

Equipment

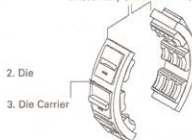
T-475-1 Crimping Procedure



Refer to safety information regarding Coll-O-Crimp hose, hose fittings and assembly equipment compatibility on page 3.

T-475-1 • Crimp Die Sets

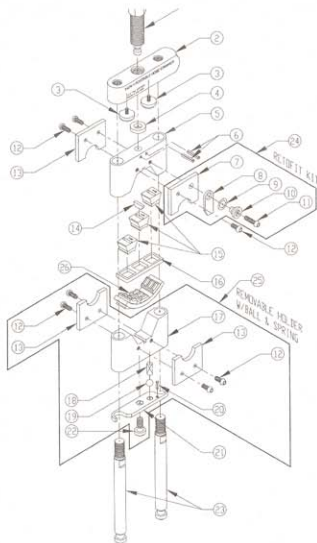
1 Assembly (Part Number)



2. Die

3. Die Carrier

T-475-1 • Crimper Parts List



T-475-1 Die Set Info

ITEM	DESC.	QTY	6	8	10	12
1	Assembly Part No.	1 set	T-475-105C	T-475-106C	T-475-106C	T-475-107C
2	Die Marking	-	556	640	742	897
3	Die Carrier Color	-	Brown	Purple	Almond	White

For use with H757 Hose and 757 'E' Series Hose Ends

Parts List

ITEM	DESCRIPTION	QTY	PART NO.
1	Actuator Screw	1	75013
2	Actuator Bar	1	75001
3	Rubber Bumper	2	75012
4	Thrust Bushing	1	75011
5	Movable Die Holder	1	75005
6	3/16 x 1 Roll Pin	2	75010
7	Die Guide Block (Locator)*	1	75099
8	Locator Flag*	1	75086
9	Curved Disc Spring	1	75088
10	Locator Bushing	1	75087
11	1/4-20 x 1 Button Head Screw*	1	75113
12	1/4-20 x 5/8 Button Head Screw**(4)	7	75003
13	Die Guide Block**(2)	3	75002
17	Removable Die Holder**	1	75075
18	Spring-Compression**	1	75076
19	7/16 Dia. Ball**	1	75077
20	3/16 x 1/2 Roll Pin**	1	75009
21	Latch late	1	75074
22	Lock Screw**	1	75008
23	Strain Rod	2	75020
24	Retrofit it For Flag	1	75116
25	Removable Holder w/Ball & Spring	1	75081

Items Not Shown

ITEM	DESCRIPTION	QTY	PART NO.
A	5/32 Short Arm Hex Key	1	71731
B	Grease	1	75015
C	3/8 x 4 Pipe Nipple	1	75016
D	3/8 Flooring Flange	1	90607
E	Carrying Case	1	75017
F	Crimper Only (No Dies)	1	3700-1

* Included in item 24 (Not assembled)

** Included in item 25 (Assembled)

For use with H7575 Hose and 757 'E' Series Hose Ends.

ITEM	DESCRIPTION	QTY	6	8	10	12
-	Die Marking	-	556	640	742	897
26	Crimp Die No.	1 set	T-475-105C	T-475-106C	T-475-108C	T-475-108C
-	Color	-	Brown	Purple	Almond	White
16	Die Carrier	2	75134	75135	75136	75137
15	Die Segment	6	71741	75119	71743	71744

When ordering T-475-1 spare parts, contact: www.atcoproductsinc.com or Email: info@atcomail.com or call: 1-972-225-8178.

Equipment

T-475-1 Crimping Procedure

Model T-475 Portable Air Conditioning Hose Crimping Kit



Features

- Engineered and designed specifically for use with 757 'E' Series black, zinc finished Hose End Fittings
- Portable, hand operation
- OE style triple bubble crimp
- Heavy duty construction for use with air impact wrench
- Color coded, urethane encased dies
- Easy changeover from size to size
- Crimps 2 braid dimension nylon barrier or reduced diameter hose
- Four standard die sizes - #6, #8, #10, #12
- Capable of crimping under-hood applications
- Light weight for easy handling (less than 6 lbs)
- Removable die holder accommodates complicated shapes
- Unit can be bench mounted
- Shipped in a custom carrying case with instructions
- No electrical requirements
- U.S. Patent No. 5257525
- Made in U.S.A.

Operating Instructions for Model T-475-1 Air Conditioning Hose Crimper

General

The Model T-475-1 Crimper is a hand operated hose end crimping unit specifically designed for use with Weatherhead 757 'E' black, zinc finished Series hose ends. It is intended for use with Weatherhead H757 Air Conditioning hose.

The longer Weatherhead ferrule and triple bubble crimp of the T-475-1 insures a superior interface between the hose and the end fittings. In addition, the removable die holder allows for easy access in confined under-hood areas as well as for complicated end shapes.

crimped hoses, use only Weatherhead 757 'E' Series black, zinc finished hose and hose ends with this crimper.

The crimp dies included will crimp Weatherhead 757 'E' Series black hose ends onto Weatherhead H757 Air Conditioning hose. The dies are housed in replaceable, flexible, color coded poly-urethane carriers (see crimp die set parts list on previous page for part numbers) for easy identification of crimp sizes.

CAUTION

To insure high quality

CATALOG NUMBER	HOSE NUMBER	COLOR	CRIMP DIAMETER
T-475-105C	H75706	Brown	.556
T-475-106C	H75708	Purple	.640
T-475-107C	H75710	Almond	.742
T-475-108C	H75712	White	.897

*Refer to T-475-1 Crimper Parts List, page 323.

Equipment

T-475-1 Crimping Procedure

Model T-475 Portable Air Conditioning Hose Crimping Kit

Description of terms

The crimper can be operated with a 1/2" drive air impact wrench, ratchet or breaker bar. It takes approximately 100 foot pounds of torque to fully close the jaws and achieve a satisfactory crimp. The crimper can be bench mounted using the flange and pipe nipple provided or it can be mounted in a bench vise to stabilize the unit. If the unit is used a service vehicle with a mounted vise, it will be necessary to use a 12" minimum long extension to the pipe nipple to counteract the torque while closing the dies. This extension is not provided in the kit.

Bench mount: Bolt the flange to a bench top. Screw the pipe nipple and crimper to the flange plate.

Impact wrench (1/2" DRIVE @ 100 PSIG MAX.): Use a 1" impact socket to drive the movable die holder.

⚠ CAUTION

Do not exceed 100 PSIG air pressure on the impact wrench as damage to the wrench and the crimper may result.

⚠ CAUTION

Do not continue impacting after the dies are closed. This can cause damage to the crimper.

⚠ CAUTION

Care should be taken when reversing the impact so that the die holder does not slam into the crimper body (actuator bar, Item 2). Bumpers are provided to minimize damage.

Ratchet or breaker bar:

Use a 1" socket to drive the movable die holder. It will take approximately 100 foot pounds of torque to achieve a full crimp.

Removable die holder:

The bottom of the crimper can be removed to accommodate special shapes or under-hood crimping. Push the latch plate (Item 21) open while holding the removable die holder. Pull the holder off the strain rods.

Die change: With the removable die holder removed, loosen two of the button head screws (Item B) on one side of the die holder. The die will drop out of the holder. Apply grease (Item B) to the slide surfaces. Squeeze the outer segments of the die set together and insert the die into the holder making sure that the woodruff key (Item 14) in the center segment snaps fully into the groove in the holder (Refer to Fig. 1).

While holding the die securely in the slot, retighten the two button head screws. Check to make sure that the two outer segments on each half are free to move. If they do not move freely, remove and inspect for damaged guide block pad or dirt.

⚠ CAUTION

Retention of the woodruff key in the slot while tightening the screws is most important. Failure to do so will result in an irregular crimp and damage to the guide blocks and Woodruff Key (Refer to Fig 2).

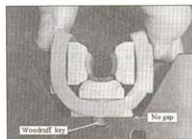
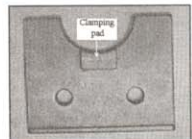
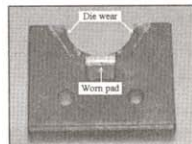


Figure 1
Die carrier properly inserted in holder.



Undamaged Pad



Damaged Pad

Figure 2

Equipment

T-475-1 Crimping Procedure



Refer to safety information regarding Coll-O-Crimp hose, hose fittings and assembly equipment compatibility on page 3.



Figure 3

Dies with woodruff keys in place.

⚠ CAUTION

It is not necessary to over-tighten the screws. Always use the short hex key wrench provided in order to avoid damage.

Die Carrier:

The die carriers will become worn and produce unacceptable crimps with time. To replace the color coded die segment out of the back of the carrier. Reverse the process to assemble die segments in the new carrier.

Woodruff Key: The woodruff key is bonded into the slot in the center die segment. It is used to align the dies in the die holders (Refer to Fig. 3).

⚠ CAUTION

If the woodruff key is not in the center segment of each half of the die set, an irregular crimp will be formed increasing the probability of leakage.

⚠ CAUTION

Never use dies without woodruff key engaged in the slot of the segment and holder.

To replace the woodruff key, use a screwdriver and hammer to remove the old key. Replace the key using a drop of adhesive such as Loctite® to hold the key securely.

Locator Flag: There is a locator flag on the crimper. It is spring loaded and movable to locate the end of

the ferrule for proper crimp location. Swivel the flag to a position so that when the fitting is inserted into the crimper, the ferrule will stop in the proper location for crimping.

Crimp diameter

measurement: The crimp diameter can be measured by using a set of point micrometers or calipers with a point accessory kit installed. Standard measuring instruments will not reach to the crimp impression because of the pinch of the crimp. When measuring the crimp diameter, take three measurements around the center crimp ring. Add the measurements, divide by three to get the average. The average should be the target crimp diameter (+.015/-.005). Example: The #6 size is .556 target crimp diameter. The crimp should measure between .571 and .551 (Refer to Fig 4).

Hose Wall Thickness: The hose wall thicknesses for one braid dimension hoses are listed below. It is important to check the hose wall thickness to make sure that the crimp will be leak free.

HOSE SIZE	HOSE O.D.
#6 - 5/16 I.D.	9/16
#8 - 13/32 I.D.	11/16
#10 - 1/2 I.D.	3/4
#12 - 5/8 I.D.	15/16

Operation

1. Mount the crimper as described previously unless it is necessary to mount it in the vice on the service vehicle.

2. Select the proper size dies. Check all segments to make sure that all of the segments have the same numbers on the back. Each segment will be marked identifying the hose size and crimp diameter. Example: 5/16 ID hose with a .556 diameter crimp will be marked "556" (Refer to Fig. 3).
3. Lubricate the slides of the crimper die holders (Items 5 and 17) and the screw thread (Item 1) with an appropriate grease (Item B).
4. Refer to die change outlined above for proper assembly of the dies into the crimper.
5. Position the locator flag (Item 8) so the ferrule of the fitting bumps it on the side when inserted into the crimper.

⚠ CAUTION

Do not locate from the bead on the fitting. This will result in the wrong crimp location.

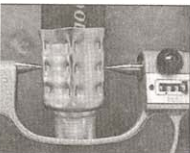
6. Insert the hose into the fitting making sure that the hose appears in the small inspection hole on the side or end of the ferrule.

⚠ CAUTION

If the hose does not appear in the inspection hole, a poor crimp may result.



Position of tip of micrometer.




Measuring the crimp with a micrometer.

Figure 4

Loctite® is a registered trademark of Loctite Corporation.

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T-475-1 Crimping Procedure

 Refer to safety information regarding Coil-O-Crimp hose, hose fittings and assembly equipment compatibility on page 3.

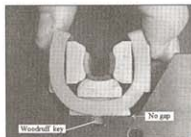


Figure 5
Crimp head completely closed.

*Refer to T-475-1 Crimper Parts List, page 323.

7. Place the assembly into the crimper and hold it against the locator flag. Only the ferrule should touch the flag. Operate the screw (Item 1) to close the dies to the full closed position. This will provide the proper compression to achieve a leak free crimp. When the crimp dies are bottomed out, there will be a slight gap between the two die holders (Items 5 & 17). This insures that the dies are fully closed before the holders bottom out (Refer to Fig. 5).

8. Reverse the screw (Item 1) to release the crimper from the hose assembly. Take care not to drive the die holder (Item 5) against the actuator bar (Item 2) as damage to the crimper may result. The bumpers (Item 3) are provided as

a cushion to help prevent this from occurring.

9. If the crimp is performed under-hood or the fitting is a complicated shape that requires disassembly of the crimper, open the latch plate (Item 21) and remove the die holder (Item 17).
10. Inspect the first crimp to make sure that the correct dies were used, the crimp location is correct, the crimp is uniform and there is no internal deformation of the fitting.

Note: Some hose materials trap air in the hose layers during manufacture. When leak testing a newly pressurized hose using soap bubbles or water submersion, the air in the hose will bleed out at the fitting and hose interface indicating a false leaking condition. Leave the

hose pressurized for one hour and retest. The residual air should completely bleed out and no leak will be visible.

Crimper Maintenance

1. Clean and lubricate all moving parts. Use an appropriate grease (Item B) as needed when lubricating.
2. Inspect the strain rods and latch plate for wear around the contact points.
3. Make sure the actuator screw turns freely. Lubricate as noted above.
4. Check for worn or torn die carriers. Replace when crimp appears to go out of round.
5. Inspect woodruff keys. Replace if they are damaged or missing to insure good crimps.

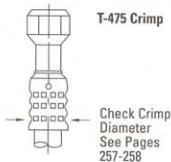
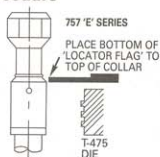
Troubleshooting

PROBLEM	CAUSE	ACTION
1. Oblong or irregular crimp	<ul style="list-style-type: none">• Worn carriers• One die segment in the set is the wrong size• Woodruff key missing• Guide blocks installed backwards	<ul style="list-style-type: none">• Replace carriers• Check all segments for correct size on back of die• Replace key• Turn guide blocks around so raised pad clamps on die
2. Crimp diameter too large	<ul style="list-style-type: none">• Crimper not fully closed – refer to instructions• Incorrect size dies	<ul style="list-style-type: none">• Recrimp until dies fully close• Replace with correct size
3. Crimp diameter too small	<ul style="list-style-type: none">• Incorrect size dies	<ul style="list-style-type: none">• Replace with correct size
4. Crimp location too close to closed end of ferrule	<ul style="list-style-type: none">• Ferrule not inserted far enough into crimper	<ul style="list-style-type: none">• Use locator flag to properly locate ferrule position
5. Crimp location too close to hose	<ul style="list-style-type: none">• Ferrule inserted too far into crimper (past locator flag)	<ul style="list-style-type: none">• Use locator flag to properly locate ferrule position
6. Crimped fitting leaks when tested with soap bubbles	<ul style="list-style-type: none">• Air trapped in the hose during manufacture• Insufficient crimp• Hose wall thickness is undersize (see chart)• Fitting is defective	<ul style="list-style-type: none">• Recheck after system has been charged for one hour – air will bleed out of the hose• Check crimp diameter• Recrimp with .030 undersize die• Replace fitting/recrimp
7. Crimped fitting leaks when tested with electronic leak detector	<ul style="list-style-type: none">• Insufficient crimp• Hose wall thickness	<ul style="list-style-type: none">• Check crimp diameter• Recrimp with .030

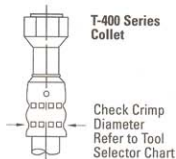
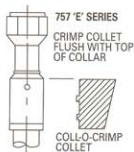
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T-475-1 Crimping Procedure

T-475-1 • Crimping Procedure



Coll-O-Crimp Crimping Procedure



757 Hose Ends

Listed to the right are certain 757 style hose ends that require the use of designated Coll-O-Crimp systems. As noted, removal of the protective cap covering on the charge port may be necessary.

CATALOG NUMBER	HOSE END DESCRIPTION	T-400, T-407	T-420	T-460, T-410, T-440T	T-462 T-465	T-480
75708E-Z99	-8, 90deg, w/Charge Port	YES/WC	YES/WC	YES/WC	YES/WC	YES/WC
75710E-Z01	-10, 90deg, w/Charge Port	YES/WC	NO	YES/WC	YES/WC	YES/WC
75712E-Z01	-12, 90deg, w/Charge Port	YES/WC	NO	YES/WC	YES/WC	YES/WC
75706E-Y36	Splicer, -6 to -6	YES	YES	YES	YES	YES
75708E-Y38	Splicer, -8 to -8	YES	YES	YES	YES	YES
75710E-Y40	Splicer, -10 to -10	NO	YES	YES	YES	YES
75712E-Y41	Splicer, -12 to -12	NO	YES	YES	NO	YES
75706E-Y38	Splicer, -6 to -8	YES	YES	YES	YES	YES
75708E-Y40	Splicer, -8 to -12	YES	YES	YES	YES	YES
75710E-Y41	Splicer, -10 to -12	NO	YES	YES	NO	YES
75706E-Y47	Splicer, -6 to -6 w/Charge Port	NO	YES	YES	NO	YES
75708E-Y48	Splicer, -8 to -8 w/Charge Port	NO	YES	YES	NO	YES
75710E-Y49	Splicer, -10 to -10 w/Charge Port	NO	YES	YES	NO	YES
75712E-Y50	Splicer, -12 to -12 w/Charge Port	NO	YES	YES	NO	NO

WOC indicates without protective cap.

WC indicates with protective cap.

Nominal Crimp Diameter Measurement

Measuring crimp diameters should be a part of the normal hose assembly procedure. To insure a proper crimp diameter reading, follow these steps.

1. Measure the diameter in the middle of crimped portion of the hose end.
2. Place the caliper in a position to allow a measurement across the pressed (flat) portion of the crimp.

Note: When using T-475 system, the bubble style crimp will have three annular rings compared to two when crimped with the T-400 series collets.

Nominal Crimp Diameter Measurement

Measuring crimp diameters should be a part of the normal hose assembly procedure. To insure a proper crimp diameter reading, follow these steps.

1. Measure the diameter in the middle of crimped portion of the hose end.
2. Place the caliper in a position to allow a measurement across the pressed (flat) portion of the crimp.

Note: When using T-400 C-O-C system, the bubble style crimp will have two annular rings compared to three when crimped with the T-475 die set.