.
352290	T-2	Tip	Size of flame: 6 mm. For soft soldering 3 mm to 10 mm, silver soldering 1.5 mm to 6 mm. Uses .035 kg propane/hr.
352291	T-3	Tip	Size of flame: 15 mm. For soft soldering 6 mm to 25 mm, silver soldering 3 mm to 10 mm. Uses .073 kg propane/hr.
352292	T-4	Tip	Size of flame: 12 mm. For soft soldering 10 mm to 37 mm, silver soldering 6 mm to 12 mm. Uses .12 kg propane/hr.
352293	T-5	Tip	Size of flame: 20 mm. For soft soldering 25 mm to 62 mm, silver soldering 12 mm to 37 mm. Uses .30 kg propane/hr.
352294	T-6	Tip	Size of flame: 25 mm. For soft soldering 37 mm to 150 mm, silver soldering 25 mm to 50 mm. Uses .645 kg propane/hr.
352296	T-8	Tip with Handle	Size of flame: 45 mm. For soft soldering over 200 mm, silver soldering 50 mm to 200 mm. Uses 2.43 kg propane/hr.

Continued next page.

EQUIPMENT AND TOOLS

TurboTorch® Propane — Continued

CAT. NO.	PART NO.	ITEM	DESCRIPTION
352297	T - 6P - MT	Turbo Tank (Empty)	 Refillable steel LPG tank. For use with Propane. 6 lb. Capacity. (NO LONGER AVAILABLE)
352298	R - 5	Pressure Regulator (Fixed)	 For all propane tanks. Complete with POL adaptor and excess flow check valve.
352299	H - 1	Handle	 With quick-disconnect and needle valve. Fits P2 thru P7 tips; also fits LD-1 leak detector, S1-1, S1-2, S1-3 soldering irons.
352301	H - 12	Hose 3.6 m	 Leachproof propane hoses; fit H-1 handle, T-8 tip, R-5 adjustable LP regulator.
352302	H - 24	Hose 7.3 m	
352303	HS - 11	Heat Amplifier Shield	 Fits P3 tip. Increases heat and cuts soldering time by 40%. Allows work within 6 mm of finished surface without scorching.
352304	HS - 11	Heat Amplifier Shield.	 Fits P4 tip. Increases heat and cuts soldering time by 40%. Allows work within 6 mm of finished surface without scorching.
352341	L - 1	Striker	 Single flint, cup type.
352344	F - 1	Flints	 Box of six flints for striker L - 1.
352345	OH	O-Ring	 Extra O-rings for H-1 and G-2 handles. (Package of 6).
352346	OT	O-Ring	 Extra O-rings for tips P2 thru P7 and A3 thru A64. (Package of 6).
352308	OR - P2 thru OR - P9	Orifices	 Spare orifices for all Turbo Torch propane tips specify size when ordering.
352310	RPK	Propane Replacement Parts Kit.	 Contains 2 each OR-P2 thru OR-P6 orifices, 6 OH O-rings for handle, 6 OT O-rings for tips.

SPY. 5™ Refrigerant Leak Detector

A compact, rugged, sensitive refrigerant leak detector capable of detecting leaks as small as 0.5 oz. per year. Designed to overcome problems encountered with the electronic leak detector and give constant, reliable, trouble-free performance without batteries or electronic parts. Ideal for the air conditioning and refrigeration installer or serviceman.

SPY. 5 eliminates the problems of the old type halide detectors because it uses primary swirl combustion which uses all the air pulled through the search hose for combustion. The old type introduced air at the burner. This gives the SPY. 5 a more precise blend of gas/air, and produces quicker and more sensitive results.

The TurboTorch SPY. 5 requires no calibration; is unaffected by machinery room noise; detects with "background refrigerant" present; recovers from large

leaks in seconds; and is easily maintained in the field.

The TurboTorch SPY. 5 is a foolproof, durable, sensitive instrument for refrigerant leak detection, and actually rivals the performance of the most expensive electronic detectors on the market today. Operates on small SB-1, 6 oz.

bottle of purity propane. Replacement of orifice module as unit now incorporated for easier field service.

SPY. 5 Master Kit: Total kit packaged in fully protected foam lined steel carrying case with all accessories needed to maintain the unit.

CAT. NO. 352335

SPY. 5 Master Model Kit contains:

SPY. 5 leak detector
 SB-1 Propane tank
 RL. 5 reference leak
 SP-FT spare flametube
 SP-BR flametube brush
 SP-H3 sniffer hose
 SP-ST sniffer tube
 SP-WS windscope

Accessories available in addition to parts in the kit:
 SP-BM base orifice replacement module

*"SPY.5" is a trademark of Wingersheek Inc.



EQUIPMENT AND TOOLS BRAZING AND SOLDERING TORCHES TurboTorch® acetylene



TurboTorch

Air/Acetylene Instrument Repair Kit

The smallest swirl tip on the market. Ideal for small, delicate repairs.



Kit includes:
A-2 tip
AR-2 Regulator
AH-12 hose
G-2 handle

MODEL X-1

WINDAER-SHEK INC.

What is an Acetylene TurboTorch? When should you buy it?

The acetylene TurboTorch is designed for soldering and brazing. TurboTorch acetylene employs a small concentrated hot flame that is twice as hot as secondary air/acetylene torches. TurboTorch acetylene is particularly designed for the person who needs an intensely hot concentrated flame for jobs such as air conditioning and repair work. It is also very effective on standard plumbing jobs where speed is important. In most cases it matches the speed of oxy-acetylene torches while actually producing a better-brazed joint at 1/2 the cost, with 1/3 the equipment. TurboTorch air/acetylene eliminates the need of an extra oxygen bottle; and not only cuts costs but also makes for a much more portable unit for field installations and repairs.

The proven capabilities of TurboTorch acetylene, such as soldering copper tubing with "water in the line" and bronze brazing cast iron pipe fittings in the field has put TurboTorch acetylene up as the Number 1 torch in the field.

TurboTorch

Air/Acetylene Plumber's Kit

Soft solders to 3" — Silver Solders to 1 1/2"



Kit includes:
A-3 tip
A-11 tip
AR-2 Regulator
AH-9 hose
G-2 handle
HAS-A5 Heat Shield

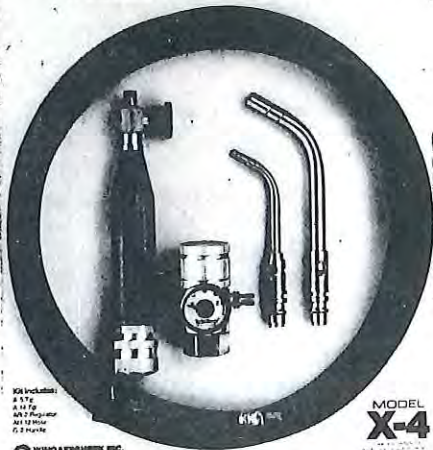
MODEL X-3

WINDAER-SHEK INC.

TurboTorch

Air/Acetylene Refrigeration Kit

Soft solders to 3 3/8" — Silver Solders to 2 1/2"



Kit includes:
A-5 tip
A-14 tip
AR-2 Regulator
AH-9 hose
G-2 handle
HAS-A5 Heat Shield

MODEL X-4

WINDAER-SHEK INC.

TurboTorch

Air/Acetylene Starter Kit

Soft solders to 1" — Silver Solders to 1/2"



Kit includes:
A-5 tip
AR-2 Regulator
AH-12 hose
G-2 handle
HAS-A5 Heat Shield

MODEL X-5




















WINDAER-SHEK INC.

CAT. NO.	PART NO.	ITEM	DESCRIPTION
352311	X - 1	Instrument Repair Kit.	Contains A-2 tip, G-2 handle, AR-2 regulator, AH-12 hose.
352313	X - 3	Plumbing & Refrigeration Kit.	Contains A-3, A-11 tips, G-2 handle, AR-2 regulator, AH-9 hose. For soft soldering 6 mm to 75 mm, silver soldering 3 mm to 37 mm.
352314	X - 4	Air Cond. & Refrigeration Kit.	Contains A-5 and A-14 tips, G-2 handle, AR-2 regulator, AH-9 hose and HAS-A5 heat shield amplifier. For soft soldering up to 100 mm, silver soldering up to 50 mm.
352329	X - 5	Starter Kit.	Contains A-5 tip, G-2 handle, AR-2 regulator, AH-12 hose, AS-5 heatshield, silver solders to 12mm.

Continued next page.

EQUIPMENT AND TOOLS

TurboTorch® Acetylene — Continued

CAT. NO.	PART NO.	ITEM	DESCRIPTION
352316	A3	Tip 	Size of flame 6 mm. For soft soldering 6 mm to 25 mm, silver soldering 3 mm to 10 mm. Uses 3.6 cu.ft. fuel/hr.
352317	A5	Tip 	Size of flame 15 mm. For soft soldering 20 mm to 37 mm, silver soldering 10 mm to 25 mm. Uses 5.7 cu.ft. fuel/hr.
352318	A8	Tip 	Size of flame 10 mm. For soft soldering 25 mm to 50 mm, silver soldering 12 mm to 25 mm. Uses 8.3 cu.ft. fuel/hr.
352319	A11	Tip 	Size of flame 22 mm. For soft soldering 37 mm to 75 mm, silver soldering 25 mm to 37 mm. Uses 11.0 cu.ft. fuel/hr.
352320	A14	Tip 	Size of flame 12 mm. For soft soldering 50 mm to 100 mm, silver soldering 25 mm to 50 mm. Uses 14.5 cu.ft. fuel/hr.
352321	A32	Tip 	Size of flame 20 mm. For soft soldering over 75 mm, silver soldering 37 mm to 100 mm. Uses 33.2 cu.ft. fuel/hr.
352322	A64	Tip 	Size of flame 20 mm. For soft soldering over 200 mm, silver soldering 50 mm to 150 mm. Uses 64.0 cu.ft. fuel/hr.
352323	AR - 2	Pressure Regulator (Fixed) 	Locked at 96 kPa (14 psi), one gauge. Fits "B" tanks and 10 mm - 24 L.H. hose nut.
352325	AH - 12	Hose 3.64 m 	22 mm acetylene hoses, with 10 mm - 24 L.H. nuts. Fit G-1, G-2 handles; AR-2, AR-3 & AR-4 pressure regulators.
352326	AH - 24	Hose 7.27 m	
352328	G - 2	Handle 	With quick disconnect and integral needle valve. Fits all Turbo Torch acetylene tips and ALD-1 leak detector.
352336	HAS - A3	Heat Amplifier Shield. 	Increases heat and cuts soldering time by 40%. Allows work within 6 mm of finished surface without scorching. Fits A-3 Tip.
352337	HAS - A5	"	Fits A-5 Tip.
352338	HAS - A8	"	Fits A-8 Tip (Same as HAS-P3).
352339	HAS - A11	"	Fits A-11 Tip (Also PMK-1 Turbo Torch PM).
352340	HAS - A14	"	Fits A-14 Tip (Same as HAS-P4).
352341	L - 1	Striker 	Single flint, cup type.
352342	SA	Snappy Adaptor. 	Screws into any standard threaded handle adapting it to Turbo Torch tips. Provides the advantages of Turbo Torch at lowest cost.
352305	CA - 100	Adaptor	Brass cylinder adaptor between regulator and Acetylene cylinder
352344	F - 1	Flints 	Box of six flints for L-1 striker.
352345	OH	O-Rings 	Extra O-rings for G-1, G-2 handles and H-1 handle (Package of 6)
352346	OT	O-Rings 	Extra O-rings for tips A-3 thru A-64 and P-2 thru P-7. (Package of 6)
352347	OR - A3 thru OR - A64	Orifices 	Spare orifices for all Turbo Torch acetylene tips. Specify size when ordering.
352349	RAK	Acetylene Replacement Parts Kit. 	Contains 2 each OR-A3 thru OR-A14 orifices, 6 OH O-rings for handle, 6 OT O-rings for tips.
352351	V - 3	Handle Valve. 	Replacement valve for G-2 handle.

6

EQUIPMENT AND TOOLS

SOLDERS, BRAZING ALLOYS AND FLUXES

SOLDERING AND BRAZING DEFINED

Soldering — A joining process using a filler metal with working temperature below 427°C (800°F), and below the melting point of the base metal.

Brazing — A joining process using a filler metal with working temperature above 427°C (800°F), but below the melting point of the base metal.



HEATING SOURCE

Most soldering and brazing alloys can be applied with a portable, light weight torch. Many repairs, in fact, can be performed with a small propane hand torch. (On occasion oxyacetylene, or heavier duty acetylene or propane torches may be better suited for in-shop work, but such equipment should not be normally necessary for field repairs.

PRECLEANING THE JOINT AREA

Surface oxides must be removed for sound joining of metals. Cleaning is divided into two categories :

Mechanical — Joint areas should be abraded with materials such as plumber's sandpaper, emery cloth or steel wool.

CAUTION: Always slant tubing downward when abrading so that shavings are not introduced into the system.

Chemical — In service trade applications, mechanical cleaning is usually adequate. If it is necessary to swab the interior surfaces of hard drawn tubing, a solvent such as "Freon-113" should be used. In refrigeration applications avoid using carbon tetrachloride or other chlorinated solvents.

POSTCLEANING

Most fluxes permit quick, easy and complete postcleaning. Remove flux residue with hot water saturated cloth. **NOTE:** In refrigeration repairs, remove flux residue as soon as system is put under pressure, not before.

FILLER METALS MOST COMMONLY EMPLOYED

- Silver Brazing Alloys (usually given the misnomer "silver solders")
- Copper - Silver - Phosphorus Brazing alloys
- Copper - Phosphorus Brazing Alloys
- Aluminum Brazing Alloys
- Soft Solders

PURPOSE OF A FLUX

To dissolve and sweep away surface films and oxides during the brazing or soldering process.

To prevent oxides from forming.

To "signal" moment when temperature is reached to apply the brazing alloy or solder.

To promote fluid flow and increase adhesion of the filler metal.

Fluxes are formulated for specific applications. Each flux is precisely calibrated with an activity range corresponding to the flow point of the filler metal.

In refrigeration applications, the service engineer needs a flux with sufficient activity, yet one that will not be drawn into the system.

GENERAL PURPOSE SOLDERS

CAT. NO.	MANUF. & TYPE	AVAILABLE IN	DESCRIPTION	RECOMM'D FLUX
3531	50/50	450 g Sticks	A general purpose solder with a melting point of approx. 200°C (400°F)	Duzall
3532	RESIN CORE SOLDER	450 g Reels 1.6 m	A general purpose solder cored with a resin flux. Ideal for small electrical work etc. where a non-corrosive flux is desirable.	Duzall
3533	95/5	450 g Reels	A solder specially suited for low temperature pipeline work. Composed of 95% Tin and 5% Antimony It has a melting point of 246°C (475°F). It makes a stronger bond, and does not tend to decompose at low temperatures like 50/50 solder. Can be used with common fluxes but must be applied with a blow torch — not a soldering iron.	General Purpose
3537	ALL STATES No. 430	450 g Spools	Unique, high strength solder for joining all metals except white metals, colour matches stainless and adheres to chrome plate, Cadmium free. Working temperature 221°C (430°F)	Duzall
3539	ALL STATES 430 KIT	KIT	Dynagrip Solder Kit, containing No. 430 Solder and Duzall Flux.	Included

GENERAL PURPOSE FLUXES

CAT. NO.	MANUF. & TYPE	AVAILABLE IN	DESCRIPTION
3538	ALL STATES DUZALL	125 ml. Jar	Duzall Flux. Versatile, general purpose liquid soldering flux. Highly active — sweeps away oxides. Formulated for application with No. 430 solder, but will improve wetting and overall performance of all soft solders.
35346		250 ml. Jar	
35352	LACO FLUX REGULAR	113 g Jar	General purpose flux whose detergent action eliminates tedious physical cleaning such as filing, steel-wooling, sanding, wire-brushing or scraping. Completely acid free. Use with 40/60, 50/50, 60/40 or 95/5 string or bar solder. For Copper, Brass, Bronze, Galv. Iron, Sheet Lead, Zinc, Nickel, Tin, Silver, Cast Iron, Steel, Ferrous Metals etc.
35353		56 g Jar	
3535	ALL STATES 509	4 oz. Tin	Flux for use with No. 509 Strongset Aluminum Alloy.

SILVER BRAZING FLUXES

35351	LACO SILVER SOLDER FLUX	170 g Plastic Container	Non-acid . . . self-cleaning. Will not harden or crystallize — For all silver soldering in 538° to 927°C (1000° to 1700°F) heat range.
35315	COMWELD Silver Brazing FLUX No. 2	200 g Jar	For steels and dissimilar metals — produces excellent joints on carbon steel, stainless steel, nickel alloys, copper and brass. Dissimilar metals in these groups can be easily brazed. Melting point 450°C (842°F) approx.
35347	HARRINGTON SOLFLO NO. 2	150 g Jar	For general use with silver brazing alloys — For non-ferrous to ferrous. Flux residues are water and air soluble.
35362	HARRINGTON SOLFLO NO. 3		Same properties as SOLFLO 2 but of a chemically stronger composition and for use in cases of heavy oxidizing.
35311	ALL STATES NO. S.200	250 g	Developed to overcome complex problems in silver brazing. Dissolves and removes oxides. Affords complete protection to metals up to 982°C (1800°F). Superior wetting action. S.200 is homogenized and does not crystallize.
35312		150 g	

EQUIPMENT AND TOOLS

SOLDERS, BRAZING ALLOYS AND FLUXES

CAT. NO.	MANUF. & TYPE	AVAILABLE IN	DESCRIPTION	RECOMMEND. FLUX
ALUMINIUM ALLOYS				
3534	ALL STATES *STRONGSET NO. 509	500g Spools	For joining aluminium to aluminium or aluminium to dissimilar metals. "Takes" to anodized aluminium without removing the anodizing. Yields unbelievable physical properties for a solder range alloy. Working Temp. 265°C (509°F).	509
3536	ALL STATES NO. 509 KIT	STRONGSET KIT	Contains 4ft. of 1/16" diam. solder and 1/2 fluid oz. of No.509 flux. Specially suited to refrigeration and air conditioning applications.	Included
35318	ALL STATES SEALCOR FLUX CORED ALLOY	1/8" Rod	A special aluminium rod with the flux contained in the core where it is protected from moisture and rough handling. It can be used on all weldable grades of aluminium including cast, sheet and wrought aluminiums. Has a wide operating range, at high temperatures, it flows freely, but at low temperatures, its high viscosity enables it to be used for build up and filling gaps. Working temperature 593°C (1100°F).	Included
35341	ALL STATES NO. 31 ALLOY	3/32" Rod	Basically developed for joining light gauge aluminium. This alloy is very fluid and has a capillary action similar to silver brazing alloys. Not recommended for the following grades (U.S.) of aluminium — 2011, 2014, 2017, 2024 and 7075. Working temperature 580°C (1075°F)	No. 31 or Equivalent
35356	ALL STATES NO. 33 ALLOY		For brazing aluminium castings. Has a controlled flow and yields high tensile strengths with good build up properties. Recommended for surface brazing of all types of weldable aluminium castings, filling blow or sand holes, building up worn or missing sections, salvaging overmachined parts and joining aluminium castings to sheet and plate aluminium. Working temperature 566°C (1050°F)	No. 31 or Equivalent
35359	ALL STATES NO. 430 PASTE SOLDER	225g Plastic Jars	Same as above except that No. 430 Solder in mesh form has been premixed with an active flux extending its range of applications.	Included
35344	ALL STATES NO. 34 SMOOTHCOTE EXTRUDED ALUMINIUM ELECTRODE	1/8"	This electrode is a premium quality core wire with an extruded coating that is dense and free of air holes often associated with dip coated electrodes. This combination of core wire and coating gives a very quiet arc which will deposit a dense, smooth spatter-free weld in all positions with good colour match to the base metal. Recommended for sheets, plates and castings of 1/8" thickness or heavier. Very useful for repairing cracks, building up missing sections, cladding and reinforcing. DC Reverse Polarity (Electrode +) — All position	Not Required
35321	RED E POK	KIT	RED E POK Aluminium Repair Kit	

COPPER ALLOYS

35316	ALL STATES LOW FUMING BRONZE	1/8" Bare	For fabricating or repairing steels, cast iron, copper base metals, galvanised and malleable irons or any combination of these metals. Available in Bare and Flux-coated forms. The flux-coated rods have a waterless coating that gives a superior cleaning action and promotes wetting qualities. Working temp. 900°C (1650°F) approx.	Brazaloy NONE
35317		3/32" Flux Coated		
35325	ALL STATES NO. 41FC FLUX COATED	1/8" Rod	Premium General Purpose rod that is very easy to apply in many applications. A broad working temperature range permits use as either a bead forming or thin flowing alloy. Applications include joining or overlaying steel, cast iron, brass, bronze, galvanised and malleable irons or combinations. Brass or bronze may be fusion welded. Working temp. 760° to 900°C (1400° to 1650°F)	NONE REQUIRED
35332	ALL STATES SILFLO NO. 5	3/32" Round	Used where close fit-up cannot be maintained. Joint clearance .001" to .005". Working temperature range 704° to 816°C (1300° to 1500°F)	—

SILVER ALLOYS

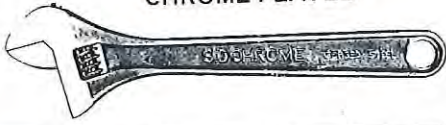
35313	HARRINGTONS EASYFLO 45 <i>BLUE TIP</i>	1.5 mm Rod	For use on close tolerance, capillary or lap joints involving copper, copper alloys, steel and ferrous alloys. Used in both production and maintenance applications. Has a lowest melting point formulation, especially suitable for joining thin sections. Used widely in refrigeration, air conditioning and general industry. 45% Silver Content. Melting Range 607° to 620°C (1125° to 1148°F).	Ferrous Alloys Solflo 3 Non-Ferrous Solflo 2
35310	SILFOS Silver Solder		Has ability to braze copper without the use of a flux. Silfos is the most ductile of the silver copper phosphorus group of alloys and is widely used wherever copper base alloys are joined. Melting range 645° to 700°C (1193° to 1292°F)	Not Required
35327	ALL STATES 101FC Flux Coated Rod	1/16"	A general purpose 45% silver brazing alloy. No. 101FC (Flux coated rod) is designed to have a very narrow working temperature so the alloy constituents do not liquify and separate when heated slowly such as in furnace brazing. Has excellent capillary flow on ferrous and non-ferrous metals or combinations of both (excluding white metals). Good corrosion resistance. Working temperature 607° to 618°C (1125° to 1145°F).	Not Required

PHOSPHOROUS ALLOYS

35371	HARRINGTON No. P74		Premium grade alloy, low melting point, most ductile. Good penetration, will stand more stress than any other alloy in this group. Suitable for automatic and furnace brazing. Recommended for copper to copper joints in refrig. systems. No fluxes required on copper to copper joints, only on non-ferrous metals. 15% Silver Content. Melting range 641°C (1186°F).	Solflo 2 on Copper Alloys
35370	HARRINGTON No. P75		Commonly used on small bore copper pipes. Will accept considerable thermal stress. Self fluxing on copper to copper. Under no circumstances to be used on ferrous metals. Melting range 641° to 666°C (1186° to 1231°F).	Solflo 2 on Copper Alloys
35372	HARRINGTON No. P78		Commonly used for large diameter pipework using expanded joints. Especially designed for copper fabrication work and low pressure hot water system tanks. Self fluxing on copper to copper. Under no circumstances to be used on ferrous metals. Melting range 645° to 769°C (1193° to 1416°F).	Copp. to Copper None Req'd. Copper Alloys Solflo 2

EQUIPMENT AND TOOLS SPANNERS AND WRENCHES

SIDCHROME ADJUSTABLE WRENCHES CHROME PLATED



CAT. NO.	PART NO.	SIZE — Length		JAW OPENING	
		mm	ins.	mm	ins.
3541	2435-2	100	4	13	1/2
3542	2436-0	150	6	18	23/32
3543	2437-9	200	8	23	29/32
3544	2438-7	250	10	27	1-1/16
3545	2439-5	300	12	32	1-1/4
3546	2440-8	375	15	40	1-9/16
3547	2441-6	450	18	46	1-13/16

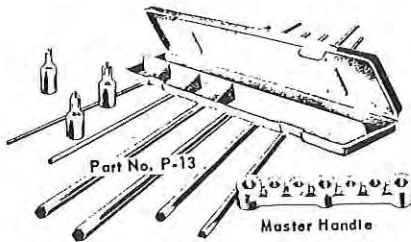
ROBINAIR ALLEN WRENCH (KEY) SET



12394
This popular tool combines 7 popular socket sizes into one compact tool. Sizes: 3/64, 1/16, 5/64, 3/32, 1/8, 5/32 and 3/16.

CAT. NO. 35461

WATSCO COMBINATION MAGNETIC HEX WRENCH & PHILLIPS TYPE SCREWDRIVER SET



A TOOL 9" LONG SPECIALLY DESIGNED TO ALLOW THE USER TO REACH ANY REMOTE SET SCREW

Set consists of six 9 inch magnetic hex wrenches made of chrome vanadium steel, 3 Phillips type screwdriver tips and master handle.

SET COMPRISES:

Magnetic Hex Wrenches - 3/32", 1/8", 5/32", 3/16", 7/32", 1/4".
Screwdriver Tips - No. 1, No. 2, No. 3.
Master Handle.

CAT. NO. 35459

GET THE RIGHT PRODUCT

NO SENSE ACCEPTING A SUBSTITUTE PART INSTEAD OF ONE THAT YOU WANT TO BUY BUT WHICH IS NOT CARRIED IN STOCK BY MOST SUPPLY HOUSES. THE PART THAT YOU THINK "WILL DO" MAY ULTIMATELY COST YOU YOUR PROFIT ON THE JOB AS WELL AS A LOST CUSTOMER. PICK OUT THE RIGHT PART YOU WANT FROM THIS CATALOGUE AND CHANCES ARE GOOD THAT WE'LL HAVE IT. IF NOT, WE WILL GET IT FOR YOU AS QUICKLY AS POSSIBLE.

FLARE NUT SPANNER



MAKE	CAT. NO.	MANUF. PART No.	SIZE (INS.)	
			A/F	FLARE NUT
KING DICK	35413	RES224	3/4 x 1	1/4 x 1/2
	35414	RES228	7/8 x 1-1/8	3/8 x 5/8
	35415	RES236	1-1/8 x 1-3/8	5/8 x 3/4
BONNEY	35422	RF54		1/2 x 1/4
	35423	FR55		3/8 x 5/8
BELTZER	3549	1949	3/4 x 7/8	1/4 x 3/8
	35410	1949	1 x 1-1/8	1/2 x 5/8

RATCHET SPANNERS — REVERSIBLE



MAKE	CAT. NO.	PART NO.	DESCRIPTION
BRITool	35416	D72/20T	1 End - 1/4 Sq. Rev. Ratchet Opp. End - 1/2 A/F Ring Spanner plus 3/16, 1/4, 5/16 Squares. Length O/A 159mm (6 1/4").
ROBINAIR	35425	10559	One End — 1/2, 9/16 Hex Opp. End — 3/16, 1/4 SQ.
BONNEY	35421	RF45A	Same as Robinair.
IMPERIAL	35427	124 - C	Same as Robinair.
	35429	127 - C	1/4", 3/8", 3/16", 5/16" SQ. For hard to reach places.

RATCHET SPANNERS — NON-REVERSIBLE



IMPERIAL	35428	125 - C	One End - 1/4" Square. Opp. End - 3/16, 1/4, 5/16 Sq. plus 9/16 Hex.
	35426	123 - C	1/4" Sq. Drive and raised face Handle has 3/16 and 1/4 Sq. and 1/2" Hex.

IMPERIAL KWIK-TITE® RATCHET WRENCHES



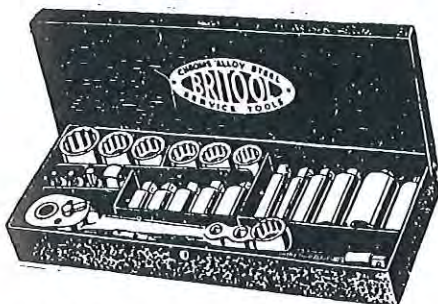
The Imperial Kwik-Tite Ratchet Wrench speeds installation of tube fittings and valves, hex. nuts, bolts and fasteners. This unusual wrench, with its open jaw design, makes it easy to slip onto fittings and fasteners — even in tight quarters. Flips quickly into tightening position with a sure grip on all hex. surfaces. 12 point contact distributes torque pressures evenly on the flats of the hex. — not at the corners. Eliminates warping and distortion of fittings and fasteners. Because of the Kwik-Tite ratchet action, tightening jobs are easier and faster. Jaws are forged steel, handles of heavy gauge spring steel and chromium plated.

CAT. NO.	SIZE	PART NO.	DESCRIPTION
35476	3/8"	199-F-06	5-3/8" Long
35477	7/16"	199-F-07	5-5/16" Long
35479	5/8"	199-F-10	7-1/32" Long
35478	11/16"	199-F-11	7-1/8" Long
35480	7/8"	199-F-14	9-3/32" Long
35481	KIT	299 - F	Kit in Roll up Vinyl Pack 3/8, 1/2, 5/8, 3/4, 7/8 and 1"
35482	KIT	399 - F	Kit in Roll up Vinyl Pack 1/2, 9/16, 5/8 and 3/4"

EQUIPMENT AND TOOLS

SOCKETS, SPANNERS AND WRENCHES

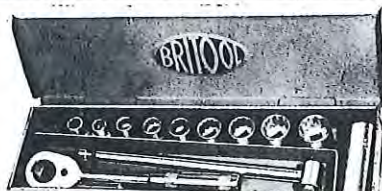
BRITOOOL 1/4" AND 3/8" SQ. DRIVE REFRIG. SERVICE SOCKET AND WRENCH SET



Contains a full range of specialised sockets together with stand and sockets and essential accessories. Housed in steel case — Red finish. Case size 222x82x25mm (8 7/8x3 1/4x1 ins).

CAT. No. 35418. Part No. NF 108L (24 pieces)

BRITOOOL 1/4" SQ. DRIVE SOCKET SETS.

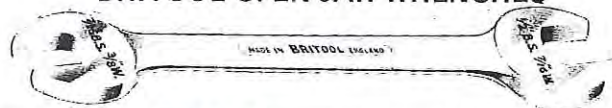


BRITOOOL COMBINATION WRENCHES



TYPE	CAT. NO.	SIZE	PART NO.
WHITWORTH	354349	3/8"	RJ710
	354350	7/8"	RJ1480
	354314	7 mm	RJM7
	354315	8 mm	RJM8
	354316	9 mm	RJM9
	354317	10 mm	RJM10
	354318.	11 mm	RJM11
	354319	12 mm	RJM12
	354320	13 mm	RJM13
	354321	14 mm	RJM14
METRIC	354322	15 mm	RJM15
	354323	16 mm	RJM16
	354324	17 mm	RJM17
	354325	18 mm	RJM18
	354326	19 mm	RJM19
	354327	5/16"	RJ312
	354328	3/8"	RJ375
	354329	7/16"	RJ437
	354330	1/2"	RJ500
	354331	9/16"	RJ562
A/F	354332	5/8"	RJ625
	354333	11/16"	RJ687
	354334	3/4"	RJ750
NU7			
NU8			

BRITOOOL OPEN JAW WRENCHES



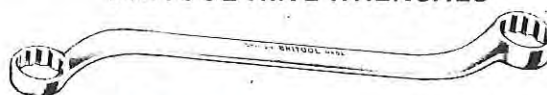
TYPE	CAT. NO.	SIZE	PART NO.
METRIC	354282	6 x 7 mm	6JM67
	354283	8 x 9 mm	6JM89
	354284	10 x 11 mm	6JM1011
	354285	12 x 13 mm	6JM1213
	354286	14 x 15 mm	6JM1415
	354287	16 x 17 mm	6JM1617
	354288	18 x 19 mm	6JM1819
	354289	1/4" x 5/16"	6J2531
A/F	354290	5/16" x 3/8"	6J3137
	354291	3/8" x 7/16"	6J3743
	354292	7/16" x 1/2"	6J4350
	354293	1/2" x 9/16"	6J5056
NU3	354294	9/16" x 5/8"	6J5662
	354295	5/8" x 11/16"	6J6268
	354296	11/16" x 3/4"	6J6875
	354297	3/4" x 7/8"	6J75787
NU4			

CAT. NO.	PART NO.	DESCRIPTION
354345	NA416C	7 Accessories as specified, 17 Hexagon Sockets, BA sizes: 0 1 2 3 4 5 6 7 8 American sizes Inches: 3/16 7/32 1/4 9/32 5/16 11/32 3/8 7/16 A/F 7 ACCESSORIES D50 Spinner Handle D74 Ratchet Handle D79 Swivel Handle D91 Universal Joint D93 Flexible Extension D94 Extension 4in D95 Extension 8in
354346	NA110C	4 Accessories as specified, 9 Hexagon Sockets, BA sizes: 0 1 2 3 4 5 6 7 8
354347	NA716N	4 Accessories as specified, 21 Hexagon Sockets, BA sizes: 0 2 4 6 8 American sizes Inches: 3/16 7/32 1/4 9/32 5/16 11/32 3/8 A/F Metric sizes: 4-4, 5-5, 5-6-7-8-9-10 mm 4 ACCESSORIES D70 'T' Handle Square Drive D75 Spinner Handle D93 Flexible Extension D94 Extension 4in

BRITOOOL ACCESSORIES

CAT. NO.	PART NO.	DESCRIPTION
3/8" SQ. DRIVE ACCESSORIES		
35462	A93	Flexible Extension 203 mm (8")
35463	A97	Extension Rod 152 mm (6")
35468	AB525	1/4" W. Socket
35469	AB562	9/16" A/F Socket
35470	AB750	3/4" A/F Socket
1/2" SQ. DRIVE ACCESSORIES		
354277	E42	Speed Brace 432 mm (17")
354278	E56	Bar Handle 12,7 x 305 mm (1/2" x 12")
354279	E63	Short "T" Adaptor 48 mm (1 7/8")
354280	E74 /40T	Ratchet Handle 254 mm (10")
354281	E97	Extension 152 mm (6")

BRITOOOL RING WRENCHES



TYPE	CAT. NO.	SIZE	PART NO.
METRIC	354298	6 x 7 mm	9RB67
	354299	8 x 9 mm	9RBM89
	354300	10 x 11 mm	9RBM1011
	354301	12 x 13 mm	9RBM1213
	354302	14 x 15 mm	9RBM1415
	354303	16 x 17 mm	9RBM1617
	354304	18 x 19 mm	9RBM1819
	354305	1/4" x 5/16"	2RB2531
	354306	5/16" x 3/8"	2RB3137
	354307	3/8" x 7/16"	2RB3743
A/F	354308	7/16" x 1/2"	2RB4350
	354309	1/2" x 9/16"	2RB5056
	354310	9/16" x 5/8"	2RB5662
	354311	5/8" x 11/16"	2RB6268
NU6	354312	11/16" x 3/4"	2RB6875
	354313	3/4" x 7/8"	2RB7587

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